

Nokia in 2024



NOKIA

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We act together, to amplify our impact

Each of our business groups brings technology leadership and best-in-breed networking expertise. By working together with our customers and our partners, we deliver outsized impact for customers, for the advancement of technology, and for the world.

At Nokia, we create technology that helps the world act together

This is what drives us. We put the world's people, machines and devices in sync to create a more sustainable, productive and accessible future.

This is the fundamental role we play at the heart of the digital world – and we're not doing it by ourselves. We believe that the digital services and applications of the future will be built through collaboration. When businesses, technologies and innovators act together to build on each other's expertise, real transformation happens.

Pioneering networks that sense, think and act

As a B2B technology innovation leader, we are driving the next evolution of networking to enable people, machines and devices to interact in real time, like never before.

Networks that sense, think and act bring superior performance, efficiency and adaptability – exactly the secure, future-ready networking technology customers need to capture the opportunities of digitalization, AI and cloud.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Delivering value for customers

We're focused on driving business growth through the success of our customers – enabling them to invest in secure, future-proof technology, simplify to reduce costs, expand into new opportunity areas – and drive sustainable efficiency. When they succeed, we do too.

We bring three distinctive strengths that enable our customers to realize the full potential of digital.

Trusted performance across all network domains

Delivering resilient, superior performance across all critical parts of the network, built on cutting-edge innovations and high standards of security, sustainability and ethics.

Networks as platforms for automation and monetization

Enabling our customers to innovate and unlock new value by connecting to ecosystems of applications and services, with next-generation networks that are AI-driven, autonomous and programmable.

Truly open network architectures

Open architectures which seamlessly integrate into any customer or partner's ecosystem – across any server, CPU, RAN, cloud or software stack.



Nokia in 2024 continued

Nokia in 2024

Financial highlights

Dividends paid

EUR 714m

Share buyback program executed

EUR 680m

For the year ended 31 December

EURm	2024	2023	2022
Net sales	19 220	21 138	23 761
Gross profit	8 864	8 546	10 101
Gross margin	46.1%	40.4%	42.5%
Operating profit	1 999	1 661	2 299
Operating margin	10.4%	7.9%	9.7%
Profit from continuing operations	1 711	649	4 202
Profit for the year	1 284	679	4 259
Free cash flow ⁽¹⁾	2 021	665	873

EUR

Earnings per share from continuing operations, diluted	0.31	0.11	0.74
Earnings per share, diluted	0.23	0.12	0.75
Proposed dividend per share ⁽²⁾	0.14	0.13	0.12

At 31 December

EURm	2024	2023	2022
Net cash and interest-bearing financial investments ⁽¹⁾	4 854	4 323	4 767

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measures, refer to the "Alternative performance measures" section.

(2) The Board of Directors proposes to the Annual General Meeting to be authorized to decide in its discretion on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity.

Innovation highlights

R&D investment since 2000

EUR 150bn+

Patent families declared as essential to 5G standard

7 000+

Nobel Prizes awarded for ground-breaking achievements in global innovation

10

Nokia in 2024 continued

Global reach

Our technology solutions enable critical networks for communications service providers (CSPs) and enterprises around the world.

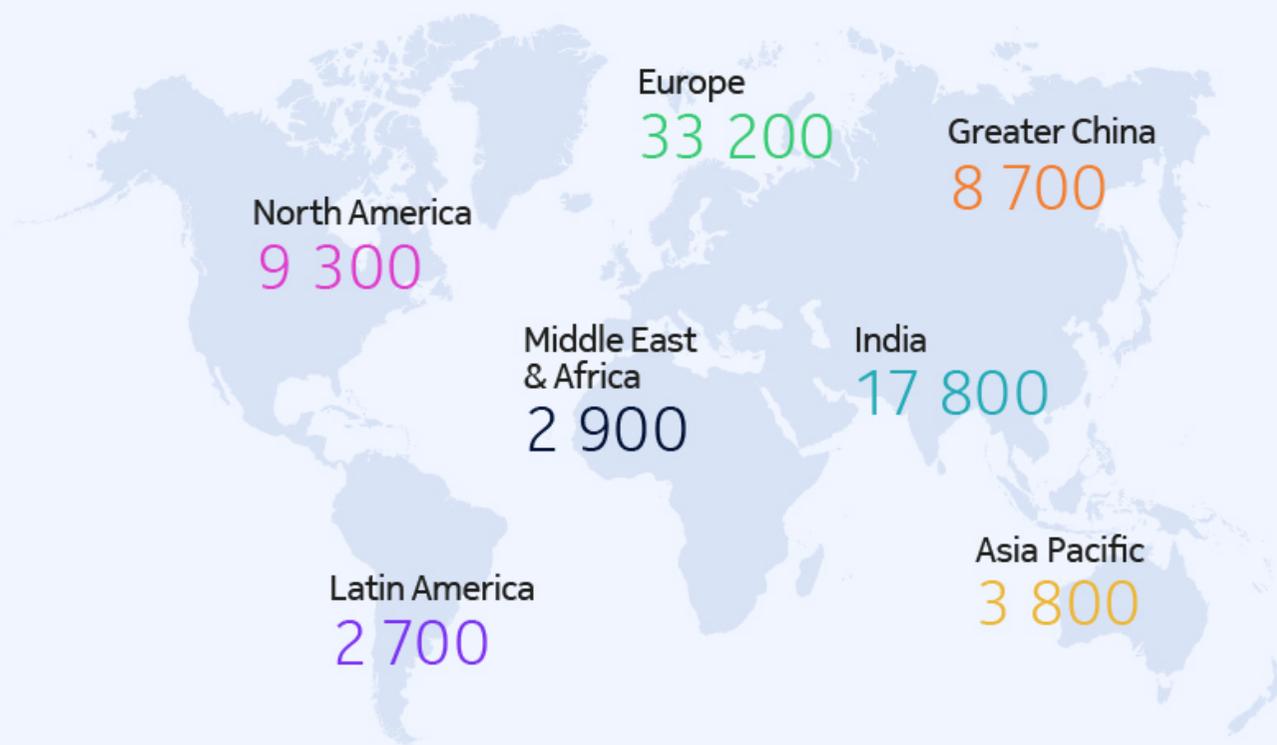
Countries of operation

~130

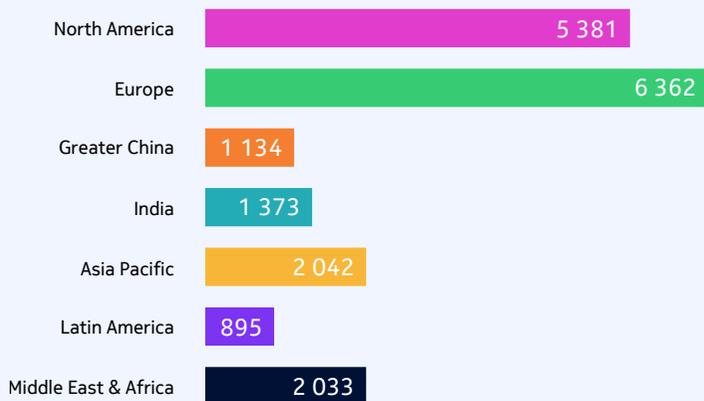
Average number of employees in 2024⁽¹⁾

~78 400

Regional split of employees⁽¹⁾



Regional split of net sales (EURm)⁽¹⁾



(1) For continuing operations only.

Nokia in 2024 continued

Sustainability highlights for 2024

We have gathered a visual summary of our sustainability highlights and a view of our recognitions from external ratings organizations.

Reported and targeted GHG emissions



See the full chart details in the “Environmental Data” section of the Sustainability Statement.

Share of suppliers achieving a satisfactory sustainability score⁽¹⁾ from supplier performance evaluation⁽²⁾



- (1) Based on aggregated weighted share.
- (2) Based on Corporate Responsibility onsite audit programs, EcoVadis, CDP, Conflict minerals.

ESG Rankings and ratings	Score	Latest result
WORLD'S MOST ETHICAL COMPANIES™ ETHISPHERE	Recognized as one of the 2025 World's Most Ethical Companies ⁽¹⁾	2025 Mar
Corporate ESG Performance	Prime, B (A+/D-)	2025 Feb ⁽²⁾
Clean200™	31st out of 200	2025 Feb ⁽²⁾
GLOBAL100™ THE WORLD'S MOST SUSTAINABLE COMPANIES	#44	2025 Jan ⁽²⁾
SUSTAINALYTICS	11.1 (Low risk of experiencing material financial impacts from ESG factors)	2024 Oct
MSCI ESG RATINGS	AAA (AAA/CCC)	2024 Aug
FTSE4Good	ESG Score 4.9/5.0	2024 Jun
ecovadis Sustainability Score	Top 1% - Platinum	2024 May
CDP Discloser 2024	A- ⁽³⁾	2024 Feb ⁽³⁾
KNOWTHECHAIN	22 out of 60 companies	2024 Jan

- (1) “World’s Most Ethical Companies” and “Ethisphere” names and marks are registered trademarks of Ethisphere LLC.
- (2) Refers to 2024 result, received in January/February 2025.
- (3) 2024 final score pending, expected in April 2025.

Nokia in 2024 continued

Our business groups

Nokia has four business groups with each of them aiming to become a technology and market leader in their respective sector.

Business Group	President	Description	Segment net sales (EURm)	Segment operating margin	Read More												
Network Infrastructure	FEDERICO GUILLÉN	Network Infrastructure delivers fixed access, IP routing and optical transport for business-critical and mission-critical applications for CSP, enterprise and webscale customers.	<table border="1"> <tr><td>2022</td><td>7 897</td></tr> <tr><td>2023</td><td>6 917</td></tr> <tr><td>2024</td><td>6 518</td></tr> </table> <p>-6%</p>	2022	7 897	2023	6 917	2024	6 518	<table border="1"> <tr><td>2022</td><td>13.5%</td></tr> <tr><td>2023</td><td>14.7%</td></tr> <tr><td>2024</td><td>11.7%</td></tr> </table> <p>-300 bps</p>	2022	13.5%	2023	14.7%	2024	11.7%	READ MORE ON PAGES 21 TO 22 →
2022	7 897																
2023	6 917																
2024	6 518																
2022	13.5%																
2023	14.7%																
2024	11.7%																
Mobile Networks	TOMMI UITTO	Mobile Networks creates products and services covering all 3GPP mobile technology generations. Its portfolio includes products for radio access networks (RAN) and microwave radio links for transport networks, solutions for network management, as well as network planning, optimization, network deployment and technical support services.	<table border="1"> <tr><td>2022</td><td>10 671</td></tr> <tr><td>2023</td><td>9 797</td></tr> <tr><td>2024</td><td>7 725</td></tr> </table> <p>-21%</p>	2022	10 671	2023	9 797	2024	7 725	<table border="1"> <tr><td>2022</td><td>8.8%</td></tr> <tr><td>2023</td><td>7.4%</td></tr> <tr><td>2024</td><td>5.3%</td></tr> </table> <p>-210 bps</p>	2022	8.8%	2023	7.4%	2024	5.3%	READ MORE ON PAGES 23 TO 24 →
2022	10 671																
2023	9 797																
2024	7 725																
2022	8.8%																
2023	7.4%																
2024	5.3%																
Cloud and Network Services	RAGHAV SAHGAL	Cloud and Network Services provides open, secure, automated and scalable software and solutions that accelerate the journey of service providers and enterprises to autonomous networks and new value creation.	<table border="1"> <tr><td>2022</td><td>3 351</td></tr> <tr><td>2023</td><td>3 220</td></tr> <tr><td>2024</td><td>3 022</td></tr> </table> <p>-6%</p>	2022	3 351	2023	3 220	2024	3 022	<table border="1"> <tr><td>2022</td><td>5.3%</td></tr> <tr><td>2023</td><td>7.9%</td></tr> <tr><td>2024</td><td>8.2%</td></tr> </table> <p>+30 bps</p>	2022	5.3%	2023	7.9%	2024	8.2%	READ MORE ON PAGES 25 TO 26 →
2022	3 351																
2023	3 220																
2024	3 022																
2022	5.3%																
2023	7.9%																
2024	8.2%																
Nokia Technologies	PATRIK HAMMARÉN	Nokia Technologies is responsible for managing Nokia's patent portfolio and monetizing Nokia's intellectual property, including patents and technologies.	<table border="1"> <tr><td>2022</td><td>1 595</td></tr> <tr><td>2023</td><td>1 085</td></tr> <tr><td>2024</td><td>1 928</td></tr> </table> <p>+78%</p>	2022	1 595	2023	1 085	2024	1 928	<table border="1"> <tr><td>2022</td><td>75.7%</td></tr> <tr><td>2023</td><td>67.6%</td></tr> <tr><td>2024</td><td>78.5%</td></tr> </table> <p>+1 090 bps</p>	2022	75.7%	2023	67.6%	2024	78.5%	READ MORE ON PAGES 27 TO 28 →
2022	1 595																
2023	1 085																
2024	1 928																
2022	75.7%																
2023	67.6%																
2024	78.5%																

Letter from our President and CEO

Repositioning for growth

This was a year of good strategic execution in a volatile market to achieve our full-year guidance while pursuing growth opportunities in our focus areas of data centers, private wireless and industrial edge and defense.

Challenging market conditions in the first half of 2024 led to our full-year net sales declining, but we delivered a strong finish to the year with improving net sales and excellent profitability to achieve a full-year comparable operating profit⁽¹⁾ of EUR 2.6 billion, at the mid-point of our guidance of EUR 2.3 to 2.9 billion.

We delivered a strong cash performance throughout 2024, ending with full-year free cash flow⁽¹⁾ of EUR 2.0 billion. This means we have a strong balance sheet supporting our business, with net cash and interest-bearing financial investments⁽¹⁾ of EUR 4.9 billion at the end of the year, even after returning EUR 1.4 billion to shareholders through dividends and share buybacks. As a result, the Board is proposing an increase in the dividend to EUR 0.14 per share in respect of the financial year 2024.

“I’m proud of the work we have done in re-establishing Nokia’s competitiveness and technology leadership and in positioning the company for growth.”



PEKKA LUNDMARK,
PRESIDENT AND CEO

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measure, refer to the “Alternative performance measures” section.

Letter from our President and CEO continued

Gaining share and expanding into new markets

Thanks to improving market trends and the determination of the Nokia team, we ended the year with excellent deal momentum, gaining share in many key markets and winning entirely new communication service provider (CSP) and enterprise customers.

For instance, our **Network Infrastructure** business, which is a market leader in fixed, IP and optical networks, secured a strategic deal with AT&T to deploy next-generation fiber broadband in the US. Network Infrastructure also continued its expansion in the data center market, winning significant deals including Microsoft, CoreWeave and Nscale, as well as announcing new go-to-market partnerships with Kyndryl and Lenovo.

Over the course of 2024, our **Mobile Networks** business won 12 new CSP and 9 new enterprise customers, as well as gained share with 10 existing CSP customers. As a result, Mobile Networks added 18 000 base station sites, on a net basis, to build share in a challenging market with notable highlights, including a large-scale commercial O-RAN rollout with Deutsche Telekom in Germany. Mobile Networks also expanded its AirScale portfolio with new market-leading, energy-efficient Massive MIMO radios to support mobile traffic growth and accelerate mass 5G rollouts.

Cloud and Network Services continued to rebalance its portfolio and strengthen its technology leadership, ending the year with 123 5G Standalone Core customers, the highest in the industry. By the end of 2024 we also had a market-leading 850 private wireless customers.

Nokia Technologies filed a record-breaking 3 000 patents in 2024 and passed the milestone of 7 000 patent families essential to 5G. Our patent-licensing business successfully concluded its smartphone renewal cycle and made further progress in its growth areas of automotive, consumer electronics, Internet of Things (IoT) and multimedia.

Strategic moves to accelerate growth

Nokia continued to lead the telecom industry's transition to AI-RAN, Cloud RAN and cloud-native core networks, helping CSPs cloudify, automate and monetize their networks to capitalize on the opportunities that AI and cloud are bringing.

We believe that programmable networks, through application programming interfaces (APIs), are central to unlocking monetization opportunities for our customers and partners. As well as continuing to expand the reach of our Network as Code platform, we acquired US tech firm Rapid's technology and R&D unit this year. This acquisition gives us the world's largest API hub, used by thousands of developers globally, and strengthens our R&D capabilities. It also meant that by the end of 2024, we had 48 network API partners, including Orange, Telefonica and Google.

We also undertook significant strategic moves to accelerate progress in our new focus areas of data centers, private wireless and industrial edge, and defense.

For instance, the sale of the Submarine Networks business and the acquisition of optical networking supplier Infinera have reshaped our Network Infrastructure business around three leading pillars, have strengthened our optical position, particularly in the US, and will help to accelerate our progress in the data center market. To support that ambition, at the fourth quarter results, we announced our intention to invest up to an additional EUR 100 million in annual operating expenses in data center IP networking, with a view to driving incremental net sales of EUR 1 billion by 2028.

Mobile Networks' acquisition of tactical communications specialist Fenix Group broadens our defense portfolio, and the launch of Nokia 5G Banshee Flex Radio at the end of the year is a sign of things to come as we start to apply our expertise in fast, secure and reliable 5G connectivity to a range of defense scenarios.

Looking ahead

Given the market volatility in 2024, our performance demonstrated Nokia's responsiveness and capacity to execute in all market conditions. I am grateful to the Nokia team for their commitment, hard work and drive in delivering on our guidance and creating a strong foundation for growth this year.

This will be my last annual report as President and CEO of Nokia. In February 2025 we announced a leadership transition, with Justin Hotard becoming the next President and CEO of Nokia on 1 April. I had earlier indicated to the Board that I wanted to move on from executive roles when the repositioning of the business was at a more advanced stage, and when the right successor had been identified. With both of those conditions met, I decided it is the right time to step down.

I'm proud of the work we have done in re-establishing Nokia's competitiveness and technology leadership and in positioning the company for growth.

It has been a privilege to lead Nokia and to have worked with one of the best teams in the industry.

PEKKA LUNDMARK
PRESIDENT AND CEO



Our customers

Our customers

We serve three customer segments: communications service providers, enterprises and licensees.

Networks play an increasingly important role in the economy and in society. As a result, we serve a growing number of customers who provide critical services to end-users. We distinguish two primary customer segments that we serve with our hardware, software and services portfolio: communications services providers and enterprises, including enterprise verticals and webscalers. In addition, we license our intellectual property to industries that benefit from our fundamental innovations, primarily in the mobile devices, automotive, consumer electronics and IoT industries.

Our analysis of the evolution of these segments is set out below.

1 Communications service providers (CSPs)

The CSPs estimated total addressable market (TAM) declined 5% to EUR 86 billion from 2023 to 2024.

A communications service provider offers telecommunications services such as voice and/or data services through fixed and/or mobile connectivity to consumers, enterprises, governments and other communications service providers. Nokia maintains a consolidated view of the Nokia total addressable market based on multiple external analyst reports, customer and key competitor reported and announced insights as well as Nokia internal insights. We estimate that in 2024, the CSPs estimated total addressable market (excluding Russia and Belarus) for Nokia was EUR 86 billion, having declined by 5%, excluding the impact of changes in foreign currency exchange rates from 2023 to 2024. This reduced spending was driven by the macro-environment, high interest rates and inventory ramp-down, although market dynamics started to improve in the second half of 2024.

We expect it to grow moderately, at a 2% compound annual growth rate (CAGR) between 2024 and 2029 excluding the impact of changes in foreign currency exchange rates.

We expect that fixed wireless access, fiber, IP routing and optical networks will grow faster than the overall CSP market, driven by the continuous demand for higher speed access technologies at homes and workplaces. We expect RAN investments to remain in line with the overall CSP market, as 5G adoption and expansion continues around the world. The 5G cycle will also yield growth in software, namely in 5G Core and in all software segments supporting 5G operability and monetization.

CSPs have kept their capital expenditure intensity flat, but increased their earnings through automation, digitalization, shifts in channel mix, outsourcing and asset sales. We expect them to remain focused on the monetization of their connectivity strengths and on cost optimization. They are also considering divesting from passive infrastructure and transitioning towards network sharing models. In areas where the network is built for coverage, this might reduce demand for network vendor equipment. We have also seen the first examples of CSPs relying on webscalers to lead the transition to cloud-based operational and business models. When combined with open RAN standards that aim at splitting a base transceiver station into subcomponents with open interfaces, this may allow for new entrants into the market and increase competition. Conversely, it should also serve to accelerate innovation and create opportunities for market share gains for those investing in the technology, including for Nokia.

Geopolitics and environmental criteria increasingly influence investment and vendor decisions. Security and sovereignty have become important factors across the vendor landscape. Government-funded broadband initiatives also provide additional funding for investments, for example in rural areas. Sustainability considerations such as green energy use, energy consumption reduction plans and circular economy approaches also shift the criteria for vendor selection.

2 Enterprises

Enterprise estimated TAM grew by 4% to EUR 25 billion from 2023 to 2024.

Enterprise TAM includes enterprise verticals and webscaler markets. In 2024, the estimated enterprise TAM (excluding Russia and Belarus) was EUR 25 billion, having grown by 4% from 2023 to 2024, excluding the impact of changes in foreign currency exchange rates. We forecast this market to grow strongly, at 8% CAGR until 2029, excluding the impact of changes in foreign currency exchange rates, with the private wireless market reaching 22% CAGR.

Enterprise verticals

An enterprise vertical represents a grouping of companies by an industry that offers products and services that meet specific needs. We primarily focus on transportation and logistics, energy, manufacturing and public sector verticals. This reflects our assessment that these sectors are seeing the most significant digitalization over the coming years, as they automate many aspects of their operations. We project that growth will mainly be driven by private wireless and wireline networks in manufacturing, as well as in the public sector and in energy. We estimate that IP routing and optical networks will also continue to grow moderately in these segments.

Our customers continued

Webscalers

Webscaler refers to companies that provide cloud-based, scalable solutions and services. Alphabet (Google Cloud Platform), Amazon (Amazon Web Services) and Microsoft (Azure) are the largest cloud players – also referred to as hyperscalers – operating on a global scale. Our TAM for webscalers consists mainly of optical networks and IP routing. Within optical networks, we expect that data center interconnect (DCI) will be a strong growth driver, while the increasing webscaler data traffic requires adoption of higher bit rate technologies also in IP routing.

The largest global webscalers are also assuming an increasingly important role within the telecommunications domain. They target edge computing as the next growth engine for industrial automation workloads and low-latency applications. They also partner with CSPs to co-locate edge stacks on-premises and at metro sites. Additionally, they aim to run telecommunications network workloads on their cloud infrastructure. As such, webscalers are customers and partners, as well as potential competitors in some areas.

3 Licensees

Licensees refers to companies that have agreed licenses to use Nokia's intellectual property. This includes the licensing of Nokia's patent portfolio, the licensing of technologies for integration into consumer devices and the licensing of the Nokia brand. The majority of Nokia Technologies' revenues comes from patent licensing where we have agreements with most major smartphone vendors as well as licensing programs for consumer electronics, video services, automotive and the wider IoT domain. In total, we have more than 200 licensees across all our programs, including companies like Apple, Samsung and Lenovo.

1

CSPs

Focus on connectivity strengths

and using cost optimization via automation and asset carve outs to fund both fiber and 5G investments.

Favoring cloud strengths

in vendor and partner ecosystem.

Network monetization

targeting enterprise and edge use cases.

2

Enterprise

Enterprise verticals

Digitalization and automation of operations in industrial segments.

Transition to software-centric

operations and adoption of industrial operational technology (OT) edge and on-premise clouds.

Energy and manufacturing

as early adopters of private wireless and automation solutions.

Federal, state government and cities

network modernization acceleration.

Webscalers

Edge computing

as a growth engine – industrial automation workloads across on-premise, edge, public cloud.

Partnering with CSPs

to co-locate edge stacks and building an ecosystem for low-latency apps.

Targeting telco and network

workloads to run on their cloud infrastructure.

Collaborating with CSPs

in the transformation of network operations.

3

Licensees

Patent portfolio with long lifetime

The vast majority of Nokia's patents still in force in ten years' time.

New inventions every year

In 2024, we filed patent applications on a record number of more than 3 000 new inventions in areas such as 5G and upcoming 6G networks, Wi-Fi connectivity, next-generation video coding, and more.

Annual number of patent filings expected to grow

due to continued investments in R&D and standardization.

Entire industries powered by our fundamental cellular and multimedia inventions

providing us with the opportunity to expand our licensing coverage; we are making good progress in our growth areas of consumer electronics, automotive and IoT.

Our strategy

Our strategy

Networks are the key enabler for the digitalization of industries and the realization of the broader potential of the metaverse.

In 2021, Nokia set out its strategy to deliver sustainable, profitable growth by becoming a B2B technology innovation leader, accompanied by a new purpose and operating model. In 2023, Nokia made an evolution in this strategy and how we deliver against it with the introduction of six strategic pillars.

These pillars are the key objectives that will define Nokia's success in the future and enable it to achieve its long-term ambitions. During 2024, Nokia continued to execute against these strategic pillars, more details of which will be shared in the following Business Group sections.

The six pillars are:

1 Grow CSP business faster than market	2 Expand the share of enterprise in our business	3 Actively manage our portfolio	4 Secure business longevity in Nokia Technologies	5 Build new business models	6 Develop ESG into a competitive advantage
<p>CSPs will continue to be our biggest customer segment. We will leverage our strong technological position, investment in technology leadership and emerging opportunities to grow our share in key markets, with geopolitical considerations supporting this ambition.</p>	<p>Enterprise verticals and web-scalers are deploying campus networks, wide area private wireless networks, enterprise physical networks and data centers at an accelerated rate to digitalize their operations. Being a technology leader in all these domains, we pursue these opportunities to grow our enterprise business.</p>	<p>Maintaining our portfolio segments at number one or number two position, through several routes including active portfolio management, is critical for a profitable and sustainable business. There may be cases where a leadership position is not possible, and for these cases, we will consider alternatives.</p>	<p>We are investing to ensure the sustained competitiveness of our patent portfolio. We will continue to pursue opportunities from sectors outside mobile devices, such as automotive, consumer electronics, IoT and video services.</p>	<p>To broaden our customer base and change our margin profile, we see potential in new platform business models within the broader ecosystem. We engage with service providers, web-scalers, industrial giants and emerging players, like app developers and start-ups, to drive the creation of new products, services, and solutions, and to explore new business models including Cloud RAN, Network as Code and as-a-Service.</p>	<p>ESG is increasingly important for customers, investors, regulators, partners and Nokia employees. There is space in our industry to become the 'trusted provider' and Nokia aims to claim this position. Our ESG strategy lays out how we will do this and our specific areas of focus.</p>

The six pillars are underpinned by four enablers:

1 Develop future-fit-talent	2 Invest in long-term research	3 Digitalize our own operations	4 Refresh our brand
<p>We have launched and are executing a new people strategy focused on growth, skills and development. We build the right future skills for our employees in the technical domains identified in our technology vision and strategy, and the commercial skills to support our expansion into new domains.</p>	<p>Sustained technology leadership is a key driver of our success: it requires us to anticipate, shape and invest in the next technology waves and breakthroughs. We continue to invest in long-term research to ensure a leadership position in line with our Technology Vision 2030. We are also deeply engaged in leading and influencing standards and developing standard essential patents.</p>	<p>We are increasing the digitalization of our own operations to lead by example with a set of ambitious, company-wide strategic initiatives to increase the company's performance and competitiveness, focused on efficiency, productivity and agility in internal operations, customer experience and R&D.</p>	<p>To ensure Nokia is recognized as a B2B technology innovation leader, we refreshed our brand in 2023. Our new visual identity is emblematic of an energized, dynamic and modern Nokia.</p>

Our strategy continued

Strong progress on strategic execution

Actively managing our portfolio

Acquisitions

Through 2024, Nokia made a number of strategic acquisitions which will strengthen our position in markets where we see significant future growth potential.

Nokia announced its intention to acquire Infinera, a global supplier of innovative open optical networking solutions and advanced optical semiconductors. Nokia and Infinera see a significant opportunity in merging to improve scale and profitability, enabling the combined business to accelerate the development of new products and solutions to benefit customers. The transaction aligns strongly with Nokia's strategy, as it is expected to strengthen our technology leadership in optical and increase exposure to webscale customers, the fastest growing segment of the market. This will create a highly scaled and truly global optical business with increased in-house technology capabilities and vertical integration. This will also strengthen Nokia's optical position, specifically in North America. The combination with Infinera is projected to accelerate Nokia's journey to a double-digit operating margin in its Optical Networks business. The acquisition of Infinera was completed in February 2025.

Nokia completed the acquisition of Fenix Group in 2024 in order to strengthen its position in the defense industry. This acquisition will add Fenix's innovative broadband tactical communications products into our portfolio. The acquisition closed in May 2024

and we have moved quickly to accelerate product roadmaps, even now launching a 5G tactical radio solution.

Nokia also acquired Rapid's technology and R&D unit. This acquisition gives Nokia the world's largest API hub used by thousands of developers globally along with strengthening our R&D capabilities. This will bolster our R&D capacity in Network as Code. Taken together with our autonomous networks application suite, we are enabling operators to fully automate and monetize their network.

Divestments

In 2024, Nokia sold its wholly owned subsidiary Alcatel Submarine Networks (ASN), a global submarine communication networks leader, to the French state. Nokia will retain a 20% shareholding with board representation to ensure a smooth transition until targeted exit, at which point it is planned for the French state to acquire Nokia's remaining interest. The transaction demonstrates Nokia's active management of its business portfolio and focus on key strategic assets.

Both the acquisition of Infinera and the sale of the Submarine Networks business allow Nokia to focus its Network Infrastructure portfolio on growth opportunities in its core markets and further improve profitability of the Network Infrastructure business group. For more details on the sale of the Submarine Networks business and the acquisition of Infinera, please refer to Note 2.6. Discontinued operations and Note 6.5. Subsequent events in our consolidated financial statements.

Providing business groups with greater autonomy

In 2021, Nokia significantly streamlined its operating model, moving from a matrix organization and creating four P&L-responsible business groups structured around unique customer offerings. In 2024, Nokia accelerated its strategy execution through providing its four business groups with increased operational autonomy and agility along with embedding sales teams directly into the business rather than the central sales organization the company has utilized until now. This enables the business groups to better address opportunities in their distinctive markets with our existing and new customers. They will be empowered to diversify faster, build new ecosystem partnerships, implement new business models and invest for technology leadership. Sales teams will collaborate across Nokia to ensure customers continue to benefit from the breadth of all Nokia offers.

Nokia's lean corporate center will act as a strategic architect, providing oversight in key areas, including target setting and performance management and portfolio development along with governance and compliance. The company will continue its commitment to long-term research through Nokia Bell Labs.

Accompanying the move towards more autonomous business groups and to provide investors with greater transparency in assessing their financial performance, Nokia began reporting regional net sales for its business groups.



Our strategy continued

Our path to continued technology leadership

As one of the industry's leading investors in communication technology research and development (R&D), we drive innovation across a comprehensive portfolio of network equipment, software, services and licensing opportunities.

Nokia's world-leading research and development

We have a global network of R&D centers, each with specialties and ecosystems built around both competencies and technologies. Most of our near- to mid-term R&D is conducted within the business groups' structures and is further elaborated in the business group-specific sections of this report.

Laying the path for Nokia's future technology innovation and identifying the most promising areas for new value creation

Beyond the R&D of our business groups, Nokia's dedicated Strategy and Technology (S&T) organization is focused on longer-term technology cycles. S&T is responsible for formulating Nokia's corporate strategy and establishing a technology and architecture vision across the company. It also oversees the implementation of this vision and strategy in partnership with Nokia's business groups.

S&T drives company-wide internal technology alignment and, through the transfer of technologies to the business groups, contributes to the evolution of Nokia's portfolio to enable continued technology leadership.



Nokia Bell Labs

As Nokia's industrial research lab, Nokia Bell Labs solves human needs through the power of human intellect. It celebrates its centennial in 2025 by highlighting its past, present and future technology innovations and the impact these have had on society.

Over the past 100 years, Nokia Bell Labs has been bringing together the brightest minds in mathematics, physics, computing and engineering to work on the world's biggest scientific challenges. In 2024, we celebrated alumnus Louis Brus' Nobel Prize in Chemistry for his research on quantum dots, our 10th Nobel Prize for work completed at Bell Labs.

Nokia Bell Labs' primary research areas are network fundamentals, automation, semiconductors and devices, and AI and software systems. As an industrial research lab, we innovate with purpose, pursuing responsible, sustainable technologies that will have a demonstrable impact on society.

Nokia Bell Labs started its 6G research in 2018. After several years of exploration research with some world-first proof-of-concepts, we have now transitioned from vision to action, with a focus on technology leadership and future 6G product differentiation. We are guided by our vision that 6G will fuse the physical, digital and human worlds, opening the door to extrasensory experiences. Intelligent knowledge systems will be combined with robust computation capabilities, merging network, application and processor roles. Nokia is also leading Hexa-X-II, the second phase of the European Commission's

Our strategy continued

flagship 6G initiative for research into the next generation of wireless networks. In addition, together with partners like Bosch, we are progressing the concept of 6G integrated communication and sensing (ICAS) in evaluating different use cases with our prototype system.

We launched UNEXT, a new research initiative for a future Network Software System that creates a unified networking experience for autonomous service creation, leveraging distributed computing and new business environments. This new UNEXT system includes knowledge and security services that are natively designed into it. In 2024, we realized a first prototype showing the foundational capabilities of UNEXT-Operator or UNOP, a key building block of the system. Just as Bell Labs' invention of UNIX transformed computing, our UNEXT research initiative is poised to transform networking, by breaking down barriers that have traditionally prevented network elements from interoperating.

In the area of optical networks, we reached a new world record of 300+ GBaud/s transmission rate on a single wavelength carrier. We achieved a 50 000x acceleration of fiber sensing, which opens new application opportunities for network infrastructure monitoring and geophysical research. We also evaluated our 100G Flexible rate Passive Optical Network (PON) in technical trials with several service providers.

Nokia Bell Labs believes that the best research is done in an inclusive, collaborative manner, taking diverse points of view into account. We have worked with NTT and DOCOMO and SKT to explore a technology that implements a proof-of-concept air interface. This joint AI-native proof-of-concept was awarded the Future Award category in World Communication Awards 2024, and the Best Industrial AI Use Case of the Year at the AI Gala.

In 2024, we continued our research on quantum, showcasing how these technologies encompass far more than just quantum computing. Quantum networking and quantum security are all key areas of established research, and they are all areas in which Nokia has proved considerable expertise.

We have also put our mark on Industry 5.0 with our unique contributions to advancements in AI, cloud and connectivity. The goal is to increase the digitalization of industries, facilitate greater productivity, efficiency and safety and enable simpler and more intuitive human-machine interactions.



Nokia Bell Labs is also at the forefront of non-traditional network research with a focus on AI and machine learning that is needed for future advanced communication capabilities. We believe it is important to develop AI in an ethical, responsible and sustainable way, and this led us to create a cross-organizational AI Center of Excellence.

Nokia Bell Labs has had recent success in collaborating with government agencies and businesses on distinct commercial contracts. This includes additional funded agreements with the US government for the future of space communication and lunar communication architecture studies. Nokia Bell Labs was chosen by DARPA for the LunA-10 Capability Study to design an integrated multi-service architecture to support a thriving economy on the moon in the next decade and beyond.

Nokia Bell Labs is regarded as a leading industry and thought leader on lunar surface communication networks, which NASA recognized with a FY2023 NASA Langley Research Center Large Business Prime Contractor of the Year Award. Nokia Bell Labs successfully completed a System Engineering and Integration (SE&I) study for NASA to investigate and outline how cellular communication technologies could be used to support the Artemis missions and provide a high-level system architecture and design to meet the requirements for the Artemis V mission.

We announced a partnership with Axiom Space to deliver a spacesuit-integrated cellular communications system that will allow Artemis III astronauts to communicate via voice and video with NASA Mission Control as well as send telemetry information back to Earth, while they explore the lunar surface. We continued our testing and validation work of the Nokia Lunar Surface Communication System (LSCS) with Intuitive Machines and Lunar Outpost engineers in preparation to deliver and deploy the first cellular network on the lunar surface as part of the IM-2 mission, scheduled for 2025.

Our strategy continued

Nokia Bell Labs signed a multi-year research agreement with Vale, a Brazil-based global mining company, to implement a cognitive, AI-based mining program to boost productivity and worker safety. We also collaborated with Qualcomm on AI interoperability technology that boosts wireless capacity and performance, and with Vodafone on the world's first trial of L4S technology over an end-to-end PON network.

Nokia Bell Labs continues to explore new concepts that could lead to growth in both neighboring and nascent markets. In 2024, we initiated our Entrepreneurs in Residence (EIR) program in which we partner with entrepreneurs to rapidly translate groundbreaking research into commercially successful ventures.

Nokia Standards

Across the larger S&T organization, we continue our heritage of pioneering significant innovations in the essential technologies driving communication networks and systems. Many of the fundamental technologies that are used in 5G standards were invented at Nokia, and now we are focused on technology leadership beyond 5G, playing a key role in setting the 3GPP standards. We completed the standardization work for the first release of the 5G-Advanced era, known as 3GPP Release 18, in June 2024, and are currently working on the upcoming Release 19. In December 2024, we kickstarted the work on completing 5G-Advanced with 3GPP Release 20. This will be the final release of 5G and will also prepare for 6G.

Spectrum availability is a fundamental enabler of wireless communications. So, after a successful WRC-23 event, Nokia continued to engage with regulators and partners around the globe to make harmonized mid-band spectrum available for 6G. With Nokia at the forefront of 6G research, our 2024 Brooklyn 6G Summit, organized jointly with New York University, focused on the ongoing 6G shift from the research to standardization stage.

We were also selected to lead a new European project on 6G sustainability. In coordinating the SUSTAIN-6G lighthouse project, Nokia will lead the consortium's efforts of 24 partners to find solutions for these specific areas of sustainable development: energy smart grids, e-health and telemedicine and agriculture. We are also engaged in sustainability standardization activities at the ITU-T, ETSI, ISO and CEN-CENELEC. In 2024, we led the endeavor to incorporate circular processes into the ITU-T L.1410 LCA standard.

Nokia Ventures

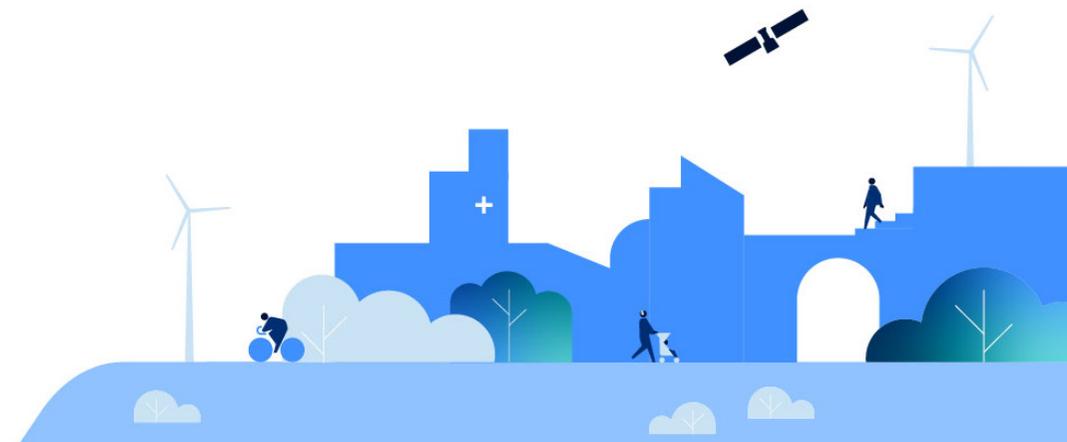
We pursue future growth and value generation through investment in the in-house incubation and commercialization of venture projects, selected spinouts and licensing of technologies, and through investment with our NGP Capital partner. Our internal incubation program is leveraging breakthrough technologies from Nokia Bell Labs to define minimal viable products, test new business models, and then scale the business development and sales. Some examples include the following:

Nokia's Autonomous Industrial Monitoring Service (AIMS) has transformed the traditional inventory counting process, with its autonomous drones flying in warehouses. Nokia AIMS also won the Industrial Innovation category at the Supply Chain Excellence Awards USA.

Nokia's Real-time eXtended Reality Multimedia (RXRM) is a breakthrough solution in real-time 360° video and 3D spatial audio capture. The RXRM solution is an application that brings added value to network investment for enterprises. With a growing customer base, RXRM is enhancing industrial productivity, safety and sustainability, and creating immersive experiences in the entertainment sector. A newly launched, and world's first, ruggedized 5G 360 camera that is designed for harsh conditions, completes the full turnkey solution for RXRM customers. RXRM also won the iF Design Award in 2024 for its UX Design.

We also demonstrated a groundbreaking digital twin solution that can create a Cognitive Digital Mine (CDM). This solution is an industrial real-time AI platform for faster, predictive and better decisions to boost mine resource planning, asset usage, scheduling, and operational safety. It won the 2024 Fierce Network Innovation Award in the IoT category.

The Sustainable Energy Management (SEM) venture offered its first general availability product release in 2024. The offering consists of digital tools to plan flexibility, local energy generation and storage to optimize energy economics. An example of an external spinout, Cambridge Future Tech entered a relationship with Nokia Bell Labs and Nokia Ventures & Partnerships to establish OmniBuds LTD for the commercialization of the Nokia Bell Labs OmniBuds platform. OmniBuds is the world's first ear-worn AI/ML platform to track your health in real time.



Our strategy continued

Our Technology Vision and Technology Strategy 2030

The Nokia Technology Vision describes how Nokia sees the technology trends shaping the world of the future. The Nokia Technology Vision represents our prediction of the state of technology beyond ten years from the unique standpoint we have in the industry and the extraordinary technical expertise Nokia has through its leading research and wide product portfolio. Building on our Technology Vision, Nokia's Technology Strategy outlines the insights, priorities and actions necessary for businesses to remain proactive in response to accelerating technological advancements and the digital economy interplay and how, together with our customers and the industry, we must evolve networks to meet the challenges of tomorrow and beyond.

This year's title for the Nokia Technology Vision is "Digital acceleration toward the quantum era." It describes the increasing intersection of the digital, physical and human worlds to a smart world ahead that feels more human. The primary engine of innovation over the next decade will be AI that allows the digital world to interact with the physical and the human worlds. Evolving device technologies enhanced with enablers, such as spatial computing and artificial intelligence powered digital twins, provide solutions that are of a high-quality personalized experience. This trajectory requires the underlying technologies, such as hardware and software, to further develop to fulfill the requirements of the new world.

The technologies are influenced through the different macro-trends including geopolitics and climate change, which call increasingly for trustworthy technology suppliers. To enable this future, the networks need to continue to develop. The development of both evolutionary and disruptive network technologies, as well as changes to how networks are deployed and used, are needed for the networks to fulfill the requirements of the future.

Where the Nokia Technology Vision describes the trends of the future, the Nokia Technology Strategy defines how the company will develop and implement technologies to transform networks and drive business growth. It aligns product innovation with future market trends, ensuring scalable, reliable networks that serve as a foundation for the hyper-digital era and growth opportunities for our customers and the industry in general. By 2030 and beyond, the hyper-digital world will drive transformative changes in society.

Our 2024 edition of the Technology Strategy focuses on four pillars – network cloud continuum, ubiquitous advanced networking, AI and next-generation devices – as the foundational elements required to create highly agile, scalable and efficient digital ecosystems that telecommunications and enterprises need to evolve and thrive in a hyper-digital world. This evolution will enhance customer value, create new business models and deliver innovative services. Future networks must be programmable, exposable and easily monetized to support the next-generation digital experiences of the hyper-digital world.

Our Technology Strategy is built upon our commitment to making Nokia a technology leader in the industry. In line with our corporate strategy, defining our Technology Strategy allows us to be fully prepared for the next five to seven years.

It focuses on our core business of providing critical technologies to enhance the evolution of networks for our customers and support them in meeting their advancing needs. The Strategy and Technology team have worked closely with Nokia's business groups to develop the Technology Strategy, which was finalized after multiple rounds of review and alignment with Nokia global technology and business leaders.

The hyper-digital world beyond 2030

Beyond 2030, the hyper-digital world will be characterized by a deep integration of the digital, physical and human worlds, resulting in transformative changes across digital society. The future represents a profound blend of digital intelligence and human experience. This sets the stage for our Technology Strategy, which has been developed to position us at the center of this transformation and drive value creation for Nokia and our customers. Critical to realizing future use cases will be the advancement of networks, which will play a pivotal role in connecting and orchestrating the various technologies involved.

A strategic shift for the telecommunications industry

To thrive in this evolving landscape, telecommunication services must transform from being mere connectivity providers to becoming enablers of digital ecosystems, offering a broader range of services beyond traditional offerings. A platform-based approach is essential, integrating cloud services, edge computing, IoT and AI-driven value-added services. This strategy leverages network infrastructure more effectively, enabling differentiated services that enhance customer retention, growth and new revenue opportunities.

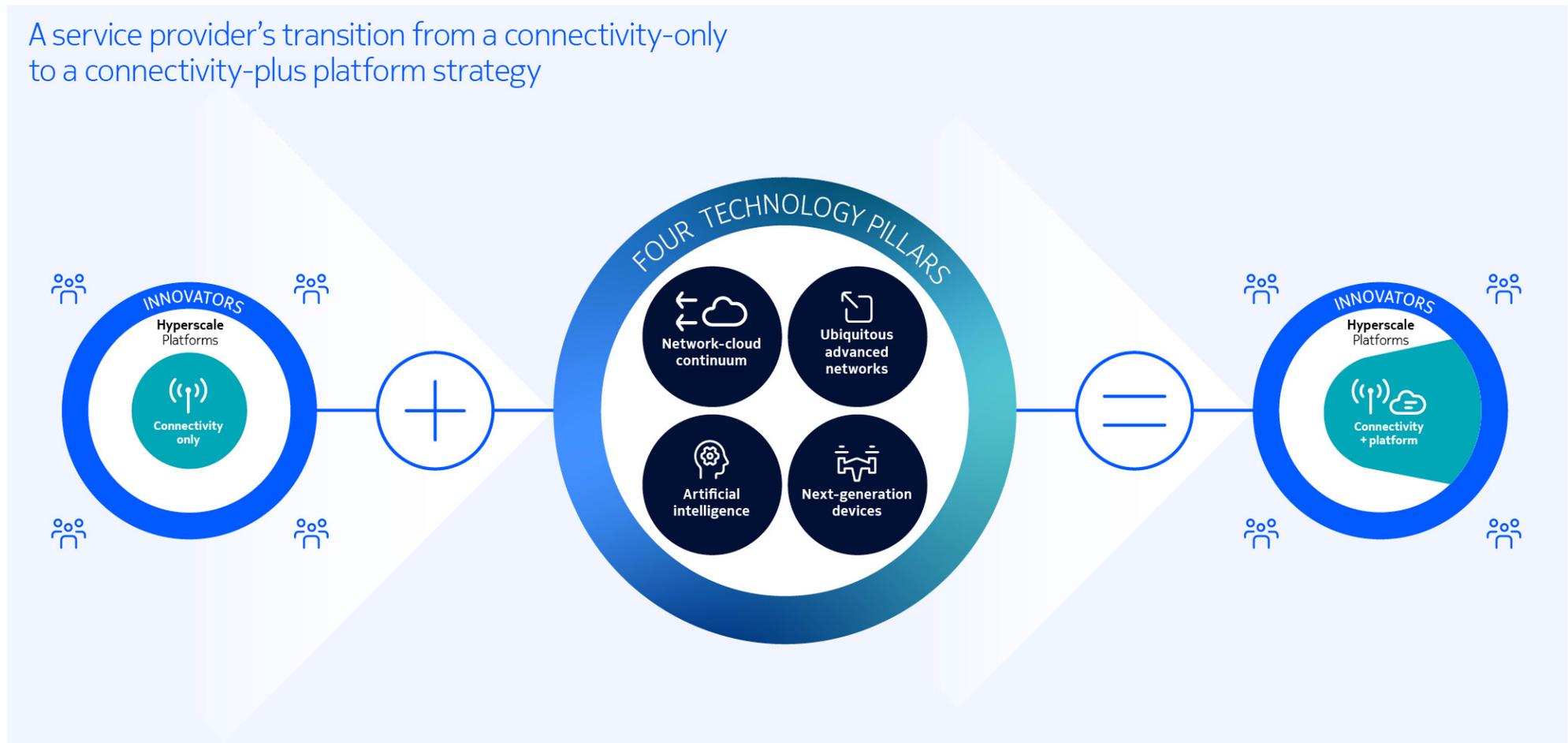
Our strategy continued

By unifying and integrating diverse resources, communications service providers can create dynamic platforms that drive multi-sided value, moving beyond linear business models. These platforms allow various stakeholders – developers, enterprises, consumers and partners – to interact, transact and innovate together. This model fosters efficiency and innovation and opens new monetization avenues, such as on-demand services, data-driven insights and industry-specific applications.

Emerging technologies and digital platforms

To enable the telecommunications industry to transition from offering connectivity-only services to providing rich digital platform services that integrate new capabilities and move up the value chain, we prioritize investment in these four pillars. These capabilities can be offered to Nokia customers in several different business models, for instance, as-a-service, as a white-label solution or simply technology products and solutions.

A service provider's transition from a connectivity-only to a connectivity-plus platform strategy

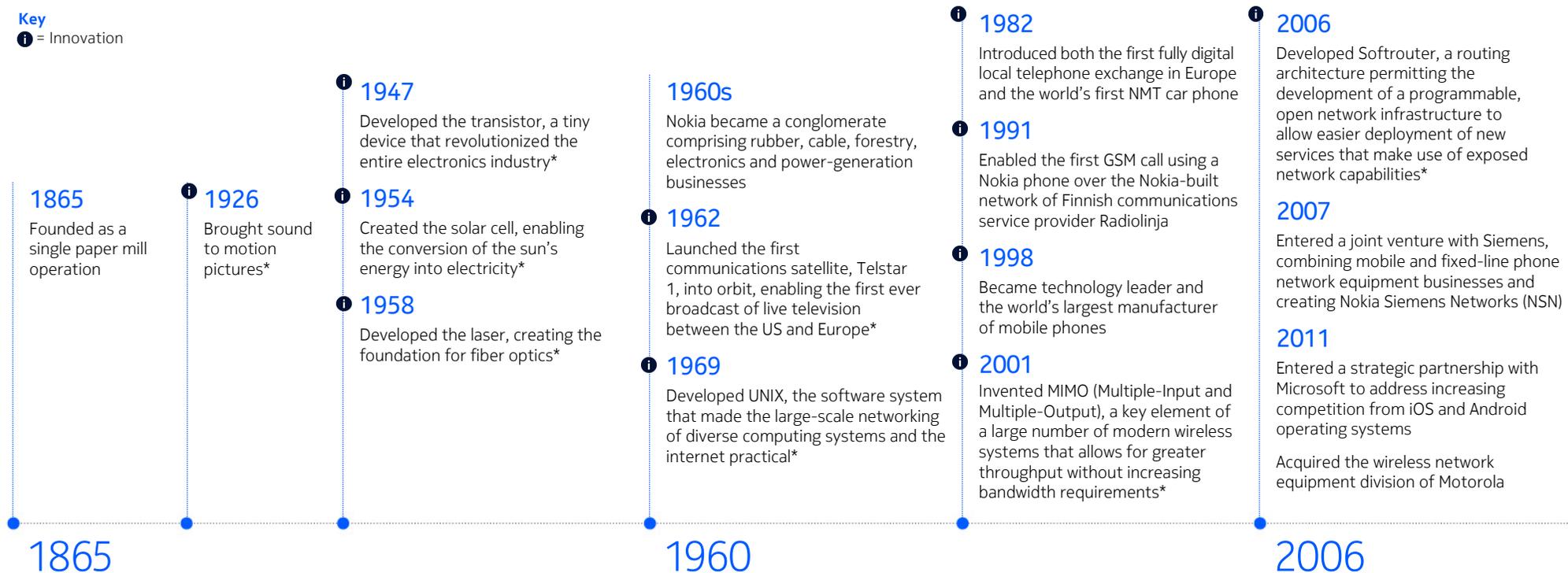


Our history

Over 150 years of innovation

Key

i = Innovation



Nokia has been adapting to the needs of an ever-changing world for over 155 years.

*Bell Telephone Laboratories (1925-1984). Following its acquisition by Nokia in 2016, it was renamed Nokia Bell Labs.



Our history continued

2013

Purchased Siemens' stake in NSN

2014

Sold the Devices and Services business to Microsoft

- Developed XG-FAST technology, enabling service providers to generate fiber-like speeds of more than 10Gbps over short distances using existing copper infrastructure

2016

Acquired Alcatel-Lucent, including Bell Labs, creating an innovation leader in next-generation technology and services

2017

- Developed Probabilistic Constellation Shaping, an innovative technology to get the most out of each fiber, irrespective of its length and capabilities

Additional acquisitions enhancing our technology leadership: Deepfield, the US-based leader in real-time analytics for IP network performance management and security, and Comptel, a Finland-based telecommunications software company

2018

Acquired Unium, a Seattle-based software company that specializes in solving complex wireless networking problems for use in mission-critical and residential Wi-Fi applications

2019

Opened the world's first live end-to-end 5G lab, the Future X Lab in Murray Hill, New Jersey, US

2020

- Selected by NASA to build and deploy the first end-to-end LTE solution on the lunar surface

- Enabled commercial deployment of the world's first 5G liquid cooling solution

- Set the 5G speed world record

Acquired Elenion, a US-based company focusing on silicon photonics technology

2021

Developed the Resh programming language to take control of and manage a fleet of robots

2022

Showcased the first 100Gb/s fiber broadband technology in the US

Launched the Advanced Security Testing and Research (ASTaR) lab in Dallas – the first end-to-end 5G testing lab in the US focused solely on cybersecurity

Introduced the 6 pillars of Responsible AI

2023

Renewed the Nokia brand to establish a clear position for Nokia as a B2B technology innovation leader

- Achieved two key 6G technological milestones: the implementation of AI and machine learning into the radio air interface, and proof-of-concept of 6G joint communication and sensing capability

Continued to actively manage its business portfolio, e.g., through the agreed sale of its Device Management and Service Management Platform businesses, and the divestment of its VitalQIP products. Announced the acquisition of Fenix Group

- Added our 10th Nobel Prize for work completed at Bell Labs, with the Nobel Prize in Chemistry awarded to our alumnus Louis Brus

- World-record 2.4 Tb/s optical transmission over a single wavelength

2024

Divested our Submarine Networks business and announced our plans to acquire Infinera, a leader in optical networks

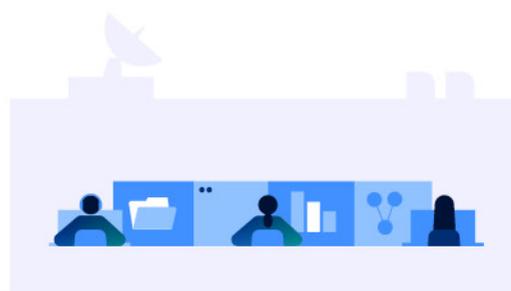
- Made the world's first immersive voice and audio call over a cellular network using a codec which enables 3D spatial sound in real-time

- Partnered with Axiom Space to enable high-speed cellular network capabilities in next-generation lunar spacesuits

2013

2020

2024



Business groups

Network Infrastructure

Network Infrastructure delivers fixed access, IP routing and optical transport for business-critical and mission-critical applications for CSP, enterprise and webscale customers.



“Network Infrastructure is supporting the world’s growing demand for connectivity, capacity, security and efficiency. And – through innovations in technology and network management – we are helping our customers navigate this landscape successfully.”

FEDERICO GUILLÉN
PRESIDENT, NETWORK INFRASTRUCTURE

8 500km

distance between London and Chicago covered by the Colt, Windstream and Nokia ultra-fast 800GbE trial

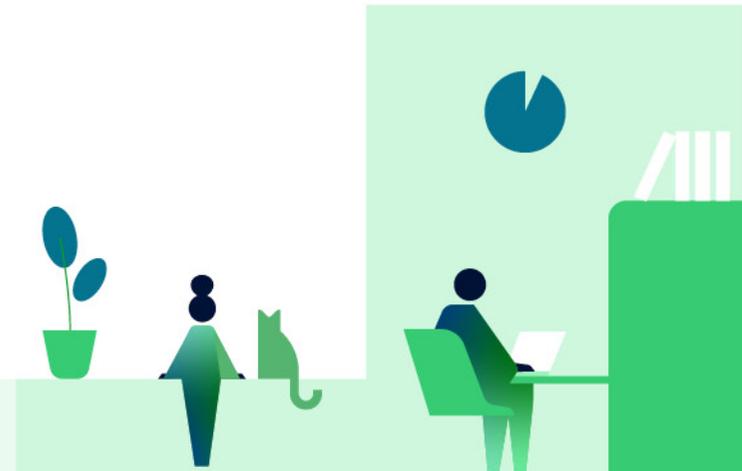
40%

potential reduction in operational effort enabled by the new Event-Driven Automation platform

2024 in brief

In 2024, Network Infrastructure’s net sales declined by 6% from 2023. We faced challenges across our business units in the first half of the year, with a strong return to year-on-year growth in the fourth quarter. Against this backdrop, focused cost management contributed to a segment operating margin of 11.7%.

- Divested our Submarine Networks business, and announced our plans to acquire Infinera – a leader in optical networks with a complementary geographical and customer segment fit.
- Strengthened our role as a key supplier for Microsoft Azure’s cloud infrastructure with a new five-year deal in support of the customer’s ongoing footprint expansion to manage surging demand for general compute.
- Signed a strategic deal with AT&T to accelerate future-ready fiber broadband growth.
- Launched Event-Driven Automation platform: the most modern data center platform in the industry, built for the AI era.
- Introduced a toolkit to boost the Corteca developer ecosystem.
- Launched a new portfolio of application-optimized optical network solutions.



Business groups continued

Market overview

Network Infrastructure faced headwinds in the first part of the year, but returned strongly to growth in all three business units (Submarine Networks is now reported as a discontinued operation) in the fourth quarter of 2024. Increasing sales were partly driven by new technologies, including AI. Along with cyclical recovery in the network infrastructure market, this confirms our belief in a recovery in investment from customers in all business units for 2025.

We have made a strategic decision to increase our focus on data center networking solutions and on the continued expansion of broadband, and to reshape our portfolio with the divestment of our Submarine Networks business and the acquisition of Infinera, which was closed in February 2025.

Business strategy overview and organization

Network Infrastructure's strategy is to support its customers in deriving value from their network investments; enable them to achieve lower total cost of ownership; or assist them in both. We aim to be the most trusted partner in our market.

Our business units are: Fixed Networks, IP Networks and Optical Networks. In June, we announced an agreement with the French State regarding the sale of our Submarine Networks business. The sale was concluded on 31 December 2024.

Fixed Networks is a leading provider of access infrastructure, in-home Wi-Fi solutions, cloud solutions and virtualization, with the global number one position in XGS PON (fast-becoming the dominant global volume technology) for the fifth consecutive year⁽¹⁾. In 2024, we extended our technology leadership in broadband, including by working with nbn on the world's first demonstration of 10G, 25G, 50G and 100G speeds over a live fiber broadband network; supporting HKBN in its launch of Asia's first 25G PON broadband service; and – with Google Fiber – making the first US trial of 50G PON speeds over a live fiber broadband network. With AT&T we are accelerating future-ready fiber broadband growth. We are proud of our efforts to connect the underserved: in South Africa, we will expand broadband access with Fibertime. In 2024, we introduced Lightspan MF-8 – a high-capacity fiber platform supporting 10/25/50G and future 100G PON services – and extensions to our popular Corteca portfolio to help customers

monetize their network investments. With 400+ fiber customers in 130 countries, we are well placed to enable continued broadband rollout and to support coming upgrade waves.

IP Networks delivers IP routing and data center networking solutions to customers in the enterprise, webscale, cloud and service provider segments. We led the market in 2024 for the fourth year in a row in IP edge routing, and in the third quarter of 2024 achieved the number one position in total routing in North America for the first time⁽²⁾. Some of our customers include NL-ix, for which we are creating high-performance 800 Gigabit Ethernet routing; Globe Telecom, for which we are modernizing the BNG network; and e&UAE, which selected Nokia's cloud interconnect solution to provide connectivity services to hyperscalers. Our focus on data centers is already beginning to bear fruit. In November, Nokia announced a multi-year supply arrangement with Microsoft Azure for data center switching. In September, CoreWeave announced it will deploy Nokia IP and optical platforms to interconnect data centers across the US and Europe in support of high-performance AI workloads, and in the same month we introduced our Event-Driven Automation platform – the industry's most modern data center infrastructure automation platform, built for the AI era.

Optical Networks has established itself among the industry leaders in optical transport networks for long-haul, regional and metro applications, holding the number one position in India and number two position in Europe and MEA⁽³⁾. Our latest photonic service engine – PSE-6s – continues to set new speed, capacity and distance records and, in 2024, we expanded our portfolio with optical network solutions, enabling network operators to scale capacity with lower power per bit, and to provide higher capacity service speeds to the metro edge. Our service provider customers include Türk Telekom, with which we broke the 800Gbps transmission world record on a long-haul commercial network, and Colt Technology Services, for which we collaborated with Windstream Wholesale and our colleagues in IP Networks to complete the world's first ultra-fast 800GbE optical and IP service trial, connecting London and Chicago. We are also working with SURF (an organization for IT collaboration in education and research) to prepare for a massive upgrade to CERN's Large Hadron Collider.



EDA – a data center platform for the AI era.

The acquisition of leading optical network provider Infinera will further boost Optical Networks' ambitions by adding scale, accelerating our ability to innovate and further diversifying our customer base, particularly into North America and the webscale segment.

Competition

Our competitors include Huawei and ZTE, along with Calix and Adtran (Fixed Networks), Cisco, Arista and Juniper (IP Networks) and Ciena (Optical Networks).

- (1) Dell'Oro, Q3 2024
- (2) Dell'Oro, Q3, 2024
- (3) Rolling four quarters, Omdia, Q3 2024

Business groups continued

Mobile Networks

Mobile Networks creates products and services covering all 3GPP mobile technology generations. Its portfolio includes products for radio access networks (RAN) and microwave radio links for transport networks, solutions for network management, as well as network planning, optimization, network deployment and technical support services. Customers include Communication Service Providers (CSP), industrial enterprises, governments and the defense sector.



“Despite the continued CSP market decline in 2024, Mobile Networks has successfully grown market share with many of our existing RAN customers and has also won completely new CSP customers. This is a testament to our strong technology, portfolio and customer relationships.”

TOMMI UITTO
PRESIDENT, MOBILE NETWORKS

12

new CSP RAN customers in 2024

334

commercial 5G deals

2024 in brief

In 2024, Mobile Networks net sales declined 21% year-on-year to EUR 7.7 billion. Despite the lower net sales, we delivered a segment operating margin of 5.3% driven by favorable business and market mix as well as improved cost competitiveness, cost control measures and strong execution. We also concluded an agreement with AT&T which decided to continue with another RAN vendor for commercial reasons, leading to an accelerated revenue of EUR 150 million offsetting higher variable pay.

- We now have 334 commercial 5G deals and more than 850 private wireless customers, with 193 in 5G.
- Expanded our AirScale portfolio with new market-leading, energy-efficient Massive MIMO radios to support mobile traffic growth and accelerate mass 5G rollouts.
- Collaborated with Nvidia, T-Mobile and SoftBank to steer the AI transformation and develop AI-RAN to leverage platform synergies.
- Closed the acquisition of Fenix Group in the US for addressing tactical wireless communication in the defense segment.



Business groups continued



Small cells complement the macro coverage of CSP networks and fulfill the specific requirements of industrial and office environments.

Market overview

Despite the continued market decline in 2024, Mobile Networks significantly improved gross margin and secured important deals to first stabilize and then increase market share. While the market continues to be challenging, we see a substantial need for operators to further invest in 5G globally with only approximately 30% of potential mid-band 5G high-capacity base stations so far deployed outside China. We also see opportunities to grow in Private Wireless networks for enterprise segments, Cloud RAN, and 3GPP RAN solutions for the defense segment.

Business strategy overview and organization

Mobile Networks, strategy is centered on investing in technology leadership to bring the best network performance and monetization capabilities to our customers, backed up by a smooth transition to open, cloud-based networks and 6G. While protecting and increasing our R&D output, we have worked to re-baseline our operations for a sustainable cost structure to meet the market reality during investment cycles. We have renewed our go-to-market model to increase closeness to customers, improve customer intimacy, and improve accountability, while supporting our strategy to build further scale in the CSP segment and accelerate diversification to enterprise and defense segments.

In line with aspiration for scale, Mobile Networks announced a number of deals, where we have increased our market share with existing CSP customers or won completely new ones. Among the most important 5G deals in 2024 there were, for example, NTT DOCOMO and KDDI in Japan, Vodafone Idea and Bharti Airtel in India, Viettel and VNPT Vinaphone in Vietnam, TIM in Brazil, Deutsche Telecom in Germany, Iliad Group in France and Italy, Indosat Ooredoo Hutchison in Indonesia, Eolo in Italy, MEO in Portugal, Spark in New Zealand, Perfectum in Uzbekistan, 5G InfraCo in Ghana, and Telecom Egypt. In many of these deals, we won market share from all of our key competitors, while some are greenfield networks. In Private Wireless, highlights of 2024 included deals in the US with Southern California Edison (SCE) in California, and the City of Brownsville in Texas, with our partner NTT Data. In our new, strategic focus segment of defense, we closed the acquisition of Fenix Group in the US to expand our capabilities in tactical wireless communication, in addition to Private Wireless solutions for home bases and forward bases of defense forces.

In 2024, Mobile Networks expanded its AirScale portfolio with new market-leading energy-efficient Habrok Massive MIMO radios to support mobile traffic growth and accelerate mass 5G rollouts. We also introduced compact Tuuli outdoor baseband solutions, supporting double the cell capacity while reducing energy consumption by 40%. Our products are ready for the evolution to 5G-Advanced and beyond. Our portfolio also serves the growing demand from enterprises, public safety and defense.

Our innovative all-in-one 5G small cell solution, Kolibri, complements CSP macro coverage and fulfills enterprise requirements for cost efficiency and scalability. We also expanded our Wavence microwave transport portfolio with new products for both rural and dense urban deployments.

We introduced a new 'extreme deep sleep' power-saving mode for AirScale radios, which helps our customers reduce energy consumption and costs. We also launched Virtual Power Plant, a unique near-real-time control solution that enables CSPs to monetize base station backup batteries in energy markets, including frequency regulation market.

We completed pilots of our commercial Cloud RAN solution, verifying its feature parity, performance consistency and interoperability with purpose-built RAN based on our anyRAN approach. Alongside cloudification, AI will be the next transformational step for RAN evolution. Nokia is a founding member of the AI-RAN Alliance and collaborates with leading companies such as Nvidia, T-Mobile and SoftBank to steer this transformation and develop AI-RAN to leverage platform synergies.

We have AI capabilities in our market-leading MantaRay portfolio for intelligent network management and autonomous optimization. Examples of AI in our services include predictive hardware analytics with up to 90% fault prediction accuracy, Nokia AI Digital Assistant, the industry's first conversational AI chatbot, and the Hazard Detection Lens, an AR application for enhancing safety at deployment sites.

Competition

The RAN market is a highly consolidated market. Our main competitors are Huawei, Ericsson, Samsung and ZTE, but there are also a number of smaller competitors competing in specific technology or regional sub-segments, such as NEC, Fujitsu, Mavenir, Rakuten Symphony and JMA Wireless. In microwave, our key competitors include Ceragon, Aviat and ZTE alongside Huawei and Ericsson.

Business groups continued

Cloud and Network Services

Cloud and Network Services provides open, secure, automated, and scalable software and solutions that accelerate the journey of service providers and enterprises to autonomous networks and new value creation. Cloud and Network Services invests in technologies that are critical to our customers' growth: 5G core, secure autonomous networks, private wireless, industrial edge and network APIs. These solutions, increasingly available in a SaaS model, help customers capture the unfolding opportunities of digitalization, AI and cloud.



“We made considerable progress in driving our strategy forward in 2024; winning new 5G Core standalone customers; furthering our leadership position in private wireless and industrial edge; and expanding the network API ecosystem with our Network as Code platform – all demonstrating the benefits of the focused investment we have made in recent years to drive technology leadership and growth.”

RAGHAV SAHGAL
PRESIDENT, CLOUD AND NETWORK SERVICES

Nokia had the most CSP customers of 5G Standalone Core in the industry, with

123

at the end of 2024

Nokia continued to have marketplace leadership in private wireless networking with

850

customers, of which

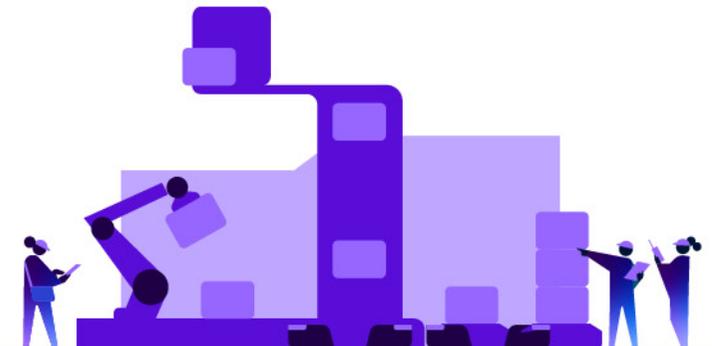
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are 5G

2024 in brief

Our net sales decreased by 6% year-on-year while our segment operating margin slightly increased. These results were accompanied by a host of customer wins and deployments, including the following key developments:

- Partnered with Infobip to enable the global developer community to better leverage network APIs.
- Acquired Rapid's technology and R&D unit to strengthen development of Nokia network API solutions and ecosystem.
- Deployed 5G standalone core with O2 Telefónica Germany on Amazon Web Services in the cloud.
- Strengthened Vodafone Idea's network security with Nokia NetGuard Endpoint Detection and Response.
- Collaborated with Swisscom Broadcast to deploy the largest Drones-as-a-Service network in Switzerland.
- Announced a strategic partnership with Dell to advance network cloud transformation and private 5G.



Business groups continued

Market overview

The estimated addressable market in which Cloud and Network Services competes is composed broadly of communication service providers (CSP) and enterprise private wireless companies. This market was approximately EUR 21.8 billion in 2024, excluding China and Russia.

The CSP market was relatively flat in 2024. Nonetheless, this market is experiencing an important shift to automation across core and applications, network programmability and monetization, security, and software subscription service models.

The enterprise private wireless market saw strong, year-on-year growth in 2024, covering campus edge verticals such as manufacturing, logistics, energy and natural resources; and the Enterprise WAN market, comprised of verticals such as utilities, railways and the public sector.

Business strategy overview and organization

In 2024, Cloud and Network Services continued to invest in the strategic growth areas of 5G Core, Private Wireless, Digital Operations, AI and Analytics, Security, and Monetization to drive the digital ecosystem that is essential to 5G value creation. We are focused on differentiators that have the potential to bring new capabilities to our CSP and enterprise customers, including:

- **Network Monetization Platform:** Our Network as Code platform enables application developers and CSPs to accelerate the work of producing software applications for new enterprise, industrial and consumer use cases, and monetizing 5G and 4G network assets beyond basic connectivity.
- **Autonomous Networks:** Our Autonomous Networks Fabric and Application Suite reduce the cost and complexity of managing the network, enable faster rollout of new apps and use cases, and provides a foundation for API programmability and monetization.
- **Private Wireless:** Nokia continues to be considered the leading vendor of private wireless networks to enterprises. Our Private Wireless Campus Edge solution remains unique in the market with its extended portfolio, enabling enterprises to advance beyond connectivity into mission-critical edge cloud, AI, and Industry 4.0 digital transformation.

- **Software-as-a-Service (SaaS):** Cloud and Network Services is investing to make our go-forward products SaaS native. Nokia continues to increase the percentage of recurring revenue through new business models in Enterprise Campus Edge and SaaS.

Competition

The market in which Cloud and Network Services competes has vendors and other industry participants which may on occasion be a customer, a partner, or a direct competitor, depending on the nature of the commercial engagement. Cloud and Network Services regularly builds and nurtures alliances with partners such as IT vendors, hyperscalers, and systems integrators, which are increasingly influential in this space.

The competitive environment comprises many networking companies, infrastructure and application software suppliers, services specialists, hyperscalers, cloud providers and a wide range of industry segment businesses.

In 2024, Nokia was rated #1 again by Appledore in AIOps and Cross Domain Orchestration⁽¹⁾; rated #1 again by Analysys Mason in Automated Assurance⁽²⁾; named a Leader in the 2024 Gartner® Magic Quadrant™ for CSP 5G Core Network Infrastructure Solutions⁽³⁾; ranked at the top of a GigaOm industry report for Nokia's extended detection response market (XDR) security platform, NetGuard Cybersecurity Dome⁽⁴⁾; rated #1 by Global Data in core automation and cloud⁽⁵⁾; ranked as a Leader again by Global Data in Managed Infrastructure Services⁽⁶⁾; and ranked #1 by Omdia for the number of 5G Core live networks and #1 in Core SaaS⁽⁷⁾.

- (1) Appledore Research - Leading Suppliers in Network Automation Software, July 2024
- (2) Analysys Mason - Automated Assurance: worldwide market shares 2023, October 2024
- (3) Gartner 2024 CSP 5G Core Magic Quadrant, July 2024
- (4) GigaOm XDR Radar, April 2024
- (5) Global Data 5G Mobile Core: Competitive Landscape Assessment, February 2024
- (6) Global Data Managed Infrastructure Services, April 2024
- (7) Omdia Core Vendor Market Landscape, July 2024



Our private wireless solutions ensure secure, high-performance connectivity tailored to industrial needs.

Business groups continued

Nokia Technologies

Nokia Technologies is responsible for managing Nokia's patent portfolio and monetizing Nokia's intellectual property, including patents and technologies.



“We are in a strong position with the completion of our smartphone renewals and the momentum we have built in our growth areas. But we have not seen the best from us yet.”

PATRIK HAMMARÉN
PRESIDENT, NOKIA TECHNOLOGIES

7 000+

patent families declared as essential to the 5G standard

~40

new patent licensing deals signed

3 000+

new patent applications filed

2024 in brief

Net sales for the full year increased 78% to EUR 1 928 million and segment operating profit increased 106% to EUR 1 514 million. The smartphone license renewal cycle was completed and significant progress was made in patent licensing growth areas:

- Drove innovation, filing over 3 000 new inventions, and reaching 7 000 patent families declared as essential to the 5G standard.
- Signed around 40 new patent license agreements and completed our smartphone license renewal cycle.
- Signed first agreements with direct-to-consumer video streaming platforms.
- Made significant progress in China, signing our first two deals in automotive and with a point-of-sales (POS) manufacturer PAX.
- Made the world's first immersive voice and audio call using the new 3GPP Immersive Voice and Audio Services (IVAS) codec.
- Signed an agreement with HP covering the use of our video technologies while courts in Germany and Brazil ruled in our favor in our dispute with Amazon.



Business groups continued



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In June 2024, Nokia made the world's first immersive voice and audio call over a cellular network using the IVAS codec, which enables 3D spatial sound in real time.

Market overview

Nokia Technologies is responsible for managing Nokia's patent portfolio and monetizing Nokia's intellectual property, including patents and technologies, building on Nokia's continued innovation leadership, long-term investment into research and development, and decades of driving technology standard development. Licensees pay royalty fees for the use of our technology, which we re-invest, along with additional investment, in developing the next generation of inventions.

Net sales for the full year increased 78% to EUR 1 928 million and segment operating profit increased 106% at EUR 1 514 million. We signed several significant agreements across our patent licensing programs, including new deals with OPPO, vivo, HP, GoPro and Verifone. We concluded our smartphone patent license renewal cycle which began in 2021. As a result, Nokia Technologies has entered a period of stability. We made significant progress in our patent licensing growth areas, multimedia and IoT, with our first two deals with video streaming platforms, and first ever agreements with a Chinese point-of-sales (POS) device manufacturer PAX and two Chinese car makers. In total, we signed around 40 new patent license agreements across our licensing programs in 2024.

Business strategy overview and organization

Nokia Technologies has three business areas: Patent Licensing of Nokia's patent portfolio; Technology Licensing of Nokia's technologies for integration into consumer devices; and brand partnerships for licensing the Nokia brand.

Our long-term strategy is built on Nokia's technology leadership. Given the enabling nature of Nokia inventions in wireless communications and in multimedia, our patent portfolio remains highly relevant across multiple sectors and value chains. The emergence of new form factors and new value chains continues to open new licensing opportunities for us.

We manage the Nokia patent portfolio, working with other Nokia business groups, and continue to grow our patent licensing and monetization activities, which drive most of Nokia Technologies' net sales. The core of our business is the mobile devices licensing program, where we have agreements with most major smartphone vendors. We also have patent licensing programs for automotive, consumer electronics, IoT devices and solutions, video services, and gaming.

Innovation and standards leadership

Nokia is a leader in open standardization and has defined many of the fundamental technologies used in virtually all mobile devices. Since 2000, Nokia has invested over EUR 150 billion in research and development (R&D). As a result, we own one of the broadest and strongest patent portfolios in the telecommunications sector with a leading share of cellular Standard Essential Patents (SEPs), including over 7 000 patent families declared as essential to 5G. Our portfolio also covers significant multimedia assets, particularly in video compression technology. The work of Nokia's inventors in video research and standardization has been recognized with five Technology & Engineering Emmy® Awards. Our inventors also continue to lead in audio communication. In June 2024, Nokia made the world's first immersive voice and audio call over a cellular network using the new 3GPP Immersive Voice and Audio Services (IVAS) codec, which allows consumers to hear 3D spatial sound in real time. Nokia is a leading contributor to IVAS which is part of the upcoming 5G Advanced standard.

Our patent portfolio has a long lifetime, with the vast majority of patents still in force in ten years' time. In 2024, we filed patent applications on a record number of more than 3 000 new inventions.

Supply chain, sourcing and manufacturing

Supply chain, sourcing and manufacturing

Nokia's supply chain is essential for our customers, our business and for managing customer demand and supply for our hardware, software and contract manufactured products.

Our end-to-end operations include sourcing, demand and supply planning, manufacturing, distribution and logistics. In 2024, we purchased over EUR 10 billion worth of products and services from around 9 000 different suppliers.

While the volatile geopolitical operating environment remained challenging in 2024, we continued to focus on further developing risk and cost management capabilities and building resilience through robust partnerships and a regional approach.

Focus on risk and cost management through digitalization, automation and inventory management

In 2024, global demand for our equipment continued to fluctuate, primarily driven by the overall macroeconomic climate and continued inventory digestion by some customers. To help us navigate the complexities of market fluctuations and supply chain disruptions, we continued to work closely with our customers to form the best possible forecast outlook in the mid- and long-term to effectively manage risk, prioritize cost efficiency and enhance resilience. In addition, we maintained a strong focus on inventory management to offset potential excess risks.

Furthermore, we continued to develop our risk management capabilities, supported by increased digitalization and automation to navigate the rapidly changing business

environment. Inventories and safety buffers were largely kept upstream on a component level, increasing the flexibility to react to any potential short-term product type changes.

Building resilience through strong partnerships and a regional approach

As we continue to develop a robust and sustainable supply chain that can best serve our customers, maintaining our focus on resilience is critical.

We continuously optimize our manufacturing, distribution and supplier network across the regions where we operate, ensuring we have more than one manufacturing source for our key volume products. We also further leverage AI and machine learning capabilities to better develop our supply chain and factory network.

Our geographically dispersed manufacturing network consists of both our own manufacturing (4% of the network, based on number of sites, excluding ASN) and contract manufacturing partners to minimize geographic and geopolitical risks. Our network is strategically located around the world, and each year our spending percentage will vary depending on our regional demand. In 2024 our spend spread was: Europe 28%, Asia Pacific, Japan/India 44%, China 16% and the Americas 12%.

Our regional approach will not only enable us to deliver a more rapid response to our customers' needs, but also reduce transportation costs and CO₂ emissions.



Supply chain, sourcing and manufacturing continued

Sustainability enablement and innovation

We expect our suppliers to adhere to our Third-party Code of Conduct and we provide them with Nokia Supplier Requirements that include adherence to the latest Responsible Business Alliance (RBA) Code of Conduct. The requirements cover topics such as environment, health, safety and security, privacy, risk management, labor and human rights, modern slavery, and ethics. We also run suppliers' assessments and audits and provide training to ensure they meet our requirements and can continuously improve. We work with them on remediation actions and push to raise the bar on standards across our ecosystem.

In 2024, we implemented 606 supply chain audits, including 101 on-site in-depth audits on corporate responsibility topics, 36 on-site audits against our Supplier Requirements and 469 supplier assessments using the EcoVadis scorecards.

This year, the number of audits requested by our customers increased, which shows the positive trend on responsible supply chain practices in our industry. We are committed to cutting 50% of our absolute scope 1, 2 and 3 greenhouse gas emissions by 2030, and in 2024, we announced our commitment to an overall net-zero target for 2040 across our value chain (scopes 1, 2 and 3). In 2024, we reached a 99% share of renewable energy in our own factories.

In 2024, we continued intensive work with our electronics manufacturing services (EMS) suppliers to track their decarbonization roadmaps as we look to achieve the mutually agreed target that the Nokia portion of their manufacturing reaches zero emissions by 2030. We have also set a 50% reduction target by 2030 for other suppliers, and close collaboration continued to reduce the emissions specially by supplier categories with high emission intensity such as suppliers of integrated circuits, semi-discretes and printed wiring boards. We recognized supplier climate and circularity innovations via our annual Supplier Diamond Award under the Sustainability category.

As part of our circularity program with suppliers, we aim to increase recycled material content in our mechanical parts with specific targets for 2030 and actions driven by sourcing in collaboration with R&D. Moreover, as part of the Mobile Networks' Talent Program for Women, we launched a radio site waste circularity project to develop a global framework to improve waste management across all markets.

“Design for Environment” is an integral part of our supply chain sustainability strategy. It aims to ensure Nokia products and packaging are in line with our policies and goals for product stewardship and environmental sustainability. We have continued to collaborate with our suppliers to encourage sustainable packaging, using alternative materials and optimized designs to deliver sustainable product packaging, reducing use of plastic, and increasing recycled content materials. For example, we have deployed FiberFlute and honeycomb cardboard solutions to replace plastic cushions in some product deliveries and are trialing bio-based packaging materials to further reduce plastic.

As part of our Responsible Minerals Sourcing program, we expanded the scope to include aluminum and copper, and we started due diligence activities with our key suppliers related to these minerals.

Nokia's target is to have 98% 3TG (tin, tantalum, tungsten, gold) traceability and conflict-free status to smelter level in our supply chain, and we aim for an extended due diligence status for cobalt, mica, aluminum, and copper by 2025.

In our supply chain logistics, we look for innovative ways to reduce our carbon footprint together with our Logistics Service Providers (LSPs). As an example, replacement of traditional truckload services between Hungary and the Netherlands with the rail pocket wagon service reduced GHG emissions on this route by 87% annually. Additionally, initiatives to increase containers fill rates delivered savings by reducing the number of containers to be transported. We aim to increase the share of Sustainable Aviation Fuel (SAF) and multimodal transportation globally.

We are committed to prioritizing and strengthening resilience and sustainability across the end-to-end supply chain to help us deal effectively with challenges that arise.

Own manufacturing

As of 31 December 2024, the production capacity for sites owned by us is noted below:

Country	Location and products ⁽¹⁾	Productive capacity, net (m ²) ⁽²⁾
Finland	Oulu: base stations	10 000
India	Chennai: base stations, radio controllers and transmission systems, fixed networks	15 500

- (1) We consider the production capacity of our manufacturing network to be sufficient to meet the requirements of our business. The extent of utilization of our manufacturing facilities varies from plant to plant and from time to time during the year. None of these facilities is subject to a material encumbrance. During 2024, Nokia disposed of the following sites:
- 1) Calais: submarine cables (France), 61 000 m² net productive capacity
 - 2) Greenwich: submarine cables (United Kingdom), 11 000 m² net productive capacity
 - 3) Hannover: radio frequency systems (Germany), 23 500 m² net productive capacity
 - 4) Suzhou: radio frequency systems (China), 13 500 m² net productive capacity.
- During 2023, Nokia disposed of the following sites:
- 1) Trignac: radio frequency systems (France), 7 300 m² net productive capacity
 - 2) Meriden: radio frequency systems (USA), 31 000 m² net productive capacity
 - 3) Bydgoszcz: remanufacturing, product integration (Poland), 15 200 m² net productive capacity.
- During 2022, manufacturing activities ended at the following site:
- 1) Kilsyth, radio frequency systems (Australia), 5 400 m² net productive capacity.
- (2) Production capacity equals the total area allotted to manufacturing and to the storage of manufacturing-related materials.

Corporate governance

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[Corporate governance statement](#)

Corporate governance statement

“In 2024, we continued delivering on Nokia’s commitment to strong corporate governance and related practices. To do that, the activities of the Board of Directors are structured to develop the Company’s strategy and to enable the Board to support and oversee management on its delivery within a transparent governance framework.”

Select highlights in our corporate governance during 2024

- At the 2024 Annual General Meeting our shareholders continued to show remarkably strong support for the Board’s proposals. We continued applying the individual director election method, and for the first time, our shareholders elected a sustainability reporting assurer, in line with the regulation implementing the EU Corporate Sustainability Reporting Directive.
- The Board established a new Strategy Committee for the purpose of assisting the Board with respect to various strategic initiatives related to developing our corporate and business strategies and capturing the strategic opportunities identified under them.
- To ensure the innovative and responsible use of AI, we established a comprehensive AI governance framework at Nokia in 2024, including a central steering committee and a separate AI governance board for the group-level policies and procedures, incident reporting, coordination and for related communications.
- During the year, we had the pleasure to host several meetings with our largest shareholders to discuss Nokia’s approach to sustainability, remuneration and governance, and their expectations in these areas.

This corporate governance statement is prepared in accordance with Chapter 7, Section 7 of the Finnish Securities Markets Act (2012/746, as amended) and the Finnish Corporate Governance Code 2025 (the “Finnish Corporate Governance Code”).

Regulatory framework

Our corporate governance practices comply with Finnish laws and regulations, our Articles of Association approved by the shareholders and corporate governance guidelines (“Corporate Governance Guidelines”) adopted by the Board of Directors. The Corporate Governance Guidelines reflect our commitment to strong corporate governance. They include the directors’ responsibilities, the composition and election of the members of the Board and its Committees, and certain other matters relating to corporate governance. We also comply with the Finnish Corporate Governance Code adopted by the Securities Market Association.

We follow the rules and recommendations of Nasdaq Helsinki and Euronext Paris as applicable to us due to the listing of our shares on these exchanges. Furthermore, as a result of the listing of our American Depositary Shares on the New York Stock Exchange (NYSE) and our registration under the U.S. Securities Exchange Act of 1934, we follow the applicable U.S. federal securities laws and regulations, including the Sarbanes-Oxley Act of 2002 as well as the rules of the NYSE, in particular the corporate governance standards under Section 303A of the NYSE Listed Company Manual. We comply with these standards to the extent such provisions are applicable to us as a foreign private issuer.

To the extent compliance with any non-domestic rules would conflict with the laws of Finland, we are obliged to comply with Finnish laws and applicable regulations. There are no significant differences in the corporate governance practices applied by Nokia compared with those applied by U.S. companies under the NYSE corporate governance standards with the exception that Nokia complies with Finnish law with respect to the approval of equity compensation plans. Under Finnish law, stock option plans require shareholder approval at the time of their launch. All other plans that include the delivery of company stock in the form of newly issued shares or treasury shares require shareholder approval at the time of delivery of the shares unless shareholder approval has been granted through an authorization to the Board, a maximum of five years earlier. The NYSE corporate governance standards require that equity compensation plans are approved by the company’s shareholders. Nokia aims to minimize the necessity for, or consequences of, conflicts between the laws of Finland and applicable non-domestic corporate governance standards.

In addition to the Corporate Governance Guidelines, the Committees of the Board have adopted charters that define each Committee’s main duties and operating principles. The Board has also adopted the Code of Conduct that applies to directors, executives, and employees of Nokia, as well as employees of Nokia’s subsidiaries and affiliated companies (such as joint ventures) in which Nokia owns a majority of the shares or exercises effective control. Furthermore, the Board has adopted the Code of Ethics and Executive Officer Clawback Policy applicable to our key executives, including the President and CEO, CFO and Corporate Controller.

Corporate governance statement continued

Corporate governance framework



Main corporate governance bodies of Nokia

Pursuant to the provisions of the Finnish Limited Liability Companies Act (2006/624, as amended) (the “Finnish Companies Act”), the legislation under which Nokia operates, and Nokia’s Articles of Association, the control and management of Nokia are divided among shareholders at a general meeting, the Board, the President and CEO and the Group Leadership Team, chaired by the President and CEO.

General Meeting of Shareholders

Nokia’s shareholders play a key role in corporate governance, with our Annual General Meeting offering a regular opportunity to exercise their decision-making power in Nokia. In addition, at the meeting the shareholders may exercise their right to speak and ask questions.

Each Nokia share entitles a shareholder to one vote at general meetings of Nokia. The Annual General Meeting decides, among other things, on the election and remuneration of the Board, the adoption of annual accounts, the authorization for the Board to distribute dividend or other assets, discharging the members of the Board and the President and CEO from liability, as well as on the election and fees of the external auditor and the sustainability reporting assurer. The Remuneration Policy is presented to the general meeting at least every four years and the Remuneration Report annually. Resolutions of the general meeting regarding the policy and the report are advisory in nature.

In addition to the Annual General Meeting, an Extraordinary General Meeting may be convened when the Board considers such a meeting to be necessary, or when the provisions of the Finnish Companies Act mandate that such a meeting must be held.

The Finnish Companies Act was amended in 2022 to enable and promote limited liability companies to hold hybrid and virtual-only general meetings. A virtual general meeting, as defined by the Finnish Companies Act, is a meeting held without a physical meeting venue, where shareholders must be able to exercise their shareholder rights in full by virtual means, including voting in real time and asking questions orally during the meeting. The Finnish legislation can be considered a leading example of protecting shareholders’ rights in virtual general meetings.

Once reliable technical methods for the virtual meeting and automated foreign shareholder identification become available in Finland, virtual general meetings are expected to improve the position of nominee-registered private shareholders residing outside of Finland, who may have been unable to attend the general meeting in person or be represented by proxy. The reduced carbon footprint is also one of the benefits of virtual general meetings.

Annual General Meeting 2024 and 2025

The Annual General Meeting 2024 took place at the Helsinki Expo and Convention Centre, on 3 April 2024. We were pleased to see the high number of votes cast as well as the strong shareholder support received for the Board’s proposals. For the third consecutive year, the turnout for the vote stood at a record-high level.

A total of 77 606 shareholders representing approximately 3 305 million shares and 58.88% of all the shares and votes in the Company participated the Annual General Meeting. On the other hand, after the COVID-pandemic, we once again saw a lower number of shareholders attending in person than in previous years. To facilitate shareholder participation and options to follow the meeting in alternative ways, the Company offered the opportunity to cast votes in advance and to follow the meeting and ask questions through a live webcast.

Nokia Corporation’s Annual General Meeting 2025 is planned to be held on 29 April 2025. The Board’s proposals to the Annual General Meeting 2025 were published on 30 January 2025.

Corporate governance statement continued

Board of Directors

The operations of Nokia are managed under the direction of the Board, within the framework set by the Finnish Companies Act, Nokia's Articles of Association and any complementary rules of procedure as defined by the Board, such as the Corporate Governance Guidelines and the charters of the Board's Committees.

Election and composition of the Board of Directors

Pursuant to our Articles of Association, we have a Board that is composed of a minimum of seven and a maximum of 12 members. The members of the Board are elected at least annually at each Annual General Meeting. The candidates are considered individually and those receiving the most votes shall be elected pursuant to the Finnish Companies Act. The term of the Board members begins at the close of the general meeting at which they were elected and expires at the close of the following Annual General Meeting. The Annual General Meeting convenes by 30 June annually.

Our Board's leadership structure consists of a Chair and Vice Chair elected annually by the Board and confirmed by the independent directors of the Board upon the recommendation of the Corporate Governance and Nomination Committee. The Chair of the Board has certain specific duties as stipulated by Finnish law and our Corporate Governance Guidelines. The Vice Chair assumes the duties of the Chair of the Board in the event the Chair is prevented from performing his or her duties.

The independent directors of the new Board confirm the election of the members and chairs for the Board's Committees from among the Board's independent directors upon the recommendation of the Corporate Governance and Nomination Committee and based on each Committee's qualification standards. These elections take place at the Board's assembly meeting following the general meeting.

The Corporate Governance and Nomination Committee aims to continually renew the Board to have an efficient Board of international professionals with a diverse mix of skills, experience and other personal qualities in line with the diversity principles established by the Board. The Committee considers potential director candidates based on the short- and long-term needs of the Company. In the process of identifying and selecting the candidates matching these needs and desired profiles, the Committee engages recruitment firms and external advisers.

Board independence

In accordance with the Corporate Governance Guidelines adopted by the Board of Directors, the Nokia Board shall have a majority of directors who meet the criteria for independence as defined by the Finnish Corporate Governance Code (independent of both the Company and any significant shareholders who hold at least 10% or more of the total shares or voting rights of the Company) and the rules of the NYSE. Furthermore, all of the members of the Board Committees shall be independent Directors under the relevant criteria for independence required by the Finnish Corporate Governance Code and the applicable rules of the NYSE.

The Board will monitor its compliance with these requirements for director independence on an ongoing basis. Each independent director is expected to notify the Chair of the Corporate Governance and Nomination Committee, as soon as reasonably practicable, in the event that his or her personal circumstances change in a manner that may affect the Board's evaluation of such director's independence. The Board of Directors evaluates

the independence of its members annually and, in addition to this, on a continuous basis with the assistance of the Corporate Governance and Nomination Committee.

Board diversity

The Board has adopted principles concerning Board diversity describing our commitment to promoting a diverse Board composition and how diversity is embedded into our processes and practices when identifying and proposing new Board candidates, as well as when proposing re-election of current Board members.

At Nokia, diversity is not a static concept but rather a relevant mix of required elements for the Board as a whole that evolves with time based on, among other things, the relevant business objectives and future needs of Nokia. Board diversity is treated as a means of improvement and development rather than an end in itself. Diversity of our Board is considered from a number of aspects including, but not limited to, skills and experience, tenure, age, nationality, ethnicity, cultural and educational backgrounds, gender, as well as other individual qualities.



Corporate governance statement continued

We report annually on our objectives relating to equal representation of genders and the progress we make. For many years, we have met our target of having at least 40% of the Director positions held by members of underrepresented gender in the Board composition. In the current Board composition, 40% of the Board members are female and also in the Board composition proposed to the Annual General Meeting 2025, 40% of the Board members are female.

We currently have a diverse Board composition in line with the Board's diversity principles. There are six different nationalities and a rather wide age and tenure range represented on the Board. Each Board member has a unique skill set that supports Nokia's business and relevant areas of expertise close to the business. These primary areas of expertise of the current and proposed new Board members that are relevant to our business have been highlighted in the skills matrix.

Current members of the Board of Directors

The Annual General Meeting held on 3 April 2024 elected ten members to the Board for a term ending at the close of the next Annual General Meeting. Timo Ahopelto, Sari Baldauf, Elizabeth Crain, Thomas Dannenfeldt, Lisa Hook, Thomas Saueressig, Søren Skou, Carla Smits-Nusteling and Kai Öistämö were re-elected as Board members. Mike McNamara was elected as a new Board member. Following the meeting, the Board re-elected Sari Baldauf to serve as Chair and re-elected Søren Skou as Vice Chair of the Board for the same term.

The current members of the Board are all non-executive and for the term that began at the Annual General Meeting 2024, all Board members were determined to be independent of Nokia and its significant shareholders under the Finnish Corporate Governance Code and the NYSE rules, as applicable.

In addition to biographical information of the Board members, the table in the upper right corner sets forth the number of shares and American Depositary Shares (ADSs) held by the Board members. As at 31 December 2024, they held a total of 1 056 085 shares and ADSs in Nokia, representing approximately 0.02% of our total shares and voting rights excluding shares held by the Nokia Group.

Biographical details of the Board members

	Gender	Year of Birth	Nationality	Tenure ⁽¹⁾	Independent of the company and major shareholders	Shares ⁽²⁾	ADSs ⁽²⁾
Sari Baldauf (Chair)	Female	1955	Finnish	6	Independent	343 568	
Søren Skou (Vice Chair)	Male	1964	Danish	5	Independent	114 397	
Timo Ahopelto	Male	1975	Finnish	1	Independent	45 350	
Elizabeth Crain	Female	1964	American	1	Independent		47 843
Thomas Dannenfeldt	Male	1966	German	4	Independent	144 948	
Lisa Hook	Female	1958	American	2	Independent		59 558
Mike McNamara	Male	1964	Irish	0	Independent		23 932
Thomas Saueressig	Male	1985	German	2	Independent	56 928	
Carla Smits-Nusteling	Female	1966	Dutch	8	Independent	160 475	
Kai Öistämö	Male	1964	Finnish	2	Independent	59 086	

(1) Terms as Nokia Board member before the Annual General Meeting on 3 April 2024.

(2) The number of shares or ADSs includes shares and ADSs received as director compensation as well as shares and ADSs acquired through other means. Stock options or other equity awards that are deemed as being beneficially owned under the applicable SEC rules are not included.

Experience and primary skills of the Board members

	Business Exec. role with P&L responsibility	External boardroom roles/ Governance	Finance and accounting	Legal/Public policy/ Compliance	Communications service provider market segment	Enterprise market segment	Technology	Cybersecurity	Environmental/ Social issues
Current Board members									
Sari Baldauf	✓	✓		✓	✓		✓		✓
Søren Skou	✓	✓		✓		✓			✓
Timo Ahopelto	✓	✓				✓	✓	✓	
Elizabeth Crain	✓	✓	✓	✓					
Thomas Dannenfeldt		✓	✓		✓	✓	✓		
Lisa Hook	✓	✓		✓	✓	✓	✓	✓	
Mike McNamara	✓	✓				✓	✓	✓	
Thomas Saueressig	✓	✓			✓	✓	✓	✓	✓
Carla Smits-Nusteling		✓	✓	✓	✓				
Kai Öistämö	✓	✓			✓		✓	✓	✓
Proposed new Board members									
Pernille Erenbjerg	✓	✓	✓		✓		✓	✓	✓
Timo Ihamuotila	✓	✓	✓				✓		

Corporate governance statement continued

Director time commitments

The Corporate Governance and Nomination Committee monitors closely the time commitments of the Board members and annually reviews the Directors' attendance rate at the Board and Committee meetings to ensure they are able to devote the appropriate time to the Company to carry out their duties and responsibilities.

The Corporate Governance Guidelines of the Board include numerical limits and a process for pre-clearance of new roles in public companies. Directors should not serve on more than four other boards of public companies in addition to the Nokia Board, and on no more than three other boards of public companies in addition to the Nokia Board, in cases where they serve as board chair or lead independent director outside the Nokia Board. The Audit Committee members should not serve on more than two other audit committees of public companies in addition to the Nokia Audit Committee.

No positions in excess of these limits may be held without prior consent by the Chair of the Board and the Chair of the Corporate Governance and Nomination Committee determining that such positions would not impair the Director's service on the Nokia Board or Audit Committee.

The Corporate Governance and Nomination Committee will annually, ahead of preparing the proposal on the Board composition, review and assess the Directors' current and planned time commitments outside the Company to seek affirmation that all Directors acknowledge the time commitment principles set forth in the Corporate Governance Guidelines of the Board.

The Committee also reviews under its related guidelines and procedure the proposed new Director candidates' time commitments during the proposed term to ensure that they are able to dedicate sufficient time to their responsibilities on the Nokia Board.

As part of the assessment, the proposed new Directors may have been required to reduce their current commitments during a short transition period before the next Annual General Meeting following their appointment.

Proposed members of the Board of Directors

Proposals of the Board of Directors to the Annual General Meeting 2025 were published on 30 January 2025. On the recommendation of the Corporate Governance and Nomination Committee, the Board proposes to the Annual General Meeting that the number of Board members be ten. Søren Skou and Carla Smits-Nusteling have informed the Committee that they will no longer be available to serve on the Nokia Board of Directors after the Annual General Meeting.

Consequently, on the recommendation of the Corporate Governance and Nomination Committee, the Board proposes that the following eight current Board members be re-elected as members of the Nokia Board of Directors for a term ending at the close of the next Annual General Meeting: Timo Ahopelto, Sari Baldauf, Elizabeth Crain, Thomas Dannenfeldt, Lisa Hook, Mike McNamara, Thomas Saueressig and Kai Öistämö.

Furthermore, the Board proposes, on the recommendation of the Corporate Governance and Nomination Committee, that Pernille Erenbjerg, Danish citizen, former CEO and President of TDC Group; and Timo Ihamuotila, Finnish citizen, Chief Financial Officer of ABB Ltd, be elected to the Board for a term ending at the close of the next Annual General Meeting. Pernille Erenbjerg has a strong background in financial management, corporate leadership, and board governance as well as broad experience from the telecoms, media and tech industries. Timo Ihamuotila is a former Chief Financial Officer of Nokia 2009–2016 and a member of the Nokia Group Leadership Team 2007–2016, with a total of more than 20 years of work experience at Nokia. Timo Ihamuotila will bring extensive financial expertise, strategic leadership, and a deep understanding of global markets to the Board, along with experience in the communications, software and services industries. The candidates' complementary skills will enhance the Board's ability to navigate complex financial landscapes, drive strategic initiatives, and ensure robust corporate governance.

The Corporate Governance and Nomination Committee will propose in the assembly meeting of the new Board of Directors that Sari Baldauf be re-elected to serve as Chair of the Board and Timo Ihamuotila be elected to serve as Vice Chair of the Board, subject to their election to the Board of Directors.

The Board composition proposed to the Annual General Meeting 2025 has representation of five nationalities and 40% of the proposed members are female.

The proposed members of the Board are non-executive and for the term beginning at the Annual General Meeting 2025 they have been determined to be independent of Nokia and its significant shareholders under the Finnish Corporate Governance Code and the rules of the NYSE. Any possible changes impacting the independence assessment would be assessed as of the date of the Annual General Meeting. The Corporate Governance and Nomination Committee has prepared the composition of the Board of Directors to the Annual General Meeting 2025 after assessing proposed Directors' external time commitments, and taken into account shareholders' expectations in this regard. Timo Ihamuotila has confirmed to the Corporate Governance and Nomination Committee that he will be reducing his mandates in public companies by one position before the next Annual General Meeting following his appointment to the Nokia Board.

Nokia is proud to continue to be among the first Finnish listed companies providing its shareholders with the opportunity to consider each Director candidate individually since our Annual General Meeting 2023, in line with the global market practice.

Corporate governance statement continued

Biographical details of our current Board members

**Chair Sari Baldauf****b. 1955**

Chair of the Nokia Board since 2020. Nokia Board member since 2018. Member of the Corporate Governance and Nomination Committee, the Personnel Committee and the Strategy Committee.

Master of Business Administration, Helsinki School of Economics and Business Administration, Finland. Bachelor of Science, Helsinki School of Economics and Business Administration, Finland. Honorary doctorates in Technology (Helsinki University of Technology, Finland) and Business Administration (Turku School of Economics and Business Administration and Aalto University School of Business, Finland).

Executive Vice President and General Manager, Networks Business Group, Nokia 1998–2005. Various executive positions at Nokia in Finland and in the United States 1983–1998.

Chair of the Board of the Finnish Climate Leadership Coalition (CLC). Senior Advisor of DevCo Partners Oy.

Member of the Board of Technology Industries of Finland 2021–2023. Member of the Board of Directors of Aalto University 2018–2023. Member of the Supervisory Board of Mercedes-Benz Group AG 2008–2023. Member of the Supervisory Board of Deutsche Telekom AG 2012–2018. Chair of the Board of Directors of Fortum Corporation 2011–2018. Member of the Board of Directors of Akzo Nobel 2012–2017.

**Vice Chair Søren Skou****b. 1964**

Vice Chair of Nokia Board since 2022. Nokia Board member since 2019. Chair of the Corporate Governance and Nomination Committee and member of the Strategy Committee.

MBA (honours), IMD, Switzerland. Bachelor of Business Administration, Copenhagen Business School, Denmark. Maersk International Shipping Education (M.I.S.E.).

Chief Executive Officer of A.P. Møller – Mærsk A/S 2016–2022. Chief Executive Officer of Maersk Line 2012–2016. Chief Executive Officer of Maersk Tankers 2001–2011. Variety of executive roles, senior positions and other roles at A.P. Møller – Mærsk since 1983.

Chair of the Board of the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping (a not-for-profit foundation). Chair of the Board of HES International. Chair of the Board of Controlant hf. Chair of the Board of Bygma A/S. Member of the Board of CV Obel A/S. Senior Advisor to Global Infrastructure Partners (GIP). Chair of GIP portfolio Companies VTG GmbH and Skyborn Renewables GmbH.

**Timo Ahopelto****b. 1975**

Founding Partner of Lifeline Ventures. Nokia Board member since 2023. Member of the Personnel Committee and the Technology Committee.

Master's degree in Industrial Management, Helsinki University of Technology, Finland.

Head of Strategy and Business Development, Blyk 2006–2009. Founding CEO, Vice President of Worldwide Commercial Operations, CRF Health 2000–2006. Consultant, McKinsey & Company 1999–2000.

Chair of the Board of Directors of Canatu Plc (former Lifeline SPAC I Plc). Chair of the Board of Finnish Startup Community. Member of the Board of Directors of Solidium Oy and various other board positions in private companies.

Member of the Board of Directors of Digital Workforce Services Plc 2016–2025. Member of the Board of Finnish Business and Policy Forum EVA and Research Institute for Finnish Economy (ETLA) 2015–2024. Member of the Board of Directors of Tietoevry Corporation 2017–2023. Chair of the Board of Slush Conference 2018–2023 and member of the Board 2013–2018. Member of the Board of Business Finland 2014–2020. Member of the Board, Startup Foundation 2015–2018.

**Elizabeth Crain****b. 1964**

Nokia Board member since 2023. Chair of the Strategy Committee and member of the Personnel Committee.

MBA, the Wharton School at the University of Pennsylvania, United States. Bachelor of Science in Economics, Arizona State University, United States.

Advisory Partner, the Consello Group. Co-Founder of Moelis & Company; served as the Chief Operating Officer 2007–2023. Managing Director, Office of the CEO at UBS Investment Bank 2005–2007. Chief Operating Officer and Chief Administrative Officer of the UBS Investment Banking Department Americas franchise 2001–2005. Investment Principal, McCown De Leeuw & Company 2000–2001. Investment Principal, Morgan Stanley Capital Partners 1997–2000. Vice President, Investment Banking, Merrill Lynch & Co. 1994–1997. Associate, Investment Banking, J.P. Morgan Securities 1992–1994. Analyst, Merrill Lynch & Co. 1988–1990.

Trustee Emeritus, The Royal Academy Trust, London.

Member of the Board of Directors of Exscientia Plc 2021–2024. Member of the Board of Directors of Moelis & Company 2017–2021.

Committee key:

- A**udit
- C**orporate Governance and Nomination
- P**ersonnel
- S**trategy
- T**echnology

Corporate governance statement continued

Biographical details of our current Board members continued

**Thomas Dannenfeldt****b. 1966**

Nokia Board member since 2020. Chair of the Personnel Committee and member of the Audit Committee and the Strategy Committee.

Degree in Mathematics, University of Trier, Germany.

Chief Financial Officer of Deutsche Telekom AG 2014–2018. Chief Financial Officer of Deutsche Telekom's German operations 2010–2014. Various operational positions (sales, marketing, customer care, finance and procurement in fixed and mobile business, national and international positions) at Deutsche Telekom 1992–2010.

Chair of the Supervisory Board of Ceconomy AG and Chair of the Presidential Committee and Strategy Committee. Member of the Board of Advisors at axessio GmbH.

Member of the Board of Directors of T-Mobile US Inc. 2013–2018. Member of the Board of Directors of Buy-In 2013–2018. Chair of the Board of Directors of T-Systems International 2013–2018. Chair of the Board of Directors of EE Ltd. 2014–2016.

**Lisa Hook****b. 1958**

Nokia Board member since 2022. Member of the Audit Committee, the Corporate Governance and Nomination Committee and the Strategy Committee.

Juris Doctorate, Dickinson School of Law at Pennsylvania State University, United States. Bachelor's degree in Public Policy, Duke University, United States.

President and CEO of Neustar, Inc. 2010–2018 and COO 2008–2010. President and CEO of Sunrocket, Inc. 2006–2007. Executive positions at America Online, Inc. 2000–2004. Previous positions as Partner at Brera Capital Partners, managing director of Alpine Capital Group, LLC., various executive positions at Time Warner, Inc., legal adviser to the Chairman of the Federal Communications Commission, and General Counsel of the Cable Group at Viacom International, Inc.

Member of the Board of Directors of FIS Global Inc. Lead Independent Director of the Board of Directors of Philip Morris International. Member of the Board of Zayo Group. Chair of Advisory Board of Trilantic Capital Partners. Member of the US National Security Telecommunications Advisory Committee.

Member of the Board of Directors of Ritchie Bros. Auctioneers Inc. 2021–2023, Ping Identity Holding Corp. 2019–2022, Partners Group Holdings 2020–2021, Unisys Corp. 2019–2021, Neustar, Inc. 2010–2019 and RELX Plc 2006–2016.

**Mike McNamara****b. 1964**

Nokia Board member since 2024. Member of the Audit Committee and the Technology Committee.

Bachelor of Engineering, University College Dublin, Ireland.

Strategic Advisor, Target Corporation 2022–2023. Executive Vice President and Chief Information Officer, Target Corporation 2015–2022. Chief Information Officer, Tesco 2011–2015. Director of Operations Development and IT, Tesco 2006–2011. Chief Technology Officer Tesco.com, Tesco 1999–2006. Senior Manager, Accenture 1991–1998. Computer Programmer, British Telecom 1989–1991.

Member of the Board of Directors of Hawaiian Holdings, Inc. 2020–2024.

Committee key:

Audit

Corporate Governance and Nomination

Personnel

Strategy

Technology

Corporate governance statement continued

Biographical details of our current Board members continued

**Thomas Saueressig****b. 1985**

Member of the Executive Board of SAP SE and Global Head of SAP Product Engineering. Nokia Board member since 2022. Member of the Technology Committee.

Degree in Business Information Technology, University of Cooperative Education in Mannheim, Germany. Joint Executive MBA from ESSEC, France and Mannheim Business School, Germany.

Chief Information Officer of SAP SE 2016–2019, Vice President, Global Head of IT Services of SAP SE 2014–2016. Held various positions at SAP in Germany since 2007, including assignment in the SAP Labs Silicon Valley in Palo Alto, California, the United States.

Member of the Young Global Leaders of the World Economic Forum. Member of the Industry Advisory Board of the Munich Institute of Robotics and Machine Intelligence (MIRMI).

**Carla Smits-Nusteling****b. 1966**

Nokia Board member since 2016. Chair of the Audit Committee and member of the Corporate Governance and Nomination Committee.

Master's Degree in Business Economics, Erasmus University Rotterdam, the Netherlands. Executive Master of Finance and Control, Vrije University Amsterdam, the Netherlands.

Member of the Board of Directors and Chief Financial Officer of KPN 2009–2012. Various financial positions at KPN 2000–2009. Various financial and operational positions at TNT/PTT Post 1990–2000.

Member of the Board and Chair of the Audit Committee of CVC Capital Partners plc. Member of the Board of Directors of the Stichting Continuïteit Ahold Delhaize (SCAD) foundation.

Member of the Board of Directors of Allegro.eu SA 2020–2024. Chair of the Board of Directors of TELE2 AB 2013–2023. Lay Judge in the Enterprise Court of the Amsterdam Court of Appeal 2015–2022. Member of the Supervisory Board and Chair of the Audit Committee of ASML 2013–2021. Member of the Management Board of the Unilever Trust Office 2015–2019.

**Kai Öistämö****b. 1964**

President and CEO of Vaisala Corporation. Nokia Board member since 2022. Chair of the Technology Committee and member of the Corporate Governance and Nomination Committee.

PhD in computer science, Tampere University of Technology, Finland.

Chief Operating Officer of InterDigital, Inc. 2018–2020. Executive Partner of Siris Capital Group 2016–2018. EVP, Chief Development Officer at Nokia 2010–2014. EVP, Devices at Nokia 2008–2010. EVP, Mobile Phones Business Group at Nokia 2006–2008. Several previous positions at Nokia 1991–2006.

Venture Partner of Kvantad Oy.

Chairman of the Board of Fastems Group 2014–2022. Member of the Board of Directors of Sanoma Group 2010–2021. Chairman of the Board of Helvar Oy Ab 2014–2020. Member of the Board of Directors of Mavenir Plc 2017–2018. Member of the Board of Directors of Digia / Qt Group Oyj 2015–2018. Member of the Board of Directors of InterDigital, Inc. 2015–2018. Member of the Board of Directors of oikian solutions Oy 2014–2018. Chairman of the Board, Tampere University 2013–2017. Chairman of the Board of Directors, Tekes 2012–2014. Member of the Board of Directors of Nokian Renkaat Plc 2008–2010.

Committee key:**A**udit**C**orporate Governance
and Nomination**P**ersonnel**S**trategy**T**echnology

Corporate governance statement continued

Operations of the Board of Directors

The Board represents and is accountable to the shareholders of Nokia. While its ultimate statutory accountability is to the shareholders, the Board also takes into account the interests of Nokia's other stakeholders. The Board's responsibilities are active, not passive, and include the responsibility to evaluate the strategic direction of Nokia, its management policies and the effectiveness of the implementation of such by the management on a regular basis. It is the responsibility of the members of the Board to act in good faith and with due care, so as to exercise their business judgment on an informed basis, in a manner that they reasonably and honestly believe to be in the best interests of Nokia and its shareholders. In discharging this obligation, the members of the Board must inform themselves of all relevant information reasonably available to them. The Board and each Board Committee also have the power to appoint independent legal, financial or other advisers as they deem necessary. The Company will provide sufficient funding to the Board and to each Committee to exercise their functions and provide compensation for the services of their advisers.

The Board has the responsibility for appointing and discharging the President and Chief Executive Officer, Chief Financial Officer and Chief Legal Officer. The Board is ultimately responsible for, and its duties include, monitoring and reviewing Nokia's financial reporting process, the effectiveness of related control and audit functions and the independence of Nokia's external auditor, as well as monitoring the Company's statutory audit. The Board's responsibilities also include overseeing the structure and composition of our top management and monitoring legal compliance and the management of risks related to our operations. In doing so, the Board may set annual ranges and/or individual limits for capital expenditures, investments and divestitures and other financial and non-financial commitments that may not be exceeded without a separate Board approval.

In risk management, the Board's role includes risk analysis and assessment in connection with financial, strategy and business reviews, updates and decision-making proposals. Risk management policies and processes are an integral part of Board deliberations and risk-related updates are provided to the Board on a recurring basis. For a more detailed description of our risk management policies and processes, refer to the "Risk management, internal control and internal audit functions at Nokia—Risk management principles" section.

The Board approves and the independent directors of the Board confirm the compensation and terms of employment of the President and CEO, subject to the requirements of Finnish law, upon the recommendation of the Personnel Committee of the Board. The compensation and terms of employment of the other Group Leadership Team members are approved by the Personnel Committee upon the recommendation of the President and CEO.

Board oversight of environmental and social activities and governance practices

Under our Corporate Governance Guidelines, the Board evaluates Nokia's environmental and social activities and governance practices (ESG), related risks and target setting as well as their implementation and effectiveness across the Company. In 2024, the Board reviewed our sustainability strategy and targets, approved the targets on climate change in the long-term incentive plan, approved the targets on health and safety and diversity included in the short-term incentive plan and monitored them and other ESG targets, as well as the evolving ESG requirements and expectations, investor feedback, our disclosure approach, and Nokia's net-zero commitment and roadmap.

In addition, the Board Committees monitor environmental and social developments and activities in the Company in their respective areas of responsibilities. The Audit Committee reviews sustainability disclosures annually, as well as the information on the use of conflict minerals in Nokia's products presented in the annual reports and the related regulatory filings. During 2024, the Audit Committee's responsibilities included the continued implementation planning of new climate- and other sustainability reporting requirements, including the double materiality assessment, preparing the proposal for election of the auditor carrying out the assurance of the sustainability reporting, and oversight of the ethics and compliance program.

The Personnel Committee oversees human capital management, including personnel policies and practices related to Nokia's culture, physical safety, employee well-being, diversity, recruiting, development and retention. In 2024, the Personnel Committee focused, among other things, on a people risk review, including physical safety and succession planning. The Committee has also recommended to the Board to include carbon emission reduction in the metrics of the long-term incentive plan as well as diversity and health

and safety as metrics in the short-term incentive plan. The Corporate Governance and Nomination Committee assesses and advises the Board on ESG-related activities and practices, aiming to enhance the governance structure supporting them. The Technology Committee reviews how the Company's ESG strategy embeds into its technology strategy and roadmaps.

Board oversight of cybersecurity

Nokia group-level security is set up in four domains: product, service, information, and customer security. While the oversight of the security risks and their management, including cybersecurity, is a Board level responsibility in the Company, the detailed reviews of the different security domains are allocated to the Committees of the Board. These Committees are responsible for monitoring and assessing the security, including cybersecurity-related risks and reporting to the Board in their respective areas of responsibilities. The responsibilities of the Audit Committee include oversight of the management and processes related to the IT and services security risks and maturity, including security-related controls, compliance, incident process, disclosures and risk management. The Technology Committee oversees the product and customer security risk management. The Committees report to the Board on a regular basis and prepare recommendations to the Board, whenever deemed necessary. The Board also receives regular updates on cybersecurity.

Board oversight of Artificial Intelligence (AI)

The proliferation of AI technologies is creating new opportunities for innovation. To ensure the responsible use of AI, particularly with respect to ethics, privacy, and security, we established a comprehensive AI governance framework in 2024 at Nokia, including a central steering committee and a separate AI governance board for the group-level policies and procedures, incident reporting, coordination and related communication. The Board's oversight of AI development is based on principles similar to those we apply to other advanced technologies. The Technology Committee of the Board has reviewed the AI governance framework before its adoption and is responsible for overseeing that compliance with all relevant regulatory frameworks for AI has been effectively arranged. The Technology Committee will also be updated to monitor and stay informed on the progress and challenges of using AI, both at a strategic and operational level. The Technology Committee reports to the Board on the AI governance at Nokia and on AI related topics on a regular basis.

Corporate governance statement continued

Key areas of focus for the Board's and its Committees' activities in 2024

The table below sets out a high-level overview of the key areas of focus for the Board's and its Committees' activities during the year. The Board also established a new Strategy Committee in April 2024. The Strategy Committee held seven meetings during the year 2024 to discuss various strategic initiatives related to developing Nokia's corporate and business strategies.

	January	February/March	April	May	June/July	September/October	November/December	
Board	<ul style="list-style-type: none"> – Business and financial reviews – Q4 and 2023 financials – Strategy execution update – Annual General Meeting (AGM) proposals, including profit distribution – Annual Policy and Charter review – Board evaluation – Review of CEO's performance, remuneration and targets 	<ul style="list-style-type: none"> – Annual report and 20-F – Remuneration Report 2023 	<ul style="list-style-type: none"> – AGM and appointing Board Chair, Vice Chair and Committee members – Business and financial reviews – Strategy execution update – Q1 financials 	<ul style="list-style-type: none"> – Business and financial reviews – Strategy execution update – Geopolitical update – Macroeconomics update – Product and customer security update – Shareholder activism preparedness update – Litigation and compliance update 	<ul style="list-style-type: none"> – Business and financial reviews – Q2 financials – Strategy execution update – Annual sustainability review 	<ul style="list-style-type: none"> – Annual strategy meeting – Business and financial reviews – Geopolitical update – Innovation framework – People update – Q3 financials 	<ul style="list-style-type: none"> – Business and financial reviews – Long-range forecast and annual target setting – Key risks review – Investors' feedback on governance, remuneration and sustainability – Digitalization and security update – Geopolitical update 	
Corporate Governance and Nomination Committee	<ul style="list-style-type: none"> – AGM proposals on Board composition and remuneration – Independence review – Corporate governance statement 		<ul style="list-style-type: none"> – Committee compositions – Annual Clock and discussion on Committee work – Future Board composition 	<ul style="list-style-type: none"> – Future Board composition – Management succession planning 		<ul style="list-style-type: none"> – Corporate governance developments in regulation – Future Board composition – Board evaluation approach – Management succession planning 	<ul style="list-style-type: none"> – Board remuneration review and benchmarking – Annual assessment of director commitments – Future Board composition – Annual Charter review 	
Personnel Committee	<ul style="list-style-type: none"> – Incentive achievements for 2023 – CEO and GLT performance – Incentive targets and objectives for 2024 – Long-term Incentive Plan (LTI) grant proposal for 2024 – Remuneration Report 2023 			<ul style="list-style-type: none"> – AGM shareholder feedback – GLT remuneration – Culture update – Succession planning 	<ul style="list-style-type: none"> – Remuneration Policy 2025 – LTI performance update – Human capital risk review, including physical safety – Committee adviser's market and benchmarking update – Succession planning 	<ul style="list-style-type: none"> – Incentive Compensation Clawback Policy – Independent adviser review – LTI design for 2025 – Remuneration Policy 2025 including shareholder consultation – Workforce demographics 	<ul style="list-style-type: none"> – LTI budget for 2025 – 2025 incentive targets – Investor feedback – Planning of Remuneration Report for 2024 – Succession planning – Executive shareholding assessment – Annual Charter review 	
Audit Committee	<ul style="list-style-type: none"> – Q4 and 2023 financials – Auditor reporting – Ethics and compliance, internal audit, treasury and internal controls updates – AGM proposals to the Board – Information and service security update – Annual Charter and Policy review 	<ul style="list-style-type: none"> – Annual report and 20-F for 2023, including sustainability reporting – Auditor reporting – Internal controls update – Double materiality assessment 	<ul style="list-style-type: none"> – Q1 financials – Auditor reporting – Ethics and compliance, internal audit and internal controls updates – Tax update – Treasury update – Conflict Minerals Report 			<ul style="list-style-type: none"> – Q2 financials – Auditor reporting – Ethics and compliance, internal audit and internal controls updates 	<ul style="list-style-type: none"> – Q3 financials – Auditor reporting – Ethics and compliance, internal audit and internal controls updates – ESG disclosure and reporting developments, processes and controls – Information and service security updates – Finance IT and digitalization update 	<ul style="list-style-type: none"> – Treasury update – Pensions update – Audit, internal audit and internal controls updates – Privacy and cybersecurity update – Annual Charter and Policy review
Technology Committee		<ul style="list-style-type: none"> – Updates on innovation and technology trends – Review of strategic technology initiatives 		<ul style="list-style-type: none"> – Updates on innovation and technology trends – Review of strategic technology initiatives 		<ul style="list-style-type: none"> – Sustainability technology strategy – Updates on innovation and technology trends – Review of strategic technology initiatives – Product and customer security 	<ul style="list-style-type: none"> – Updates on innovation and technology trends including AI – Review of strategic technology initiatives – Product and customer security and AI updates 	

Corporate governance statement continued

Board evaluation

In line with our Corporate Governance Guidelines, the Board conducts a comprehensive annual performance evaluation, which also includes evaluation of the Board Committees' work, the Board and Committee Chairs and individual Board members. The Board evaluation is conducted as a self-evaluation, typically with a detailed questionnaire, while an external evaluator is periodically engaged. Feedback is also requested from selected members of management as part of the Board evaluation process. The questions aim to measure and elicit feedback on the processes, structure, accountability, transparency, and effectiveness of the Board and to gain an overview of the issues that are areas of excellence, areas where the Board thinks greater focus is warranted and determining areas where the performance could be enhanced.

Each year, the results of the evaluation are discussed and analyzed by the entire Board and improvement actions are agreed based on such discussions. In 2024, the evaluation process was carried out as a thorough self-evaluation for a second consecutive year by using an external evaluation platform that included both numeric assessments and the possibility to provide more detailed written comments. The questionnaire comprised areas such as Nokia purpose and strategy, Board agenda and meetings, and Board composition and dynamics, as well as information, reporting and risk management.

Meetings of the Board of Directors

The Board of Directors constitutes a quorum if more than half of its members are present. The Board held 20 meetings excluding Committee meetings during 2024. In total 12 (60%) of these meetings were regular meetings in person or by video connection. The other eight meetings were held in writing.

Directors' attendance at the Board and Committee meetings in 2024 is set forth in the table below:

Member	Board meeting attendance		Board and Committee meeting attendance ⁽¹⁾	
	Meetings	%	Meetings	%
Sari Baldauf (Chair)	20/20	100%	38/38	100%
Søren Skou (Vice Chair)	19/20	95%	31/33	94%
Timo Ahopelto	18/20	90%	28/30	94%
Elizabeth Crain	20/20	100%	34/34	100%
Thomas Dannenfeldt	20/20	100%	37/38	97%
Lisa Hook	20/20	100%	37/37	100%
Jeanette Horan (until 3 April 2024)	3/4	75%	5/7	71%
Mike McNamara (as of 3 April 2024)	17/17	100%	24/24	100%
Thomas Saueressig	20/20	100%	24/24	100%
Carla Smits-Nusteling	17/20	85%	28/31	90%
Kai Öistämö	20/20	100%	29/29	100%
Average attendance (%)		95%		95%

(1) Any director who so wishes may attend, as a non-voting observer, meetings of committees of which they are not members. Figures exclude directors attending committee meetings as non-voting observers.

Directors meet without management in connection with each regularly scheduled meeting. According to Board practices, meetings without management present are only attended by non-executive directors. These meetings are chaired by the non-executive Chair of the Board. In cases where the non-executive Chair of the Board is unable to chair these meetings, the non-executive Vice Chair of the Board chairs the meeting. Additionally, the independent directors would meet separately at least once annually. In 2024, all members of the Board were non-executive and determined to be independent from Nokia and significant shareholders under the Finnish Corporate Governance Code and the rules of the NYSE.

Committees of the Board of Directors

In 2024, the Board of Directors established a new Strategy Committee and therefore had five Committees that assisted the Board in its duties pursuant to their respective Committee charters. The Board may also establish new or ad hoc committees for detailed reviews or consideration of particular topics to be proposed for the approval of the Board. Any director who so wishes may attend, as a non-voting observer, meetings of Committees of which they are not members.

Corporate governance statement continued

The Audit Committee

The following table sets forth the members of the Audit Committee and their meeting attendance in 2024:

Member	Attendance	
	Meetings	%
Carla Smits-Nusteling (Chair)	6/6	100%
Timo Ahopelto (until 3 April 2024)	2/2	100%
Elizabeth Crain (until 3 April 2024)	2/2	100%
Thomas Dannenfeldt	6/6	100%
Lisa Hook (as of 3 April 2024)	4/4	100%
Jeanette Horan (until 3 April 2024)	2/2	100%
Mike McNamara (as of 3 April 2024)	4/4	100%
Average attendance (%)		100%

The Committee consists of a minimum of three members of the Board who meet all applicable independence, financial literacy and other requirements as stipulated by Finnish law, the Finnish Corporate Governance Code and the rules of the NYSE. As of 3 April 2024, the Audit Committee has consisted of the following four members of the Board: Carla Smits-Nusteling (Chair), Thomas Dannenfeldt, Lisa Hook and Mike McNamara.

The Committee is responsible for assisting the Board in the oversight of:

- the quality and integrity of the Company's financial statements, related disclosures and sustainability reporting;
- the statutory audit of the Company's financial statements, related disclosures and sustainability reporting;
- the qualifications and independence of the external auditor and the sustainability reporting assurer;
- the performance of the external auditor and the assurer subject to the requirements of Finnish law;
- the performance of the Company's internal controls, risk management and the assurance function;
- the performance of the internal audit function;
- the Company's compliance with legal and regulatory requirements, including the performance of its ethics and compliance program;
- the monitoring and assessment of any related party transactions;
- the pension liabilities and taxation of the Company; and
- the processes and management related to the cybersecurity of the Company, including information and services security.

In discharging its oversight role, the Audit Committee has full access to all Company books, records, facilities and personnel. The Audit Committee also maintains procedures for the receipt, retention and treatment of complaints received by Nokia regarding accounting, internal controls, auditing or sustainability reporting matters and for the confidential, anonymous submission by our employees of concerns relating to accounting, auditing or sustainability reporting assurance matters. Nokia's disclosure controls and procedures, which are reviewed by the Audit Committee and approved by the President and CEO and the Chief Financial Officer, as well as the internal controls over financial reporting, are designed to provide reasonable assurance regarding the quality and integrity of Nokia's financial statements and related disclosures. For further information on internal control over financial reporting, refer to the section "Risk management, internal control and internal audit functions at Nokia—Description of internal control procedures in relation to the financial reporting process".

Under the Finnish Companies Act, an external auditor and a sustainability reporting assurer are elected by a simple majority vote of the shareholders at the Annual General Meeting for one year at a time. The Audit Committee prepares the proposal to the shareholders for the election of the nominees, upon its evaluation of the qualifications and independence of the external auditor and the sustainability reporting assurer. Under Finnish law, the fees of the external auditor and of the sustainability reporting assurer are approved by the shareholders by a simple majority vote at the Annual General Meeting. The Committee prepares the proposals to the shareholders in respect of the fees of the external auditor and the sustainability reporting assurer, and approves their annual fees under the guidance given by the Annual General Meeting. For information about the fees paid to Nokia's external auditor and sustainability reporting assurer, Deloitte Oy, during 2024 refer to the section "Auditor fees and services".

The Board has determined all current Committee members be 'financially literate' satisfying the applicable financial-sophistication requirement by the New York Stock Exchange. In addition, three Committee members, Carla Smits-Nusteling, Thomas Dannenfeldt and Lisa Hook, are determined to be 'audit committee financial experts' as defined in the requirements of Item 16A of the Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission (SEC). Carla Smits-Nusteling and each of the other members of the

Audit Committee are "independent directors" as defined by Finnish law, the Finnish Corporate Governance Code and in Section 303A.02 of the NYSE Listed Company Manual.

The Audit Committee meets a minimum of four times a year. The Committee meets separately with the representatives of Nokia's management, heads of the internal audit, and ethics and compliance functions, and the external auditor in connection with each regularly scheduled meeting. The head of the internal audit function has, at all times, direct access to the Audit Committee, without the involvement of management.

Audit Committee pre-approval policies and procedures

The Audit Committee of the Board is responsible, among other matters, for oversight of the external auditor's independence, subject to the requirements of applicable legislation. The Audit Committee has adopted a policy regarding an approval procedure of audit services performed by the external auditors of the Nokia Group and permissible non-audit services performed by the principal external auditor of the Nokia Group (the "Pre-approval Policy").

Under the Pre-approval Policy, proposed services either: (i) may be pre-approved by the Audit Committee in accordance with certain service categories described in the Pre-approval Policy (general pre-approval); or (ii) require the specific pre-approval of the Audit Committee (specific pre-approval). The Pre-approval Policy sets out the audit, audit-related, tax and other services that have received the general pre-approval of the Audit Committee. All other audit, audit-related (including services related to internal controls and significant mergers and acquisitions projects), tax and other services are subject to specific pre-approval by the Audit Committee. All service requests concerning generally pre-approved services are submitted to an appointed Audit Committee delegate within management, who determines whether the services are within the generally pre-approved services. The Pre-approval Policy is subject to annual review by the Audit Committee.

The Audit Committee establishes budgeted fee levels annually for each of the categories of audit and non-audit services that are pre-approved under the Pre-approval Policy, namely, audit, audit-related, tax and other services. At each regular meeting of the Audit Committee, the auditor provides a report in order for the Audit Committee to review the services that the auditor is providing, as well as the cost of those services.

Corporate governance statement continued

The Corporate Governance and Nomination Committee

The following table sets forth the members of the Corporate Governance and Nomination Committee and their meeting attendance in 2024:

Member	Attendance	
	Meetings	%
Søren Skou (Chair)	5/5	100%
Sari Baldauf	5/5	100%
Lisa Hook	5/5	100%
Carla Smits-Nusteling	5/5	100%
Kai Öistämö	5/5	100%
Average attendance (%)		100%

The Committee consists of three to five members of the Board who meet all applicable independence requirements as stipulated by Finnish law, the Finnish Corporate Governance Code and the rules of the NYSE. As of 3 April 2024, the Corporate Governance and Nomination Committee has consisted of the following five members of the Board: Søren Skou (Chair), Sari Baldauf, Lisa Hook, Carla Smits-Nusteling and Kai Öistämö.

The Committee fulfills its responsibilities by:

- actively identifying individuals qualified to be elected members of the Board, as well as considering and evaluating the appropriate level and structure of director remuneration;
- preparing and evaluating the principles regarding Board diversity;
- preparing proposals to the shareholders on the director nominees for election at the general meetings, as well as director remuneration;
- monitoring and assessing the directors' current and planned time commitments outside the Nokia Board and their attendance at Nokia Board and Committee meetings;
- monitoring significant developments in the law and practice of corporate governance, including the sustainability-related governance trends and the directors' duties and responsibilities;

- assisting the Board and each Committee of the Board in its annual performance evaluation process, including establishing criteria to be applied in connection with such evaluations;
- developing and administering Nokia's Corporate Governance Guidelines and giving recommendations regarding them to the Board; and
- reviewing Nokia's disclosure in the corporate governance statement.

The Committee has the power and practice to appoint a recruitment firm to identify appropriate new director candidates.

The Personnel Committee

The following table sets forth the members of the Personnel Committee and their meeting attendance in 2024:

Member	Attendance	
	Meetings	%
Thomas Dannenfeldt (Chair)	5/5	100%
Timo Ahopelto (as of 3 April 2024)	4/4	100%
Sari Baldauf	5/5	100%
Elizabeth Crain (as of 3 April 2024)	5/5	100%
Lisa Hook (until 3 April 2024)	1/1	100%
Søren Skou (until 3 April 2024)	1/1	100%
Average attendance (%)		100%

The Committee consists of a minimum of three members of the Board who meet all applicable independence requirements as stipulated by Finnish law, the Finnish Corporate Governance Code and the rules of the NYSE. As of 3 April 2024, the Personnel Committee has consisted of the following four members of the Board: Thomas Dannenfeldt (Chair), Timo Ahopelto, Sari Baldauf and Elizabeth Crain.

The Committee has overall responsibility for evaluating, resolving and making recommendations to the Board regarding:

- preparing the Remuneration Policy and the Remuneration Report;
- compensation and terms of employment of the Company's senior management;
- human capital management;
- all equity-based plans;
- incentive compensation plans, policies and programs of the Company affecting executives; and
- possible other significant incentive plans.

The Committee is responsible for preparing the Remuneration Policy, including Nokia's compensation philosophy and principles and ensuring that the Company's compensation programs are performance-based, designed to contribute to long-term shareholder value creation in line with shareholders' interests, properly motivate management and are aligned with the Remuneration Policy, as well as supporting overall corporate strategies.

The Committee also oversees human capital management and periodically reviews the personnel policies and practices of Nokia related to human capital management and social responsibilities relating to its employees, including Company culture, physical safety, employee wellbeing, morale, diversity, equity and inclusion, talent management and development, succession planning, resourcing, recruiting, attrition, retention and employee engagement.

Corporate governance statement continued

The Strategy Committee

The following table sets forth the members of the Strategy Committee and their meeting attendance in 2024:

Member	Attendance	
	Meetings	%
Elizabeth Crain (Chair)	7/7	100%
Sari Baldauf	7/7	100%
Thomas Dannenfeldt	6/7	86%
Lisa Hook	7/7	100%
Søren Skou	6/7	86%
Average attendance (%)		94%

The Committee consists of a minimum of three members of the Board who meet all applicable independence requirements as stipulated by Finnish law, the Finnish Corporate Governance Code and the rules of the NYSE. As of 3 April 2024, the Strategy Committee has consisted of the following five members of the Board: Elizabeth Crain (Chair), Sari Baldauf, Thomas Dannenfeldt, Lisa Hook and Søren Skou.

The Committee is established by the Board primarily for the purpose of assisting the Board with respect to various strategic initiatives related to developing Nokia's corporate and business strategies and capturing the strategic opportunities identified under them.

The Committee's duties may include:

- overseeing the preparation of strategies related to strategic initiatives;
- reviewing the prospective alternatives for the strategic initiatives identified by management;
- acting as a preparatory body for assessing the specific strategic initiatives requiring the Board's decision;
- overseeing the implementation of the strategic initiatives; and
- evaluating the outcomes of the strategic initiatives, focusing on their implementation, financial results and long-term success.

The Technology Committee

The following table sets forth the members of the Technology Committee and their meeting attendance in 2024:

Member	Attendance	
	Meetings	%
Kai Öistämö (Chair)	4/4	100%
Timo Ahopelto	4/4	100%
Sari Baldauf (until 3 April 2024)	1/1	100%
Jeanette Horan (until 3 April 2024)	0/1	0%
Mike McNamara (as of 3 April 2024)	3/3	100%
Thomas Saueressig	4/4	100%
Average attendance (%)		83%

The Committee consists of a minimum of three members of the Board who meet applicable independence requirements as stipulated by Finnish law, the Finnish Corporate Governance Code and the rules of the NYSE and have such skills in innovation, technology and science matters as the Board determines adequate from time to time. As of 3 April 2024, the Technology Committee has consisted of the following four members of the Board: Kai Öistämö (Chair), Timo Ahopelto, Mike McNamara and Thomas Saueressig.

In its dialogue with and provision of feedback and advice to the management, the Committee will periodically review:

- the Company's technological competitiveness and new strategic technology initiatives as well as market trends, considering both organic and inorganic options to retain or attain competitiveness;
- the Company's approach to major technological innovations;
- key technology trends that may result in disruptive threats or opportunities and the proposals on how to adequately address them;
- high-level risks and opportunities associated with the Company's Research and Development Programs;
- embedding sustainability in the technology roadmaps; and
- the processes and management related to the cybersecurity of the Company, including product and customer security.



Corporate governance statement continued

Group Leadership Team and the President and CEO

The Group Leadership Team is responsible for the operative management of Nokia. The Group Leadership Team is chaired by the President and CEO. The President and CEO's rights and responsibilities include those allotted to the President under Finnish law.

On 31 December 2024, the Group Leadership Team consisted of 11 members, including the President and CEO, representing six different nationalities. In total 18% of the Group Leadership Team members were female.

In addition to biographical information of the Group Leadership Team members, the table on the right sets forth the number of shares held by the members as at 31 December 2024, a total of 3 726 540 Nokia shares. These holdings represented approximately 0.07% of our total shares and voting rights excluding shares held by the Nokia Group. The number of shares includes shares received as compensation as well as shares acquired through other means. At 31 December 2024, no American Depositary Shares (ADSs) were held by the Group Leadership Team members. Stock options or other equity awards that are deemed as being beneficially owned under the applicable SEC rules are not included in the table.

Summary of changes in the Group Leadership Team in 2024

The following members stepped down from the Group Leadership Team:

- Amy Hanlon-Rodemich, Chief People Officer, as of 28 March 2024;
- Ricky Corker, Chief Customer Experience Officer, as of 13 June 2024;
- Jenni Lukander, President of Nokia Technologies, as of 18 October 2024; and
- Melissa Schoeb; Chief Corporate Affairs Officer, as of 18 October 2024.

Further, on 10 February 2025 Nokia announced that the current President and CEO Pekka Lundmark will step down on 31 March 2025.

The Group Leadership Team was complemented with four new appointments:

- Lorna Gibb, Chief People Officer, effective 13 June 2024;
- Louise Fisk, Chief Communications Officer, effective 18 October 2024;
- Patrik Hammarén, Acting President of Nokia Technologies, effective 18 October 2024 (President of Nokia Technologies as of 22 January 2025); and
- Mikko Hautala, Chief Geopolitical and Government Relations Officer, effective 1 November 2024.

Further, on 10 February 2025 Nokia announced Justin Hotard's appointment as President and CEO, effective 1 April 2025.

Name	Position	Gender	Year of birth	Nationality	On GLT since	Shares
Pekka Lundmark	President and CEO	Male	1963	Finnish	2020	1 573 826
Nishant Batra	Chief Strategy and Technology Officer	Male	1978	Indian	2021	335 869
Louise Fisk	Chief Communications Officer	Female	1976	British	2024	37 070
Lorna Gibb	Chief People Officer	Female	1976	British	2024	16 477
Federico Guillén	President of Network Infrastructure	Male	1963	Spanish	2016	480 262
Patrik Hammarén	Acting President of Nokia Technologies	Male	1982	Finnish	2024	21 955
Mikko Hautala	Chief Geopolitical and Government Relations Officer	Male	1972	Finnish	2024	2 800
Esa Niinimäki	Chief Legal Officer	Male	1976	Finnish	2023	49 903
Raghav Sahgal	President of Cloud and Network Services	Male	1962	American	2020	618 318
Tommi Uitto	President of Mobile Networks	Male	1969	Finnish	2019	268 619
Marco Wirén	Chief Financial Officer	Male	1966	Finnish/Swedish	2020	321 441

Corporate governance statement continued

Biographical details of the current members of the Nokia Group Leadership Team

**Pekka Lundmark****b. 1963**

President and Chief Executive Officer (CEO) since 2020. Rejoined Nokia in 2020.

Master's degree in Information Systems, Department of Technical Physics, Helsinki University of Technology, Finland.

President and CEO, Fortum Corporation 2015–2020. President and CEO, Konecranes Plc 2005–2015 and Group Executive Vice President 2004–2005. President and CEO, Hackman Oyj 2002–2004. Managing Partner, Startupfactory 2000–2002. Various executive positions at Nokia 1990–2000.

Member of the Board, Research Institute of the Finnish Economy (ETLA) and Finnish Business and Policy Forum (EVA). International Member of the Royal Swedish Academy of Engineering Sciences (IVA). Member of the European Round Table for Industry. Member of The Business Council (the United States).

Commissioner, Broadband Commission for Sustainable Development 2020–2024. Chairman of the Board, Confederation of Finnish Industries 2019–2020. Member of the Board, East Office of Finnish Industries 2009–2020. Chairman of the Board, Finnish Energy 2016–2018.

**Nishant Batra****b. 1978**

Chief Strategy and Technology Officer (CSTO). Group Leadership Team member since 2021. Joined Nokia in 2021.

MBA from INSEAD. Master's degrees in Telecommunications and in Computer Science, Southern Methodist University, Dallas, the United States. Bachelor's degree in Computer Applications, Devi Ahilya University, Indore, Madhya Pradesh, India.

Executive Vice President and Chief Technology Officer, Veoneer Inc. 2018–2021. Several senior positions at Ericsson 2006–2018, in the United States, Sweden and India.

Member of the Board of Directors, KPIT Technologies Ltd. Chair of the Board of ReOrbit Oy. Strategic Advisor, SoloPulse.

Member of the Board of Directors of Sensys Gatso Group 2020–2022.

**Louise Fisk****b. 1976**

Chief Communications Officer (CCO). Group Leadership Team member since 2024. Joined Nokia in 2020.

Advanced executive leadership development, DUKE University. Advanced global leadership, INSEAD business school. Post graduate diploma in PR & Journalism, University of Wales, College of Cardiff, Wales, United Kingdom. BA Hons in Communication, University of Wales, College of Cardiff, Wales, United Kingdom.

Vice President, Corporate Affairs Programs & Corporate Communications, Nokia 2020–2024. Global leadership team, Communications and Marketing Director, BAE Systems Applied Intelligence 2015–2019. Head of Global Communications, Investor Relations and Marketing, Innovation Group 2012–2015. Global PR Director & Deputy Communications Director, Logica 2006–2012. Partner & Associate Director, LEWIS Communications 1999–2006.

Trustee of the Williams Syndrome Foundation.

**Lorna Gibb****b. 1976**

Chief People Officer (CPO). Group Leadership Team member since 2024. Joined Nokia in 2020.

Diploma in Legal Practice, University of Edinburgh, Scotland. Bachelor of Laws, University of Glasgow, Scotland (combined with Master of Laws programme in the University of North Carolina, the United States).

Interim Chief People Officer, Nokia March–June 2024. Vice President, Labour & Employment, Nokia 2020–2024. Global Human Resources Director, Skyscanner 2017–2020. People Director, easyJet 2013–2017. Senior HR Business Partner, Direct Line Group (Royal Bank of Scotland Group) 2012–2013. Various employment legal/HR transformation consultancy roles in 2002–2012.

Young Enterprise UK: Board Trustee – HR, Remuneration and Nomination Committee.

Corporate governance statement continued

Biographical details of the current members of the Nokia Group Leadership Team continued

**Federico Guillén****b. 1963**

President of Network Infrastructure. Group Leadership Team member since 2016. Joined Nokia in 2016.

Degree in Telecommunications Engineering, ETSIT at Universidad Politécnica de Madrid, Spain. Master's degree in Switching & Communication Architectures, ETSIT at Universidad Politécnica de Madrid, Spain. Master's Degree in International Management, ESC Lyon and Alcatel, France.

President of Customer Operations, Europe, Middle East & Africa and Asia Pacific, Nokia 2018–2020. President of Fixed Networks, Nokia 2016–2018. President of Fixed Networks, Alcatel-Lucent 2013–2016. President and Chief Senior Officer of Alcatel-Lucent Spain and Global Account Manager Telefónica, Alcatel-Lucent 2009–2013. Vice President Sales of Vertical Market Sales in Western Europe, Alcatel-Lucent 2009. Head of Regional Support Center, Fixed Access Division for South Europe, Middle East & Africa, India and Caribbean & Latin America, Alcatel-Lucent 2007–2009. President and Chief Senior Officer, Alcatel Mexico and Global Account Manager, Telmex 2003–2007. Various R&D, portfolio and sales management positions with Telettra in Spain, and with Alcatel in Spain, Belgium and the United States 1989–2003.

**Patrik Hammarén****b. 1982**

Acting President of Nokia Technologies (President of Nokia Technologies as of 22 January 2025). Group Leadership Team member since 2024. Joined Nokia in 2007.

Master of Law, University of Helsinki, Finland. Master of Science (Information Networks), Aalto University, Finland.

Chief Licensing Officer Wireless Technologies, Nokia Technologies 2024–2024. Vice President, Head of IoT Licensing Program, Nokia Technologies 2022–2024. Head of Patent Licensing Greater China, Nokia Technologies 2020–2022. Director, Patent Licensing, Nokia Technologies 2018–2020. Manager, Patent Licensing, Nokia Technologies 2014–2018. Senior Legal Counsel, HERE, Nokia 2013–2014. Legal Counsel, HERE Nokia 2013–2013. Legal Counsel, Central and East Europe, Nokia 2012–2013. Legal Counsel, Central Europe, Nokia 2011–2012. Legal Counsel, MeeGo & Open Source, Nokia 2007–2011.

**Mikko Hautala****b. 1972**

Chief Geopolitical and Government Relations Officer. Group Leadership Team member since 2024. Joined Nokia in 2024.

Master of Social Sciences (Political history), University of Helsinki, Finland. Master of Philosophy (Slavic languages), University of Helsinki, Finland.

Ambassador, Head of Mission, Embassy of Finland, Washington DC 2020–2024. Ambassador, Head of Mission, Embassy of Finland, Moscow 2016–2020. Foreign Policy Adviser to the President, Office of the President of the Republic of Finland, Helsinki 2012–2016. Minister, Deputy Head of Mission, Embassy of Finland, Moscow 2011–2012. Diplomatic Adviser to the Minister of Foreign Affairs, Ministry for Foreign Affairs, Helsinki 2007–2011. First Secretary, Permanent Representation of Finland to the EU, Brussels 2002–2007. Attaché, Ministry for Foreign Affairs, Helsinki 2001–2002. Attaché, Embassy of Finland, Kyiv 1999–2001. Visa Officer, Embassy of Finland, Kyiv 1998–1999.

Board Member Support for Finnish Society (SYT) foundation. Chairman of the Council, The John Morton Center for North American Studies, University of Turku, Finland.

**Esa Niinimäki****b. 1976**

Chief Legal Officer (CLO) and Board Secretary. Group Leadership Team member since 2023. Joined Nokia in 2007.

Master of Laws, Fordham University, School of Law, New York, the United States. Master of Law, University of Helsinki, Finland.

Interim Chief Legal Officer, Nokia 2022–2023. Deputy Chief Legal Officer, Vice President, Corporate Legal and Board Secretary, Nokia 2018–2023. General Counsel, Global Services, Nokia 2015–2018. Head of Corporate Legal, Nokia Solutions and Networks and Head of Finance & Labor Legal, Nokia 2013–2015. Senior Legal Counsel, Legal and IP, India, Middle East and Africa, Nokia 2012–2013. (Senior) Legal Counsel, Corporate Legal, Nokia 2007–2011. Group Legal Counsel, Metsä Group 2005–2007. Associate Lawyer, White & Case LLP 2003–2005.

Chair of Legal Affairs Committee of the Confederation of Finnish Industries. Member of the Market Practice Board of Securities Market Association and the Policy Committee of the Directors' Institute Finland.

Corporate governance statement continued

Biographical details of the current members of the Nokia Group Leadership Team continued



Raghav Sahgal

b. 1962

President of Cloud and Network Services. Group Leadership Team member since 2020. Joined Nokia in 2017.

Master of Science in Computer Systems Management, University of Maryland, the United States. Bachelor of Science in Computer Engineering, Tulane University, New Orleans, the United States. Executive Business Certificate in General Management, Harvard University, the United States.

President of Nokia Enterprise 2020. Senior Vice President, Nokia Software 2017–2020. President, NICE Ltd. Asia Pacific and the Middle East 2010–2017. Advisory Board Member, Orga Systems 2010–2014. Vice President, Communications Business Unit, Asia Pacific & Japan, Oracle 2008–2010. Chief Business Officer, Comverse 2005–2006. Executive Vice President, Asia Pacific, CSG 2002–2005. Vice President, Software Products Group Asia Pacific, Lucent Technologies 2000–2002.



Tommi Uitto

b. 1969

President of Mobile Networks. Group Leadership Team member since 2019. Joined Nokia in 1996.

Master's degree in industrial management, Helsinki University of Technology, Finland. Master's degree in operations management, Michigan Technological University, the United States.

Senior Vice President (VP), Global Product Sales, Mobile Networks, Nokia 2016–2018. Senior VP, Global Mobile Broadband Sales, Customer Operations, Nokia Networks 2015–2016. Senior VP, West Europe, Customer Operations, Nokia Networks 2013–2015. Head of Radio Cluster (Senior VP), Mobile Broadband, Nokia Siemens Networks (NSN) 2012–2013. Head of Global LTE Radio Access Business Line (VP) and Quality, Mobile Broadband NSN, 2011–2012. Head of Product Management, Network Systems, NSN 2010. Head of Product Management, Radio Access, NSN 2009. Head of WCDMA/HSPA and Radio Platforms Product Management, NSN 2008. Head of WCDMA/HSPA Product Line Management, NSN 2007. General Manager, Radio Controller Product Management Nokia Networks, 2005–2007. Various other positions at Nokia since 1996.

Member of the Board of Directors at F-Secure Oyj. Member of the Board of Technology Industries of Finland.



Marco Wirén

b. 1966

Chief Financial Officer (CFO). Group Leadership Team member since 2020. Joined Nokia in 2020.

Master's degree in Business Administration, University of Uppsala, Sweden. Studies in management and strategic leadership, including at Duke Business School, Durham, the United States; IMD, Switzerland and Stockholm School of Economics, Sweden.

President, Wärtsilä Energy and Executive Vice President, Wärtsilä Group 2018–2020. Executive Vice President and CFO, Wärtsilä Group 2013–2018. Executive Vice President and CFO, SSAB Group 2008–2013. Vice President, Business Control, SSAB Group 2007–2008. CFO, Eltel Networks 2006–2007. Vice President of Business Development, Eltel Networks 2004–2005. Head of Service Division, Eltel Networks 2003–2004. Vice President, Corporate Development, Eltel Networks 2002–2003. Vice President, Strategy & Business Development, NCC Group 1999–2002. Head of Strategic Planning, NCC Group 1998–1999. Group Controller, NCC Group 1996–1998.

Vice Chair of the Board of Directors of Neste Corporation 2019–2023 and member of the Board 2015–2023.

Corporate governance statement continued

Risk management, internal control and internal audit functions at Nokia

Risk management principles

We have a systematic and structured approach to risk management. It covers strategic, operational, financial, compliance and reputational risks and opportunities, including potentially material impacts to people and the environment. The principles documented in the Nokia Enterprise Risk Management (ERM) Policy, which is approved by the Audit Committee of the Board, require risk management and its elements to be integrated into key processes:

- **ERM is an integral part of Nokia's objective setting and key decision making**

Key risks and opportunities are primarily identified against business targets either in business operations or as an integral part of strategy and financial planning. Those are monitored as part of the management and business performance information flow. Our overall risk management concept is based on managing the key risks that would prevent us from meeting our objectives, rather than focusing on eliminating all risks.

- **ERM is an integral part of Nokia's corporate governance**

ERM accountability runs through the Company and is embedded into Nokia corporate governance. The Board of Directors and the Group Leadership Team are committed to effective risk management as a core management capability that supports Nokia in achieving strategic, tactical and operational business objectives and in managing business performance.

- **Risk ownership follows business ownership**

Nokia ERM is aligned to the overall Nokia governance model, where Nokia's businesses are accountable for meeting approved plans and targets as agreed within Nokia. Each business or function head is an owner of the risks in their respective responsibility area and is responsible for identifying and managing key risks and capturing opportunities.

- **ERM is an area of continuous improvement**

ERM is an area of continuous improvement for Nokia. The Chief Financial Officer, who also functions as the Chief Risk Officer, provides guidance and sponsors the development of ERM practices and ERM improvement.

In addition to the principles defined in the Nokia Enterprise Risk Management Policy, other key corporate level policies reflect the implementation of specific aspects of risk management.

Cybersecurity Risk Management

Nokia, along with its partners and contracted third parties, faces cybersecurity threats like ransomware, viruses, worms and other malicious software, unauthorized modifications, or illegal activities that may cause potential security risks and other harm to Nokia, its customers or consumers and other end-users of Nokia's products and services. The dynamic nature of IT technologies makes it challenging to fully mitigate these risks.

The cybersecurity incidents may lead to lengthy and costly incident response, remediation of the attack affecting business continuity, or breach and legal proceedings and fines imposed on us, as well as adverse effects to our reputation and brand value. Despite ongoing investments, preventing, detecting and containing cyber-attacks remain challenging. Additionally, the cost and operational consequences of implementing further information system protection measures, especially if prescribed by national authorities, could be significant. We may not be successful in implementing such measures in due time, which could lead to business disruptions. The regulatory framework around responding to and disclosing such events is in flux. We may not be able to comply with the regulations that must be implemented or such compliance may negatively impact our ability to deal with the underlying event.

We face a number of cybersecurity risks within our business. Although such risks have not materially affected us thus far, including our business strategy, results of operations, or financial condition, we have from time to time experienced threats to and breaches of our data and systems, including malware and computer virus attacks. We continue to address these challenges, but there is no guarantee against future attacks.

Nokia has well-established cybersecurity processes built into its overall security risk management framework. This integration is achieved through the implementation of a security program set on various processes, such as cybersecurity risk management, third-party security risk management, security incident management and disaster recovery planning. In evaluation of the effectiveness of our cybersecurity processes and their alignment with the industry best practices, we have engaged and may engage in the future with third party advisers and consultants.

The Chief Security Officer, who has the authority to establish and oversee the Nokia information security program, keeps Nokia's executive leadership informed on program outcomes and highlights information security risks which may affect Nokia business and customers. Nokia's executive leadership provides direction and support and has the responsibility to execute the program within their own domains. Key principles are communicated through the Nokia Information Security Policy, applicable also to third parties and collaborators and supported by topical Standard Operation Procedures and guidelines.

Nokia's security ambition is reflected in the supplier selection processes, contracts and supplier (re)assessments ensuring effective security is in place in our supply chain and with our third-party partners. We are dedicated to adhering to applicable laws, regulations, contractual commitments, and industry best practices, including but not limited to ISO 27001, NIST SP 800 series, the Cloud Security Alliance Control Matrix, and the Information Security Forum.

Nokia's cybersecurity incidents are handled in the Security Incident Management Process, which covers all phases of incident response, including preparation, identification, containment, eradication, recovery and post-incident analysis. Each confirmed cybersecurity-related incident is assessed against a classification scheme (impact on confidentiality, integrity and availability of the related asset, urgency, and priority of the security incident). Significant cybersecurity incidents are elevated and managed by a cross-functional, executive management-level team, which is responsible for making the necessary decisions and prioritizing actions that can minimize the impact of the security incident to Nokia and its customers. Members from the CFO and Legal, Compliance & Sustainability teams are responsible for determining the materiality of the security incident and promptly informing the Audit Committee of the Board. The Nokia management team for assessing and managing cybersecurity threats includes members with training and experience in security risk management, security governance, cyber resilience, security incident management, information technology, cybersecurity legal and compliance requirements and disclosures. For an overview of the training and experience of the members of the Board and our assessment of their experience and skills related to cybersecurity, please see "Main corporate governance bodies of Nokia—Board of Directors".

Corporate governance statement continued

Description of internal control procedures in relation to the financial reporting process

Management is responsible for establishing and maintaining adequate internal control over Nokia's financial reporting. Our internal control over financial reporting is designed to provide reasonable assurance to management and the Board regarding the reliability of financial reporting and the preparation and fair presentation of published financial statements.

Management conducts a yearly assessment of Nokia's internal controls over financial reporting in accordance with the Committee of Sponsoring Organizations framework (the "COSO framework", 2013) and the Control Objectives for Information and Related Technology (COBIT) framework of internal controls. The assessment is performed based on a top-down risk assessment of our financial statements covering significant accounts, processes and locations, corporate-level controls and information systems' general controls.

As part of its assessment, management has documented:

- the corporate-level controls, which create the "tone from the top" containing the Nokia values and Code of Conduct and which provide discipline and structure to decision-making processes and ways of working. Selected items from our operational mode and governance principles are separately documented as corporate-level controls;
- the significant processes: (i) give a complete end-to-end view of all financial processes; (ii) identify key control points; (iii) identify involved organizations; (iv) ensure coverage for important accounts and financial statement assertions; and (v) enable internal control management within Nokia;
- the control activities, which consist of policies and procedures to ensure management's directives are carried out and the related documentation is stored according to our document retention practices and local statutory requirements; and
- the information systems' general controls to ensure that sufficient IT general controls, including change management, system development and computer operations, as well as access and authorizations, are in place.

Further, management has also:

- assessed the design of the controls in place aimed at mitigating the financial reporting risks;
- tested operating effectiveness of all key controls; and
- evaluated all noted deficiencies in internal controls over financial reporting in the interim and as of year end.

In 2024, Nokia has followed the procedures as described above and has reported on the progress and assessments to management and to the Audit Committee of the Board on a quarterly basis.

Description of the organization of the internal audit function

We have an internal audit function that examines and evaluates the adequacy and effectiveness of our system of internal control. Internal audit reports to the Audit Committee of the Board. The head of the internal audit function has direct access to the Audit Committee, without the involvement of management. The internal audit staffing levels and annual budget are approved by the Audit Committee. All authority of the internal audit function is derived from the Board. The internal audit aligns to the business by business group and function.

Annually, a risk-based internal audit plan is developed taking into account key business risks, emerging risks, external factors and input from management. This plan is approved by the Audit Committee. Audits are completed across business groups and functions. The results of each audit are reported to management identifying issues, financial impact, if any, and the correcting actions to be completed. Quarterly, the internal audit function communicates the progress of the internal audit plan completion, including the results of the closed audits, to the Audit Committee. Any changes to the risk environment impacting the internal audit plan are presented to the Audit Committee for review and approval on a quarterly basis.

Internal audit also works closely with Internal Controls and Ethics and Compliance offices to review any financial and compliance concerns brought to light from various channels and, where relevant, works with Enterprise Risk Management to ensure priority risk areas are reviewed through audits.

"Management conducts a yearly assessment of Nokia's internal controls over financial reporting in accordance with the Committee of Sponsoring Organizations framework (the "COSO framework", 2013) and the Control Objectives for Information and Related Technology (COBIT) framework of internal controls."

Corporate governance statement continued

Related party transactions

We determine and monitor related parties in accordance with the International Accounting Standards (IAS 24, Related Party Disclosures) and other applicable regulations including the applicable U.S. securities laws. We maintain information on our related parties, as well as monitor and assess related party transactions. As a main principle, all transactions should be conducted at arm's-length and as part of the ordinary course of business. In exceptional cases where these principles would be deviated from, Nokia would set up a separate process to determine the related parties in question and to seek relevant approvals in accordance with internal guidelines and applicable regulations.

Main procedures relating to insider administration

Our insider administration is organized according to the applicable European Union and Finnish laws and regulations as well as applicable U.S. securities laws and regulations. In addition, Nokia has adopted the Nokia Insider Trading Policy, approved by the Board of Directors, which sets out Nokia-wide rules and practices to ensure full compliance with applicable rules and that inside information is recognized and treated in an appropriate manner and with the highest integrity. The Nokia Insider Trading Policy is applicable to all directors, executives and employees of Nokia.

Persons discharging managerial responsibilities

Nokia has identified members of the Board of Directors and the Group Leadership Team as persons discharging managerial responsibilities who, along with persons closely associated with them, are required to notify Nokia and the Finnish Financial Supervisory Authority of their transactions with Nokia's financial instruments. Nokia publishes the transaction notifications.

In addition, according to the Nokia Insider Trading Policy, persons discharging managerial responsibilities are obligated to clear a planned transaction in Nokia's financial instruments in advance with the person in charge of the insider administration. It is also recommended that trading and other transactions in Nokia's financial instruments are carried out in times when the information available to the market is as complete as possible.

Closed window

Persons discharging managerial responsibilities are subject to a closed window period of 30 calendar days preceding the disclosure of Nokia's quarterly or annual result announcements, as well as the day of the disclosure. During the closed window period, persons discharging managerial responsibilities are prohibited from dealing in Nokia's financial instruments.

Nokia has imposed this closed window period also on separately designated financial reporting persons who are recurrently involved with the preparation of Nokia's quarterly and annual results announcements. These persons are separately notified of their status as designated financial reporting persons.

Insider registers

Nokia does not maintain a permanent insider register. Insiders are identified on a case-by-case basis for specific projects and are notified of their insider status. Persons included in a project-specific insider register are prohibited from dealing in Nokia's financial instruments until the project ends or is made public.

Supervision

Our insider administration's responsibilities include, among other matters, internal communications related to insider matters and trading restrictions, setting up and maintaining our insider registers and arranging related trainings, as well as organizing and overseeing compliance with the insider rules.

Violations of the Nokia Insider Trading Policy must be reported to the head of Corporate Legal. Nokia employees may also use channels stated in the Nokia Code of Conduct for reporting incidents involving suspected violations of the Nokia Insider Trading Policy.

Auditor fees and services

Deloitte Oy, based in Helsinki, Finland, served as our auditor and our sustainability reporting assurer for the financial year ended 31 December 2024 and as our auditor for the financial year ended 31 December 2023. The auditor and the sustainability reporting assurer are elected annually by our shareholders at the Annual General Meeting for the next financial year commencing after the election. On an annual basis, the Audit Committee of the Board prepares a proposal to the shareholders regarding the appointment of the auditor and the sustainability reporting assurer based upon its evaluation of the qualifications and independence of the auditor and the sustainability reporting assurer to be proposed for election.

The following table presents fees by type paid to Deloitte's network of firms for the years ended 31 December:

EURm	2024	2023
Audit fees ⁽¹⁾	18.5	20.2
Audit-related fees ⁽²⁾	2.5	1.7
Tax fees ⁽³⁾	0.2	0.4
All other fees ⁽⁴⁾	0.1	0.3
Total	21.3	22.6

- (1) Audit fees consist of fees incurred for the annual audit of the Group's consolidated financial statements and the statutory financial statements of the Group's subsidiaries.
- (2) Audit-related fees consist of fees billed for sustainability reporting assurance approximately EUR 1.4 million as well as other assurance and related services that are reasonably related to the performance of the audit or review of the Group's financial statements or that are traditionally performed by the independent auditor, and include consultations concerning financial accounting and reporting standards; advice and assistance in connection with local statutory accounting requirements; due diligence related to mergers and acquisitions; and audit procedures in connection with investigations in the pre-litigation phase and compliance programs. They also include fees billed for other audit services, which are those services that only the independent auditor can reasonably provide, and include the provision of comfort letters and consents in connection with statutory and regulatory filings and the review of documents filed with the SEC and other capital markets or local financial reporting regulatory bodies.
- (3) Tax fees include fees billed for: (i) services related to tax compliance including preparation and/or review of tax returns, preparation, review and/or filing of various certificates and forms and consultation regarding tax returns and assistance with revenue authority queries; compliance reviews, advice and assistance on other indirect taxes; and transaction cost analysis; (ii) services related to tax audits; (iii) services related to individual compliance (preparation of individual tax returns and registrations for employees (non-executives), assistance with applying for visas, residency, work permits and tax status for expatriates); (iv) services related to technical guidance on tax matters; (v) services related to transfer pricing advice and assistance with tax clearances; and (vi) tax consultation and planning (advice on stock-based remuneration, local employer tax laws, social security laws, employment laws and compensation programs and tax implications on short-term international transfers).
- (4) Other fees include fees billed for Company establishments, liquidations, forensic accounting, data security, other consulting services and reference materials and services.

Remuneration

Remuneration

This section sets out our remuneration governance, policies and how they have been implemented within Nokia. It includes our Remuneration Report where we disclose the remuneration of our Board members and the President and CEO for 2024, which will be presented to the Annual General Meeting (AGM) 2025 for an advisory vote.

Following 2024 shareholder vote on our Remuneration Policy, where we received high level of support, we are proposing some further amendments to the Policy, which will be presented to the AGM 2025 for an advisory vote. A summary of the updated Remuneration Policy is set out in this section and the updated Policy in its entirety is available on our website.

Other remuneration-related information provided alongside the Remuneration Report and the Remuneration Policy is not subject to a vote at the AGM 2025 but provides added information on the remuneration policies applied within Nokia as well as on the remuneration of the Group Leadership Team members.

We report information applicable to executive remuneration in accordance with Finnish regulatory requirements and with requirements set by the US Securities and Exchange Commission that are applicable to us.

Highlights

- 2024 continued to be a challenging year with ongoing market volatility, but delivered solid achievements and good operational performance, as we renew our business and reposition for future growth opportunities.
- As reported last year, at the beginning of 2024, the President and CEO, Pekka Lundmark, received a base salary increase of 8.5% in recognition of his performance and to bring his base salary close to market level.
- Pekka Lundmark's 2024 short-term incentive (STI) was subject to a scorecard of Nokia operating profit, cash release, health & safety and diversity objectives. Following the year end, performance was assessed against the predetermined targets (adjusted for M&A activities) and resulted in an overall STI payout of 104% of target opportunity for Pekka Lundmark. Further details on the targets and performance assessment and outcomes are provided in our Remuneration Report.
- The long-term incentive (LTI) awards (performance shares) granted to Pekka Lundmark and other GLT members in 2021 vested at 12% of target following the end of the three-year performance period, as a result of the dividend adjusted share price achievement of EUR 3.66. Further details of the target and performance assessment are set out in the Remuneration Report.
- The Personnel Committee carried out another review of our Remuneration Policy (Policy) during 2024 and decided to propose a couple of further amendments to ensure our Policy continues to support our future growth strategy, to further align with market practice, to encourage longer-term decision making for sustainable value creation, and to help with retention. Shareholder feedback was taken into consideration when finalizing the Policy.
- The 2025 STI will continue to be subject to the same performance metrics as used in 2024. However, two new gender diversity metrics will be introduced for 2025 measuring women in leadership and women in workforce, replacing the gender hiring metric used for 2024.
- The 2025 metrics for the LTI (performance shares) for Pekka Lundmark and the rest of the GLT will continue to be subject to a scorecard of 50% relative TSR, 40% cumulative reported Earnings Per Share (EPS) (adjusted for impairments and M&A) and 10% carbon emission reduction (scope 1, 2 and 3).

Remuneration Report 2024

Letter from the Chair of the Personnel Committee of the Board



“Dear Fellow Shareholder,
I am delighted to present our
Remuneration Report 2024
as the Chair of the Personnel
Committee of the Nokia Board.”

Our remuneration philosophy

At the core of Nokia’s philosophy lie three principles:

- pay for performance and aligning the interests of employees with shareholders;
- ensure that remuneration programs and policies support the delivery of the corporate strategy and create long-term sustainable shareholder value; and
- ensure that executive remuneration reflects the contribution to achieving our ESG targets which support long-term shareholder value creation.

Business context

2024 was a year of good strategic execution in a volatile market to achieve our full-year guidance while pursuing growth opportunities in our focus areas of data centers, private wireless and industrial edge, and defense.

Challenging market conditions in the first half of 2024 led to our full-year net sales declining, but we delivered a strong finish to the year with improving net sales and excellent profitability to achieve a full-year comparable operating profit⁽¹⁾ of EUR 2.6 billion, at the mid-point of our guidance of EUR 2.3 to 2.9 billion.

We delivered a strong cash performance throughout 2024, ending with full-year free cash flow⁽¹⁾ of EUR 2.0 billion. This means we have a strong balance sheet supporting our business with net cash and interest-bearing financial investments⁽¹⁾ of EUR 4.9 billion at the end of the year, even after returning EUR 1.4 billion to shareholders through dividends and share buybacks. As a result, the Board proposed an increase in the dividend authorization proposal to EUR 0.14 per share in respect of the financial year 2024.

Shareholder support and the updated Remuneration Policy

Our second Remuneration Policy (“Policy”) was approved by shareholders at the 2024 AGM with over 90% votes in favor.

During 2024, we continued to monitor developments in shareholder and voting agency guidance on remuneration as well as overall market development. Following which, the Personnel Committee of the Board (“Committee”) decided to propose a couple of changes to the Policy to ensure our Policy continues to support our future growth strategy, to further align our arrangements with best practice and to incentivize longer-term decision making for sustainable shareholder value creation and to help with retention.

We consulted with our largest shareholders and several other key stakeholders on some proposed amendments to the Policy. The shareholders we engaged with were generally supportive of the proposed amendments and made a few helpful and constructive suggestions for the Committee to consider. The feedback was taken into account as the proposed Policy was finalized.

Remuneration of the President and CEO – base salary and incentive opportunities

As reported last year, the President and CEO Pekka Lundmark received a salary increase of 8.5% in January 2024. There was no increase to Pekka Lundmark’s short-term incentive (STI) and long-term incentive (LTI) opportunities during 2024.

For 2025, Pekka Lundmark’s base salary and STI opportunity will remain unchanged. As announced on 10 February 2025, Pekka Lundmark is stepping down as the President and CEO effective 31 March 2025 but will work as an advisor to the new CEO until the end of the year. As a result, he will not receive LTI grant in 2025.

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measure, refer to the “Alternative performance measures” section.

Remuneration continued

STI performance outcome and payout for 2024

Pekka Lundmark's 2024 STI was subject to a scorecard of 60% Nokia operating profit, 20% cash release, 10% gender diversity and 10% health & safety (lost time injury frequency rate).

The 2024 comparable operating profit⁽¹⁾ outcome of EUR 2 619 million against the target of EUR 2 782 million resulted in a payout of 83% of target for this element. The cash release outcome of EUR 1 149 million against the target of EUR -1 115 million resulted in a payout of 225% of target for this element.

The gender diversity metric (female percentage in external hiring) achieved 28% for the full year, against the target of 29%, which resulted in a payout of 25% of target for this element.

The health & safety metric of lost time injury frequency rate measures how often lost time injuries occur that directly impacts Nokia employees during the year. This metric achieved an outcome of 0.085 against the target of 0.089, which resulted in a payout of 123% of target for this element. However, taking account of the eight fatalities within Nokia's control during the year, the Personnel Committee decided to exercise downward discretion to reduce the payout by 50% for this element, which resulted in a payout of 62% of target.

As a result, a total of 104% of target STI was payable to Pekka Lundmark for the financial year 2024.

LTI performance and outcomes for 2021–2024

The 2021 LTI (performance shares) was subject to the predetermined dividend adjusted share price targets and a three-year performance period which ended in January 2024. Based on the dividend adjusted share price outcome of EUR 3.66, the award vested at 12% of target for Pekka Lundmark and other GLT members who received the grant in 2021.

STI and LTI performance conditions for 2025

During 2024, the Personnel Committee also undertook a review of the performance metrics used for our LTI and STI and decided to propose some changes for 2025 to ensure our incentive plans continue to support the business strategy and growth over the next three years. Our 2025 incentive plans for the President and CEO and the rest of the GLT will follow the structure set out below.

Delivering the next year's step in the strategic plan – STI

Comparable Operating Profit 60% ⁽¹⁾	Cash Release 20%
Continued focus on profitability	Achieve a strong cash position
Health & Safety 10% – Lost Time Injury Frequency Rate (with a fatality modifier)	Women in leadership 5% Women in workforce 5%
Deliver on our focus on the continued health and safety of our employees	Deliver on our commitment to become a more diverse employer

Delivering sustainable value – LTI

50% relative TSR, 40% cumulative reported EPS (adjusted for impairments and M&A), 10% carbon emission reduction (scope 1, 2 and 3)

A more rounded and balanced approach reflecting performance over the long term in growing the business and in delivering shareholder value whilst working towards our 2030 goal of 50% carbon emission reduction

The gender diversity metric for 2025 STI will be changed from female percentage in external hiring to two equally weighted metrics of women in leadership and women in workforce, as we prioritize female development in leadership and throughout the employee experience to drive diversity of decision making which will lead to stronger company performance.

Our other ESG-related focus and commitment is reflected in the continued use of the health & safety metric with a fatality modifier and the carbon emission reduction scope 1, 2 and 3 targets.

Share ownership requirement

Our President and CEO is required to hold Nokia shares equivalent to three times his annual base salary. Pekka Lundmark currently maintains a total shareholding which significantly exceeds the requirement. This demonstrates his commitment to and alignment with Nokia's long-term success and our shareholder interests.

Conclusions

Remuneration outcomes for 2024 reflect our resilient performance despite the challenges during the year and demonstrate our remuneration philosophy of pay for performance. The proposed Remuneration Policy amendments build on what has proved to be a successful remuneration strategy over the years with amendments to support our future growth strategy. I thank shareholders who assisted the Committee in the consultation process, and very much welcome their constructive feedback and support for the proposals. I look forward to your continued support at our 2025 Annual General Meeting.

THOMAS DANNENFELDT,
CHAIR OF THE PERSONNEL COMMITTEE

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measure, refer to the "Alternative performance measures" section.

Remuneration continued

Introduction

This Remuneration Report of Nokia Corporation (the Report) has been approved by the Company's Board of Directors (the Board) to be presented to the Annual General Meeting 2025. The resolution of the Annual General Meeting on the Report is advisory. The Report presents the remuneration of the Board members and the President and CEO for the financial year 2024 in accordance with the Decree of the Finnish Ministry of Finance 608/2019 and the Finnish Corporate Governance Code 2025, as well as other applicable Finnish laws and regulations. The members of the Board and the President and CEO have been remunerated in accordance with our approved Remuneration Policy during the financial year 2024. No temporary or other deviations from the Policy have been made and no clawback provisions have been exercised during the financial year 2024.

In 2024, our remuneration structure promoted the Company's long-term financial success by setting the performance criteria for short- and long-term incentives to support the Company's short- and long-term goals, as well as through shareholding requirements set for the President and CEO, the GLT and the Board members. Aligned with Nokia's pay-for-performance remuneration principle, performance-based remuneration was emphasized over fixed base salary. The setting and application of the performance criteria for incentive programs executed the philosophy of pay-for-performance and supported the delivery of the corporate strategy as well as the creation of long-term sustainable shareholder value.

The table on the right compares the development of the remuneration of our Board of Directors, President and CEO, average employee pay and Company performance over a five-year period.

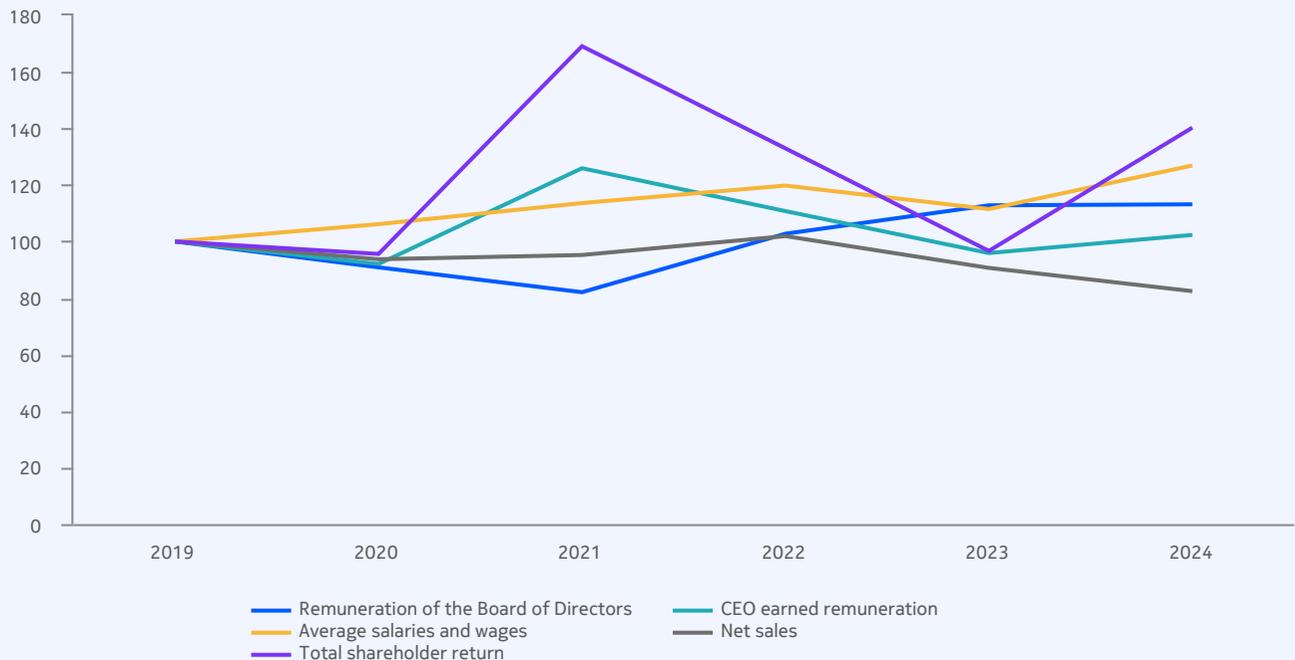
The pay-for-performance remuneration principle applied to the President and CEO, as well as the shareholding requirement of the President and CEO and the Board members, as applicable, contribute to an alignment of interests with shareholders, while also promoting and incentivizing decisions that are in the long-term interest of the Company.

Year	Aggregate remuneration of the Board of Directors (EUR) ⁽¹⁾	President and CEO actual remuneration (EUR) ⁽²⁾	Average salaries and wages (EUR) ⁽³⁾⁽⁵⁾	Net sales (EURm) ⁽⁵⁾	Total shareholder return (rebased to 100 at 31 Dec 2019) ⁽⁴⁾
2020	2 016 000	3 587 781	65 787	21 852	95.60%
2021	1 821 000	4 908 244	70 411	22 202	169.11%
2022	2 280 000	4 316 606	74 241	23 761	132.96%
2023	2 503 000	3 738 560	69 096	21 138	96.68%
2024	2 511 000	3 988 250	78 576	19 220	140.28%

- (1) Aggregate total remuneration paid to the members of the Board during the financial year as annual fee and meeting fee, as applicable, and as approved by general meetings of shareholders. The value depends on the number of members elected to the Board for each term as well as on the composition of the Board committees and travel required. During the term that began from the Annual General Meeting 2021, the Board had eight members only, compared to ten members during the following terms.
- (2) The President and CEO actual remuneration represents the aggregate total of the two President and CEOs in 2020.
- (3) Average salaries and wages are based on average employee numbers and their total salaries and wages as reported in the Company's financial statements.
- (4) Total shareholder return on last trading day of the previous year.
- (5) In June 2024, Nokia classified its Submarine Networks business as a discontinued operation. The comparative amounts for 2023 and 2022 have been recast accordingly.

We also present this data graphically:

Comparative data (rebased year-end 2019 = 100)



Remuneration continued

Pay for performance

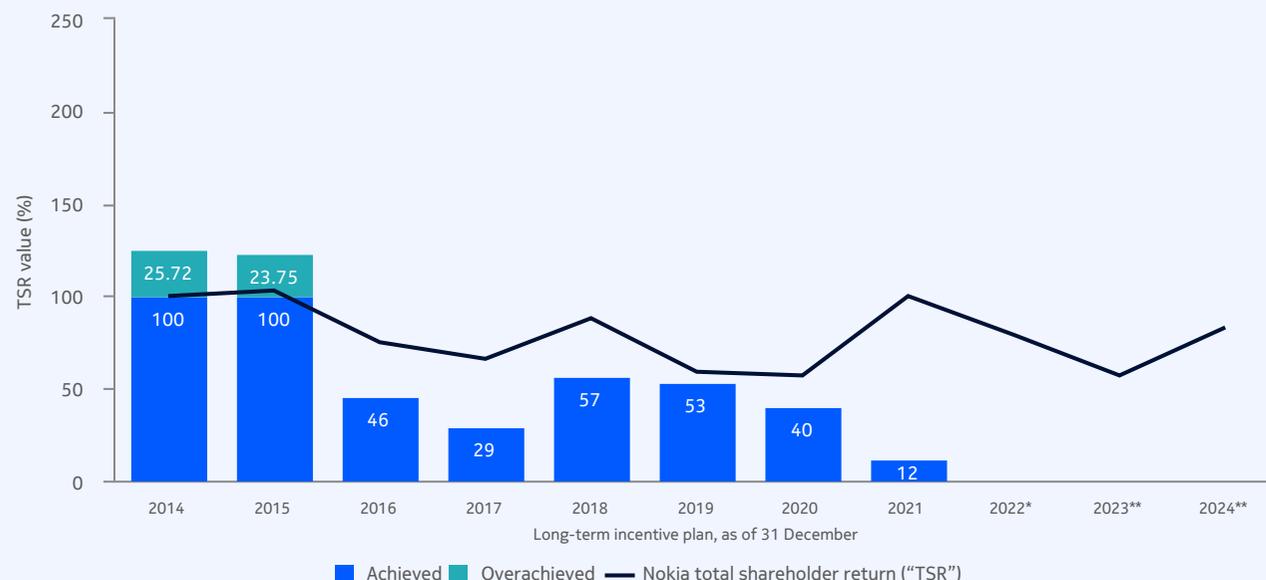
Core to our remuneration philosophy is a desire to pay for performance.

Each year we review overall total shareholder return compared with LTI vesting, mapping the performance of the plans against the total shareholder return curve.

Looking at the performance of our long-term incentive plans against total shareholder return, there is a reasonable alignment with the performance of the plans declining as total shareholder return declines.

The Board continues to actively monitor the performance of our long-term incentive plans to ensure that they deliver value for shareholders.

Share price and total shareholder return vs long-term incentive performance



* 2022 LTI's performance period ended in January 2025. The vesting outcome of this award will be reported in the 2025 Remuneration Report.
 ** 2023 and 2024 LTIs' performance periods are not yet completed.

Global peer group

For 2024, the global peer group used in our remuneration benchmarking and relative TSR performance assessment consists of 27 companies.

ABB	IBM
Adobe	Infineon Technologies
Airbus	Juniper Networks
ASML	Kone
Atos	Motorola Solutions
BAE Systems	NXP Semiconductors
Capgemini	Oracle
Ciena	Philips
Cisco Systems	SAP
Corning	Siemens Healthineers
Dell Technologies	VMware
Ericsson	Vodafone Group
Hewlett Packard Enterprise	Wärtsilä
HP	

Remuneration continued

Remuneration of the Board of Directors

The shareholders resolve annually on director remuneration based on a proposal made by the Board of Directors on the recommendation of the Board's Corporate Governance and Nomination Committee.

The aggregate amount of remuneration paid to the Board members in 2024 equaled EUR 2 511 000 of which EUR 2 390 000 consisted of annual fees and the rest of meeting fees. In accordance with the resolution by the Annual General Meeting 2024, approximately 40% of the annual fee from Board and Board Committee work was paid in Nokia shares purchased from the market on behalf of the Board members following the Annual General Meeting.

The directors shall retain until the end of their directorship such number of shares that corresponds to the number of shares they have received as Board remuneration during their first three years of service on the Board.

The rest of the annual fee was paid in cash, most of which was used to cover taxes arising from the remuneration. All meeting fees were paid in cash.

It is the Company's policy that the non-executive members of the Board do not participate in any of Nokia's equity programs and do not receive performance shares, restricted shares, or any other variable remuneration for their duties as Board members. No such variable remuneration was paid since all persons acting as Board members during the financial year 2024 were non-executive.

Board remuneration for the term that began at the Annual General Meeting held on 3 April 2024 and ends at the close of the Annual General Meeting in 2025 consisted of the following fees.

Annual fee	EUR
Chair	440 000
Vice Chair	210 000
Member	185 000
Chair of Audit Committee	30 000
Member of Audit Committee	15 000
Chair of Personnel Committee	30 000
Member of Personnel Committee	15 000
Chair of Strategy Committee	20 000
Member of Strategy Committee	10 000
Chair of Technology Committee	20 000
Member of Technology Committee	10 000
Meeting fee ⁽¹⁾	EUR
Meeting requiring intercontinental travel	5 000
Meeting requiring continental travel	2 000

(1) Paid for a maximum of seven meetings per term.

The following table outlines the total annual remuneration paid in 2024 to the members of the Board for their services, as resolved by the shareholders at the Annual General Meeting.

	Annual fees (EUR)	Meeting fees (EUR) ⁽¹⁾	Total remuneration paid (EUR)	60% of annual fees and all meeting fees paid in cash (EUR)	40% of annual fees paid in shares (EUR)	Number of shares (approximately 40% of the annual fee)
Sari Baldauf (Chair)	465 000	10 000	475 000	289 000	186 000	52 993
Søren Skou (Vice Chair)	220 000	14 000	234 000	146 000	88 000	25 072
Timo Ahopelto	210 000	10 000	220 000	136 000	84 000	23 932
Elizabeth Crain	220 000	12 000	232 000	144 000	88 000	25 072
Thomas Dannenfeldt	240 000	14 000	254 000	158 000	96 000	27 351
Lisa Hook	210 000	14 000	224 000	140 000	84 000	23 932
Jeanette Horan (until 3 April 2024) ⁽²⁾	—	—	—	—	—	—
Mike McNamara (as of 3 April 2024)	210 000	14 000	224 000	140 000	84 000	23 932
Thomas Saueressig	195 000	14 000	209 000	131 000	78 000	22 223
Carla Smits-Nusteling	215 000	9 000	224 000	138 000	86 000	24 502
Kai Öistämö	205 000	10 000	215 000	133 000	82 000	23 362
Total	2 390 000	121 000	2 511 000	1 555 000	956 000	272 371

(1) Meeting fees include all meeting fees paid for the term that ended at the Annual General Meeting held on 3 April 2024 and meeting fees accrued and paid in 2025 for the term that began at the same meeting.

(2) Stepped down at the Annual General Meeting on 3 April 2024 and received no annual or meeting fees in 2024.

Remuneration continued

Remuneration of the President and CEO

The following table shows the actual remuneration received by Pekka Lundmark in 2024 and 2023. The 2023 LTI figure relates to the vesting of the final tranche of the restricted share award granted to him on joining Nokia in respect of forfeited shares from his previous employer and the vesting of the 2020 LTI performance shares. The 2024 LTI figure relates to the vesting of the 2021 LTI performance shares and the 2021 eLTI matching performance shares.

EUR	2024	Pay mix ⁽¹⁾	2023	Pay mix ⁽¹⁾
Salary	1 410 500	36%	1 322 750	36%
Short-term incentive ⁽²⁾	1 824 834	46%	1 079 695	30%
Long-term incentive	697 872	18%	1 240 359	34%
Other remuneration ⁽³⁾	55 044		95 756	
Total	3 988 250		3 738 560	

(1) Pay mix reflects the proportions of base salary, STI and LTI of total remuneration, excluding other remuneration.

(2) STI represents the amounts earned in respect of financial year 2024, but that are paid in April 2025.

(3) Other remuneration includes benefits such as telephone, car, driver, tax compliance support and medical insurance.

Pursuant to Finnish legislation, Nokia is required to make contributions to the Finnish TyEL pension arrangements in respect of the President and CEO. Such payments can be characterized as defined contribution payments. In 2024, payments to the Finnish state pension system equaled EUR 310 937 for Pekka Lundmark in respect of his service as President and CEO (EUR 422 274 for Pekka Lundmark in 2023). No supplementary pension arrangements were offered.

2024 Short-term Incentive of the President and CEO

Targets for the STI are set annually at or before the start of the year (adjusted for M&A activities), balancing the need to deliver value with the need to motivate and drive the performance of the Executive Team. Targets are determined for a set of strategic metrics that align with driving sustainable value for shareholders and are set in the context of market expectations and analyst consensus forecasts. For 2024, Pekka Lundmark had a target STI opportunity of 125% of annual base salary. His 2024 STI framework was based on a scorecard of financial and ESG objectives. Achievements against the 2024 targets are set out in the table below. The outcomes for the financial metrics and the gender diversity metric were calculated based on the formulaic approach. The health & safety metric, lost time injury frequency rate, achieved an outcome of 123% of target. However, as a result of eight fatalities within Nokia's control during the year, the Board exercised downward discretion to apply the fatality modifier to reduce the payout under this element by 50%, which resulted in the final outcome of 62% for this metric.

Metric	Weight	Target	2024 performance outcome	2024 STI outcome (% of target)
Comparable operating profit ⁽¹⁾	60%	EUR 2 782 million	EUR 2 619m	83%
Cash release	20%	EUR -1 115 million	EUR 1 149m	225%
Diversity	10%	Female percentage of global external hires of 29%	28%	25%
Health & safety	10%	<ul style="list-style-type: none"> ■ Employee lost time injury frequency rate (LTIFR) of 0.089 ■ Fatality modifier (downward discretion in the event of fatalities) 	LTIFR of 0.085 with 8 fatalities	62%
Total STI outcome	100%			104%

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measure, refer to the "Alternative performance measures" section.

Accordingly, the total 2024 STI payout for Pekka Lundmark as the President and CEO was EUR 1 824 834.

Remuneration continued

Long-term Incentive awards granted to the President and CEO during 2024

In 2024, Pekka Lundmark was granted the following LTI (performance share) awards.

Targets for our LTI performance shares are set in a similar context to the STI. The performance shares targets are set at the start of the performance period and locked in for the life of the plan. The performance conditions for the 2024 performance shares are based on 50% relative TSR against our global peer group⁽¹⁾, 40% cumulative earnings per share (EPS) and 10% carbon emission reduction targets over the three-year performance period from 2024 to 2027. The targets for all metrics and the performance and vesting outcomes will be disclosed in the 2027 Remuneration Report.

Performance share awards ⁽¹⁾⁽²⁾	Units awarded	Grant date face value ⁽³⁾ (EUR)	Grant date	Vesting
2024 LTI performance shares	834 600	3 012 906	5 July 2024	Q3 2027

(1) Global peer group consisted of 27 companies (see details under the "Global peer group" section).

(2) The maximum vesting is 200% if stretch performance targets are met.

(3) Grant date face value was calculated using the closing price of EUR 3.61 on the date of grant.

During 2024, Pekka Lundmark was also invited to participate in the co-investment eLTI, under which he invested EUR 2.8 million in Nokia shares and received two-for-one matching performance shares in return. 50% of the matching performance shares were subject to the same performance conditions as set out above and the remaining 50% were subject to the delivery of a strategic project for Nokia in the next few years. The eLTI matching performance shares also have a three-year performance and vesting period. The targets for all metrics and the performance and vesting outcomes will be disclosed in the 2027 Remuneration Report.

Performance share awards	Units awarded	Grant date face value ⁽¹⁾ (EUR)	Grant date	Vesting
2024 eLTI matching performance shares	1 704 530	6 289 716	16 August 2024	Q3 2027

(1) Grant date face value was calculated using the closing price of EUR 3.69 on the date of grant.

Long-term Incentive awards and other equity awards vested for the President and CEO during 2024

Pekka Lundmark was granted LTI performance share award in March 2021 and eLTI matching performance shares in July 2021. Both awards had a three-year performance period and were subject to dividend adjusted share price targets over the performance period. These awards vested during 2024 as set out in the tables below.

Share awards vesting during the year	Units awarded	Target share price (EUR)	Share price achievement (EUR)	Vesting outcome (% of target)	Units vested	Value of vested award ⁽¹⁾ (EUR)
2021 LTI performance shares	769 200	4.47	3.66	12.0%	92 304	297 219

Share awards vesting during the year	Units awarded	Target share price (EUR)	Share price achievement (EUR)	Vesting outcome (% of target)	Units vested	Value of vested award ⁽²⁾ (EUR)
2021 eLTI matching performance shares	962 180	4.47	3.66	12.0%	115 462	400 653

(1) The vesting value of the 2021 LTI performance shares was calculated using the average share price of EUR 3.22 on 10 April 2024, the day before the share delivery date.

(2) The vesting value of the 2021 eLTI matching performance shares was calculated using the average share price of EUR 3.47 on 26 June 2024, the day before the share delivery date.

Remuneration continued

The President and CEO's share ownership and unvested share awards

Our share ownership policy requires that the President and CEO holds a minimum of three times his or her annual base salary in Nokia shares in order to ensure alignment with shareholder interests over the long term. Pekka Lundmark significantly exceeds this requirement with a holding of 394%⁽³⁾ well within the five-year allotted period.

Pekka Lundmark	Units	Value ⁽¹⁾ (EUR)
Beneficially owned shares at 31 December 2024	1 573 826	6 720 237
Unvested shares under outstanding Nokia equity plans ⁽²⁾	3 718 730	15 878 977
Total	5 292 556	22 599 214

(1) The values are based on the closing price of a Nokia share of EUR 4.27 on Nasdaq Helsinki on 30 December 2024.

(2) The number of units represents the number of unvested awards as of 31 December 2024.

(3) Shareholding of 394% of annual base salary as of 15 November 2024, using 12-month average share price.

The President and CEO's termination provisions 2024

Termination by	Reason	Notice	Compensation
Nokia	Cause	None	The President and CEO is entitled to no additional remuneration and all unvested equity awards would be forfeited after termination.
Nokia	Reasons other than cause	Up to 12 months	The President and CEO is entitled to a severance payment equaling up to 12 months' remuneration (including annual base salary, benefits, and target short-term incentive) and unvested equity awards would be forfeited after termination, unless the Board determines otherwise.
President and CEO	Any reason	12 months	The President and CEO may terminate his service agreement at any time with 12 months' notice. The President and CEO would either continue to receive salary and benefits during the notice period or, at Nokia's discretion, a lump sum of equivalent value. Additionally, the President and CEO would be entitled to any short- or long-term incentives that would normally vest during the notice period. Any unvested equity awards would be forfeited after termination, except in the event of death, permanent disability and retirement, and unless the Board determines otherwise.
President and CEO	Nokia's material breach of the service agreement	Up to 12 months	In the event that the President and CEO terminates his service agreement based on a final arbitration award demonstrating Nokia's material breach of the service agreement, he is entitled to a severance payment equaling up to 12 months' remuneration (including annual base salary, benefits and target incentive). Any unvested equity awards would be forfeited after termination.

The President and CEO is subject to a 12-month non-competition and non-solicit obligation that applies after the termination of the service agreement or the date when he is released from his obligations and responsibilities, whichever occurs earlier.

Remuneration continued

Remuneration Policy

Nokia Corporation's Remuneration Policy, which applies to the governing bodies of the Company, i.e. the Board of Directors and the President and CEO, was approved by shareholders at the Annual General Meeting 2024, receiving 90.55% of votes in favor. During 2024, the Board's Personnel Committee continued to monitor the developments in shareholder expectations and market conditions. Following which, on the recommendation of the Personnel Committee, the Board decided to propose further amendments to the Policy to ensure it supports Nokia's future growth strategy, to further align with best global market practices, to incentivize longer-term decision making for sustainable shareholder value creation and to help with retention.

The key changes to the Policy are as follows:

- Clarification that malus provisions shall apply to all the President and CEO's incentive plans with the same trigger events as for clawback provisions; and
- Introduction of the possibility to grant restricted share awards to the President and CEO of up to 100% of annual base salary, vesting after a minimum of three years, subject to financial underpins and continued service.

This section sets out the updated Policy, which will be submitted to the Annual General Meeting 2025 to be adopted through an advisory vote.

The updated Policy would apply to remuneration in respect of the four-year period from 2025 to 2029, unless presented to the General Meeting at an earlier date with proposed changes.

The updated Remuneration Policy for the Board of Directors

In accordance with the Remuneration Policy, the Board's Corporate Governance and Nomination Committee periodically reviews the remuneration for the Chair and members of the Board against companies of similar size and complexity. The objective of the Corporate Governance and Nomination Committee is to enable Nokia to compete for top-of-class Board competence to maximize value creation for its shareholders. The Committee's aim is that the Company has an efficient Board composed of international professionals representing a diverse and relevant mix of skills, experience, background and other personal qualities. Competitive Board remuneration contributes to the achievement of this target.

The main structure of the Board remuneration as outlined in the Remuneration Policy is set out in the table below.

Fees	<p>Fees consist of annual fees and meeting fees.</p> <p>Approximately 40% of the annual fee is paid in Nokia shares purchased from the market on behalf of the Board members or alternatively delivered as treasury shares held by the Company. The balance is paid in cash, most of which is typically used to cover taxes arising from the paid remuneration.</p> <p>Meeting fees are paid in cash.</p>
Incentives	<p>Non-executive directors are not eligible to participate in any Nokia incentive plans and do not receive performance shares, restricted shares or any other equity-based or other form of variable compensation for their duties as members of the Board.</p>
Pension	<p>Non-executive directors do not participate in any Nokia pension plans.</p>
Share ownership requirement	<p>Members of the Board shall normally retain until the end of their directorship such number of shares that corresponds to the number of shares they have received as Board remuneration during their first three years of service on the Board (the net amount received after deducting those shares needed to offset any costs relating to the acquisition of the shares, including taxes).</p>
Other	<p>Directors are compensated for travel and accommodation expenses as well as other costs directly related to Board and Committee work. These are paid in cash.</p>

Proposals of the Board of Directors to the Annual General Meeting 2025 were published on 30 January 2025. The Corporate Governance and Nomination Committee has resolved to recommend to the Board that the annual fees of Board members would remain at an unchanged level. Consequently, the Board proposes to the Annual General Meeting 2025 that the annual fees payable for a term ending at the close of the next Annual General Meeting be as follows:

- EUR 440 000 for the Chair of the Board;
- EUR 210 000 for the Vice Chair of the Board;
- EUR 185 000 for each member of the Board;
- EUR 30 000 each for the Chairs of the Audit Committee and the Personnel Committee and EUR 20 000 for the Chairs of the Technology Committee and the Strategy Committee as an additional annual fee; and
- EUR 15 000 for each member of the Audit Committee and the Personnel Committee and EUR 10 000 for each member of the Technology Committee and the Strategy Committee as an additional annual fee.

In addition, the Board of Directors proposes that the meeting fees for Board and Committee meetings remain at the current level. The meeting fees are based on potential travel required between the Board member's home location and the location of a meeting and are paid for a maximum of seven meetings per term as follows:

- EUR 5 000 per meeting requiring intercontinental travel; and
- EUR 2 000 per meeting requiring intracontinental travel.

Only one meeting fee is paid if the travel covered by the fee includes several meetings of the Board and its Committees. The Board also proposes that members of the Board shall be compensated for travel and accommodation expenses as well as other costs directly related to Board and Board Committee work.

Remuneration continued

The updated Remuneration Policy for the President and CEO

Remuneration elements	Purpose and link to strategy	Operation including maximum opportunity	Performance metrics
Base salary	To attract and retain individuals with the requisite level of knowledge, skills and experience to lead our businesses	Base salary is normally reviewed annually taking into consideration a variety of factors, including, for example, performance of the Company and the individual, remuneration of our global peer group, changes in individual responsibilities and employee salary increases.	Whilst there are no performance targets attached to the payment of base salary, performance is considered as context in the annual salary review.
Pension	To provide retirement benefit aligned with local country practice	Pension arrangements reflect the relevant market practice and may evolve year on year. The President and CEO may participate in the applicable pension programs available to other executives in the country of employment. Details of the actual pension arrangement will be shown in the annual Remuneration Report. In Finland, the President and CEO participates in the Finnish statutory Employee's Pension Act (TyEL), and there is no supplementary pension plan.	N/A
Other benefits	To provide a competitive level of benefits and to support recruitment and retention	Benefits will be provided in line with local market practice in the country of employment and may evolve year on year. Benefits may include, for example, a company car (or cash equivalent), risk benefits (for example life and disability insurance) and employer contributions to insurance plans (for example medical insurance). Additional benefits and allowances may be offered in certain circumstances such as relocation support, expatriate allowances, and temporary living and transportation expenses aligned with Nokia's mobility policy. The President and CEO is also eligible to participate in similar programs which may be offered to Nokia's other employees such as the voluntary all-employee share purchase plan.	N/A
Short-term incentive (STI)	To incentivize and reward performance against delivery of the annual business plan	STI is based on performance against one-year financial and non-financial targets and normally paid in cash. Minimum payout is 0% of base salary. Target opportunity is 125% of base salary. Maximum opportunity is 281.25% of base salary. The malus and clawback conditions apply in accordance with Company clawback policies.	Performance measures, weightings and targets for the selected measures are set annually by the Board to ensure they continue to support Nokia's short-term business strategy. These measures can vary from year to year to reflect business priorities and may include a balance of financial, key operational and non-financial measures (including but not limited to strategic, customer satisfaction, employee engagement, environmental, social, governance or other sustainability-related measures). Although the performance measures and weighting may differ year to year reflecting the business priorities, in any given year, a minimum of 60% of measures will be based on financial criteria. Targets for the short-term incentives are set at the start of the year, in the context of analyst expectations and the annual plan, selecting measures that align to the delivery of Nokia's strategy. The performance metrics and weightings are disclosed retrospectively in the annual Remuneration Report.
Long-term incentive (LTI) – performance share award	To reward for delivery of sustainable long-term performance, align the President and CEO's interests with those of shareholders, and aid retention	Long-term incentive awards may be made annually in performance shares, vesting normally after three years dependent on the achievement of performance conditions measured over a three-year period. Target award level is 200% of base salary at the date of grant, with maximum vesting of 400% of base salary. The malus and clawback conditions apply in accordance with Company clawback policies.	Performance measures, weightings and target metrics for the selected measures are set by the Board to ensure they continue to support Nokia's long-term business strategy and financial success. Targets are set in the context of Nokia's long-term plans and analyst forecasts, ensuring that they are considered both achievable and sufficiently stretching. The Board may choose different measures and weightings each year based on the business plan. The measures consist of at least 60% financial and/or share price-related measures. The Performance metrics and weightings are disclosed retrospectively in the annual Remuneration Report.

Remuneration continued

Remuneration elements	Purpose and link to strategy	Operation including maximum opportunity	Performance metrics
Long-term incentive (LTI) - restricted share award	To incentivize longer-term decision making for sustainable shareholder value creation and to aid retention	Restricted share awards of up to 100% of base salary may be granted, vesting after at least three years, subject to financial underpins and continued service. The malus and clawback conditions apply in accordance with Company clawback policies.	Financial underpins are determined by the Board to ensure alignment with underlying company performance and shareholder experience. The Board may choose different financial underpins for each grant based on the business plan and strategic priority.
Enhanced LTI (eLTI) – co-investment arrangement	To further align the President and CEO's interests with Nokia's long-term success and shareholder interests	Unlike the LTI performance share award, this is not an annual award and is only granted in exceptional circumstances. The President and CEO may be invited, at the discretion of the Board, to purchase investment shares of up to 200% of base salary, and in return, receive two matching shares for every one investment share purchased. The matching shares are delivered in the form of performance shares, typically subject to the same performance conditions as for the LTI performance share award, with a three-year performance and vesting period. The minimum vesting of the matching shares is 0% of base salary and maximum vesting is two times grant level. The malus and clawback conditions apply in accordance with Company clawback policies.	The performance metrics, targets and weightings for the matching shares are typically the same as those for LTI performance shares granted in the same year.
Shareholding requirement	Align the President and CEO's interests with those of shareholders and ensure any decisions made are in the long-term interest of the Company	The President and CEO is required to build and maintain a shareholding equivalent to 300% of base salary, to be achieved normally within five years of appointment.	N/A

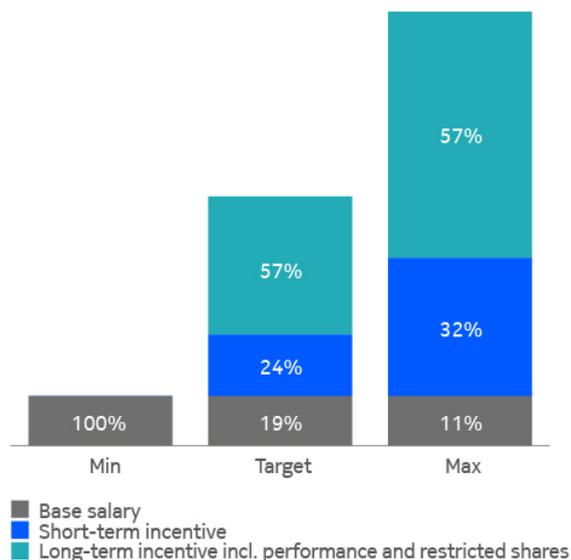
Remuneration continued

Pay mix and remuneration scenarios for the President and CEO

Aligned with Nokia's pay-for-performance remuneration principle, performance-based remuneration is emphasized over base salary. The chart below illustrates how the proportion of the President and CEO's remuneration package varies at the minimum, target and maximum levels of performance. A significant proportion of remuneration is linked to performance, especially at maximum performance levels. Actual pay mix is influenced by the extent to which the performance targets set for the STI and LTI are achieved and may vary from the scenarios below.

The long-term incentive vesting outcomes in the chart below ignore share price movement from grant to vest. The eLTI is not included in this analysis as it is not an annual award and is only granted in exceptional circumstances. The vesting outcome of the matching performance shares under the eLTI would be dependent, besides the performance, on the value of the investment, which could range from 0% to 200% of base salary for the President and CEO. The minimum and maximum vesting levels for the matching performance shares are provided in the above summary table of the remuneration elements.

President and CEO pay mix scenarios



Share ownership requirement

Nokia believes that it is desirable for its executives to own shares in Nokia to align their interests with those of shareholders and to ensure that their decisions are in the long-term interest of the Company. The President and CEO is required to own three times his or her annual base salary in Nokia shares and is given a period of five years from appointment to achieve the required level of share ownership.

Malus and clawback

The malus and clawback conditions apply in accordance with Company's clawback policies to the short- and long-term incentives for all participants, including the President and CEO.

Nokia's Executive Officer Clawback Policy is applied in the case of any erroneously awarded compensation due to restatement in the Company's Financial Statements with a three-year lookback period, resulting in the reclaiming of amounts then-outstanding or previously paid.

Additionally, under the Nokia Incentive Compensation Clawback Policy, unless the Personnel Committee otherwise decides, the recoupment of previously awarded, paid or received compensation is triggered in situations of reputational damage, willful breach of internal control procedures, gross misconduct and restatement of financial statement (clawback triggers) with a recoupment period not exceeding three years in total.

Remuneration on recruitment

Our policy on recruitment is to offer a remuneration package that is sufficient to attract, retain and motivate the individual with the right skills for the required role.

On occasion, we may offer buy-out awards to compensate for a candidate's forfeited awards on leaving a previous employer. Such buy-out awards would, where possible, reflect the nature of the forfeited awards in terms of delivery mechanism, time horizons, attributed expected value and performance conditions.

Termination provisions

In the event of a termination of employment, any payable remuneration is determined in line with legal advice regarding local legislation, country policies, contractual obligations and the rules of the applicable incentive and benefit plans. Payment in lieu of notice will not typically exceed the value of 12 months' remuneration (including base salary, benefits, STI and pension contribution, if applicable). The treatment of equity incentive awards may depend on the circumstances of the departure. In the event of death, permanent disability or retirement, unvested awards are normally allowed to be retained. These awards will vest either on departure or at normal vesting date, subject to performance (if applicable) and time proration, unless the Board of Directors determines otherwise. Current termination provisions of the President and CEO's service agreement are described in the Remuneration Report.

Change of control arrangements, if any, are based on a double trigger structure, which means that both a specified change of control event and termination of the individual's employment must take place for any change of control-based severance payment to materialize.

Remuneration continued

Remuneration governance

We manage our remuneration through clearly defined processes, with well-defined governance principles, ensuring that no individual is involved in the decision making related to their own remuneration, and that there is appropriate oversight of any remuneration decision. Remuneration of the Board is annually presented to shareholders for approval at the Annual General Meeting.

The Board submits its proposal to the Annual General Meeting on the recommendation of the Board's Corporate Governance and Nomination Committee, which actively considers and evaluates the appropriate level and structure of directors' remuneration. Shareholders also authorize the Board to resolve to issue shares, for example to settle Nokia's equity-based incentive plans, based on the proposal of the Board.

The Board of Directors approves, and the independent members of the Board confirm, the remuneration of the President and CEO, upon recommendation of the Personnel Committee.

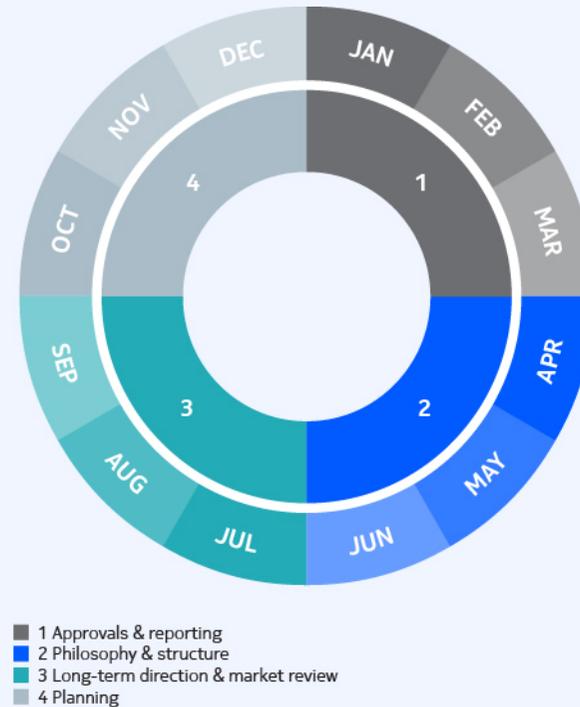
The Personnel Committee consults regularly with the President and CEO and the Chief People Officer. The President and CEO has an active role in the remuneration governance and performance management processes for the GLT and the wider employee population at Nokia. However, the President and CEO or the Chief Personnel Officer are not present when their own remuneration is reviewed or discussed. This enables the Personnel Committee to be mindful of employee pay and conditions across the broader employee population.

The Committee has the power, in its sole discretion, to retain remuneration advisers to assist the Personnel Committee in evaluating executive remuneration. During 2024, the Personnel Committee engaged Willis Towers Watson, an independent external adviser, to assist in the review and determination of executive remuneration and program design, as well as to provide insight into market trends and regulatory developments.

The Personnel Committee Chair regularly engages with shareholders to discuss their views on our remuneration policies, programs and associated disclosures and reflects on their feedback. These insights are taken account of in the Committee's and Board's decision-making process for executive remuneration.

Work of the Personnel Committee

The Personnel Committee convened five times during 2024 with a general theme for each meeting.



January

- 2023 STI performance outcome
- 2024 STI and LTI metrics and target setting
- President and CEO remuneration review
- Equity plan vesting and granting during 2024
- Remuneration Report for 2023

May

- 2024 Annual General Meeting season review
- GLT remuneration review
- Culture update
- GLT succession planning

July

- Remuneration Policy review
- GLT succession planning
- Inflight LTI awards performance update
- Market practice update
- People risks including physical safety review

September

- Nokia Incentive Compensation Clawback Policy review
- Remuneration Policy review
- Workforce demographics
- Personnel Committee adviser selection review

December

- Performance update of 2024 STI and LTI
- Preliminary review of metrics and targets for 2025 STI and LTI
- 2025 equity plan budget and allocation
- Proxy agency and shareholder consultation feedback
- Planning of Remuneration Report for 2024
- GLT Succession planning
- Executive shareholding assessment
- Personnel Committee charter review

Remuneration continued

Remuneration of the Nokia Group
Leadership Team in 2024

The remuneration of the members of the GLT (excluding the President and CEO) consists of base salary, other benefits, and short- and long-term incentives. Short-term incentive plans are based on rewarding the delivery of business performance utilizing certain, or all, of the following metrics as appropriate to the member's role: comparable operating profit⁽¹⁾, cash release and ESG-related measures such as health & safety.

Executives in the GLT are subject to the same remuneration policy framework as the President and CEO. This includes being subject to the malus and clawback conditions and shareholding requirements. The shareholding requirement for members of the GLT is two times their annual base salary, built within a period of five years of their appointment.

At the end of 2024, the Group Leadership Team consisted of 11 persons split between Finland, other European countries and the United States. For information regarding the current Group Leadership Team composition, refer to the Corporate Governance Statement.

Name	Position in 2024	Appointment date
Pekka Lundmark	President and CEO	1 August 2020
Nishant Batra	Chief Strategy and Technology Officer	18 January 2021
Louise Fisk	Chief Communications Officer	18 October 2024
Lorna Gibb	Chief People Officer	13 June 2024
Federico Guillén	President of Network Infrastructure	8 January 2016
Patrik Hammarén	Acting President of Nokia Technologies	18 October 2024
Mikko Hautala	Chief Geopolitical and Government Relations Officer	1 November 2024
Esa Niinimäki	Chief Legal Officer	25 January 2023
Raghav Sahgal	President of Cloud and Network Services	1 June 2020
Tommi Uitto	President of Mobile Networks	31 January 2019
Marco Wirén	Chief Financial Officer	1 September 2020

Remuneration of the Group Leadership Team members in 2024

Remuneration of the Group Leadership Team (excluding the President and CEO) in 2023 and 2024, in the aggregate, was as follows:

EURm ⁽¹⁾	2024	2023
Salary, short-term incentives and other compensation ⁽²⁾	11.3	10.8
Long-term incentives ⁽³⁾	3.9	2.5
Total	15.2	13.3

(1) The values represent each member's time on the Group Leadership Team.

(2) Short-term incentives represent amounts earned in respect of 2024 performance. Other compensation includes mobility-related payments, local benefits and pension costs.

(3) The amounts represent the equity awards that vested in 2024 and 2023.

The members of the Group Leadership Team (excluding the President and CEO) were awarded the following equity awards under the Nokia equity program in 2024:

Award	Units awarded ⁽¹⁾	Grant date fair value (EUR)	Grant date	Vesting
Performance share award ⁽²⁾	7 445 257	27 462 512	5 July 2024, 16 August 2024, 16 December 2024	Q3 & Q4 2027
Restricted share award ⁽³⁾	151 467	626 551	5 July 2024, 11 October 2024, 16 December 2024	Q4 2025, Q4 2026, Q3 2027

(1) Includes units awarded to persons who were Group Leadership Team members during 2024.

(2) The 2024 performance shares have a three-year performance period based on 50% relative total shareholder return, 40% three-year cumulative EPS and 10% carbon emission reduction scope 1, 2 and 3 targets. The maximum payout is 200% subject to maximum performance against the performance criteria. Vesting is subject to continued employment.

(3) Vesting of each tranche of the restricted share awards is conditional on continued employment.

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measure, refer to the "Alternative performance measures" section.

Remuneration continued

Unvested equity awards held by the Group Leadership Team, including the President and CEO

The following table sets forth the potential aggregate ownership interest through the holding of equity-based long-term incentives of the Group Leadership Team in office, including the President and CEO, at 31 December 2024:

	Shares receivable through performance shares at grant	Shares receivable through performance shares at maximum ⁽⁴⁾	Shares receivable through restricted shares
Number of equity awards held by the Group Leadership Team ⁽¹⁾	10 292 949	20 567 565	753 517
% of the outstanding shares ⁽²⁾	0.19%	0.38%	0.01%
% of the total outstanding equity incentives (per instrument) ⁽³⁾	24.59%	25.70%	0.65%

(1) Includes the 11 members of the Group Leadership Team in office at 31 December 2024.

(2) The percentages are calculated in relation to the outstanding number of shares and total voting rights of Nokia at 31 December 2024, excluding shares held by the Nokia Group. No member of the Group Leadership Team owned more than 1% of the outstanding Nokia shares.

(3) The percentages are calculated in relation to the total outstanding equity incentives per instrument.

(4) At maximum performance, under the performance share plans outstanding at 31 December 2024, the payout would be 200% and the table reflects this potential maximum payout.

Employee Share Purchase Plan

All eligible Nokia employees, including the President and CEO and our GLT members, can participate in the Employee Share Purchase Plan, by making contributions from their monthly net salaries (up to a cap) to purchase Nokia shares at market value. Participants will receive one matching share for every two purchased shares they still hold at the end of the applicable annual plan cycle. Until the matching shares are delivered, the participants have no shareholder rights, such as voting or dividend rights associated with the matching shares.

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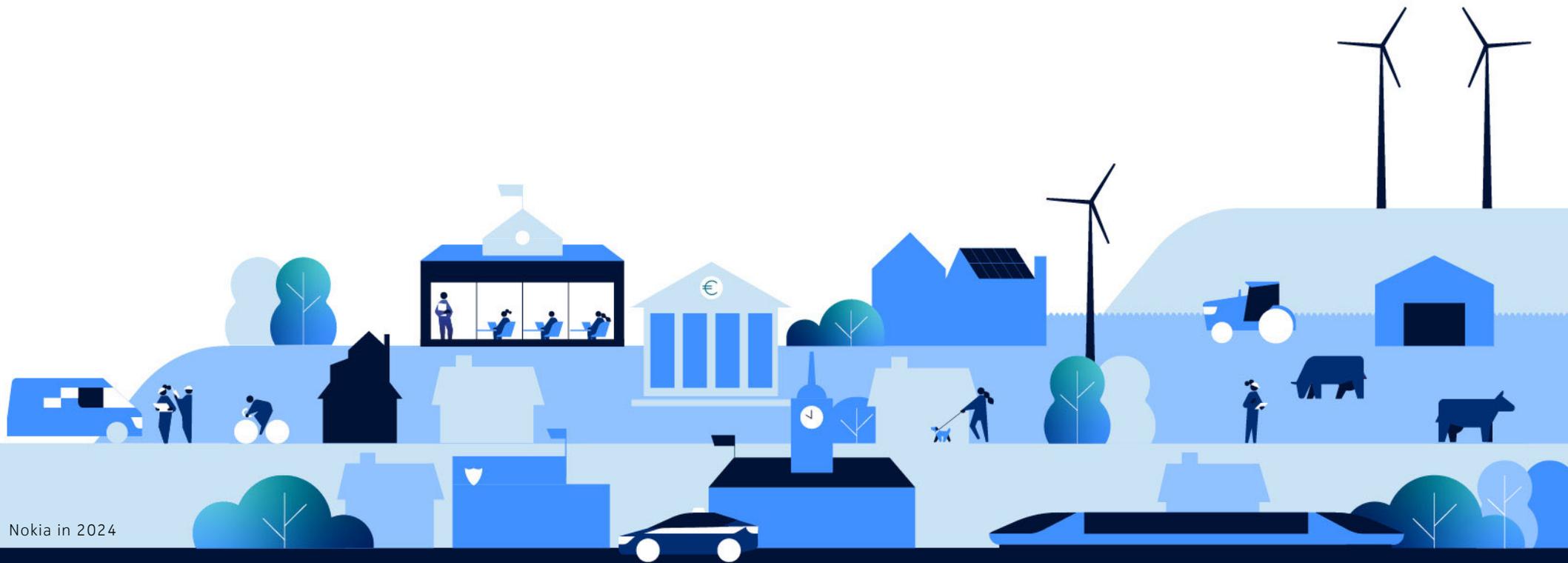
Business description

Business description

Nokia Corporation is a public limited liability company incorporated and domiciled in Helsinki, Finland. Nokia Corporation is the parent company (Parent Company or Parent) for all its subsidiaries (Nokia or the Group).

At Nokia, we create technology that helps the world act together. We provide mobile, fixed and cloud network solutions that enable critical networks for communications service providers, enterprise verticals and hyperscalers. Our portfolio of products, services and licensing opportunities helps accelerate digitalization to address global sustainability, productivity and accessibility challenges. We have customers in more than 100 countries around the world and operations in Europe, the Middle East & Africa, Greater China, North America, Asia-Pacific and Latin America.

The shares of Nokia Corporation are listed on the Nasdaq Helsinki Stock Exchange, the New York Stock Exchange and the Euronext Paris Stock Exchange.



Board's review 2024

Board's review 2024

Geopolitical tensions and macroeconomic challenges continued to impact our operating environment in 2024 even though there were some signs of moderation in the form of stabilizing inflation and interest rates. The ongoing volatility in our operating environment underscores the need to remain agile and take proactive action to positively shape our markets.

In 2024, Nokia took many steps to ensure it could best serve its customers and position the business for new opportunities. We continued to invest over EUR 4 billion annually in R&D to strengthen our technology leadership. We also continued to make strategic investments in growth areas. For instance, the acquisition of Infinera, which closed in February 2025, and the acquisition of Fenix improve Nokia's offer and position with data center and defense customers respectively, and the divestments of certain parts of the portfolio, including Submarine Networks, enable a closer focus on core areas.

Overall, in 2024 Nokia continued to make good progress in strengthening its position across CSP markets and in repositioning itself for growth opportunities in new areas, including data centers, private wireless and industrial edge, and defense.

Seizing the opportunities of AI, cloud and digitalization

Nokia's renewed focus on technology leadership in recent years sees the company well positioned to capitalize on the opportunities the AI era is creating. Its products and solutions are central to AI, cloud computing and industrial digitalization. These three critical – and intertwined – technological trends can help improve productivity, economic growth, public services, safety and sustainability. But for that to happen, the underlying networks that underpin AI, cloud and digitalization need to evolve to become more flexible, automated, intelligent and programmable. This, in turn, will create growth opportunities for Nokia and its customers and partners.

The Board welcomed Nokia's achievements in leading this network evolution in 2024: pushing the boundaries of broadband, IP and optical networks; pioneering new Cloud RAN and AI-RAN solutions; leading the industry on 5G standalone

core, programmable networks and APIs; strengthening its intellectual property and patent portfolio; and making new technological breakthroughs, including the world's first immersive voice and audio call. In addition, the award-winning Nokia Bell Labs remained at the forefront of 6G, AI and quantum innovation.

The Board believes that Nokia's continued excellence in technological innovation will be crucial in repositioning the company for growth and in seizing the opportunities that the AI era is creating.

The Board's work in 2024

The 2024 Annual General Meeting (AGM) took place in Helsinki on 3 April 2024. We were delighted that approximately 78 000 shareholders, representing approximately 3 305 million shares and approximately 59% of all shares and votes, were represented at the meeting. The AGM approved all the proposals of the Board and elected 10 members to the Board, including one new member: Mike McNamara. We were pleased to see the high number of votes cast as well as the strong shareholder support received for the Board's proposals.

During 2024 the Board held 20 meetings, 12 of which were in-person or via videoconferencing. The Board's meetings focused on the following strategic priorities for Nokia: growing its CSP business faster than the market, expanding the share of enterprise business, actively managing its portfolio, securing the business longevity of Nokia Technologies, and building new business models. In parallel, the Board focused on the enablers of those priorities, including digitalization and long-term research.

In April 2024, the Board of Directors established a new Strategy Committee, adding a fifth committee to the four existing ones: the Audit, Corporate Governance and Nomination, Personnel, and Technology committees. During the year, the committees were effective in supporting the Board's work, with a total of 27 meetings held. ESG matters continued to be an integral part of the committees' activities in their respective areas of responsibility, with a focus on human capital, compliance, security, energy efficiency, climate and sustainability reporting.

The Corporate Governance and Nomination Committee continued to work on the succession planning and renewal of the Board, and the proposal to the AGM 2025 includes two new Board member candidates: Pernille Erenbjerg and Timo Ihamuotila.

Leadership transition and looking ahead

In February 2025, Nokia announced a leadership transition with Pekka Lundmark stepping down and Justin Hotard becoming President and CEO of Nokia from 1 April.

The Board would like to thank Lundmark for his significant contributions to Nokia – he will leave with our highest respect. The planning for this leadership transition was initiated when Lundmark indicated to the Board in spring 2024 that he would like to consider moving on from executive roles when the repositioning of the business was in a more advanced stage, and when the right successor had been identified. Now, both of those conditions have been met, and he has decided to step down.

Lundmark joined at a difficult time in Nokia's history. Under his tenure, Nokia has re-established its technology leadership in 5G radio networks and built a strong position in cloud-native core networks. Network Infrastructure has delivered growth and significant profit improvement, and Nokia has secured the longevity of its patent licensing business. At the same time, Nokia has built strong foundations in new growth areas.

The Board believes Hotard has the strategic insight, vision, leadership and value creation mindset to take Nokia's transformation journey further. We look forward to working with him to accelerate Nokia's growth.

We would also like to express our gratitude to Nokia's employees for their commitment in ensuring that Nokia delivered for its customers, partners and shareholders.

Selected financial data

Selected financial data

The below table presents selected financial and other measures for the Nokia Group as of and for the financial years ended on 31 December 2024, 2023 and 2022. The information has been derived from our consolidated financial statements prepared in accordance with IFRS Accounting Standards.

EURm (except for percentage and personnel data)	2024	2023	2022	EURm (except for percentage and personnel data)	2024	2023	2022
From the consolidated income statement				Key financial indicators and ratios			
Net sales	19 220	21 138	23 761	Earnings per share attributable to equity holders of the parent			
Operating profit	1 999	1 661	2 299	Basic earnings per share, EUR			
% of net sales	10.4%	7.9%	9.7%	Continuing operations	0.31	0.11	0.75
Profit before tax	2 091	1 469	2 169	Profit for the year	0.23	0.12	0.76
Profit from continuing operations	1 711	649	4 202	Diluted earnings per share, EUR			
(Loss)/profit from discontinued operations	(427)	30	57	Continuing operations	0.31	0.11	0.74
Profit for the year	1 284	679	4 259	Profit for the year	0.23	0.12	0.75
From the consolidated statement of financial position				Proposed dividend per share, EUR ⁽⁵⁾	0.14	0.13	0.12
Non-current assets	21 162	21 694	22 677	Return on capital employed % ⁽³⁾	9.3%	6.6%	9.5%
Current assets	17 987	18 087	20 266	Return on shareholders' equity % ⁽³⁾	6.2%	3.2%	22.0%
Assets held for sale	—	79	—	Equity ratio % ⁽³⁾	53.0%	51.8%	49.9%
Total assets	39 149	39 860	42 943	Net debt to equity (gearing) % ⁽³⁾	(23.4)%	(21.0)%	(22.2)%
Total shareholders' equity	20 657	20 537	21 333	Cash and cash equivalents	6 623	6 234	5 467
Non-controlling interests	90	91	93	Total cash and interest-bearing financial investments ⁽³⁾	8 741	8 514	9 244
Total equity	20 747	20 628	21 426	Net cash and interest-bearing financial investments ⁽³⁾	4 854	4 323	4 767
Interest-bearing liabilities ⁽¹⁾	3 887	4 191	4 477	Net cash flows from operating activities	2 493	1 317	1 474
Lease liabilities ⁽¹⁾	863	997	1 042	Free cash flow ⁽³⁾	2 021	665	873
Provisions ⁽¹⁾	1 228	1 262	1 435				
Other liabilities ⁽¹⁾	12 424	12 782	14 563				
Total shareholders' equity and liabilities	39 149	39 860	42 943				
Other information							
Research and development expenses ⁽²⁾	(4 512)	(4 277)	(4 503)				
% of net sales	(23.5)%	(20.2)%	(19.0)%				
Capital expenditure ⁽³⁾	(472)	(652)	(601)				
% of net sales	(2.5)%	(3.1)%	(2.5)%				
Personnel expenses ⁽²⁾	7 563	7 294	7 732				
Average number of employees ⁽²⁾	78 434	84 795	85 101				
Order backlog, EUR billion ⁽⁴⁾	20.0	22.0	19.5				

(1) Includes both current and non-current liabilities in the consolidated statement of financial position.

(2) Presented for continuing operations.

(3) Non-IFRS measures. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measures, refer to the "Alternative performance measures" section.

(4) Order backlog includes EUR 1.7 billion in 2023 and EUR 1.6 billion in 2022 related to discontinued operations sold in 2024.

(5) The Board of Directors proposes to the Annual General Meeting to be authorized to decide in its discretion on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity.

Operating and financial review

Operating and financial review

The financial information included in this “Operating and financial review” section as of and for the years ended 31 December 2024 and 2023 has been derived from, and should be read in conjunction with, our consolidated financial statements included in this report.

Results of operations

This “Results of operations” section discusses the results of our continuing operations and discontinued operations. Discontinued operations include the results of the Submarine Networks business which was sold to the French state in 2024.

Cost savings program

On 19 October 2023, Nokia announced actions being taken across business groups to address the challenging market environment that the company faced. The company will reduce its cost base and increase operational efficiency while protecting its R&D capacity and commitment to technology leadership.

Nokia targets to lower its cost base on a gross basis (i.e. before inflation) by between EUR 800 million and EUR 1 200 million by the end of 2026 compared to 2023, assuming on-target variable pay in both periods. This represents a 10-15% reduction in personnel expenses. The program is expected to lead to a 72 000–77 000 employee organization compared to the 86 000 employees Nokia had when the program was announced. The headcount figures represent the originally planned headcount targets and do not take into consideration the completed divestment of Submarine Networks or planned divestments or acquisitions. Actual headcount at 31 December 2024 was 75 600. The actual headcount reflects workforce reductions from the disposal of Submarine Networks which were not factored into the target workforce when the program was announced. The headcount at 31 December 2024 would have been 77 600 had Nokia not disposed of Submarine Networks.

The program is expected to deliver savings on a net basis but the magnitude will depend on inflation. The cost savings are expected to primarily be achieved in Mobile Networks, Cloud and Network Services and Nokia’s corporate functions. One-time restructuring charges and cash outflows of the program are expected to be similar to the annual cost savings achieved.

The current plan envisages achieving gross cost savings of EUR 1 000 million within the 2024–2026 program although this remains subject to change depending on the evolution of end market demand. This includes the expected gross cost savings along with the associated restructuring charges and cash outflows for the program. Nokia expects approximately 70% of the savings to be achieved within operating expenses and 30% within cost of sales. By business group, approximately 50-60% of the savings are expected to be achieved within Mobile Networks, 30% within Cloud and Network Services and the remaining 10-20% between Network Infrastructure and corporate center.

The prior cost savings program from 2021 to 2023 is now essentially completed.

Operating and financial review continued

Nokia Group

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the results of Nokia's continuing operations and the percentage of net sales for the years indicated.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales	19 220	100.0%	21 138	100.0%	(9)%
Cost of sales	(10 356)	(53.9)%	(12 592)	(59.6)%	(18)%
Gross profit	8 864	46.1%	8 546	40.4%	4%
Research and development expenses	(4 512)	(23.5)%	(4 277)	(20.2)%	5%
Selling, general and administrative expenses	(2 890)	(15.0)%	(2 878)	(13.6)%	0%
Other operating income and expenses	537	2.8%	270	1.3%	99%
Operating profit	1 999	10.4%	1 661	7.9%	20%
Share of results of associated companies and joint ventures	7	0.0%	(39)	(0.2)%	(118)%
Financial income and expenses	85	0.4%	(153)	(0.7)%	(156)%
Profit before tax	2 091	10.9%	1 469	6.9%	42%
Income tax (expense)/benefit	(380)	(2.0)%	(820)	(3.9)%	(54)%
Profit from continuing operations	1 711	8.9%	649	3.1%	164%
(Loss)/profit from discontinued operations	(427)	(2.2)%	30	0.1%	(1 523)%
Profit for the year	1 284	6.7%	679	3.2%	89%
Attributable to:					
Equity holders of the parent	1 277	6.6%	665	3.1%	92%
Non-controlling interests	7	0.0%	14	0.1%	(50)%

Net sales

Net sales in 2024 were EUR 19 220 million, a decrease of EUR 1 918 million, or 9%, compared to EUR 21 138 million in 2023. Net sales were impacted by challenging market conditions that started in 2023 and persisted through the first half of 2024, despite improving order intake trends in parts of the business. The overall net sales performance reflected declines across Mobile Networks, Network Infrastructure and Cloud and Network Services. This was somewhat offset by strong growth in Nokia Technologies which benefited from the signing of smartphone license agreements throughout the year and related catch-up net sales.

The following table sets forth distribution of net sales by region for the years indicated.

EURm	2024	2023	Change %
Americas	6 276	6 779	(7)%
Latin America	895	1 046	(14)%
North America	5 381	5 733	(6)%
APAC	4 549	6 436	(29)%
Greater China	1 134	1 303	(13)%
India	1 373	2 842	(52)%
Rest of APAC	2 042	2 291	(11)%
EMEA	8 395	7 923	6%
Europe ⁽¹⁾	6 362	5 873	8%
Middle East & Africa	2 033	2 050	(1)%
Total	19 220	21 138	(9)%

(1) All Nokia Technologies IPR and licensing net sales are allocated to Finland.

The following table sets forth distribution of net sales by customer type for the years indicated.

EURm	2024	2023	Change %
Communications service providers	15 085	17 652	(15)%
Enterprise	2 180	2 282	(4)%
Licensees	1 928	1 085	78%
Other ⁽¹⁾	27	119	(77)%
Total	19 220	21 138	(9)%

(1) Includes net sales of Radio Frequency Systems (RFS), which had been managed as a separate entity and was substantially divested in 2024, and certain other items, such as eliminations of inter-segment revenues. RFS net sales also include revenue from communications service providers and enterprise customers.

Gross profit

Gross profit in 2024 was EUR 8 864 million, an increase of EUR 318 million, or 4%, compared to EUR 8 546 million in 2023. The increase in gross profit was mainly attributable to the strong net sales growth in Nokia Technologies. Gross profit in 2024 also reflected relatively stable restructuring and associated charges, which amounted to EUR 155 million in 2024, compared to EUR 151 million in 2023. In 2024, variable pay accruals within cost of sales were higher, compared to 2023. Gross margin in 2024 was 46.1%, compared to 40.4% in 2023.

Operating expenses

Our research and development expenses in 2024 were EUR 4 512 million, an increase of EUR 235 million, or 5%, compared to EUR 4 277 million in 2023. Research and development expenses represented 23.5% of our net sales in 2024 compared to 20.2% in 2023. The increase in research and development expenses was primarily attributable to higher variable pay accruals in 2024, compared to 2023. Research and development expenses in 2024 also reflected higher restructuring and associated charges, which amounted to EUR 135 million in 2024, compared to EUR 61 million in 2023.

Operating and financial review continued

Our selling, general and administrative expenses in 2024 were EUR 2 890 million, an increase of EUR 12 million compared to EUR 2 878 million in 2023. Selling, general and administrative expenses represented 15.0% of our net sales in 2024 compared to 13.6% in 2023. The slight increase in selling, general and administrative expenses was mainly driven by higher variable pay accruals in 2024, compared to 2023, as well as the negative impact from foreign exchange rate fluctuations. This was somewhat offset by ongoing cost savings actions. The selling, general and administrative expenses in 2024 also reflected relatively stable restructuring and associated charges and amortization of acquired intangible assets. 2024 included restructuring and associated charges of EUR 144 million, compared to EUR 138 million in 2023. In 2024, selling, general and administrative expenses included amortization of acquired intangible assets of EUR 294 million, compared to EUR 292 million in 2023.

Other operating income and expenses in 2024 was a net income of EUR 537 million, an improvement of EUR 267 million, compared to a net income of EUR 270 million in 2023. The improvement in other operating income and expenses was primarily driven by EUR 190 million of income related to the divestment of associates, a positive fluctuation in loss allowances on certain trade receivables and higher gains related to Nokia's venture fund investments, somewhat offset by the negative impact from hedging, the EUR 49 million reversal of a provision that benefited 2023 and lower sales of digital assets. Nokia's venture fund investments generated a benefit of approximately EUR 30 million in 2024 compared to a loss of EUR 70 million in 2023. The impact of hedging was positive EUR 23 million in 2024, compared to a positive impact of EUR 94 million in 2023.

Operating profit

Our operating profit in 2024 was EUR 1 999 million, an increase of EUR 338 million, compared to an operating profit of EUR 1 661 million in 2023. The increase in operating profit was due to higher gross profit and the net positive fluctuation in other operating income and expenses, somewhat offset by higher research and development expenses and selling, general and administrative expenses. Our operating margin in 2024 was 10.4%, compared to 7.9% in 2023.

Financial income and expenses

Financial income and expenses were a net income of EUR 85 million in 2024, a positive fluctuation of EUR 238 million, compared to a net expense of EUR 153 million in 2023. The net positive fluctuation in financial income and expenses mainly resulted from a EUR 208 million positive fluctuation in net foreign exchange gains and losses, EUR 79 million of higher interest income and EUR 30 million of lower interest expenses. These were partially offset by the EUR 79 million fair value reduction of current equity investments in Vodafone Idea.

Profit before tax

Our profit before tax in 2024 was EUR 2 091 million, an increase of EUR 622 million compared to EUR 1 469 million in 2023.

Income tax

Income taxes were a net expense of EUR 380 million in 2024, a net positive fluctuation of EUR 440 million compared to a net expense of EUR 820 million in 2023. The positive fluctuation in net income taxes was primarily attributable a non-recurring tax expense of EUR 392 million related to an internal operating model change that led to a remeasurement of a deferred tax asset that negatively impacted 2023. For more details on these items, please refer to Note 2.5. Income taxes in our consolidated financial statements.

Profit from continuing operations

The profit from continuing operations in 2024 was EUR 1 711 million, an increase of EUR 1 062 million, compared to a profit of EUR 649 million in 2023. The change was due to the higher operating profit, the lower income tax expenses and the net positive fluctuation in financial income and expenses.

Our EPS from continuing operations in 2024 was EUR 0.31 (basic) and EUR 0.31 (diluted) compared to EUR 0.11 (basic) and EUR 0.11 (diluted) in 2023.

Loss/profit from discontinued operations

The loss from discontinued operations in 2024 was EUR 427 million, a change of EUR 457 million, compared to a profit of EUR 30 million in 2023. For more detailed discussion of results of discontinued operations, refer to Discontinued operations section below.

Profit for the year

The profit for the year in 2024 was EUR 1 284 million, an increase of EUR 605 million, compared to a profit of EUR 679 million in 2023. The change in profit for the year was primarily due to the higher profit from continuing operations, somewhat offset by higher losses from discontinued operations.

Our EPS in 2024 was EUR 0.23 (basic) and EUR 0.23 (diluted) compared to EUR 0.12 (basic) and EUR 0.12 (diluted) in 2023.

Order backlog

At 31 December 2024, the order backlog amounted to EUR 20.0 billion compared to EUR 22.0 billion, of which EUR 1.7 billion related to discontinued operations sold in 2024, at 31 December 2023. The slight decline in order backlog year-on-year primarily related to the timing of multi-year orders within Mobile Networks while order backlog increased within Network Infrastructure. Management has estimated that the order backlog will be recognized as revenue as follows:

	2024	2023
Within 1 year	53%	51%
2-3 years	27%	30%
More than 3 years	20%	19%
Total	100%	100%

Operating and financial review continued

Discontinued operations

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the results for discontinued operations, and the percentage of net sales for the years indicated. On 27 June 2024, Nokia announced it had entered into a put option agreement to sell its wholly owned subsidiary Alcatel Submarine Networks (ASN) to the French State. As a result, Nokia classified the Submarine Networks business as a discontinued operation and recast the comparative amounts accordingly. The sale was completed on 31 December 2024.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales	1 059	100.0%	1 120	100.0%	(5)%
Expenses	(989)	(93.4)%	(1 090)	(97.3)%	(9)%
Operating profit	70	6.6%	30	2.7%	133%
Financial income and expenses	(7)	(0.7)%	5	0.4%	(240)%
Impairment loss recognized on the remeasurement to fair value less costs to sell	(514)	(48.5)%	—	0.0%	0%
Gain on sale	29	2.7%	—	0.0%	0%
(Loss)/profit from discontinued operations before tax	(422)	(39.8)%	35	3.1%	(1 306)%
Income tax expense	(5)	(0.5)%	(5)	(0.4)%	0%
(Loss)/profit from discontinued operations⁽¹⁾	(427)	(40.3)%	30	2.7%	(1 523)%

(1) Loss/profit from discontinued operations is attributable to the equity holders of the parent in its entirety.

Net sales

Discontinued operations net sales in 2024 were EUR 1059 million, a decrease of EUR 61 million, or 5%, compared to EUR 1 120 million in 2023.

Operating profit

Discontinued operations operating profit in 2024 was EUR 70 million, an increase of EUR 40 million, compared to an operating profit of EUR 30 million in 2023. The improved operating profit mainly reflected lower overall expenses in 2024 compared to 2023, particularly within cost of sales.

Loss/profit before tax

Discontinued operations loss before tax in 2024 was EUR 422 million, a decrease of EUR 457 million, compared to a profit before tax of EUR 35 million in 2023. This mainly reflected an impairment loss booked in 2024 related to the difference between the carrying amount of the Submarine Networks business and the expected proceeds from the sale of the business. This was somewhat offset by the gain related to the sale of the business.

Loss/profit

Discontinued operations loss in 2024 was EUR 427 million, a change of EUR 457 million compared to a profit of EUR 30 million in 2023. EPS from discontinued operations in 2024 was negative EUR 0.08 (basic) and negative EUR 0.08 (diluted) compared to EUR 0.01 (basic) and EUR 0.01 (diluted) in 2023.

Operating and financial review continued

Results of segments

In 2024, we had four operating and reportable segments for financial reporting purposes: (1) Network Infrastructure, (2) Mobile Networks, (3) Cloud and Network Services and (4) Nokia Technologies. We also present segment-level information for Group Common and Other. The amounts presented in this “Results of segments” section for each reportable segment and Group Common and Other represent the amounts reported to the management for the purpose of assessing performance and making decisions about resource allocation. Certain costs and revenue adjustments are not allocated to the segments for this purpose. For more information on our operational and reporting structure as well as the reconciliation of reportable segment measures to those of the Nokia Group, refer to Note 2.2. Segment information, in the consolidated financial statements.

Network Infrastructure

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the segment operating results and the percentage of net sales for the years indicated.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales⁽¹⁾	6 518	100.0%	6 917	100.0%	(6)%
Cost of sales	(3 781)	(58.0)%	(4 007)	(57.9)%	(6)%
Gross profit	2 737	42.0%	2 910	42.1%	(6)%
Research and development expenses	(1 207)	(18.5)%	(1 212)	(17.5)%	0%
Selling, general and administrative expenses	(815)	(12.5)%	(775)	(11.2)%	5%
Other operating income and expenses	46	0.7%	93	1.3%	(51)%
Operating profit	761	11.7%	1 016	14.7%	(25)%

(1) In 2024, net sales include IP Networks net sales of EUR 2 583 million, Optical Networks net sales of EUR 1 636 million and Fixed Networks net sales of EUR 2 299 million. In 2023, net sales include IP Networks net sales of EUR 2 606 million, Optical Networks net sales of EUR 1 942 million and Fixed Networks net sales of EUR 2 369 million.

Net sales

Network Infrastructure net sales in 2024 were EUR 6 518 million, a decrease of EUR 399 million, or 6%, compared to EUR 6 917 million in 2023. The decrease reflected declines across all businesses but did show signs of improving market demand through the year.

IP Networks net sales were EUR 2 583 million in 2024, a decrease of EUR 23 million, or 1%, compared to EUR 2 606 million in 2023. Net sales in IP Networks decreased in 2024, as growth in the Americas region, particularly in North America, was more than offset by declines elsewhere. IP Networks also saw continued growth with both webscale and enterprise customers.

Optical Networks net sales were EUR 1 636 million in 2024, a decrease of EUR 306 million, or 16%, compared to EUR 1 942 million in 2023. Net sales declined as the pace of the optical market recovery continues to be slower than the rest of the Network Infrastructure markets. From a regional perspective, net sales declined across regions, with particular weakness in Europe in the EMEA region and India within the APAC region.

Fixed Networks net sales were EUR 2 299 million in 2024, a decrease of EUR 70 million, or 3%, compared to EUR 2 369 million in 2023. The decline in Fixed Networks net sales reflected declines in the EMEA region, particularly in Europe while North America, within the Americas region declined slightly as customer spending improved through the year. This was somewhat offset by growth in India, with the APAC region, as fixed wireless access deployments ramped.

The following table sets forth distribution of net sales by region for the years indicated.

EURm	2024	2023	Change %
Americas	2 726	2 813	(3)%
APAC	1 426	1 580	(10)%
EMEA	2 366	2 524	(6)%
Total	6 518	6 917	(6)%

Gross profit

Network Infrastructure gross profit in 2024 was EUR 2 737 million, a decrease of EUR 173 million, or 6%, compared to EUR 2 910 million in 2023. Network Infrastructure gross margin in 2024 was 42.0%, compared to 42.1% in 2023. Network Infrastructure gross profit declined while gross margin was stable, largely reflecting favorable mix shift despite the decline in net sales.

Operating expenses

Network Infrastructure research and development expenses were EUR 1 207 million in 2024, a decrease of EUR 5 million, or flat compared to EUR 1 212 million in 2023. The slight decrease in research and development expenses largely reflected the impact of foreign exchange rate fluctuations.

Network Infrastructure selling, general and administrative expenses were EUR 815 million in 2024, an increase of EUR 40 million, or 5%, compared to EUR 775 million in 2023. The increase in Network Infrastructure selling, general and administrative expenses largely reflected increased expenses and higher variable pay accruals, somewhat offset by the impact of foreign exchange rate fluctuations.

Network Infrastructure other operating income and expenses was an income of EUR 46 million in 2024, a change of EUR 47 million compared to an income of EUR 93 million in 2023. The change in other operating income and expenses was mainly due to the lower proceeds from the sale of digital assets and a negative fluctuation related to foreign exchange hedging.

Operating profit

Network Infrastructure operating profit was EUR 761 million in 2024, a decrease of EUR 255 million, or 25%, compared to EUR 1 016 million in 2023. Network Infrastructure operating margin in 2024 was 11.7%, compared to 14.7% in 2023.

Operating and financial review continued

Mobile Networks

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the segment operating results and the percentage of net sales for the years indicated.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales	7 725	100.0%	9 797	100.0%	(21)%
Cost of sales	(4 584)	(59.3)%	(6 364)	(65.0)%	(28)%
Gross profit	3 141	40.7%	3 433	35.0%	(9)%
Research and development expenses	(2 154)	(27.9)%	(2 010)	(20.5)%	7%
Selling, general and administrative expenses	(727)	(9.4)%	(822)	(8.4)%	(12)%
Other operating income and expenses	149	1.9%	122	1.2%	22%
Operating profit	409	5.3%	723	7.4%	(43)%

Net sales

Mobile Networks net sales in 2024 were EUR 7 725 million, a decrease of EUR 2 072 million, or 21%, compared to EUR 9 797 million in 2023. The decline in Mobile Networks net sales in 2024 was mainly driven by weakness in India, within the APAC region, as the pace of 5G deployments moderated in India after significant investments in 2023. Net sales in the America's region also declined primarily due to North America, where demand remained weak due to current low levels of deployment activity along with lower market share at one North American customer. In the second quarter, Nokia resolved its outstanding negotiation with AT&T, who decided to proceed with an alternative RAN vendor for commercial reasons. Part of this resolution led to a benefit of EUR 150 million of accelerated revenue recognition.

The following table sets forth distribution of net sales by region for the years indicated.

EURm	2024	2023	Change %
Americas	2 365	2 618	(10)%
APAC	2 461	4 184	(41)%
EMEA	2 899	2 995	(3)%
Total	7 725	9 797	(21)%

Gross profit

Mobile Networks gross profit in 2024 was EUR 3 141 million, a decrease of EUR 292 million, or 9%, compared to EUR 3 433 million in 2023. Mobile Networks gross margin in 2024 was 40.7%, compared to 35.0% in 2023. The decrease in Mobile Networks gross profit was mainly driven by lower net sales and higher variable pay accruals. The increase in gross margin largely reflected favorable regional mix and the accelerated recognition of net sales related to a customer resolution.

Operating expenses

Mobile Networks research and development expenses were EUR 2 154 million in 2024, an increase of EUR 144 million, or 7% compared to EUR 2 010 million in 2023. The higher research and development expenses mainly reflected underlying cost reductions which were offset by higher variable pay accruals.

Mobile Networks selling, general and administrative expenses were EUR 727 million in 2024, a decrease of EUR 95 million, or 12%, compared to EUR 822 million in 2023. The decrease in Mobile Networks selling, general and administrative expenses mainly reflected underlying cost reductions which were partially offset by higher variable pay accruals.

Mobile Networks other operating income and expenses was an income of EUR 149 million in 2024, a change of EUR 27 million compared to an income of EUR 122 million in 2023. The change in other operating income and expenses was primarily due to the net positive fluctuation in the amount of loss allowances on trade receivables somewhat offset by lower proceeds from the sale of digital assets and a negative fluctuation related to foreign exchange hedging.

Operating profit

Mobile Networks operating profit was EUR 409 million in 2024, a decrease of EUR 314 million, compared to EUR 723 million in 2023. Mobile Networks operating margin was 5.3% in 2024 compared to 7.4% in 2023.

Operating and financial review continued

Cloud and Network Services

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the segment operating results and the percentage of net sales for the years indicated.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales	3 022	100.0%	3 220	100.0%	(6)%
Cost of sales	(1 787)	(59.1)%	(1 944)	(60.4)%	(8)%
Gross profit	1 235	40.9%	1 276	39.6%	(3)%
Research and development expenses	(556)	(18.4)%	(577)	(17.9)%	(4)%
Selling, general and administrative expenses	(474)	(15.7)%	(494)	(15.3)%	(4)%
Other operating income and expenses	44	1.5%	50	1.6%	(12)%
Operating profit	249	8.2%	255	7.9%	(2)%

Net sales

Cloud and Network Services net sales in 2024 were EUR 3 022 million, a decrease of EUR 198 million, or 6%, compared to EUR 3 220 million in 2023. In addition to the slight negative impact from foreign exchange fluctuations, net sales in Cloud and Network Services reflected the impact of the disposal of the Device Management and Service Management Platform businesses during 2024, as well as declines in Cloud and Cognitive Services and Core Networks. This was slightly offset by growth in Enterprise Campus Edge. Net sales declined less than 1% due to foreign exchange rate fluctuations in 2024.

The following table sets forth distribution of net sales by region for the years indicated.

EURm	2024	2023	Change %
Americas	1 184	1 306	(9)%
APAC	649	649	0%
EMEA	1 189	1 265	(6)%
Total	3 022	3 220	(6)%

Gross profit

Cloud and Network Services gross profit in 2024 was EUR 1 235 million, a decrease of EUR 41 million, or 3%, compared to EUR 1 276 million in 2023. Cloud and Network Services gross margin in 2024 was 40.9%, compared to 39.6% in 2023. Gross profit declined mainly as a result of lower net sales, while gross margin improved reflecting improvements in the cost of delivery and favorable business and regional mix.

Operating expenses

Cloud and Network Services research and development expenses were EUR 556 million in 2024, a decrease of EUR 21 million or 4%, compared to EUR 577 million in 2023. The decrease in research and development expenses largely reflected continued discipline on cost control and the impact of the previously mentioned disposal, somewhat offset by higher variable pay accruals.

Cloud and Network Services selling, general and administrative expenses were EUR 474 million in 2024, a decrease of EUR 20 million, or 4%, compared to EUR 494 million in 2023. The decrease in Cloud and Network Services selling, general and administrative expenses largely reflected continued discipline on cost control, somewhat offset by higher variable pay accruals.

Cloud and Network Services other operating income and expenses was an income of EUR 44 million in 2024, a change of EUR 6 million compared to an income of EUR 50 million in 2023.

Operating profit

Cloud and Network Services operating profit was EUR 249 million in 2024, a decrease of EUR 6 million, compared to EUR 255 million in 2023. Cloud and Network Services operating margin in 2024 was 8.2% compared to 7.9% in 2023.

Operating and financial review continued

Nokia Technologies

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the segment operating results and the percentage of net sales for the years indicated.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales	1 928	100.0%	1 085	100.0%	78%
Cost of sales	(2)	(0.1)%	—	0.0%	0%
Gross profit	1 926	99.9%	1 085	100.0%	78%
Research and development expenses	(250)	(13.0)%	(224)	(20.6)%	12%
Selling, general and administrative expenses	(163)	(8.5)%	(140)	(12.9)%	16%
Other operating income and expenses	1	0.1%	13	1.2%	(92)%
Operating profit	1 514	78.5%	734	67.6%	106%

Net sales

Nokia Technologies net sales in 2024 were EUR 1 928 million, an increase of EUR 843 million, or 78%, compared to EUR 1 085 million in 2023. The strong growth in Nokia Technologies net sales was primarily due to the signing of smartphone license agreements with OPPO, vivo and other licensees. Some of these agreements led to the recognition of catch-up net sales through the course of the year. Nokia Technologies also continued to make good progress in expanding to new areas such as automotive, consumer electronics, IoT and multimedia.

Gross profit

Nokia Technologies gross profit in 2024 was EUR 1 926 million, an increase of EUR 841 million, or 78%, compared to EUR 1 085 million in 2023. The higher gross profit in Nokia Technologies was due to higher net sales.

Operating expenses

Nokia Technologies research and development expenses in 2024 were EUR 250 million, an increase of EUR 26 million, or 12%, compared to EUR 224 million in 2023. The increase in Nokia Technologies research and development expenses was primarily due to higher investments to drive the creation of intellectual property and higher variable pay accruals.

Nokia Technologies selling, general and administrative expenses in 2024 were EUR 163 million, an increase of EUR 23 million, or 16%, compared to EUR 140 million in 2023. The increase in Nokia Technologies selling, general and administrative expenses was primarily due to a combination of higher investments to drive the creation of intellectual property, licensing-related costs and variable pay accruals.

Nokia Technologies other operating income and expenses in 2024 was an income of EUR 1 million, a change of EUR 12 million compared to an income of EUR 13 million in 2023. The change in other operating income and expenses was primarily related to the reversal of loss allowances of certain trade receivables which benefited 2023 and was not repeated in 2024.

Operating profit

Nokia Technologies operating profit in 2024 was EUR 1 514 million, an increase of EUR 780 million, or 106%, compared to an operating profit of EUR 734 million in 2023. The increase in Nokia Technologies operating profit was primarily related to higher net sales, partially offset by higher operating expenses. Nokia Technologies operating margin in 2024 was 78.5% compared to 67.6% in 2023.

Operating and financial review continued

Group Common and Other

For the year ended 31 December 2024 compared to the year ended 31 December 2023

The following table sets forth the operating results for Group Common and Other, and the percentage of net sales for the years indicated.

	2024		2023		Change %
	EURm	% of net sales	EURm	% of net sales	
Net sales	34	100.0%	130	100.0%	(74)%
Cost of sales	(29)	(85.3)%	(136)	(104.6)%	(79)%
Gross profit	5	14.7%	(6)	(4.6)%	(183)%
Research and development expenses	(131)	(385.3)%	(120)	(92.3)%	9%
Selling, general and administrative expenses	(244)	(717.6)%	(217)	(166.9)%	12%
Other operating income and expenses	56	164.7%	(48)	(36.9)%	(217)%
Operating loss	(314)	(923.5)%	(391)	(300.8)%	(20)%

Net sales

Group Common and Other net sales in 2024 were EUR 34 million, a decrease of EUR 96 million, or 74%, compared to EUR 130 million in 2023. The decrease in Group Common and Other net sales was related to reduced net sales from Radio Frequency Systems, mainly driven by the divested business carved out during 2023.

Gross profit

Group Common and Other gross profit in 2024 was positive EUR 5 million, compared to negative EUR 6 million in 2023. Group Common and Other gross margin in 2024 was 14.7% compared to negative 4.6% in 2023.

Operating expenses

Group Common and Other research and development expenses in 2024 were EUR 131 million, an increase of EUR 11 million, or 9%, compared to EUR 120 million in 2023.

Group Common and Other selling, general and administrative expenses in 2024 were EUR 244 million, an increase of EUR 27 million, or 12%, compared to EUR 217 million in 2023. In 2024, variable pay accruals within Group Common and Other selling, general and administrative expenses were higher, compared to 2023.

Group Common and Other other operating income and expense in 2024 was an income of EUR 56 million, a net positive fluctuation of EUR 104 million compared to an expense of EUR 48 million in 2023. The net positive fluctuation in 2024 was primarily related to Nokia's venture fund investments, which generated a benefit of approximately EUR 30 million in 2024, compared to a loss of approximately EUR 70 million in 2023.

Operating loss

Group Common and Other operating loss in 2024 was EUR 314 million, an improvement of EUR 77 million, compared to an operating loss of EUR 391 million in 2023. The improvement in Group Common and Other operating loss was primarily attributable to the net positive fluctuation in other operating income and expenses driven by Nokia's venture fund investments.

Operating and financial review continued

Liquidity and capital resources

Financial position

Cash and cash equivalents

At 31 December 2024, our cash and cash equivalents equaled EUR 6 623 million, an increase of EUR 389 million compared to EUR 6 234 million as of 31 December 2023. The increase was primarily attributable to net cash inflow from operating activities of EUR 2 493 million, proceeds from disposal of shares in associated companies of EUR 259 million, net cash inflow related to interest-bearing financial investments of EUR 214 million and proceeds from sale of property, plant and equipment and intangible assets of EUR 97 million, offset by dividends of EUR 723 million, share repurchases of EUR 680 million, capital expenditure of EUR 472 million, net cash outflow related to long-term borrowings of EUR 361 million, payment of principal portion of lease liabilities of EUR 233 million and net cash outflow related to other financial assets of EUR 210 million.

Total cash and interest-bearing financial investments⁽¹⁾

At 31 December 2024, our total cash and interest-bearing financial investments⁽¹⁾ equaled EUR 8 741 million, an increase of EUR 227 million, compared to EUR 8 514 million as of 31 December 2023. The increase was primarily attributable to net cash inflow from operating activities of EUR 2 493 million, offset by dividends of EUR 723 million, share repurchases of EUR 680 million, capital expenditure of EUR 472 million and net cash outflow related to long-term borrowings of EUR 361 million.

Net cash and interest-bearing financial investments⁽¹⁾

At 31 December 2024, our net cash and interest-bearing financial investments⁽¹⁾ equaled EUR 4 854 million, an increase of EUR 531 million, compared to EUR 4 323 million as of 31 December 2023. The increase was mainly attributable to net cash inflow from operating activities of EUR 2 493 million and proceeds from disposal of shares in associated companies of EUR 259 million, offset by dividends of EUR 723 million, share repurchases of EUR 680 million, capital expenditure of EUR 472 million and payment of the principal portion of the lease liabilities of EUR 233 million.

(1) Non-IFRS measures. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measures, refer to the "Alternative performance measures" section.

Cash flow

Operating activities

The cash inflow from operating activities in 2024 was EUR 2 493 million, an increase of EUR 1 176 million compared to a cash inflow of EUR 1 317 million in 2023. The increase was primarily attributed to an increase of EUR 203 million in net profit, adjusted for non-cash items, which equaled EUR 3 441 million compared to EUR 3 238 million in 2023, and a decrease in cash tied-up to net working capital of EUR 569 million in 2024 compared to EUR 1 282 million cash tied-up in 2023. The primary drivers for the decrease in cash tied-up to net working capital were related to a decrease in liabilities of EUR 609 million compared to a decrease of EUR 2 029 million in 2023 and an increase in receivables of EUR 364 million compared to a decrease in receivables of EUR 304 million in 2023. This was partly offset by a decrease in inventories of EUR 404 million compared to a decrease of EUR 443 million in 2023. The increase in receivables during 2024 was primarily driven by account receivables. The decrease in liabilities during 2024 was primarily due to restructuring and associated cash outflows, a decrease in trade payables and contract liabilities, partially offset by an increase in liabilities related to variable pay.

In 2024, the cash inflow from operating activities included paid taxes of EUR 342 million, a decrease of EUR 234 million compared to EUR 576 million in 2023, interest received of EUR 226 million compared to EUR 178 million in 2023 and interest paid of EUR 263 million compared to EUR 241 million in 2023.

Investing activities

The cash outflow from investing activities was EUR 117 million in 2024, compared to a EUR 1 043 million cash inflow in 2023. Cash outflow from investing activities was primarily driven by cash outflow due to the capital expenditure of EUR 472 million in 2024 compared to EUR 652 million in 2023 and cash outflow from other financial assets of EUR 210 million compared to EUR 49 million in 2023. These were partially offset by cash inflows from disposal of shares in associated companies of EUR 259 million, compared to EUR 8 million in 2023 and net cash inflow of EUR 214 million of interest-bearing financial investments in 2024 compared to net cash inflow of EUR 1 527 million in 2023.

Major items of capital expenditure in 2024 included investments in R&D equipment, test equipment, hardware for telecommunication and cloud environment, repair or improvements of sites, shipyards and vessels.

Financing activities

In 2024, the cash outflow from financing activities was EUR 2 003 million, compared to a EUR 1 502 million cash outflow in 2023. The cash outflow was driven by dividend payments of EUR 723 million, compared to EUR 621 million in 2023, share repurchases of EUR 680 million compared to EUR 300 million in 2023, repayments of long-term borrowings of EUR 462 million compared to EUR 798 million in 2023 and payments of the principal portion of lease liabilities of EUR 233 million, compared to EUR 239 million in 2023. These were partially offset by proceeds from long-term borrowings of EUR 101 million, compared to EUR 496 million in 2023.

Operating and financial review continued

Financial assets and debt

At 31 December 2024, our net cash and interest-bearing financial investments⁽¹⁾ equaled EUR 4 854 million consisting of EUR 8 741 million in total cash and interest-bearing financial investments⁽¹⁾, and EUR 3 887 million of long-term and short-term interest-bearing liabilities.

We hold our total cash and interest-bearing financial investments⁽¹⁾ predominantly in euro. Our interest-bearing financial investments mainly include high-quality money market and fixed income instruments with strict maturity limits and diversified counterparty risk limits. We also have a EUR 1 412 million revolving credit facility available for liquidity purposes. The facility has no financial covenants and remains undrawn.

At 31 December 2024, our interest-bearing liabilities consisted of EUR 292 million notes due in 2025, EUR 500 million R&D loan from the European Investment Bank maturing in 2025, EUR 83 million R&D loan from the Nordic Investment Bank with final maturity in 2025, EUR 630 million notes due in 2026, USD 500 million notes due in 2027, EUR 500 million notes due in 2028, USD 74 million notes due in 2028, USD 206 million notes due in 2029, EUR 500 million notes due in 2031, EUR 100 million R&D loan from the Nordic Investment Bank with final maturity in 2032, USD 500 million notes due in 2039, and EUR 105 million of other liabilities. The EUR notes maturing in 2025, 2026, 2028 and 2031 as well as the USD notes maturing in 2027 and 2039, are issued by Nokia Corporation, while the USD notes maturing in 2028 and 2029 are issued by Lucent Technologies Inc., a predecessor to Nokia of America Corporation (Nokia's wholly-owned subsidiary, formerly known as Alcatel-Lucent USA Inc.). The loans from the Nordic Investment Bank and from the European Investment Bank are drawn by Nokia Corporation. For more information on our interest-bearing liabilities, refer to Note 5.2. Financial assets and liabilities, of our consolidated financial statements.

In June 2021, we exercised our option to extend the maturity date of the EUR 1 500 million revolving credit facility. Subsequent to the extension, EUR 1 412 million of the facility has its maturity in June 2026 and EUR 88 million of the facility matured in June 2024.

We consider that with EUR 8 741 million of total cash and interest-bearing financial investments⁽¹⁾ and with our undrawn revolving credit facility, we have sufficient funds to satisfy our future working capital needs, capital expenditure, R&D investments, structured finance, venture fund commitments, acquisitions and debt service requirements, at least through 2025. We further consider that with our current credit ratings of BBB- by S&P Global Ratings, Ba1 by Moody's, and BBB- by Fitch, we have access to the capital markets should any funding needs arise in 2025.

We aim to maintain investment grade credit ratings.

Off-balance sheet arrangements

There are no material off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors, except for the purchase obligations and lease commitments, as well as guarantees and financing commitments disclosed in Note 6.1. Commitments, contingencies and legal proceedings, and in Note 5.4. Financial risk management, of our consolidated financial statements.

(1) Non-IFRS measures. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measures, refer to "Alternative performance measures" section.

Venture fund investments and commitments

We make financing commitments to a number of unlisted venture funds that make technology-related investments. The majority of the investments are managed by NGP Capital, a global venture capital firm backing exceptional entrepreneurs driving the convergence of the physical and digital world.

As of 31 December 2024, our venture fund investments equaled EUR 865 million, compared to EUR 784 million as of 31 December 2023. For more information on the fair value of our venture fund investments, refer to Note 5.2. Financial assets and liabilities, of our consolidated financial statements.

As of 31 December 2024, our venture fund commitments equaled EUR 306 million, compared to EUR 381 million as of 31 December 2023. As a limited partner in venture funds, we are committed to capital contributions and entitled to cash distributions according to the respective partnership agreements and underlying fund activities. For more information on venture fund commitments, refer to Note 6.1. Commitments, contingencies and legal proceedings, of our consolidated financial statements.

Treasury Policy

Treasury activities are governed by the Nokia Treasury Policy approved by the President and CEO within the authority granted by the Board of Directors and supplemented by operating procedures approved by the CFO, covering specific areas such as foreign exchange risk, interest rate risk, credit risk and liquidity risk. The objective of treasury's liquidity and capital structure management activities is to ensure that we have sufficient liquidity to go through unfavorable periods without being severely constrained by the availability of funds to execute Nokia's business plans and implement Nokia's long-term business strategy. We are risk-averse in our treasury activities.

Operating and financial review continued

Foreign exchange impact

We are a company with global operations and net sales derived from various countries, invoiced in various currencies. Therefore, our business and results from operations are exposed to changes in exchange rates between the euro, our reporting currency, and other currencies, such as the US dollar. The magnitude of foreign exchange exposures changes over time as a function of our net sales and costs in different markets, as well as the prevalent currencies used for transactions in those markets. Significant changes in exchange rates may also impact our competitive position and related price pressures through their impact on our competitors.

To mitigate the impact of changes in exchange rates on our results, we hedge material net foreign exchange exposures (net sales less costs in a currency) typically with a hedging horizon of approximately 12 months. For the majority of these hedges, hedge accounting is applied to reduce income statement volatility.

In 2024, Group net sales were mostly denominated in US dollars, euros and Chinese yuan and total costs mostly in US dollars, euros, Chinese yuan and Indian rupee.

The average currency mix for Group net sales and total costs:

Currency	2024		2023	
	Net sales	Total costs	Net sales	Total costs
EUR	~25%	~30%	~25%	~30%
USD	~55%	~45%	~50%	~45%
CNY	~5%	~5%	~5%	~5%
INR	~0%	~5%	~5%	~5%
Other	~15%	~15%	~15%	~15%
Total	~100%	~100%	~100%	~100%

For the full year 2024 compared to the previous year, the US dollar was stronger against the euro. The stronger US dollar in 2024 on a year-on-year basis had a slightly positive impact on our net sales reported in euros. However, the stronger US dollar also contributed to slightly higher costs of sales and had an approximately neutral impact on operating expenses on a year-on-year basis. In total, before hedging, the stronger US dollar on a year-on-year basis had a slightly positive effect on our operating profit in 2024.

For a discussion of the instruments used by us in connection with our hedging activities, refer to Note 5.4. Financial risk management, of our consolidated financial statements. Refer also to the “Risk factors” section.

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Introduction to 2024 Sustainability Statement

Introduction

Our approach to sustainability is built on our company's purpose – to create technology that helps the world act together. Sustainability is integral to our technology vision 2030, technology strategy as well as Nokia's business group product and operational strategies.

This Sustainability Statement is prepared for the first time in accordance with the provisions of the newly applicable EU Corporate Sustainability Reporting Directive and with the requirements of the European Sustainability Reporting Standards. The Statement reflects Nokia's sustainability performance, impacts, risks and opportunities across environmental, social and governance dimensions. It is building upon Nokia's long-standing sustainability report, People & Planet, as well as on its renewed assessment of sustainability matters conducted through impact analysis and stakeholder engagement.

Through this Sustainability Statement, Nokia attempts to demonstrate its commitment to transparent and responsible sustainability reporting, while also showcasing its strategic approach to managing sustainability impacts.

Nokia acknowledges its role in global sustainability challenges and opportunities, including climate change mitigation and adaptation, social equity and responsible business practices.

The 2024 Sustainability Statement covers Nokia's operations across all geographical locations and includes relevant information about our material value chain impacts, focusing on sustainability topics most relevant to Nokia's business model and operational context while ensuring compliance with mandatory disclosure requirements.

Nokia welcomes feedback from stakeholders as it continues to improve and evolve its sustainability reporting practices. The current document fulfills a dual purpose: ensuring compliance with applicable reporting requirements, as well as drive sustainability performance improvements and stakeholder engagement across the entire organization in a strategic manner.

By conducting this assessment of sustainability topics in accordance with the CSRD's double materiality perspective, Nokia has identified areas requiring focused attention and reporting under

Climate change (E1),
Resource use and circular
economy (E5),

Own workforce (S1),
Workers in the value chain (S2),
Affected communities (S3),
Consumers and end-users (S4),

Business
conduct (G1)

These material topics are interconnected and fundamentally interdependent, requiring an integrated approach to sustainability management and reporting, which ultimately reflects on Nokia's overall sustainability journey and ensures a comprehensive coverage of its performance and impacts.



General information

General
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Basis for preparation

General basis for preparation of the
Sustainability Statement

For the reporting year 2024, Nokia is preparing the Sustainability Statement for the first time in accordance with the requirements of the Corporate Sustainability Reporting Directive 2022/2464/EU of the European Parliament and of the Council (hereinafter “CSRD”) and requirements of the Commission Delegated Regulation (EU) 2023/2772 of 31 July 2023 (hereafter the “Delegated Regulation”) as regards the European Sustainability Reporting Standards (hereafter “ESRS”). When referring to the various ESRS, the numbering in the Delegated Regulation is used. Finland transposed these requirements into national law on 21 December 2023, and they are in effect for the financial year 2024. These requirements are applicable to Nokia by virtue of Art. 3 and Art. 19a of Directive 2013/34/EU (the “Accounting Directive”), as modified by the CSRD. The content of the Sustainability Statement is prepared based on the double materiality assessment conducted by Nokia in accordance with the CSRD and the ESRS, which helped determine the material sustainability topics, and the related disclosures and information included in the Statement.

The Sustainability Statement was prepared on a consolidated basis. The reporting scope for own operations is the same as for the consolidated financial statements. All statements on strategies, policies, actions, metrics and targets refer to Nokia. The Sustainability Statement takes into account certain relevant segments of Nokia’s value chain where impacts, risks and opportunities are likely to arise from Nokia’s sustainability perspective, and provides information on upstream and downstream activities in accordance with ESRS 1 General Requirements, as applicable.

The statement indicates how Nokia’s operations take into account and affect Nokia’s stakeholders, their concerns and interests. The intended audience of this Sustainability Statement are Nokia’s various stakeholders, primarily its investors.

The Sustainability Statement does not include the digital XBRL sustainability tags in accordance with Chapter 7, Section 22, Subsection 1, Paragraph 2 of the Accounting Act, as it has not been possible to comply with this provision due to the absence of the ESEF regulation or other European Union legislation.

The Sustainability Statement was subject to external limited assurance in accordance with ISAE 3000 (Revised). The Assurance report on the Sustainability Statement can be found on page 289. The assurance provider’s opinion does not cover the comparative information that has been presented in the Sustainability Statement.

Discontinued operations

Nokia announced that it had entered into a put option to sell Alcatel Submarine Networks on 27 June 2024. The sale was completed on 31 December 2024. Beginning from the second quarter of 2024, the Submarine Networks business, which was previously reported as part of Nokia’s Network Infrastructure operating segment, is presented as a discontinued operation in this report.

As a result, the metrics for continuing operations and discontinued operations are disclosed separately herein, in the applicable topical standards.

General information continued

Disclosures in relation to specific circumstances

Time horizons

The reporting period for the Sustainability Statement is consistent with the financial statements.

Nokia is adopting short-term, medium-term and long-term time horizons as of the end of the reporting period and as defined by ESRS.

Sources of estimation and outcome uncertainty

Due to the extent of Nokia's value chain and the geographical spread of its operations, some of the quantitative metrics and monetary amounts included in this Sustainability Statement have a higher level of measurement uncertainty. Therefore, when quantitative metrics and monetary amounts cannot be measured or collected directly from its systems, Nokia has made use of assumptions and estimates with the purpose of enabling users to understand the most significant information, without undermining its usefulness or quality. Such estimates and underlying assumptions are believed to be reasonable under the circumstances. Processes and internal controls are implemented at various levels of the organization with the view of minimizing uncertainties and maintain transparency. However, there is still some degree of uncertainty and some inherent limitations in making accurate information available, especially information related to some specific resource use and circular economy metrics such as waste. Nokia is implementing and developing internal process to improve accuracy, primary-source data where possible and to close reporting gaps.

Where estimations were used or where outcome uncertainties related to the metrics disclosed in the statement exist, this information is disclosed along with the respective metrics within each topical chapter in the section 'Reporting principles', to provide context for and support understanding of our disclosures. Information on value chain and other estimations can be found in the sections '[Climate change \(ESRS E1\)](#)' and '[Resource use and circular economy \(ESRS E5\)](#)'.

Forward-looking statements

Certain statements contained in this Sustainability Statement constitute "forward-looking statements." Such statements are based on management's best assumptions and beliefs in light of the information currently available to it and are subject to a number of risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from such statements. These statements are only predictions based upon our current expectations and views of future events and developments and are subject to risks and uncertainties that are difficult to predict because they relate to events and depend on circumstances that will occur in the future. Risks and uncertainties that could affect these statements include but are not limited to the risk factors specified under the 'Risk factors' section under Nokia's Board review 2024.

Changes in the preparation or presentation of sustainability information and reporting errors in prior periods

For the first year of reporting under ESRS, Nokia is not disclosing comparative information for all metrics, nor changes in preparation or presentation of the Sustainability Statement or reporting errors in respect of the previous period. Where metrics have been reported previously, comparative information is presented. Nokia is also presenting comparative information in respect of the base year for amounts reported in the current period when reporting the developments and progress toward a target.

Any changes in quantitative data from prior periods, as disclosed in Nokia's previous People & Planet voluntary sustainability reports, are presented in the relevant section of a topical standard where the respective metric is discussed. However, for newly introduced metrics, Nokia has opted to use the transitional provisions for the first reporting year, in accordance with ESRS 1, and is not presenting comparative information.

Content index

List of disclosure Requirements in ESRS covered in the Sustainability Statement and list of data points that derive from other EU legislation are included in the [Appendix to the Sustainability Statement](#).

Use of phase-in transitional provisions in accordance with ESRS 1

This being Nokia's first year of reporting, Nokia has adopted the phase-in transitional provisions as outlined in ESRS 1 General Requirements. Consequently, the following specific metrics have been omitted from the first-year disclosures and will be reported in the subsequent periods in accordance with the applicable requirements:

ESRS section reference	Disclosures omitted from the first year
ESRS 2, SBM-1, Para 40(b)	Breakdown of total revenue by significant ESRS sectors
ESRS 2, SBM-1, Para 40(c)	List of additional significant ESRS sectors beyond the ones reflected under Para 40(b)
ESRS 2, SBM-3, Para 48(e)	Material impacts, risks and opportunities and their interaction with strategy and business model
ESRS E1, Disclosure Requirement E1-9, Para 64-70	Anticipated financial effects from material physical and transition risks and potential climate-related opportunities
ESRS E5, Disclosure Requirement E5-6, Para 41-43	Anticipated financial effects from resource use and circular economy-related impacts, risks and opportunities
ESRS S1, Disclosure Requirement S1-11, Para 72-76	Social protection
ESRS S1, Disclosure Requirement S1-15, Para 93	Work-life balance metrics



General information continued

Governance

Roles of Nokia's administrative, management and supervisory bodies regarding sustainability matters

Composition and diversity of the members of the administrative, management and supervisory bodies

Of the 10 members of the Board, 40% are female and 60% are male. The Board members represent six different nationalities. The current members of the Board are all non-executive and there are no employee or other worker representatives on the Board of Directors. For the term that began at the Annual General Meeting 2024, 100% of Board members were determined to be independent of the Company and its significant shareholders.

The Corporate Governance and Nomination Committee of the Board aims to continually renew the Board to ensure an efficient Board of international professionals with a diverse mix of skills, experience and other personal qualities in line with the diversity principles established by the Board. A diverse Board promotes good corporate governance and the ability to support and challenge the company's operative management. The Board's diversity is seen as a dynamic, evolving concept that aligns with business goals and future needs, rather than a static requirement. Diversity is considered from a number of aspects, including skills, experience, tenure, age, nationality, ethnicity, cultural and educational backgrounds, gender and other individual qualities, all aimed at driving continuous improvement and development.

The Group Leadership Team ("GLT") is chaired by the President and CEO. On 31 December 2024, the GLT consisted of 11 members, including the President and CEO, representing six different nationalities, with 18% of the GLT members being female and 82% being male. All except the President and CEO are employees. There is no other worker representation in the GLT.

The following table shows the primary experience of the current and proposed Board members relevant to Nokia's sectors, products and geographic locations of business.

Experience and skills of the Board members

	Business Exec. role with P&L responsibility	External boardroom roles/ Governance	Finance and accounting	Legal/Public policy/ Compliance	Communications service provider market segment	Enterprise market segment	Technology	Cybersecurity	Environmental/ Social issues
Current Board members									
Sari Baldauf	✓	✓		✓	✓		✓		✓
Søren Skou	✓	✓		✓		✓			✓
Timo Ahopelto	✓	✓				✓	✓	✓	
Elizabeth Crain	✓	✓	✓	✓					
Thomas Dannenfeldt		✓	✓		✓	✓	✓		
Lisa Hook	✓	✓		✓	✓	✓	✓	✓	
Mike McNamara	✓	✓				✓	✓	✓	
Thomas Saueressig	✓	✓			✓	✓	✓	✓	✓
Carla Smits-Nusteling		✓	✓	✓	✓				
Kai Öistämö	✓	✓			✓		✓	✓	✓
Proposed new Board members									
Pernille Erenbjerg	✓	✓	✓		✓		✓	✓	✓
Timo Ihamuotila	✓	✓	✓				✓		

General information continued

Oversight of environmental, social and governance activities and practices

Under our Corporate Governance Guidelines, the Board evaluates Nokia's environmental and social activities and governance practices, related risks and target setting as well as their implementation and effectiveness across the Company. In 2024, the Board reviewed the sustainability strategy and re-examined the sustainability targets related to material impacts, risks and opportunities following the double materiality assessment, as well as the progress toward the targets, the evolving ESG requirements and expectations, investor feedback, Nokia's approach to related disclosures, and Nokia's net-zero commitment and roadmap. Additionally in 2024, the Board approved the targets related to climate change in the long-term incentive plan, approved the targets on health and safety and diversity included in the short-term incentive plan, and monitored them and other ESG targets.

The Committees of the Board of Directors have been delegated the responsibility of providing oversight and monitoring several environmental and social developments and activities in accordance with their respective area of responsibilities.

The **Audit Committee** reviews sustainability disclosures annually, as well as the information on the use of conflict minerals in Nokia's products presented in the annual reports and the related regulatory filings. During 2024, the Audit Committee's responsibilities included the continued implementation planning of new climate- and other sustainability reporting requirements, including the double materiality assessment, preparing the proposal for election of the auditor carrying out the assurance of the sustainability reporting, and oversight of the ethics and compliance program.

The **Personnel Committee** oversees human capital management, including personnel policies and practices related to Nokia's culture, physical safety, employee well-being, diversity, recruiting, development and retention. In 2024, the Personnel Committee focused, among other things, on a people risk review, including physical safety and succession planning. The Committee has recommended to the Board to include carbon emission reduction in the metrics of the long-term incentive plan as well as diversity and health and safety as metrics in the short-term incentive plan.

The **Corporate Governance and Nomination Committee** assesses and advises the Board on ESG-related activities and practices, aiming to enhance the governance structure supporting them.

The **Technology Committee** and the **Strategy Committee** review how the Company's ESG strategy embeds into the Company's technology strategy and roadmaps as well as into other strategic initiatives.

The **Group Leadership Team** regularly addresses sustainability matters in its meetings. It examines the sustainability-related impacts, risks and opportunities of Nokia's business decisions and projects. It prepares the company's ESG-related strategy, targets and operational frameworks. This enables the accountability and empowerment of each business group while maintaining appropriate strategic and operative oversight. In 2024, overall responsibility for ESG within the GLT was transferred from the Chief Corporate Affairs Officer to the Chief Legal Officer.

During 2024, the GLT was informed and updated on Nokia's sustainability-related initiatives and projects, including regulatory requirements of the EU and other jurisdictions, stakeholder engagement programs, donations and social programs and Nokia's ESG automation and digitalization program.

Nokia's governance processes, controls and procedures allow for the monitoring, management and oversight of sustainability matters by the Board, its Committees and the GLT. Dedicated processes and procedures have been established by the Sustainability function, the Finance ESG controlling function and the ESG legal function. These processes and procedures are applied to the management of sustainability impacts, risks and opportunities by the dedicated roles established within each business group and function.

This allows the Board and the GLT to make informed decisions regarding Nokia's sustainability strategy, including the goals, the company's roadmap and the steps to achieve the related objectives.

General information continued

Nokia's sustainability governance framework

Nokia Board of Directors

- Approves ESG strategy and evaluates ESG practices, related risks and target setting as well as their implementation and effectiveness.
- Specific sustainability topics are reviewed by Board Committees based on their responsibilities, including, among others, ESG reporting, materiality assessment, ethics and compliance, privacy, culture, human capital management and embedding sustainability in our technologies.

Personnel Committee

- ESG incentive targets
- Human capital management

Audit Committee

- Sustainability reporting
- ESG related risks and opportunities
- Ethics and compliance
- Cybersecurity and privacy

Corporate Governance & Nomination Committee

- Corporate governance
- Sustainability related corporate governance trends

Technology Committee and Strategy Committee

- Review how the Company's ESG strategy embeds into the Company's technology strategy and roadmaps as well as into other strategic initiatives

Group Leadership Team

- Reviews and approves implementation of and changes to sustainability-related policies, management and operational frameworks, strategy, targets and performance and annual sustainability report.
- Conducts sustainability review and provides feedback a minimum of two times per year and as topic-specific areas require.
- CEO, CFO and business group presidents review additional sustainability topics a minimum of two times per year as part of Nokia business reviews.

Sustainability Council

- Steers the alignment of sustainability strategy, priorities, and the implementation of sustainability activities across Nokia
- Contributes to the sustainability strategy and materiality assessment, and reviews sustainability targets and performance
- Provides additional insight to sustainability-related risks and opportunities

Members

Senior leaders from all business groups, People, Finance, Strategy and Technology and Legal, Compliance and Sustainability

Donations and Sponsorships Committee

- Sets principles for allocation of corporate donations and investments for universities and communities
- Approves funds for donation allocation and reviews major sponsorships
- Assesses the impact of all donation programs

Members

Chief Financial Officer, Chief Legal Officer, Chief People Officer, Chief Compliance Officer, VP Technology Leadership, VP Sustainability, Head of Corporate Social Impact

Human Rights Due Diligence Council

- Governs high-level alignment on Nokia's Human Rights Policy and implementing procedures
- Steers decisions on Nokia businesses from a human rights point of view
- Ensures alignment between all business groups and functions and that appropriate mitigations are put in place

Members

Chief Legal Officer, Chief Geopolitical and Government Affairs Officer, Chief Communications Officer, Chief Compliance Officer, VP Technology Leadership, VP Sustainability, other senior leaders per need. Head of Human Rights, and Legal Counsel

Multidisciplinary sustainability team (Legal, Compliance & Sustainability, Finance)

Drive the implementation of the ESG strategy and actions needed to achieve targets at the operational level. Support employees with training and guidance, fostering ethical decision-making and choices that are consistent with our values, policies, and laws. Subject matter experts contribute fact-based input to the different functions and business groups. Ensure corporate sustainability reporting is in line with requirements and regulations. Promote an open reporting culture and oversee robust and impartial concern reporting, investigation and remediation processes.

General information continued

Skills and expertise to oversee sustainability matters

ESG topics are brought to the attention of the Board of Directors, the GLT and various committees on a regular basis through several channels, by members of the Sustainability team and subject matter experts, as well as the representatives of each business group and functions who are members of the Sustainability Council.

Trainings by external experts are also organized with the view of enabling the Board members and the GLT to evaluate Nokia's sustainability strategy, including its goals, roadmap and efforts and to assess the materiality of sustainability topics relevant to Nokia.

Several sustainability topics were included in the yearly mandatory trainings and learning courses developed by in-house experts. These topics include net-zero; responsible business and sustainable sourcing; sustainability finance frameworks; responsible artificial intelligence; sustainability as part of Nokia's Technology Vision 2030; greenhouse gas emissions; sustainability reporting and the double materiality assessment; security and privacy; business ethics; and information security. Specialized teams were made available on a company-wide scale ensuring that all employees, including the GLT members, have access to sustainability knowledge resources and are learning about sustainability matters.

Key experts and executives participated in the double materiality assessment. During the interviews conducted in the framework provided by the double materiality assessment, an external partner specializing in sustainability reporting provided information that allowed Nokia's executives to understand the fundamental concepts of impact and financial materiality and their effect on a company's business and strategy. The executives involved in the double materiality assessment had the opportunity to validate and provide their views on material environmental, social, and governance topics and related impacts, risks, and opportunities. This experience offered the executives valuable learning opportunities not only on material sustainability topics but also on the rapidly evolving landscape of regulatory reporting requirements.

Informing and supporting the administrative, management and supervisory bodies in their oversight of impacts, risks and opportunities

Several councils and committees are set up to inform the administrative, management and supervisory bodies in their oversight of ESG impacts, risks and opportunities.

The Sustainability Council, the Donations and Sponsorships Committee and the Human Rights Due Diligence Council steer, align and ensure the implementation of ESG strategies, targets and frameworks. They provide relevant information to the Group Leadership Team and the Board of Directors and its Committees, supporting them in their oversight of impacts, risks and opportunities.

The ESG Financial Reporting Steering Committee informs the Audit Committee of the Board of the impacts, risks and opportunities identified through the double materiality assessment and of the contents of the Sustainability Statement.

Sustainability related key risks and opportunities are embedded within Nokia's Enterprise Risk Management framework and within that context are reviewed, minimum annually, with the GLT and the Board.

This approach allows the GLT, the Board, and the Committees of the Board to gain valuable insight into sustainability topics relevant to Nokia, and to evaluate Nokia's long-term strategic business plan from the added perspective of sustainability.

ESG topics are brought to the attention of the Board of Directors, the GLT and various committees on a regular basis through several channels, by members of the Sustainability team and subject matter experts, as well as the representatives of each business group and functions who are members of the Sustainability Council.

General information continued

Integration of sustainability-related performance in incentive schemes

Nokia operates short-term and long-term incentive plans for all employees, including the Group Leadership Team (GLT), as well as the President and CEO. Performance measures are set yearly to align with Nokia's business strategy and priorities, including financial, operational and sustainability targets. Nokia's 2024 incentive plans prioritized both financial performance and sustainability goals.

Long-term incentives (LTI), awarded in shares, typically vest after three years based on achieving performance conditions aligned with Nokia's long-term strategy. The performance share awards for all participants include a 10% weighting on carbon emission reduction targets (scope 1, 2, and 3) over a three-year performance period. These carbon emission reduction targets are aligned with Nokia's net-zero roadmap and incentivize the commitment toward the 2030 goal of a 50% reduction in carbon emissions, demonstrating Nokia's commitment to long-term emissions reduction and active approach in addressing climate change.

The 2024 Short-term Incentive Plan (STI) includes metrics and targets for health and safety as well as gender diversity as an incentive mechanism for fulfilling Nokia's ESG commitments. The short-term incentives for the President and CEO and the GLT members include a 10% weighting for the health & safety metric (lost time injury frequency rate with a fatality modifier for deaths within Nokia's control) and a 10% weighting on female percentage in global external hiring.

In total, the proportion of variable remuneration subject to sustainability-related targets is 20% for the President and CEO and the GLT members in their short-term incentives and 10% in their performance-based long-term incentives.

Key characteristics of the incentive schemes

Delivering the next year's step in the strategic plan – STI

Comparable operating profit 60% ⁽¹⁾	Cash release 20%
Continued focus on profitability	Achieve a strong cash position
Health & safety 10% – lost time injury frequency rate (with a fatality modifier)	Women in leadership 5% Women in workforce 5%
Deliver on our focus on the continued health and safety of our employees	Deliver on our commitment to become a more diverse employer

Delivering sustainable value – LTI

50% relative TSR, 40% cumulative reported EPS (adjusted for impairments and M&A), 10% carbon emission reduction (scope 1, 2 and 3)

A more rounded and balanced approach reflecting performance over the long term in growing the business and in delivering shareholder value whilst working towards our 2030 goal of 50% carbon emission reduction

Nokia's Remuneration Policy, which governs the remuneration of the Board of Directors and the President and CEO, was last updated in 2024. The Remuneration Policy has been aligned with Nokia's business strategy and helps ensure that executive compensation reflects contributions to sustainability targets and thus also long-term shareholder value creation.

The conditions of the short- and long-term incentives are prepared and approved by the Personnel Committee of the Board of Directors, while the Board of Directors approves all the Company's share-based incentives as well as the President and CEO's compensation, including the share-based incentive schemes.

(1) Non-IFRS measure. For the definition and reconciliation of non-IFRS measures to the most directly comparable IFRS measure, refer to the "Alternative performance measures" section.



General information continued

Statement on due diligence

Specific due diligence processes applied in relation to environment, human rights and responsible sourcing are described below.

Environmental due diligence

Nokia is committed to sound environmental management and to minimizing its environmental impact throughout the product lifecycle. This commitment is integrated into all business operations, with continuous improvement targets and programs in place. Nokia also implements Environmental Management System along with quality and health and safety management systems to ensure compliance with relevant environmental requirements.

Human rights due diligence

Nokia is committed to the human rights principles and values laid out in the International Bill of Human Rights (consisting of the Universal Declaration of Human Rights and its related covenants), the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, the OECD's Guidelines for Multinational Enterprises, and the United Nations' Guiding Principles on Business and Human Rights.

Nokia's Human Rights Due Diligence (HRDD) process targets the potential misuse of the technology it provides. It is a pre-emptive process applied before any sale is made and is used to identify the most likely risk level to human rights through potential misuse of our technology. The process examines a country's long-term commitment to upholding human rights, the intended use of the technology in question and the customer type, to identify said risks early in the process and trigger the required HRDD investigation and senior-level approval/denial review where needed.

For country risk ratings, we use an external assessment provider. The HRDD process triggers are a mandatory part of the sales approval process. Training, results tracking, the communication of findings, checkpoints and triggers for the process are reviewed and, where needed, improved by the Head of Human Rights on an ongoing basis.

Responsible sourcing due diligence

Nokia actively engages with its suppliers to promote responsible sourcing practices in key sustainability areas, including environmental issues, health and safety, labor rights,

and ethical behavior. The company's responsible sourcing program focuses on supplier due diligence, climate action, circularity, and responsible minerals sourcing. For these purposes of assessing and further developing corporate social responsibility behavior and standards across its industry sector supply chain, Nokia collaborates with the Responsible Business Alliance (RBA) and the Joint Alliance for CSR (JAC), comprising some of the world's largest telecom operators. Additional details are provided under the section '[Workers in the value chain \(ESRS S2\)](#)'.

The following table provides a mapping of the core elements of Nokia's due diligence for impacts on people and the environment and their location in this Sustainability Statement, in addition to the information disclosed in this section.

Core elements of due diligence	Paragraphs in the Sustainability Statement
Embedding due diligence in Nokia's governance, strategy, and business model	<p>General information Informing and supporting the administrative, management and supervisory bodies in their oversight of impacts, risks and opportunities, page 92</p> <p>Integration of sustainability-related performance in incentive schemes, page 93</p> <p>Material impacts, risks and opportunities and their interaction with Nokia's strategy and business model, page 102</p>
Engaging with affected stakeholders	<p>General information Interests and views of stakeholders, page 99</p> <p>Description of the process to identify and assess material impacts, risks and opportunities, page 108</p> <p>Own workforce (ESRS S1) Processes for engaging with own workforce and workers' representatives about impacts, page 149</p> <p>Processes to remediate negative impacts and channels for own workforce to raise concerns, page 149</p> <p>Workers in the value chain (ESRS S2) Processes for engaging with value chain workers about impacts, page 156</p> <p>Affected communities (ESRS S3) Processes for engaging with affected communities about impacts, page 163</p> <p>Processes and channels for affected communities to raise concerns, page 163</p> <p>Consumers and end-user (ESRS S4) Processes for engaging with consumers and end-users about impacts, page 167</p> <p>Processes and channels for consumers and end-users to raise concerns, page 167</p>

Core elements of due diligence	Paragraphs in the Sustainability Statement
Identifying and assessing adverse impacts	<p>General information Material impacts, risks and opportunities and their interaction with Nokia's strategy and business model, page 102</p> <p>Description of the process to identify and assess material impacts, risks and opportunities, page 108</p> <p>Climate change (ESRS E1) Material impacts, risks and opportunities related to climate change mitigation and energy, page 110</p> <p>Climate scenario and resilience assessment, page 111</p> <p>Resource use and circular economy (ESRS E5) Material impacts, risks and opportunities related to resource use and circular economy, page 128</p> <p>Workers in the value chain (ESRS S2) Material impacts, risks and opportunities related to workers in the value chain, page 155</p>
Taking actions to address adverse impacts	<p>Climate change (ESRS E1) Transition plan and actions in related to climate change policies, page 113</p> <p>Targets and progress in targets, page 118</p> <p>Resource use and circular economy (ESRS E5) Actions, page 131</p> <p>Targets and progress in targets, page 131</p> <p>Workers in the value chain (ESRS S2) Processes to remediate negative impacts and channels for value chain workers to raise concerns, page 156</p> <p>Actions, page 157</p> <p>Targets and progress in targets, page 158</p>
Tracking the effectiveness of these efforts	<p>Climate change (ESRS E1) Targets and progress in targets, page 118</p> <p>Disclosure tables, page 122</p> <p>Resource use and circular economy (ESRS E5) Targets and progress in targets, page 131</p> <p>Disclosure tables, page 133</p> <p>Workers in the value chain (ESRS S2) Targets and progress in targets, page 158</p> <p>Disclosure tables, page 160</p>

General information continued

Risk management and internal controls over sustainability reporting

Internal control procedures in relation to the sustainability reporting process

Nokia conducts its business globally, being exposed to geopolitical, social and regulatory developments, including those affecting environmental, social and governance (ESG) topics.

Management is responsible for establishing and maintaining adequate internal controls over Nokia's sustainability reporting. Nokia's internal controls on sustainability reporting are aimed to provide reasonable assurance to management and the Board on the reliability of sustainability reporting, as well as the preparation and fair representation of information and facts in the published Sustainability Statement. The internal control processes consist of various controls designed around the applicable ESRS and monitored through internal audit.

Management conducts a yearly assessment of Nokia's internal controls over sustainability reporting in accordance with the Committee of Sponsoring Organizations Framework (the 'COSO Framework', 2013).

Further, management has also:

- assessed the design of the controls in place aimed at mitigating the sustainability reporting risks;
- tested operating effectiveness of all key controls; and
- evaluated all noted deficiencies in internal controls over sustainability reporting in the interim and as of year-end.

In 2024, Nokia has reported on the progress and assessments to management and to the Audit Committee of the Board on a quarterly basis.

Nokia's sustainability reporting and the corresponding internal controls framework are maturing, to reach the same level of maturity as the company's financial reporting and financial internal controls framework. Regulations and guidelines are evolving continuously. Nokia is monitoring regulatory developments in sustainability reporting and their applicability to its business portfolio, which might impact the interpretations of sustainability reporting requirements and internal controls framework, and result in further changes in subsequent years.

Organization of the internal audit function

Nokia's internal audit function examines and evaluates the adequacy and effectiveness of its internal controls system. The internal audit function reports to the Audit Committee of the Board. The head of the internal audit function has direct access to the Audit Committee, without the involvement of management. The internal audit staffing levels and annual budget are approved by the Audit Committee. All authority of the internal audit function is derived from the Board. Annually, a risk-based internal audit plan is developed that takes into account key business risks, emerging risks, external factors and input from management. This plan is approved by the Audit Committee. Audits are completed across business groups and functions. The results of each audit are reported to management identifying issues, financial impact (if any) and corrective actions to be carried out. Quarterly, the internal audit function communicates the progress of the internal audit plan, including the results of the closed audits, to the Audit Committee. Any changes to the risk environment impacting the internal audit plan are presented to the Audit Committee for review and approval on a quarterly basis. Internal audit also works closely with Internal Controls and with Ethics and Compliance to review any financial and compliance concerns brought to light from various channels and, where relevant, works with Enterprise Risk Management to ensure that priority risk areas are reviewed through audits.

In 2024, the sustainability reporting process, the internal controls design, controls performance and audit trail were in the scope of internal audit reviews and testing. The outcome of the audits has been shared with the Nokia management as well as the Nokia Audit Committee of the Board of Directors.



General information continued

Strategy

Key elements of Nokia's general strategy relevant to sustainability matters

Nokia's approach to sustainability is built on its purpose: 'To create technology that helps the world act together'. Sustainability is a key pillar of Nokia's corporate strategy, underscoring its ambition to develop Environmental, Social and Governance activities into a competitive advantage. It is also integral to Nokia's Technology Vision 2030.

Recognizing the increasing importance of sustainability for all stakeholders, including customers, investors, regulators, partners, communities and employees, Nokia aims to become the 'trusted provider' in the industry and create long-term value.

Nokia takes a two-pronged approach to sustainability: to maximize Nokia's positive impact (handprint) and to minimize its negative impact (footprint).

In line with Nokia's sustainability approach, the company follows these key principles when setting sustainability-related goals:

- Continually improving product energy efficiency
- Driving circularity to reduce waste
- Building sustainable operations and supply chains
- Decarbonizing other industries and society
- Enabling the transition of the energy sector
- Providing the critical networks for life
- Connecting the unconnected through building digital skills
- De-risking the potential misuse of technology
- Deploying ethical and responsible business practices

Addressing Nokia's footprint

Nokia aims to deliver its customers products and solutions that are as energy- and material-efficient as possible. The use phase of Nokia's products by its customers accounted for 95% of its total greenhouse gas (GHG) emissions in 2024.

Thus, Nokia's efforts in GHG emissions reduction concentrate on reducing the power consumption of the products across Nokia's portfolio to improve energy efficiency, and have the greatest direct impact on its carbon footprint. This is done through energy efficiency solutions in silicon, hardware, software products and services. Nokia works with its customers to optimize the energy used across their networks, not just looking at the individual network elements. Nokia is also adopting AI/ML-based optimization and automation to further reduce energy use and therefore GHG emissions.

A defining challenge for the industry remains the industry-related growth in energy use. The increasing growth in emissions in the ICT industry springs from an increasing demand 24/7 for data and the energy required to handle that data. This means that data traffic growth needs to be decoupled from the related growth in energy use and thus the resulting increase in emissions.

Nokia embeds energy efficiency thinking into the entire product development process from design and manufacturing to circularity, striving to build a sustainable value chain.

Nokia further aims to reduce its climate change impact through smart supply chain logistics planning, collaboration with suppliers and practicing circular economy principles to reduce material use and land impact through Design for Environment, equipment life extension, modularity, upgradability, reconfigurability for flexible architectures, recycled content and recyclability.

Enhancing Nokia's handprint

Digitalization can empower industrial enterprises and other customers to accelerate their journey towards Industry 4.0 by increasing productivity and efficiency, helping to reduce energy and other resource consumption and minimize waste. This approach not only helps achieve commercial goals but also provides for long-term sustainability.

In 2024, to further support sustainability, Nokia introduced the Private Wireless Sustainability Calculator. This tool helps enterprises quantify the impact of private wireless networks on their operations to help identify where they can reduce their environmental footprint and improve worker safety. The calculator identifies opportunities for sustainability gains through digitalization, providing insights to enhance business operations, including improved equipment life cycles, reduced transportation downtime and fuel consumption and improved worker health and safety.

Nokia helps to bridge the digital divide by connecting the underserved through products and solutions across Nokia's business divisions. For example, IP Networks delivers end-to-end routing solutions to connect mobility users globally and allow schools, businesses, and homes to economically and efficiently connect in the global economy. Optical Networks delivered multiple projects in Africa to backhaul new subsea cables and introduced a new class of extended temperature range (ETR) solutions to provide high-speed connectivity in outdoor plant environments. Fixed Networks offers PON Fiber-to-the-Home for homes, businesses and communities; Gigabit Connect for multi-dwelling units (MDUs); and 5G Fixed Wireless Access solutions to connect as many people as possible, expand broadband access across underserved communities and participate in funding initiatives like the Broadband Equity Access and Deployment Program (BEAD) in the United States.

General information continued

Sustainability strategy

Nokia's sustainability strategy aims to enhance the positive impact of the company, taking into consideration risks and opportunities in several important focus areas. The strategy is implemented through the business groups and central functions. Nokia's focus areas with material impacts, risks and opportunities are: (i) Environment (climate and circularity), (ii) Bridging the digital divide, and (iii) Responsible business.

Under **Environment**, we emphasize two areas: climate and resource use and circular economy. Nokia addresses its own environmental footprint by focusing on GHG emission reduction across scope 1, 2 and 3 emissions and efficient resource use and waste minimization across the value chain. Please refer to sections '[Climate change \(ESRS E1\)](#)' and '[Resource use and circular economy \(ESRS E5\)](#)'.

In **Bridging the digital divide**, Nokia uses its broad product portfolio across terrestrial and non-terrestrial communication networks to connect the unconnected and underserved and invest in partnerships to support digital skills building. Refer to the sections '[Affected communities \(ESRS S3\)](#)' and '[Consumers and end-users \(ESRS S4\)](#)'.

In terms of **Responsible business**, Nokia works to ensure that its business practices are aligned with its ethical and responsible values both internally, as well as in Nokia's value chain. Its approach to responsible business is covered in the topical environmental, social and governance sections of this Sustainability Statement.

Business model and value chain

Nokia collaborates closely with customers and suppliers to engage on systemic issues related to the environment, mitigating the misuse of technology (and advocating for responsible AI principles), ethics, human rights, and working conditions. This includes addressing topics such as responsible sourcing of minerals, climate, circularity and labor rights in the lower tiers of its value chain as well as understanding the sustainability expectations of stakeholders and working towards accommodating them, complemented by supplier development, learning, and industry collaboration.

Nokia's business groups

Nokia embeds sustainability into the product and operational strategies of its four business groups: (i) Network Infrastructure, (ii) Mobile Networks, (iii) Cloud and Network Services and (iv) Nokia Technologies.

Network Infrastructure delivers fixed access, IP routing and optical transport for business-critical and mission-critical applications for communication service providers, enterprises and webscale customers.

Mobile Networks creates products and services covering all 3GPP mobile technology generations. Its portfolio includes products for radio access networks and microwave radio links for transport networks, solutions for network management, and network planning, optimization, deployment and technical support services. Customers include Communication Service Providers, industrial enterprises, governments and the defense sector.

Cloud and Network Services serves a diverse customer base, including communication service providers, enterprises, hyperscale customers, digital developers, and partners. CNS invests in technologies that are critical to our customers' growth: 5G core, secure autonomous networks, private wireless and industrial edge, and network APIs. These solutions, increasingly available in a SaaS model, help customers capture the unfolding opportunities of digitalization, AI, and cloud.

Nokia Technologies is responsible for managing Nokia's patent portfolio and monetizing Nokia's intellectual property, including patents and technologies.

In 2024, Nokia delivered net sales of EUR 19 220 million and invested EUR 4 512 million in research and development. The four business groups comprise operating and reportable segments for financial reporting purposes. For further information about Nokia's operating and reportable segments, as well as their accounting policies, see the Financial Statements section, specifically note 2.2. '[Segment Information](#)'.

During 2024, Nokia employed 78 434 employees (average, excluding discontinued operations). Detailed information on the headcount of employees by country/region is available in the section Own workforce (ESRS S1), '[Disclosure tables](#)'.

Supply chain

In 2024, Nokia conducted business with around 9 300 suppliers in over 100 countries. 80% of Nokia's total supplier spend was distributed across around 400 suppliers.

Nokia's suppliers fall into six broad categories:

- Final assembly suppliers
- Hardware suppliers for product materials (such as standard components, optical components, semiconductors and electromechanics)
- Market services suppliers who support the provision of services to our customers such as in installation, construction and managed services
- Software
- Cloud Services
- Indirect sourcing suppliers for everyday goods and services needed to run Nokia's business such as consulting, legal and marketing.

Nokia's hardware suppliers are mainly based in Asia and its services suppliers are based around the world. In 2024, in addition to its own factories in Finland and India, Nokia's electronics manufacturing services final assembly suppliers included Flex, Foxconn, Jabil, Sanmina, Fabrinet and Karel supplier sites in Canada, China, Hungary, India, Italy, Malaysia, Mexico, Romania, Thailand, Turkey, the US and Vietnam. A list of Nokia's largest strategic original design manufacturers, original equipment manufacturers and component suppliers is published on our website to further increase stakeholder transparency.

General information continued

Value chain mapping

During the double materiality assessment exercise conducted in late 2023, Nokia outlined the key components of its value chain, which are presented in the following picture.

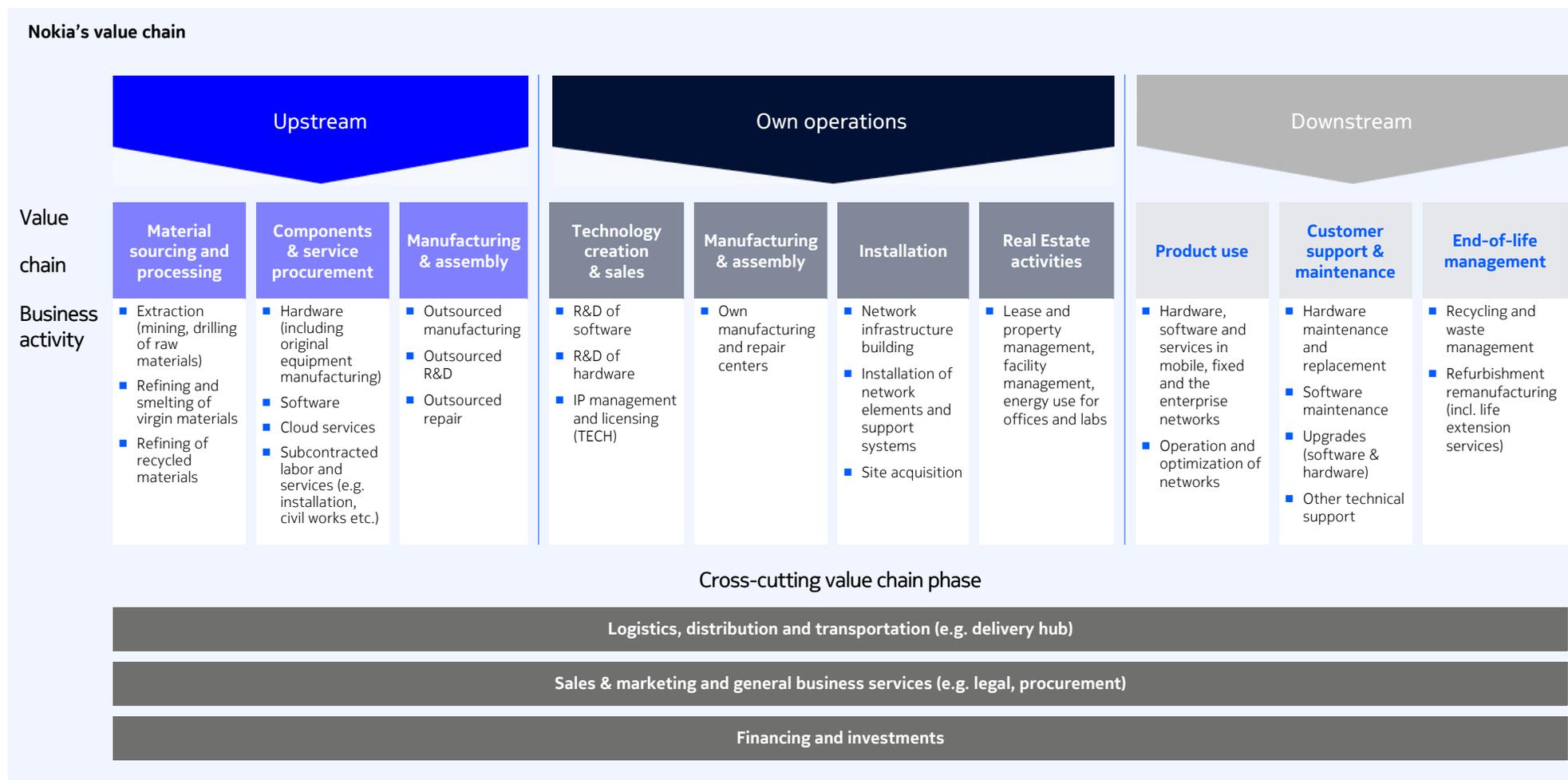
Nokia’s value chain considers all Nokia business groups, key business functions, resources and relationships distributed upstream, through its own operations and downstream.

Upstream has three main phases: (i) material sourcing and processing, (ii) components and service procurement and (iii) manufacturing and assembly. Nokia engages directly or via industry with various suppliers, from raw materials extractors to outsourced manufacturers and repairers of recycled materials.

Nokia’s own operations comprise four main phases: (i) technology creation and sales, (ii) manufacturing and assembly, (iii) installation, and (iv) Real Estate activities. The main business actors involved in Nokia’s own operations are Nokia’s own employees.

Downstream has three main business phases: (i) product use, (ii) customer support and maintenance, and (iii) end-of-life management.

There are also cross-cutting activities that support Nokia’s operations along the full value chain. These include activities like logistics, distribution and transportation of materials and ready products, general business services, and financing and investments.



General information continued

Interests and views of stakeholders

Nokia adopts a collaborative and consultative approach towards its key stakeholders, by displaying responsiveness and consideration to those stakeholders' views and interests in its decision making related to the company's strategy and business model. This approach was also followed for the purposes of conducting the double materiality assessment, the results of which are taken into account in various business and strategic decisions, especially when affecting the interests of these key stakeholders. The table below includes a summary of Nokia Group's key stakeholders, and of how themes important to them are considered in the company's strategy and business model:

Key stakeholder group	Stakeholder engagement and its purpose	Communication channels	Topics important to stakeholders	Impact on business model and strategy – our approach
Customers	Nokia interacts and engages with its customers on a frequent basis through various mechanisms and multiple channels to address issues and concerns, present proposals, identify solutions, and evaluate, mitigate or remedy impacts. Cooperation mechanisms are set up to enable Nokia to tackle environmental and social challenges together with its customers, and to look at ways in which technology can enable positive changes.	Sales personnel are dedicated to specific customers. Direct engagement through various channels and at targeted customer and industry events allows for frequent opportunities to inform and collect feedback and to collaborate on sustainability-related initiatives. Customers also participate in Executive Review Meetings with Nokia leadership team members. ESG customer advisory councils are established in Europe, Asia and India, and the Middle East and Africa, allowing for open discussions on sustainability topics. Industry association such as the Global System for Mobile Communications Association (GSMA) and Joint Alliance for CSR (JAC) also provide channels of collaboration and feedback.	Connectivity and digitalization, GHG emission reduction, energy and materials efficiency, climate actions, circular products and services, recycled materials, life cycle assessment, value chain, responsible operations, inclusion and diversity, human rights, public safety and health, data security, privacy and responsible AI.	Customer feedback through all of the channels is taken back to responsible teams in the business groups. Through sustainability focused meetings, customer requirements are taken into strategy and even business models, for example, the use of circular products and services or the set up of joint programs to bridge the digital divide and other ESG related topics.
Own workers	Nokia deploys a variety of means to engage with its workers, both through statutory mechanisms as well as voluntary initiatives that enable and stimulate workers to be informed and consulted, and to react to management decisions, plans, ideas, strategies and approaches, on a frequent basis and without fear of retaliation.	A variety of channels are used to engage with employees: the company intranet, SharePoint, focused surveys, company email, town halls and meetings, training curriculum and community of interest, regular manager-employee dialogue in addition to the available grievance mechanisms allowing for various reporting channels. Workers' representatives are informed and/or consulted during regular meetings with established bodies such as workers' councils, prevention committees, and other statutory consultative bodies.	New People Agenda, Nokia essentials, well-being, health and safety, future ways of working and flexibility policies, inclusion and diversity, leadership development, technical career development and ethical business practices, training and skill building.	A broad and deep training offering for employees, including mandatory ESG and ethics and compliance training helps Nokia's teams support customer and other stakeholder requirements. Sustainability is the responsibility of all employees and enablement helps employees understand how sustainability fits into their role.
Investors	We have regular discussions with our shareholders and the investor community on ESG topics including our approach, policies, targets, customer and technology opportunities	The annual ESG roadshow brings together our top shareholders for in-depth discussions with Nokia experts from HR, IR, Legal, and Sustainability, as well as, in some cases, Board members. This platform serves as a forum for gathering investor perspectives. Beyond the roadshow, we maintain engagement with investors throughout the year through face-to-face meetings and Teams meetings. We also leverage digital channels and participate in industry questionnaires and ratings like Sustainalytics, MSCI and CDP to facilitate communication and information sharing.	ESG targets and achievements, net-zero strategy and roadmap, Sustainable Supply chain, Human Rights, Health & Safety, AI governance, EU regulations including CSRD and CS3D.	Investor feedback helps validate our strategic focus areas, value creation opportunities, and also bring in outside views on changing strategic topics.

General information continued

Key stakeholder group	Stakeholder engagement and its purpose	Communication channels	Topics important to stakeholders	Impact on business model and strategy – our approach
Suppliers and partners	We work with suppliers to drive transparency, sustainability and good ethical business practices in our long and often complex supply chain and to ensure that their interests and views regarding our sustainability matters are incorporated into our strategy and business model.	Direct supplier management channels, supplier face to face or online meetings and dedicated events. Industry supply chain organization, such as the Responsible Business Alliance (RBA). Partner management dedicated teams in Nokia. Although there have been multiple forms of engagement, no direct engagement with the workforce of Nokia's suppliers' and partners was undertaken specifically on the double materiality assessment.	Inclusion and diversity, preventing modern slavery, ethical recruitment practices, responsible minerals sourcing, climate change, circular materials and health and safety.	Better understanding through training and capacity building that improves product energy or material efficiency, innovations which can positively impact and change product designs and sustainability outcomes. Collaboration on specific technology areas or business models e.g. circularity.
Industry sector	Nokia contributes its experience and expertise by engaging and leading in discussions with organizations developing best practices for the industry and advising policymakers across the regions where Nokia operates. These included contributing experience and support to multiple streams of the ITUs Green Digital Action program and the first ever Digital Day at COP29 climate conference in Baku, Azerbaijan. We contributed expertise to standardization work for the industry including understanding the measurement of the environmental impact of AI. We also work with the mobile industry's association on both environmental and social issues in our industry, covering topics such as energy efficiency, health and safety and digital inclusion.	Engagement with industry sector organisations and representatives is organised based on Nokia Business owners and the key topics covered by certain organisations. There are dedicated stakeholder owners for key organisations and dependent on the topic Nokia subject matter experts are also engaged eg Nokia ESG standards lead for International Telecommunication Union (ITU) standards programs. The purpose of our engagement with industry sector representatives is to ensure we share best practices with industry peers, learn from others and achieve desired outcomes in strategic, policy and technology related to sustainability work across the industry.	Measurement methodology standards for 5G radio and circularity standards for telecommunications products and networks in European Telecommunications Standards Institute (ETSI) and ITU Telecommunication Standardization Sector (ITU-T). Responsible use of AI standards in ISO, European Committee for Standardization (CEN)/ European Committee for Electrotechnical Standardization (CENELEC) and various national committees. Energy-saving features in 3GPP.	Value chain needs, challenges and opportunities are often viewed at the industry level in the sector organizations. This allows scale and scope for best practice and innovation across the industry. For example, through such bodies we see a greater need for value chain sustainability related data collection, transparency and delivery to customers which influences the sustainability digitalization strategy and plans. This is expected to increase automation and efficiency in delivery on customer and other stakeholder data requirements.
Academia	We collaborate with leading academic institutions on projects that are innovative and have a high impact on our Environmental, Social and Governance (ESG) strategy while also enabling us to strengthen our relationship with top universities in Europe, North America and Asia as we work to solve ESG challenges together.	Channels include Nokia Strategy & Technology and Business Group led research and standardization programs and Nokia University Donations program. We also participate in training, internships and PhD programs, and innovation events and recruit top talent from these institutions.	Under university donation program projects covered ESG pillars. Environmental projects focus on Sustainable and Energy Efficient Computing, and Climate Intelligence and Environmental Stewardship. Social projects center around Digital Inclusion and Accessibility and governance focus is on AI Ethics and Governance and Explainable AI (XAI). Examples of projects with university collaborations include: Sustain 6G, 6G Power, 6G ANNA, Biodiversity footprint assessment research with Jyväskylä University.	<ul style="list-style-type: none"> ■ Building Stronger Academic Collaborations with New Partners ■ Developing more energy-efficient, secure and environmentally friendly solutions and technologies ■ Collaborations could eventually impact Nokia's product development, design and material choices

General information continued

Key stakeholder group	Stakeholder engagement and its purpose	Communication channels	Topics important to stakeholders	Impact on business model and strategy – our approach
Affected communities and civil society	<p>We engage through relevant NGOs, non-profit or community organizations (e.g. UN Women and UNICEF). We work with NGOs to support programs which have a long-term impact and create a sustainable future platform in the target communities. Nokia's committee members participate in key social and human rights organizations (e.g. Europe and Asia steering committee for Business for Societal Impact and board membership of Global Network Initiative (GNI)).</p> <p>Nokia engages with cities and communities to drive digitalization and smart sustainable development.</p>	<p>NGOs, non-profit or community organizations serve as a primary communication channel, leveraging their expertise and direct connections with the affected communities at the grassroots level. For more details, see section 'Affected communities (ESRS S3)'.</p>	<p>Freedom of expression, potential misuse of technology, positive impact of technology on communities, digital skills building, gender topics, environmental protection and biodiversity</p>	<p>Engagement with affected communities and civil society directly contributes to Nokia build and design of its social programs based on the real needs on the ground from the initial planning to the final follow up and impact outcomes. Engagement helps in the development of the program strategy to better respond to the most salient challenges of the communities, their needs and opinions.</p>
Regulatory authorities and standard-setting organizations	<p>We contribute to policy debates fostering a connected society and the adoption of new technologies around the world.</p>	<p>Engaging in dialogue and participation in public consultations by Nokia itself, as well as through industry associations and sustainability-related standardization bodies. Participation in, and assuming leadership roles (chair/vice chair/issue lead) in relevant working groups of industry and trade associations (e.g. DigitalEurope, RBA, European Telecommunications Network Operators' Association (ETNO), Telecommunications Industry Association (TIA), Bitkom and others).</p>	<p>Digital and broadband policies, regulation of emerging technologies (AI), ESG topics, policies that encourage broadband rollout and adoption and the digital transformation of society and industry (incl. spectrum for broadband); policies for trusted and reliable international connectivity, for the security of digital infrastructures, for policy frameworks unlocking innovation (including 6G roadmaps), for the most effective regulations for sustainability (topics such as the regulation of forced labor, or due diligence in supply chains).</p>	<p>Nokia delivers factual advice to help shape effective policies, and then takes necessary steps to meet policy objectives, and fulfill all legal obligations. This may involve adaption of current practice or implementation of new internal processes.</p>

The views and interests of Nokia's stakeholders (including its employees, suppliers, partners and investors) which are expressed through and during the various engagement opportunities with those parties are brought to the attention of, and taken into account by the relevant administrative, management, and supervisory bodies of the company, as well as to the attention of relevant functions and units. This allows for those views and interests to be taken into account both at the stage of formulating Nokia's strategy and setting up its business model and when issues that may affect stakeholders are considered, if deemed relevant to one or more aspects of the company's strategy or business model. The governance model used by many of Nokia's functions and business groups allows for regular reporting to the Group Leadership Team and the Board of Directors and its Committees on matters raised by, or concerning, the company's stakeholders, enabling the company's decision makers to calibrate Nokia's strategy and business model to address significant material impacts on stakeholders.

General information continued

Material impacts, risks and opportunities and their interaction with Nokia's strategy and business model

Material impacts, risks and opportunities

Based on Nokia's double materiality assessment, Climate Change, Resource Use and Circular Economy, and Social and Governance topics were identified as material. The assessment identified seven material topics, which encompass 14 material sub-topics. Nokia's material topics and their associated sub-topics and sub-sub-topics are detailed in the table below, providing a comprehensive view of Nokia's materiality landscape. In alignment with ESRS requirements, the assessment provides a summary of identified impacts, risks, and opportunities across each ESRS topic and their respective value chain locations. The findings indicate that impacts, risks and opportunities occur throughout all value chain phases, upstream, downstream, and cross-cutting, highlighting the interconnected nature of these topics within Nokia's operations and ecosystem. The process describing how the material impacts, risks and opportunities were identified is disclosed in the section [Impact, risk and opportunity management](#).

Material impacts, risks and opportunities identified in the double materiality assessment

	Material sub-topics/sub-sub-topics	Type of impact, risk or opportunity	Material impact, risk, or opportunity	Concentration of impact, risk and opportunity in the value chain
E1	Climate change mitigation	Positive impact 	Substantial contribution to climate change mitigation through development of energy and resource efficient products and technologies	Downstream
	Climate change mitigation	Negative impact 	Greenhouse gas emissions in Nokia's own operations and value chain causing adverse impact on climate	Own operations, Upstream and Downstream
	Energy	Negative impact 	Use of high carbon intensity energy sources in connection with usage of Nokia's products in the customer networks contributing to negative impact on climate	Downstream
	Climate change mitigation	Opportunity 	Nokia's solutions and new innovations in software, hardware and services enabling other industries to transition to a low carbon economy potentially driving revenue growth and open new revenue streams through new customer segments and markets	Downstream
E5	Resource inflows, including resource use	Positive impact 	Secondary use of Nokia's products and use of secondary materials in Nokia's products prevent generation of waste, contribute positively to material availability and land use	Upstream
	Resource inflows, including resource use	Negative impact 	High use of primary raw materials in our hardware components where mining and melting of virgin materials has significant negative environment impacts, including waste	Upstream
	Resource inflows, including resource use	Risk 	Nokia hardware products are dependent on various minerals and other virgin substances. If global consumption continues to grow, it may lead to material scarcity likely resulting into increased prices	Own Operations and Upstream
	Resource outflows related to products and services	Positive impact 	Applying circular design and business principles increase the recyclability of Nokia's products which further enables recycling of the products and the raw materials contained in them	Own operations, Upstream and Downstream
	Resource outflows related to products and services	Negative impact 	Nokia sells to its customers significant amount of hardware products which at the end of their lifecycle will become electronic waste, unless handled and recycled appropriately	Downstream
	Waste	Negative impact 	Nokia sells to its customers significant amount of hardware products which at the end of their lifecycle will become electronic waste, unless handled and recycled appropriately	Downstream
	Waste	Positive impact 	Reduction or prevention of waste generation in Nokia's own operations and value chain, including appropriate handling and recycling of our products contributes positively to material availability and land use	Own operations, Upstream and Downstream
S1	Working conditions: Secure employment	Positive impact 	Nokia's innovative approach to staff development and talent attraction has enabled it to act resiliently in the markets and renew itself in ways that positively impacts own workforce.	Own operations
	Working conditions: Secure employment	Risk 	Inability to attract, develop and retain a future-fit workforce with right skill set and in the right locations during business transformation	Own operations
	Working conditions: Working time	Positive impact 	Nokia has implemented and is maintaining programs and policies regarding flexible working arrangements	Own operations
	Working conditions: Work-Life Balance	Positive impact 	Nokia offers global paid family-related leave which often exceeds local regulations to align with defined internal best practices	Own operations

General information continued

	Material sub-topics/sub-sub-topics	Type of impact, risk or opportunity	Material impact, risk, or opportunity	Concentration of impact, risk and opportunity in the value chain	
S1	Working conditions: Adequate wages	Risk	⌚	Increases in wages or changes in the related practices/regulations resulting in increases in Nokia's personnel related costs	Own operations
	Equal treatment and opportunities for all: Gender equality and equal pay for work of equal value	Positive impact	⊕	Nokia has adopted gender equality and equal pay principles for own employees	Own operations
	Equal treatment and opportunities for all: Training and skills development of own workforce	Positive impact	⊕	Nokia offers extensive training and skills development opportunities to its own workforce regarding knowledge and competence development as an essential element of its business strategy, which allows employees to maintain and enhance their skills	Own operations
	Equal treatment and opportunities for all: Training and skills development of own workforce	Risk	⌚	Inability to attract, develop and retain a future-fit workforce with right skill set and in the right locations in the rapidly changing technological environment	Own operations
S2	Working conditions: Working time	Negative impact	⊖	Suppliers' employees in supplier manufacturing facilities or customer services sites may be exposed to excessive or non-voluntary overtime, continuous work without day off during peak manufacturing or projects with short execution time.	Upstream and downstream
	Working conditions: Adequate wages	Negative impact	⊖	Suppliers' employees in supplier manufacturing facilities or customer services sites may be exposed to receiving insufficient wages, deductions from their wages, not receiving correct full and final settlement when terminating employment or working under false apprenticeship schemes.	Upstream
	Working conditions: Health and Safety	Negative impact	⊖	Nokia business activities associated with installation of network equipment & support services, site acquisition & permitting may include health and safety threats related to working at height, road safety, electrical safety, underground assets, street works and working in high or extreme risk countries/regions.	Upstream and downstream
	Other work related rights: Forced labour	Negative impact	⊖	Suppliers' employees may be exposed to forced labor, including having work without valid employment contract, exposure to recruitment fees being collected as part of recruitment channels, casual labor entering our services supply chain, risks being particularly higher in deeper supply chain tiers, and in services supply chain where execution of lower skill profile last mile tasks may occur, especially in remote areas which are difficult to reach.	Upstream
S3	Communities' civil and political rights: Freedom of expression	Positive impact	⊕	Enabling freedom of expression through connectivity and providing social impact programs to help develop digital skills provide the means for communities to fully participate in today's digital society. This includes greater opportunity to share opinions, enjoy their civil rights such as voting, and access diverse information and public services more easily which further promotes informed decision-making.	Downstream
S4	Information-related impacts for consumers and/or end-users: Access to (quality) information	Positive impact	⊕	Nokia's technology enables connectivity and the resulting positive impact related to access to information, exchange of ideas and opportunity for economic development.	Downstream
	Information-related impacts for consumers and/or end-users: Freedom of expression	Positive impact	⊕	Enabling freedom of expression through connectivity allows consumers and end-users to share opinions, access diverse information and public services which further promotes informed decision-making.	Downstream
G1	Corporate culture	Risk	⌚	Breach of Nokia's Code of Conduct or the law in regard to compliance areas leading to negative financial or reputational consequences.	Own operations, Upstream and Downstream
	Corporate culture	Opportunity	↗	Nokia is distinguished as one of the World's Most Ethical Companies by Ethisphere. Nokia's strong ethical corporate culture provides a foundation to engage in business ethically and legally.	Own operations, Upstream and Downstream
	Corporate culture	Positive impact	⊕	Corporate culture prioritizing sustainability can lead to responsible and sustainable decision-making throughout the value chain.	Own operations
	Management of relationship with suppliers including payment practices	Opportunity	↗	Building trusted relationships and long-term partnerships with suppliers who share Nokia's culture of ethics and compliance.	Upstream
	Corruption and bribery: Prevention and detection of bribery	Opportunity	↗	Nokia is consistently recognized as one of the World's Most Ethical Companies by Ethisphere. Nokia's strong ethical corporate culture provides a foundation to engage in business ethically and legally.	Own operations, Upstream and Downstream

General information continued

Material Impacts on people and the environment

The outcome of the double materiality assessment provides an overview of Nokia's most important sustainability topics. Nokia's existing ESG focus areas already incorporate a degree of consideration for material impacts, risks, and opportunities.

As determined through the double materiality assessment, Nokia's business activities, operations and value chain have an impact on people and the environment. All material impacts have occurred or are expected to occur on a short-term and potentially continue over the medium- and long-term time horizon.

Nokia's existing policies, people strategy and values aim to increase employee satisfaction. By offering skill enhancement programs and training, employees' capabilities and knowledge are increased.

Energy use, GHG emissions, resource use and waste related to our customers' networks and products are actual negative impacts. Climate change mitigation measures such as product energy efficiency improvements, reduced power consumption of communication devices and solutions help increase Nokia's material positive impact on the environment and reduce the negative impacts. These kinds of measures are implemented as part of the R&D phase. Additionally, efforts to improve product recyclability rates and waste management practices are ongoing addressing both the identified positive and negative impacts.

Nokia contributes to decarbonizing other industries and society, enabling the transition of the energy sector by providing the critical networks for life and connecting the unconnected. The connectivity and technologies Nokia provides serve as a social good, supporting human rights by enabling freedom of expression, access to information, the exchange of ideas, and economic development.

The negative impacts on value chain workers are also taken into consideration, and we are working continuously to actively mitigate any negative impacts across our value chain, working with our suppliers to raise the standards in our ecosystem in key ESG areas. We have established supplier due diligence as one of the four pillars of our responsible sourcing strategy, complemented by supplier development and learning and industry collaboration as key enablers for success, as described under section '[Workers in the Value Chain \(ESRS S2\)](#)'.

Interaction with strategy and business model

These material impacts are taken into account in Nokia's ESG strategy and Nokia's business model. This can be exemplified by our product energy efficiency strategy, the selection of the materials we use, our strategy for circularity to reduce waste and packaging, supplier management, human rights and stakeholder relationships which require the implementation of specific actions to reduce the negative impacts.

The design, deployment, and maintenance of our products and services directly connect to both our positive and negative impacts, such as managing resource use and ensuring responsible supply chain practices.

Our responsible and ethical business practices and procedures support the minimization of negative impacts to our workforce and continuous audits and monitoring of our suppliers findings implementation support a more sustainable operation and supply chain.

Nokia's business strategy and ESG strategy undergo annual reviews. Over the past year, we have analyzed the current and anticipated effects of our material impacts, risks, and opportunities on our business model, value chain, strategy, and decision-making processes within our Enterprise Risk Management framework.

Our evaluation identified climate change mitigation, resource use and circular economy, working conditions of Nokia's workforce, including equal treatment and opportunities for all, and corporate culture under business conduct as the major influences to ESG strategy.

The escalating volume and complexity of ESG regulations will necessitate swift adoption of sustainable practices by suppliers and customers, particularly in the area of energy efficiency. This demand will drive us to further refine our climate, sourcing, and reporting strategies, intensify our R&D efforts, and cultivate even stronger customer engagement.

To address our material impacts and risks, we have implemented several strategic initiatives, such as defining a net-zero pathway and transition plans supporting the commitment to net-zero by 2040, including sustainability target setting, metrics and results as part of Nokia's sourcing and supply chain.

ESG targets

Nokia's ESG targets presented on the next page are determined based on Nokia's business requirements, sustainability strategy and material topics which are aligned with different internal groups and functions. When setting our targets we also take into account stakeholders' requirements and input gathered through interaction with Nokia's customers, suppliers, investors, non-governmental organizations and other stakeholders where relevant.

The ESG targets are distributed across short, medium and long term. All targets presented by Nokia are set voluntarily i.e. the targets are not mandated by legislation.

The 2024 results, progress against selected targets and more detailed information about these targets set are presented in the relevant section of a topical standard. Other metrics in relation to the material sustainability matters that are defined in the ESRS or on Nokia specific basis are presented in the relevant section of a topical standard.

General information continued

Our ESG targets

2024

Environmental

Reach **75%** reduction of our facilities' GHG emissions compared to 2019

Use **85%** renewable electricity in our own facilities

Social

A minimum of **28%** female hires in global external recruits

Zero fatal incidents for own workforce, suppliers and third-parties

Cohort of **60** senior leaders conduct safety tours to sites to increase monitoring visibility

96% of projects compliant with the strengthened requirements of our High-Risk Project Implementation Assessments (HRPIA) process

Reduction in Total Recordable Incident Frequency Rate (TRIFR) and Lost Time Incident Frequency Rate (LTIFR) for Nokia own workforce

Governance

Ethical Business Training (EBT) completed by **95%** of employees

2025

Environmental

Use **100%** renewable electricity in our own facilities (RE100)

GHG emission reduction of **80%** from scope 1 and scope 2 market-based emissions from a **2019 base year**

Social

Harness Nokia technology, capabilities and funds to improve the lives of **1 500 000** from a 2022 base year through social digitalization projects, digital skills building, and connecting the unconnected or underserved

96% of projects compliant with requirement of HRPIA process

Zero fatal incidents for own workforce, suppliers and third-parties

Reduce Total Recordable Incident Frequency Rate (TRIFR) and Lost Time Incident Frequency Rate (LTIFR) for Nokia own workforce and suppliers compared to previous year

Cohort of **80** senior leaders to conduct safety tours to sites

98% 3TG traceability and conflict free status to smelter level in our supply chain as well as conflict free status of the smelters. Extended due diligence and conflict free status of cobalt, mica, aluminum and copper

80% of suppliers achieve satisfactory sustainability score from supplier performance evaluation

Governance

Ethical Business Training (EBT), which includes ESG (Environmental, Social, Governance) training, completed by **95%** of employees

2030

Environmental

SBT Net-Zero⁽¹⁾

Overall Net-Zero target: Nokia commits to reach **net-zero** greenhouse gas emissions across the value chain by 2040

Near-term target⁽¹⁾: Nokia commits to reduce absolute scope 1, 2 and 3 GHG emissions by **50%** by 2030 from a 2019 base year

Our final assembly suppliers reach **zero** emissions from a 2019 base year

Our suppliers reduce GHG emissions by **50%** from a 2019 base year

Our logistics' GHG emissions reduced by **73%** from a 2019 base year

GHG emissions reduction of **90%** from scope 1 and scope 2 market-based emissions from a 2019 base year

95% circularity rate for waste from our offices, labs, own manufacturing, installation, product takeback and supply chain final assembly factories

Increase recycled content in mechanical part source materials:

- Cast aluminum used in mechanical parts: to **90%**
- Wrought aluminum, steel and copper alloys, as well as polycarbonate plastics used in mechanical parts: to **50%**

Packaging recyclability: Ensure all packaging is **100%** recyclable

Recycled material content: Cardboard and plastic packaging materials to contain at least **50%** recycled content

Plastics: Plastic packaging to be limited to no more than **10%** by weight of total primary packaging

Social

Helping our customers to connect the next **2 billion** measured by number of subscriptions in Nokia radio customers' networks from a 2021 base year

Nokia's Fiber-to-the-Home technology to connect **140 million** new subscribers from a 2023 base year

100% of suppliers delivering high risk activity to meet "H&S Recommended and Preferred supplier" status in our HSMA

Achieve share of women to a minimum of **25%** of total employees

Governance

Maintain **85%** favorability of employee/line manager engagement on the importance of ethics and compliance

2040

Environmental

Long-term target⁽¹⁾: Nokia commits to reduce absolute scope 1, 2 and 3 GHG emissions **90%** by 2040 from a 2019 base year

(1) The target includes scopes 1, 2 (market-based), 3.1, 3.2, 3.4, 3.6, 3.11. It excludes Submarine Networks discontinued operation.

General information continued

Current financial effects of the material risks and opportunities

Nokia has assessed the financial effects of the material risks and opportunities for the reporting year 2024.

In the double materiality assessment, we identified a material risk related to inability to attract, develop and retain a future-fit workforce with the right skill set and in the right locations as skilled employees remain critical in our business. We have not identified such material current financial effects directly contributed from the identified risk.

In relation to our own workforce, we also identified a material risk of increase in personnel expense due to increases in wages or changes in the related practices and regulations. Our compensation and benefits programs contribute to our business success by balancing market competitiveness and affordability based on a total compensation approach. The key elements of our compensation structures are annual base salary, incentive/bonus programs, recognition programs and equity-based long-term incentives. The personnel expenses per person increased during the financial year compared to the previous year (refer to the Financial statements, [Note 3.1. Summary of personnel expenses](#)).

We identified a material opportunity related to the transition to a low carbon economy and we consider energy efficiency to be one of the key factors in product competitiveness. Any current financial effects of product competitiveness are reflected in net sales as presented in the consolidated income statement.

Nokia hardware products are dependent on various minerals and other virgin substances. It is estimated that if the global consumption continues to grow, it may lead to material scarcity and an increase in prices of these materials. Potential financial effects of this risk are only expected in the long-term and no actual financial effects for the financial year identified.

Breach of our Code of Conduct or the law in regard to compliance areas could result in a material financial effect on Nokia's financial position, performance or cash flow. In 2024, no related material financial effects were accounted for.

As described in the section '[Basis for preparation](#)', Nokia is not yet disclosing the anticipated financial effects of the material risks and opportunities in this Sustainability Statement following the phase-in provision due to the first year reporting. The financial effects will be reported in the subsequent periods in accordance with the applicable requirements.

Resilience of Nokia's strategy and business model to address its impacts, risks and opportunities

Nokia's business strategy is enabled by the talent driving our innovation, research and development, and Nokia's innovative approach has enabled it to act resiliently and renew itself. Nokia has a consolidated global approach for business continuity and every function regularly maintains business continuity plans.

Nokia is continuously refining its approach to identify material impacts on people and the environment. As discussed in this Sustainability Statement, we recognize and aim to mitigate the potential risks and negative impacts associated with our business, while also aiming to drive opportunities and positive impacts within and beyond our business.



General information continued

Policies adopted to manage material sustainability matters

The following table outlines Nokia's global policies and their relationship to the material sustainability topics identified. It provides an overview of the key policies which address several interconnected sustainability matters, demonstrating how each policy aligns with and addresses the relevant sustainability matters. These policies are published on Nokia's website and are available for all stakeholders.

Nokia global policies and their relation to material topics

Nokia policies	Scope of the policy	Management body	Relation to material topics
Nokia Code of Conduct	<p>Nokia Code of Conduct is available in a web-based format in 20 languages. It enforces our values and expectations, and unites all Nokia employees behind a common vision.</p> <p>The Code of Conduct outlines standards for ethical behavior by Nokia employees and business partners. It sets out Nokia four key principles and 14 key risk areas.</p> <p>The Code of Conduct applies to directors, officers, and employees of Nokia, as well as employees of Nokia's wholly-owned affiliates and subsidiaries. The Code also applies to directors, officers, and employees of other business entities (such as joint ventures) in which Nokia owns a majority of the shares or exercises effective control.</p> <p>The Code of Conduct includes our basic principles of business conduct and high-level policy statements related to critical business topics. Policy documents further define, support, and explain specific policies. Standard Operating Procedures are created, where needed, to instruct employees on specific procedures to implement the policies. The full set of supporting policies and related procedures for the Code of Conduct's risk areas are available online to our employees and are included in annual mandatory training sessions.</p>	<p>Nokia Board of Directors adopts the Code of Conduct that applies to directors, executives, and employees of Nokia, as well as employees of Nokia's subsidiaries and affiliated companies (such as joint ventures) in which Nokia owns a majority of the shares or exercises effective control.</p> <p>Respective policy/subject matter experts are responsible for ensuring that our policies and procedures remain up to date and in accordance with applicable laws and regulations in all countries where we operate.</p>	<p>Nokia Code of Conduct is applicable to all material topics identified (E1, E5, S1, S2, S3, S4, G1)</p>
Environmental policy	<p>The environmental policy is part of the general management process and environmental considerations are incorporated into relevant business planning, decision making, implementation and tracking activities. The key commitment outlined in the policy is to ensure sound environmental management. Nokia continuously seeks to prevent pollution and to reduce the environmental impacts of its products and services throughout their life cycle.</p>	<p>The environmental policy is approved by Nokia's CEO, while business functions ensure the needed competences, and plan and implement improvement programs with innovative and pragmatic solutions.</p>	<p>The environmental policy is applicable to material topics under E1 – Climate change and E5 – Resource use and circular economy</p>
People framework	<p>Nokia's Global People Framework summarizes the core People principles applicable to everyone at Nokia – including directors, officers and employees, as well as all companies and controlled joint ventures that are part of the Nokia Group. It doesn't cover external temporary workers and sub-contractors.</p> <p>Within Nokia's governance model the People Framework is called a Policy, which governs all the People processes and practices. The approved regulation for implementing People processes and practices is called a Standard Operating Procedure (SOP). All People SOPs are global by definition and apply to all Businesses within Nokia.</p>	<p>SOPs are developed and maintained by the Chief People Organization. The Leader of the appropriate Portfolio for the given service, process or practice is the owner. Final approver is Nokia's Chief People Officer or delegates.</p> <p>All People SOP's and Guidelines are governed by and have to be in full alignment with the People Framework. In case of conflict the People Framework prevails.</p>	<p>The People framework is applicable to material topics under S1 – Own workforce</p>
Code of ethics	<p>The Code of Ethics complements Nokia's Code of Conduct and sets out further expectations for Nokia's President and Chief Executive Officer, Chief Financial Officer, Deputy Chief Financial Officer and Corporate Controller (the "Officers").</p>	<p>The Code of ethics is adopted by the Nokia Board of Directors.</p>	<p>The Code of ethics is applicable to material topics in G1 – Business conduct: Corporate culture</p>
Human rights policy	<p>The policy addresses the impact of Nokia products and services on free expression, access to information, exchange of ideas, and economic development. Policies related to other human rights, for example rights related to fair labor practices, modern slavery and human trafficking, and environmental stewardship, are reflected in other Nokia policies.</p>	<p>The policy is adopted by the Nokia Board of Directors and approved by Nokia's CEO.</p>	<p>The Human Rights policy is applicable to material topics in S3 – Affected communities and S4 – Consumers and end-users</p>

General information continued

Impact, risk and opportunity management

Description of the process to identify and assess material impacts, risks and opportunities

The purpose of the double materiality assessment is to identify and assess our sustainability-related impacts, risks and opportunities. The impacts, risks and opportunities that are deemed material define the information disclosed in this Sustainability Statement.

Nokia conducted the materiality assessment for both impact and financial materiality. Impact materiality examines how our activities affect people, the environment, and society – for example, how we contribute to climate change or social inequality. Financial materiality examines how sustainability matters impact our business, financial performance and position covering sustainability related financial risks and opportunities.

ESRS 1 requirements have been considered and followed in Nokia's double materiality assessment. The topics, sub-topics and sub-sub-topics as listed in the ESRS formed the basis of sustainability matters considered in the materiality assessment. Additionally, Nokia considered if there are any entity-specific topics that are not covered in the ESRS. No such entity-specific topics were identified.

During the double materiality assessment, Nokia engaged with over 70 internal and external stakeholders, following the guidelines for stakeholder engagement issued by European Financial Reporting Advisory Group (EFRAG), who authored the European Sustainability Reporting Standards. Nokia's cross-functional project team comprising internal stakeholders with expertise on sustainability, business, technology, legal, finance, employees, risk management and value chain were extensively involved. An external partner supported and guided Nokia throughout the assessment and project.

Key steps in the double materiality assessment

The assessment was conducted in four stages: value chain mapping, impact assessment, financial assessment, and material topics determination and validation.

Value chain mapping

Nokia developed an aligned overview of Nokia's value chain, which consists of its key activities and business relationships, the context in which these take place, and an understanding of its key affected stakeholders. Based on this information, Nokia mapped out the value chain, geographical locations and the potentially affected stakeholders across the different value chain activities. The outcome was validated with key internal stakeholders. The key components of our value chain are presented in the section [Strategy, Business model and value chain](#).

Impact assessment

Nokia assessed its actual or potential and positive or negative impacts on people and environment over the short-, medium- and long-term across its value chain. The nature of these impacts was then described and categorized according to relevant ESRS topics.

The identified impacts were scored based on the impact materiality scoring methodology. The impact score comprise two elements: severity and likelihood. Severity is further defined by scale, scope, and irremediability. For actual negative impacts, materiality was assessed based on the severity of the impact. For potential negative impacts, both severity and likelihood were considered. When scoring potential negative human rights impacts, severity took precedence over likelihood. For actual positive impacts, materiality was based on the scale and scope of the impact for actual impacts, and for potential positive impacts, scale, scope and likelihood were considered.

Nokia's subject matter experts identified, documented, scored, reviewed and validated the impacts. Information on Nokia's impacts was gathered from various sources including existing stakeholder engagement initiatives, research programs, due diligence processes and reporting. Impacts were identified on the defined value chain map level and linked to the relevant geographical area. The focus was on value chain areas where impacts are deemed likely to arise.

Furthermore, ten external stakeholders, including business partners, investors, and NGOs, were interviewed to understand their perspectives on material ESRS topics and validate findings. The external interviews were conducted by Nokia's partner company. The impacts, risks and opportunities identified by external stakeholders were considered in the impacts identification and cross-checked against Nokia's impact scoring. Any significant deviations were assessed, and adjustments made wherever needed.

Financial assessment

Nokia assessed its actual or potential financial implications, including risks and opportunities, over the short, medium and long term. Risks and opportunities were identified based on prior workshops, issues discovered in day-to-day operations and business interactions, desktop analysis, internal risk reporting, impact assessment, stakeholder interviews, and previous assessments, such as the climate-related scenario analysis conducted in line with Task Force on Climate Related Financial Disclosure framework (refer to '[Climate change \(ESRS E1\)](#)' section for further information). These assessments considered factors across the value chain that could impact Nokia's business and financial performance.

The identified risks and opportunities were further assessed, validated and scored by Nokia's subject matter experts. The requirement about inter-relation between impact and financial materiality was considered in the assessments and identified impacts, risks and opportunities were cross-referenced. Any differences between these two were validated to ensure completeness of the materiality assessment. The financial effects or risks arising from actions to address sustainability matters were also considered during the assessments. Each risk and opportunity was linked to the relevant geographical area, though many risks and opportunities are global or linked to several countries.

The identified risks and opportunities were scored based on the likelihood of occurrence and the estimated magnitude of potential financial effect.

General information continued

Material topics determination and validation

The identified impacts, risks and opportunities were scored from 0 to 4. In the material topics determination phase, Nokia assessed and defined the following materiality thresholds: 3.7 for impact materiality and 3.0 for financial materiality. Impacts, risks, and opportunities exceeding the thresholds are concluded to be material to Nokia and define the reporting scope of this Sustainability Statement.

Nokia leadership was interviewed and engaged in validating the findings and materiality of environmental, social and governance topics. The double materiality assessment process and final results were reviewed and approved by the Steering Committee established to steer ESG Financial Reporting program and CSRD reporting. The Audit Committee was informed about Nokia's double materiality assessment and results in line with Audit Committee's responsibility to oversee sustainability reporting under the new CSRD regulation.

Nokia assesses on an annual basis whether any such changes in its business model, operations, risk assessment or external circumstances have occurred which require update or reassessment of the double materiality assessment in whole or in part.

Additional topical considerations

Environment

Nokia's Environmental Management System, environmental data and climate-related scenario analysis conducted in line with the Task Force on Climate Related Financial Disclosure framework were utilized as a basis to identify, assess and score environmental related impacts, risks and opportunities. More information regarding climate and resource use and circular economy is provided in the sections '[Climate change \(ESRS E1\)](#)' and '[Resource use and circular economy \(ESRS E5\)](#)'.

When identifying actual or potential pollution (ESRS E2), water and marine resources (ESRS E3) and biodiversity (ESRS E4) impacts, risks and opportunities, Nokia assessed its own operations, upstream and downstream activities. This assessment covered, among others:

- Nokia's own facilities' other than GHG emission and water consumption data collected annually
- Substances used in Nokia's products and packaging
- Sector specific analysis on materiality and impacts of commodities on biodiversity

- Submarine Networks marine operations
- Protection of Nokia's forest areas in Finland

To the best of Nokia's knowledge at the time of the double materiality assessment, negative impacts were identified but none of the impacts, risks or opportunities met the materiality thresholds. Nokia's climate change mitigation and resource use minimization actions indirectly contribute to prevent changes in ecosystems.

Workers in the value chain (S2)

Nokia's impacts, risks and opportunities connected to workers in the value chain were identified on the basis of supplier assessments and audits that Nokia conducts each year, as well as on the basis of discussions in industry forums, through stakeholder inquiries and supplier workshops and webinars. Findings related to working time, wages, health and safety and forced labor risk were the most frequent findings in Nokia's supplier audits in 2024. The information gathered through this process was used for the identification and scoring of material impacts, risks and opportunities related to workers in Nokia's value chain. Please refer to section '[Workers in the value chain \(ESRS S2\)](#)' for further information.

Business conduct (G1)

For business conduct matters, Nokia's impacts, risks and opportunities are identified on the basis of ongoing reviews of risks presented both internally, including business go-to-market strategies, and externally, including regulatory changes. Nokia addresses these risks and opportunities, along with possible impacts, through a multi-pronged approach that includes Nokia's Code of Conduct; a corporate culture of integrity, which is supported by its comprehensive compliance training and communication programs; the annual mandatory "Ethical Business Training" course; effective controls; and well-defined processes. The topics within the mandatory training program are rotated every year to raise awareness on high-risk areas, emerging risks, and key topics. Nokia is continually improving its compliance controls and processes to ensure a robust and effective compliance program. Nokia's culture of integrity is further supported by its strong speak-up culture, empowering employees to raise concerns. Concerns are investigated by the appropriate resources, including the Ethics and Regulatory Compliance team's Investigations Group, which is responsible for the investigation of reported compliance concerns. Refer to '[Business conduct \(ESRS G1\)](#)' for further information.

Changes compared to the previous materiality assessment

The double materiality assessment was conducted for the first time in accordance with the new framework provided by the Corporate Sustainability Reporting Directive (CSRD) and the related European Sustainability Reporting Standards (ESRS). Applying the said standards and methodology as a framework for our reporting also means that certain topics and sub-topics included in previous sustainability reports which were aligned with Global Reporting Initiative (GRI) guidelines did not meet our materiality threshold. The application of the reporting threshold does not change our strategic approach to addressing these topics, which include biodiversity, pollution, security, and privacy matters. We anticipate future feedback from stakeholders, peer insights, regulatory developments, and further ESRS implementation guidance to alter the outcome of the double materiality assessment in the future.

Integration to Nokia's Enterprise Risk Management

Sustainability related risks and opportunities are embedded within our Enterprise Risk Management framework and risk taxonomy. Nokia Enterprise Risk Management's purpose is to ensure that a systematic risk and opportunity identification and analysis is embedded into financial planning, strategy creation and operative business management as well as in key decision making. The Enterprise Risk Management framework is aligned to the overall Nokia governance model, where Nokia's businesses are accountable for meeting approved plans and targets as agreed within Nokia. Key risks and opportunities are managed and monitored as part of business performance management.

Under the Nokia Enterprise Risk Management framework, Nokia considers event likelihoods, financial impacts and rate the effectiveness of our risk and opportunity response actions. The significance of individual risk factors is evaluated against six different dimensions - the degree of impact to people & environment, our compliance, reputation, financials, operations and strategy. Early on in the double materiality assessment process we ensured that the rating scales align with our ERM approach.

Furthermore, in the reporting period 2024, the Sustainability and Enterprise Risk Management teams aligned identified impacts, risks, and opportunities in the double materiality assessment with the ERM reporting.

Environmental information

Environmental information

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Climate change (ESRS E1)

Climate change has been a major topic for Nokia Group for more than a decade and as such we have worked consistently to develop and refine our approach to understanding and tackling the risks and opportunities that climate change presents to our business. Equipped with this knowledge, we have been able to make informed business decisions, set goals and targets, and focus on critical climate actions over the years. Our climate goals include increased energy efficiency in silicon, software, and systems, providing the networks and operational skills to scale smart energy solutions. We also intend to accelerate our efforts in energy efficiency in 5G-Advanced and 6G through early engagement in standardization and ecosystem development. Sustainability topics including climate are integral to our Technology Vision and Strategy 2030 and are reflected in how we operate and the business decisions we take. Research in Nokia Bell Labs also contributes towards these goals.

Material impacts, risks and opportunities related to climate change mitigation and energy

The materiality assessment reflected that climate change mitigation and energy are material sustainability sub-topics for Nokia. The following table describes the material impacts, risks and opportunities, as well as how we manage those impacts, risks and opportunities.

Sub-topic	Material impacts, risks and opportunities	Management
Climate change mitigation	Positive impact: Substantial contribution to climate change mitigation through development of energy and resource efficient products and technologies	With 95% of Nokia's total scope 1, 2 and 3 GHG emissions resulting from products in use, we invest significantly in research and development to continuously improve the energy efficiency of our products and develop new energy efficient solutions. As the volume of network traffic rises in a more connected and digitalized world, we work on separating this growth in traffic from an equivalent growth in energy consumption.
Climate change mitigation	Negative impact: Greenhouse gas emissions in Nokia's own operations and value chain causing adverse impact on climate	We manage and try to minimize this negative impact same way as we manage the above positive impact.
Energy	Negative impact: Use of high carbon intensity energy sources in connection with usage of our products in the customer networks contributing to negative impact on climate	We engage with stakeholders to push for grid decarbonization and aim to provide digitalization solutions to support renewables generation and grid transformation in the energy sector. We also work with our value chain on their journey to transitioning to renewable energy sources as countries decarbonize their electricity grids.
Climate change mitigation	Opportunity: Nokia's solutions and new innovations in software, hardware and services enabling other industries to transition to a low carbon economy potentially driving revenue growth and open new revenue streams through new customer segments and markets	We aim to proactively address changing customer preference through extensive research and innovation on energy efficient solutions. We provide low-latency connectivity, private wireless networks, new IP routing and optical solutions, sensors, and AI/ML as the basis of the decarbonization through digitalization proposition in our enterprise portfolio. We work with a growing range of enterprise partners to provide solutions which may enable other industries to transition to a low carbon economy and improve productivity. We collaborate with companies working on a variety of smart technologies, cloud-based technologies and automation.

Environmental information continued

Our approach to determining material impacts, risks and opportunities is described under the section '[General information](#)'.

Additionally, when identifying, assessing and scoring climate-related impacts, risks and opportunities, we utilized information and data from Nokia's Environmental Management System, climate-related scenario analysis and GHG emissions reporting.

For environmental topics Nokia has a ISO 14001 certified Environmental Management System in place to identify environmental aspects and impacts and related risks and opportunities, which are reviewed annually. This process covers all business activities. Environmental aspects are assessed based on their direct environmental impact, related applicable regulation, frequency and stakeholder interest. The aspects exceeding the threshold score set by the company will be considered as significant, and for them the management process, targets and responsible contributors are defined. The annual review process takes into account changes in the business scope, new products, geographies, regulation and stakeholder attitude. The identified environmental aspects where aligned with the impacts, risks and opportunities based on the double materiality assessment.

GHG emissions data (including the scopes 1, 2 and 3) was used as the basis for identifying Nokia's direct and indirect impacts on climate change, as well as when scoring scale and scope of the identified impacts.

Climate scenario and resilience assessment

The Task Force on Climate Related Financial Disclosure framework was used as the basis for the climate resilience analysis, as well as related risks, opportunities and scenario assessment completed in March 2024. The following short, medium, and long-term planning horizons in the context of climate change were applied:

- Short term: until 2026 (up to 3 years). This mirrors our financial planning horizon.
- Medium term: until 2030 which is the timeline we use in the context of strategic planning, and reflects the timeline of our current key science-based climate target (SBT) of 50% reduction in our total GHG emissions by 2030 (baselined to 2019).

- Long term: until 2050 which reflects the common ambition level for net-zero emissions across the value chain by no later than 2050, as envisaged in the Paris Agreement.

Physical risks

In the process of identifying and assessing climate change related physical risks, the SSP3-7.0 scenario was primarily used, being the likely worst-case scenario based on IPCC Sixth Assessment Report, considering the climate actions already taken to limit global warming. This scenario projects the global average temperatures to increase by 3.6°C above pre-industrial levels by the end of the century. Climate driven physical risks considered in the assessment include extreme heat, heavy rain and snow fall, floods, drought, wildfires, severe storms and tropical cyclones, sea level rise, water scarcity and air pollution.

The scoping for risk assessment and scenario building related to physical climate risks was based on relevant risk areas and value chain elements which could potentially expose Nokia to material risk. Our outdoor products and services were assessed to determine how sensitive those may be to physical climate change risks. We scoped our assessment to own operations in critical locations. In the supply chain assessment, we selected a sample of critical suppliers to study their external disclosures related to climate change and risks they have identified. Further, we explored the business implications of the identified risks and the risk response actions taken with respect to the relevant risks.

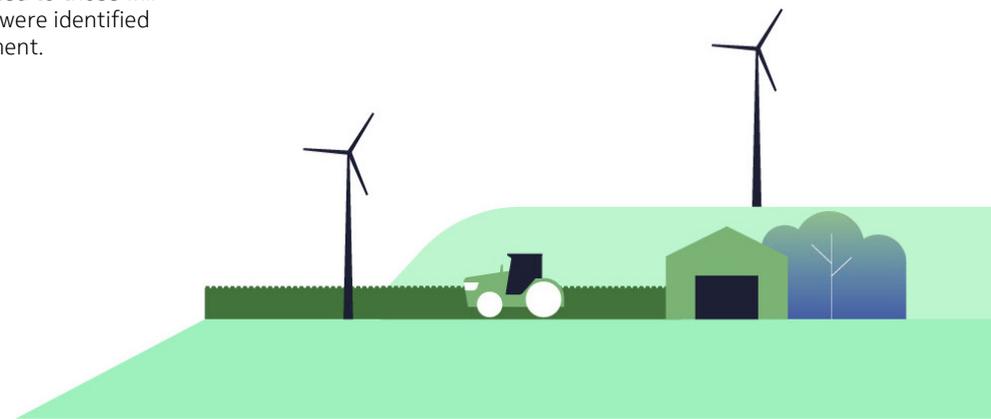
Our scenario analysis showed that our operations and assets are most exposed to extreme heat, heavy rain and pluvial flood. So far, we have not experienced material business disruptions from climate change-related physical risks. By 2050, the weather extremes will increase in frequency and intensity, but we have assessed that financial impacts related to those will remain modest and no physical climate risks were identified as material in the double materiality assessment.

Transition risks and opportunities

In the process of identifying and assessing climate change-related transition risks and opportunities, the SSP1-1.9 scenario was primarily used. This is the only scenario that meets the Paris Agreement's goal of keeping global warming to around 1.5°C above pre-industrial temperatures.

We scoped our assessment based on our GHG emissions footprint and key sectors (energy, transportation, building, industry/supply) impacting our operations or our carbon footprint with the assumption that these are the elements where transitional risks and opportunities may potentially lead to a material impact. The scoping and assumptions of our regulatory compliance landscape are based on the European Union's climate change actions and related regulations that are currently generally considered to be among the strictest and most forward-leaning climate and sustainability regulations in the world.

The assessment was done on a qualitative basis. In our assessment to identify key risks and opportunities, we have considered the shifts needed to limit warming to 1.5°C based on external evaluations and our own current understanding of the upcoming regulations impacting Nokia or Nokia's value chain. We also examined the worst-case SSP3-7.0 scenario, i.e. if any other potentially material risks or opportunities have been omitted using the lower emission scenarios.



Environmental information continued

Key assumptions used in the scenario assessment are the following:

- Digitalization of industries is a key enabler in the transition to a lower carbon economy
- Global electricity consumption increases with new technologies
- Energy grid development is modelled on IEA's World Energy Outlook 2023 in Net-Zero Roadmap
- Energy efficiency is an essential component to a low carbon path and ensuring adequacy of electricity
- The cost of carbon-intensive inputs, such as energy and raw materials increases.
- Customer specific-emission factors are taken into account in addition to the global energy grid development, in order to obtain more accurate data on emissions of the use of sold products; this approach is based on the assumption that our customers have set net-zero targets and are transitioning to renewable energy sources faster than the global grid is decarbonized.

We have conducted the assessment from four perspectives: shifts in technology, customer requirements, supply challenges or opportunities, and changes in rules and regulations potentially directly impacting Nokia's own operations and assets. Product energy efficiency and power consumption are the key product related aspects in the context of climate mitigation and can be both a risk and/or an opportunity depending on the competitive market position of our products.

In our assessment we concluded that energy efficiency is an essential component of the low carbon path regardless of the scenario chosen. Increased costs of carbon-intensive inputs, such as energy and raw materials are likely to drive companies to find savings and improvements in power consumption and operational efficiency. We consider this as an opportunity as digitalization and connectivity can support decarbonization and resource efficiency. We also believe that the continuing and potentially broader need for connectivity may open new customer segments and markets. Further, the energy efficiency of our products and new innovation in silicon, software, hardware and services may have a significant impact on our product competitiveness. Based on these considerations, we assessed climate change mitigation to develop an opportunity for Nokia which was deemed material in the double materiality assessment.

Additionally, we identified transition risks and opportunities which did not reach materiality threshold and were not deemed material in the double materiality assessment. Transition to a low carbon economy may increase the costs of energy and raw materials for our supply chain which could cause cost pressure for us and our customers. Additionally, corporate emissions reporting requirements, strengthened and expanded carbon pricing mechanisms, fragmentation of such frameworks, and increased likelihood of related compliance risks may all increase costs. Competitiveness of our products and solutions in the transition to lower carbon networks including product energy efficiency represents both a risk and opportunity to Nokia. Further, we identified transition opportunities related to increased availability of renewable energy and the development of adaptive capacity to respond to climate change.

In our climate scenario assessment, we also identified material availability, resource use and circular practices related risks and opportunities which are discussed in the '[Resource use and circular economy](#)' section.

Resilience

As we further develop a robust and sustainable supply chain that can best serve our customers, maintaining focus on resilience is critical. We continuously optimize our manufacturing, distribution and supplier network across the regions in which we operate to better serve our customers. We also leverage artificial intelligence and machine learning capabilities to better develop our supply chain and factory network. Our regional approach will not only enable us to deliver a more rapid response to our customers' needs, but also reduce transportation costs and carbon emissions.

As reflected in the material opportunity identified, we are confident that there is a need for connectivity and that our purpose and strategy remain intact regardless of the scenario pathway chosen. Nokia considers that information and communication technology and systems are essential to build resilience and to cope with climate change. Digitalization and enhanced connectivity can transform the way people communicate, work and live their daily lives. Our technology can enable industries and cities to digitalize and automate, driving efficiency and productivity gains while enabling potential reductions in emissions and the use of resources.

Policies

We have adopted policies to manage our material impacts, risks, and opportunities related to climate change mitigation and energy. Nokia tries to prevent environmental pollution along Nokia's value chain as it is outlined in its Environmental policy along with its Code of Conduct. Nokia is committed to reducing GHG emissions across the value chain in line with our GHG emissions reduction targets.

Nokia's Environmental policy is based on the principles of the ICC Business Charter for Sustainable Development, while environmental management and ongoing environmental performance are governed by the certified ISO 14001 Environmental Management System. This ensures a holistic and structured approach in managing Nokia's material sustainability matters. In 2024, Environmental Management Systems covered 54% of Nokia's sites and 90% of employees (excluding discontinued operations).

Environmental information continued

The implementation of the policy and its management system is the responsibility of each business function. The Environmental policy is publicly available and Nokia follows a proactive and open communication approach with relevant stakeholders. Refer to the section General information, '[Policies adopted to manage material sustainability matters](#)' for further information regarding the Nokia policies.

Product development and Design for Environment

The environmental goals and activities of Nokia are aimed at applying product life cycle thinking to minimize environmental impacts as early as possible in the product design and development process. This makes opportunities available to improve the environmental performance of the products including energy efficiency. Nokia's Design for Environment guideline addresses regulatory, customer and Nokia requirements for designers to use in striving to make Nokia products environmentally responsible, i.e., in line with our policies and goals for product stewardship and environmental sustainability.

This guideline development and update includes the Nokia Product Eco-Requirements Roadmap and results from product Life Cycle Assessments. Nokia employs Life Cycle Assessments as an important tool in evaluating potential environmental impacts of a product throughout its life cycle stages.

Supplier requirements

We expect our suppliers to adhere to our Third-Party Code of Conduct and we provide them with our supplier requirements, including the Responsible Business Alliance (RBA) Code of Conduct and Nokia specific sustainability requirements. Responsible Business Alliance Code of Conduct includes environmental related requirements, covering Environmental Permits and Reporting, Pollution Prevention and Resource Conservation, Hazardous Substances, Solid Waste, Air Emissions, Materials Restrictions, Water Management, as well as Energy Consumption and Greenhouse Gas Emissions.

On top of this industry standard, in the area of environment management, there are also several Nokia specific requirements toward our suppliers. We require our hardware suppliers for product materials and final assembly suppliers to have a documented Environmental Management System which shall satisfy the requirements of ISO14001 or other internationally recognized standards. We also require key suppliers to be ISO 14001 certified, which we track.

We also have implemented environmental requirements and guidelines for Nokia products, which describe all designs, products, parts, modules, components, and packaging materials. This document lists the most significant global environmental regulations and introduces the Nokia environmental requirements.

Suppliers are obliged contractually to consider environmental aspects in all phases of product development, using, for example, specific Design for Environment methods or checklists. Suppliers are contractually required to comply with Nokia product environmental requirements e.g., Nokia Substance List. Choices made during these product development phases must reduce or eliminate negative environmental impacts as much and wherever possible. As an example, all reasonable attempts shall be made to improve energy efficiency of the product and to promote recycling.

Transition plan and actions related to climate change policies

In 2023, Nokia investigated how to accelerate its net-zero ambition and defined the related transition plan and levers. Following this assessment in 2024, Nokia announced that it is committed to reducing its total global greenhouse gas emissions (GHG) to net zero across the value chain by 2040, accelerating its previous target by ten years, and putting it ahead of the Paris Agreement target of net-zero by 2050. Nokia is not excluded from EU Paris-aligned benchmarks.

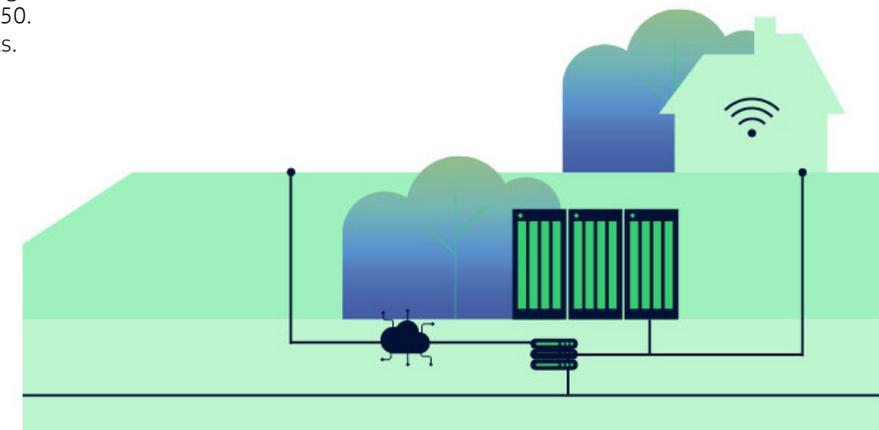
Nokia has defined a net-zero pathway that will help it reduce emissions across its value chain. Nokia's GHG emissions and the estimated decarbonization levers to achieve our 2030 and 2040 targets fall into three main categories. These categories are:

- Own operations including energy use in facilities and by fleet which contribute to scope 1 and 2 emissions
- Upstream activities including purchased goods and services, capital goods, logistics and business travel which contribute to scope 3 emissions category 1, 2, 4 and 6
- Downstream activities including use phase of our products and solutions which contribute to scope 3 emissions category 11

Additionally, electricity grid decarbonization has significant impact on reduction of our GHG emissions. The net-zero pathway also requires governance, monitoring and reporting actions.

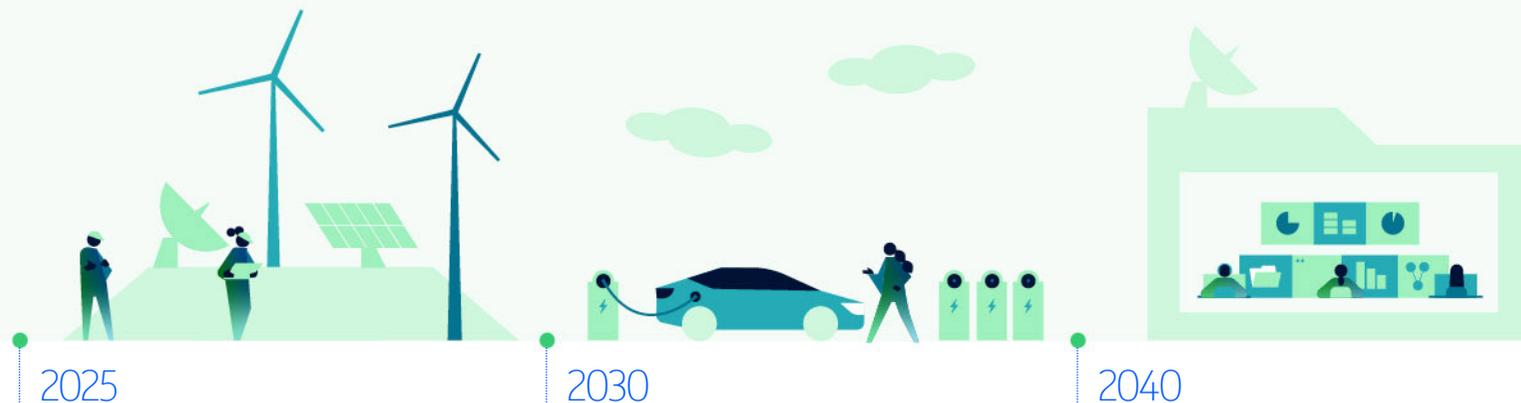
The commitment to net-zero was approved by the Nokia Group Leadership team and Board of Directors was informed about the commitment.

The net-zero target has been approved by Science Based Targets Initiative (SBTi) in January 2025.



Environmental information continued

The main decarbonization levers and examples of key actions planned in the net-zero pathway are described and illustrated below.



	2025	2030	2040
Decarbonization levers	Targets: RE100 (scope 2 facilities) 80% reduction scope 1-2	Targets: 90% reduction scope 1-2 SBT: 50% reduction scope 1-2-3	Targets: SBT Net-Zero by 2040 (scope 1-2-3)
Own operations: Facilities and fleet (scope 1-2)	100% renewable electricity (RE100)	100% electrification of car fleet	Neutralize residual emissions
Upstream: Embodied (scope 3, cat 1 and 2)	Engage key suppliers to plan and track decarbonization, circular products & services	100% decarbonization for final assembly suppliers, 50% for other key suppliers	Circular and low carbon materials product design
Upstream: Logistics and business air travel (scope 3, cat 4 and 6)	Optimizing transportation modes to minimize emissions	Bio-fuel blend agreements for logistics	Significant reduction in air freight emissions
Downstream: Product use phase (scope 3, cat 11)	Engage with customers to ensure wide uptake of renewables	Development of the product portfolio for energy efficiency gains	Develop decarbonized site energy solutions. Secure investments in long-term research and disruption
Electricity grid (scope 3, cat 1 and 11)	Climate dialogue with stakeholders	Value chain dialogue and customer specific factors. Grid decarbonization leading to GHG emission reductions ⁽¹⁾	Grid decarbonization leading to further GHG emission reductions ⁽²⁾
Governance, monitoring and reporting	Continuous reporting process development including further digitalization of the emissions data	Enter carbon market to purchase removals	Neutralize residual emissions

(1) Assumption: Grid decarbonization leading to 48% smaller emission factor compared to base year 2019 based on IEA WEO2023 – Announced Pledges Scenario.

(2) Assumption: Grid decarbonization leading to 82% smaller emission factor compared to base year 2019 based on IEA WEO2023 – Announced Pledges Scenario.

Environmental information continued

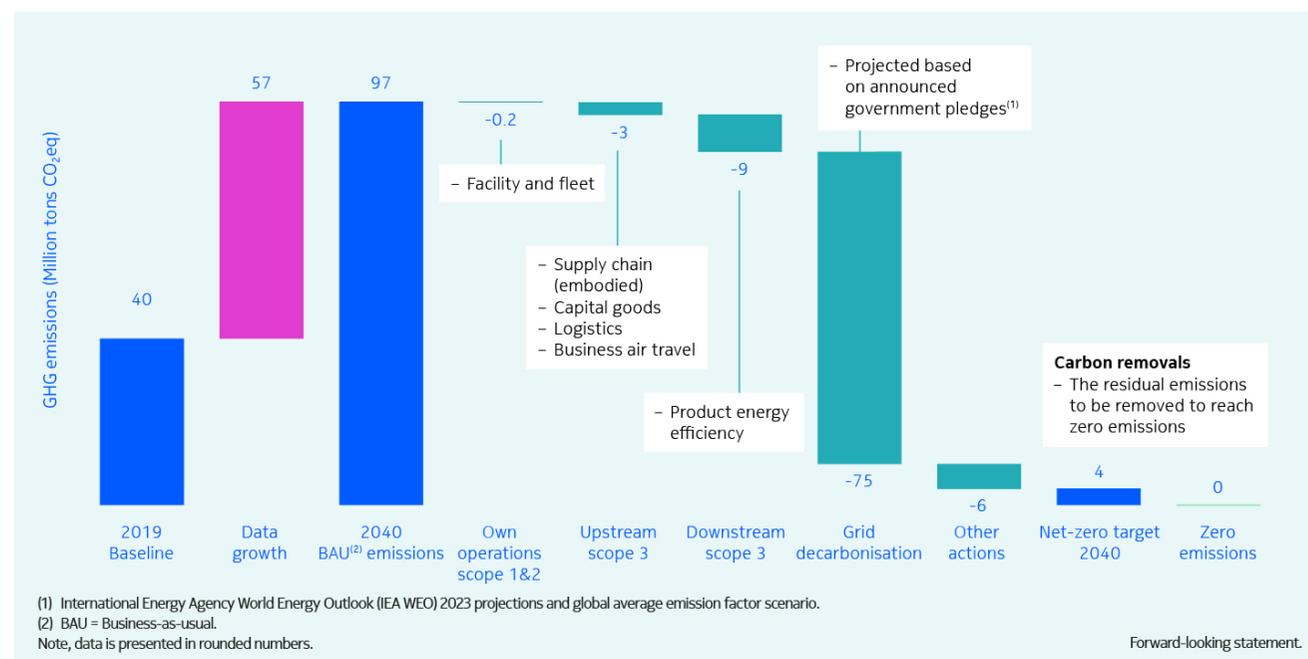
- Own operations - Facilities and fleet (scope 1 and 2): Nokia aims for complete decarbonization in our facilities and car fleet. Nokia is committed to using 100% renewable electricity in its own facilities by 2025. With our car fleet, we aim to reach the target for our own operations' emissions by continuing to introduce low-emission vehicles and transitioning to 100% electric vehicles by 2030.
- Upstream - Embodied (scope 3, categories 1 and 2): Nokia will focus on reducing the embodied emissions of its products, for example by offering circular products, adding recycled material content into new products and designing products that use less material while having increased throughput capacity and functionality. Nokia works with suppliers on their journey to decarbonizing their operations.
- Upstream - Logistics and business air travel (scope 3, categories 4 and 6): Nokia's action plans that will require further work include optimizing transportation modes and route planning, use of decarbonized fuels in logistics and reducing air freight.
- Downstream - Product use phase (scope 3, category 11): With 95% of emissions resulting from products in use in our customers' networks, our greatest efforts remain concentrated on product design and innovation to reduce the power consumption and improve energy efficiency of our products across Nokia's portfolio.
- Electricity grid (scope 3, categories 1 and 11): Nokia is engaging with stakeholders to push for grid decarbonization and provides digitalization solutions to support renewables generation and grid transformation in the energy sector. Nokia also works with its value chain on their journey to transitioning to renewable energy sources as countries decarbonize their electricity grids.

- Governance, monitoring and reporting - Carbon removals: Credible, permanent carbon removals and storage are expected to be required to neutralize residual emissions to reach net-zero. Nokia has been examining credible solutions for carbon removals to support long-term net-zero targets.
- Other: Nokia has not identified any locked-in GHG emissions from its key assets nor products. Locked-in GHG emissions are understood as estimates of future GHG emissions that are likely to be caused by an undertaking's key assets or products sold within their operating lifetime. As Nokia's products are electricity powered, the GHG emissions depend largely on the evolution of the energy system as a whole with no delays caused by Nokia's products.

Nokia Group's climate strategy, ambition and action plans address energy efficiency and circularity. Nokia's business groups and functions are incorporating the decarbonization levers and key action plans in their investment and strategy planning processes. The net-zero pathway is integrated into Nokia's overall product portfolio strategy, with the net-zero modeling targets aligned to these plans.

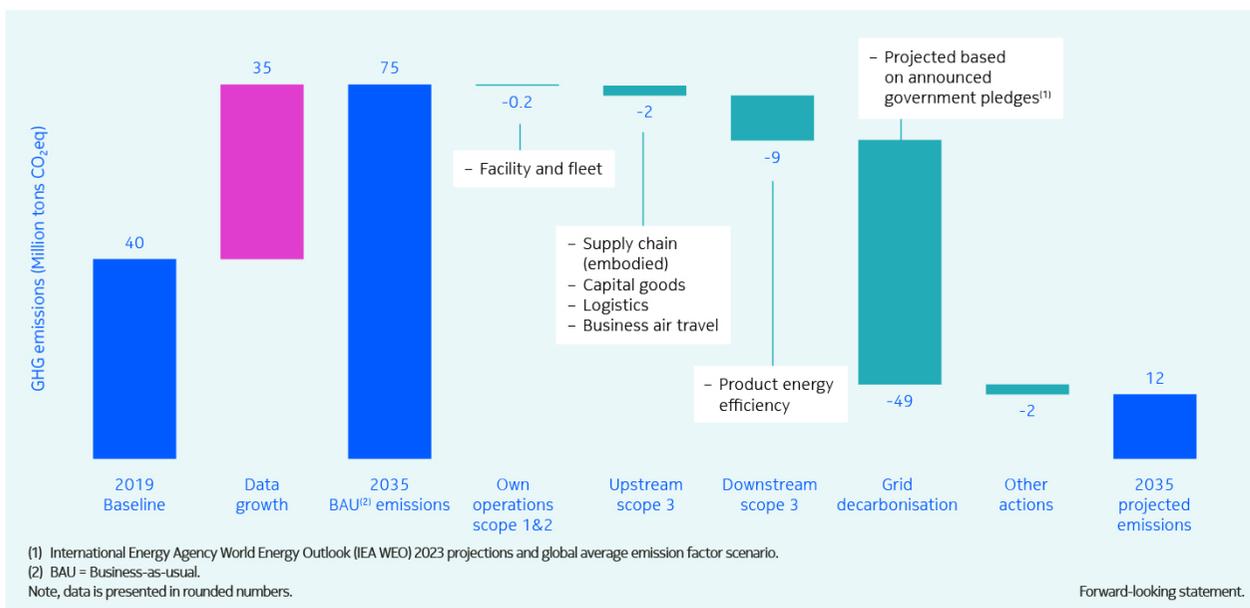
For the expected main decarbonization levers, which include the key actions planned, Nokia has estimated and modelled their quantitative contributions to achieve the GHG emission reduction targets, covering the target years 2030 and 2040 as well as interim year 2035 as required by ESRS.

GHG emissions modeling 2019-2040

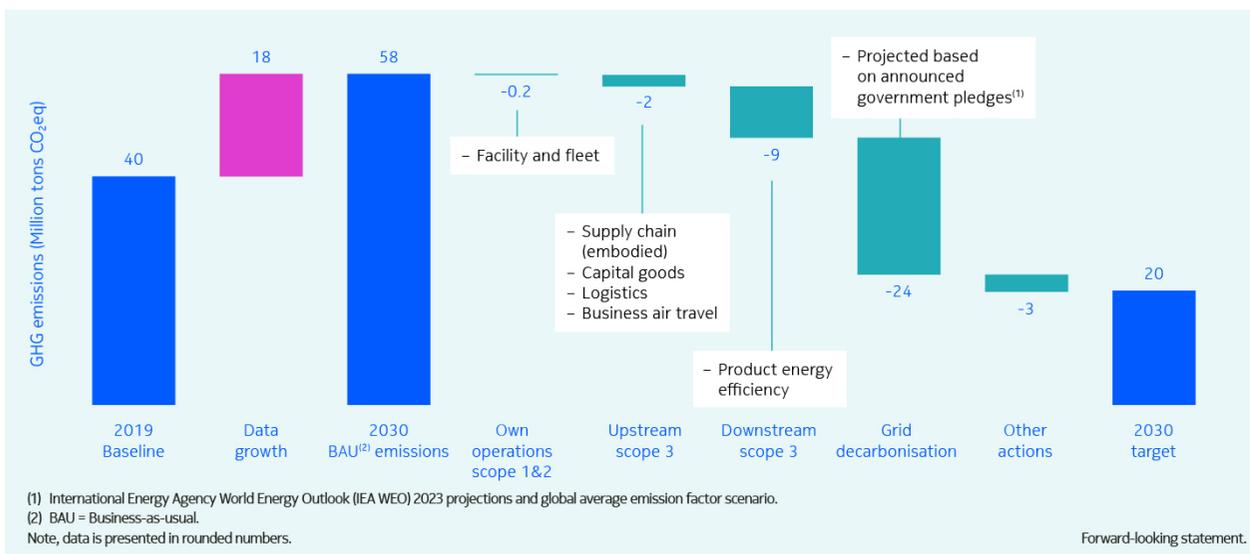


Environmental information continued

GHG emissions modeling 2019-2035



GHG emissions modeling 2019-2030



Impact of transition and action plans on financial planning

Nokia continues to invest in reducing GHG emissions in its own operations as described in the previous section. These investments are not considered financially material in terms of overall investment.

Most of Nokia’s emissions result from sold products when in use by our customers in relation to the energy use, and Nokia considers energy efficiency to be one of the key factors in product competitiveness. Hence, the energy efficiency of Nokia’s products and solutions continues to be one of the key areas in its technology development. In 2024, Nokia invested EUR 4 512 million in research and development (R&D). Energy efficiency is integrated into overall product development, and costs and investments to improve energy efficiency of the product portfolio are not tracked separately nor can be separated as these are an integral part of Nokia’s technology and R&D investments.

As stated earlier, Nokia is examining credible solutions for carbon removal to support long-term net-zero targets. The future financial impact of such solutions depends significantly on technology development, maturity of credible carbon removal markets and carbon pricing fluctuation between 2024 and 2040. Based on net-zero modeling, maximum GHG emission comprising of scope 1, 2 and 3 emissions to be compensated in 2040 is 4 million tCO₂eq. With the EU Emissions Trading Scheme (ETS) price EUR 72 per tCO₂eq as of 31 December 2024, this amount equals to EUR 288 million. Based on Nokia’s initial assessment, potential future investments in carbon removal units are recorded as intangible assets until utilized. Upon utilization of carbon credit units, the corresponding acquisition cost would be expensed and recorded as operating costs based on this initial assessment.

Many of the climate-related risk response actions are business-as-usual activities. We have not identified other climate-related operating expenses nor capital expenditures such as restructurings, write-downs or impairment of assets due to climate change which would potentially have a material impact on financial planning. We also do not foresee material risks related to access to capital.

Environmental information continued

In 2023, Nokia established a Sustainable Finance Framework that enables the issuance of sustainability-linked financing instruments and successfully completed an inaugural EUR 500 million sustainability-linked bond. The Sustainability Performance Target in the framework is based on Nokia's science-based target of a reduction of absolute GHG emissions across our value chain (scope 1, 2 and 3) measured in metric tons CO₂eq. The bond has a one-time redemption premium at maturity of EUR 4 million in case Nokia does not meet its commitment to reduce its greenhouse gas emissions across its value chain (scope 1, 2 and 3) by 50% between 2019 and 2030. In 2024, Nokia signed a EUR 250 million loan agreement with Nordic Investment Bank to co-finance Nokia's investments in 5G and 6G research and development. These R&D initiatives aim to enhance productivity and drive advances in next-generation mobile networks which are expected to improve the energy efficiency of next-generation products and reduce their weight, lowering the lifetime carbon footprint of its products.

As Nokia's taxonomy-eligible economic activities under the climate objectives 'Climate change mitigation' or 'Climate change adaptation' as defined by the EU taxonomy regulation are 0% of total revenue, Nokia's climate transition, action nor resource plans described in this section are not relevant to the economic activities and KPIs presented in the section '[Disclosure under the European Union Taxonomy Regulation](#)'.

Progress in implementing the transition plan and actions taken in 2024

Total GHG emissions were 26 011 608 tCO₂eq in 2024. This represents a reduction of 28% over the previous year and 36% reduction compared to the base year 2019. This was mainly driven by reduction in scope 3 category 11 use of sold products which GHG emissions decreased by 28% compared to 2023 and 30% compared to the base year 2019.

The key actions taken in 2024 are described below.

Own operations (scope 1 and 2)

Nokia continued to increase the share of total renewable electricity to reduce scope 2 market-based GHG emissions. Scope 1 and 2 emissions reduced by 27% compared to 2023 and 76% compared to the base year 2019.

Upstream: Embodied emissions (scope 3, cat 1 and 2)

Nokia works closely with suppliers to improve supplier maturity around emissions measurement, target setting, roadmaps and good practices. For final assembly suppliers Nokia is tracking their roadmap execution at business review meetings throughout the year as they have the target to reach zero emissions by 2030 for their scopes 1 and 2. Nokia is having regular engagements with its 600 larger suppliers, organized around the CDP Climate program cycle. In addition, close collaboration is pursued with Nokia's Joint Design Manufacturing suppliers as well as supplier categories with high emission intensity.

In 2024, 408 of Nokia's key suppliers responded to CDP's request to disclose their climate performance information, while 257 also provided emission reduction targets.

As a result of Nokia's supplier engagement, gradual reduction of Nokia's scope 3 category 1 emissions have been observed. In 2024, final assembly supplier emissions were reduced by further 15% compared to 2023 and by 56% from the baseline year 2019. The total supplier emissions (category 1) were reduced by 28% compared to 2023 and 77% compared to the base year 2019.

Downstream: Product use phase

Many of Nokia's customers are interested in reducing their power consumption and their emissions, and Nokia considers energy efficiency to be one of the key factors in product competitiveness. We also have customers who are interested in examining new business opportunities that spring from decarbonization. These developments create new business opportunities for us as a company and we are releasing and delivering new innovations that cater for that demand.



Environmental information continued

One of the key actions required for reducing GHG emissions during the product use phase is product energy efficiency improvements in product development. Key actions taken in 2024 include:

- Nokia continued to improve the energy efficiency of its products through incremental as well as generational hardware improvements;
- New energy efficiency software features have been released such as Extreme Deep Sleep mode which can help operators reduce energy consumption in zero-traffic conditions and MantaRay Anomaly detection which can identify specific radio sites to optimize energy consumption as well as Wavence Sleep modes which can lower the power consumption of the microwave radios; and
- New innovations, such as the virtual power plant can enable operators to use their existing back-up batteries and contribute to power reserve markets and the grid.

GHG emissions from scope 3 category 11 use of sold products decreased by 28% compared to 2023 and 30% compared to the base year 2019. Reduction from 2023 to 2024 was due to lower sales volumes, power consumption reduction and product mix. This reduction was offset by 1% increase in emissions due to the global emission factor, which reflects the decarbonization development of global electricity grid.

Targets and progress in targets

We have set short-, medium- and long-term climate targets in key areas. Short- and medium-term targets are put in place to track and show a pathway to the long-term goal. We track, measure and report transparently on these targets.

Nokia has set the net-zero target of 2040 to cover scope 1, 2 and 3 GHG emission categories. Those targets are for all Nokia business groups, covering various business activities, such as R&D, logistics, operations and suppliers. Our climate targets do not have any geographical exclusions.

The GHG emissions targets have been set to measure and track its progress against the net-zero target. The measured scope 1, 2 and scope 3 categories GHG emissions align with the key actions taken and planned. The waterfall charts modeled emissions show the targets for 2030 and 2040 and their decarbonization levers. For this modeling, the climate scenario of limiting global warming to 1.5°C has been considered.

The consistency and completeness of the near-term (2030) and long-term (2040) net-zero targets with our GHG inventory boundaries is ensured by meeting the SBTi requirements and having the targets validated by SBTi. The baseline will be updated when any changes in business, such as mergers and acquisitions, and improvements in the data coverage and calculation take place. This is done according to thresholds set by the SBTi and aligned with Nokia financial reporting consolidation principles.

RE100 Target

Nokia aims to use 100% renewable electricity in its own facilities by 2025. The target setting is based on the RE100 requirements. In 2024, 87% renewable electricity was used and the target is on track.

Science Based Target by 2030

In line with the Paris Agreement to limiting global warming to 1.5°C by 2030, Nokia has established emissions reduction targets according to this scenario. Nokia's Science Based 2030 Target (SBT 1.5) was approved by the SBTi in 2021 and includes the near-term target that Nokia commits to reducing its absolute scope 1, 2 and 3 GHG emissions 50% by 2030 from a 2019 base year. For the reporting year 2024, target coverage and GHG emissions boundaries are based on the scope approved by SBTi in 2021. The reporting year 2024 is the last year Nokia reports this 2021 approved SBT target. SBT Net-Zero target approved in 2025 is described in the following chapter.

Scope 1 and 2 includes scope 1&2 facilities, scope 1 car fleet, and scope 1 marine fleet. The SBT scope 3 includes the following to Nokia significant categories: category 1 – purchased goods and services, including final assembly suppliers with their scope 1 and 2, and marine fleet emissions of chartered vessels; category 4 – upstream transportation and distribution; and category 11 – use of sold products, covering the vast majority of Nokia's products.

In 2024, Nokia achieved a reduction of 28% in its GHG emissions covered by this target. The progress is on track.

Environmental information continued

Net-Zero target

Net-zero target was approved by SBTi in January 2025. This includes Nokia’s commitment to reach net-zero GHG emissions across the value chain by 2040.

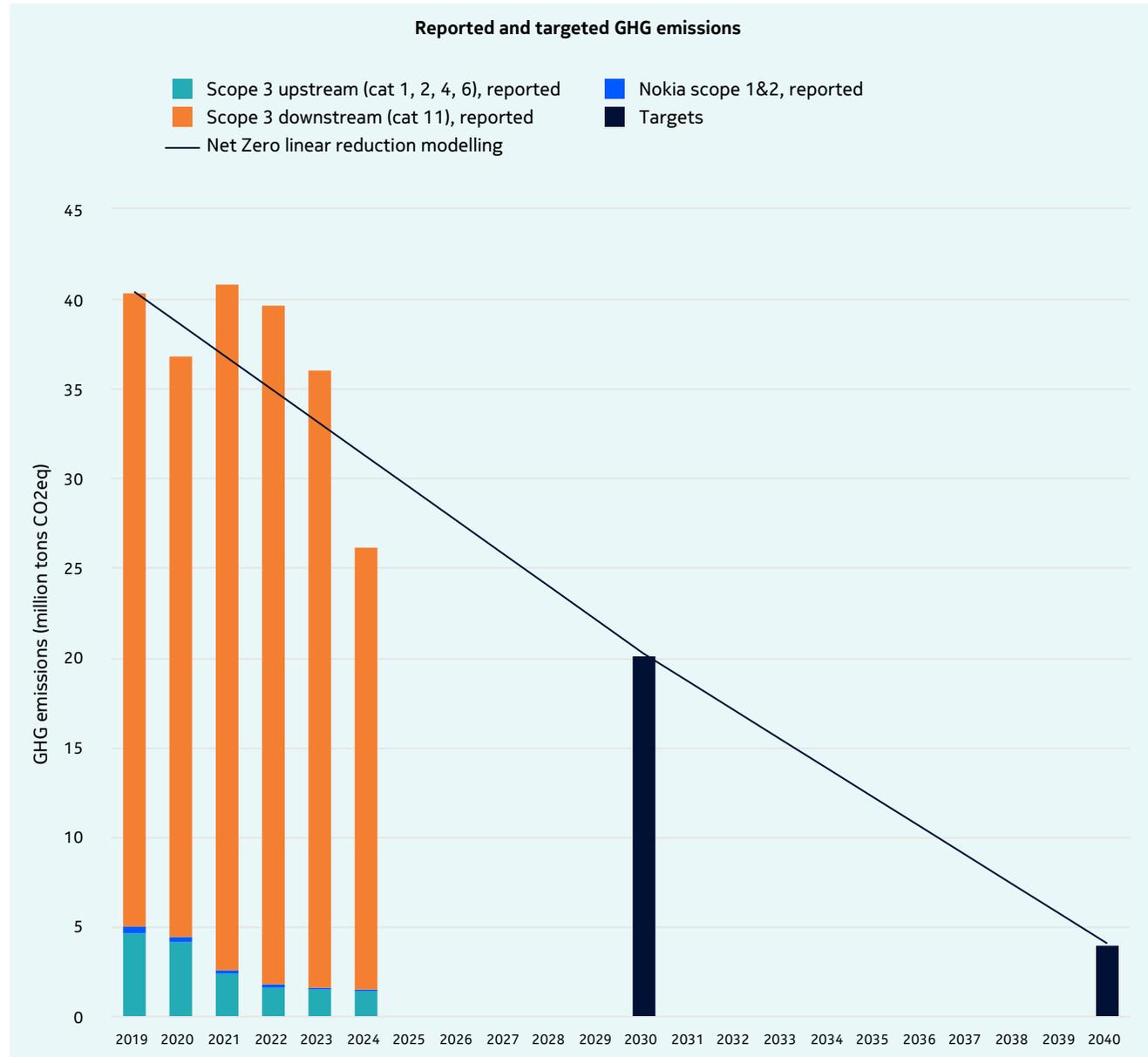
The long-term target is to reduce absolute scope 1, 2 and scope 3 GHG emissions 90% by 2040 from a 2019 base year. Scope 3 includes the following significant categories to Nokia: category 1 – purchased goods and services, category 2 – capital goods, category 4 – upstream transportation and distribution, category 6 – business travel and category 11 – use of sold products. As defined in the current corporate net-zero standards (SBT) V1, after company has achieved its long-term target to cut emissions, it can use permanent carbon removal and storage to counterbalance residual emissions up to 10%.

The net-zero target also includes near-term target to reduce scope 1, 2 and scope 3 categories 1, 2, 4, 6 and 11 GHG emissions 50% by 2030 from a 2019 base year. The progress is on track.

Total GHG emissions reduced by 28% compared to 2023 and 36% compared to the base year 2019.

Additionally, Nokia has set the following interim and sub-targets (2025 targets):

- GHG emission reduction of 80% from scope 1 and scope 2 market-based emissions by 2025 from a 2019 base year
- GHG emissions reduction of 90% from scope 1 and scope 2 market-based emissions by 2030 from a 2019 base year
- Our final assembly suppliers reach zero emissions by 2030 from a 2019 base year
- Our suppliers (category 1) reduce GHG emissions by 50% by 2030 from a 2019 base year
- Our logistics' GHG emissions reduced by 73% by 2030 from a 2019 base year.



Environmental information continued

Our carbon footprint (scope 1, 2 and 3)

Emission Source	Metric tons CO2eq	% of total
Energy use in facilities and by fleet	90 498	0%
Use of sold products	24 736 044	95%
Purchased goods and services	962 134	4%
Upstream transportation and distribution	160 178	1%
Capital goods	33 207	0%
Business travel	29 547	0%
Total scope 1, 2 and 3 emissions	26 011 608	100%

Our scope 1 and 2 market-based emissions

Our scope 3 emissions

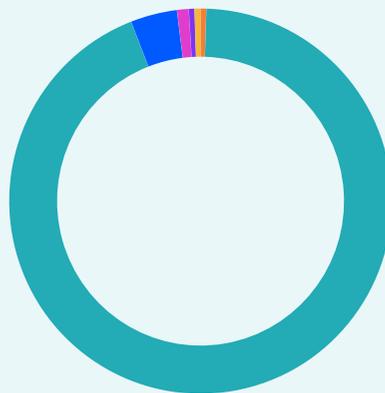
Emission Source	Metric tons CO2eq	% of total
Facilities, direct emissions	21 236	23%
Car Fleet	17 211	19%
Facilities, indirect emissions from purchased energy, market-based	52 051	58%
Total scope 1 and 2 emissions	90 498	100%

Our scope 1 emissions

Our scope 2 emissions

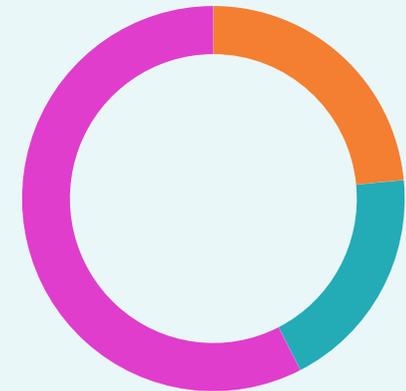
Our carbon footprint (scope 1, 2 and 3)

Energy use in facilities and by fleet	0%
Use of sold products	95%
Purchased goods and services	4%
Upstream transportation and distribution	1%
Capital goods	0%
Business travel	0%



Our carbon footprint (scope 1 and 2)

Facilities, direct emissions	23%
Car Fleet	19%
Facilities, indirect emissions from purchased energy, market-based	58%



Environmental information continued

Progress against ESG targets in 2024

Target year	Base year	Base value	Target	2024 results	Target status
E1: Climate change					
2030/2040	2019	40 404 798	SBT Net-Zero ⁽¹⁾ : Overall Net-Zero target: Nokia commits to reach net-zero greenhouse gas emissions across the value chain by 2040. Near-term target: Nokia commits to reduce absolute scope 1, 2 and 3 GHG emissions 50% by 2030 from a 2019 base year. Long-term target: Nokia commits to reduce absolute scope 1, 2 and 3 GHG emissions 90% by 2040 from a 2019 base year.	Emissions covered by our SBT Net-Zero were 26 011 608 tons CO ₂ eq ⁽²⁾ , which is a 36% decrease from 2019. This progress is mainly driven by the decrease in emissions from use of sold products. Given our business and market conditions, we see that there may be possibility to be above trajectory again in coming years. The target and metric value excludes Submarine Networks discontinued operation.	On track 
2030	2019	35 455 551	SBT 1.5 ⁽³⁾ , reported last time for 2024: Reduce our greenhouse gas (GHG) emissions across our value chain (scope 1, 2 and 3) by 50% between 2019 and 2030.	Emissions covered by our SBT1.5 were 24 592 276 tons CO ₂ eq, which is a 31% decrease from 2019. This progress is mainly driven by the decrease in emissions from use of sold products. The target and presented metric value includes Submarine Networks discontinued operation in 2024 and base year.	On track 
2030	2019	74 996	Our final assembly suppliers reach zero emissions (part of scope 3 category 1) by 2030.	Our final assembly suppliers' emissions were 32 807 tons CO ₂ eq which is a 56% reduction from 2019.	On track 
2030	2019	4 225 716	Our suppliers reduce GHG emissions (scope 3 category 1) by 50% by 2030.	Our suppliers' emissions were 962 134 tons CO ₂ eq which is a 77% reduction from 2019. However, as this includes emissions data from hundreds of suppliers and the quality of allocated emissions data has been of concern, we are conscious that some of the reductions may be due to the quality of the data reported. The target and metric value excludes Submarine Networks discontinued operation.	On track 
2030	2019	303 630	Our logistics' GHG emissions (scope 3 category 4) reduced by 73% by 2030.	Our logistics' emissions were 160 178 tons CO ₂ eq which is a 47% decrease from 2019. The target and metric value excludes Submarine Networks discontinued operation.	On track 
2025	2019	444 500	GHG emission reduction of 65% from scope 1 and scope 2 market-based emissions, including 85% reduction of our facilities' GHG emissions by 2025 ⁽⁴⁾	GHG reduction of 63% from scope 1 and 2, including 78% reduction of our facilities' GHG emissions compared to 2019. The target and presented metric value includes Submarine Networks discontinued operation in 2024 and base year.	On track 
2024	2019	348 347	Reach 75% reduction of our facilities' GHG emissions (scope 1 and 2 market-based) by 2024.	In 2024, we achieved the target with 78% reduction of our facilities GHG emissions compared to 2019. This target and presented metric value includes Submarine Networks discontinued operation in 2024 and base year.	Achieved 
2025	2021	53%	Use 100% renewable electricity in our own facilities (RE100).	In 2024, 87% of electricity was renewable in our own facilities. The target and presented metric value includes Submarine Networks discontinued operation in 2024.	On track 
2024	2021	53%	Reach 85% renewable electricity in our own facilities.	In 2024, we have achieved the target with 87% of renewable electricity in our own facilities. This target and presented metric value includes Submarine Networks discontinued operation in 2024.	Achieved 

(1) The target includes scopes 1, 2 (market-based), 3.1, 3.2, 3.4, 3.6, 3.11. It excludes Submarine Networks discontinued operation.

(2) CO₂eq = carbon dioxide equivalents.

(3) In 2021 approved, 1.5 degrees Celsius aligned, SBT covers the following: Scope 1: emissions from our facilities, car fleet and marine fleet, own vessels. Scope 2: market-based emissions from purchased energy. Scope 3: 3.1 covering 6% of purchased goods and services with final assembly factories S1&2 in our supply chain, and marine fleet chartered vessels, 3.4 logistics, 3.11 covering 98% of the customer use of sold products.

(4) In 2025, the target is replaced with "GHG emission reduction of 80% from scope 1 and scope 2 market-based emissions" due to discontinued Submarine Networks operations.

Environmental information continued

Disclosure tables

Nokia continuing operations

As outlined in the section '[Basis for preparation](#)' within 'General Information', metrics are presented separately for Nokia continuing operations and discontinued operations comprising Submarine Networks. Disclosure tables presented in this section include continuing operations (Nokia Group excluding Submarine Networks) both for the reporting year 2024 and comparative period 2023 unless otherwise indicated. Key metrics for the discontinued operation for the reporting years 2024 and 2023 are disclosed separately below this section.

Energy consumption per source related to own operations

Energy consumption (MWh)	2024	2023
Total energy consumption from renewable sources	728 242	668 540
Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources	727 802	Not reported
Consumption of self-generated non-fuel renewable energy	440	Not reported
Percentage of renewable sources in total energy consumption (%)	72%	65%
Total energy consumption from fossil and nuclear sources	276 964	365 507
Fuel consumption from crude oil and petroleum products	1 012	1 000
Fuel consumption from natural gas	111 954	106 134
Consumption of purchased or acquired electricity, heat, steam, or cooling from fossil and nuclear sources	163 998	258 373
Percentage of fossil sources in total energy consumption (%)	28%	35%
Total energy consumption related to own operations	1 005 206	1 034 047

The above table includes facilities and excludes energy consumption related to car fleet which is expected to amount to max 5% of the total energy consumption presented in the table.

Production of non-renewable energy and renewable energy

Energy production (MWh)	2024	2023
Non-renewable energy production	15 377	Not reported
Renewable energy production	440	Not reported
Total energy production	15 817	Not reported

Energy consumption in Nokia facilities and of the sold products

Energy consumption (MWh)	2024	2023
Energy consumption by type in Nokia facilities		
Electricity	817 049	848 913
Heating	24 993	28 000
Cooling	50 198	50 000
Fossil gas	111 954	106 134
Fossil oil	1 012	1 000
Biofuel	0	0
Facilities' energy consumption, total	1 005 206	1 034 047
Direct energy	112 966	107 134
Indirect energy	892 240	926 913
Facilities' energy consumption, total	1 005 206	1 034 047
Energy consumption outside of Nokia		
Energy consumption of the sold products	53 077 484	74 650 000

Environmental information continued

Gross scopes 1, 2, 3 and Total GHG emissions

Scope 1 GHG emissions (tCO ₂ eq)	2024	2023
Gross scope 1 GHG emissions (tCO₂eq)	38 447	39 331
GHGs from fuel combustion in facilities (stationary and mobile sources)	20 523	19 631
Hydro-Fluoro-Carbon (HFC) refrigerants in facilities	713	400
Car fleet	17 211	19 300
Scope 2 GHG emissions (tCO ₂ eq)	2024	2023
Gross location-based scope 2 GHG emissions (tCO₂eq)	313 865	320 659
Purchased electricity	299 370	305 959
Purchased cooling	8 833	8 400
Purchased heating	5 662	6 300
Gross market-based scope 2 GHG emissions (tCO₂eq)	52 051	83 924
Purchased electricity	39 267	70 924
Purchased cooling	8 833	8 400
Purchased heating	3 951	4 600
Significant scope 3 GHG emissions (tCO ₂ eq)	2024	2023
Total gross indirect (scope 3) GHG emissions (tCO₂eq)	25 921 110	35 917 018
1 Purchased goods and services	962 134	1 344 470
2 Capital goods	33 207	33 748
4 Upstream transportation and distribution	160 178	140 900
6 Business travel	29 547	29 327
11 Use of sold products - (with global average factor)	24 736 044	34 368 573
Total GHG emissions (tCO ₂ eq)	2024	2023
Total GHG emissions (location-based) (tCO ₂ eq)	26 273 422	36 277 008
Total GHG emissions (market-based) (tCO ₂ eq)	26 011 608	36 040 273
Nokia SBT 1.5 (tCO ₂ eq), including Submarine Networks	24 592 276	34 319 800

Additional information on gross scopes 1, 2 and 3 GHG emissions

Scope 2 GHG emissions (% tCO ₂ eq)	2024	2023
Percentage of contractual instruments used for the purchase of energy ⁽¹⁾	81%	Not reported
Biogenic emissions of CO ₂ from combustion or bio-degradation of biomass not included in scope 2 GHG emissions, tCO ₂ eq	2 357	Not reported
Scope 3 GHG emissions (%)	2024	2023
Percentage of GHG scope 3 calculated using primary data	97%	Not reported

(1) Percentage of contractual instruments includes Submarine Networks (discontinued operation).

Emissions intensity based on net revenue and car fleet kilometers

Emissions intensity	2024	2023
Total scope 1, 2 and 3 GHG emissions intensity, location-based (tCO ₂ eq per net sales EURm)	1 367	1 716
Total scope 1, 2 and 3 GHG emissions intensity, market-based (tCO ₂ eq per net sales EURm)	1 353	1 705
Total scope 1 and 2 GHG emissions intensity, market-based (tCO ₂ eq per net sales EURm)	5	6
Car fleet (gCO ₂ eq/vehicle-km)	82	91

The denominator in the calculation of the GHG emissions intensity metrics is net sales as presented in Nokia's consolidated income statement.

Environmental information continued

	Retrospective				Milestones and target years			
	2019 (base year)	2024	2023	YoY change %	2025	2030	2040	Change % Annual target / Base year
Scope 1 GHG emissions (tCO2eq)								
Scope 1 GHG emissions (tCO2eq)	50 047	38 447	39 331	(2)%	N/A	N/A	N/A	(23)%
Scope 2 GHG emissions (tCO2eq)								
Gross market-based scope 2 GHG emissions (tCO2eq)	325 177	52 051	83 924	(38)%	N/A	N/A	N/A	(84)%
Total market-based scope 1 and 2 GHG emissions (tCO2eq)	375 224	90 498	123 255	(27)%	75 045	37 522	N/A	(76)%
Significant scope 3 GHG emissions (tCO2eq)								
1 Purchased goods and services	4 225 716	962 134	1 344 470	(28)%	N/A	481 067	N/A	(77)%
2 Capital goods	123 650	33 207	33 748	(2)%	N/A	N/A	N/A	(73)%
4 Upstream transportation and distribution	303 630	160 178	140 900	14%	N/A	81 980	N/A	(47)%
6 Business traveling	70 648	29 547	29 327	1%	N/A	N/A	N/A	(58)%
11 Use of sold products	35 305 929	24 736 044	34 368 573	(28)%	N/A	N/A	N/A	(30)%
Total GHG emissions (tCO2eq)								
Total GHG emissions (market-based) (tCO2eq)	40 404 797	26 011 608	36 040 273	(28)%	N/A	20 202 399	4 040 480	(36)%

Environmental information continued

Discontinued operations

Energy consumption per source related to own operations

Energy consumption (MWh)	2024	2023
Total energy consumption from renewable sources	21 259	5 460
Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources	21 163	Not reported
Consumption of self-generated non-fuel renewable energy	96	Not reported
Percentage of renewable sources in total energy consumption (%)	66%	18%
Total energy consumption from fossil and nuclear sources	11 126	25 493
Fuel consumption from crude oil and petroleum products	0	0
Fuel consumption from natural gas	10 733	10 866
Consumption of purchased or acquired electricity, heat, steam, or cooling from fossil and nuclear sources	392	14 627
Percentage of fossil sources in total energy consumption (%)	34%	82%
Total energy consumption related to own operations	32 385	30 953

The above table includes own facilities of Submarine Networks.

Energy consumption (MWh)	2024	2023
Energy consumption in Nokia fleet		
Marine fleet (Fossil oil use)	379 411	343 000
Marine fleet (Biofuel use)	0	4

Gross scopes 1, 2, 3 and Total GHG emissions

Scope 1 GHG emissions (tCO ₂ eq)	2024	2023
Gross scope 1 GHG emissions (tCO₂eq)	75 811	71 869
GHGs from fuel combustion in facilities (stationary and mobile sources)	1 945	1 969
Hydro-Fluoro-Carbon (HFC) refrigerants in facilities	0	0
Marine fleet	73 866	69 900
Scope 2 GHG emissions (tCO ₂ eq)	2024	2023
Gross location-based scope 2 GHG emissions (tCO₂eq)	1 827	1 741
Purchased electricity	1 827	1 741
Purchased cooling	0	0
Purchased heating	0	0
Gross market-based scope 2 GHG emissions (tCO₂eq)	196	876
Purchased electricity	196	876
Purchased cooling	0	0
Purchased heating	0	0
Significant scope 3 GHG emissions (tCO ₂ eq)	2024	2023
Total Gross indirect (scope 3) GHG emissions (tCO₂eq)	123 809	179 905
1 Purchased goods and services	102 721	112 956
2 Capital goods	5 670	6 349
6 Business travel	1 287	1 373
11 Use of sold products - (with global average factor)	14 131	59 227
Total GHG emissions (tCO ₂ eq)	2024	2023
Total GHG emissions (location-based) (tCO₂eq)	201 447	253 515
Total GHG emissions (market-based) (tCO₂eq)	199 816	252 650

Environmental information continued

Reporting principles for metrics

Nokia has an internal document, the Environmental data handbook, where the key data collection and reporting principles are defined, including for example, data boundaries, data collection methodologies, used tools, and emission factors. The key reporting methodologies and principles are explained in this section

Energy consumption

Energy data covers stationary and mobile sources' combustion of fuels and consumption of electricity, heat, and cooling in facility operations.

Energy consumption data is typically collected from facility-level responders, obtained from invoices or metered data. For facilities with no data availability, usage of 2024 data is estimated with data gap corrections or employing annual intensity factors based on kWh/m² (electricity and natural gas), as calculated from the reporting sites, thereby accounting for 100% (2023: 100%) of Nokia facilities. Subleased areas are not covered in the facility data.

GHG emissions

Our approach to measuring greenhouse gas emissions follows the Greenhouse Gas (GHG) Protocol developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). We use the following three standards:

- The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard;
- GHG Protocol, scope 2 guidance, An amendment to the GHG Protocol Corporate Standard; and
- Corporate value chain (scope 3), Accounting and reporting standard, Supplement to the GHG Protocol Corporate Accounting and Reporting Standard.

The GHG Protocol defines three scopes of CO₂eq emissions:

- Scope 1 – direct emissions, from sources owned or controlled by the company
- Scope 2 – indirect emissions, from the consumption of purchased electricity, heat, and/or steam (location-based and market-based)
- Scope 3 – indirect emissions, as a consequence of the activities of the company, but from sources not owned or controlled by the company.

Nokia reports the emissions as CO₂ equivalents (CO₂eq) as per GHG Protocol's guidance. CO₂eq is the universal unit of measurement to indicate the global warming potential (GWP) of the greenhouse gases in the Kyoto protocol, expressed in terms of the GWP of one unit of CO₂eq. Nokia uses International System of Units (SI) units in reporting and tons CO₂eq is equivalent to 1000 kg CO₂eq.

Nokia uses the operational control approach for setting organizational boundaries for our GHG emissions inventory. We use emission factors available in the beginning of the reporting year for scope 1, 2 and 3 calculations. Where we use emission factors developed by the International Energy Agency, OECD/IEA, the emission calculations have been prepared by Nokia and do not necessarily reflect the views of the International Energy Agency.

Scope 1 emissions

Direct CO₂eq emissions from Nokia facilities include GHG emissions resulting from the combustion of oil and gas within Nokia facilities, along with minor direct releases of GHGs associated with refrigerant leakage from facilities' cooling systems and firefighting equipment.

Direct CO₂eq emissions from Nokia's car fleet are tracked by obtaining information from country-specific leasing suppliers, which are consolidated into one system. Emissions calculation is based on actual driven mileage and official CO₂eq emission value per km of each car make and model. Applicable emission factors are sourced from car manufacturers. In the case that the distance traveled is not available from the leasing supplier, the budgeted annual mileage in the leasing contract is used for calculation. The coverage of primary emissions has been estimated to include 95% of the total emissions from Nokia's car fleet and the remaining 5% has been included as an estimate in the reported value.

Direct CO₂eq emissions from marine fleet (Submarine Networks discontinued operation) are calculated based on the fuel type and fuel usage of marine vessels. Submarine Networks maintains a listing of all owned marine fleet vessels with associated fuel consumption.

Scope 2 emissions

Indirect CO₂eq emissions include emissions from purchased electricity, heating, and cooling. As per GHG Protocol definitions, the location-based accounting method quantifies scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries. Location-based emission factors are obtained from EPA eGrid for the USA and for all the other countries we use IEA Emission factors developed by the International Energy Agency, OECD/IEA.

The market-based accounting method quantifies scope 2 GHG emissions based on the emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own. In our case, applicable market-based residual emission factors are employed for sites located in Europe (obtained from the Association of Issuing Bodies (AIB)), the USA and Canada (obtained from Green-e). Those sites that purchase certified renewable electricity are assigned an emission factor of zero based on the quantity of green energy employed. If supplier-specific emission factors are not available, location-based emission factors are applied.

GHG emissions associated with purchased steam and heat are calculated employing the applicable EPA emission factor, which is based on the assumption that natural gas was used to fuel a boiler exhibiting an efficiency of 80%. GHG emissions associated with purchased chilled water and cooling are calculated employing the same country emissions factors as electricity, based on an assumed efficiency of 100%.

Emissions avoided due to the purchase of renewable energy are verified utilizing bundled and unbundled Energy Attribute Certificates.

Environmental information continued

Scope 3 emissions

For significant scope 3 categories, the calculation methodology for estimating emissions is described. For non-relevant scope 3 categories, an explanation of exclusion is provided. Significance of each category has been determined based on reporting threshold, relevance for Nokia business, externally published targets, and stakeholder interest. The estimated share of the excluded scope 3 categories is less than 2% of Nokia's total reported GHG emissions:

- Purchased goods and services (category 1): final assembly suppliers, and other suppliers. Data was recalculated for 2019-2023 due to reporting methodology change. Earlier Nokia reported supplier's scope 1&2 data, now with the new method we report supplier's scope 1, 2 and 3 upstream emissions. Final assembly supplier scope 1&2 data is collected directly from those suppliers. Other suppliers CO₂eq emissions are reported based on data collected with CDP Climate Survey. The data collected from Nokia's suppliers covers 61% of supplier spend in 2024. For the remaining share, the emissions are extrapolated based on Nokia's total spend. 2024 disclosure is based on the latest CDP data representing suppliers' year 2023 emissions. We use a hybrid method, using emissions allocated for Nokia by the suppliers and also intensity based (GHG/€) allocation, where allocated emissions were not available, or allocation was not reliable based on different internal quality measures. To avoid double counting, the following data is excluded from this category: scope 1 (from car fleet and marine fleet), scope 3 category 4 (upstream transportation and distribution), and scope 3 category 6 (business air travel). We recognize that this emission category includes a lot of uncertainty, as suppliers have variable quality in their own reporting and in allocating emissions to Nokia. We have also recognized data gaps of ancillaries and survey marine fleet presented as discontinued operations.
- Capital goods (category 2): Data was recalculated for 2019-2023 due to reporting methodology change. Scope 3 category 1 and 2 are calculated together. Category 2 is separated from category 1 emissions and reported based on Property, plant and equipment (PPE) additions.
- Upstream transportation and distribution (category 4): Data includes emissions from inbound and outbound logistics paid by Nokia. Reporting is done in real weight, by using EPA's CO₂eq emission factors or logistics supplier own factors.
- Business travel (category 6): emissions are reported for business air travel, which has the biggest impact out of all business travel modes. Travel information is obtained from our assigned Travel Agencies. Supplied data includes distance traveled, delineated by flight distance ranges and cabin class. Data from travel agencies is consolidated in a system which is used to calculate emissions from air travel. Emissions factors are obtained from EPA.
- Use of sold products (category 11): The calculation formula is following: Σ [total lifetime expected uses of products (hours) x number of products sold in reporting period x product power consumption (kW) x emission factor for electricity (kg CO₂eq/kWh)]. Data covers hardware products. Product use time varies between 6 and 15 years, depending on the products. Energy use calculations are based on product group specific standards, for example, by ETSI, wherever standards have been published. Calculations are based on the assumption that all products are powered by grid electricity. We use the IEA's latest world average CO₂eq emission factor available in the beginning of the reporting year. The share of energy consumption and GHG emissions from the products covered by this data is estimated to be over 98% of the total sold products in 2024. The remaining share has been included as an estimate in the reported value.
- Fuel and energy related activities not included in scope 1 and 2 (category 3): not presently being reported, because emissions evaluated to be non-material.
- Waste generated in operations (category 5): not reported as emissions are evaluated to be non-material.
- Employee commuting (category 7): not reported as emissions are evaluated to be non-material.
- Upstream leased assets (category 8): not presently being reported as leased vehicles and facilities are presently included in scope 1 and 2 emissions.
- Downstream transportation and distribution (category 9): not assessed, Nokia reports transportation paid by Nokia, see scope 3 category 4.
- Processing of sold products (category 10): not considered relevant because processing is not required for sold Nokia products.
- End-of-life treatment of sold products (category 12): not reported as emissions are evaluated to be non-material.
- Downstream leased assets (category 13): not reported as emissions are evaluated to be non-material.
- Franchises (category 14): not applicable, as Nokia does not have franchises.
- Investments (category 15): not reported as emissions are evaluated to be non-material.



Environmental information continued

Resource use and circular economy (ESRS E5)

Material impacts, risks and opportunities related to resource use and circular economy

The double materiality assessment showed that resource inflows, resource outflows and waste are material sub-topics for Nokia. The following table describes the material impacts, risks and opportunities as well as how they are managed by Nokia.

Sub-topic	Material impacts, risks and opportunities	Management
Resources inflows	Positive impact: Secondary use of Nokia's products and use of secondary materials in Nokia's products prevent generation of waste, contribute positively to material availability and land use.	Besides Nokia supplier requirements, business groups are looking for opportunities to reduce the dependency of virgin materials, continuously increase recycled content in our products and packaging as well as increase use of refurbished secondary products. Nokia has targets in place to increase recycled content in sourced mechanical materials with the highest use. In addition, Nokia has a packaging target to increase recycled content and recyclable materials in packaging.
Resources inflows	Negative impact: High use of primary raw materials in our hardware components where mining and melting of virgin materials has significant negative environment impacts, including waste.	We manage and try to minimize this negative impact the same way as we manage the above positive impact.
Resources inflows	Risk: Nokia hardware products are dependent on various minerals and other virgin substances. If global consumption continues to grow, it may lead to material scarcity likely resulting into increased prices.	We manage this risk the same way as we manage the above positive and negative impacts.
Resource outflows	Positive impact: Applying circular design and business principles increase the recyclability of Nokia's products which further enables recycling of the products and the raw materials contained in them.	Nokia has a Design for Environment program in place, which provides R&D teams with guidelines regarding the balances involved in the choice of materials when improving durability, dismantling, reparability, recyclability as well as product weight and supply risk. Reliability, product lifetime and serviceability are very much part of the technical requirements for each product. We aim to continue our Design for Environment program, particularly taking into consideration the evolution of product materials (incl. recycled metals and plastics) and their availability as well as materials efficiency improvements.
Resource outflows, Waste	Negative impact: Nokia sells to its customers a significant amount of hardware products which at the end of their lifecycle will become electronic waste, unless handled and recycled appropriately.	<p>Most of our products have a design life of between 10 and 15 years, with some of our products remaining in extended service for more than 20 years. We have environmentally beneficial circularity practices in place such as product takeback, refurbishment and recycling services.</p> <p>Nokia Circular Products and Services consists of four modules that can be customized to meet e2e customer requirements:</p> <ul style="list-style-type: none"> ■ Asset Recovery: Reacquiring (takeback/buyback) and handling customer dismantled surplus products including consultation, logistics and project management; ■ Circular Products and Parts: Selling circular products and parts to operators looking to expand their network using circular products; ■ Refurbishment Service: Extending hardware lifetime but also testing and validating of customer-owned dismantled product equipment for reuse in the network; and ■ Recycling Service: Maximizing material recycling and minimizing landfill, e-waste management.
Waste	Positive impact: Reduction or prevention of waste generation in Nokia's own operations and value chain, including appropriate handling and recycling of our products contributes positively to material availability and land use.	Nokia aims to improve waste management practices across the value chain. This includes minimization of waste creation and maximization of waste utilisation to reduce landfill. The progress is measured and tracked by circular metric to guide our operational circularity journey. In 2024, Nokia set new sustainability targets for packaging, recognizing it as an important area for reduce and prevent negative impacts on land use and biodiversity.

Environmental information continued

Nokia approach to determining material impacts, risks and opportunities is described under the [‘General information’](#) section. Additionally, when identifying, assessing and scoring impacts, risks and opportunities related to circular economy and resource use, Nokia uses information and data from its Environmental Management System and existing reporting.

For environmental topics Nokia has a ISO 14001 certified Environmental Management System in place to identify environmental aspects and impacts and related risks and opportunities, which are reviewed annually. This process covers all business activities. Environmental aspects are assessed based on their direct environmental impact, related regulation, frequency and stakeholder interest. Aspects scoring above the threshold set by Nokia are considered as significant, and for them the management process, targets and responsible contributors are defined. The annual review process takes into account changes in the business scope, new products, geographies, and regulatory and stakeholder development.

Data related to waste, waste circularity, material use and recycled content related data was used as the basis for identifying Nokia’s direct and indirect impacts on circular economy and resource use as well as when scoring the scale and scope of the identified impacts.

Out of Nokia’s four business groups, the business groups Mobile Networks and Network Infrastructure have the largest direct and indirect impact on the identified material positive and negative impacts as well as potential effect of the risk. Nokia’s main hardware products are telecommunication products which comprise technical components including minerals, metals and polymers. Product packaging materials include wood- and plastic-based materials.

Policies

Nokia looks at circularity from two perspectives. First, how Nokia can increase the usage of non-virgin materials in the creation of new products and packaging. Second, how it can ensure maximum waste circularity in its operational value chain.

Material efficiency, the optimized use of resources, and digitalization are key contributors to increasing circularity. Traditional ownership of goods is changing to access to services and to the use of digital platforms for a sharing economy, all of which can improve circularity. Nokia strategy to increase operational circularity follows the classic waste hierarchy. The first principle of the hierarchy is always the avoidance of waste, which Nokia does through digitalization, operational efficiency and product life extension. As Nokia cannot dematerialize everything, good waste management practices are important.

The Nokia’s Code of Conduct is the Company’s highest-level policy, which also covers its commitment to the environment in its own operations, supply chain and business relationships. The Code of Conduct and Environmental policies covering matters related to circular economy and resource use are part of the general management process, and environmental considerations are incorporated into relevant business planning, decision making, implementation and tracking activities. Through these policies, Nokia seeks to reduce the negative environmental impacts of its products and services throughout their life cycle. Nokia collaborates with its suppliers, customers, and other stakeholders with the aim of minimizing the potential negative environmental impacts as well as maximizing the potential of technology used for the good of the environment and society. Refer to the section General information, [‘Policies adopted to manage material sustainability matters’](#) for further information regarding the Nokia policies.

Product development and Design for Environment

The environmental goals and activities of Nokia are aimed at applying product life cycle thinking to minimize environmental impacts as early as possible in the product design and development process. This makes opportunities available for the designer to improve the environmental performance of the products. Nokia’s Design for Environment guideline addresses regulatory, customer and Nokia requirements for designers to use in striving to make Nokia products environmentally responsible.

In practice, Design for Environment uses design practices aiming to achieve:

- Minimized material and energy use;
- Maximized reuse and recycling;
- Minimized use of materials detrimental to the environment;
- Equipment designed to be easily or remotely maintainable or maintenance-free.

The development and update of these guidelines are based on the Nokia Product Eco-Requirements Roadmap and results from product Life Cycle Assessments. Nokia employs Life Cycle Assessments as an important tool in evaluating the potential environmental impacts of a product throughout the stages of its life cycle.

Packaging

In the area of packaging, Nokia has set new targets to increase recyclable packaging, increase recycled packaging material content and limit plastic packaging (see more details below in the section [‘Targets and progress’](#)).

Nokia has outlined the packaging requirements and standards recommended by Nokia, including Original Equipment Manufacturer (OEM) packaging and shipping to Nokia facilities or customers. The guidelines have dedicated environmental requirements, such as banned or not recommended/allowed materials, as well as wood packaging materials, and the reuse of packaging parts, covering the end-to-end process: inflows, outflows and waste minimization such as reuse and recycling.

Environmental information continued

There are two other relevant guidelines in addition to the ones discussed above. Nokia's Guideline to Reuse of Packaging Material is a significant cost-saving option that will also contribute to environmental impact, though this is more related to outflows and circularity. Factory inbound packaging guidelines include requirements for Nokia's suppliers regarding packaging materials utilized for inbound goods sent to Nokia manufacturing facilities.

Waste management

In the area of product hardware take-back inflows, Nokia business groups have Circular Operations teams to manage take-backs, with established practices and principles. Business groups will further develop procedures and practices to reinforce secondary reused and recycled materials and products.

Electronic Waste Management policies and guidelines outline Nokia's minimum environmental and, health and safety requirements for e-waste management to ensure that the appropriate regulatory requirements and best practices for e-waste management are in place to limit the impact on human health and the environment and avoid significant future liability, litigation and expenses.

In the guidelines of facilities waste management, the basis of the Environmental Management Systems in Real Estate (RE) and the requirements of ISO 14001 standard are described. The guidelines give an overview of how Nokia's Real Estate's activities and procedures are managed from an environmental perspective. Nokia has set minimum requirements for waste management within its facilities to meet its Real Estate targets. Waste is a significant environmental aspect for Nokia, particularly waste from its facilities, and these guidelines set out the responsibilities, requirements, available tools, training, and resources available to support the implementation of good waste management practices. These guidelines apply to all Nokia facilities including manufacturing, R&D, and offices globally and are designed to support the effective management of waste for all facilities.

In the area of network installation services, Nokia conducts environmental impact assessments upon contractual terms with customers.

Supplier requirements

Nokia expects its suppliers to adhere to its Third-Party Code of Conduct and provides them with its Supplier Requirements, including the Responsible Business Alliance's Code of Conduct and Nokia-specific sustainability requirements. The Responsible Business Alliance's Code of Conduct includes environment-related requirements, covering Environmental Permits and Reporting, Pollution Prevention and Resource Conservation, Hazardous Substances, Solid Waste, Air Emissions, Materials Restrictions, Water Management, as well as Energy Consumption and Greenhouse Gas Emissions.

On top of this industry standard, in the area of environmental management, there are also several Nokia-specific requirements toward Nokia's suppliers:

- **Environmental Management System**

Hardware suppliers for product materials and final assembly suppliers are required to have a documented Environmental Management System (EMS) ensuring the effective planning, operation and control of environmental aspects. The system shall satisfy the requirements of ISO14001 or other internationally recognized standards. Suppliers that provide materials that are embedded into Nokia products need to be certified by a third party as compliant with ISO14001.

- **Raw Material Content Data Management**

Supplier shall comply with material restrictions, set by applicable law and Nokia, and continuously maintain records of full raw material content data (materials, substances and compounds) of products supplied to Nokia or of materials used in implementing the services provided to Nokia. These records, including any updates, must be provided to Nokia in a format specified by Nokia.

- **Design for Environment requirements**

Suppliers shall consider environmental aspects in all phases of their product development, using, for example, specific Design for Environment methods or checklists. Suppliers must comply with Nokia product environmental requirements e.g., Nokia Substance List. Choices made during these product development phases must, whenever possible, reduce or eliminate negative environmental impacts. All reasonable attempts must be made to reduce or eliminate hazardous constituents from the product, to promote the efficient use of materials (i.e., to reduce waste), to improve the energy efficiency of the product and to promote recycling.

- **Recycled content**

Suppliers shall track their recycled/scrap origin materials contents and strive to reduce their use of virgin materials.

- **Waste management**

Suppliers shall record information about waste management (i.e., how much and where waste is reused, recycled, energy recovered, sent to landfill) and provide this information to Nokia on request.

Nokia also has environmental requirements and guidelines for Nokia products that apply to all designs, products, parts, modules, components and packaging materials. This document lists the most significant global environmental regulations and introduces Nokia's environmental requirements.

Environmental information continued

Actions

Products

Nokia has a Design for Environment program in place that provides guidelines for developers regarding the balances involved in the choice of materials when improving durability, dismantling, reparability and recyclability as well as product weight, supply risk and energy efficiency. In telecommunications the availability of service is mission critical. Reliability, product lifetime and serviceability are very much part of the technical requirements for each product. During 2024, Nokia continued its Design for Environment program, particularly taking into consideration the evolution of product materials (including recycled metals and plastics) and their availability, materials efficiency improvements, and product portfolio roadmaps.

During 2024, Nokia has studied how to increase product take-back volumes. It also further solidified its solutions portfolio to help operators ensure a sustainable and cost-efficient network evolution by maximizing the value of their aging, obsolete, or excess equipment and to strengthen their circular economy business approach. The goal is to add as much circularity into the supply chain as possible via refurbished products. This is in addition to typical repair services, which may also utilize some of these circular solutions.

Nokia has a portfolio offering a set of modules that can be customized and combined to fit specific customer needs as follows:

- **Asset Recovery** helping operators to eliminate surplus/excess units resulting from network modernization or swap
- **Circular Products and Parts** enabling customers to expand their network using circular/refurbished products
- **Refurbishment Service** enabling operators to extend the lifecycle of their network and products
- **Recycling service** helping operators manage e-waste and reduce landfill according to international standards and regulations

Engagement with suppliers

Nokia has various engagement programs with suppliers on the subject of the environment, and specifically on waste and recycled material contents. Its current due diligence involves on-site audits with the suppliers. These include Environmental Management System reviews and interactions as well as site tours. Nokia's supplier-related monitoring, assessment and auditing activities also include EcoVadis assessments. These are online assessments which include the evaluation of environment-related policies, procedures and controls.

Nokia also has focused improvement programs with suppliers, such as recycled material content to raise supplier awareness, and work on continuous improvement for increasing recycled origin aluminum, steel, copper and polymerics in Nokia products. With final assembly suppliers, Nokia is also working on increasing its waste circularity rate to 95%. The focus is to divert waste that would end up in landfill or incineration without energy recovery to waste that is reused, recycled or incinerated with energy recovery.

Packaging

In the area of packaging, business groups continue actions to increase the usage of recycled content in packaging materials where possible without negatively affecting the structural integrity and protection of the shipped products; at the same time ensuring that the materials used are recyclable and fostering circularity of the system. The business groups have researched sustainably sourced materials that could be leveraged to deploy (such as molded pulp and thermoformed plastics with high recycled material content) and continue to further eliminate materials with recyclability issues, such as polystyrene or polyurethane, while minimizing the use of single use plastics where possible. In the future, Nokia intends to maximize the recyclability of its packaging materials for optimized circularity.

Waste management

Tracking and reporting of Radio site installation waste has been further studied and developed to set a foundation to improve Radio site waste management. By better understanding regional and country waste management, Nokia can drive improvement by benchmarking the sites against the Nokia level of 95% waste circularity target. While there are still data gaps, the Network Infrastructure business group has increased coverage of the site installation waste reporting.

Through advances in packaging design and recyclability, as well as regional requirements and infrastructure along with existing contract terms related to sustainable waste management, site waste circularity rates are expected to continue to improve.

Targets and progress in targets

Scientific evidence confirms that implementing diverse environmental targets such as improving resource efficiency, increasing recycled content in products and packaging, promoting circularity and minimizing waste helps to protect and sustain healthy environment.

Currently, Nokia has three external targets to measure and track its progress against the identified material impacts and risks covering resource inflows and outflows.

Recycled content in products

Nokia has set a target to increase recycled content in sourced mechanical materials:

Target in 2030:

90%

Cast aluminum used in mechanical parts

Target in 2030:

50%

Wrought aluminum, steel and copper alloys, as well as polycarbonate plastics used in mechanical parts

These targets cover materials with the highest use but does not cover all materials used in Nokia's products.

In 2024, we reached recycled materials content levels of 38% cast aluminum, 15% wrought aluminum, 5% stainless steel, 2% low alloy steel, 4% copper alloys and 6% polycarbonate plastics. Nokia continues awareness raising and data collection on recycled materials.

Environmental information continued

Waste circularity

Nokia has set a target to increase waste circularity rate. The purpose is to improve waste management practices by maximizing waste utilization and minimizing disposal.

Target in 2030:

95%

Circularity rate including waste from Nokia’s offices, labs, manufacturing, site installation, product takeback and final assembly suppliers.

Annual waste circularity outcome for 2024 was 81%. Nokia has recognized areas where high circularity rate has already been achieved and also areas requiring further action. There are still data gaps to be closed as described in the reporting principles.

Product packaging

Nokia has set new packaging targets which are measured from the reporting year 2025 onwards (base year 2024).

Target in 2030:

Ensure all packaging is

100%

recyclable

Target in 2030:

Cardboard and plastic packaging materials to contain at least

50%

recycled content

Target in 2030:

Plastic packaging to be limited to no more than

10%

by weight of total primary packaging

Progress against ESG targets in 2024

Target year	Base year	Base value ⁽¹⁾	Target	2024 results	Target status
E5: Resource use and circular economy					
2030	2022	89%	Waste circularity: 95% circularity rate for waste from our offices, labs, own manufacturing, installation, product takeback and supply chain final assembly factories by 2030.	Annual waste circularity outcome for 2024 was 81%.	On track 
2030	2023	43% cast aluminum 10% wrought aluminum 7% low alloy steel 13% stainless steel 3% on copper alloys	Product recycled content: Increase recycled content in mechanical part source materials: <ul style="list-style-type: none"> Cast aluminum used in mechanical parts to 90% Wrought aluminum, steel and copper alloys, as well as polycarbonate plastics used in mechanical parts to 50%. 	In 2024, we reached recycled materials content levels of 38% cast aluminum, 15% wrought aluminum, 5% stainless steel, 2% low alloy steel, 4% copper alloys and 6% polycarbonate plastics.	Not on track 

(1) Base values for the metrics are the reported values of the first year of reporting.

Environmental information continued

Disclosure tables

Nokia continuing operations

As outlined in the section '[Basis for preparation](#)' within 'General Information', metrics are presented separately for Nokia continuing operations and discontinued operations comprising Submarine Networks. Disclosure tables presented in this section include continuing operations (Nokia Group excluding Submarine Networks) both for the reporting year 2024 and comparative period 2023 unless otherwise indicated. Key metrics for the discontinued operation for the reporting years 2024 and 2023 are disclosed separately below this section.

Resource inflows, materials used to manufacture products and services

Materials used during the reporting period	2024	2023
Overall total weight of products and technical and biological materials used (metric tons)	60 560	Not reported
Recycled content in mechanical part source materials of products		
Cast aluminum	38%	43%
Wrought aluminum	15%	10%
Stainless Steel	5%	13%
Low alloy Steel	2%	7%
Copper alloys	4%	3%
Polycarbonate plastics	6%	Not reported
Recycled content in product packaging		
Recycled content in product packaging	32%	Not reported

Resource outflows, products and materials recyclability

Materials used during the reporting period	2024	2023
The rates of recyclable content in products	80%	Not reported
The rates of recyclable content in products packaging	96%	Not reported

Total waste from Nokia's own operations

TOTAL WASTE (metric tons)	2024	2023
Total waste diverted from disposal	6 367	6 635
Total waste diverted from disposal due to preparation for reuse	82	120
Total waste diverted from disposal due to recycling	5 588	5 814
Total waste diverted from disposal due to other recovery operations	697	701
Total waste directed to disposal	935	1 000
Total waste directed to disposal by incineration	0	0
Total waste directed to disposal by landfilling	935	1 000
Total waste directed to disposal by other disposal operations	0	0
TOTAL WASTE	7 302	7 635

Hazardous waste

HAZARDOUS WASTE (metric tons)	2024	2023
A. Hazardous waste diverted from disposal	2 192	1 315
Hazardous waste diverted from disposal due to preparation for reuse	13	20
Hazardous waste diverted from disposal due to recycling	2 135	1 200
Hazardous waste diverted from disposal due to other recovery operations	44	95
B. Hazardous waste directed to disposal	6	100
Hazardous waste directed to disposal by incineration	0	0
Hazardous waste directed to disposal by landfilling	6	100
Hazardous waste directed to disposal by other disposal operations	0	0
(A+B) TOTAL HAZARDOUS WASTE	2 198	1 415

Non-hazardous waste

NON-HAZARDOUS WASTE (metric tons)	2024	2023
A. Non-hazardous waste diverted from disposal	4 175	5 320
Non-hazardous waste diverted from disposal due to preparation for reuse	69	100
Non-hazardous waste diverted from disposal due to recycling	3 453	4 614
Non-hazardous waste diverted from disposal due to other recovery operations	653	606
B. Non-hazardous waste directed to disposal	929	900
Non-hazardous waste directed to disposal by incineration	0	0
Non-hazardous waste directed to disposal by landfilling	929	900
Non-hazardous waste directed to disposal by other disposal operations	0	0
(A+B) TOTAL NON-HAZARDOUS WASTE	5 104	6 220

Environmental information continued

Non-recycled and utilized waste

NON-RECYCLED WASTE (metric tons)	2024	2023
Non-recycled waste in tonnes or kg	935	1 000
Percentage of non-recycled waste (%)	13%	13%

UTILIZED WASTE (%)	2024	2023
Waste utilization rate (%)	87%	87%

Electronic waste

WASTE BY TYPES (metric tons)	2024	2023
Electronic waste from facilities	2 024	1 200
Other hazardous waste	173	215

EQUIPMENT RETURNED FROM CUSTOMERS (number, metric tons)	2024	2023
Reuse (no. of items)	46 378	49 300
Total equipment returned from customers (metric tons)		
Reuse	304	290
Recycle	682	2 610
Energy recovery	2	7
Landfill	0	6
Incineration without energy recovery	0	0
Total equipment returned from customers (metric tons)	988	2 913

Discontinued operations

The total waste from discontinued operations includes own facilities of Submarine Networks.

Total waste

TOTAL WASTE (metric tons)	2024	2023
Total waste diverted from disposal	2 475	5 485
Total waste diverted from disposal due to preparation for reuse	0	0
Total waste diverted from disposal due to recycling	2 293	4 086
Total waste diverted from disposal due to other recovery operations	182	1 399
Total waste directed to disposal	207	0
Total waste directed to disposal by incineration	0	0
Total waste directed to disposal by landfilling	207	0
Total waste directed to disposal by other disposal operations	0	0
TOTAL WASTE	2 682	5 485

Hazardous waste

HAZARDOUS WASTE (metric tons)	2024	2023
A. Hazardous waste diverted from disposal	0	105
Hazardous waste diverted from disposal due to preparation for reuse	0	0
Hazardous waste diverted from disposal due to recycling	0	0
Hazardous waste diverted from disposal due to other recovery operations	0	105
B. Hazardous waste directed to disposal	0	0
Hazardous waste directed to disposal by incineration	0	0
Hazardous waste directed to disposal by landfilling	0	0
Hazardous waste directed to disposal by other disposal operations	0	0
(A+B) TOTAL HAZARDOUS WASTE	0	105

Non-hazardous waste

NON-HAZARDOUS WASTE (metric tons)	2024	2023
A. Non-hazardous waste diverted from disposal	2 475	5 380
Non-hazardous waste diverted from disposal due to preparation for reuse	0	0
Non-hazardous waste diverted from disposal due to recycling	2 293	4 086
Non-hazardous waste diverted from disposal due to other recovery operations	182	1 294
B. Non-hazardous waste directed to disposal	207	0
Non-hazardous waste directed to disposal by incineration	0	0
Non-hazardous waste directed to disposal by landfilling	207	0
Non-hazardous waste directed to disposal by other disposal operations	0	0
(A+B) TOTAL NON-HAZARDOUS WASTE	2 682	5 380

Environmental information continued

Reporting principles for metrics

Nokia's internal Environmental Data Handbook defines the key data collection and reporting principles for this type of data. The key reporting methodologies and principles are explained in this section.

Resource inflows

Nokia's resource inflows include:

- Telecommunication products and components, as well as third-party equipment which comprise of minerals, metals and polymers
- Secondary hardware, e.g., take-back equipment from customers
- Product packaging, including wood- and plastic-based materials

Weight of products, materials and their packaging

The overall total weight of products, technical materials and biological materials is based on global inbound delivery volumes and weight of each product and related packaging as recorded in Nokia's systems. A product or material is considered as inflow when delivered to Nokia, following the accounting principles and Nokia Group reporting boundaries i.e., the point in time marking the 'goods received'. Only deliveries from external parties are included. Intercompany transfers between the distribution centers are excluded. Due to limitations in the weight data availability for materials and semi-finished goods delivered to Nokia's own manufacturing facilities, technical materials are reported as resource inflows once delivered to Nokia inventories as finished goods.

Weight of product take-back has been included in the metric which is calculated based on hardware units and weight per unit.

As this is the first year of reporting and tracking this metric, some uncertainties in the weight data accuracy exist. Nokia will continue developing its reporting process and improving system data quality.

Other resource inflows metrics

The ESRS E5 standard requires to disclose the percentage of biological materials that is sustainably sourced (E5 para 31b) and the weight in both absolute value of secondary reused or recycled components, secondary intermediary products and secondary materials used to manufacture products and services (E5 para 31c). Nokia is sustainably sourcing biological materials using the FSC-certified packaging materials, however the share of the sustainably sourced biological materials cannot be reliably estimated for the reporting year 2024. The share of recycled content in mechanical part source materials is presented for the selected materials with the highest use, see below '**Recycled content in mechanical part source materials**'. These metrics require value chain data from Nokia's suppliers which was not available in 2024. As no reasonable estimation methods were considered to be available, Nokia does not report the metrics, but is investigating and taking actions to develop data availability.

Recycled content in mechanical part source materials

Reported data covers the mechanical parts that are used/contained within our products. Any ancillaries, such as cables, kits, fasteners, and attachments that are external to our products, are out of scope.

Data is collected from Nokia's largest mechanics suppliers, who represent over 80% of relevant business spend of Mobile Networks and Network Infrastructure business groups. Data is reported once a year by suppliers for aluminum, steel and copper. Recycled materials content share is reported per metal for aluminum, steel, and copper and adjusted to the spend coverage of the respective suppliers. Similarly recycled polycarbonate plastics content is collected from suppliers.

Recycled content in product packaging

Recycled content in product packaging data is collected from the largest suppliers covering the majority of Mobile Networks business group and estimated for Nokia Group based on Mobile Networks' share of recycled content in product packaging.

Resource outflows

Nokia's key products are telecommunication network products, where the availability of service is mission critical.

Product durability

Circular principles such as reliability, product lifetime and serviceability are historically inherent to technical design requirements for each product. Redeploying products after

their initial use, as well as repairing and re-stocking as spares is standard practice for field replaceable units. The description of our key products comes out of Nokia's own product design and production process.

Regarding the expected durability of the products placed on the market, there is no industry average of each product group in the telecommunication industry. Nokia products are designed to meet customer expectations in terms of durability, when used under specified conditions, including maintenance and repair.

Product repairability

Regarding the repairability of products, there is no established rating system existing in Nokia. Virtually all Nokia products can be restored to their intended functionality by replacing field-replaceable parts or by subjecting the product (or its replaceable components) to specialized repair procedures.

Recyclable content in products and their packaging

The rates of recyclable content in products and their packaging has been calculated based on material composition of key products and packaging. The overall recyclability rate is presented separately for products and packaging, as the average of the recyclable content of products and packaging weighted by units delivered during the reporting year and unit weight of those products and their packaging.

Recyclability of each material used in products and packaging was assessed based on potential estimated recyclability rate of each material separately. Additionally, recyclability rate of PWB assemblies has been estimated based on the average metal content. The actual recycling rates are not considered in these estimates.

Steel	100%
Stainless steel	100%
Aluminum & alloys	100%
Copper & alloys	100%
Other metals	100%
Polymeric	70%
PWB assemblies	22%
Packaging paper-based	100%
Packaging plastics-based	90%
Packaging wood-based	100%

Environmental information continued

Waste

Total waste generated, own operations

Waste generated in own operations covers Nokia's own and leased offices, R&D and manufacturing facilities. Additionally, waste from own operations includes scrapped materials and related packaging from Nokia's main distribution centers (HUBs), Nokia product repair operations conducted by Nokia and external repair partners, as well as hardware product take-back.

Waste breakdown is presented by recovery operation or waste treatment types. Waste diverted from disposal includes waste that has either been reused, recycled, or the energy of which has been utilized. The composting of biowaste is recorded under "recycling". Waste directed to disposal has either been sent to a landfill, or incinerated without energy recovery. The actual waste treatment is always done according to local legal requirements.

Nokia also classifies waste by non-hazardous waste and hazardous waste. The definitions for what is reported under hazardous and non-hazardous waste have been set on a global level to simplify corporate reporting. For example, all discarded batteries and electric and electronic waste (WEEE) are reported globally under "hazardous waste", although only certain sub-categories of WEEE are defined as "hazardous" in national legislation applicable around the world. The following categories are categorized as "hazardous": batteries, lamps & bulbs, solvents, adhesives, paints & liquids, solder and WEEE. Hazardous waste also contains data from our Nokia product repair operations. Hazardous waste requires special handling procedures as prescribed, mandated, and/or regulated by the country in which the waste is being generated and/or the country to which it is being shipped for final disposition.

Data for waste consumption in Nokia's facilities is typically collected from facility-level responders, obtained from invoices or metered data. For facilities with no data availability, usage of data is estimated with data gap corrections or by employing annual intensity factors based on kg/m^2 , as calculated from the reporting sites, thereby accounting for 100% of Nokia facilities. Subleased areas are not covered in the facility data.

Reported weight diverted from disposal or directed to disposal from product take-back operations, Nokia's main distribution centers and product repair operation, is collected from the recyclers.

Waste generated at our facilities is handled directly by vendors, landlords of such facilities and local authorities. As described in the General information, [Basis for preparation](#) -section, processes and internal controls are implemented at various levels of the organization with the view of minimizing uncertainties and maintain transparency. However, there is still some degree of uncertainty and some inherent limitations in collecting accurate information, especially information related to waste. Where specific weights are not available, we employ estimation and extrapolation methods to ensure maximum coverage.

Currently, data for repackaging materials generated in the distribution centers is not collected, but Nokia is assessing and developing the data collection methodology and processes to further improve the actual data coverage. In order to cover known and unknown potential data gaps, as well as uncertainties in data quality, Nokia estimated a 5% potential data gap for Nokia continuing operations and included +5% group level adjustment addition to the waste data collected and estimated on the site-level. The estimated waste amount reflects the same proportion of hazardous and non-hazardous waste as well as a proportion of waste diverted from, and directed to disposal as the total waste prior to the adjustment.

Waste circularity rate (target)

The circularity rate target and metric include waste from Nokia's offices, labs, manufacturing, site installation, product take-back and final assembly suppliers waste allocated to Nokia. The circularity rate excludes Submarine Networks.

Equation for calculating circularity: $\text{Circularity} = \frac{\text{Utilization}}{\text{All waste generated (utilization + waste disposal)}}$ where:

- Waste utilization (circularity) covers are Reuse, Recycle and Energy and material recovery; and
- Waste disposal covers Landfill and Incineration without energy recovery.

In 2024, Mobile Networks business group's Radio site installation waste was studied to set a foundation to measure and improve Radio site waste. All Radio site installation quantities per region and country that are exclusively managed by Nokia are assimilated and benchmarked against model sites. Based on waste generated for each model site, Nokia calculates site waste per region.

During 2024, the data coverage of the metric was improved by developing methodology and partially including Network Infrastructure business group's site installation waste. This data is captured in collaboration with installation contractors as part of normal project documentation. The waste data is entered into a tool that also captures the waste treatment methods based on familiarity with local regulations and practices per material type. In 2024, site installation waste still excluded Network Infrastructure business group's Deployment Services installations which globally cover sites and orders of magnitude larger than the sites currently reported by the Network Infrastructure business group. The methodology and process of data collection are being developed with a plan to improve data coverage for future years.



Environmental information continued

Disclosure under the European Union Taxonomy Regulation

The EU Taxonomy Regulation was introduced to establish a common classification system for environmentally sustainable economic activities on the basis of defined objectives and technical screening criteria.

By clearly defining which activities can be considered sustainable within a certain sector, the EU Taxonomy seeks to incentivize and encourage businesses to launch new activities or to extend or upgrade existing ones so that they meet certain objectives of the European Green Deal. The environmental objectives listed by the regulation are:

1. Climate change mitigation
2. Climate change adaptation
3. Sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. Protection and restoration of biodiversity and ecosystems

As a company subject to the EU Taxonomy Regulation, including the related delegated acts and their annexes as amended, Nokia discloses the amount and share of its turnover (net sales) derived from, and capital expenditure and operating expenditure associated with, economic activities that are EU taxonomy-eligible or taxonomy-aligned.

Disclosure requirements for the financial year 2024

For the financial year 2024, Nokia reports financial indicators with respect to eligibility and alignment for the environmental objectives 1 through 6 listed above.

Nokia reports the share of its activities that are eligible and whether they are aligned with the EU Taxonomy. 'Eligible,' in this context, refers to economic activities that are recognized by the EU Taxonomy. Also, to claim 'alignment' with the current version of the EU Taxonomy, an economic activity needs to demonstrably comply with all three following requirements:

- a) It contributes substantially to at least one of the six environmental objectives.
- b) It does not significantly harm any of the other environmental objectives.
- c) It is carried out in compliance with certain social and governance minimum safeguards.

Nokia's business activities and the EU Taxonomy

The EU Taxonomy and its technical screening criteria have been evolving since they were first released during 2021. Not all sectors and economic activities have been recognized yet in the taxonomy and its screening criteria. The telecom sector is one of the sectors within which Nokia primarily operates and has not been specifically recognized in the EU Taxonomy sectors or economic activities. However, Nokia's economic activities are currently relevant to activities within objective 1 (climate change mitigation), objective 4 (the transition to a circular economy) and objective 5 (pollution prevention and control) of the EU Taxonomy regulation.

Nokia has a cross-organizational working group consisting of its business groups, technology, finance, sustainability and legal experts who work in assessing both eligibility and alignment of Nokia's economic activities. Guidance and review of EU Taxonomy reporting is provided by the established ESG Financial Reporting Steering Committee.

Nokia has conducted an analysis mapping its activities to the EU Taxonomy. From the activities included in the EU Taxonomy regulation, Nokia has identified the following taxonomy-eligible activities corresponding to turnover (net sales), capital expenditure or R&D operating expenditure, as relevant for Nokia:

Objective 1: Climate change mitigation

Economic activity	Description of Nokia's economic activities
6.5. Transport by motorbikes, passenger cars and light commercial vehicles	Purchase and leasing of electric and hybrid vehicles. Refer to the "Individually eligible capital expenditure (CapEx) and operating expenditure (OpEx)" section below for further information.
7.3. Installation, maintenance and repair of energy efficiency equipment	Individual renovation measures consisting of installation, maintenance or repair of energy efficiency equipment.
8.2. Data-driven solutions for GHG emissions reductions	Development or use of ICT solutions that are aimed at collecting, transmitting and storing data and at its modeling and use where those activities are predominantly aimed at the provision of data and analytics enabling GHG emission reductions. Under this activity, Nokia only consider data-driven solutions 'predominantly' designed or developed for GHG emission reduction which are designed and sold separately.
9.1. Close to market research, development and innovation	Research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the reduction, avoidance or removal of GHG emissions (RD&I) for which the ability to reduce, remove or avoid GHG emissions in the target economic activities has at least been demonstrated in a relevant environment, corresponding to at least Technology Readiness Level 6.

Environmental information continued

Objective 4: The transition to a circular economy

Economic activity	Description of Nokia's economic activities
1.2. Manufacture of electrical and electronic equipment	Manufacture (and sale), including subcontracted manufacture, of electrical and electronic equipment. This covers a major part of Nokia's hardware portfolio and embedded software.
4.1. Provision of IT/OT data-driven solutions	Manufacture (and sale), development, installation, deployment, maintenance, repair or professional services, including technical consulting for design or monitoring of software and information technology (IT) or operational technology (OT) systems built for the purpose of remote monitoring and predictive maintenance, design and engineering software supporting the eco-design of products, equipment, and infrastructure and lifecycle performance management software.
5.1. Repair, refurbishment and remanufacturing	Activities related to repair, refurbishment and remanufacturing of telecom equipment that has previously been used for its intended purpose.
5.2. Sale of spare parts	Sale of spare parts disclosed in this activity to the extent sold separately as spare parts and reported separately from the scope of activities covered under '1.2. Manufacture of electrical and electronic equipment.'
5.4. Sale of second-hand goods	Sale of second-hand goods that have previously been used for their intended purpose, possibly after repair, refurbishment or remanufacturing, and to the extent separately reported in Nokia's reporting system from the scope of activities covered under '1.2. Manufacture of electrical and electronic equipment'.

Objective 5: Pollution prevention and control

Economic activity	Description of Nokia's economic activities
2.4. Remediation of contaminated sites and area	Expenditure incurred in decontamination or remediation of contaminated sites and area

Based on Nokia's eligibility assessment, activity '1.2. Manufacture of electrical and electronic equipment' covers the majority of Nokia's economic activities since most of its hardware portfolio and embedded software are eligible within the description of the said activity. This activity includes own as well as subcontracted manufacturing as per the EU Taxonomy regulation.

Based on the above assessment of Nokia's business portfolio for 2024:

- Taxonomy-eligible turnover accounted for 57% (2023: 61%) of total turnover. This translates to EUR 11 010 million (2023: EUR 13 506 million) in taxonomy-eligible turnover.
- Taxonomy-eligible capital expenditure accounted for 38% (2023: 52%) of total capital expenditure. This translates to EUR 237 million (2023: EUR 502 million) in taxonomy-eligible capital expenditure.
- Taxonomy-eligible operating expenditure accounted for 66% (2023: 66%) of total operating expenditure. This translates to EUR 2 662 million (2023: EUR 2 525 million) in taxonomy-eligible operating expenditure.

Currently the telecommunications sector is not yet specifically addressed as such in the EU Taxonomy and, therefore, the positive impact (handprint) of connectivity and digitalization in relation to sustainability is not recognized here. Nokia's connectivity and digitalization solutions enable efficiencies in and the sustainable transformation of other industries, with an important role as an enabler of decarbonization. Nokia resolutely supports the ambitious environmental goals set by the EU and continues to advocate for future work on the EU Taxonomy to recognize the positive impact that connectivity and digitalization, including technologies such as 5G and other advanced communications technologies, may have on the six environmental objectives of the EU Taxonomy.

Individually eligible capital expenditure (CapEx) and operating expenditure (OpEx)

Nokia has considered CapEx and OpEx arising from certain individual investments that enable related activities to either improve energy efficiency, become low-carbon, or lead to greenhouse gas reductions, and that meet the description of the corresponding economic activity in the EU Taxonomy regulation.

Nokia identified individually eligible CapEx under activities '6.5. Transport by motorbikes, passenger cars and light commercial vehicles' and '7.3. Installation, maintenance and repair of energy efficiency equipment' (within objective 1). CapEx is reported as eligible under these activities to the extent that the identified assets enable the activities to become low-carbon or to lead to greenhouse gas reductions. Examples of such CapEx include equipments for energy efficiency of buildings on company premises e.g. the replacement of automation systems and electric as well as electric and hybrid vehicle leases.

Nokia has identified individually eligible OpEx in activities '9.1. Close to market research, development and innovation' (within objective 1) and '2.4. Remediation of contaminated sites and area' (within objective 5).

Refer to the section "[Nokia's business activities and the EU Taxonomy](#)" for a description of these activities.



Environmental information continued

Alignment assessment

Alignment assessment has been conducted for all the taxonomy-eligible activities under environmental objectives 1 through 6 as per the EU Taxonomy regulations. This includes assessment of 'Substantial contribution criteria' followed by assessment of 'Does Not Significantly Harm (DNSH) criteria' for activities which comply with substantial contribution criteria.

The wording and terminology used in the EU Taxonomy are still subject to some interpretation uncertainty, which could lead to changes in the reporting as and when clarified by the EU. Ultimately, there is a risk that the assessment presented as taxonomy-aligned would need to be concluded differently. In addition, the application of the EU Taxonomy to sites outside the EU leads to particular challenges due to the existence of local, possibly diverging, legislation.

Where uncertainty exists with regard to how to interpret or apply any criteria in an economic activity, the relevant activity is assessed as 'not Taxonomy-aligned activities'. In such cases, Nokia continues to monitor future developments and to update its approach as appropriate.

A. Substantial contribution criteria

As per the alignment assessment conducted for taxonomy-eligible activities, alignment criteria are met for the economic activity '5.1. Repair, refurbishment and remanufacturing' (within objective 4) and have been reported as 'Taxonomy-aligned'. All other activities are reported as 'not Taxonomy-aligned activities' in the disclosure tables given. The alignment assessment of key taxonomy-eligible activities carried out by Nokia is described below:

Objective 1:

6.5. Transport by motorbikes, passenger cars and light commercial vehicles: The substantial contribution criteria for this economic activity with respect to electric and hybrid vehicle leases are met for the specified thresholds and conditions.

DNSH criteria include conditions related to circularity, waste management, emission type approvals and external rolling noise requirements. Most of these criteria are beyond Nokia's control or access and hence Nokia considers this economic activity as 'not Taxonomy-aligned activities'.

Objective 4:

1.2. Manufacture of electrical and electronic equipment: This economic activity's substantial contribution criteria requires that those manufacturing electrical and electronic equipments need to comply with all the criteria/ conditions included within the following topics: Design for long lifetime, Design for repair and guarantee, Design for reuse and remanufacturing, Design for dismantling, Design for recallability, Proactive substitution of hazardous substances, Information to customers and Producer responsibility.

While Nokia complies with many of the sub-criteria stated therein, it is still not able to meet few required conditions mentioned therein due to lack of insufficient data. Hence, alignment cannot be reached for this economic activity and is classified as 'not Taxonomy-aligned activities'.

4.1. Provision of IT/OT data-driven solutions: This economic activity includes manufacture (and sale), development, installation, deployment, maintenance, repair or professional services, including technical consulting for design or monitoring of IT/OT data-driven solutions that provide the capabilities listed in the EU Taxonomy regulation for software specified therein.

Most of the criteria included in the said economic activity are very specific and require judgements. At this moment, Nokia considers these criteria as not met and hence this economic activity is classified as 'not Taxonomy-aligned activities'.

5.1. Repair, refurbishment and remanufacturing: This activity contributes to extending the lifetime of products by repairing, refurbishing or remanufacturing products that have already been used for their intended purpose by a customer. The criteria within this activity also requires implementation of a waste management plan and it being publicly available whereby product's materials, particularly critical raw materials, and components are reused, recycled or disposed of in accordance with applicable Union and national legislation.

Nokia's key products are telecommunication network products, where the availability of service is mission critical. Circular principles such as reliability, product lifetime and serviceability are historically inherent to technical design requirements for each product. Redeploying products after their initial use, as well as repairing and re-stocking as spares is standard practice for field replaceable units.

Nokia's business groups have repair facilities. The aim of business groups is to add as much circularity into the supply chain as possible via repair and refurbished products. For further information, refer section '[Waste management](#)' within Resource use and circular economy (ESRS E5).

Nokia's business groups have conducted a comprehensive assessment of above criteria within 5.1. economic activity and involved subject matter expert from repairing facilities for above conclusion. Basis information provided above and assessment conducted, it is concluded that this economic activity meets the 'Substantial contribution criteria' as per the EU Taxonomy regulation. Assessment of DNSH criteria for this economic activity is included in a subsequent section.

Environmental information continued

Objective 5:

2.4. Remediation of contaminated sites and area: Substantial contribution criteria for this activity require that the relevant contaminants are removed, controlled, contained or diminished using mechanical, chemical, biological or other methods so that the contaminated area no longer poses any significant risk of adversely affecting human health and the environment. The specific remediation and monitoring plan to be approved by the competent authority as per national legal requirements.

Complete information to assess all the criteria is not available with Nokia. This is due to the fact that most of these sites are outside the EU, which create a challenge to translate EU standards or regulations to a non-EU context. In the absence of such information, this economic activity is classified as 'not Taxonomy-aligned activities'.

B. Does Not Significantly Harm (DNSH)

The DNSH criteria assessment was conducted for the economic activity '5.1. Repair, refurbishment and remanufacturing' (within objective 4) basis substantial contribution criteria assessment carried out as above.

Nokia's assessment confirmed that it met DNSH criteria for the said economic activity. Below, Nokia sets out its interpretation and describes the analysis it has used to examine whether there was any significant harm to the other environmental objectives:

i. Climate change mitigation

As per EU Taxonomy regulations, where the economic activity involves on-site generation of heat/cool or co-generation including power, the direct greenhouse gas (GHG) emissions of the activity should be lower than the prescribed limits.

An evaluation has been conducted at the respective repairing facility and it had been concluded that the direct GHG emissions involving on-site generation of heat, cooling, or power are less than the prescribed limits.

ii. Climate change adaptation

There are general criteria specified within the EU taxonomy regulation for DNSH to climate change adaptation. These include performing a robust climate risk and vulnerability assessment, including implementing adaptation solutions, which minimizes the impact of material physical climate risks to the economic activity.

Nokia's climate-based DNSH assessment is based on the Shared Socioeconomic Pathway (SSP3-7.0) scenario for physical risks assessment, being the current likely worst-case scenario based on Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report considering the climate actions already taken to limit global warming. The assessment is described in the section '[Climate change \(E1\)](#)'.

iii. Sustainable use and protection of water and marine resources

Nokia evaluated its economic activities with respect to the Generic Criteria for DNSH to sustainable use and protection of water and marine resources looking at the three following criteria: preserving water quality, avoiding water stress, and an environmental compatibility assessment (Environmental Impact Assessment or comparable process).

Nokia based its analysis primarily on ISO 14001 certificates, information from site approvals and other external data sources related to sites with a high-risk exposure.

iv. Pollution prevention and control

The Generic Criteria for DNSH to Pollution prevention and control regarding use and presence of chemicals specify that the economic activity should not lead to the manufacture, placing on the market or use of certain specified substances. The repairing activity should further comply with the relevant rules and regulations on the restriction of the use of hazardous substances. Nokia assessed that its operating standards are aligned with the criteria mentioned above and minimize the use and presence of specified chemicals and use of hazardous substances.

Based on the above assessment on Taxonomy-alignment for 2024:

- Taxonomy-aligned turnover accounted for 3% (2023: 0%) of total turnover. This translates to EUR 552 million (2023: EUR 0 million) as 'Taxonomy-aligned' turnover.
- Taxonomy-aligned capital expenditure accounted for —% (2023: 0%) of total capital expenditure. This translates to EUR 1 million (2023: EUR 0 million) as 'Taxonomy-aligned' capital expenditure.
- Taxonomy-aligned operating expenditure accounted for —% (2023: 0%) of total operating expenditure. This translates to EUR 1 million (2023: EUR 0 million) as 'Taxonomy-aligned' operating expenditure.



Environmental information continued

Minimum Safeguards

The minimum safeguards consist of the OECD Guidelines for Multinational Enterprises (OECD Guidelines for MNE), the United Nations Guiding Principles on Business and Human Rights (UNGP), the Fundamental Conventions of the International Labour Organization (ILO) and the International Bill of Human Rights. Nokia applies these minimum safeguards throughout its business activities, processes and policies to ensure compliance and a proactive and constructive approach to risk identification and management in the following areas.

Area	Human rights	Corruption	Taxation	Fair competition
Measures and evidence	<p>1. Nokia has established an adequate human rights due diligence process as outlined in the UNGP and OECD Guidelines for MNE.</p> <p>2. No breaches of labor law or human rights have been found at Nokia. Nokia engages regularly with stakeholders and to the best of Nokia's knowledge, no cases or allegations were brought against Nokia by an OECD National Contact Point or by the Business & Human Right Centre within the last two years.</p>	<p>1. Nokia has anti-corruption processes in place.</p> <p>2. Nokia and its senior management, including the senior management of subsidiaries, have not finally been convicted in court on corruption.</p>	<p>1. Nokia treats tax governance and compliance as important elements of oversight, and there are adequate tax risk management strategies and process in place.</p> <p>2. Nokia and its subsidiaries have not been finally found violating of tax laws.</p>	<p>1. Nokia promotes employee awareness of the importance of compliance with all applicable competition laws and regulations.</p> <p>2. Nokia and its senior management, including the senior management of its subsidiaries, has not been finally convicted of violating competition laws.</p>

The above assessments confirm that Nokia meets the requirements of the minimum safeguards in the financial year.

Continuing and discontinued operations

As outlined in the section '[Basis for preparation](#)' within 'General information,' continuing operations KPI related to Turnover, CapEx and OpEx are disclosed within 2024 EU Taxonomy disclosure tables. Impact of restatement is not material for 2023 and as such 2023 numbers have not been restated.

Discontinued operations represent Submarine Networks. The discontinued operations KPI related to Turnover, CapEx and OpEx are excluded from below disclosure table to align with financial statements of Nokia.

Changes in disclosures compared with the previous financial year

The taxonomy-eligibility and alignment of Nokia's business portfolio was reviewed with respect to the economic activities released up till now with no significant change identified to Nokia's assessment compared to the previous financial year other than the above described disclosures related to discontinued operations.

Nokia will continue to monitor further regulatory developments in the EU Taxonomy regulation and their applicability to its business portfolio, which may result in further changes to disclosure in subsequent years.

Environmental information continued

Accounting policy for the taxonomy-related financial KPIs: Continuing Operations

Nokia's taxonomy-eligible and taxonomy-aligned turnover (net sales), capital expenditure and operating expenditure for 2024 are shown in the following tables

Proportion of turnover (net sales) from products or services associated with Taxonomy-aligned economic activities — disclosure covering year 2024

Economic activities	Code	Turnover	Proportion of Turnover, 2024	Substantial contribution criteria					DNSH criteria ('Does Not Significantly Harm')					Minimum safeguards	Taxonomy-aligned (A.1) or eligible (A.2) proportion of turnover, 2023	Category 'enabling activity'	Category 'transitional activity'		
				Climate change mitigation (CCM)	Climate change adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)	Climate change mitigation (CCM)	Climate change adaptation (CCA)	Water (WTR)	Pollution (PPC)					Circular economy (CE)	Biodiversity (BIO)
		EURm	%	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
5.1. Repair, refurbishment and remanufacturing	CE 5.1	552	3%	N	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	0%	E	
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		552	3%	0%	0%	0%	0%	3%	0%	—	—	—	—	—	—	—	0%		
Of which Enabling		552	3%	0%	0%	0%	0%	3%	0%	—	—	—	—	—	—	—	0%	E	
Of which Transitional		—	0%	0%	—	—	—	—	—	—	—	—	—	—	—	—	0%		T
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
8.2. Data-driven solutions for GHG emissions reductions	CCM 8.2	1	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL	—	—	—	—	—	—	—	0%	—	—
1.2. Manufacture of electrical and electronic equipment	CE 1.2	10 076	52%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	58%	—	—
4.1. Provision of IT/OT data-driven solutions	CE 4.1	316	2%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	1%	—	—
5.1. Repair, refurbishment and remanufacturing	CE 5.1	—	0%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	2%	—	—
5.2. Sale of spare parts	CE 5.2	47	0%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	0%	—	—
5.4. Sale of second-hand goods	CE 5.4	18	0%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	0%	—	—
Turnover of Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		10 458	54%	0%	0%	0%	0%	54%	0%	—	—	—	—	—	—	—	61%	—	—
A. Turnover of Taxonomy-eligible activities (A.1+A.2)		11 010	57%	0%	0%	0%	0%	57%	0%	—	—	—	—	—	—	—	61%	—	—
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities (B)		8 210	43%																
Total (A+B)		19 220	100%																

Y - Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective; N - No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective; EL - Taxonomy eligible activity for the relevant objective; N/EL - not eligible, Taxonomy non-eligible activity for the relevant environmental objective

Environmental information continued

Proportion of capital expenditure (CapEx) from products or services associated with Taxonomy-aligned economic activities - disclosure covering year 2024

Economic activities	Code	CapEx	Proportion of CapEx, 2024	Substantial contribution criteria					DNSH criteria ('Does Not Significantly Harm')							Taxonomy-aligned (A.1) or eligible (A.2) proportion of CapEx, 2023	Category 'enabling activity'	Category 'transitional activity'	
				Climate change mitigation (CCM)	Climate change adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)	Climate change mitigation (CCM)	Climate change adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)				Minimum safeguards
		EURm	0	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
5.1. Repair, refurbishment and remanufacturing	CE 5.1	1	0%	N	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	0%	E	
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		1	0%	0%	0%	0%	0%	0%	0%	—	—	—	—	—	—	—	0%		
Of which Enabling		1	0%	0%	0%	0%	0%	0%	0%	—	—	—	—	—	—	—	0%	E	
Of which Transitional		—	0%	0%	—	—	—	—	—	—	—	—	—	—	—	—	0%		T
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
6.5. Transport by motorbikes, passenger cars and light commercial vehicles	CCM 6.5	33	5%	EL	N/EL	N/EL	N/EL	N/EL	N/EL	—	—	—	—	—	—	—	4%	—	—
7.3. Installation, maintenance and repair of energy efficiency equipment	CCM 7.3	1	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL	—	—	—	—	—	—	—	0%	—	—
1.2. Manufacture of electrical and electronic equipment	CE 1.2	199	32%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	47%	—	—
4.1. Provision of IT/OT data-driven solutions	CE 4.1	3	1%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	0%	—	—
5.1. Repair, refurbishment and remanufacturing	CE 5.1	—	0%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	1%	—	—
CapEx of Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		236	38%	5%	0%	0%	0%	33%	0%	—	—	—	—	—	—	—	52%	—	—
A. CapEx of Taxonomy-eligible activities (A.1+A.2)		237	38%	5%	0%	0%	0%	33%	0%	—	—	—	—	—	—	—	52%	—	—
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
CapEx of Taxonomy-non-eligible activities (B)		391	62%																
Total (A+B)		628	100%																

Y - Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective; N - No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective; EL - Taxonomy eligible activity for the relevant objective; N/EL - not eligible, Taxonomy non-eligible activity for the relevant environmental objective

Environmental information continued

Proportion of operating expenditure (OpEx) from products or services associated with Taxonomy-aligned economic activities - disclosure covering year 2024

Economic activities	Code	Proportion of OpEx, 2024		Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')						Minimum safeguards	Taxonomy-aligned (A.1) or eligible (A.2) proportion of OpEx, 2023	Category 'enabling activity'	Category 'transitional activity'
				Climate change mitigation (CCM)	Climate change adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)	Climate change mitigation (CCM)	Climate change adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)				
		EURm	%	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
5.1. Repair, refurbishment and remanufacturing	CE 5.1	1	0%	N	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	0%	E	
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		1	0%	0%	0%	0%	0%	0%	0%	—	—	—	—	—	—	—	0%		
Of which Enabling		1	0%	0%	0%	0%	0%	0%	0%	—	—	—	—	—	—	—	0%	E	
Of which Transitional		—	0%	0%	—	—	—	—	—	—	—	—	—	—	—	—	0%		T
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
9.1. Close to market research, development and innovation	CCM 9.1	9	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL	—	—	—	—	—	—	—	0%	—	—
1.2. Manufacture of electrical and electronic equipment	CE 1.2	2 519	63%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	63%	—	—
4.1. Provision of IT/OT data-driven solutions	CE 4.1	126	3%	N/EL	N/EL	N/EL	N/EL	EL	N/EL	—	—	—	—	—	—	—	3%	—	—
2.4. Remediation of contaminated sites and area	PPC 2.4	7	0%	N/EL	N/EL	N/EL	EL	N/EL	N/EL	—	—	—	—	—	—	—	0%	—	—
OpEx of Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		2 661	66%	0%	0%	0%	0%	66%	0%	—	—	—	—	—	—	—	66%	—	—
A. OpEx of Taxonomy-eligible activities (A.1+A.2)		2 662	66%	0%	0%	0%	0%	66%	0%	—	—	—	—	—	—	—	66%	—	—
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
OpEx of Taxonomy-non-eligible activities (B)		1 369	34%																
Total (A+B)		4 031	100%																

Y - Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective; N - No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective; EL - Taxonomy eligible activity for the relevant objective; N/EL - not eligible, Taxonomy non-eligible activity for the relevant environmental objective

Environmental information continued

Taxonomy-related reporting obligations include a description of an ‘accounting policy,’ including calculation principles for the numerator and the denominator. This section explains how turnover (net sales), capital expenditure and operating expenditure were determined and allocated to the numerator; and the basis on which the turnover (net sales), capital expenditure and operating expenditure were calculated. Double counting has been avoided in the allocation in the numerator of turnover, capital expenditure and operating expenditure across economic activities.

Turnover (net sales)

Taxonomy-eligible turnover (net sales) in the numerator includes the aggregated amount of turnover (net sales) from products and services associated with Nokia’s taxonomy-eligible economic activities. The denominator is the total turnover (net sales) of Nokia as presented in the consolidated income statement.

Capital expenditure

Taxonomy-eligible CapEx includes CapEx associated with turnover (net sales) generating taxonomy-eligible economic activities as well as CapEx from activities that reduce GHG emissions but are not directly generating turnover (net sales).

The denominator is the total amount of additions to intangible assets, property, plant and equipment, and right-of-use assets during the financial year as presented in the consolidated financial statements. Additions are considered before depreciation and amortization for the relevant financial year. Total additions are presented in the notes to the consolidated financial statements in note 4.1. Goodwill and intangible assets; note 4.2. Property, plant and equipment; and note 4.3. Leases.

Operating expenditure

In assessing its taxonomy-eligible operating expenses, Nokia includes in the numerator the direct research and development expenses related to the products and services associated with its taxonomy-eligible economic activities, excluding depreciation, amortization and impairment costs.

The denominator consists of research and development expenses as presented in the consolidated income statement, excluding depreciation, amortization and impairment costs. The definition of operating expenses in the EU Taxonomy also includes building renovation measures, short-term leases, maintenance and repair, and any other direct expenditures relating to the servicing of assets of property, plant and equipment.

As these expenses cannot be measured reliably, they are excluded from reported operating expenses unless the expenses are already included in the research and development expenses.

Standard templates for the disclosure referred to in Article 8(6) and (7) of the delegated regulation (EU) 2021/2178

S. No.	Nuclear and fossil gas related activities	Nokia's assessment (YES/NO)
Nuclear energy related activities		
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	NO
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	NO
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	NO
Fossil gas related activities		
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	NO
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	NO
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	NO



Social information

Social information

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Own workforce (ESRS S1)

Material impacts, risks and opportunities related to Own Workforce

The materiality assessment resulted that working conditions, equal treatment and opportunities for all and training and skills development of own workforce are material sub-topics for Nokia. The assessment covered own workforce including both employees and non-employees. In the following table, the material impacts, risks and opportunities as well as how we manage those impacts, risks and opportunities are described.

Sub-topic	Material impacts, risks and opportunities	Management
Working conditions: Secure employment	<p>Impact (positive): Nokia's innovative approach to staff development and talent attraction has enabled it to act resiliently in the markets and renew itself in ways that positively impacts own workforce.</p> <p>Risk: Inability to attract, develop and retain a future-fit workforce with right skill set and in the right locations during business transformation</p>	<p>Nokia is investing in measures that target the development of future-fit talent at a company and business group level, focusing on critical skills, stretch assignments and exposure to different parts of the business through internal mobility initiatives.</p> <p>In instances when unavoidable business transformation negatively impacts own workforce, consequences are mitigated through measures such as reskilling, redeployment support and severance packages.</p>
Working conditions: Working time	<p>Impact (positive): Nokia has implemented and is maintaining programs and policies regarding flexible working arrangements</p>	<p>Nokia has a Flexible Working Standard Operating Procedure (SOP) in place which applies to all employees of the Nokia Group. Globally, Nokia supports employees' work-life balance with flexible working arrangements that allow remote/home-based working, provided the nature of their job role is such that they are not required to be on a particular site to be able to perform their duties. Flexible working enables employees to balance their work and family obligations in a way that meets their individual needs</p> <p>Nokia does not permit our people to work more than what is legally allowed in each jurisdiction. Regular working hours are defined in accordance with local laws.</p>
Working conditions: Work-Life Balance	<p>Impact (positive): Nokia offers global paid family-related leave which often exceeds local regulations to align with defined internal best practices</p>	<p>Nokia provides paid time off for holiday for all employees to be taken in each calendar year. In addition, other types of leave, such as maternity, paternity, parental, adoption, sick leave and bereavement, are considered important. Nokia's global approach is to consider all sabbatical requests for between 3 and 6 months (after 4 years' continuous employment) and 3 to 12 months (after 10 years' continuous employment) subject to meeting business needs and local regulations regarding sabbaticals.</p> <p>Nokia's Global Child Leave Policy has been incorporated as a minimum standard into all Nokia countries' leave of absence policies. It provides any Nokia employee who becomes a parent, regardless of gender, with at least three months' paid leave and the right to return to work up to one year following the date of birth or adoption. With this, Nokia wants to enhance parents' bonding with their children and to drive a societal and mindset shift in fathers' rights too.</p> <p>Nokia has a Flexible Working Standard Operating Procedure (SOP), which applies to all employees of the Nokia Group.</p>
Working conditions: Adequate wages	<p>Risk: Increases in wages or changes in the related practices / regulations resulting in increases in Nokia's personnel related costs</p>	<p>Our compensation and benefits programs contribute to our business success by balancing market competitiveness and affordability based on a total compensation approach. These are performance-driven (both on an individual and company basis), flexible and fair. The key elements of our compensation structures are annual base salary, incentive/bonus programs, recognition programs and equity-based long-term incentives.</p>

Social information continued

Sub-topic	Material impacts, risks and opportunities	Management
Equal treatment and opportunities for all: Gender equality and equal pay for work of equal value	Impact (positive): Nokia has adopted gender equality and equal pay principles for own employees	As we recognize how unique perspectives can build world class technology and drive our business forward when we work collaboratively, we actively foster diversity, equity and inclusiveness, creating a culture of trust and belonging. We aspire to be more representative at large, so that our teams reflect the communities we serve and the diverse world around us. Nokia annually analyzes the gender equality of our compensation practices and funds additional, focused salary increases to remediate unexplained gender pay gaps. Nokia consistently investigates our policies and practices to address decisions, customs and processes that might threaten a segment of our population unfairly. Nokia is committed to equal pay for work that is of equal value.
Equal treatment and opportunities for all: Training and skills development of own workforce	Impact (positive): Nokia offers extensive training and skills development opportunities to its own workforce regarding knowledge and competence development as an essential element of its business strategy, which allows employees to maintain and enhance their skills Risk: Inability to attract, develop and retain a future-fit workforce with right skill set and in the right locations in the rapidly changing technological environment	Based on the feedback provided, career and development opportunities are important to Nokia's employee and Nokia has further invested in internal career path tools and resources to enable employees to access viable and often personalized guidance on career growth choices. Nokia is investing in measures that target the development of its people at a company and business group level, focusing on critical skills, stretch assignments and exposure to different parts of the business through internal mobility initiatives. Nokia business groups are responsible for identifying future skills and capabilities needs in order to keep up with innovation, and evolving technology and business environments. Future-fit talent is a key enabler of Nokia's business strategy and is central to our approach to engaging, developing, and retaining our people. Nokia is reviewing its talent and performance management to align with Nokia's strategy, ensure the greatest visibility of our Nokia talent, and support the development of the necessary skills for success and growth.

Our approach to determining material impacts, risks and opportunities is described under the ['General information'](#) section.

Policies

Our people represent the essence of who we are as a company. At Nokia we aspire to have our people grow and develop continuously in a culture that is inclusive and diverse. In 2024, we strengthened our People Agenda as we continued to cultivate one high-performing Nokia centered around talent, leadership and culture, while following our essential principles ("Essentials") of being open, fearless and empowered.

Fair workplace and our policies

We uphold high standards of ethics and human rights in our own activities and aim to treat all our employees and other stakeholders in accordance with internationally recognized ethical and responsible business practices and relevant legislation.

Our Code of Conduct, our People Framework, our Human Rights Policy, and local employment laws, policies and practices are the basis for our labor conditions. We are committed to the principles laid out in the United Nations Universal Declaration of Human Rights, the United Nations Global Compact and the International Labor Organization's Declaration of Fundamental Principles and Rights at Work. We follow and, where possible, strive to exceed the standards set out by local labor laws and regulations. We publish information related to our employment policies and guidelines on our intranet. Refer to the section General information, ['Policies adopted to manage material sustainability matters'](#) for further information regarding the Nokia policies.

Our policies, Standard Operating Procedures (SOPs) and Code of Conduct apply to our employees and suppliers. Our policies cover zero tolerance for child and forced labor, freedom of association and collective bargaining, non-discrimination, humane treatment, working time, disciplinary practices, compensation, and occupational health and safety.

On the topic of discrimination, our People Framework specifically states that "No employee or candidate for employment will, therefore, receive less favorable treatment due to their race, religion, belief, color, nationality, ethnic origin, age, sex, sexual orientation, gender identity, characteristics or expression, marital status, connections with a national minority, disability, membership or non-membership of a trade union, or other protected classes".

Secure employment

Nokia ensures support for all aspects of 'social protection'. All Nokia employees are entitled to paid sickness absence. The duration and level of sickness pay varies by country and considers prevailing market practice and any mandatory provisions. All Nokia employees are eligible for additional financial payments in the event of involuntary termination of employment, and severance pay packages vary by country and reflect mandatory and local market practice. Nokia provides support in the event of work injury and acquired disability. Nokia has a global policy that provides a minimum of 90 days' paid leave and a further 9 months' unpaid leave for all new mothers and fathers; many Nokia countries have local policies that exceed this level of support for maternity absence. Nokia provides for family leave in line with local legislative requirements. All Nokia employees participate in arrangements that support them in building financial security for the future. The benefit plan design for retirement varies from county to country: in some countries provision is wholly via participation in State plans whilst in other countries it is a combination of Nokia and State plans.

Social information continued

Working time and work-life balance

We do not permit our people to work more than is legally allowed. We define regular working hours in accordance with local laws. In countries where employment of young workers is customary and allowed by local law, workers from 15 to 18 years old (or as specified by local legislation) are not permitted to carry out work that may be hazardous, unsafe or unhealthy or to work night shifts.

We provide guidance through our Worktime Standard Operating Procedure document and guarantee a minimum of one day off in every seven days in our production operations.

Globally, Nokia supports employees' work-life balance with flexible working arrangements that allow remote/home-based working, provided the nature of their job role is such that they are not required to be on a particular site to be able to perform their duties. Flexible working enables employees to balance their work and family obligations in a way that meets their individual needs. In addition, Nokia offers paid time off for various life events, such as marriage, funerals, house moves, and volunteering days.

Adequate wages

Our compensation and benefits programs contribute to our business success by balancing market competitiveness and affordability based on a total compensation approach. These are performance-driven (both on an individual and company basis), flexible and fair. The key elements of our compensation structures are annual base salary, incentive/bonus programs, recognition programs and equity-based long-term incentives.

All Nokia employees are paid an adequate wage, in line with applicable benchmarks. Pay practices are regularly reviewed to align pay with performance, experience, and the skills required for every position. We pay at least the minimum wage, comply with all legal requirements for wages and at a minimum provide any legally or contractually required benefits.

Nokia policy is that part-time or temporary employees have access to employee benefit plans.

Since 2019, we have analyzed the gender equality of our compensation practices and funded additional, focused salary increases to remediate unexplained gender pay gaps. We consistently investigate our policies and practices to address decisions, customs and processes that might threaten a segment of our population unfairly. While we do not disclose global salary ratios, we are committed to equal pay for work that is of equal value (skill, responsibility, etc.). This is applied without regard for an individual's personal characteristics such as gender, race, age, national origin, ethnicity, color, religion, sexual orientation, gender identity, gender characteristics or expression, disability, or entitlement to family leave.

Equal treatment and opportunities for all

We actively foster a culture of trust and belonging. We aspire to be more representative at large, so that our teams reflect the communities we serve and the diverse world around us.

As part of our People Agenda we have priorities that are focused on increasing diverse representation and embedding inclusion into our policies and employee experience.

Nokia is investing in hiring strategies that include attracting and sourcing diverse pipelines of candidates across roles and location, including a focus on women in early careers to improve our gender balance now and for future careers at Nokia.

Training and skills development

Nokia continually builds its culture and refreshes its talent management, performance management and career development activities.

Future-fit talent is a key enabler of our business strategy and is central to our approach to engaging, developing and retaining our people. We are reviewing our talent and performance management to align with Nokia's strategy, ensure the greatest visibility of our Nokia talent, and support the development of the necessary skills for success and growth.

Annual development reviews are available to all employees. Nokia people managers are encouraged to provide continuous feedback and hold quarterly discussions with employees. In 2024, employees and people managers were encouraged to focus on feedback giving and receiving.

Our people development focus has three main pillars:

1. Talent, which covers growth and talent development, succession planning, career moves and rotations, sustainable talent pipelines, and future-fit talent.
2. Leadership, which includes leadership principles, leadership development, a top leaders' community, and sponsorship and mentoring.
3. Culture, which includes creating a safe space, employee engagement, and accountable leaders.



Social information continued

Processes for engaging with own workforce and workers' representatives about impacts

Freedom of association and collective bargaining

We respect the right to collective bargaining and freedom of association. Collective bargaining agreements are local and, in most countries where we have collective bargaining agreements, employees who have chosen not to be members of a union are also covered by similar terms.

Employees can choose freely to join, not join or leave unions and associations and select their representatives based on local and international practices.

In countries and regions where works councils operate, we work collaboratively with them. We communicate regularly with employees directly as well as with their representatives in meetings such as at the level of European Works Councils (EWCs).

Employee representatives are entitled to participate in training that is necessary to carry out employee representative duties and to increase their knowledge of trade union rights and obligations. Additionally, employee representatives can use company infrastructure during the workday.

The responsibility for the engagement with own workforce and workers' representatives rests with Chief People Officer through the People Relations Team and Chief Legal Officer through the Labor and Employment Law Team.

Equal Opportunities

Investments have been made in internal career path tools and resources to enable employees to access viable and often personalized guidance on career growth choices. In addition, the Talent Acquisition team provides advice to employees throughout the internal vacancies and career application process.

Processes to remediate negative impacts and channels for own workforce to raise concerns

The processes and channels available to our workforce to raise concerns and have them addressed are described in the section 'Business Conduct (ESRS G1)', '[Reporting channels and investigations process](#)'.

Actions

Social protection measures

The business environment in which Nokia operates is highly competitive and occasionally requires cost reassessment, including that of the employee base. In those circumstances, Nokia prioritizes provision of support for impacted employees and the adoption of mitigating and social protection measures such as:

- Offering employees continued training opportunities to maintain and develop their skills and competencies to meet the anticipated changes in business, markets and the technology environment in which we operate.
- Supporting and encouraging redeployment activities for affected employees to find new job opportunities in the company, including retraining as necessary and as appropriate.
- Offering severance packages to exited employees that are often of greater value than what is required by local laws.

Nokia also offers career counseling and job search support outside the company.

Ethics and Non-discrimination initiatives implementation

We implement our policies to prevent, mitigate, and address discrimination through a combination of proactive measures, robust reporting mechanisms, and corrective actions. Prevention is achieved through ongoing awareness campaigns and mandatory training programs designed to educate employees on inclusive behaviors and the importance of diversity, ensuring that these principles are deeply embedded in our organizational culture.

To address potential violations, we have a well-established Ethics Helpline, supported by a strong speak-up culture. Employees are encouraged to report any concerns about

behaviors that may conflict with our values. Once a report is made, it is handled by our dedicated Ethics team, which assigns an investigator to thoroughly review the concern and determine appropriate outcomes.

Annual gender pay gap review

We also continued to drive improvements in gender diversity by monitoring pay equity. In 2024, Nokia implemented a second remediation round in December, ensuring any statistically significant unexplained pay gap was closed. We will continue to emphasize and apply mitigations to improve in gender diversity.

Competence development

Our competence development activities focus on leadership, business-critical, and technical skills for current and future needs. We offer learning solutions to our customers, partners, and employees. The average number of all internal learning hours was 19 hours per employee in 2024. To reinforce a culture of learning, we provide our employees with a tool called the Learning Index. The Learning Index enables employees to monitor their commitment to continuous learning and information sharing.

Leadership development

Our leadership principles are called LEAD (Lead with courage; Empower performance; Act with respect; and Deliver Nokia First). These are being launched to all people managers in early 2025 and will include behavioral indicators that back up each principle.

In 2024, we continued to support people managers with a specific training program, Leadership for Impact, through which 17 sessions with 312 participants were delivered in 2024. We also continued to invest in all levels of leaders through our online platforms including branded solutions from Harvard ManageMentor and Harvard Spark. This year 3545 employees used these two leadership training solutions. Additionally, our employees completed 16285 self-paced leadership online trainings and achieved 4410 badges.

Future Talent Growth

We provide growth opportunities for future talent that allow targeted development at the company level and business group level focusing on critical skills, stretch assignments, and exposure to different parts of the business through internal mobility initiatives. Business groups and functions have unit/function-specific initiatives in place to address their strategic talent needs.

Social information continued

Targets and progress in targets

Gender hiring and female own employees targets

In 2021, we set out two diversity targets to address the under-representation of women across Nokia's own employees and provide equal opportunities to improve our gender balance.

Our two targets in 2024 were:

28% minimum

(YTD) female hiring in external recruits in 2024

25%

female in overall Nokia's own employees by 2030

In 2024, we achieved the threshold for our gender hiring target of 28% through increased marketing, communication and talent attraction activities to make Nokia's employer brand stand out for diversity-friendly employment policies and to attract diverse talent. We also worked to improve our inclusive hiring practices to ensure we upskilled key stakeholders such as our talent acquisition team and hiring managers to adopt consistent actions that drive fair hiring practices.

For 2025, we continue with our target to achieve a share of women to a minimum of 25% of all employees by 2030.

The ratio of women in Nokia's own employees was 23% at the beginning of 2024 and remained the same at the end of 2024. We continue to work on development and retention for gender diversity. We track targets with key stakeholders in the business, people and talent acquisition teams.

Progress against ESG targets in 2024

Target year	Base year	Base value	Target	2024 results	Target status
S1: Own workforce					
2030	2021	22%	Increase the share of women to a minimum of 25% of total employees.	The ratio of women was 23% at the beginning of 2024 and remained the same at the end of 2024. We continue to work on development and retention for gender diversity.	On track 
2024	2023	28%	Reach a minimum of 28% female hires in global external recruits.	28% of external recruits were women. We achieved the 2024 target via increased marketing, communication and talent attraction activities to make Nokia's employer brand stand out for diversity-friendly employment policies and attract diverse talent.	Achieved 

Social information continued

Disclosure tables

Nokia continuing operations

As outlined in the section '[Basis for preparation](#)' within 'General Information', metrics are presented separately for Nokia continuing operations and discontinued operations comprising Submarine Networks. Disclosure tables presented in this section include continuing operations (Nokia Group excluding Submarine Networks) both for the reporting year 2024 and comparative period 2023 unless otherwise indicated. Key metrics for the discontinued operation for the reporting years 2024 and 2023 are disclosed separately below this section.

Number of employees by contract type and gender, 2024

Employees by gender	Female	Male	Other category ⁽¹⁾	Total
Number of permanent employees	17 020	57 473	1 134	75 627
Number of temporary employees	877	1 929	1	2 807
Number of non-guaranteed hours employees	0	0	0	0
Number of employees	17 897	59 402	1 135	78 434

(1) Non-binary, third gender and/or not disclosed.

At the end of 2024, Nokia employed 75 633 people, with an average of 78 434 employees across the year.

Number of employees by contract type and country / region, 2024

Employees by country/region	Asia-Pacific	India	Europe (w/o Finland)	Finland	LAT	MEA	NAM	China	Total
Number of permanent employees	3 443	17 270	25 295	6 316	2 669	2 929	9 064	8 641	75 627
Number of temporary employees	78	514	1 423	400	80	41	223	48	2 807
Number of non-guaranteed hours employees	0	0	0	0	0	0	0	0	0
Number of employees	3 521	17 784	26 718	6 716	2 749	2 970	9 287	8 689	78 434

Employee turnover, 2024

Employee turnover in reporting period	2024	2023
Total number of employees left the company	8 934	6 543
Turnover rate, %	12%	8%

Number of non-employees, 2024

Number of non-employees	2024
Number of non-employees in own workforce	1 869

Employees at top management level, 2024

Employees at top management	Number	Share, %
Female	597	17%
Male	2 816	83%
Total	3 413	100%

Social information continued

Employees by age group, 2024

Employees by age	Number	Share, %
Under 30 years old	10 292	13%
30–50 years old	45 600	58%
Over 50 years old	21 451	27%
Unknown ⁽¹⁾	1 091	1%
Total	78 434	100%

(1) The age group of the remaining employees is unknown.

Employees skills development, 2024

Employee gender	Employees who participated in regular performance and career development reviews, %
Employee	95%
Female	23%
Male	72%

Training hours, 2024

Employee gender	Average number of training hours per employee
Employee	19
Female	17
Male	19
Other category ⁽¹⁾	16

(1) Non-binary, third gender and/or not disclosed.

Employee category breakdown, 2024

Employee category	Employees who participated in regular performance and career development reviews, %	Average number of training hours per employee
Employee	95%	19
People managers	8%	13
Individual contributors	87%	19

Gender pay gap and annual total remuneration, 2024

Remuneration metrics	2024
Gender pay gap between female and male employees, %	0.7%
Annual total remuneration ratio	50.71

Based on the adjusted pay analysis, female employees earn 0.7% less than male employees accounting for any applied controls.

Social information continued

Discontinued operations

Number of employees by contract type and gender, 2024

Employees by gender	Female	Male	Total 2024
Number of permanent employees	377	1 418	1 795
Number of temporary employees	44	125	169
Number of non-guaranteed hours employees	0	0	0
Number of employees	421	1 543	1 964

Number of employees by contract type and country / region, 2024

Employees by country/region	Asia-Pacific	Europe (w/o Finland)	LAT	NAM	Total 2024
Number of permanent employees	5	1 785	1	4	1 795
Number of temporary employees	0	169	0	0	169
Number of non-guaranteed hours employees	0	0	0	0	0
Number of employees	5	1 954	1	4	1 964

Employee turnover, 2024

Employee turnover in reporting period	2024
Total number of employees left the company	252
Turnover rate, %	13%

Employees at top management level, 2024

Employees at top management	Number	Share, %
Female	1	7%
Male	14	93%
Total	15	100%

Employees by age group, 2024

Employees by age	Number	Share, %
Under 30 years old	311	16%
30–50 years old	908	46%
Over 50 years old	745	38%
Total	1 964	100%

Social information continued

Reporting principles for Nokia own workforce metrics

Nokia's own workforce include both employees and non-employees. Non-employees are short-term external temporary resources sourced from external suppliers and engaged in employment activities under the direction of Nokia. This includes individuals performing the same work as Nokia employees, such as those filling in for absent employees or performing regular work at the same site as Nokia employees.

Submarine Networks is reported separately and is not considered part of Nokia's continuing operations.

Characteristics of Nokia employees

Number of employees by contract type and gender

Employee data presented for Nokia's continuing operations is reported in headcount and represents averages across the reporting period, from January 2024 until December 2024. This data aligns with information reported in the financial statements. Employee data presented for discontinued operation is reported in headcount and represents headcount at the end of the reporting period.

Employee counts are further categorized by gender: female, male, and other category. This includes permanent and temporary employees.

Permanent employees imply those which are employed on a permanent contract of employment and are on Nokia's payroll, in any jurisdiction.

Temporary employees imply those which are employed on contract of employment that are not permanent in nature and are on Nokia's payroll, including fixed term contracts and internships. This excludes contractors, consultants or any other independent workers that get paid by Nokia via invoice and not via payroll.

Number of employees by contract type and country/region

Employee numbers, including permanent and temporary employees, are distributed across three countries: India, Finland, and China, and key regions that represent the primary locations for Nokia's workforce.

Characteristics of non-employees in Nokia's own workforce

Non-employee metric is reported in headcount and disclosed as total average across the reporting period.

Diversity metrics

Employees at top management level

Nokia top management includes line managers and individual contributors who are senior directors and executives. Internally, this corresponds to job grade 13 and above.

Employees by age group

The total number of employees by age group for Nokia's continuing operations is reported in headcount and represents averages across the reporting period. The number of employees by age group for discontinued operation is reported in headcount and represents headcount at the end of the reporting period.

Female own employees target

Share of female in Nokia's overall own employees is reported as average number of own employees identified as female from January 2024 until December 2024 compared to the total number of employees. The reported metric excludes Submarine Networks discontinued operation.

Gender hiring target

Female hiring metric is calculated by dividing externally hired employees identified as female by total headcount of external recruits during the reporting period. The total external recruits include both regular employees and trainees. The reported metric excludes Submarine Networks discontinued operation.

Training and skills development metrics

Employees skills development

The percentage of employees participating in regular performance and career development reviews is based on 2023 review results. The estimated metric for 2024 is based on 2023 actuals due to the timing of the performance review process, which extends into the first quarter of the following year from the reporting period and the process formally concludes in the second quarter.

Training hours

The training and learning hours metrics include the average hours of training per employee, calculated by dividing the total learning hours by the number of learners (employees).

The employee base for this report include all Nokia employees and trainees, as measured by headcount at the end of reporting period December 2024.

Training types include external training. These training hours are self-reported by the employees. This category encompasses formal training as well as informal learning activities, such as reading books or attending seminars.

Remuneration metrics

Gender pay gap

To ensure gender pay equity, Nokia conducts biannual in-depth pay analyses. These analyses investigate whether there are statistically significant differences in pay distribution between male and female employees within groups of similar individuals.

To identify potential issues, employees are initially grouped based on geography and/or role type. Within each group, Nokia further controls for neutral, objective, and deliberate pay differentiators at Nokia, such as job grade and performance.

The adjusted pay gap measures the difference in compensation for employees performing work based on neutral, job related factors. The adjusted gap is the weighted average pay equity gap across groups, taking into account currently applied objective and gender-neutral controls and settings. The weighing is based on female employee headcount, meaning groups with larger female employee headcounts factor in more to the aggregate number than those with smaller female employee headcounts.

Nokia focuses on addressing systemic differences, not individual variations. The goal is to ensure there are no patterns of women being paid differently than men.

Annual total remuneration

Annual total remuneration ratio is calculated by dividing the CEO's total pay by the average employee salary.

Annual total remuneration encompasses all salary, benefits, equity, and bonuses paid. The CEO's bonus payout requires approval from both the Board of Directors and the Personnel Committee.

Nokia's average salary is calculated by dividing the total salaries paid by Nokia's average headcount during the reporting year.

Social information continued

Workers in the value chain (ESRS S2)

Nokia drives active engagement across its value chain, working with its suppliers to raise the standards in its ecosystem in key ESG areas including labor rights and Health and Safety. Supplier due-diligence is one of the four pillars of Nokia's responsible sourcing strategy complemented by supplier development and learning and industry collaboration as key enablers for success.

Nokia conducts business with around 9 300 suppliers in over 100 countries. For a description of Nokia's sourcing categories and countries that also reflects sectors where Nokia's value chain workers are employed, please refer to the section '[Business model and value chain](#)' in the section 'General information'.

Material impacts, risks and opportunities related to workers in the value chain

The double materiality assessment indicated that working conditions and other work-related rights for workers in the value chain are material sub-topics for Nokia. The following table describes the material impacts, risks and opportunities as well as how Nokia manages these.

Sub-topic	Material impacts, risks and opportunities	Management
Working conditions: Working time	Impact (negative): Suppliers' employees in supplier manufacturing facilities or customer services sites may be exposed to excessive or non-voluntary overtime, continuous work without day off during peak manufacturing or projects with short execution time.	Working hours related controls are part of our Supplier due-diligence, one of the building blocks under our responsible sourcing and supply chain strategy. Nokia endorses internationally agreed standards related to working hours cap and leave aiming to lead suppliers' employees to experience good work-life balance. Nokia conducts risk based due-diligence via online and onsite audits and corrective action management/supplier training.
Working conditions: Adequate wages	Impact (negative): Suppliers' employees in supplier manufacturing facilities or customer services sites may be exposed to receiving insufficient wages, deductions from their wages, not receiving correct full and final settlement when terminating employment or working under false apprenticeship schemes.	Wages and benefits subject is part of our Supplier due-diligence, one of the building blocks under our responsible sourcing and supply chain strategy. Nokia conducts risk based due-diligence via online and onsite audits and corrective action management/supplier training. Suppliers' employees shall receive wages and benefits in line with their contractual agreements and industry minimum standards, without unnecessary deductions and shall meet at least Living Wage minimum.
Working conditions: Health and Safety (H&S)	Impact (negative): Nokia business activities associated with installation of network equipment & support services, site acquisition & permitting may include health and safety threats related to working at height, road safety, electrical safety, underground assets, street works and working in high or extreme risk countries/regions.	Health and Safety is one of the building blocks of Responsible Business under our ESG strategy. Strategic focus areas include: Leadership & Behavior, Implementation of Global High-Risk Health & Safety Standards, Improving Existing Services, Continuity of Operations, Assurance & Governance, Global Health and Safety Risk & Opportunity Analysis. Health and Safety remains a key priority for Nokia. Group leadership representatives set the strategic direction and policies for Health and Safety at Nokia. They demonstrate their strong commitment to excellence in Health and Safety by participating in and leading various risk and opportunity reviews held throughout Nokia's global markets. Nokia has a broad range of programs targeting continuous improvement to address job-related Health and Safety risks when installing and maintaining equipment and providing services and solutions to Nokia's customers. Nokia delivers training, conducts analyses and assessments, and implements consequence management. Nokia's Health and Safety Management System is globally certified and based on the internationally recognized ISO 45001 standard. Coverage within the scope is comprehensive across all business groups, network services and installations, and customer operations and supporting corporate functions. In 2024, the Health and Safety management system covered 52% of Nokia's sites and 88% of employees (excluding discontinued operations). With Nokia's global Health and Safety Management System, audits and certifications, and having demonstrated continuous improvement year-over-year, Nokia is positioned as an effective leader in global Health and Safety management systems and programs worldwide. Nokia works proactively to minimize the potential and impact of work-related incidents. When accidents occur, they are thoroughly investigated, corrective actions are identified and these provide an opportunity to adapt safety programs and prevent future recurrence.
Other work related rights: Forced labour	Impact (negative): Suppliers' employees may be exposed to forced labor, including having work without valid employment contract, exposure to recruitment fees being collected as part of recruitment channels, casual labor entering our services supply chain, risks being particularly higher in deeper supply chain tiers, and in services supply chain where execution of lower skill profile last mile tasks may occur, especially in remote areas which are difficult to reach.	Forced labour prevention is part of our Supplier due-diligence, one of the building blocks under our responsible sourcing and supply chain strategy. We have robust due-diligence practices in place, including risk mapping, online and onsite audits, capacity building, remediation, consequence management, performance evaluation, stakeholder grievance. We also collaborate with customers and industry consortium on the same.

Social information continued

Identification and assessment of material impacts, risks and opportunities

Nokia's approach to determining material impacts, risks and opportunities is described under the ['General information'](#) section.

Specific impacts, risks and opportunities were identified on the basis of supplier assessments and audits that Nokia conducts each year, as well as industry forums, stakeholder inquiries and supplier workshops and webinars. Findings related to working time, wages, health and safety and forced labor risk were the most frequent findings in Nokia's supplier audits in 2024 (refer to the table under the section 'Actions' for examples of identified non-compliance and table under the section 'Disclosure Tables' for audit findings). The information gathered through this process was used for the identification of material impacts, risks and opportunities related to workers in Nokia's value chain.

Policies

The Nokia Code of Conduct is the company's highest-level policy which also covers Nokia's commitment to Human Rights in its own operations, supply chain and business relationships. Refer to the section General information, ['Policies adopted to manage material sustainability matters'](#) for further information regarding the Nokia policies.

Nokia expects its suppliers to adhere to the Nokia Third-Party Code of Conduct and provides them with Nokia Supplier Requirements, including the Responsible Business Alliance's (RBA) Code of Conduct and additional, Nokia-specific sustainability requirements.

Nokia labor-related requirements to Nokia's suppliers are based on international standards such as the Universal Declaration of Human Rights, the International Labor Organization Core Conventions and the Social Accountability SA8000 Standard. These requirements include working time, overtime, leaves, compensation and benefits as well as modern slavery risk and forced labor prevention and are covered under Nokia's Supplier Requirements, which include the requirements from the latest version of the Responsible Business Alliance's Code of Conduct as well as Nokia-specific supplier requirements on top of industry Code. An overview of Nokia's Supplier Requirements is published on Nokia's website and made available to all stakeholders.

These Supplier Requirements are cascaded down to suppliers as part of qualification and contracting, as well as supplier training and are expected to be cascaded down to the next tier of suppliers by Nokia's suppliers.

The Nokia Health, Safety and Labor Conditions Policy as well as Nokia's Life-Saving Rules cover all operations performed by everyone working on behalf of Nokia at Nokia's own or customer premises. Health and Safety requirements are also integrated into Nokia's contractual requirements with suppliers.

Nokia has developed global Health and Safety implementation standards to cover high-risk activities (working at height, road safety etc). These global standards are localized by competent country-based Health and Safety practitioners to include country- and customer-specific requirements. These standards are published on Nokia's external supplier portal and communicated by the relevant stakeholders locally and via supplier training.

Nokia has set stringent KPIs related to its in-house Supplier Health and Safety Maturity Assessment. This assessment helps to ensure that suppliers know Nokia's Health and Safety requirements and have the capabilities to deliver work safely on Nokia's behalf.

Processes for engaging with value chain workers about impacts

Nokia engages with value chain workers through on-site audits and inspections conducted to the suppliers. These include but are not limited to management system reviews and interaction, site tours, worker interviews, timesheet and holiday leave checks, remuneration checks, employment contract and file checks. When performing sampling for documentation reviews and worker interviews, vulnerable group representatives are included. On-site audits are conducted based on risk, prioritizing supplier sites in high-risk geographies as well as supplier commodities with high risk of labor rights infringements.

Nokia's supplier-related monitoring, assessment and auditing activities also include EcoVadis assessments. These are online assessments of supplier policies and procedures, which include evaluations of policies and controls relating to working time and leave, remuneration, recruitment and forced labor prevention. EcoVadis assessments are repeated every two to three years depending on the supplier score.

Interaction with supplier employees is also conducted via supplier training (on-site workshops and webinars).

Health and Safety worker consultations and interactions include Supplier Health and Safety Maturity Assessments; on-site sustainability audits (worker interviews); site monitoring and inspection programs; EcoVadis assessments; the implementation of Nokia's Life-Saving Rules (any worker has the right to refuse work); Nokia Senior Leader Safety Tours; Nokia's License to Work program; supplier competence development including Nokia's Safety Capability and Enablement Program; safety stand-down days; and joint on-site training events in collaboration with specialist companies.

Relevant Health and Safety risks are communicated to value chain workers via Health and Safety plans, Global Health and Safety High Risk Standards and local Health and Safety standard operating procedures (SOPs), safety alerts, and bulletins to communicate good practice and highlight potential risk-related issues. The Nokia Supplier Health and Safety portal is used to communicate processes, training and good practices. There is also a Health and Safety Reward and Recognition program that includes suppliers.

Operational responsibility for the engagement of workers in the value chain is with Head of the Sustainable Supply Chain for labor rights and Head of People Safety & Security for Health and Safety.

Processes to remediate negative impacts and channels for value chain workers to raise concerns

Findings from audits and assessments are addressed through corrective action / improvement plans that are communicated to the supplier. In the event of a health and safety incident or accident, an investigation process is triggered. The investigation focuses on the determination of the root cause and then corrective and preventative actions are mandated.

The implementation of such action plans, whether triggered by audits or investigations is monitored by local Health and Safety teams. Nokia has also developed a Health and Safety Consequence Management Process to transparently and fairly evaluate the causation of all health and safety incidents.

For incidents related to child and forced labor Nokia also has Child and Forced Labor Remediation Process.

Social information continued

The main channel for value chain workers to raise concerns related to their employer should be their employer grievance channels. Besides their own channels, concerns can also be raised through the Nokia Ethics Helpline as well as via worker interviews that are conducted as part of supplier audits and site inspections. Refer to the sections '[Reporting channels and investigations process](#)' and '[Protecting against retaliation](#)' within 'Business conduct (ESRS G1)' for more information on grievance channels and retaliation policies.

Actions

In 2024, Nokia conducted a total of 606 supplier audits and EcoVadis assessments. Supplier assessment coverage is reflected under the '[Disclosure tables](#)'. These included 101 in-depth corporate responsibility audits. There were 16 countries covered by these audits, such as China, India, Japan, Malaysia, Mexico, Singapore, Taiwan, Thailand, the Philippines, and Vietnam. The number of findings per category in these audits and examples of some findings and corrective actions taken are disclosed in the following table. As a result of the audits, 420 improvement recommendations were made, which were addressed through corrective action plans. Most of these recommendations aim to improve the working conditions for the value chain workers. All non-conformities identified were analyzed by Nokia's experts in the sustainable supply chain team, and corrective actions were included in Nokia's training materials as a mechanism for systematic improvement. Nokia aims to close these audit findings within six months of the audit completion date. In 2024, 38% of our corporate responsibility audit findings were closed within this time. Beyond in-depth audits, 469 online assessments with EcoVadis were also completed. In 2024, 84% of Nokia suppliers covered with valid EcoVadis assessment had a satisfactory score. All the suppliers with scores below expectations were addressed with improvement requests.

Learnings from findings and their remediation are shared at supplier workshops, webinars and training sessions as well as through public reporting.

Nokia is also collaborating with industry peers (e.g. through the Responsible Business Alliance) on new tools and learning materials.

Examples of identified non-compliance and actions taken:

Category	Non-compliance identified	Actions taken by supplier
Child and juvenile labor avoidance	There is an inadequate policy regarding Interns lacking required protection. For instance, the current intern policy doesn't state critical information like interns provided assignments that complement their course of study, maximum duration of apprenticeship which shouldn't be more than 6 months, no agency or intermediary hired for recruitment, hiring, arrangement, and management of interns and a prohibition of use of interns to fill a labor shortage.	Intern policy has been updated to include all such gaps and the updated policy communicated to interns.
Forced Labor: Employees pay medical check fees	New employees pay 40 RMB, or 2.1 % of a worker's base salary for their own health check as fee.	All employee files including employment agreements were reviewed. New format of contract template was developed with all important terms and conditions and completed with signatures. New HR person was assigned and Content Checklist was created for the employee file for required documents.
Health and safety	Approx 20% of the employees exposed to occupational hazards in the factory did not wear appropriate labor protection, e.g. workers in the CNC workshop were wearing ordinary disposable masks instead of dust masks	The supplier has reviewed the personal protective equipment (PPE) wearing guidebook that sets out the guidance and standards for wearing different types of PPE. The supplier also shared pictures of workers wearing PPE, that appears appropriate for the activities that they are performing.
Working hours	Excessive monthly overtime working hours were observed (46 to 54 hours per month) in different sampled months.	The supplier has set a limit to the overtime working hours. The monthly overtime hours meet legal requirement of 46 hours with a maximum of 38 hours in a month. Evidence has been shared. Training for control of working hours is provided to workers. The same working hour trend was also observed in the production area.
Remuneration and benefits	Salary from which the social benefit of Provident Fund is calculated is less than the Basic + Daily Allowance of the region, an amount from which such provident fund needs to be calculated.	Supplier has analysed the situation. Salary has been revised based on the latest salary structure for future compliance. The deficit amount in the preceding month has been paid to the provident fund department.

Social information continued

Targets and progress in targets

The targets reflect the due diligence programs that are addressing the policy areas including forced labor, health and safety, remuneration and working time.

Supply chain

Satisfactory sustainability score

Nokia has set the overall target of 80% of suppliers achieving a satisfactory sustainability score (based on aggregated weighted share) in supplier performance evaluations (based on corporate responsibility on-site audit programs, EcoVadis, CDP, and conflict minerals). This KPI includes all major due-diligence assessment results through performance score. Individually Nokia also publicly discloses the number of on-site and online sustainability audits; the number of audit findings related to working hours, remuneration, forced labor risk, health and safety etc and type of findings and remediation actions taken.

Progress on target: On track

78%

of suppliers received a satisfactory sustainability score in Nokia's assessment programs.

3TG traceability and conflict free status

98% 3TG traceability and conflict free status to smelter level in Nokia's supply chain as well as conflict free status of the smelters. Extended due diligence and conflict free status of cobalt, mica, aluminum and copper.

Progress on target: Not on track

87%

traceability to the smelter level in Nokia's supply chain as well as conflict-free status of the smelters.

Health and Safety

With regards to Health and Safety, there are a number of internal targets. These include targets associated with value chain workers. Focus areas and targets have been established for topics such as:

Incident frequency rate reduction

Progress on target: Achieved

Nokia own workforce LTIFR and TRIFR showed a reduction from 2023 (LTIFR as 0.085 from 0.089 in 2023 and TRIFR as 0.244 from 0.277 in 2023).

Zero critical or fatal incidents among own workforce, suppliers and third-parties

Progress on target: Not achieved

6

(six) work-related fatal incidents. This include 0 (zero) work-related fatal incidents involving Nokia own workforce, 5 (five) work-related fatal incidents involving contractors/ subcontractors and 1 (one) work-related fatal incident involving a third-party.

Supplier Health and Safety maturity

100% "H&S Recommended or Preferred supplier" status by 2030.

Progress on target: On track

16%

of relevant suppliers met "H&S Recommended or Preferred supplier" status.

Projects compliant with the strengthened requirements of HRPIA process

96% of projects compliant with the strengthened requirements of Nokia's High-Risk Project Implementation Assessments (HRPIA) process

Progress on target: Achieved

97%

of High-risk projects were found to meet Nokia's minimum non-negotiable requirements.

Nokia Senior Leader Safety Tours

Creating a safer work environment starts with good leadership. Nokia leaders are in key position to strengthen the Health and Safety culture in Nokia. Conducting a Senior Leader Safety Tour is a targeted, direct and strategic way to engage with local teams and value chain workers in order to influence positive safety behaviors.

In 2024, Nokia targeted a cohort of 60 senior leaders to conduct safety tours of installation sites.

Progress on target: Achieved

87

tours led by cohorts of Nokia's top level 4 senior leaders during 2024. In total, Nokia conducted 241 Senior Leader Safety Tours during 2024.

The 2025 target value has been increased: a cohort of 80 senior leaders to conduct safety tours.

Social information continued

Progress against ESG targets in 2024

Target year	Base year	Base value	Target	2024 results	Target status
S2: Workers in the value chain					
2030	2020 ⁽¹⁾	22%	100% of suppliers delivering high risk activity to meet “H&S Recommended or Preferred supplier” status in our Health & Safety maturity assessment.	16% of relevant suppliers met “H&S Recommended or Preferred supplier” status. To reach the 2030 Target, Nokia continues to work with our supplier base, engaging and promoting the supplier safety competences, offering safety training and setting supplier workshops in order to improve supplier Health and Safety awareness and capability.	On track 
2025	2020	95%	98% 3TG traceability and conflict free status to smelter level in our supply chain as well as conflict free status of the smelters. Extended due diligence and conflict free status of cobalt, mica, aluminum and copper.	As of 2024 we have achieved 87% traceability to the smelter level in our supply chain as well as conflict-free status of the smelters (6% basis points improvement from 2023). We have also extended and conducted due diligence for cobalt, mica, aluminum and copper. The work continues to close the remaining 11% gap to reach the target in 2025.	Not on track 
2025	2020	68%	80% of suppliers achieve satisfactory sustainability score (based on aggregated weighted share) from supplier performance evaluation (based on Corporate Responsibility onsite audit, EcoVadis, CDP, Conflict minerals).	78% of suppliers (covered by Supplier Performance Evaluation process on Sustainability), on average, received a satisfactory sustainability score in our assessment programs.	On track 
2024	2023	3	Zero fatal incidents for own workforce, suppliers and third-parties.	In 2024, there were 6 (six) work-related fatal incidents. These include 0 (zero) work-related fatal incidents involving Nokia own workforce, 5 (five) work-related fatal incidents involving contractors/subcontractors and 1 (one) work-related fatal incident involving a third-party.	Not achieved 
2024	2023	0	Cohort of 60 senior leaders conduct safety tours to sites to increase monitoring visibility.	In 2024, Nokia have conducted 87 tours led by cohorts of Nokia's top level 4 senior leaders.	Achieved 
2024	2023	98%	96% of projects compliant with the strengthened requirements of our High-Risk Project Implementation Assessments (HRPIA) process.	97% of High-risk projects were found to meet our minimum non-negotiable requirements.	Achieved 
2024	2023	LTIFR 0.089 TRIFR 0.277	Reduction in Total Recordable Incident Frequency Rate (TRIFR) and Lost Time Incident Frequency Rate (LTIFR) for Nokia own workforce.	Nokia measured 2 (two) own workforce safety related Incident Frequency Rates. In 2024, both LTIFR and TRIFR showed a reduction compared with 2023: Nokia own workforce LTIFR in 2024 end as 0.085 (2023 result was 0.089) Nokia own workforce TRIFR in 2024 end as 0.244 (2023 result was 0.277)	Achieved 

(1) The target has been in place already earlier but the year 2020 was the first year of reporting the target result externally.

Social information continued

Disclosure tables

The following table shows incident reporting related to Health and Safety topics. These include own workforce, contractors or subcontractors and third parties in line with targets.

Occupational health & safety	2024	2023
Near miss incidents reported (including contractors)	184	183
Lost-time injury incidents of own workforce	13	16
Work-related fatal incidents involving own workforce	0	0
Work-related fatal incidents involving contractors or subcontractors	5	1
Work-related fatal incidents involving third party	1	2
Work-related critical incidents involving own workforce	1	Not reported
Work-related critical incidents involving contractors or subcontractors	1	Not reported
Work-related critical incidents involving third party	2	Not reported
Total Recordable Incident Frequency Rate (TRIFR) and Lost Time Incident Frequency Rate (LTIFR) for Nokia own workforce and suppliers		
TRIFR: Nokia own workforce	0.244	0.277
TRIFR: Suppliers	0.655	Not reported
LTIFR: Nokia own workforce	0.085	0.089
LTIFR: Suppliers	0.401	Not reported
Safety tours executed and reported with senior leaders	87	144

Findings from Nokia in-depth corporate responsibility supplier audits

During 2024, 101 supplier corporate responsibility audits were conducted, resulting in the findings shown in the following table.

Category of findings	Instances of non-compliance	Number of potential risk areas identified	Total number of recommendations for improvement
Child and juvenile labor	1	1	2
Forced labor (contract agreement issues/fine/deduction, etc.)	22	1	23
Health and safety	146	12	158
Freedom of association and right to collective bargaining	3	1	4
Discrimination	3	2	5
Disciplinary practices	6	0	6
Working hours	97	2	99
Remuneration	35	2	37
Management systems	45	1	46
Environmental management system	36	4	40
Total	394	26	420

Supply chain management data

Nokia's supply chain due diligence includes different types of audits and assessments. The following tables provide an overview of their coverage, quantity and results.

Supplier coverage in Nokia's sustainability programs	2024	2023
Responsible Minerals Program	99%	99%
EcoVadis sustainability assessments	64%	62%
CDP Supply Chain Climate Change Program	62%	65%
CDP Supply Chain Water Security Program	52%	53%
Supplier audits and assessments		
Number of corporate responsibility on-site audits (focused on labor conditions and the environment) against Nokia's Supplier Requirements and SA8000 ⁽¹⁾	101	141
Closure percentage of non-conformities identified at corporate responsibility audits, within audit closure target time	38%	55%
Number of on-site system audits against Nokia's Supplier Requirements	36	48
Number of suppliers assessed on corporate responsibility on the EcoVadis sustainable supply management platform	469	446
Share of active suppliers rated "satisfactory" or above on their assessment of sustainability by EcoVadis	84%	81%
Health and safety		
Share of relevant suppliers delivering high-risk activities covered by Nokia's Health and Safety Maturity Assessment	98%	99%
Share of suppliers assessed by Nokia's Health and Safety Maturity Assessment process meeting 'H&S compliant supplier' status	98%	99%
Share of suppliers delivering high risk activity to meet "H&S Recommended or Preferred supplier" status in Nokia's Health and Safety Maturity Assessment	16%	18%
Percentage of projects compliant with the strengthened requirements of Nokia's High-Risk Project Implementation Assessments (HRPIA) process	97%	98%
Supplier performance evaluation		
Share of suppliers achieving a satisfactory sustainability score (based on aggregated weighted share) in supplier performance evaluations (based on corporate responsibility on-site audit programs, EcoVadis, CDP and conflict minerals)	78%	80%
Materials traceability		
Share of suppliers that have achieved Conflict Free status, %	87%	81%

(1) The 2024 number includes 14 corporate responsibility audits from 2023, but that were reported to Nokia during 2024.

Social information continued

Reporting principles for metrics

Occupational health & safety

Incident reporting

Incident reporting is compilation of occupational health and safety incidents occurred during 2024. These are investigated and tracked internally by Nokia People Safety and Security team.

Nokia has revised its fatality reporting criteria in 2023 to include third parties such as members of the public who are assessed as being impacted by an incident that is deemed within Nokia's control. This more closely aligns Nokia's reporting with some of its closest industry stakeholders and competitors.

Total Recordable Incident Frequency Rate (TRIFR) and Lost Time Incident Frequency Rate (LTIFR)

Incident Frequency Rate (IFR) is an established Health & Safety reporting practice in organisations, giving the numbers of incidents an organisation has, as a ratio against the numbers of hours worked in each reporting period, typically a month.

TRIFR is the number of fatalities, critical, lost time injuries, injuries requiring treatment by a medical professional (medical treatment), multiplying it by 1,000,000, and then dividing that single number by the total number of employee hours worked.

LTIFR is the number of lost time incidents (fatal, critical and lost time injury) resulting an employee's inability to work the next full workday, multiplying it by 1,000,000, and then dividing that single number by the total number of employee hours worked.

Safety tours executed and reported with senior leaders

A Senior Leader is a person accountable and in a key position with responsibility for the delivery of our business in a safe way, influencing positive safety behaviors of Nokia employees and of those working on Nokia's behalf. This person is empowered to strengthen the Health and Safety culture in Nokia and has the authority and control over resources to ensure the implementation of Nokia safety standards.

Findings from Nokia in-depth corporate responsibility supplier audits

Findings are summarized from corporate responsibility supplier audits carried out majorly by third party auditors either directly outsourced or via industry initiatives such as Responsible Business Alliance and The Joint Alliance for Corporate Social Responsibility (JAC).

Supply chain management data

Supplier coverage in Nokia's sustainability programs

The coverage represents percentage of relevant supplier spend covered by the respective programs of the overall Nokia's supplier spend.

Supplier audits and assessments

Data on audits and supplier assessments are maintained by Nokia's Sustainable Supply Chain team. The EcoVadis platform is utilized in metrics related to EcoVadis assessments and the CDP platform related to climate change management. Responsible Business Alliance's platform is utilized in onsite audits related metrics.

Closure percentage of non-conformities is the simple average of percentage closure of all audits findings. Such percentage is calculated by dividing closed findings with total findings identified in respective audits. These findings are for audits conducted during initial 6 months of 2024 and 12 months of 2023.

Health and safety

Share of relevant suppliers delivering high-risk activities:

This represents the coverage and the percentage is computed by dividing the number of high-risk active suppliers with a completed Supplier Maturity Assessment (SMA) with in next review date with the total number of high-risk active suppliers.

'H&S compliant supplier' status:

This implies suppliers with 3 or more completed SMA scoring and the percentage is computed by dividing the number of high-risk active suppliers (with a completed SMA scoring ≥ 3.00) by total number of high-risk active suppliers with a completed Supplier Maturity Assessment within next review date.

'H&S Recommended or Preferred supplier' status:

This implies suppliers with 4 or more completed SMA scoring and the percentage is computed by dividing the number of suppliers delivering high risk activity to meet "H&S Recommended or Preferred supplier" status in our Health and Safety Maturity Assessment by total suppliers.

Projects compliant with the strengthened requirements of HRPIA process:

This metrics represents all active high-risk projects with HRPIA fully completed and reviewed less than 1 years and are compliance with Nokia Non-Negotiables with overall HRPIA scoring ≥ 3.00 .

Supplier performance evaluation

This metric is computed based on the aggregated weighted share of supplier's performance evaluation from corporate responsibility audits, EcoVadis, CDP and conflict minerals assessments. The weights are assigned on the basis of suppliers coverage in these programs.

Share of suppliers that have achieved Conflict Free status

The indicator is based on two factors: (i) the supplier having completed smelter identification, and (ii) all smelters reported by the supplier being conflict-free, active in the process as per the industry's assurance program, or low risk for sourcing from conflict-affected or high-risk areas.

Conflict-free sourcing information is reported through the Responsible Minerals Initiative's Conflict Minerals Reporting Template (CMRT), consolidated to the Master Template and compared against Responsible Mineral Initiative's Responsible Minerals Assurance Process as well as internal risk assessment process results.

Social information continued

Affected communities (ESRS S3)

Material impacts, risks and opportunities related to affected communities

The double materiality assessment indicated that freedom of expression (communities' civil and political rights) is a material sub-topic for Nokia. The following table describes, the material impacts, risks and opportunities as well as how Nokia manages these.

Sub-topic	Material impacts, risks and opportunities	Management
Communities' civil and political rights: freedom of expression	Positive impact: Enabling freedom of expression through connectivity and providing social impact programs to help develop digital skills provide the means for communities to fully participate in today's digital society. This includes greater opportunity to share opinions, enjoy their civil rights such as voting, and access diverse information and public services more easily which further promotes informed decision-making.	Customer engagement process through sales teams and business groups. Donations and Sponsorship committee, direct management by ESG team in cooperation with NGO's or customers

Nokia's approach to determining material impacts, risks and opportunities is described under the [General information](#) section.

Nokia's double materiality assessment showed that for affected communities Nokia has a positive material impact. Nokia delivers digital connectivity solutions that provide a means for affected communities to freely express their thoughts, opinions and beliefs.

Nokia considers that connectivity and the technology it provides are a social good that can support human rights, and it acknowledges the responsibility that comes with this. Upholding human rights is a complex issue that covers not only the technology Nokia provides, but also its partners and suppliers and its own operations as well as the broader stakeholder landscape. Therefore, Nokia strives to continuously learn and improve, and believes that engaging with the broader stakeholder community is the best way forward.

The main communities affected by Nokia's operations and its value chain are the local residents around Nokia's own facilities including any Indigenous peoples, and communities potentially impacted by the build-out of the networks Nokia designs and manufactures. Other interested parties may include Non-governmental organizations. Affected communities could include communities along Nokia's value chain such as workers in Nokia's supply chain which is discussed under the section '[Workers in the value chain \(ESRS S2\)](#)'. In the context of double materiality assessment, no material risks or opportunities were identified for affected communities.

Through its networks and technology, Nokia has a positive impact on communities as an enabler of economic development, powering access to channels that allow the exchange of ideas and access to information and market opportunities, while also providing a means to uphold freedom of expression in these communities.

Engagement with affected communities and civil society directly contributes to Nokia build and design of its social programs based on the real needs on the ground from the initial planning to the final follow up and impact outcomes, as well as with the development of the program strategy to better respond to the most salient challenges of the communities, their needs and opinions.

Nokia's Social Impact Program works at a global, regional and local community level. Nokia experts may volunteer their time and skills as appropriate to provide technology training, often with Nokia's customers and partners in relation to a network rollout, to local communities or groups. This is part of ensuring future talent development in technology disciplines.

Nokia also supports donations-based social impact programs usually at local level with Non-Governmental Organizations. Programs under this approach aim for a direct impact by using technology to improve access to information, social services and civil rights as well as improve digital and entrepreneurial skills in targeted communities. This is exemplified by our recent program with UNICEF in Morocco. Social programs through technology can also provide an alternative way to develop new business opportunities.

Social information continued

Policies

Nokia has specific policies and procedural documents that are relevant to the key affected communities it may impact. These include Nokia's Code of Conduct (discussed in the section General information under '[Policies adopted to manage material sustainability matters](#)'), Human Rights Policy as well as Stakeholder Engagement Mode of Operation, which all underline Nokia's commitment to:

- providing products and services that expand opportunities to communicate and contribute directly to the exercise of such fundamental rights as free expression, privacy, access to information, exchange of ideas and economic development.
- ensuring freedom of expression or transgression of other human rights and through human rights due diligence.
- ensuring a systematic approach to how Nokia engages, directly or indirectly, with different stakeholder groups and seek their views and opinions in relation to specific Nokia impacts.

Indigenous peoples are mentioned in Nokia's Stakeholder Engagement Mode of Operation and respect for their rights are also covered by the general principles in the Nokia Code of Conduct.

Nokia's Human Rights Policy commitments are discussed in the General information -section under "[Policies adopted to manage material sustainability matters](#)" and "[Statement on due diligence](#)". As part of monitoring compliance with Nokia's Human Rights Policy, Nokia's Human Rights Due Diligence (HRDD) process is used to help ensure freedom of expression.

Processes for engaging with affected communities about impacts

Nokia is usually one or more steps removed from direct engagement with affected communities, but it aims to ensure that the views and needs of potentially affected communities are considered in its business decisions. Nokia achieves this through legitimate representatives and credible proxies such as Non-Governmental Organizations and multistakeholder groups.

Nokia engages through relevant Non-Governmental Organizations and other non-profit organizations with diverse communities, for example working with UN Women on gender topics. It collaborates with these organizations for their expertise and direct relationships with the affected communities at grassroots level such as our work with UNICEF and local Non-Governmental Organizations. Nokia also implements focused regional and country-driven programs using the expertise of both NGOs and other partners. It obtains guidance from NGOs for Nokia's social impact programs, which provides insights into the communities or regions Nokia should focus on in terms of digital skills.

Nokia's engagement with the Non-Governmental Organization starts from the development of the program and continues throughout the program via the their local office. The Vice President Sustainability and sustainability team in the Legal, Compliance and Sustainability function have the operational responsibility for ensuring this engagement with the Non-Governmental Organizations happens.

Traditionally, when Nokia's customer implements a new network, the customer (telecommunication operator) takes responsibility for related community and stakeholder engagement. The areas with lack of coverage are identified via the operator and used by the operator as part of network planning. The operator also takes into account the Indigenous Peoples land use rights where applicable.

Nokia's account teams in the business groups are accountable for customer sales and hold the operational responsibility for ensuring this engagement happens. Where there are Indigenous Peoples involved (e.g. networks for Native Americans) it is common practice to engage with the leaders of the Indigenous peoples either directly or through an operator depending on the sales model.

Assessing the effectiveness of Nokia's engagement with affected communities involves evaluating whether Nokia's efforts are leading to tangible positive outcomes for the communities involved. Nokia tracks and reports outcomes from social programs, based on data gathered from Non-Governmental Organizations, which are also externally checked and verified through Nokia's relationship with Business for Societal Impact.

Processes and channels for affected communities to raise concerns

The processes Nokia has in place as well as the channels available to raise concerns and have them addressed are described in the section 'Business Conduct (ESRS G1)', under '[Reporting channels and investigations process](#)'.

Actions

Nokia ensures that its donations and sponsorships are an integral part of its business strategy and reflect Nokia's commitment to the communities in which it operates. Nokia's donations support the Company's global citizenship by implementing programs that emphasize the positive use of digital technology and its benefits, such as access to information, and tools to exchange ideas and express oneself freely. Nokia has created the Nokia Donations Framework, which provides guidance for all Nokia donations and guidelines to ensure that donations are made in line with Nokia's purpose and values. Nokia Donations and Sponsorships Committee reviews whether donations have met the framework on an annual basis.

Nokia has implemented social impact programs over many years that focus on digital inclusion and brings connectivity to communities and businesses globally. These programs can be implemented in all regions in which Nokia operates and they particularly target the unconnected or underserved and where possible include digital skills and technology training. The programs generally last between 1 and 3 years.

Nokia's corporate social responsibility activities are structured into corporate, key regional and local programs. Our corporate-level programs are managed by the Legal & Compliance sustainability function in cooperation with Non-Governmental Organizations or other partners such as customers. Key regional and local programs have a designated person responsible for the program locally and supporting teams as needed.

Social information continued

In 2024, Nokia invested about EUR 6.5 million in communities around the world. In March 2024, Nokia and UNICEF finalized their 2,5-year program in Morocco. The objective of this social innovation and entrepreneurship program was to empower less advantaged young people (15–24 years), particularly girls, to become resilient and increasingly productive through self-employment and active engagement with their own communities. During the year, Nokia also closed their pilot program with UNICEF in Senegal. This program began in 2023 aiming to introduce digital education for students and teachers in public schools in selected parts of the country. Through hands-on coding activities, students were able to develop essential skills in digital literacy, coding and problem-solving. The trained educators can serve as digital champions, integrating digital skills and coding into their teaching, supporting colleagues and fostering a school-wide digital learning culture.

In 2024 Nokia also expanded its collaboration with UN Women empowering women through technology and skills in five regions. In addition, Nokia University Donations program collaborated with selected universities and academia to fund research into open, long-term, high-impact and disruptive discoveries solving environmental, social and governance (ESG) challenges with 6G, AI, sensing and quantum technologies.

Nokia continues to collaborate with Non-Governmental Organizations such as UNICEF Finland, UN Women and community-based local organizations to implement and run social impact initiatives, as well as industry bodies (e.g. Responsible Business Alliance) and customers who have direct relationships and engagement with the communities.

Targets and progress in targets

Nokia's target reflects its commitment to provide digital connectivity solutions and expand opportunities to communicate contributing directly to the exercise of such fundamental rights as free expression. The more Nokia connects people, the greater opportunities there are for freedom of expression. Further, Nokia has target to measure positive impact of its technology in enabling access to information, exchange of ideas and opportunity for economic development. This is discussed in section [Consumers and end users \(ESRS S4\)](#).

One of Nokia's key digital inclusion targets set at the end of 2021 is to "harness Nokia's technology, capabilities and funds to improve the lives of 1 500 000 people through social digitalization projects, digital skill building, and connecting the unconnected and underserved by 2025". These programs can be implemented in all regions in which Nokia operates.

This target was set based on the ongoing and potential new digital inclusion projects and estimated beneficiaries at the beginning of the new projects. Lessons from ongoing projects in consultation with the partner Non-Governmental Organizations also contributed to the target setting. As Nokia engages with affected communities either through Non-Governmental Organizations and other non-profit organizations or customers (telecommunication operator) Nokia did not engage directly with affected communities when setting the target.

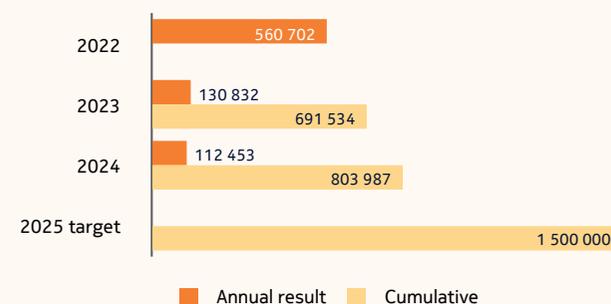
As a rule, the projects Nokia undertake are based on the needs identified by the key Non-Governmental Organizations and related to Nokia's technology capability as well as support resources on the ground. At the end of 2021 Nokia saw reduced program sizes and therefore the target was set lower than the previous one. The projects and therefore also the target need to be related to our business where we believe we can achieve the greatest social and/or environmental impact.

Progress in Nokia's social impact programs is measured by gathering data on an annual basis from the NGOs involved and internal owners. The data is then reviewed and verified by an external agency (Business for Societal Impact, B4SI) and Nokia reporting responsible persons using 4-eyes review. Non-Governmental Organizations have regular performance tracking in place with the stakeholders and the affected communities and this serves as an iterative process, providing information to improve and make possible adjustments to the program work.

During 2024 Nokia reached 112 453 reported direct beneficiaries. This is 14% less compared to 2023, and driven partly by fewer direct beneficiaries reported from programs in India, which is the most prominent country in terms of number of reported direct beneficiaries overall. Additionally, the ongoing corporate programs were focused on smaller groups of beneficiaries thus affecting global beneficiary numbers.

The current cumulative reported direct beneficiaries is 803 987. As a result, Nokia's target is not expected to be achieved by 2025.

Number of reported direct beneficiaries reached through social digitalization projects, digital skills building, and connecting the unconnected or underserved



Progress against ESG targets in 2024

Target year	Base year	Base value	Target	2024 results	Target status
S3: Affected communities					
2025	2022	0	Harness Nokia technology, capabilities and funds to improve the lives of 1 500 000 through social digitalization projects, digital skills building, and connecting the unconnected or underserved by 2025.	Nokia reached 112 453 reported direct beneficiaries in 2024. Total cumulative number of reported direct beneficiaries of 803 987 by 2024.	Not on track

Social information continued

Reporting principles for Nokia Community Investments metrics

Nokia's underlying approach to quantifying its community investments inputs is based on B4SI Framework, which forms a measurement standard that any for-profit corporate entity can apply to understand the impact their contributions make to society.

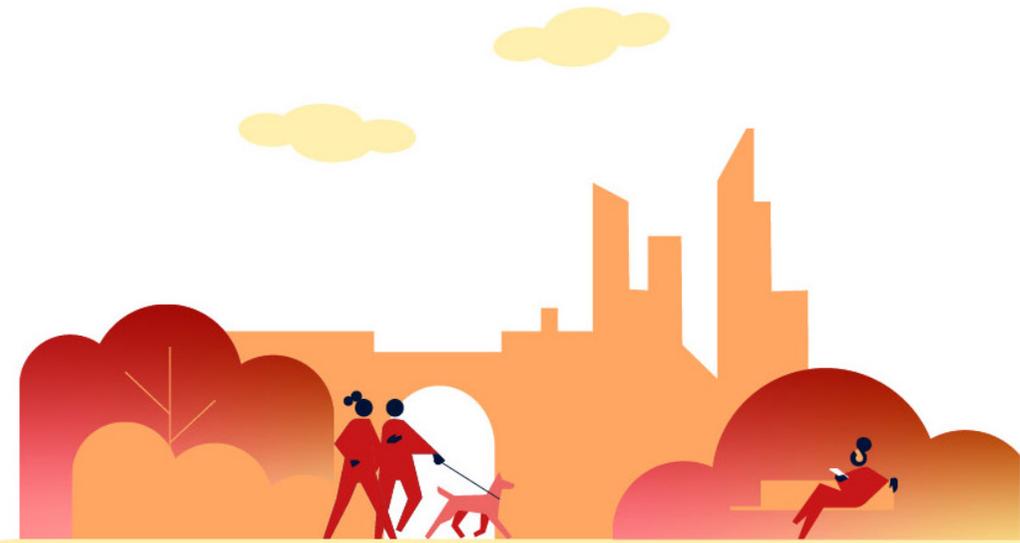
Total value of contributions (EUR million)

Calculated as sum of cash, time, and in kind contributions where:

- cash contribution is the gross monetary amount a company pays in support of a community organization/project;
- time contribution is the cost to the company of the paid working hours contributed by employees to a community organization or activity (e.g., employee volunteering, active participation in fundraising activities, longer-term secondments to community organizations);
- in-kind contributions are other non-cash resources to community activities and can include donations of the company's product or services or other corporate resources such as IT equipment, used furniture, meeting rooms or other spaces.

Number of reported direct beneficiaries

Total number of individual beneficiaries reached via Nokia's Community investment activities under key thematic pillars "Increasing digital inclusion that provides access to opportunity (education, health, employment)" and "Inclusion, equity & diversity" in Nokia's donation framework.



Social information continued

Consumers and end users (ESRS S4)

Material impacts, risks and opportunities related to consumers and end-users

The double materiality assessment indicated that access to quality information and freedom of expression (information-related impacts for consumers and/or end-users) are material sub-topics for Nokia. The following table describes the material impacts, risks and opportunities and how Nokia manages those impacts, risks and opportunities.

Sub-topic	Material impacts, risks and opportunities	Management
Information-related impacts for consumers and/or end-users: access to (quality) information	Positive impact: Nokia's technology enables connectivity and the resulting positive impact related to access to information, exchange of ideas and opportunity for economic development	Customer engagement process through sales teams and business groups. Donations and Sponsorship committee, direct management by ESG team in cooperation with NGO's or customers.
Information-related impacts for consumers and/or end-users: freedom of expression	Positive impact: Enabling freedom of expression through connectivity allows consumers and end-users to share opinions, access diverse information and public services which further promotes informed decision-making.	Human Rights Due Diligence (HRDD) process as a component of the sales process which encompasses various compliance topics. Oversight by the Nokia HRDD council with Global Leadership Team (GLT) members.

Nokia's approach to determining material impacts, risks and opportunities is described under the '[General information](#)' section.

In terms of positive impact, providing connectivity solutions, digital technology and digital skills programs affords individual consumers the opportunity, sometimes for the first time, to exercise their rights to access basic services, and better healthcare options, engage in social discourse and even explore the job market. Some examples of Nokia's connectivity solutions include:

- an optical, IP and fiber broadband network deployed in the Amazon rainforest connects the unconnected communities to multi-gigabit broadband access.
- Nokia's Rural Connect solution delivers high-speed internet to areas where it is difficult to deploy fiber infrastructure and enables service providers to offer affordable, high-speed broadband without the need for extensive on-the-ground infrastructure.

There are many positive outcomes of connectivity as described in section [Affected Communities \(ESRS S3\)](#).

Nokia sells its network infrastructure solutions to Communication Service Providers (CSPs i.e. telecommunication operators), cities and authorities and vertical industries/enterprises including mining, oil and gas, agriculture, manufacturing, logistics, and defense sectors. Those products are sold directly to CSP's and via system integrators or other third-party companies to enterprise market customers. Nokia does not sell its products directly to consumers.

Policies

Nokia's Code of Conduct (discussed in the section General information, under "[Policies adopted to manage material sustainability matters](#)") and Human Rights Policy show Nokia's commitment to ensuring the technology it delivers supports freedom of expression rather than hindering it. Nokia's robust Human Rights Due Diligence (HRDD) process further aims to minimize the risk of violation of freedom of expression to consumers and end users through the potential misuse of Nokia technology. Nokia's Human Rights Due Diligence (HRDD) process is a non-commercial cross-company investigative process. This process is pre-emptive and rigorous; it is used before any sale is done, while also attempting to ensure compliance with Nokia's Human Rights Policy.

Nokia's human rights policy commitments are discussed in the General information -section under "[Policies adopted to manage material sustainability matters](#)" and "[Statement on due diligence](#)".

Nokia Stakeholder Engagement Mode of Operation standard operating procedure provides employees with an understanding of the operational engagement work of Nokia in ESG. This includes detailing of roles and responsibilities, key stakeholders, cross-functional team involvement, reporting and trainings. In accordance with the Nokia policies, the Mode of Operation document is owned and maintained by the sustainability team in the Legal, Compliance and Sustainability function. The Mode of Operation document is only for internal use. Common areas or cross-functional activities with other units and business groups are listed in this document. The identified material positive impacts reflect Nokia's core business of connectivity, networks and digitalization.

Social information continued

Processes for engaging with consumers and end-users about impacts

Nokia's end users are communication service providers and enterprise customers, and therefore regular customer engagement processes apply. Nokia's account teams in business groups are accountable for customer sales and hold the operational responsibility for ensuring this engagement happens. Nokia does not have direct engagement with consumers as it rarely operates the networks, but rather enables the communication service provider to offer consumer and end-user services over the network equipment Nokia supplies to them.

When a customer implements a new network, the customer (telecommunication operator) takes responsibility for related community and stakeholder engagement. There may be rare exceptions to this, in particular in Asia, where Nokia has taken some responsibilities related to stakeholder engagement e.g., site certifications and keeping the local community informed. The operator identifies the areas with lack of coverage and uses this information as part of network planning. Nokia customer account teams work through the customers who have direct relationships to the communities and consumers.

Nokia collaborates with organizations, such as the Global Network Initiative, to help ensure the positive impact of technology on consumers. Nokia engages with other NGO's which is discussed in section [Affected Communities \(ESRS S3\)](#).

Processes and channels for consumers and end-users to raise concerns

The processes and the channels available to raise concerns and have them addressed are described in the section G1 Business Conduct, under ['Reporting channels and investigations process'](#).

Actions

Nokia carries out Human Rights due diligence process to help ensure freedom of expression by limiting the potential for misuse of its products. Human rights due diligence actions are applied globally across Nokia and may impact customers, end users, consumers and Indigenous populations. This can lead to potential adjustments to products where needed. This supports the communication service provider in enabling freedom of expression for the end users and consumers who use their services.

For social programs Nokia implements connectivity and digital skill programs through NGOs and other partner organizations. These programs can be implemented in all seven regions where Nokia operates. Examples of Nokia's social programs are described in the section [Affected Communities \(ESRS S3\)](#) under ['Actions'](#).

Targets and progress in targets

In line with its long-term goal, Nokia works with its customers to enable broadband-based digital services through Nokia's technology solutions over ever-more subscriptions, further bridging the digital divide and connecting the unconnected. Nokia also contributes to improving digital skills which, combined with greater connectivity, enable more inclusive access to healthcare, education and employment for individuals and provide the opportunity to participate in the digital economy for small businesses. As described in [Affected Communities \(ESRS S3\)](#) Nokia also has a target reflecting its commitment to providing digital connectivity solutions and expand opportunities to communicate thus contributing directly to the exercise of such fundamental rights as free expression.

To measure this impact Nokia has set a target "Helping our customers to connect the next 2 billion measured by the number of subscriptions in Nokia radio customers' networks by 2030" (base year 2021).

The target was set based on the successful achievement of Nokia's previous connectivity target. Nokia reports on the number of mobile broadband subscriptions as a more measurable and reliable number than connected people, as one subscription can connect more than one person. As this is a target based on mobile broadband subscriptions and operator subscriptions being reported through the GSMA (the mobile operators association), there was no engagement directly with consumers in setting this target.

Social information continued

The digital divide often means there is a lack of access to broadband internet (or various reasons such as availability and affordability). With Nokia's Fiber-to-the-Home technology (FTTH), Nokia helps operators connect even more people to broadband. Nokia has set a second target, related to its Fiber-to-the-Home technology, 'to connect 140 million new subscribers by 2030' (base year 2023). With this metric Nokia tracks how many Fiber-to-the-Home users worldwide are using a PON infrastructure delivered by Nokia for their broadband services.

In the process of setting this target Nokia estimated its potential contribution to connecting extra people to the internet using Fiber-to-the-Home technology based on market-leading industry analyst reports. Performance against the target is checked twice a year by tracking Nokia Fiber-to-the-Home connected end-users.

Nokia is on track with its progress to reach the target of 2 billion additional subscriptions. In 2024, the number of mobile broadband subscriptions in Nokia radio customers' networks increased by 349 million.

Growth in Fiber-to-the-Home users in 2024 beat analyst expectations and Nokia has connected 39 million fiber-to-the-home subscribers since the beginning of 2023. Nokia is well on track to connect 140 million Fiber-to-the-Home subscribers through its networks by 2030.

Reporting principles for metrics

Progress for the target: "Helping our customers to connect the next 2 billion measured by number of subscriptions in Nokia radio customers' networks by 2030" is tracked annually using data from the GSMA (GSM Association), a global association of mobile network operators. The target is on track, with an average yearly increase of over 223 million subscriptions. Calculation methodology for the metric:

- Yearly Mobile Networks mobile broadband connections growth = Difference of absolute number of Mobile Networks mobile broadband connections between two years.

Calculation methodology for metric: Nokia's Fiber-to-the-Home technology will connect 140 million new subscribers by 2030, helping break down the digital divide

- Growth of Nokia FTTH broadband connections = Sum of "Growth of connected FTTH users per year * "Nokia market share". Result incorporates both actual and forecast data from iDate market analyst report.

Progress against ESG targets in 2024

Target year	Base year	Base value	Target	2024 results	Target status
S4: Consumers and end-users					
2030	2021	0	Helping our customers to connect the next 2 billion measured by number of subscriptions in Nokia radio customers' networks by 2030.	The number of mobile broadband subscriptions in Nokia radio customers' networks increased during 2024 by 349 million. Progress to reach the target of 2 billion additional subscriptions 2021-2024: 1 121 million	On track 
2030	2023	0	Nokia's Fiber-to-the-Home technology to connect 140 million new subscribers by 2030, helping break down the digital divide.	Nokia has connected 39 million Fiber-to-the-Home subscribers since the beginning of 2023.	On track 

Governance information

Business conduct (ESRS G1)

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Business conduct (ESRS G1)

Management of business conduct

Strong culture of integrity

Nokia is consistently recognized as one of the World's Most Ethical Companies by Ethisphere. Nokia has a strong culture of integrity, which is driven by the Nokia Code of Conduct, the essentials of being open, fearless, and empowered, high ethical standards, effective controls, and employee empowerment to raise concerns without fear of retaliation. Nokia's commitment to integrity applies to everyone in the company, regardless of function or level. Nokia expects its employees to follow laws, policies, and processes and to speak up about suspected misconduct. Nokia holds employees accountable for unethical behavior.

The Code of Conduct also has a section that outlines leader and manager expectations for cultivating Nokia's culture of integrity within their respective organizations. Many resources are available to educate managers about these responsibilities and to facilitate manager discussions with team members about compliance risks. Nokia measures the level of manager engagement via an annual survey.

Nokia's corporate culture of integrity is supported by its comprehensive compliance training program, including its annual mandatory "Ethical Business Training" course. The topics within the mandatory training program are rotated every year to raise awareness on high-risk areas, emerging risks, and hot topics.

Nokia's approach to creating a culture of integrity helps to ensure that employees do not engage in unlawful or unethical behavior, and mitigates risks related to anti-corruption, competition, bribery, fraud, money laundering, privacy and data protection, human rights and other high-risk areas. This is achieved by providing training and awareness materials and clarifying Nokia's expectation that employees follow the applicable laws, policies and processes. Employees who engage in unlawful or unethical behavior are disciplined, up to and including termination of employment.

Compliance Program governance

Nokia's strong culture of integrity is supported by its Ethics and Regulatory Compliance team, comprised of approximately 50 experienced compliance professionals, which is led by the Chief

Compliance Officer, who reports to the Chief Legal Officer. The Ethics and Regulatory Compliance team members hold an average of 18 years of compliance experience, with its members located in 19 countries and speaking a total of 21 languages. The Ethics and Regulatory Compliance team has functional experience in law, compliance, business, accounting, finance, audits, privacy, regulation, and other areas. The team includes several distinct functions, including regional and business-specific compliance leaders, a risk assessment function and a global team of dedicated investigators (independent from Nokia's business units to ensure utmost objectivity, discreteness and confidentiality). This organization is responsible for compliance concerns that are reported to Nokia. The organization also includes an Anti-Corruption Center of Excellence. The Anti-Corruption Center of Excellence is responsible for conducting due diligence of commercial third parties, customers, and high risk suppliers and oversees the due diligence of high-risk transactions. It is also responsible for Nokia's global Anti-Corruption Program, which includes policies and processes, controls, and training.

The Chief Compliance Officer has direct access to the Audit Committee of the Board, which provides oversight of Nokia's Compliance Program. The Chief Compliance Officer meets at least quarterly with the Audit Committee and as needed based on specific matters. The Chief Compliance Officer also meets at least annually with the full Board of Directors.

Fair competition and compliance with competition rules are an integral part of Nokia's way of doing business regardless of geography. Responsibility for compliance with competition laws rests with all Nokia employees, who are expected to know how competition laws may impact their work. Nokia's Fair Competition Policy covers competitive coordination and exchange of information, competition-restrictive agreements with customers or suppliers, abuse of dominance, and reporting channels. An intranet page dedicated to fair competition provides practical guidance, dos and don'ts on a series of topics through practical scenarios (e.g. industry initiatives, bidding consortiums, multiple bidding, information sharing, cooperation agreements, no-poach, denigration, exclusivity and resale price maintenance), links to related training videos, and an Ethics Helpline link for concern reporting.

There are various trainings available for employees; for example, training when attending trade conferences and industry events; targeted training for sales teams; and live training sessions with relevant audiences.



Governance information continued

Material impacts, risks and opportunities related to business conduct

The double materiality assessment indicated that corporate culture and the management of relationships with suppliers, including payment practices and corruption and the prevention and detection of corruption and bribery are material sub-topics for Nokia. Nokia's approach to determining material impacts, risks and opportunities is described under the '[General information](#)' section. The following table describes the material impacts, risks and opportunities and how Nokia manages these.

Sub-topic	Material impacts, risks and opportunities	Management
Corporate culture	<p>Impact (positive): Corporate culture prioritizing sustainability can lead to responsible and sustainable decision-making throughout the value chain.</p> <p>Opportunity: Nokia is consistently recognized as one of the World's Most Ethical Companies by Ethisphere. Nokia's strong ethical corporate culture provides a foundation to engage in business ethically and legally.</p> <p>Risk: Breach of Nokia's Code of Conduct or the law in regard to compliance areas leading to negative financial or reputational consequences.</p>	Nokia nurtures, promotes, and evaluates its compliance culture using varied mediums. It uses multiple feedback channels, discussions, and training to drive and enhance the culture of continuous improvement in Nokia's Compliance Program. Nokia gauges employee attitudes, perceptions, and experiences regarding the existing compliance culture using survey results and other collected inputs. These results are shared with relevant business/regional teams, managed through mitigation plans, and integrated into the annual risk assessment and communications process for the ongoing management of Nokia's ethical culture.
Management of relationship with suppliers including payment practices	<p>Opportunity: Building trusted relationships and long-term partnerships with suppliers who share Nokia's culture of ethics and compliance.</p>	Nokia builds and fosters long-term relationships with suppliers that deliver a high impact on Nokia's brand, portfolio and business performance. With a holistic management of its supplier relationships, Nokia aims to maximize the value of the collaboration.
Corruption and bribery: prevention and detection of bribery	<p>Opportunity: Nokia is consistently recognized as one of the World's Most Ethical Companies by Ethisphere. Nokia's strong ethical corporate culture provides a foundation to engage in business ethically and legally.</p>	<p>Nokia's robust Anti-Corruption Program is a key factor in helping to ensure compliance with global laws.</p> <p>The program consists of various elements, including:</p> <ul style="list-style-type: none"> ■ Nokia's Code of Conduct covering topics such as anti-corruption and bribery, dealing with government officials, improper payments, working with third parties, controllership, and speaking up (Nokia's whistleblower program). ■ The Nokia Third-Party Code of Conduct, which includes a section on anti-corruption, covers Nokia's expectations for operating with integrity and in compliance with all applicable laws. ■ Training specific to anti-corruption and bribery risks, which is included in Nokia's annual mandatory Ethical Business Training course and is required of all employees. ■ Targeted training on anti-corruption and bribery risks that is assigned to high-risk employee populations, such as employees involved in projects requiring site acquisition and customer-facing sales teams. ■ Various policies on Nokia's intranet site that support the Anti-Corruption Program, available to all employees.

Governance information continued

Nokia's strong culture of integrity helps it avoid unlawful behavior and unethical acts by its employees or by third parties with which Nokia does business. With respect to anti-corruption and bribery, the key risk is that a rogue employee or a third party with which Nokia does business (primarily high-risk suppliers or commercial third parties) engages in behavior that violates Nokia's anti-corruption policies and/or applicable laws or fails to comply with or circumvents one of Nokia's anti-corruption processes or control points. Potential violations of anti-corruption laws may result in investigations; and if a violation is substantiated, the results may include reputational damage, fines and forfeiture awards, and potential criminal action against individuals involved as well as against those who should have been aware that a violation was occurring. Nokia strives to stay abreast of geopolitical changes, business models and strategies that may increase the risk of corruption, such as planned expansion in a high-risk market or segment. As these are identified, the Compliance organization works closely with the business to develop risk mitigants proactively to minimize residual risk. These efforts may include targeted and focused training, the implementation of additional control points and processes, and increased review and monitoring.

Anti-corruption and bribery risks can exist in many aspects of our operations, including certain go-to-market sales models and in project delivery and execution. To effectively mitigate these risks, the Compliance organization has compliance professionals who partner closely with various parts of our business. Through this collaboration, the Compliance organization is able to proactively manage these changing risks by continually evolving the Anti-Corruption Compliance Framework and Program. Business activity presents risk with respect to the possibility of third parties engaging in violations of anti-corruption laws. The third parties with the highest risk include certain high-risk suppliers (those dealing in customs, site acquisition work, or other engagements with governmental agencies) and commercial third parties (distributors, resellers and indirect resellers). To mitigate this risk, Nokia provides training to those third parties with the highest risk and requires annual compliance acknowledgments as well as acknowledgment of Nokia's Third-Party Code of Conduct. These actions, as well as clear contractual provisions including compliance with laws, are designed to ensure that Nokia's third parties understand its expectations for compliant behavior. In addition, suppliers and commercial third parties must successfully complete a risk-based due diligence vetting process. This vetting process often results in approval with risk

mitigants, such as periodic review of transactions, additional contractual terms, or monitoring. Commercial third parties receive quarterly newsletters that include compliance sections to remind them of Nokia's expectations for compliant behavior.

Business conduct policies and corporate culture

Nokia's clear and readily accessible policies and standard operating procedures (SOPs) guide our employees on how to behave and mitigate the risk of unlawful or unethical behavior. These policies and SOPs are included in the '[General information](#)' section.

Employees and third parties that fail to behave ethically and lawfully are held accountable. A dedicated intranet page provides an overview of company level policies and SOPs. The available policies are aligned with all business groups and corporate functions and are disseminated to employees in several ways, including:

- Training programs, both online and live; online training typically includes quiz questions to test comprehension.
- The central repository on the company intranet, accessible by employees.
- Quarterly communications from the Chief Compliance Officer as well as compliance communications for specific regions and business groups.
- The Ethics and Regulatory Compliance intranet site and relevant policies provide examples of conduct and address the importance of compliance both for Nokia and the individual employee.

Nokia's policy framework begins with the Nokia Code of Conduct, which includes the company's basic principles of business conduct and high-level policy statements related to critical business topics. Policy documents further define, support and explain specific areas of focus. SOPs are created, where needed, to instruct employees on specific procedures to implement the policies. Finally, supplemental guidelines (e.g., country-specific guidance) or other training materials may be created for specific implementation of certain procedures. Respective policy/subject matter experts are responsible for ensuring that Nokia's policies and procedures remain up to date and in accordance with applicable laws and regulations in all countries where Nokia operates. The full set of supporting

policies and related procedures for the Code of Conduct's risk areas are available online to Nokia's employees.

Nokia's Code of Conduct is available in a web-based format in 20 languages. It enforces Nokia's values and expectations, outlines Nokia's 14 key compliance policy statements and unites all Nokia employees around a common vision. The Code serves as a guiding framework that provides clarity and consistency in decision making and defines the principles of ethical and compliant business practices that all employees and managers are expected to follow. Everyone in the company is required to review and acknowledge the Code annually as part of mandatory compliance training.

A separate Code of Ethics is in place for Nokia's President and CEO, Nokia's Chief Financial Officer, and Nokia's Corporate Controller. The purpose of the Code of Ethics is to reinforce ethical behavior, promote high standards of corporate governance, and highlight the additional responsibilities of these functions. It complements Nokia's Code of Conduct and Insider Trading Policy as well as other applicable company guidelines.

Nokia's Third-Party Code of Conduct requires Nokia's third-party business partners to follow similar ethical practices to those included in Nokia's Code of Conduct.

Nokia nurtures, promotes and evaluates its compliance culture using varied mediums. It uses multiple feedback channels, discussions and training courses to drive continuous improvement in Nokia's Compliance Program. Nokia gauges employee attitudes, perceptions, and experiences regarding the compliance culture using survey results and other collected inputs. These results are shared with relevant business/ regional teams, managed through mitigation plans, and integrated into the annual risk assessment and communications process for ongoing management of Nokia's ethical culture.

Beyond a company-wide survey, Nokia also uses other means to gauge the effectiveness of our Compliance Program, including short pulse surveys on specific topics for more frequent feedback on the overall climate in the company as it relates to Nokia's essentials of open, fearless, and empowered. As an example, Nokia's 2024 mandatory Ethical Business Training course integrated anonymous questions related to fear of retaliation, usage of Nokia's Code of Conduct, reporting concerns, specific policies, and line manager engagement.

Governance information continued

The 2024 survey showed that 83% of employees report to a line manager who discusses ethics and compliance with their team.

Below are some of the resources, platforms and methods that Nokia uses to regularly reinforce its culture of doing business with integrity:

- Nokia Code of Conduct
- Line manager internal posts and news articles
- Social media posts from subject matter topical experts, Nokia's Chief Compliance Officer and other senior leaders
- Internal news articles with topic-related links and resources
- Awareness campaigns and resources (i.e. speaking up and anti-retaliation)
- Ombuds program, dedicated resources, and campaigns
- Dedicated web pages for Compliance Program elements with related resource documents and contacts
- Quarterly newsletter
- Animations, videos, posters, brochures
- Annual Integrity Day event: senior leader/GLT participation and web event, local events around the world, global-level and local messaging, compliance awards, compliance games

Refer to the '[General information](#)' section for all Compliance Program policies.

Reporting channels and investigations process

Nokia offers multiple channels to report compliance concerns, including reaching out to the Legal, Compliance and Sustainability function; Ombuds leaders; the People organization; a dedicated email address; and an Ethics Helpline, which is compliant with the EU Whistleblower Directive, that offers multiple options to report concerns, including an online portal and country-specific options. Nokia has internal and external web pages dedicated to concern reporting and whistleblowing resources. The internal reporting web page explains the reporting process and provides links and information about all the available reporting options. The Ethics Helpline allows for anonymous reporting and is open to employees and external stakeholders. Nokia aims to respond to and investigate all concerns promptly and establish remediation plans as needed.

In addition to the Nokia Ethics Helpline and/or consulting with the Legal, Compliance and Sustainability team, the People organization, or line managers, Nokia's Ombuds network is a critical element of Nokia's Compliance Program. Ombuds leaders sit outside of the Legal, Compliance and Sustainability team, and People organization and serve as confidential, neutral, supplemental resources for employees to raise compliance questions, concerns and requests for guidance. They expand the reach of Nokia's Compliance Program and provide another means to report suspected policy and law violations as well as assist in preventing, detecting, and addressing wrongdoing. Local Ombuds actively promote the program ensuring that employees are aware of the multiple channels available for reporting concerns and encouraging employees to voice their concerns without fear of retaliation. At the end of 2024, Nokia had 217 Ombuds leaders around the world, and 80 percent of Nokia's employees worked in locations with an on-site Ombuds leader. It is important to note that the full Ombuds network is available to support all employees globally and is not restricted to employees within their respective location and/or organization.

The Ethics and Regulatory Compliance Investigations Group is primarily responsible for managing the intake of all compliance concerns in the company across multiple channels, as well as case assignment, investigation, closure, and follow-up with respect to remediation and discipline. Nokia's team of dedicated investigators, which sits centrally within the Ethics and Regulatory Compliance function, is not attached to any particular business group or function and reports into Legal Compliance and Sustainability leadership. The investigator of any matter is fully independent of the chain of management of the alleged subject and the individual raising the concern.

In 2024, Nokia's Investigations Group received a total of 923 concerns, of which 384 were integrity concerns and investigated by the Investigations Group as suspected violations of Nokia's Code of Conduct. In 2024, the Investigations Group closed 397 investigations into alleged violations of Nokia's Code of Conduct, of which 165 were substantiated with cause found after investigation. Nokia implemented corrective actions including 12 dismissals and 30 written warnings. Beyond individual discipline, detailed root cause analysis was conducted for substantiated cases, and unsubstantiated cases as appropriate, to identify, implement and monitor remedial measures and improvements.

Nokia integrates its investigation process into its corporate culture by regularly communicating major findings and trends in a transparent fashion and raising awareness about the reporting process and the importance of speaking up. Regular read-outs about investigation statistics, key findings, and trends are provided to several internal groups, including regional/business group compliance leaders, who include investigations findings in the reporting for their respective jurisdictions and share this information with business leadership several times per year; Ombuds leaders, who share this type of information with employees in local awareness sessions; and senior management as well as the Board of Directors and external auditors. Global trends and anonymized real cases are shared with all employees in Nokia's internal quarterly company-wide Ethics and Regulatory Compliance newsletter ("Integrity Matters"), and annual investigation statistics by category as well as links to anonymized case examples are provided externally. Each quarter, the Chief Compliance Officer updates the Audit Committee regarding significant allegations and outcomes of investigations and once per year reports this information to the Board and the Group Leadership Team.

Protecting against retaliation

Nokia has always positioned itself as a company committed to combating and avoiding all forms of retaliation and maintaining a culture in which its employees and partners feel comfortable raising concerns about suspected violations of Nokia's Code of Conduct and policies, or applicable laws or regulations. Nokia will not tolerate any adverse treatment of an employee or partner (to the extent reasonably within Nokia's control for a non-employee) who raises a concern in good faith or provides evidence in support of such a concern. Any employee who retaliates or participates in retaliating against another employee for raising a compliance concern or for assisting in an investigation will be subject to strict discipline, up to and including termination of employment.

In a clear, widely-disseminated and readily-accessible manner, Nokia provides employees with many avenues to report concerns as well as resource documents and information on external reporting channels. This includes region- and location-specific external reporting options. Annual comprehensive campaigns (consisting of various training initiatives, media and communications) remind and train employees on reporting concerns, available resources, and Nokia's anti-retaliation policy. Managers are provided additional resources, including a checklist, for handling concern reporting. A dedicated internal

Governance information continued

web page on retaliation provides employees with valuable resource information and guidance, including employee and manager anti-retaliation guides.

Training

The Ethics and Regulatory Compliance organization maintains a three-year strategic approach and roadmap for training. Nokia's Ethical Business Training course is updated every year and required annually for all employees. It was one of the two mandatory, web-based training courses deployed in the mandatory 2024 curriculum, with the other module covering information security. The Ethical Business Training course included a review and acknowledgment of Nokia's Code of Conduct and the related 14 policy areas; a requirement to declare potential conflicts of interest; and short reviews of key topics including privacy, conflicts of interest, financial controls, trade compliance, external communications, and ESG. In 2024, 98% (target 95%) of Nokia's employees completed the Ethical Business Training module. New employees are assigned a new-hire training curriculum that includes the current annual mandatory training curriculum.

In 2024, Nokia also provided training (online and in-person) and communications on emerging risks along with important reminders about roles and responsibilities:

1. Just-in-time training videos to provide information at the time most needed, triggered by specific employee requests or actions (e.g., employees who obtain pre-approval to travel to a trade show or conference are required to take a three-minute training module on fair competition).
2. Risk-specific training and communications on privacy, anti-corruption, competition law, site permitting, and Nokia's indirect sales process.
3. Anti-retaliation awareness messaging and resources to heighten awareness of potential retaliatory behaviors and available support channels.
4. Two new animations about the Ombuds program.
5. A new micro-learning to emphasize the importance of bystander reporting.

These resources were supplemented by live training sessions delivered to target audiences on various compliance topics throughout the year.

Nokia opportunity: Anti-Corruption and Anti-Bribery Program

Nokia has a robust Anti-Corruption Program that focuses on identifying and mitigating compliance risks associated with third parties and multi-layer transactions as well as geopolitical events that may pose a risk under applicable laws, including anti-corruption.

Nokia's Global Anti-Corruption Program

Nokia's Code of Conduct

Covers the following topics:

- Dealing with Government Officials
- Improper Payments
- Working with Third Parties
- Controllership
- Speaking up (our whistleblowing program)

Third party code of conduct

- Includes Nokia's expectation relating to anti-corruption and bribery

Training specific to anti-corruption and bribery

- Included in Nokia's annual mandatory Ethical Business Training required of all employees
- Focused training on anti-corruption and bribery that is assigned to high-risk employee populations, such as training for employees involved in projects requiring site acquisition and customer-facing sales teams.

Policies supporting the anti-corruption program

Various policies are available to all employees on Nokia's intranet site, including the following:

- Anti-Corruption Policy
- Conflict of Interest Policy
- No PO/No Pay Policy
- Travel Policy
- Dealing with Government Officials contained in our Code of Conduct: See '[Code of Conduct](#)' in General information section
- Controllership contained in our Code of Conduct: See '[Code of Conduct](#)' in General information section
- Working With Third Parties contained in our Code of Conduct: See '[Code of Conduct](#)' in General information section
- Improper payments contained in our Code of Conduct: See '[Code of Conduct](#)' in General information section
- Corporate Hospitality and Gift SOP
- Global Donations, Other Contributions and Sponsorships SOP
- Third-Party Risk Management SOP
- Prohibition of Facilitation Payments SOP
- Site Acquisition Permitting and Site Access Fees SOP

Governance information continued

Nokia also has monitoring processes in place to identify possible process gaps, including: monitoring our customer relationship management and deal opportunity tool to ensure in scope commercial third parties have been screened by Nokia's Anti-Corruption Center of Excellence; monitoring expense reimbursement claims relating to hospitality to third parties to ensure that the gifts, travel and entertainment ('GTE') pre-approval process was followed; reviewing spend reports to ensure that any high-risk suppliers have been vetted at the appropriate due diligence level; conducting risk-based due diligence on all third parties to identify any red flags or risk before engaging in business with them, with a three-year re-screening required; and managing any concerns that are raised relating to improper payments through Nokia's whistleblower system, as described in the '[Reporting channels and investigations process](#)' section.

The groups of employees deemed to be highest risk with respect to Nokia's business include: sales and pre-sales employees, who have customer-facing roles and work to bring in sales opportunities; employees working with government officials (including those that seek permits and licenses from government agencies) as interactions with government officials bring higher risks; employees involved in site acquisition and site access permitting when delivering projects as this may involve interaction and/or payment to government officials; employees involved with customs clearance and logistics vendors as this may also involve payment to government officials; employees involved with tax advisors and related services as these involve payments and negotiations with government officials; the Government Affairs team and the Finance team as it has a key controllership role to ensure that our books and records are reflected accurately.

Training specific to anti-corruption and bribery is included in Nokia's annual, mandatory Ethical Business Training course and is required of 100% of Nokia employees: all administrative, management and supervisory bodies. Anti-corruption is highlighted in this course given the potential high-risk exposure and is rolled out not only to all employees but also to Nokia's Board of Directors. Nokia also has a separate standalone course that focuses on corruption risk and speak-up channels.

Refer to the '[General information](#)' section for more information on compliance policies.

All suspected breaches in procedures and standards of anti-corruption and anti-bribery are investigated. When an investigation concludes that there has been a violation of Nokia's policies, including Nokia's Anti-Corruption and Anti-Bribery policy, appropriate disciplinary action is taken. Such actions may include financial loss, termination, demotion or role change, a written warning, and/or mandatory training.

Nokia's Anti-Corruption Center of Excellence has a comprehensive, multifaceted, risk-based approach to help identify and mitigate risks to the company while empowering Nokia's business teams to sell Nokia products and services in responsible fashion around the globe.

Management of supplier relationships

Nokia's supply chain is a critical component of Nokia's own reputation and extended impact. Nokia works with both customers and suppliers to drive transparency, sustainability and good ethical business practices in Nokia's deep and often complex supply chain.

Nokia works with its suppliers to develop, innovate and build capability to enable a more sustainable and transparent ecosystem.

In 2024, Nokia conducted business with around 9 300 suppliers, and 80% of Nokia's total supplier spend was distributed across around 400 suppliers.

Nokia's supplier requirements

Nokia applies sustainability criteria for the qualification and selection of its suppliers and requires the fulfillment of sustainability obligations through its supplier contacts.

Nokia expects its suppliers to adhere to its Third-Party Code of Conduct and provides them with Nokia Supplier Requirements, including the Responsible Business Alliance's Code of Conduct and additional, Nokia-specific sustainability requirements. The requirements cover topics such as the environment, health and safety, security and privacy, risk management, labor and human rights management, and ethics and anti-corruption. They are communicated to Nokia's suppliers and integrated into Nokia's contractual requirements.

Nokia requires its Tier 1 suppliers (including Nokia's final assembly, materials and services suppliers) to apply and cascade the same requirements down to their own suppliers and to conduct due diligence (included within Nokia Supplier Requirements). Transparency and compliance requirements are firmly applied to all supplier relationships, and gifts or entertainment are neither given nor received beyond nominal value items. Nokia investigates and qualifies all suppliers, requiring them to comply with all applicable laws and regulations, and demonstrate that they share the values stated in the Nokia Code of Conduct. Requirements related to ethics and anti-corruption for Nokia's suppliers are detailed in the Nokia Third-Party Code of Conduct.

Monitoring, assessment and auditing

Nokia's key supplier-related monitoring, assessment and auditing activities include an on-site corporate responsibility audit program, EcoVadis sustainability assessments, Nokia's in-house Supplier Health and Safety Maturity Assessment, and the CDP Supply Chain Climate Change and Supply Chain Water Security assessments. For more information, see the section '[Workers in the value chain \(ESRS S2\)](#)'.

Governance information continued

Managing risk and opportunity in Nokia's supply chain

Nokia's internal analysis and enterprise risk management process help identify its potential supply chain risks. Nokia carries out more in-depth analyses to determine all supply chain risks via its dedicated Supplier Sustainability Risk Dashboard, where it looks at various sustainability risks, commodity risks and more, on a supplier location level. The outcomes are included in Nokia's category strategies, which it reviews annually with its purchasing category leads. Failing to meet established sustainability requirements will impact the future business perspective of the supplier.

Nokia prioritizes long-term relationships with suppliers who significantly impact its brand, portfolio, and business outcomes. By managing these partnerships with a comprehensive approach, Nokia aims to maximize the benefits of the collaboration.

Payment practices for suppliers

Nokia treats its business partners with respect and always endeavors to pay its suppliers' valid dues on time as per contractual obligations and country regulations. Suppliers need to follow defined guidelines for correct and timely invoice submission. E-invoicing is set up as a mandatory or preferred method of invoice receiving in all countries where it is legally allowed.

Nokia's standard payment terms are 90 days at the minimum, plus days for invoice receipt and for periodic payment cycle as per the respective supplier contracts. Those with payment term of 90 days or more encompass approximately 62% of the annual invoices by value in 2024.

For the balance 38% of the supplier invoices (including small and medium enterprises), payment terms are based on respective contractual negotiations and/or country legislation.

Actions

Actions taken to support Nokia's Compliance Program and culture:

1. Everyone in the company is required to review and acknowledge the Nokia Code of Conduct annually and disclose any conflicts of interest as part of annual mandatory Ethical Business compliance training. The topics within the mandatory training are rotated every year to spread awareness on high-risk areas, emerging risks, and hot topics. Anti-corruption is highlighted in the same course because it is a high-risk area, and Nokia also has a separate standalone course that focuses on corruption risk and speak-up channels. In addition to annual mandatory training, Nokia supplements training and awareness with numerous live and recorded training sessions delivered to smaller target audiences on various compliance topics throughout the year.
2. Nokia combats and avoids all forms of retaliation and is committed to maintaining a culture in which its employees feel comfortable raising concerns about suspected violations of the Code of Conduct, and related company policies or laws and regulations. Nokia will not tolerate any adverse employment action against an employee who raises a compliance concern or assists in an investigation in good faith.
3. Nokia offers multiple channels to report compliance concerns, including approaching the Legal, Compliance and Sustainability function, Ombuds leaders, the People organization, a dedicated email address, and an Ethics Helpline, which is compliant with the EU Whistleblower Directive, that offers multiple options to report concerns, including an online portal and country-specific options. Nokia has internal and external web pages dedicated to concern reporting and whistleblowing resources.
4. Nokia's Anti-Corruption Program focuses on identifying and mitigating compliance risks associated with third parties and multi-layer transactions as well as geopolitical events that may pose a risk under applicable laws, including anti-corruption. The Anti-Corruption Program includes various elements, such as training, monitoring, policies, and processes.
5. All suspected breaches in procedures and standards of anti-corruption and anti-bribery are investigated. When an investigation concludes that there has been a violation of Nokia's policies, including Nokia's Anti-Corruption and Anti-Bribery Policy, appropriate disciplinary action is taken. Such actions may include financial loss, termination, demotion or role change, written warnings, and/or mandatory training.
6. The Chief Compliance Officer presents separately and independently on the status and effectiveness of Nokia's Compliance Program to the full Board of Directors at least once per year, to the Audit Committee at least four times per year and to the Group Leadership Team at least once per year and as needed.
7. Nokia gauges employee attitudes, perceptions, and experiences regarding the compliance culture using survey results and other collected inputs. These results are shared with relevant stakeholders and managed through mitigation plans with an eye toward continuous improvement.



Governance information continued

Targets and progress in targets

Nokia establishes targets as one of the vehicles to drive and measure a robust Compliance Program. Nokia holds its leaders accountable for driving a strong culture of compliance within their organizations by promoting a strong culture of compliance, leading by example, and meeting (with the goal to exceed) established compliance targets.

Status of 2024 targets:

Ethical Business Training course

Target: Ethical Business Training course completed by

95%

of employees by 31 December 2024

Progress on target: Achieved

Ethical Business Training course completed by

98%

of employees as of 31 December 2024

Training specific to anti-corruption and bribery is included in the Ethical Business Training course.

Line manager engagement

Target: maintain

85%

favorability of employee/line manager engagement on ethics and compliance by the year 2030. This target covers Nokia's line managers and their direct reports.

Progress on target: On track

83%

for the year ended 31 December 2024.

Progress against ESG targets in 2024

Target year	Base year	Base value	Target	2024 results	Target status
G1: Governance					
2030	2016	85%	Maintain 85% favorability of employee/line manager engagement on the importance of ethics and compliance by the year 2030	83% of employees said that their Line Manager talked to the team about the importance of ethics and compliance	On track 
2024	2023	95%	Ethical Business Training (EBT) completed by 95% of employees.	98% of employees completed the Ethical Business Training	Achieved 

Governance information continued

Disclosure tables

Nokia continuing operations

As outlined in the section '[Basis for preparation](#)' within 'General Information', metrics are presented separately for Nokia continuing operations and discontinued operations comprising Submarine Networks. Disclosure tables presented in this section include continuing operations (Nokia Group excluding Submarine Networks) both for the reporting year 2024 and comparative period 2023 unless otherwise indicated. Key metrics for the discontinued operation for the reporting years 2024 and 2023 are disclosed separately below this section.

The table below details anti-corruption training topics and frequency. Anti-corruption is highlighted in Nokia's mandatory Ethical Business Training course which is deployed annually to all employees. In addition, separate standalone courses that focus on corruption risk are deployed per the frequency shown:

Nokia ethics and anti-corruption training:

Topic	Format	Target Audience	Frequency
Code of Conduct (part of Ethical Business Training course) Code overview and acknowledgment Conflict of interest disclosure	Online	All employees	Annually
Conflict of Interest	Online	All employees	Every 3-4 years
Anti-bribery/anti-corruption/improper payments (part of Ethical Business Training course)	Online	All employees incl functions at risk ⁽¹⁾	Annually
Anti-corruption training for third parties	Online	Third parties	Every 3 years
Anti-bribery/controllership – advanced	Online video	Role-based	As needed
Corporate hospitality 'Just-in-Time' video	Online video	Employee requests hospitality approval	At time of approval request
Gifts, travel, and entertainment	Online	All employees	As needed
Nokia Third-Party Code of Conduct	Micro-learning and video	Third parties	Every 2 years
Site acquisition and site permitting compliance	Online	Role based – sales and deployment	Every 3-4 years
Travel and expense approvals	Online	People managers	Every 3-4 years

(1) 'Functions at risk' means functions deemed to be at risk of corruption and bribery as a result of their tasks and responsibilities.

The training listed in the table are also deployed to the members of the administrative, management and supervisory bodies as required.

In 2024, Nokia's Investigations Group received a total of 923 concerns, of which 384 were integrity concerns and were investigated by the Investigations Group as suspected violations of Nokia's Code of Conduct. See the following table for 2024 and 2023 reported concerns by category.

Ethics and compliance data	2024	2023
Total number of concerns reported	923	1 047
Conflict of interest	41	54
Controllership	83	99
Dealing with government officials	4	1
Fair competition	11	4
Fair employment (all HR-related)	391	498
Guidance	112	108
Human rights	3	0
Improper payments	9	8
Insider trading	2	1
Intellectual property and confidential information	47	49
Privacy	22	27
Trade compliance	14	24
Well-being, health and safety and the environment	17	21
Working with third parties	82	71
Other	85	82
Number of investigations by the Ethics and Regulatory Compliance function	384	482
Number of allegations substantiated with 'cause found' after investigation	165	156
Number of employees given a written warning on grounds of violation of the Code of Conduct	30	37
Number of employees dismissed on grounds of violation of the Code of Conduct	12	22

The following table reflects the number of outstanding legal proceedings for late payments:

	2024	2023
Number of outstanding legal proceedings for late payments	0	0

Nokia is in the process of establishing a mechanism to measure the average time it takes for the company to pay an invoice from the date when the contractual or statutory term of payment starts to be calculated in line with the ESRS disclosure requirements.

Governance information continued

Discontinued operations

Ethics and compliance data	2024	2023
Total number of concerns reported	7	9
Conflict of interest	1	0
Controllership	0	1
Dealing with government officials	0	0
Fair competition	0	0
Fair employment (all HR-related)	6	7
Guidance	0	0
Human rights	0	0
Improper payments	0	0
Insider trading	0	0
Intellectual property and confidential information	0	0
Privacy	0	0
Trade compliance	0	0
Well-being, health and safety and the environment	0	0
Working with third parties	0	0
Other	0	1
Number of investigations by the Ethics and Regulatory Compliance function	4	1
Number of allegations substantiated with 'cause found' after investigation	2	3
Number of employees given a written warning on grounds of violation of the Code of Conduct	0	0
Number of employees dismissed on grounds of violation of the Code of Conduct	0	0
Share of employees who completed the annual training on ethical business practices	76%	86%

Governance information continued

Reporting principles for metrics

Ethics and compliance data

Number of concerns is based on actual numbers reported and there are no estimations included.

Line manager engagement

The line manager engagement percentage is determined by employees' affirmative responses to the 2024 Ethics and Compliance Survey question, 'My manager talks to the team about the importance of ethics and compliance'.

Ethical Business Training

The Ethical Business Training course is assigned to all Nokia employees. The final completion percentage is calculated by the number of mandatory training completions divided by the year end number of active employees.

Appendix to the Sustainability Statement

Appendix to the Sustainability Statement

Reference table

ESRS 2 - General information			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Basis for preparation	DR BP-1 – General basis for preparation of the sustainability statement	Basis for preparation ‘General basis for preparation of the Sustainability Statement’	87
Basis for preparation	DR BP-2 – Disclosures in relation to specific circumstances	Basis for preparation ‘Disclosures in relation to specific circumstances’	88
Governance	DR GOV-1 – The role of the administrative, management and supervisory bodies	Governance ‘Roles of Nokia’s administrative, management and supervisory bodies regarding sustainability matters’	89
Governance	DR GOV-2 – Information provided to and sustainability matters addressed by the undertaking’s administrative, management and supervisory bodies	Governance ‘Informing and supporting the administrative, management and supervisory bodies in their oversight of impacts, risks and opportunities’	92
Governance	DR GOV-3 – Integration of sustainability-related performance in incentive schemes	Governance ‘Integration of sustainability-related performance in incentive schemes’	93
Governance	DR GOV-4 – Statement on due diligence	Governance ‘Statement on due diligence’	94
Governance	DR GOV-5 – Risk management and internal controls over sustainability reporting	Governance ‘Risk management and internal controls over sustainability reporting’	95
Strategy	DR SBM-1 – Strategy, business model and value chain	Strategy ‘Key elements of Nokia’s general strategy relevant to sustainability matters’	96
		Strategy ‘Business model and value chain’	97
Strategy	DR SBM-2 – Interests and views of stakeholders	Strategy ‘Interests and views of stakeholders’	99
Strategy	DR SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model	Strategy ‘Material impacts, risks and opportunities and their interaction with Nokia’s strategy and business model’	102
Impact, risk and opportunity management	DR IRO-1 – Description of the process to identify and assess material impacts, risks and opportunities	Impact, risk and opportunity management ‘Description of the process to identify and assess material impacts, risks and opportunities’	108
Impact, risk and opportunity management	DR IRO-2 – Disclosure Requirements in ESRS covered by the undertaking’s sustainability statement	Appendix to the Sustainability Statement ‘Reference table’, ‘List of data points that derive from other EU legislation’	180, 187
Impact, risk and opportunity management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy ‘Policies adopted to manage material sustainability matters’.	107
		More information related to MDR-P are disclosed in topical sections:	
		Climate change (ESRS E1) ‘Policies’;	112
		Resource use and circular economy (ESRS E5) ‘Policies’;	129
		Own workforce (ESRS S1) ‘Policies’;	147
		Workers in the value chain (ESRS S2) ‘Policies’;	156
		Affected communities (ESRS S3) ‘Policies’;	163
Consumers and end-users (ESRS S4) ‘Policies’;	166		
Business conduct (ESRS G1) ‘Business conduct policies and corporate culture’	171		
Impact, risk and opportunity management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Information related to MDR-A are disclosed in topical sections:	
		Climate change (ESRS E1) ‘Transition plan and actions related to climate change policies’;	113
		Resource use and circular economy (ESRS E5) ‘Actions’;	131
		Own workforce (ESRS S1) ‘Actions’;	149
		Workers in the value chain (ESRS S2) ‘Actions’;	157
		Affected communities (ESRS S3) ‘Actions’;	163
		Consumers and end-users (ESRS S4) ‘Actions’;	167
Business conduct (ESRS G1) ‘Actions’	175		

Appendix to the Sustainability Statement continued

ESRS 2 - General information			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Information related to MDR-M are disclosed in topical sections:	
		Climate change (ESRS E1) 'Disclosure tables', 'Reporting principles for metrics';	122, 126
		Resource use and circular economy (ESRS E5) 'Disclosure tables', 'Reporting principles for metrics';	133, 135
		Own workforce (ESRS S1) 'Disclosure tables', 'Reporting principles for Nokia own workforce metrics';	151, 154
		Workers in the value chain (ESRS S2) 'Disclosure tables', 'Reporting principles for metrics';	160, 161
		Affected communities (ESRS S3) 'Targets and progress in targets', 'Reporting principles for Nokia Community Investments metrics';	164, 165
		Consumers and end-users (ESRS S4) 'Targets and progress in targets', 'Reporting principles for metrics';	167, 168
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Business conduct (ESRS G1) 'Disclosure tables', 'Reporting principles for metrics'	177, 179
		Strategy 'Our ESG targets'.	105
		More detailed information on MDR-T are disclosed in topical sections:	
		Climate change (ESRS E1) 'Targets and progress in targets';	118
		Resource use and circular economy (ESRS E5) 'Targets and progress in targets';	131
		Own workforce (ESRS S1) 'Targets and progress in targets';	150
		Workers in the value chain (ESRS S2) 'Targets and progress in targets';	158
Affected communities (ESRS S3) 'Targets and progress in targets';	164		
Consumers and end-users (ESRS S4) 'Targets and progress in targets';	167		
Business conduct (ESRS G1) 'Targets and progress in targets'	176		
ESRS E1 - Climate change			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Governance	ESRS 2 GOV-3 Integration of sustainability-related performance in incentive schemes	Governance 'Integration of sustainability-related performance in incentive schemes'	93
Strategy	DR E1-1 – Transition plan for climate change mitigation	Climate change (ESRS E1) 'Transition plan and actions related to climate change policies'	113
Strategy	DR related to ESRS 2 SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model	Climate change (ESRS E1) 'Climate scenario and resilience assessment'	111
Impact, risk and opportunity management	DR related to ESRS 2 IRO-1 – Description of the processes to identify and assess material climate-related impacts, risks and opportunities	Climate change (ESRS E1) 'Climate scenario and resilience assessment'	111
Impact, risk and opportunity management	DR E1-2 – Policies related to climate change mitigation and adaptation	Climate change (ESRS E1) 'Policies'	112
Impact, risk and opportunity management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy 'Policies adopted to manage material sustainability matters';	107
		Climate change (ESRS E1) 'Policies'	112
Impact, risk and opportunity management	DR E1-3 – Actions and resources in relation to climate change policies	Climate change (ESRS E1) 'Transition plan and actions related to climate change policies'	113
Impact, risk and opportunity management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Climate change (ESRS E1) 'Transition plan and actions related to climate change policies',	113
		'Targets and progress in targets'	118
Metrics and targets	DR E1-4 – Targets related to climate change mitigation and adaptation	Climate change (ESRS E1) 'Targets and progress in targets',	118
		'Disclosure tables'	122
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Climate change (ESRS E1) 'Targets and progress in targets',	118
		'Disclosure tables',	122
		'Reporting principles for metrics'	126

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Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy 'Our ESG targets'; Climate change (ESRS E1) 'Transition plan and actions related to climate change policies', 'Targets and progress in targets'	105 113 118
Metrics and targets	DR E1-5 – Energy consumption and mix	Climate change (ESRS E1) 'Disclosure tables'	122
Metrics and targets	DR E1-6 – Gross scopes 1, 2, 3 and Total GHG emissions	Climate change (ESRS E1) 'Disclosure tables'	122
Metrics and targets	DR E1-7 – GHG removals and GHG mitigation projects financed through carbon credits	Climate change (ESRS E1) 'Transition plan and actions related to climate change policies'	113
ESRS E5 - Resource use and circular economy			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Impact, risk and opportunity management	DR related to ESRS 2 IRO-1 – Description of the processes to identify and assess material resource use and circular economy-related impacts, risks and opportunities	Strategy 'Material impacts, risks and opportunities and their interaction with Nokia's strategy and business model'; Impact, risk and opportunity management 'Description of the process to identify and assess material impacts, risks and opportunities'; Resource use and circular economy (ESRS E5) 'Material impacts, risks and opportunities related to resource use and circular economy'	102 108 128
Impact, risk and opportunity management	DR E5-1 – Policies related to resource use and circular economy	Resource use and circular economy (ESRS E5) 'Material impacts, risks and opportunities related to resource use and the circular economy', 'Policies'	128 129
Impact, risk and opportunity management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy 'Policies adopted to manage material sustainability matters'; Resource use and circular economy (ESRS E5) 'Policies'	107 129
Impact, risk and opportunity management	DR E5-2 – Actions and resources related to resource use and circular economy	Resource use and circular economy (ESRS E5) 'Material impacts, risks and opportunities related to resource use and circular economy', 'Policies', 'Actions'	128, 129, 131
Impact, risk and opportunity management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Resource use and circular economy (ESRS E5) 'Actions', 'Targets and progress in targets', 'Disclosure tables'	131, 131, 133
Metrics and targets	Disclosure Requirement E5-3 – Targets related to resource use and circular economy	Strategy 'Our ESG targets'; Resource use and circular economy (ESRS E5) 'Targets and progress in targets', 'Actions'	105 131, 131
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Resource use and circular economy (ESRS E5) 'Targets and progress in targets', 'Disclosure tables', 'Reporting principles for metrics'	131, 133, 135
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy 'Our ESG targets'; Resource use and circular economy (ESRS E5) 'Targets and progress in targets', 'Reporting principles for metrics'	105 131 135
Metrics and targets	DR E5-4 – Resource inflows	Resource use and circular economy (ESRS E5) 'Disclosure tables', 'Reporting principles for metrics'	133, 135
Metrics and targets	DR E5-5 – Resource outflows	Resource use and circular economy (ESRS E5) 'Disclosure tables'	133
ESRS S1 - Own workforce			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Strategy	DR related to ESRS 2 SBM 2 - Interests and views of stakeholders	Strategy 'Interests and views of stakeholders'	99
Strategy	DR related to ESRS 2 SBM 3 - Material impacts, risks and opportunities and their interaction with strategy and business model	Strategy 'Material impacts, risks and opportunities and their interaction with Nokia's strategy and business model'; Impact, risk and opportunity management 'Description of the process to identify and assess material impacts, risks and opportunities'; Own workforce (ESRS S1) 'Material impacts, risks and opportunities related to Own Workforce'	102 108 146
Impacts, risks and opportunities management	DR S1-1 – Policies related to own workforce	Own workforce (ESRS S1) 'Policies', 'Processes for engaging with own workforce and workers' representatives about impacts'; Business conduct (ESRS G1) 'Reporting channels and investigations process'	147 149 172

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Impacts, risks and opportunities management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy 'Policies adopted to manage material sustainability matters'; Own workforce (ESRS S1) 'Policies'	107
			147
Impacts, risks and opportunities management	DR S1-2 – Processes for engaging with own workforce and workers' representatives about impacts	Own workforce (ESRS S1) 'Processes for engaging with own workforce and workers' representatives about impacts'	149
Impacts, risks and opportunities management	DR S1-3 – Processes to remediate negative impacts and channels for own workforce to raise concerns	Business conduct (ESRS G1) 'Reporting channels and investigations process'	172
Impacts, risks and opportunities management	DR S1-4 – Taking action on material impacts on own workforce, and approaches to managing material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	Own workforce (ESRS S1) 'Policies', 'Processes for engaging with own workforce and workers' representatives about impacts', 'Actions'	147
			149
			149
Impacts, risks and opportunities management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Own workforce (ESRS S1) 'Actions'	149
Impacts, risks and opportunities management	DR S1-5 – Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	Own workforce (ESRS S1) 'Targets and progress in targets'	150
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Own workforce (ESRS S1) 'Targets and progress in targets', 'Disclosure tables', 'Reporting principles for Nokia own workforce metrics'	150
			151
			154
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy 'Our ESG targets'; Own workforce (ESRS S1) 'Targets and progress in targets', 'Reporting principles for Nokia own workforce metrics'	105
			150
			154
Metrics and targets	DR S1-6 – Characteristics of the undertaking's employees	Own workforce (ESRS S1) 'Disclosure tables' Table. Number of employees by contract type and gender, 2024; Table. Number of employees by contract type and country / region, 2024; Table. Employee turnover, 2024	151
			151
			151
Metrics and targets	DR S1-7 – Characteristics of non-employee workforce in the undertaking's own workforce	Own workforce (ESRS S1) 'Disclosure tables' Table. Number of non-employees, 2024	151
Metrics and targets	DR S1-9 – Diversity metrics	Own workforce (ESRS S1) 'Disclosure tables' Table. Employees at top management level, 2024; Table. Employees by age group, 2024	151
			152
Metrics and targets	DR S1-10 – Adequate wages	Own workforce (ESRS S1) 'Adequate wages'	148
Metrics and targets	DR S1-13 – Training and skills development metrics	Own workforce (ESRS S1) 'Disclosure tables' Table. Employees skills development, 2024; Table. Training hours, 2024; Table. Employee category breakdown, 2024	152
			152
Metrics and targets	DR S1-16 – Remuneration metrics (pay gap and total remuneration)	Own workforce (ESRS S1) 'Disclosure tables' Table. Gender pay gap and annual total remuneration, 2024	152
ESRS S2 - Workers in the value chain			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Strategy	DR related to ESRS 2 SBM-2 Interests and views of stakeholders	Strategy 'Interests and views of stakeholders'	99
Strategy	DR related to ESRS 2 SBM-3 Material impacts, risks and opportunities and their interaction with strategy and business model	Strategy 'Material impacts, risks and opportunities and their interaction with Nokia's strategy and business model';	102
		Impact, risk and opportunity management 'Description of the process to identify and assess material impacts, risks and opportunities';	108
		Workers in the value chain (ESRS S2) 'Material impacts, risks and opportunities related to workers in the value chain'	155
Impact, risk and opportunity management	DR S2-1 – Policies related to value chain workers	Workers in the value chain (ESRS S2) 'Policies'	156
Impact, risk and opportunity management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy 'Policies adopted to manage material sustainability matters';	107
		Workers in the value chain (ESRS S2) 'Policies'	156

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Impact, risk and opportunity management	DR S2-2 – Processes for engaging with value chain workers about impacts	Workers in the value chain (ESRS S2) 'Processes for engaging with value chain workers about impacts'	156
Impact, risk and opportunity management	DR S2-3 – Processes to remediate negative impacts and channels for value chain workers to raise concerns	Workers in the value chain (ESRS S2) 'Processes to remediate negative impacts and channels for value chain workers to raise concerns'; Business conduct (ESRS G1) 'Reporting channels and investigations process'	156 172
Impact, risk and opportunity management	DR S2-4 – Taking action on material impacts on value chain workers, and approaches to managing material risks and pursuing material opportunities related to value chain workers, and effectiveness of those actions	Workers in the value chain (ESRS S2) 'Processes to remediate negative impacts and channels for value chain workers to raise concerns', 'Actions'; Business conduct (ESRS G1) 'Reporting channels and investigations process'	156 157 172
Impact, risk and opportunity management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Workers in the value chain (ESRS S2) 'Actions'	157
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Workers in the value chain (ESRS S2) 'Disclosure tables', 'Reporting principles for metrics'	160, 161
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy 'Our ESG targets'; Workers in the value chain (ESRS S2) 'Targets and progress in targets', 'Reporting principles for metrics'	105, 158, 161
Metrics and targets	DR S2-5 – Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	Workers in the value chain (ESRS S2) 'Targets and progress in targets', 'Processes for engaging with value chain workers about impacts'	158, 156
ESRS S3 – Affected communities			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Strategy	DR related to ESRS 2 SBM-2 – Interests and views of stakeholders	Strategy 'Interests and views of stakeholders'	99
Strategy	DR related to ESRS 2 SBM 3 – Material impacts, risks and opportunities and their interaction with strategy and business model	Strategy 'Material impacts, risks and opportunities and their interaction with strategy and business model'; Impact, risk and opportunity management 'Description of the process to identify and assess material impacts, risks and opportunities'; Affected communities (ESRS S3) 'Material impacts, risks and opportunities related to affected communities'	102 108 162
Impacts, risks and opportunities management	DR S3-1 – Policies related to affected communities	Affected communities (ESRS S3) 'Policies'	163
Impacts, risks and opportunities management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy 'Policies adopted to manage material sustainability matters'; Affected communities (ESRS S3) 'Policies'	107 163
Impacts, risks and opportunities management	DR S3-2 – Processes for engaging with affected communities about impacts	Affected communities (ESRS S3) 'Processes for engaging with affected communities about impacts'	163
Impacts, risks and opportunities management	DR S3-3 – Processes to remediate negative impacts and channels for affected communities to raise concerns	Business conduct (ESRS G1) 'Reporting channels and investigations process'	172
Impacts, risks and opportunities management	DR S3-4 – Taking action on material impacts on affected communities, and approaches to managing material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions	Affected communities (ESRS S3) 'Processes for engaging with affected communities about impacts', 'Actions', 'Targets and progress in targets'	163 163 164
Impacts, risks and opportunities management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Affected communities (ESRS S3) 'Actions', 'Targets and progress in targets'	163 164
Metrics and targets	DR S3-5 – Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	Affected communities (ESRS S3) 'Targets and progress in targets'	164
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Affected communities (ESRS S3) 'Targets and progress in targets', 'Reporting principles for Nokia Community Investments metrics'	164 165
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy 'Our ESG targets'; Affected communities (ESRS S3) 'Targets and progress in targets', 'Reporting principles for Nokia Community Investments metrics'	105 164 165

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ESRS S4 - Consumers and end-users			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Strategy	DR related to ESRS 2 SBM-2 –Interests and views of stakeholders	Strategy ‘Interests and views of stakeholders’	99
Strategy	DR related to ESRS 2 SBM 3 - Material impacts, risks and opportunities and their interaction with strategy and business model	Strategy ‘Material impacts, risks and opportunities and their interaction with Nokia’s strategy and business model’; Impact, risk and opportunity management ‘Description of the process to identify and assess material impacts, risks and opportunities’; Consumers and end-users (ESRS S4) ‘Material impacts, risks and opportunities related to consumers and end-users’	102 108 166
Impacts, risks and opportunities management	DR S4-1 – Policies related to consumers and end-users	Consumers and end-users (ESRS S4) ‘Policies’	166
Impacts, risks and opportunities management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy ‘Policies adopted to manage material sustainability matters’; Consumers and end-users (ESRS S4) ‘Policies’	107 166
Impacts, risks and opportunities management	DR S4-2 – Processes for engaging with consumers and end-users about impacts	Consumers and end-users (ESRS S4) ‘Processes for engaging with consumers and end-users about impacts’	167
Impacts, risks and opportunities management	DR S4-3 – Processes to remediate negative impacts and channels for consumers and end-users to raise concerns	Business conduct (ESRS G1) ‘Reporting channels and investigations process’	172
Impacts, risks and opportunities management	DR S4-4 – Taking action on material impacts on consumers and end- users, and approaches to managing material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of those actions	Consumers and end-users (ESRS S4) ‘Processes for engaging with consumers and end-users about impacts’, ‘Actions’, ‘Targets and progress in targets’	167, 167, 167
Impacts, risks and opportunities management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Consumers and end-users (ESRS S4) ‘Targets and progress in targets’	167
Metrics and targets	DR S4-5 – Targets related to managing material negative impacts,advancing positive impacts, and managing material risks and opportunities	Consumers and end-users (ESRS S4) ‘Targets and progress in targets’	167
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Consumers and end-users (ESRS S4) ‘Targets and progress in targets’, ‘Reporting principles for metrics’	167, 168
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy ‘Our ESG targets’; Consumers and end-users (ESRS S4) ‘Targets and progress in targets’, ‘Reporting principles for metrics’	105 167, 168
ESRS G1 - Business conduct			
Disclosure title	Name of the disclosure requirement	Reference to the Annual Report section	Page
Governance	DR related to ESRS 2 GOV-1 – The role of the administrative, management and supervisory bodies	Governance ‘Role of Nokia’s administrative, management and supervisory bodies regarding sustainability matters’	89
Impacts, risks and opportunities management	DR related to ESRS 2 IRO-1 – Description of the processes to identify and assess material impacts, risks and opportunities	Strategy ‘Material impacts, risks and opportunities and their interaction with Nokia’s strategy and business model’; Impact, risk and opportunity management ‘Description of the process to identify and assess material impacts, risks and opportunities’; Business conduct (ESRS G1) ‘Material impacts, risks and opportunities related to business conduct’	102 108 170
Impacts, risks and opportunities management	Policies MDR-P – Policies adopted to manage material sustainability matters	Strategy ‘Policies adopted to manage material sustainability matters’; Business conduct (ESRS G1) ‘Business conduct policies and corporate culture’	107 171
Impacts, risks and opportunities management	DR G1-1– Business conduct policies and corporate culture	Strategy ‘Policies adopted to manage material sustainability matters’; Business conduct (ESRS G1) ‘Business conduct policies and corporate culture’	107 171
Impacts, risks and opportunities management	DR G1-2 – Management of relationships with suppliers	Business conduct (ESRS G1) ‘Management of supplier relationships’	174

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Impacts, risks and opportunities management	DR G1-3 – Procedures to address corruption and bribery	Business conduct (ESRS G1) 'Material impacts, risks and opportunities related to business conduct',	170
		'Business conduct policies and corporate culture',	171
		'Reporting channels and investigations process',	172
		'Protecting Against Retaliation',	172
		'Training',	173
		'Nokia opportunity: Anti-Corruption and Anti-Bribery Program'	173
Impacts, risks and opportunities management	Actions MDR-A – Actions and resources in relation to material sustainability matters	Business conduct (ESRS G1) 'Actions',	175
		'Targets and progress in targets'	176
Metrics and targets	Metrics MDR-M – Metrics in relation to material sustainability matters	Business conduct (ESRS G1) 'Targets and progress in targets',	176
		'Disclosure tables',	177
		'Reporting principles for metrics'	179
Metrics and targets	Targets MDR-T – Tracking effectiveness of policies and actions through targets	Strategy 'Our ESG targets';	105
		Business conduct (ESRS G1) 'Targets and progress in targets',	176
		'Reporting principles for metrics'	179
Metrics and targets	DR G1-6 – Payment practices	Business conduct (ESRS G1) 'Management of supplier relationships',	174
		'Disclosure tables'	177

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List of data points that derive from other EU legislation

Section	Para	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Material (Yes/ No)	Reference to the Annual Report section	Page
ESRS 2, GOV-1 Board's Gender Diversity	21 (d)	X		X		Yes	Disclosed in 'Governance' section of General information	89
ESRS 2 GOV-1 Percentage of board members who are independent	21 (e)			X		Yes	Disclosed in 'Governance' section of General information	89
ESRS 2 GOV-4 Statement on due diligence	30	X				Yes	Disclosed in 'Governance' section of General information	89
ESRS 2 SBM-1 Involvement in activities related to fossil fuel activities	40 (d) i	X	X	X		No	Not applicable to Nokia	
ESRS 2 SBM-1 Involvement in activities related to chemical production	40 (d) ii	X		X		No	Not applicable to Nokia	
ESRS 2 SBM-1 Involvement in activities related to controversial weapons	40 (d) iii	X		X		No	Not applicable to Nokia	
ESRS 2 SBM-1 Involvement in activities related to cultivation and production of tobacco	40 (d) iv			X		No	Not applicable to Nokia	
ESRS E1-1 Transition plan to reach climate neutrality by 2050	14				X	Yes	Disclosed in 'Transition plan and actions in related to climate change policies' section of E1	113
ESRS E1-1 Undertakings excluded from Paris-aligned Benchmarks	16 (g)		X	X		Yes	Disclosed in 'Transition plan and actions in related to climate change policies' section of E1	113
ESRS E1-4 GHG emission reduction targets	34	X	X	X		Yes	Disclosed in 'Targets and progress in targets' section of E1	118
ESRS E1-5 Energy consumption from fossil sources disaggregated by sources (only high climate impact sectors)	38	X				No	Not applicable to Nokia	
ESRS E1-5 Energy consumption and mix	37	X				Yes	Disclosed in 'Disclosure tables' section of E1	122
ESRS E1-5 Energy intensity associated with activities in high climate impact sectors	40-43	X				No	Not applicable to Nokia	
ESRS E1-6 Gross scope 1, 2, 3 and Total GHG emissions	44	X	X	X		Yes	Disclosed in 'Disclosure tables' section of E1	122
ESRS E1-6 Gross GHG emissions intensity	53-55	X	X	X		Yes	Disclosed in 'Disclosure tables' section of E1	122
ESRS E1-7 GHG removals and carbon credits	56				X	No	Not applicable to Nokia	
ESRS E1-9 Exposure of the benchmark portfolio to climate-related physical risks	66			X		No	Nokia decided to apply phase-in option and not to disclose these metrics in 2024	
ESRS E1-9 Disaggregation of monetary amounts by acute and chronic physical risk	66 (a) and (c)		X			No	Nokia decided to apply phase-in option and not to disclose these metrics in 2024	
ESRS E1-9 Location of significant assets at material physical risk								
ESRS E1-9 Breakdown of the carrying value of its real estate assets by energy-efficiency classes	67 (c)		X			No	Nokia decided to apply phase-in option and not to disclose these metrics in 2024	
ESRS E1-9 Degree of exposure of the portfolio to climate-related opportunities	69			X		No	Nokia decided to apply phase-in option and not to disclose these metrics in 2024	
ESRS E2-4 Amount of each pollutant listed in Annex II of the E-PRTR Regulation (European Pollutant Release and Transfer Register) emitted to air, water and soil	28	X				No	Not applicable to Nokia	
ESRS E3-1 Water and marine resources	9	X				No	Not applicable to Nokia	
ESRS E3-1 Dedicated policy	13	X				No	Not applicable to Nokia	
ESRS E3-1 Sustainable oceans and seas	14	X				No	Not applicable to Nokia	
ESRS E3-4 Total water recycled and reused	28 (c)	X				No	Not applicable to Nokia	

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Section	Para	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Material (Yes/ No)	Reference to the Annual Report section	Page
ESRS E3-4 Total water consumption in m3 per net revenue on own operations	29	X				No	Not applicable to Nokia	
ESRS 2- IRO 1 – E4	16 (a) i	X				No	Not applicable to Nokia	
ESRS 2- IRO 1 – E4	16 (b)	X				No	Not applicable to Nokia	
ESRS 2- IRO 1 – E4	16 (c)	X				No	Not applicable to Nokia	
ESRS E4-2 Sustainable land / agriculture practices or policies	24 (b)	X				No	Not applicable to Nokia	
ESRS E4-2 Sustainable oceans / seas practices or policies	24 (c)	X				No	Not applicable to Nokia	
ESRS E4-2 Policies to address deforestation	24 (d)	X				No	Not applicable to Nokia	
ESRS E5-5 Non-recycled waste	37 (d)	X				No	Not applicable to Nokia	
ESRS E5-5 Hazardous waste and radioactive waste	39	X				No	Not applicable to Nokia	
ESRS 2- SBM3 – S1 Risk of incidents of forced labour	14 (f)	X				No	Not applicable to Nokia	
ESRS 2- SBM3 – S1 Risk of incidents of child labour	14 (g)	X				No	Not applicable to Nokia	
ESRS S1-1 Human rights policy commitments	20	X				Yes	Disclosed in 'Policies' section of S1 and 'Policies adopted to manage material sustainability matters' in General information	147, 107
ESRS S1-1 Due diligence policies on issues addressed by the fundamental International Labor Organization Conventions 1 to 8	21			X		No	Not applicable to Nokia	
ESRS S1-1 processes and measures for preventing trafficking in human beings	22	X				No	Not applicable to Nokia	
ESRS S1-1 workplace accident prevention policy or management system	23	X				Yes	Disclosed in 'Policies' section of S1	147
ESRS S1-3 grievance/complaints handling mechanisms	32 (c)	X				Yes	Disclosed in 'Processes to remediate negative impacts and channels for own workforce to raise concerns' section of S1	149
ESRS S1-14 Number of fatalities and number and rate of work-related accidents	88 (b) and (c)	X		X		No	Not applicable to Nokia	
ESRS S1-14 Number of days lost to injuries, accidents, fatalities or illness	88 (e)	X				No	Not applicable to Nokia	
ESRS S1-16 Unadjusted gender pay gap	97 (a)	X		X		Yes	Adjusted gender pay gap disclosed in 'Disclosure tables' section of S1	151
ESRS S1-16 Excessive CEO pay ratio	97 (b)	X				Yes	Disclosed in 'Disclosure tables' section of S1	151
ESRS S1-17 Incidents of discrimination	103 (a)	X				No	Not applicable to Nokia	
ESRS S1-17 Non-respect of UNGPs on Business and Human Rights and OECD	104 (a)	X		X		No	Not applicable to Nokia	
ESRS 2- SBM3 – S2 Significant risk of child labour or forced labour in the value chain	11 (b)	X				No	No such cases identified	
ESRS S2-1 Human rights policy commitments	17	X				Yes	Disclosed in 'Policies' section of S2	156
ESRS S2-1 Policies related to value chain workers	18	X				Yes	Disclosed in 'Policies' section of S2	156
ESRS S2-1 Non-respect of UNGPs on Business and Human Rights principles and OECD guidelines	19	X		X		Yes	Disclosed in 'Policies' section of S2	156
ESRS S2-1 Due diligence policies on issues addressed by the fundamental International Labor Organization Conventions 1 to 8	19			X		Yes	Disclosed in 'Policies' section of S2	156
ESRS S2-4 Human rights issues and incidents connected to its upstream and downstream value chain	36	X				Yes	Reported in table 'Examples of identified non-compliance and actions taken' within S2	157
ESRS S3-1 Human rights policy commitments	16	X				Yes	Disclosed in 'Policies' section of S2	156

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Section	Para	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Material (Yes/ No)	Reference to the Annual Report section	Page
ESRS S3-1 non-respect of UNGPs on Business and Human Rights, ILO principles or and OECD guidelines	17	X		X		No	No such cases identified	
ESRS S3-4 Human rights issues and incidents	36	X				No	Not applicable to Nokia	
ESRS S4-1 Policies related to consumers and end-users	16	X				Yes	Disclosed in 'Policies' section of S4	166
ESRS S4-1 Non-respect of UNGPs on Business and Human Rights and OECD guidelines	17	X		X		No	No such cases identified	
ESRS S4-4 Human rights issues and incidents	35	X				No	Not applicable to Nokia	
ESRS G1-1 United Nations Convention against Corruption	10 (b)	X				Yes	Disclosed in 'Business conduct policies and corporate culture' section of G1	171
ESRS G1-1 Protection of whistle- blowers	10 (d)	X				Yes	Disclosed in 'Business conduct policies and corporate culture' section of G1	171
ESRS G1-4 Fines for violation of anti-corruption and anti-bribery laws	24 (a)	X		X		No	Not applicable to Nokia	
ESRS G1-4 Standards of anti- corruption and anti- bribery	24 (b)	X				No	Not applicable to Nokia	

Shares and shareholders

Shares and shareholders

Share details

Shares and share capital

Nokia has one class of shares. Each Nokia share entitles the holder to one vote at general meetings of Nokia.

At 31 December 2024, the share capital of Nokia Corporation equaled EUR 245 896 461.96 and the total number of shares issued was 5 605 850 345. At 31 December 2024, the total number of shares included 232 700 997 shares owned by Group companies representing approximately 4.2% of the total number of shares and the total voting rights.

In November 2024, under the authorization granted to the Board of Directors by the Annual General Meeting 2024, the Board of Directors resolved on a directed issuance of a maximum number of 28 651 000 shares held by the Company as a result of the issue of new shares in October 2023, to settle the Company's commitments under the equity-based incentive plans and the employee share purchase plan in respect of shares to be delivered during the year 2025. The shares were issued without consideration.

In November 2024, under the authorization granted to the Board of Directors by the Annual General Meeting 2024, the Board of Directors resolved on an issuance of 150 000 000 new shares without consideration to itself and resolved on a subsequent directed issuance of a maximum number of 150 000 000 shares held by the Company as a result of the aforementioned issuance, to settle its commitments under the merger agreement related to the Infinera acquisition in respect of shares to be delivered to eligible stockholders of Infinera. To the extent that the shares are not needed to settle Nokia's obligations related to the completion of the acquisition, the Board of Directors resolved on a directed share issuance of the aforementioned shares without consideration to participants of Nokia's and Infinera's equity programs the latter of which was assumed by Nokia upon the completion of the acquisition.

During 2024, the Parent Company transferred a total of 24 380 761 treasury shares without consideration to employees, including certain members of the Group Leadership Team, as settlement under Parent Company equity-based incentive plans and the employee share purchase plan in accordance with the rules of the plans. The transfers were based on the resolution of the Board of Directors in October 2023 to issue shares held by the Company to settle its commitments to participants of the plan.

Information on the authorizations held by the Board of Directors in 2024 to issue shares and special rights entitling to shares, to transfer shares and repurchase own shares, as well as information on related party transactions, the shareholders and share-based incentives is available in this section "Shares and shareholders" and additionally in Notes 3.2. Remuneration of key management, 3.3. Share-based payments, 5.1. Equity and 6.4. Related party transactions in the consolidated financial statements.

In December 2024, the Board of Directors decided to cancel 157 646 220 Nokia shares held by the Company and repurchased under the share buyback program initiated in March 2024. The buyback program was accelerated in July 2024 and completed in November 2024. The cancellation did not affect the Company's share capital nor total equity.

The Board of Directors held at 31 December 2024 a total of 1 056 085 shares and ADSs in Nokia, which represented approximately 0.02% of our total shares and voting rights excluding shares held by the Nokia Group. The President and CEO owned at 31 December 2024 a total of 1 573 826 shares.

There were no public takeover offers by third parties for Nokia's shares or by Nokia for other companies' shares during the 2024 and 2023 fiscal years.

Nokia does not have minimum or maximum share capital or a par value of a share.

31 December	2024	2023	2022	2021	2020
Share capital, EURm	246	246	246	246	246
Shares, (000s)	5 605 850	5 613 497	5 632 298	5 675 461	5 653 886
Shares held by the Group, (000s)	232 701	87 896	45 282	40 468	36 390
Number of shares excluding shares held by the Group, (000s)	5 373 149	5 525 601	5 587 016	5 634 993	5 617 496
Average number of shares excluding shares held by the Group during the year					
Basic, (000s) ⁽¹⁾	5 475 817	5 549 468	5 614 182	5 630 025	5 612 418
Diluted, (000s) ⁽¹⁾	5 530 603	5 585 923	5 670 020	5 684 235	5 612 418
Number of registered shareholders ⁽²⁾	224 196	247 893	238 359	233 844	246 886

(1) Used in calculation of earnings per share attributable to equity holders of the parent.

(2) Each account operator is included in the figure as only one registered shareholder.

Shares and shareholders continued

Key ratios

For the year ended 31 December	2024	2023	2022	2021	2020
Earnings per share, basic, EUR					
Continuing operations ⁽¹⁾	0.31	0.11	0.75	N/A	N/A
Discontinued operations ⁽¹⁾	(0.08)	0.01	0.01	N/A	N/A
Profit for the year	0.23	0.12	0.76	0.29	(0.45)
Earnings per share, diluted, EUR					
Continuing operations ⁽¹⁾	0.31	0.11	0.74	N/A	N/A
Discontinued operations ⁽¹⁾	(0.08)	0.01	0.01	N/A	N/A
Profit for the year	0.23	0.12	0.75	0.29	(0.45)
Proposed dividend per share, EUR ⁽²⁾	0.14	0.13	0.12	0.08	0.00
Dividend payout ratio ⁽³⁾	45.2%	118.2%	16.0%	N/A	N/A
Total dividends, EURm ⁽⁴⁾	785	730	676	449	—
31 December	2024	2023	2022	2021	2020
Shareholders' equity per share, EUR	3.84	3.72	3.82	3.08	2.22
Share price, EUR ⁽⁵⁾	4.27	3.05	4.33	5.57	3.15
Price-to-earnings ratio ⁽³⁾	13.77	27.73	5.77	N/A	N/A
Dividend yield ⁽¹⁾	3.28%	4.26%	2.77%	1.44%	—
Market capitalization, EURm	22 943	16 853	24 192	31 409	17 701

- (1) In June 2024, Nokia classified its Submarine Networks business as a discontinued operation. The comparative amounts for 2023 and 2022 have been recast accordingly, however, due to undue cost and effort required to recast historical accounting records the comparative amounts for 2021 and 2020 have not been recast.
- (2) The Board of Directors proposes to the Annual General Meeting to be authorized to decide in its discretion on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity.
- (3) Calculated based on the basic earnings per share from continuing operations.
- (4) In 2024, total dividends is calculated based on the proposed Annual General Meeting authorization to the Board of a maximum distribution of EUR 0.14 per share for the financial year 2024, and the total number of shares on the date of issuing the financial statements for 2024. On the date of issuing the financial statements for 2024 the total number of Nokia shares is 5 605 850 345. Comparative amounts represent the actual total distribution to equity holders of the parent for the financial year presented.
- (5) Closing Nokia share price at year end on Nasdaq Helsinki.

Share turnover

For the year ended 31 December	2024	2023	2022	2021	2020
Number of shares traded during the year (000s) ⁽¹⁾	7 175 750	7 754 279	10 294 615	16 560 334	13 903 762
Average number of shares excluding shares held by the Group during the year (000s)	5 475 817	5 549 468	5 614 182	5 630 025	5 612 418
Share turnover %	131	140	183	294	248

- (1) Source: Nasdaq Helsinki, the NYSE composite tape and Euronext Paris.

The principal trading markets for the shares are Nasdaq Helsinki and Euronext Paris, in the form of shares, and the NYSE, in the form of ADSs.

Share price development

Nasdaq Helsinki

EUR	High	Low	Value
2024 Full year High/Low	4.58	3.00	
2024 Full year Average (Volume-weighted)			3.64
Year-end value 31 December 2024			4.27
Year-end value 31 December 2023			3.05
Change from 31 December 2023 to 31 December 2024			40.0%

New York Stock Exchange

USD	High	Low	Value
2024 Full year High/Low	4.95	3.29	
2024 Full year Average (Volume-weighted)			3.99
Year-end value 31 December 2024			4.43
Year-end value 31 December 2023			3.42
Change from 31 December 2023 to 31 December 2024			29.5%

Euronext Paris

EUR	High	Low	Value
2024 Full year High/Low	4.57	3.01	
2024 Full year Average (Volume-weighted)			3.68
Year-end value 31 December 2024			4.26
Year-end value 31 December 2023			3.06
Change from 31 December 2023 to 31 December 2024			39.2%

Shares and shareholders continued

Stock option exercises

Since 2019, Nokia has not administered any global stock option plans.

Dividend and share buybacks

The dividend to shareholders is Nokia's principal method of distributing earnings to shareholders. The dividend policy was updated at the Capital Markets Day in March 2021 to read as follows: "We target recurring, stable and over time growing ordinary dividend payments, taking into account the previous year's earnings as well as the company's financial position and business outlook".

The Board of Directors proposes to the Annual General Meeting 2025 that based on the balance sheet to be adopted for the financial year ended on 31 December 2024, no dividend is distributed by a resolution of the Annual General Meeting. Instead, the Board of Directors proposes to be authorized to resolve in its discretion on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity. The authorization would be used to distribute dividend and/or assets from the reserve for invested unrestricted equity in four installments during the authorization period, in connection with the quarterly results, unless the Board of Directors decides otherwise for a justified reason. The proposed total authorization for distribution of dividend and/or assets from the reserve for invested unrestricted equity is in line with the Company's dividend policy. The authorization would be valid until the opening of the next Annual General Meeting. The Board would make separate resolutions on the amount and timing of each distribution of dividend and/or assets from the reserve for invested unrestricted equity.

In the first quarter of 2024, under the authorization granted to the Board of Directors by the Annual General Meeting 2023, Nokia announced a share buyback program to repurchase shares to return up to EUR 600 million of cash to shareholders in tranches over a period of two years. The program was launched in March 2024 and it was accelerated in July by increasing the number of shares to be repurchased during the year 2024. The whole EUR 600 million program was completed in November 2024 and the repurchased shares were cancelled in December 2024.

In November 2024, under the authorization granted to the Board of Directors by the Annual General Meeting 2024, Nokia launched a share buyback program to offset the dilutive effect of the acquisition of Infinera announced in June 2024. The program targets to repurchase 150 million shares for an aggregate purchase price not exceeding EUR 900 million. The repurchases commenced in November 2024 and will end latest by 31 December 2025.

We distribute distributable funds, if any, within the limits set by the Finnish Companies Act as defined below. We make and calculate the distribution, if any, in the form of cash dividends, assets from the reserve for invested unrestricted equity, share buybacks, or in some other form, or a combination of these. There is no specific formula by which the amount of a distribution is determined, although some limits set by law are discussed below. The timing and amount of future distributions of retained earnings and/or assets from the reserve for invested unrestricted equity, if any, will depend on our future results and financial conditions.

Under the Finnish Companies Act, we may distribute retained earnings and/or assets from the reserve for invested unrestricted equity on our shares only upon a shareholders' resolution and in the amount proposed by the Board, subject to limited exceptions. The amount of any distribution is limited to the amount of distributable earnings of the Parent Company pursuant to the last audited financial statements approved by our shareholders, taking into account the material changes in the financial situation of the Parent Company after the end of the last financial period and a statutory requirement that the distribution of earnings must not result in insolvency of the Parent Company. Subject to exceptions relating to the right of minority shareholders to request a certain minimum distribution, the distribution may not exceed the amount proposed by the Board of Directors.

Purchases of equity securities by the Company and affiliated purchasers

The table below presents additional information on the purchases of treasury shares in 2024:

Period	Total number of shares purchased	Average price paid per share, EUR	Total number of shares purchased as part of publicly announced plans or programs	Maximum value of shares that may yet be purchased under the plans or programs, EUR
January ⁽¹⁾	0	—	0	300 000 000
February	—	—	—	300 000 000
March	3 290 248	3.27	3 290 248	289 225 892
April	10 016 054	3.27	10 016 054	256 430 168
May	7 912 962	3.53	7 912 962	228 473 123
June	8 288 039	3.51	8 288 039	199 343 182
July ⁽²⁾	30 031 651	3.49	30 031 651	394 543 699
August	24 756 945	3.55	24 756 945	306 682 042
September	—	—	—	306 682 042
October	43 187 891	4.15	43 187 891	127 285 596
November ⁽³⁾	34 522 895	4.19	34 522 895	882 584 913
December	14 825 581	4.18	14 825 581	820 640 546
Total	176 832 266	3.84	176 832 266	

(1) On 25 January 2024, Nokia announced that its Board of Directors is initiating a share buyback program to return up to EUR 600 million of cash to shareholders in tranches over a period of two years pursuant to an authorization from the Annual General Meeting 2023. The first phase of the share buyback program started on 20 March 2024.

(2) On 19 July 2024, the Board of Directors decided to accelerate the timeframe for the share buyback program to complete the whole EUR 600 million program by the end of 2024. The repurchases under this program ended on 21 November 2024.

(3) On 22 November 2024, Nokia announced that its Board of Directors is initiating a share buyback program to offset dilutive effect of acquisition of Infinera pursuant to an authorization from the Annual General Meeting 2024. The program targets to repurchase 150 million shares for an aggregate price not exceeding EUR 900 million. The repurchases started on 25 November 2024.

Shares and shareholders continued

Shareholders

At 31 December 2024, shareholders registered in Finland represented approximately 26% and shareholders registered in the name of a nominee represented approximately 74% of the total number of shares of Nokia Corporation. The number of directly registered shareholders was 224 196 at 31 December 2024. Each account operator (12) is included in this figure as only one registered shareholder.

Largest shareholders registered in Finland at 31 December 2024⁽¹⁾

Shareholder	Total number of shares 000s	% of all shares	% of all voting rights
Solidium Oy	325 000	5.80%	5.80%
Keskinäinen Työeläkevakuutusyhtiö Varma	78 266	1.40%	1.40%
Keskinäinen Eläkevakuutusyhtiö Ilmarinen	74 685	1.33%	1.33%
Keskinäinen Työeläkevakuutusyhtiö Elo	39 185	0.70%	0.70%
Valtion Eläkerahasto	32 000	0.57%	0.57%
Oy Lival Ab	17 490	0.31%	0.31%
Svenska Kulturfonden	14 618	0.26%	0.26%
Nordea Pro Finland Fund	11 378	0.20%	0.20%
Sijoitusrahasto Seligson & Co	10 482	0.19%	0.19%
Evli Finland Select Fund	9 300	0.17%	0.17%

(1) Excluding nominee-registered shares and shares owned by Nokia Corporation. Nokia Corporation owned 219 494 558 shares at 31 December 2024.

Breakdown of share ownership at 31 December 2024⁽¹⁾

By number of shares owned	Number of shareholders	% of shareholders	Total number of shares	% of all shares
1-100	61 483	27.42%	2 896 001	0.05%
101-1 000	101 802	45.41%	44 653 197	0.80%
1 001-10 000	53 865	24.03%	167 776 088	2.99%
10 001-100 000	6 619	2.95%	162 084 771	2.89%
100 001-500 000	333	0.15%	65 397 980	1.17%
500 001-1 000 000	30	0.01%	20 990 753	0.38%
1 000 001-5 000 000	40	0.02%	99 952 980	1.78%
Over 5 000 000	24	0.01%	5 042 098 575	89.94%
Total	224 196	100.00%	5 605 850 345	100.00%

(1) The breakdown covers only shareholders registered in Finland, and each account operator (12) is included in the number of shareholders as only one registered shareholder. As a result, the breakdown is not illustrative of the entire shareholder base of Nokia.

By nationality	% of shares
Non-Finnish shareholders	74.44%
Finnish shareholders	25.56%
Total	100.00%

By shareholder category (Finnish shareholders)	% of shares
Corporations	5.49%
Households	6.74%
Financial and insurance institutions	2.20%
Non-profit organizations	1.08%
Governmental bodies (incl. pension insurance companies)	10.05%
Total	25.56%

At 31 December 2024, a total of 673 112 179 ADSs (equivalent to the same number of shares or approximately 12% of the total shares) were outstanding and held of record by 89 183 registered holders in the United States. We are aware that many ADSs are held of record by brokers and other nominees, and accordingly the above number of holders is not necessarily representative of the actual number of persons who are beneficial holders of ADSs or the number of ADSs beneficially held by such persons. Based on information available from Broadridge Financial Solutions, Inc., the number of beneficial owners of ADSs at 31 December 2024 was 660 948.

Based on the most recent information available to us dated 2 February 2024, at 31 December 2023, BlackRock, Inc. beneficially owned 372 591 440 Nokia shares, which at that time corresponded to approximately 6.6% of the total number of shares and voting rights of Nokia.

To the best of our knowledge, Nokia is not directly or indirectly owned or controlled by any other corporation or any government, and there are no arrangements that may result in a change of control of Nokia.

Shares owned by the members of the Board and the Group Leadership Team

At 31 December 2024, the members of our Board and the Group Leadership Team held a total of 4 782 625 shares and ADSs in Nokia, which represented approximately 0.09% of our shares and total voting rights excluding shares held by the Nokia Group.

Offer and listing details

Our capital consists of shares traded on Nasdaq Helsinki under the symbol "NOKIA" and Euronext Paris under the symbol "NOKIA". Our ADSs, each representing one of our shares, are traded on the NYSE under the symbol "NOK". The ADSs are evidenced by American Depositary Receipts (ADRs) issued by Citibank, N.A.

Articles of Association

Articles of Association

Articles of Association

Amendment of our Articles of Association requires a resolution of the general meeting of shareholders, supported by two-thirds of the votes cast and two-thirds of the shares represented at the meeting.

Registration

Nokia Corporation is organized under the laws of the Republic of Finland and registered in the Finnish Trade Register under business identity code 0112038-9. Under its current Articles of Association, Nokia's object is to research, develop, manufacture, market, sell and deliver products, software and services related to, among others, communication and enterprise networks. The company may also create, acquire and license intellectual property as well as engage in other industrial and commercial operations, including securities trading and other investment activities. The company may carry on its business operations directly, through subsidiary companies, affiliate companies and joint ventures.

Directors' voting powers

Under Finnish law, resolutions of the Board shall be made by a majority vote. A director shall refrain from taking any part in the consideration of an agreement between the director and the company or a third party, or any other issue that may provide any material benefit to him or her and which may be contradictory to the interests of the company. Under Finnish law, there is no age limit requirement for directors, and there are no requirements under Finnish law that a director must own a minimum number of shares in order to qualify to act as a director. However, in accordance with the current Company policy, approximately 40% of the annual fee payable to the Board members is paid in Nokia shares purchased from the market or alternatively by using treasury shares held by Nokia, and the directors shall retain until the end of their directorship such number of shares that corresponds to the number of shares they have received as Board remuneration during their first three years of service (the net amount received after deducting those shares used for offsetting any costs relating to the acquisition of the shares, including taxes).

Share rights, preferences and restrictions

Each share confers the right to one vote at general meetings. According to Finnish law, a company generally must hold an Annual General Meeting called by the Board within six months from the end of the financial year. Additionally, the Board is obliged to call an Extraordinary General Meeting whenever such meeting is deemed necessary, or at the request of the auditor or shareholders representing a minimum of one-tenth of all outstanding shares. Under our Articles of Association, the Board is elected at least annually at the Annual General Meeting of shareholders for a term until the close of the next Annual General Meeting.

Under Finnish law, shareholders may attend and vote at general meetings in person or by proxy. It is not customary in Finland for a company to issue forms of proxy to its shareholders. Accordingly, Nokia does not do so. However, registered holders and beneficial owners of ADSs are issued forms of proxy by the Depositary.

To attend and vote at a general meeting, a shareholder must be registered in the register of shareholders in the Finnish book-entry system on or prior to the record date set forth in the notice of the general meeting. A registered holder or a beneficial owner of the ADSs, like other beneficial owners whose shares are registered in the Company's register of shareholders in the name of a nominee, may vote with their shares provided that they arrange to have their name entered in the temporary register of shareholders for the general meeting.

The record date is the eighth business day preceding the meeting. To be entered in the temporary register of shareholders for the general meeting, a holder of ADSs must provide the Depositary, or have their broker or other custodian provide the Depositary, on or before the voting deadline, as defined in the proxy material issued by the Depositary, a proxy with the following information: the name, address, and social security number or another corresponding personal identification number of the holder of the ADSs, the number of shares to be voted by the holder of the ADSs and the voting instructions. The register of shareholders as of the record date of each general meeting is public until the end of the respective meeting. Other nominee-registered shareholders can attend and vote at general meetings by instructing their broker or other custodian to register the shareholder in Nokia's temporary register of shareholders and give the voting instructions in accordance with the broker's or custodian's instructions.

By completing and returning the form of proxy provided by the Depositary, a holder of ADSs also authorizes the Depositary to give notice to us, required by our Articles of Association, of the holder's intention to attend the general meeting.

The rights of shareholders are related to the shares as set forth in the Finnish Companies Act and our Articles of Association. Neither Finnish law nor our Articles of Association set limitations on the rights to own Nokia securities, including the rights of foreign shareholders to hold or exercise voting rights in the said securities. Amendment of the Articles of Association requires a decision of the general meeting of shareholders, supported by two-thirds of the votes cast and two-thirds of the shares represented at the meeting.

Each of our shares confers equal rights to share in the distribution of the Company's funds. Under Finnish law, dividend entitlement lapses after three years if a dividend remains unclaimed for that period, in which case the unclaimed dividend will be recognized as income by Nokia.

Articles of Association continued

Disclosure obligation of shareholder ownership or voting power

According to the Finnish Securities Market Act, a shareholder shall disclose their ownership or voting power to the company and the Finnish Financial Supervisory Authority when the ownership or voting power reaches, exceeds or falls below 5, 10, 15, 20, 25, 30, 50 or 90% of all the shares or the voting rights. The term “ownership” includes ownership by the shareholder, as well as selected related parties calculated in accordance with the Finnish Securities Market Act, and calculating the ownership or voting power covers agreements or other arrangements, which when concluded would cause the proportion of voting rights or number of shares to reach, exceed or fall below the aforementioned limits. Upon receiving such notice, the company shall disclose it by a stock exchange release without undue delay.

Purchase obligation

Our Articles of Association require a shareholder whose holding equals or exceeds one-third or one-half of all of our shares to purchase the shares of all other shareholders that so request. A shareholder who becomes subject to the purchase obligation is also obligated to purchase any subscription rights, stock options or convertible bonds issued by the company if so requested by the holder. The purchase price of the shares under our Articles of Association is the higher of: (a) the weighted average trading price of the shares on Nasdaq Helsinki during the ten business days prior to the day on which we have been notified by the purchaser that its holding has reached or exceeded the threshold referred to above or, in the absence of such notification or its failure to arrive within the specified period, the day on which our Board otherwise becomes aware of this; or (b) the average price, weighted by the number of shares, which the purchaser has paid for the shares it has acquired during the last 12 months preceding the date referred to in (a).

Under the Finnish Securities Market Act, a shareholder whose voting power exceeds 30% or 50% of the total voting rights in a company shall, within one month, offer to purchase the remaining shares of the company, as well as any other rights entitling to the shares issued by the company, such as subscription rights, convertible bonds or stock options issued by the company. The purchase price shall be the market price of the securities in question. Subject to certain exceptions, the market price is determined on the basis of the highest price paid for the security during the preceding six months by the shareholder or any party in close connection to the shareholder. Subject to certain exceptions, if the shareholder or any related party has not during the six months preceding the offer acquired any securities that are the target for the offer, the market price is determined based on the average of the prices paid for the security in public trading during the preceding three months weighted by the volume of trade.

Under the Finnish Companies Act, a shareholder whose holding exceeds nine-tenths of the total number of shares or voting rights in a company has both the right and, upon a request from the minority shareholders, the obligation to purchase all the shares of the minority shareholders for the then current market price. The market price is determined, among other things, on the basis of the recent market price of the shares. The purchase procedure under the Finnish Companies Act differs, and the purchase price may differ, from the purchase procedure and price under the Finnish Securities Market Act, as discussed above. However, if the threshold of nine-tenths has been exceeded through either a mandatory or a voluntary public offer pursuant to the Finnish Securities Market Act, the market price under the Finnish Companies Act is deemed to be the price offered in the public offer, unless there are specific reasons to deviate from it.

Pre-emptive rights

In connection with any offering of shares, the existing shareholders have a pre-emptive right to subscribe for shares offered in proportion to the amount of shares in their possession. However, a general meeting of shareholders may vote, by a majority of two-thirds of the votes cast and two-thirds of the shares represented at the meeting, to waive this pre-emptive right provided that, from the company's perspective, weighty financial grounds exist.

Monitoring of Foreign Corporate Acquisitions

Under the Finnish Act on the Monitoring of Foreign Corporate Acquisitions (2012/172 as amended), a notification to the Ministry of Economic Affairs and Employment is required for a non-resident of Finland, directly or indirectly, when acquiring one-tenth or more of the voting power or corresponding factual influence in a company. The Ministry of Economic Affairs and Employment has to confirm the acquisition unless the acquisition would jeopardize important national interests, in which case the matter is referred to the Council of State. If the company in question is operating in the defense sector, an approval by the Ministry of Economic Affairs and Employment is required before the acquisition is made. These requirements are not applicable if, for instance, the voting power is acquired in a share issue that is proportional to the holder's ownership of the shares. Moreover, the requirements do not apply to residents of countries in the European Economic Area or EFTA countries, except where at least one-tenth of shares or other controlling right in such resident are held by a party not resident in the European Economic Area or EFTA.

Risk factors

Risk factors

Shareholders and potential investors should carefully review the following risk factors, in addition to other information contained in this report. The risks and risk factors described below could, either individually or collectively, adversely affect our business, competitiveness, market share, results of operations, profitability, financial condition, liquidity, reputation, brand and share price. The risk factors described below should not be construed as exhaustive. There may be additional risks that are unknown to us, and other risks currently believed to be immaterial that could turn out to be material.

For a more detailed description of legal proceedings to which we are a party, refer to Note 6.1. Commitments, contingencies and legal proceedings, of our consolidated financial statements. This report also contains forward-looking statements that involve risks and uncertainties. Unless otherwise indicated or the context otherwise requires, references in these risk factors to “Nokia”, the “Nokia Group”, “Group”, “we”, “us” and “our” mean Nokia’s consolidated operating segments. Certain risks or events may be more prevalent with respect to the Group or a certain business group, business or part of the Group.

Cost and performance remain the top priorities for our customers. Our capability to compete and remain a leading provider of technology, software and services in the industries and markets in which we operate is dependent on multiple external and internal factors, partially outside our control, including such as:

Risks related to our strategy and its execution

- Sustained traffic growth in customers’ networks, introduction of new use cases and low-latency services to drive the demand for our products and services;
- Reaching certain technology limits in key technologies or adoption of unforeseen disruptive technologies by our competitors that might change demand patterns for our products and services and competitive dynamics;
- Trends, such as cloudification, Open RAN and openness in general, virtualization and disaggregation with potential impact on our portfolio of products and services, competitive landscape, business models and our margin profile;
- The degree our investments, including venture funds, result in technologies, products or services that achieve or retain broad or timely market acceptance, answer to the expanding needs or preferences of our customers or consumers, or in break-through innovations, research assets and intellectual property that we could otherwise utilize for value creation;
- Our success in acquiring or divesting businesses and technologies, such as the acquisition of Infinera, integrating acquisitions and transitioning divestments, such as the sale of the Submarine Networks business, entering into licensing arrangements, minority investments, forming and managing joint ventures or partnerships and in realizing the anticipated benefits, synergies, cost savings or efficiencies from these transactions;
- Our success in continuing to improve our organizational and operational structure for increased efficiency and profitability, executing our business plans and business models, in identifying and implementing the appropriate measures to improve cost-efficiency and in managing the inflationary pressure on costs in order to continue investments in R&D and future capabilities, including 5G-Advanced and 6G, enterprise, cloud, artificial intelligence, security, automation/digitalization and development of standard essential patents and to reach targeted results, benefits and other improvements; and

- Our ability to meet our own sustainability targets, identify, evaluate and address sustainability related risks and opportunities appropriately and to comply with stakeholder and societal expectations and practices and with the increasing number of regulatory requirements related to sustainability, including mandatory transparency and disclosure requirements and considering our reliance on global supply chains and the challenges and limitations in the availability of accurate information contributing to measurement uncertainty in provided quantitative metrics and monetary amounts in our sustainability related disclosures.

Risks related to the general economic and financial market conditions and to the industries and markets in which we operate

- We are a global company and our sales and profitability is dependent on general economic and financial market conditions, such as the level of inflation and unemployment, increased global macroeconomic uncertainty, major currency fluctuations, higher interest rates and financing costs, and other developments in the economies and industries where we, our customers and partners/suppliers operate, including adverse development in the policies governing international trade or markets such as export and import controls, including increases in tariffs, and any geopolitical escalation, such as in the US-China relations, in tensions in East Asia and ongoing situations with Ukraine and in the Middle East;
- The cyclical nature of the markets in which we operate which are affected by many factors, including, technological changes and its adoption, competitor behavior, customer consolidation, the number of competent suppliers, customers’ spending appetite and purchase behavior, deployments and rollout timing;
- Intense competition and price erosion largely driven by competition challenging the connectivity business models of our customers;

Risk factors continued

- Our dependency on a limited number of big customers and large multi-year agreements. Loss of a single customer or contract, operator consolidation, unfavorable contract terms or other issues related to a single agreement may have a material adverse effect on our business and financial condition;
- Competitiveness of, or developments regarding, pricing and agreement terms we offer, such as our ability to pass on inflationary cost pressure to our pricing, and including developments with respect to customer financing or extended payment terms or credit lines that we provide our customers; and
- Unwillingness of banks or other institutions to provide guarantees or financing to our customers or purchase our receivables could impair our capability to enter new customers or markets, to mitigate payment risk and to manage our liquidity.

Risks impacting our competitiveness

- Our ability to adapt to changing business models, rapid technological advances and to meet new competition;
- Our ability to invest effectively and profitably in new competitive high-quality products, services, such as in 5G-Advanced, Open RAN, 6G, internet of things (IoT), the cloud or software, upgrades and technologies that have accurately anticipated the technological, regulatory and market trends;
- Our success in the development of new technologies and services, their rollout and commercialization in a timely manner and to manage end-to-end costs related to our portfolio of products and services;
- Severity of potential inefficiencies, incidents, malfunctions or disruptions of our information technology systems and processes, including cybersecurity threats and incidents, or disruptions of services relying on our or third-party IT. Our operations rely on efficient and uninterrupted operation of complex and centralized IT systems, networks and processes, which are integrated with those of third parties. Consequently, certain disruptions in IT systems and networks affecting our external providers could also have a material adverse effect on our business;

- Actual or perceived security or privacy breaches, as well as defects, errors or vulnerabilities in our technology and that of third-party providers. Our business model relies on solutions for distribution of services and software or data storage, which entail inherent risks relating to applicable regulatory regimes, cybersecurity incidents and other unauthorized access to network or personal data or other potential security risks that may adversely affect our business and/or compromise data confidentiality;
- Our manufacturing, service creation, customer deliveries, logistics or supply chain to operate without significant interruptions or shortages, including the impacts of geopolitical tensions and open conflicts feeding uncertainty in the global supply chain, securing availability of resources and other components to meet the demand, ability to adapt supply, defects in products or related software or services and achieving required efficiencies and flexibility. Additionally, adverse events, such as natural or man-made disasters, labor or civil unrest or health crises similar to COVID-19 pandemic, may have a profound impact on our service delivery, production sites or the production sites of our suppliers/partners which are geographically concentrated. It is also possible that our suppliers/partners may fail to meet our and our customers' product quality, health, safety or security requirements or comply with other regulations or local laws, such as environmental, social or labor laws; and
- Our ability to retain, develop, reskill and recruit appropriately skilled employees and balance the workforce. Employees may face change fatigue, reduction in motivation and energy as our efforts to evolve our business and improve efficiency continue. The market for skilled employees is increasingly competitive, particularly given the similar technology trends affecting various industries simultaneously and increased remote working expanding the job market for individual employees.

Risks associated with intellectual property rights and technology licensing

- Our products, services and business models dependency on proprietary technologies developed by us and our ability to create new relevant technologies, products and services through our R&D, as well as our ability to protect our innovations and to maintain the strength of our intellectual property portfolio;
- Our patent licensing income and other intellectual property-related revenues being subject to risks and uncertainties such as our ability to maintain our existing sources of intellectual property-related revenue and on fair and reasonable commercial terms, establish new sources of revenue, protect our intellectual property from infringement and our ability to monetize our intellectual property e.g., due to market, regulatory and other developments, such as the evolving geopolitical environment, or court rulings in intellectual property-related litigation and other disputes. A proportionally significant share of the current patent licensing income is generated from the smartphone market, which is rapidly changing and features a limited number of large vendors. Uncertainty relating to the evolving global regulatory and standardization landscape relating to intellectual property is a challenge;
- To renew existing license agreements and conclude new license agreements with potential licensees and to protect our intellectual property, we may and have engaged in legal actions to enforce our intellectual property rights against unlawful infringement, outcomes of which are uncertain;
- While the primary source of Nokia Technologies business group net sales and profits is licensing of the Nokia patents, we are also engaged with licensing of technologies and with other business ventures, including venture fund investments and technology innovation and incubation. Expected net sales and profitability for these businesses may not materialize as planned or, for some of these businesses, at all; and

Risk factors continued

- Our products, services and business models dependency on technologies that we have developed as well as technologies that are licensed to us by certain third parties. As a result, evaluating the rights related to the technologies we use or intend to use is increasingly challenging, and we expect to continue to face claims that we have allegedly infringed third parties' IPR. The use of these technologies may also result in increased licensing costs for us, restrictions on our ability to use certain technologies in our products and/or costly and time-consuming litigation.

Risks stemming from geopolitical, legal, regulatory and compliance environment

- Our global operations, including those in the emerging markets, being subject to direct and indirect regulation and being exposed to political, geopolitical and regulatory developments, such as complex regulatory frameworks, unfavorable or unpredictable treatment in relation to trade sanctions, tariffs, tax matters and export controls (such as the changes in the U.S. and international trade policies, including the export and import controls and laws, particularly with regard to China, Mexico and Canada), exchange controls, and other restrictions, geopolitical conflicts and military actions, labor unrest, civil unrest, and public security and safety threats, including potential further developments related to situations in Ukraine and in the Middle East and the risks related to tensions in East Asia and in countries in the Sahel and West Africa, and those affecting national security, competition law, cyber security, communications technology, supply chains, environmental, social and governance (ESG) topics including integrity and anti-corruption;
- Impact of changes in various existing regulations or in their application, including rolling back of certain legislative acts and initiatives, variations in national implementation of EU legislation and divergence of regulatory frameworks in the EU, the US and other relevant jurisdictions and emerging new regulation on current or new technologies, products or telecommunication and technology sectors in general;

- Our products, services and operations meeting all relevant quality, health, safety or security standards and other recommendations and regulatory requirements globally and compliance with laws and regulations, such as related to digital economy, sustainability, responsible AI, telecommunications and technology, security and privacy, including network and product security, protection and transfer of personal data, data access and use;
- We are subject to litigation, arbitrations, agreement-related disputes and product liability-related allegations during normal course of business, which may be disruptive and expensive. At any given time, we may be subject to inspections, investigations, claims, and government proceedings, and the extent and outcome of such proceedings may be difficult to estimate with any certainty. We may be subject to material fines, penalties and other sanctions as a result of such investigations; and
- Our governance, internal controls and compliance processes could fail to detect errors or wrongdoings and to prevent regulatory penalties at corporate level, in operating subsidiaries and joint ventures. The degree of control and level of influence over joint ventures, other affiliated companies where Nokia does not have direct management control and third parties we engage with, whose performance we may be held liable for, is limited.

Financial and tax-related uncertainties

- We have operations in many countries with different tax laws and rules, which may result in complex tax issues and disputes. We may be obliged to pay additional taxes as a result of changes in law, or changes of tax authority practice or interpretation (possibly with retroactive effect in certain cases), potentially resulting in a material impact on our tax burden;
- Our actual or anticipated performance, among other factors, could reduce our ability to utilize our tax attributes and deferred tax assets;
- We may not have access to sources of funding on favorable terms, or at all;
- We may not be able to maintain our investment grade credit ratings;

- Due to our global operations, our net sales, costs and results of operations, as well as the US dollar value of our dividends and market price of our ADSs, are affected by exchange rate fluctuations;
- Our pension and other post-employment benefit obligations are subject to numerous factors that could result in a need for increased funding; and
- Recoverability of the carrying amount of our goodwill, which could result in significant impairment charges.

Risks associated with ownership of our shares

- Uncertainty of the amount of dividend and/or repayment of capital and other profit distributions such as share buybacks to shareholders for each financial period and which depend, such as but not limited to, on available cash balances, expected cash flow generation, anticipated cash needs, retained earnings, the results of our operations and our financial condition, terms of outstanding indebtedness as well as other relevant factors such as restrictions, prohibitions or limitations imposed by applicable laws;
- Our share and/or ADS price may be volatile and could be subject to fluctuations in response to various factors, some of which are beyond our control; and
- Requirement for non-Finnish shareholders to provide detailed information to obtain advantageous withholding tax treatment for dividends.

Significant subsequent events

Significant subsequent events

Change of President and CEO

On 10 February 2025, Nokia announced its President and CEO, Pekka Lundmark, will step down effective 31 March 2025. The Board of Directors has appointed Justin Hotard as the next President and CEO. He will start in his new role on 1 April 2025. Mr. Lundmark will stay on as an advisor to Mr. Hotard until the end of the year to ensure a smooth transition.

Mr. Hotard joins Nokia with more than 25 years' experience with global technology companies, driving innovation, technology leadership and delivering revenue growth. He currently leads the Data Center & AI Group at Intel. Prior to this role, he held several leadership roles at large technology companies, including Hewlett Packard Enterprise and NCR Corporation.

Infinera acquisition

On 28 February 2025, Nokia completed the acquisition of Infinera Corporation (Infinera), pursuant to the definitive agreement announced on 27 June 2024. Infinera, the San Jose based global supplier of innovative open optical networking solutions and advanced optical semiconductors, has become part of the Nokia group effective as of the closing with Nokia holding 100% of its equity and voting rights. The acquisition will significantly improve Nokia's scale and profitability in optical networks, and accelerate Nokia's growth strategy in data centers and strengthen its presence both in North America and with webscale customers.

The aggregated consideration transferred of EUR 1.7 billion is a combination of cash of EUR 1.1 billion and Nokia shares in the form of American Depositary Shares of EUR 0.6 billion, corresponding to 127 434 986 shares. Additionally, the acquisition resulted in a make whole conversion for Infinera's convertible senior notes in line with relevant bond indentures. Following the ongoing conversion and subsequent observation period for Nokia stock price, any surrendered notes are expected to be settled in cash during the second quarter of 2025.

Nokia will report the acquired business as part of its Network Infrastructure segment.

Key ratios

Key ratios

Earnings per share (basic)

Profit/(loss) attributable to equity holders of the parent
Weighted average number of shares outstanding during the year

Earnings per share (diluted)

Profit/(loss) attributable to equity holders of the parent adjusted for the effect of dilution
Adjusted weighted average number of shares during the year

P/E ratio

Closing share price at 31 December
Earnings per share (basic) for continuing operations

Payout ratio

Proposed dividend per share
Earnings per share (basic) for continuing operations

Dividend yield %

Proposed dividend per share
Closing share price at 31 December

Shareholders' equity per share

Capital and reserves attributable to equity holders of the parent
Number of shares at 31 December – number of treasury shares at 31 December

Market capitalization

(Number of shares at 31 December – number of treasury shares at 31 December) x closing share price at 31 December

Share turnover %

Number of shares traded during the year
Average number of shares during the year

Alternative performance measures

Alternative performance measures

Certain financial measures presented in this report are not measures of financial performance, financial position or cash flows defined in IFRS Accounting Standards. As these measures are not defined in IFRS Accounting Standards, they may not be directly comparable with financial measures used by other companies, including those in the same industry. The primary rationale for presenting these measures is that the management uses these measures in assessing the financial performance of Nokia and believes that these measures provide meaningful supplemental information on the underlying business performance of Nokia. These financial measures should not be considered in isolation from, or as a substitute for, financial information presented in compliance with IFRS Accounting Standards.

Return on capital employed %

Definition

Return on capital employed is defined as Profit before tax + Interest expense on interest-bearing liabilities / Average capital and reserves attributable to equity holders of the parent + average non-controlling interests + average interest-bearing liabilities.

Purpose

Return on capital employed indicates how efficiently Nokia uses its capital to generate profits.

Composition of return on capital employed %:

EURm	2024	2023	2022
Profit before tax	2 091	1 469	2 169
Interest expense on interest-bearing liabilities	209	201	102
Total	2 300	1 670	2 271
Average capital and reserves attributable to equity holders of the parent ⁽¹⁾	20 597	20 935	19 347
Average non-controlling interests ⁽¹⁾	91	92	98
Average interest-bearing liabilities ⁽¹⁾	4 040	4 334	4 565
Total capital employed	24 728	25 361	24 010
Return on capital employed %	9.3%	6.6%	9.5%

(1) Calculated as the average of opening and closing balance for the year as presented in the consolidated statement of financial position. Refer to the consolidated financial statements.

Return on shareholders' equity %

Definition

Return on shareholders' equity is defined as Profit/(loss) for the year attributable to equity holders of the parent / Average capital and reserves attributable to equity holders of the parent.

Purpose

Return on shareholders' equity indicates how efficiently Nokia uses the capital invested by its shareholders to generate profits.

Composition of return on shareholders' equity %:

EURm	2024	2023	2022
Profit for the year attributable to equity holders of the parent	1 277	665	4 250
Average capital and reserves attributable to equity holders of the parent ⁽¹⁾	20 597	20 935	19 347
Return on shareholders' equity %	6.2%	3.2%	22.0%

(1) Calculated as the average of opening and closing balance for the year as presented in the consolidated statement of financial position. Refer to the consolidated financial statements.

Equity ratio %

Definition

Equity ratio % is defined as Total capital and reserves attributable to equity holders of the parent + non-controlling interests / Total assets.

Purpose

Equity ratio indicates the proportion of assets financed by the capital provided by the equity holders of the parent to the total assets of Nokia.

Composition of equity ratio %:

EURm	2024	2023	2022
Total capital and reserves attributable to equity holders of the parent	20 657	20 537	21 333
Non-controlling interests	90	91	93
Shareholders' equity	20 747	20 628	21 426
Total assets	39 149	39 860	42 943
Equity ratio %	53.0%	51.8%	49.9%

Alternative performance measures continued

Total cash and interest-bearing financial investments

Definition

Total cash and interest-bearing financial investments consist of cash and cash equivalents, current interest-bearing financial investments and non-current interest-bearing financial investments.

Purpose

Total cash and interest-bearing financial investments is used to indicate funds available to Nokia to run its current and invest in future business activities as well as provide return for security holders.

Composition of total cash and interest-bearing financial investments:

EURm	2024	2023	2022
Cash and cash equivalents	6 623	6 234	5 467
Current interest-bearing financial investments	1 661	1 565	3 080
Non-current interest-bearing financial investments	457	715	697
Total cash and interest-bearing financial investments	8 741	8 514	9 244

Net cash and interest-bearing financial investments

Definition

Net cash and interest-bearing financial investments equals total cash and interest-bearing financial investments less long-term and short-term interest-bearing liabilities.

Purpose

Net cash and interest-bearing financial investments is used to indicate Nokia's liquidity position after cash required to settle the interest-bearing liabilities.

Composition of net cash and interest-bearing financial investments:

EURm	2024	2023	2022
Total cash and interest-bearing financial investments			
Cash and cash equivalents	6 623	6 234	5 467
Current interest-bearing financial investments	1 661	1 565	3 080
Non-current interest-bearing financial investments	457	715	697
Interest-bearing liabilities			
Long-term interest-bearing liabilities	(2 918)	(3 637)	(4 249)
Short-term interest-bearing liabilities	(969)	(554)	(228)
Net cash and interest-bearing financial investments	4 854	4 323	4 767

Net debt to equity (gearing) %

Definition

Net debt to equity (gearing) % is defined as Interest-bearing liabilities less Total cash and interest-bearing financial investments / (Total capital and reserves attributable to the equity holders of the parent + Non-controlling interests).

Purpose

Net debt to equity ratio presents the relative proportion of shareholders' equity and interest-bearing liabilities used to finance Nokia's assets and indicates the leverage of Nokia's business.

Composition of net debt to equity (gearing) %:

EURm	2024	2023	2022
Interest-bearing liabilities			
Long-term interest-bearing liabilities	2 918	3 637	4 249
Short-term interest-bearing liabilities	969	554	228
Total cash and interest-bearing financial investments			
Cash and cash equivalents	(6 623)	(6 234)	(5 467)
Current interest-bearing financial investments	(1 661)	(1 565)	(3 080)
Non-current interest-bearing financial investments	(457)	(715)	(697)
Net debt	(4 854)	(4 323)	(4 767)
Total capital and reserves attributable to equity holders of the parent	20 657	20 537	21 333
Non-controlling interests	90	91	93
Shareholders' equity	20 747	20 628	21 426
Net debt to equity (gearing) %	(23.4)%	(21.0)%	(22.2)%

Free cash flow

Definition

Free cash flow is defined as Net cash flows from operating activities – purchases of property, plant and equipment and intangible assets (capital expenditures).

Purpose

Free cash flow is the cash that Nokia generates after investments in property, plant and equipment and intangible assets, and we believe it provides meaningful supplemental information as it represents the cash available to service and repay interest-bearing financial liabilities, including lease liabilities, make investments to grow business and distribute funds to shareholders. It is a measure of cash generation, working capital efficiency and capital discipline of the business.

Alternative performance measures continued

Composition of free cash flow:

EURm	2024	2023	2022
Net cash flows from operating activities	2 493	1 317	1 474
Purchase of property, plant and equipment and intangible assets (capital expenditures)	(472)	(652)	(601)
Free cash flow	2 021	665	873

Capital expenditure

Definition

Purchases of property, plant and equipment and intangible assets (excluding assets acquired under business combinations).

Purpose

Capital expenditure is used to describe investments in future profit-generating activities.

Composition of capital expenditure:

EURm	2024	2023	2022
Purchase of property, plant and equipment and intangible assets	(472)	(652)	(601)
Capital expenditure	(472)	(652)	(601)

Comparable operating profit

Definition

Comparable operating profit excludes intangible asset amortization and other purchase price fair value adjustments, goodwill impairments, restructuring-related charges and certain other items affecting comparability.

Purpose

We believe that our comparable operating profit provides meaningful supplemental information to both management and investors regarding Nokia's underlying business performance by excluding certain items of income and expenses that may not be indicative of Nokia's business operating results. Comparable operating profit is used also in determining management remuneration.

Composition of comparable operating profit:

EURm	2024	2023	2022
Operating profit	1 999	1 661	2 299
Restructuring and associated charges	445	356	177
Amortization of acquired intangible assets	314	341	397
Divestment of associates	(190)	—	—
Impairment and write-off of assets, net of reversals	89	25	97
Divestment of businesses	(67)	(20)	—
Costs associated with country exit	—	(49)	98
Other	29	23	8
Comparable operating profit	2 619	2 337	3 076

Comparable operating margin %

Definition

Comparable operating margin is defined as Comparable operating profit / Net sales.

Purpose

Comparable operating margin is used as a measure of Nokia's operating profitability as a percentage of net sales excluding intangible asset amortization and other purchase price fair value adjustments, goodwill impairments, restructuring-related charges and certain other items affecting comparability.

As with comparable operating profit, we believe that our comparable operating margin provides meaningful supplemental information to both management and investors regarding Nokia's underlying business performance by excluding certain items of income and expenses that may not be indicative of Nokia's business operating results.

Composition of comparable operating margin:

EURm	2024	2023	2022
Comparable operating profit	2 619	2 337	3 076
Net sales	19 220	21 138	23 761
Comparable operating margin %	13.6%	11.1%	12.9%

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Consolidated income statement

For the year ended 31 December

EURm	Note	2024	2023	2022
Net sales	2.1, 2.2	19 220	21 138	23 761
Cost of sales	2.3	(10 356)	(12 592)	(13 660)
Gross profit		8 864	8 546	10 101
Research and development expenses	2.3	(4 512)	(4 277)	(4 503)
Selling, general and administrative expenses	2.3	(2 890)	(2 878)	(2 956)
Other operating income	2.3	432	167	95
Other operating expenses	2.3	105	103	(438)
Operating profit		1 999	1 661	2 299
Share of results of associates and joint ventures	6.4	7	(39)	(26)
Financial income	2.4	405	426	178
Financial expenses	2.4	(320)	(579)	(282)
Profit before tax		2 091	1 469	2 169
Income tax (expense)/benefit	2.5	(380)	(820)	2 033
Profit from continuing operations		1 711	649	4 202
(Loss)/profit from discontinued operations	2.6	(427)	30	57
Profit for the year		1 284	679	4 259
Attributable to:				
Equity holders of the parent		1 277	665	4 250
Non-controlling interests		7	14	9
Earnings per share attributable to equity holders of the parent	2.7	EUR	EUR	EUR
Basic				
Profit from continuing operations		0.31	0.11	0.75
Profit for the year		0.23	0.12	0.76
Diluted				
Profit from continuing operations		0.31	0.11	0.74
Profit for the year		0.23	0.12	0.75

In June 2024, Nokia classified its Submarine Networks business as a discontinued operation, refer to Note 2.6. Discontinued operations for further details. The comparative information for 2023 and 2022 presented in the consolidated income statement and disclosed in the related notes has been recast on the same basis.

The notes are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income

For the year ended 31 December

EURm	Note	2024	2023	2022
Profit for the year		1 284	679	4 259
Items that will not be reclassified to profit or loss				
Remeasurements of defined benefit plans		408	(343)	(424)
Income tax related to items that will not be reclassified to profit or loss	2.5	(85)	61	77
Total of items that will not be reclassified to profit or loss		323	(282)	(347)
Items that may be reclassified to profit or loss				
Translation differences				
Exchange differences on translating foreign operations		615	(554)	696
Transfer to income statement		(78)	19	14
Net investment hedges				
Net fair value (losses)/gains		(40)	135	(127)
Cash flow and other hedges				
Net fair value gains/(losses)		23	(24)	(15)
Transfer to income statement		(2)	(37)	98
Financial assets at fair value through other comprehensive income				
Net fair value gains/(losses)		83	(110)	(264)
Transfer to income statement		(64)	120	218
Other increase/(decrease), net		3	(4)	(3)
Income tax related to items that may be reclassified to profit or loss	2.5	8	(10)	(21)
Total of items that may be reclassified to profit or loss		548	(465)	596
Other comprehensive income/(loss), net of tax		871	(747)	249
Total comprehensive income/(loss) for the year		2 155	(68)	4 508
Attributable to:				
Equity holders of the parent				
Continuing operations		2 624	(91)	4 394
Discontinued operations		(477)	13	106
Total		2 147	(78)	4 500
Non-controlling interests		8	10	8

The notes are an integral part of these consolidated financial statements.

Consolidated statement of financial position

At 31 December

EURm	Note	2024	2023	EURm	Note	2024	2023
ASSETS				SHAREHOLDERS' EQUITY AND LIABILITIES			
Non-current assets				Equity			
Goodwill	4.1	5 736	5 504	Share capital		246	246
Other intangible assets	4.1	802	1 086	Share premium		734	628
Property, plant and equipment	4.2	1 362	1 951	Treasury shares		(431)	(352)
Right-of-use assets	4.3	758	906	Translation differences		263	(249)
Investments in associated companies and joint ventures	6.4	124	88	Fair value and other reserves		3 963	3 605
Non-current interest-bearing financial investments	5.2, 5.4	457	715	Reserve for invested unrestricted equity		13 926	15 255
Other non-current financial assets	5.2, 5.4	1 182	1 100	Retained earnings		1 956	1 404
Defined benefit pension assets	3.4	6 932	6 258	Total shareholders' equity		20 657	20 537
Deferred tax assets	2.5	3 599	3 873	Non-controlling interests		90	91
Other non-current receivables	4.6	210	213	Total equity	5.1	20 747	20 628
Total non-current assets		21 162	21 694	Non-current liabilities			
Current assets				Long-term interest-bearing liabilities	5.2, 5.3, 5.4	2 918	3 637
Inventories	4.4	2 163	2 719	Long-term lease liabilities	5.4	664	799
Trade receivables	4.5, 5.2, 5.4	5 248	4 921	Defined benefit pension and post-employment liabilities	3.4	2 083	2 299
Contract assets	4.5	694	1 136	Deferred tax liabilities	2.5	562	725
Current income tax assets	2.5	202	307	Contract liabilities	4.5	185	210
Other current receivables	4.6	767	764	Other non-current liabilities	4.6	117	111
Current interest-bearing financial investments	5.2, 5.4	1 661	1 565	Provisions	4.7	479	518
Other current financial and firm commitment assets	5.2, 5.3, 5.4	629	441	Total non-current liabilities		7 008	8 299
Cash and cash equivalents	5.2, 5.4	6 623	6 234	Current liabilities			
Total current assets		17 987	18 087	Short-term interest-bearing liabilities	5.2, 5.3, 5.4	969	554
Assets held for sale		—	79	Short-term lease liabilities	5.4	199	198
Total assets		39 149	39 860	Other financial and firm commitment liabilities	5.2, 5.3, 5.4	1 668	830
				Contract liabilities	4.5	1 506	2 157
				Current income tax liabilities	2.5	207	203
				Trade payables	5.2, 5.4	3 213	3 423
				Other current liabilities	4.6	2 883	2 824
				Provisions	4.7	749	744
				Total current liabilities		11 394	10 933
				Total liabilities		18 402	19 232
				Total shareholders' equity and liabilities		39 149	39 860

The notes are an integral part of these consolidated financial statements.

Consolidated statement of cash flows

For the year ended 31 December

EURm	Note	2024	2023	2022
Cash flow from operating activities				
Profit for the year		1 284	679	4 259
Adjustments, total ⁽¹⁾		2 157	2 559	(446)
Change in net working capital ⁽²⁾		(569)	(1 282)	(1 843)
Cash flows from operations		2 872	1 956	1 970
Interest received		226	178	65
Interest paid	4, 3, 5, 2	(263)	(241)	(180)
Income taxes paid, net		(342)	(576)	(381)
Net cash flows from operating activities		2 493	1 317	1 474
Cash flow from investing activities				
Purchase of property, plant and equipment and intangible assets		(472)	(652)	(601)
Proceeds from sale of property, plant and equipment and intangible assets		97	189	33
Acquisition of businesses, net of cash acquired		(37)	(19)	(20)
Proceeds from disposal of businesses, net of cash disposed		(29)	17	—
Proceeds from disposal of shares in associated companies		259	8	3
Purchase of interest-bearing financial investments		(924)	(1 855)	(3 595)
Proceeds from interest-bearing financial investments		1 138	3 382	2 397
Purchase of other financial assets		(280)	(83)	(115)
Proceeds from other financial assets		70	34	49
Other		61	22	(31)
Net cash flows (used in)/from investing activities		(117)	1 043	(1 880)
Cash flow from financing activities				
Acquisition of treasury shares	5.1	(680)	(300)	(300)
Proceeds from long-term borrowings	5.4	101	496	8
Repayment of long-term borrowings	5.4	(462)	(798)	(2)
(Repayment of)/proceeds from short-term borrowings	5.4	(6)	(40)	27
Payment of principal portion of lease liabilities	4, 3, 5, 4	(233)	(239)	(217)
Dividends paid	5.1	(723)	(621)	(353)
Net cash flows used in financing activities		(2 003)	(1 502)	(837)
Translation differences		16	(91)	19
Net increase/(decrease) in cash and cash equivalents		389	767	(1 224)
Cash and cash equivalents at 1 January		6 234	5 467	6 691
Cash and cash equivalents at 31 December		6 623	6 234	5 467

(1) Adjustments

EURm	2024	2023	2022
Depreciation and amortization	1 014	1 087	1 140
Share-based payments	241	202	149
Impairment charges	611	25	152
Restructuring charges	388	316	125
Gain on sale of businesses and associated companies	(286)	(19)	(5)
Gain on sale of property, plant and equipment	(94)	(143)	(30)
(Gain)/loss from other financial assets	(47)	56	(27)
Financial income and expenses	(78)	148	28
Income tax expense/(benefit)	385	825	(2 030)
Other adjustments, net	23	62	52
Total	2 157	2 559	(446)

Restructuring charges in adjustments represent the non-cash portion recognized in the consolidated income statement.

(2) Change in net working capital

EURm	2024	2023	2022
(Increase)/decrease in receivables	(364)	304	(451)
Decrease/(increase) in inventories	404	443	(991)
Decrease in non-interest-bearing liabilities	(609)	(2 029)	(401)
Total	(569)	(1 282)	(1 843)

The consolidated statement of cash flows combines cash flows from both continuing and discontinued operations.

The notes are an integral part of these consolidated financial statements.

Consolidated statement of changes in shareholders' equity

EURm	Note	Share capital	Share premium	Treasury shares	Translation differences	Fair value and other reserves	Reserve for invested unrestricted equity	Retained earnings/ (accumulated deficit)	Total shareholders' equity	Non-controlling interests	Total equity
1 January 2022		246	454	(352)	(396)	4 219	15 726	(2 537)	17 360	102	17 462
Profit for the year								4 250	4 250	9	4 259
Other comprehensive income	5.1				565	(314)		(1)	250	(1)	249
Total comprehensive income for the year		—	—	—	565	(314)	—	4 249	4 500	8	4 508
Share-based payments			149						149		149
Settlement of share-based payments			(100)				73		(27)		(27)
Acquisition of treasury shares	5.1			(300)			(12)		(312)		(312)
Cancellation of treasury shares	5.1			300			(300)		—		—
Dividends	5.1							(337)	(337)	(17)	(354)
Total transactions with owners		—	49	—	—	—	(239)	(337)	(527)	(17)	(544)
31 December 2022		246	503	(352)	169	3 905	15 487	1 375	21 333	93	21 426
Profit for the year								665	665	14	679
Other comprehensive loss	5.1				(418)	(300)		(25)	(743)	(4)	(747)
Total comprehensive loss for the year		—	—	—	(418)	(300)	—	640	(78)	10	(68)
Share-based payments			202						202		202
Settlement of share-based payments			(77)				59		(18)		(18)
Acquisition of treasury shares	5.1			(303)			12		(291)		(291)
Cancellation of treasury shares	5.1			303			(303)		—		—
Disposal of subsidiaries									—	(2)	(2)
Dividends	5.1							(611)	(611)	(10)	(621)
Total transactions with owners		—	125	—	—	—	(232)	(611)	(718)	(12)	(730)
31 December 2023		246	628	(352)	(249)	3 605	15 255	1 404	20 537	91	20 628
Profit for the year								1 277	1 277	7	1 284
Other comprehensive income	5.1				512	358			870	1	871
Total comprehensive income for the year		—	—	—	512	358	—	1 277	2 147	8	2 155
Share-based payments			241						241		241
Settlement of share-based payments			(135)				99		(36)		(36)
Acquisition of treasury shares ⁽¹⁾	5.1			(686)			(821)		(1 507)		(1 507)
Cancellation of treasury shares	5.1			607			(607)		—		—
Adjustment to financial liability to acquire non-controlling interest								(11)	(11)		(11)
Dividends	5.1							(714)	(714)	(9)	(723)
Total transactions with owners		—	106	(79)	—	—	(1 329)	(725)	(2 027)	(9)	(2 036)
31 December 2024		246	734	(431)	263	3 963	13 926	1 956	20 657	90	20 747

(1) In connection with the share buyback program launched in November 2024, Nokia has recorded a liability and a reduction of reserve for invested unrestricted equity of EUR 821 million to reflect Nokia's commitment under the agreement with a third-party broker conducting the share repurchases on Nokia's behalf. For more information on Nokia's share buyback programs, refer to Note 5.1. Equity.

The notes are an integral part of these consolidated financial statements.

Notes to the consolidated financial statements

Section 1

Basis of preparation

This section describes the general accounting policies applied in preparation of these consolidated financial statements, including the basis of presentation and key consolidation principles. This section also summarizes the accounting matters that involve most judgment or estimation uncertainty. The specific accounting policies as well as details of key accounting estimates and judgments are provided in the related notes.

1.1. Corporate information

Nokia Corporation, a public limited liability company incorporated and domiciled in Helsinki, Finland, is the parent company (Parent Company or Parent) for all its subsidiaries (together Nokia or the Group). Nokia is a global provider of mobile, fixed and cloud network solutions combining hardware, software and services, as well as licensing of intellectual property, including patents, technologies and the Nokia brand. Nokia's operational headquarters are located in Espoo, Finland. The shares of Nokia Corporation are listed on the Nasdaq Helsinki Stock Exchange, the New York Stock Exchange and the Euronext Paris Stock Exchange.

These consolidated financial statements for the year ended 31 December 2024 were authorized for issuance and filing by the Board of Directors on 13 March 2025.

1.2. General accounting policies

Basis of presentation and statement of compliance

The consolidated financial statements are prepared in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB) and as adopted by the European Union (EU). The consolidated financial statements also conform to Finnish accounting and company legislation.

The consolidated financial statements are presented in millions of euros (EURm), except when otherwise noted, and are prepared under the historical cost convention, except when otherwise disclosed in the accounting policies in the specific notes.

Other information

This paragraph is included in connection with statutory reporting requirements in Germany. The fully consolidated German subsidiary, Nokia Solutions and Networks GmbH & Co. KG, registered in the commercial register of Munich under HRA 88537, has made use of the exemption available under § 264b and § 291 of the German Commercial Code (HGB).

Principles of consolidation

The consolidated financial statements comprise the financial statements of the Parent Company, and each of those companies over which it exercises control. Control over an entity exists when Nokia is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Presumption is that a majority of voting rights results in control. To support this presumption, Nokia considers all relevant facts and circumstances in assessing whether it has power over the entity including voting rights and potential voting rights, rights to appoint key management personnel and rights arising from other contractual arrangements. Consolidation of a subsidiary begins when Nokia obtains control over the subsidiary and ceases when it loses control over the subsidiary.

All intercompany transactions are eliminated as part of the consolidation process. Non-controlling interest represents the proportion of net profit or loss, other comprehensive income and net assets in subsidiaries that is not attributable to the equity holders of the Parent.

Investments in associates and joint ventures

An associate is an entity over which Nokia exercises significant influence. A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Nokia's investments in associates and joint ventures are accounted for using the equity method. Under the equity method, the investment in an associate or joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in Nokia's share of net assets of the associate or joint venture since the acquisition date. Nokia's share of profits and losses of associates and joint ventures is reflected in the consolidated income statement. Any change in other comprehensive income of associates and joint ventures is presented as part of Nokia's other comprehensive income.

Notes to the consolidated financial statements continued

Foreign currency translation

Functional and presentation currency

The consolidated financial statements are presented in euro, the functional and presentation currency of the Parent Company. The financial statements of all Group companies are measured using the functional currency, which is the currency of the primary economic environment in which the entity operates.

Transactions in foreign currencies

Transactions in foreign currencies are recorded at exchange rates prevailing at the date of the transaction. For practical reasons, a rate that approximates the actual rate at the date of the transaction is often used. Monetary assets and liabilities denominated in foreign currency are translated at the exchange rates prevailing at the end of the reporting period.

Foreign exchange gains and losses arising from monetary assets and liabilities as well as fair value changes of related hedging instruments are recognized in financial income and expenses. Unrealized foreign exchange gains and losses related to non-monetary non-current financial investments are included in the fair value measurement of these investments and recognized in other operating income and expenses.

Foreign Group companies

On consolidation, the assets and liabilities of foreign operations whose functional currency is other than euro are translated into euro at the exchange rates prevailing at the end of the reporting period. The income and expenses of these foreign operations are translated into euro at the average exchange rates for the reporting period. The exchange differences arising from translation for consolidation are recognized as translation differences in other comprehensive income. On disposal of a foreign operation, the cumulative amount of translation differences relating to that foreign operation is reclassified to profit or loss.

1.3. Use of estimates and critical accounting judgments

The preparation of financial statements requires use of management judgment in selecting and applying accounting policies as well as making estimates and assumptions about the future. These judgments, estimates and assumptions may have a significant effect on the amounts recognized in the financial statements.

The estimates and assumptions used in determining the carrying amounts of assets and liabilities are based on historical experience, expected outcomes and various other factors that were available when these financial statements were prepared, and they are believed to be reasonable under the circumstances. The estimates and assumptions are reviewed continually and revised if changes in circumstances occur, or as a result of new information. As estimates and assumptions inherently contain a varying degree of uncertainty, actual outcomes may differ resulting in adjustments to the carrying amounts of assets and liabilities in subsequent periods.

The accounting matters listed below are determined to involve the most difficult, subjective or complex judgments, or are considered as major sources of estimation uncertainty that may have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year. Please refer to the specific notes for further information on the key accounting estimates and judgments.

Key accounting estimates and judgments	Note
Judgment related to recognition of deferred tax assets	2.5. Income taxes
Judgment related to classification of Submarine Networks as a discontinued operation	2.6. Discontinued operations
Estimate of pension and other post-employment benefit obligations	3.4. Pensions and other post-employment benefits

1.4. New and amended standards and interpretations

On 1 January 2024, Nokia adopted the following amendments to the accounting standards issued by the IASB and endorsed by the EU:

- Amendments to IFRS 16 Leases: Lease Liability in a Sale and Leaseback;
- Amendments to IAS 1 Presentation of Financial Statements: Classification of Liabilities as Current or Non-current;
- Amendments to IAS 1 Presentation of Financial Statements: Non-current Liabilities with Covenants; and
- Amendments to IAS 7 Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures: Supplier Finance Arrangements.

The amendments had no material impact on the measurement, recognition or presentation of any items in Nokia's consolidated financial statements for 2024.

Nokia has not early adopted any new or amended standards or interpretations that have been issued but are not yet effective. The new and amended standards and interpretations issued by the IASB that are effective in future periods are not expected to have a material impact on the consolidated financial statements of Nokia when adopted, except for IFRS 18 Presentation and Disclosure in Financial Statements which was published in April 2024.

IFRS 18 sets out the requirements for presentation and disclosures in financial statements and it will replace IAS 1 Presentation of Financial Statements. The new standard is effective for annual reporting periods beginning on or after 1 January 2027, with earlier application permitted. IFRS 18 is yet to be endorsed by the EU. Nokia is assessing the impact of IFRS 18 on its consolidated financial statements but as IFRS 18 is not changing the recognition and measurement requirements it is not expected to have significant impact other than on the presentation of financial information.

Nokia intends to adopt IFRS 18 and other new and amended standards and interpretations, if applicable, when they become effective and are endorsed by the EU.

Section 2

Results for the year

This section provides details of items presented in the income statement including disaggregation of net sales by region and customer type, results of Nokia's operating segments, and information on operating expenses and other operating income. Additionally, this section contains details of financial income and expenses and income taxes, as well as the results of discontinued operations. The calculation of earnings per share is presented at the end of this section.

2.1. Net sales

Accounting policies

Nokia accounts for a contract with a customer when the contract has been approved in writing, which is generally when both parties are committed to perform their respective obligations, the rights, including payment terms, regarding the goods and services to be transferred can be identified, the contract has commercial substance, and collection of the consideration to which Nokia expects to be entitled is probable. Management considers only legally enforceable rights in evaluating the accounting for contracts with customers. As such, frame agreements that do not create legally enforceable rights and obligations are accounted for based on the issuance of subsequent legally binding purchase orders under the frame agreements.

A contract modification or a purchase order is accounted for as a separate contract if the scope of the contract increases by additional distinct goods or services, and the price of the contract increases by an amount that reflects the standalone selling price of those additional goods or services. In cases where the additional goods or services are distinct but not sold at a standalone selling price, the contract modification is accounted for prospectively. In cases where the additional goods or services are not distinct, the modification is accounted for through a cumulative catch-up adjustment.

Nokia recognizes revenue from contracts with customers to reflect the transfer of promised goods and services to customers for amounts that reflect the consideration to which Nokia expects to be entitled in exchange for those goods and services. The consideration may include a variable amount, which Nokia estimates based on the most likely amount. Items causing variability include volume discounts and sales-based or usage-based royalties. Nokia includes variable consideration into the transaction price only to the extent that it is highly probable that a significant revenue reversal will not occur. The transaction price also excludes amounts collected on behalf of third parties.

In cases where the timing of payments provides either the customer or Nokia with a significant benefit of financing, the transaction price is adjusted for the effect of financing and the related interest revenue or interest expense is presented separately from revenue. As a practical expedient, Nokia does not account for financing components if, at contract inception, the consideration is expected to be received within one year before or after the goods or services have been transferred to the customer.

Nokia enters into contracts with customers consisting of any combination of hardware, services and intellectual property. Hardware and software sold by Nokia includes warranty, which can either be assurance-type for repair of defects and replacement of hardware recognized as a centralized warranty provision, or service-type for scope beyond the repair of defects or for a time period beyond the standard assurance-type warranty period and considered as a separate performance obligation within the context of the contract.

The associated revenue recognized for such contracts depends on the nature of the underlying goods and services provided. The promised goods or services in the contract might include sale of goods, license of intellectual property and grant of options to purchase additional goods or services that may provide the customer with a material right. Nokia conducts an assessment at contract inception to determine which promised goods and services in a customer contract are distinct and accordingly identified as performance obligations.

The standalone selling price of each performance obligation is determined by considering factors such as the price of the performance obligation if sold on a standalone basis and the expected cost of the performance obligation plus a reasonable margin when price references are not available. The portion of the transaction price allocated to each performance obligation is then recognized when the revenue recognition criteria for that performance obligation have been met.

Notes to the consolidated financial statements continued

Nokia allocates the transaction price to each distinct performance obligation on the basis of their standalone selling prices, relative to the overall transaction price. If a standalone selling price is not observable, it is estimated. The transaction price may include a discount or a variable amount of consideration that is generally allocated proportionately to all performance obligations in the contract unless Nokia has observable evidence that the entire discount relates to only one or more, but not all, performance obligations in a contract. The amount of revenue recognized is the amount allocated to the satisfied performance obligation based on the relative standalone selling prices. A performance obligation may be satisfied at a point in time or over time.

As described in Note 4.5. Trade receivables and other customer-related balances, Nokia presents its customer contracts in the statement of financial position as either a contract asset or a contract liability, depending on the relationship between Nokia's performance and the customer's payment for each individual contract.

Sale of products

Nokia manufactures and sells a range of networking equipment, covering the requirements of network operators. Revenue for these products is recognized when control of the products has transferred, the determination of which may require judgment. Typically, for standard equipment sales, control transfers upon delivery. For more complex solutions, control generally transfers upon acceptance.

In some arrangements, mainly within the Submarine Networks business which is presented as a discontinued operation and was sold in 2024, Nokia's performance does not create an asset with an alternative use and Nokia recognizes revenue over time using the output method, which faithfully depicts the manner in which the asset is transferred to the customer as well as Nokia's enforceable rights to payment for the work completed to date, including margin. The output measure selected by Nokia for each contract may vary depending on the nature of the contract.

Sale of services

Nokia provides services related to the provision of networking equipment, ranging from managing a customer's network and product maintenance services to network installation, integration and optimization. Revenue for each separate service performance obligation is recognized as or when the customer obtains the benefits of Nokia's performance. Service revenue is recognized over time for managed and maintenance services, as in these cases Nokia performs throughout a fixed contract term and the customer simultaneously receives and consumes the benefits as Nokia performs. In some cases, Nokia performs services that are subject to customer acceptance where revenue is recognized when the customer acceptance is obtained.

Sale of intellectual property licenses

Nokia provides its customers with licenses to intellectual property (IP) owned by Nokia by granting software licenses and rights to benefit from Nokia's IP in their products. When a software license is sold, revenue is recognized upon delivery or acceptance of the software, as Nokia has determined that each software release is distinct, and the license is granted for software as it exists when the control transfers to the customer.

When Nokia grants customers a license to use IP owned by Nokia, the associated license fee revenue is recognized in accordance with the substance of the relevant agreements. In the majority of cases, Nokia retains obligations to continue to develop and make available to the customer the latest IP in the licensed assets during the contract term, and therefore revenue is recognized pro rata over the period during which Nokia is expected to perform.

Recognition of the revenue as pro rata over the term of the license is considered the most faithful depiction of Nokia's satisfaction of the performance obligation as the IP being licensed towards the customer includes new inventions patented by Nokia that are highly interdependent and interrelated and created through the course of continuous research and development (R&D) efforts that are relatively stable throughout the year. In some contracts, Nokia has no remaining obligations to perform after granting a license to the initial IP, and licensing fees are non-refundable. In these cases, revenue is recognized at the beginning of the license term.

Notes to the consolidated financial statements continued

Revenue disaggregation

Management has determined that Nokia's geographic areas are considered as the primary determinants to depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. Nokia's primary customer base consists of companies that operate on a country-specific or a regional basis. Although Nokia's technology cycle is similar around the world, different countries and regions are inherently in a different stage of that cycle, often influenced by macroeconomic conditions specific to those countries and regions. In addition to Net sales to external customers by region, the chief operating decision-maker, as described in Note 2.2. Segment information, also reviews Net sales by aggregated regions and Net sales by customer type disclosed in this note.

Each reportable segment, as described in Note 2.2. Segment information, consists of customers that operate in all geographic areas. No reportable segment has a specific revenue concentration in any geographic area other than Nokia Technologies, which is included within Europe.

Net sales to external customers by region

Net sales to external customers by region are based on the location of the customer, except for Nokia Technologies IPR and licensing net sales which are allocated to Europe.

EURm	2024	2023	2022
Americas	6 276	6 779	9 611
Latin America	895	1 046	1 223
North America	5 381	5 733	8 388
APAC	4 549	6 436	5 519
Greater China	1 134	1 303	1 581
India	1 373	2 842	1 290
Rest of APAC	2 042	2 291	2 648
EMEA	8 395	7 923	8 631
Europe	6 362	5 873	6 662
Middle East & Africa	2 033	2 050	1 969
Total	19 220	21 138	23 761

Segment net sales by region

EURm	2024	2023	2022
Network Infrastructure	6 518	6 917	7 897
Americas	2 726	2 813	3 717
APAC	1 426	1 580	1 553
EMEA	2 366	2 524	2 627
Mobile Networks	7 725	9 797	10 671
Americas	2 365	2 618	4 371
APAC	2 461	4 184	3 191
EMEA	2 899	2 995	3 109
Cloud and Network Services	3 022	3 220	3 351
Americas	1 184	1 306	1 368
APAC	649	649	752
EMEA	1 189	1 265	1 231
Nokia Technologies	1 928	1 085	1 595
Group Common and Other⁽¹⁾	27	119	248
Total	19 220	21 138	23 761

(1) Includes eliminations of inter-segment revenues.

Net sales by customer type

EURm	2024	2023	2022
Communications service providers	15 085	17 652	19 921
Enterprise	2 180	2 282	1 997
Licensees	1 928	1 085	1 595
Other ⁽¹⁾	27	119	248
Total	19 220	21 138	23 761

(1) Includes net sales of Radio Frequency Systems (RFS), which had been managed as a separate entity and was substantially divested in 2024, and certain other items, such as eliminations of inter-segment revenues. RFS net sales also include revenue from communications service providers and enterprise customers.

Order backlog

At 31 December 2024, the aggregate amount of the transaction price allocated to partially or wholly unsatisfied performance obligations arising from fixed contractual commitments amounted to EUR 20.0 billion (EUR 22.0 billion in 2023, of which EUR 1.7 billion related to discontinued operations sold in 2024). Management has estimated that these unsatisfied performance obligations will be recognized as revenue as follows:

	2024	2023
Within 1 year	53%	51%
2-3 years	27%	30%
More than 3 years	20%	19%
Total	100%	100%

The estimated timing of the satisfaction of these performance obligations is subject to change owing to factors beyond Nokia's control such as customer and network demand, market conditions and, in some cases, restrictions imposed by the weather or other factors impacting project logistics. Revenue recognized in the reporting period from performance obligations satisfied (or partially satisfied) in previous periods (for example, due to changes in transaction price) was not material.

Notes to the consolidated financial statements continued

2.2. Segment information

Accounting policies

Nokia has four operating and reportable segments for financial reporting purposes: (1) Network Infrastructure, (2) Mobile Networks, (3) Cloud and Network Services and (4) Nokia Technologies. In addition, Nokia provides net sales disclosure for the following business units within the Network Infrastructure segment: (i) IP Networks, (ii) Optical Networks and (iii) Fixed Networks.

The President and CEO is the chief operating decision-maker monitoring the operating results of segments for the purpose of assessing performance and making decisions about resource allocation. Key financial performance measures of the segments comprise primarily net sales and segment operating profit.

The evaluation of segment performance and allocation of resources is primarily based on segment operating profit which the management believes is the most relevant measure for this purpose. Segment operating profit excludes intangible asset amortization and other purchase price fair value adjustments, goodwill impairments, restructuring-related charges and certain other items of income and expenses that may not be indicative of the business operating results.

Accounting policies of the segments are the same as those for the Group except for the aforementioned items of income and expenses that are not allocated to the segments. Inter-segment revenues and transfers are accounted for as if the revenues were to third parties, that is, at current market prices.

Segment descriptions

Network Infrastructure

The Network Infrastructure segment serves communications service providers, enterprises, webscales and public sector customers. It comprises the following business units:

- (i) IP Networks, which provides IP networks and services for residential, mobile, enterprise and cloud applications;
- (ii) Optical Networks, which provides optical transport networks for metro, regional and long-haul applications
- (iii) Fixed Networks, which provides fiber, fixed wireless access and copper technologies.

The results of the Submarine Networks business, which were previously reported as part of Network Infrastructure operating segment, are presented in discontinued operations in these consolidated financial statements. For more information on discontinued operations, refer to Note 2.6. Discontinued operations.

Mobile Networks

The Mobile Networks segment creates products and services covering all mobile technology generations. Its portfolio includes products for radio access networks (RAN) and microwave radio (MWR) links for transport networks, and solutions for network management, as well as network planning, optimization, network deployment and technical support services.

Cloud and Network Services

Cloud and Network Services segment provides open, fully automated, and scalable software and solutions that accelerate the journey of service providers and enterprises to autonomous networks and new value creation.

Cloud and Network Services segment invests in technologies that are critical to our customers' growth: 5G core, secure autonomous networks, private wireless and industrial edge, and network APIs. Delivered in a secure, Software-as-a-Service first model, these solutions help customers capture the opportunities of digitalization, AI and cloud.

Nokia Technologies

Nokia Technologies segment monetizes Nokia's intellectual property, including patents, technologies and the Nokia brand, building on Nokia's continued innovation leadership, long-term investment into research and development, and decades of driving technology standards development. The majority of net sales and related costs and expenses attributable to licensing and patenting the patent portfolio of Nokia is recorded in Nokia Technologies, while each segment separately records its own research and development expenses.

Group Common and Other

Despite not being a reportable segment, Nokia also provides segment-level information for Group Common and Other. Group Common and Other includes Radio Frequency Systems which had been managed as a separate entity and was substantially divested in 2024. In addition, Group Common and Other includes certain corporate-level and centrally managed operating expenses, as well as fair value gains and losses on investments in venture funds, including investments managed by NGP Capital.

Notes to the consolidated financial statements continued

Segment results

EURm	Network Infrastructure ⁽¹⁾	Mobile Networks	Cloud and Network Services	Nokia Technologies	Group Common and Other	Eliminations and unallocated items ⁽²⁾	Nokia Group
2024							
Net sales to external customers	6 517	7 721	3 021	1 928	33	—	19 220
Net sales to other segments	1	4	1	—	1	(7)	—
Operating profit/(loss)	761	409	249	1 514	(314)	(620)	1 999
Share of results of associated companies and joint ventures	—	1	7	(1)	—	—	7
Financial income and expenses							85
Profit before tax							2 091
Other segment items							
Depreciation and amortization	(167)	(369)	(75)	(32)	(16)	(314)	(973)
2023							
Net sales to external customers	6 919	9 791	3 219	1 085	124	—	21 138
Net sales to other segments	(2)	6	1	—	6	(11)	—
Operating profit/(loss)	1 016	723	255	734	(391)	(676)	1 661
Share of results of associated companies and joint ventures	—	(30)	7	12	—	(28)	(39)
Financial income and expenses							(153)
Profit before tax							1 469
Other segment items							
Depreciation and amortization	(171)	(366)	(81)	(39)	(14)	(341)	(1 012)
2022							
Net sales to external customers	7 894	10 658	3 350	1 583	276	—	23 761
Net sales to other segments	3	13	1	12	19	(48)	—
Operating profit/(loss)	1 069	940	177	1 208	(318)	(777)	2 299
Share of results of associated companies and joint ventures	—	(11)	6	(8)	—	(13)	(26)
Financial income and expenses							(104)
Profit before tax							2 169
Other segment items							
Depreciation and amortization	(176)	(347)	(91)	(34)	(28)	(397)	(1 073)

(1) Includes IP Networks net sales of EUR 2 583 million (EUR 2 606 million in 2023 and EUR 3 063 million in 2022), Optical Networks net sales of EUR 1 636 million (EUR 1 942 million in 2023 and EUR 1 891 million in 2022) and Fixed Networks net sales of EUR 2 299 million (EUR 2 369 million in 2023 and EUR 2 943 million in 2022).

(2) Unallocated items comprise costs related to intangible asset amortization, restructuring-related charges, divestments of businesses and associates, impairments and certain other items.

Material reconciling items between total segment operating profit and operating profit for the Group

EURm	2024	2023	2022
Total segment operating profit	2 619	2 337	3 076
Restructuring and associated charges	(445)	(356)	(177)
Amortization of acquired intangible assets	(314)	(341)	(397)
Divestment of associates	190	—	—
Impairment and write-off of assets, net of reversals	(89)	(25)	(97)
Divestment of businesses	67	20	—
Costs associated with country exit	—	49	(98)
Other	(29)	(23)	(8)
Operating profit for the Group	1 999	1 661	2 299

Notes to the consolidated financial statements continued

Information by geographies and customer concentration

Net sales to external customers by country

EURm	2024	2023	2022
Finland	2 060	1 192	1 697
United States	5 032	5 328	7 911
India	1 366	2 832	1 280
France	751	750	788
Other	10 011	11 036	12 085
Total	19 220	21 138	23 761

Net sales to external customers by country are based on the location of the customer, except for Nokia Technologies IPR and licensing net sales which are allocated to Finland.

Major customers

As is typical for our industry, Nokia's net sales are largely driven by multi-year customer agreements with a limited number of significant customers. In 2024 and in 2023, no single customer represented more than 10% of net sales. In 2022, net sales to the largest customer were 11% of net sales to external customers. Net sales to the largest customer were reported by Network Infrastructure, Mobile Networks and Cloud and Network Services, as well as Group Common and Other.

Non-current assets by country

EURm	2024	2023
Finland	1 476	1 549
United States	4 493	4 383
France	1 647	2 139
Other	1 042	1 376
Total	8 658	9 447

Non-current assets consists of goodwill, other intangible assets, property, plant and equipment and right-of-use assets.

2.3. Operating expenses and other operating income

Accounting policies

Nokia presents its income statement based on the function of expenses as it considers this to provide more relevant information about its financial performance. Information about the nature of expenses is provided in the notes. Certain items of income and expenses, such as gains and losses from venture funds, are presented as other operating income and expenses as Nokia considers these items to be related to its operating activities but not to any specific functions.

Government grants received as compensation for expenses incurred are recognized as a reduction of the related expenses except for certain non-recurring grants that are recognized as other operating income. Government grants received in the form of R&D tax credits are recognized as a reduction of R&D expenses if the tax credit relates to the R&D expenditures incurred by Nokia and the tax credit is reimbursed in cash by the government in cases where Nokia is not able to offset it against its income tax payable. R&D tax credits that do not meet both conditions are recognized as income tax benefit.

Expenses by nature

EURm	2024	2023	2022
Personnel expenses	7 563	7 294	7 732
Material and customer contract related expenses	7 660	9 947	10 748
Depreciation and amortization	973	1 012	1 073
IT services	370	388	368
Impairment charges	97	24	90
Other	990	979	1 546
Total operating expenses	17 653	19 644	21 557

Operating expenses include government grant income and R&D tax credits of EUR 160 million (EUR 160 million in 2023 and EUR 133 million in 2022) most of which have been recognized as a deduction against research and development expenses.

Restructuring charges by function⁽¹⁾

EURm	2024	2023	2022
Cost of sales	155	153	85
Research and development expenses	135	61	37
Selling, general and administrative expenses	139	137	46
Total restructuring charges	429	351	168

(1) Restructuring charges include defined benefit plan curtailment income and expenses.

Notes to the consolidated financial statements continued

Other operating income

EURm	2024	2023	2022
Gain on sale of associated companies	192	—	5
Gain on sale of property, plant and equipment	95	139	2
Gain on sale of businesses	70	29	—
Gains/(losses) from venture funds	47	(56)	27
Subsidies and government grants	—	—	20
Other	28	55	41
Total	432	167	95

Other operating expenses

EURm	2024	2023	2022
Changes in provisions	(8)	37	(134)
Impairment of disposal groups	—	—	(72)
Foreign exchange gains/(losses) on hedging forecasted sales and purchases	23	94	(107)
Expected credit losses on trade receivables ⁽¹⁾	122	(5)	(106)
Other	(32)	(23)	(19)
Total	105	103	(438)

(1) In 2024, includes a decrease in loss allowance of EUR 111 million related to credit-impaired trade receivables for which payments were received. Refer to note 4.5 Trade receivables and other customer-related balances for further details.

2.4. Financial income and expenses

Financial income

EURm	2024	2023	2022
Interest income on financial investments	269	199	68
Interest income on financing components of other contracts	31	21	13
Net interest income on defined benefit plans	176	188	93
Other financial income ⁽¹⁾⁽²⁾	(71)	18	4
Total	405	426	178

(1) In 2024, includes an expense of EUR 5 million (expense of EUR 2 million in 2023 and income of EUR 11 million in 2022) due to a change in the fair value of the financial liability related to Nokia Shanghai Bell. Refer to Note 6.3. Significant partly-owned subsidiaries.

(2) In 2024, includes EUR 79 million (EUR 0 million in 2023 and EUR 0 million in 2022) fair value loss on equity investment in Vodafone Idea.

Financial expenses

EURm	2024	2023	2022
Interest expense on interest-bearing liabilities	(209)	(201)	(102)
Negative interest on financial investments	(1)	(3)	(27)
Interest expense on financing components of other contracts ⁽¹⁾	(86)	(126)	(66)
Interest expense on lease liabilities	(31)	(27)	(25)
Net fair value (losses)/gains on hedged items under fair value hedge accounting	(13)	(93)	262
Net fair value gains/(losses) on hedging instruments under fair value hedge accounting	10	89	(265)
Net foreign exchange gains/(losses)	16	(192)	24
Other financial expenses ⁽²⁾	(6)	(26)	(83)
Total	(320)	(579)	(282)

(1) In 2024, includes EUR 63 million (EUR 106 million in 2023 and EUR 46 million in 2022) related to the sale of receivables.

(2) In 2024, includes a decrease in loss allowance of EUR 7 million (increase in loss allowance of EUR 9 million in 2023 and impairment of EUR 61 million in 2022) related to credit-impaired customers financing-related loan receivables.

Notes to the consolidated financial statements continued

2.5. Income taxes

Accounting policies

Income tax expense comprises current tax and deferred tax. Tax is recognized in the income statement except to the extent that it relates to items recognized in other comprehensive income, or directly in equity, in which case the related tax is recognized in other comprehensive income or equity, respectively.

Current taxes are calculated based on the results of the Group companies in accordance with local tax laws and using tax rates that are enacted or substantively enacted at the reporting date. Corporate taxes withheld at the source of the income on behalf of Group companies are accounted for as income taxes when determined to represent a tax on net income.

Deferred tax assets and liabilities are determined using the balance sheet liability method for all temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the statement of financial position. Deferred tax assets are recognized to the extent it is probable that future taxable profit will be available against which the unused tax losses, unused tax credits and deductible temporary differences can be utilized in the relevant jurisdictions. Deferred tax assets are assessed for realizability at each reporting date. When facts and circumstances indicate it is no longer probable that deferred tax assets will be utilized, adjustments are made as necessary.

Deferred tax liabilities are recognized for taxable temporary differences, and for temporary differences that arise between the fair value and the tax base of identifiable net assets acquired in business combinations. Deferred tax liabilities are not recognized if they arise from the initial recognition of goodwill. Deferred tax liabilities are recognized on taxable temporary differences associated

with investments in subsidiaries, associates and joint arrangements, unless the timing of the reversal of the temporary difference is controlled by Nokia, and it is probable that the temporary difference will not reverse in the foreseeable future. Nokia applies the exception to recognizing and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes, as provided in the amendments to IAS 12 issued in May 2023. Deferred tax assets and deferred tax liabilities are measured using the enacted or substantively enacted tax rates at the reporting date that are expected to apply in the period when the asset is realized or the liability is settled. Deferred tax assets and liabilities are not discounted.

Deferred tax assets and deferred tax liabilities are offset for presentation purposes when there is a legally enforceable right to set off current tax assets against current tax liabilities, and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or realize the assets and settle the liabilities simultaneously in each future period in which significant amounts of deferred tax liabilities or deferred tax assets are expected to be settled or recovered.

Nokia periodically evaluates positions taken in tax returns in situations where applicable tax regulation is subject to interpretation. The amounts of current and deferred tax assets and liabilities are adjusted when it is considered probable, i.e. more likely than not, that certain tax positions may not be fully sustained upon review by tax authorities. The amounts recorded are based on the most likely amount or the expected value, depending on which method Nokia expects to better predict the resolution of the uncertainty, at each reporting date.

Critical accounting judgment

Nokia is subject to income taxes in the jurisdictions in which it operates. Judgment is required in determining current tax expense, uncertain tax positions, deferred tax assets and deferred tax liabilities; and the extent to which deferred tax assets can be recognized.

Estimates related to the recoverability of deferred tax assets are based on forecast future taxable income and tax planning strategies. Based on these estimates and assumptions, at 31 December 2024, Nokia has EUR 21 853 million (EUR 21 569 million in 2023) of unused tax losses, unused tax credits and deductible temporary differences for which no deferred tax assets are recognized due to uncertainty of utilization. The majority of the unrecognized deferred tax assets relate to France.

The utilization of deferred tax assets is dependent on future taxable profit in excess of the profit arising from the reversal of existing taxable temporary differences. The recognition of deferred tax assets is based on the assessment of whether it is probable that sufficient taxable profit will be available in the future to utilize the unused tax losses, unused tax credits and deductible temporary differences before the unused tax losses and unused tax credits expire. Recognition of deferred tax assets involves judgment regarding the future financial performance of the particular legal entity or tax group that has recognized the deferred tax asset. At 31 December 2022, Nokia re-recognized deferred tax assets of EUR 2.5 billion related to Finland in the statement of financial position.

Notes to the consolidated financial statements continued

Components of the income tax expense/benefit

EURm	2024	2023	2022
Current tax expense	(439)	(429)	(421)
Deferred tax benefit/(expense)	59	(391)	2 454
Total	(380)	(820)	2 033

Income tax reconciliation

Reconciliation of the difference between income tax computed at the statutory rate in Finland of 20% and income tax recognized in the income statement:

EURm	2024	2023	2022
Income tax expense at statutory rate	(418)	(294)	(434)
Permanent differences	149	146	76
Non-creditable withholding taxes	(44)	(38)	(66)
Income taxes for prior years	10	23	2
Effect of different tax rates of subsidiaries operating in other jurisdictions	(46)	(143)	(66)
Effect of deferred tax assets not recognized ⁽¹⁾	(44)	(533)	(99)
Benefit arising from previously unrecognized deferred tax assets ⁽²⁾	81	25	2 646
Net (increase)/decrease in uncertain tax positions	(29)	(15)	9
Change in income tax rates	(27)	32	24
Income taxes on undistributed earnings	(12)	(23)	(59)
Total	(380)	(820)	2 033

(1) In 2023, includes a remeasurement of deferred tax assets related to internal operating model change.

(2) In 2022, includes a re-recognition of deferred tax assets related to Finland.

Income tax liabilities and assets include a net liability of EUR 207 million (EUR 184 million in 2023) relating to uncertain tax positions with inherently uncertain timing of cash outflows.

Prior period income tax returns for certain Group companies are under examination by local tax authorities. Nokia has ongoing tax investigations in various jurisdictions, including Australia, Brazil, Canada, China, France, India and United States. Nokia's business and investments, especially in emerging market countries, may be subject to uncertainties, including unfavorable or unpredictable tax treatment. Management judgment and a degree of estimation are required in determining the tax expense or benefit. Even though management does not expect that any significant additional taxes in excess of those already provided for will arise as a result of these examinations, the outcome or actual cost of settlement may vary materially from estimates.

Deferred tax assets and liabilities

Deferred tax assets and liabilities relate to the following:

EURm	2024			2023		
	Deferred tax assets	Deferred tax liabilities	Net balance	Deferred tax assets	Deferred tax liabilities	Net balance
Tax losses carried forward and unused tax credits	1 019	—		1 062	—	
Undistributed earnings	—	(213)		—	(215)	
Intangible assets and property, plant and equipment	2 957	(152)		2 962	(312)	
Right-of-use assets	—	(131)		—	(177)	
Defined benefit pension assets	—	(2 106)		—	(1 913)	
Other non-current assets	24	(17)		83	(37)	
Inventories	148	(12)		185	(18)	
Other current assets	160	(69)		221	(93)	
Lease liabilities	137	—		156	—	
Defined benefit pension and other post-employment liabilities	917	—		991	—	
Other non-current liabilities	8	—		14	(1)	
Provisions	254	(75)		245	(138)	
Other current liabilities	287	(106)		301	(184)	
Other temporary differences	34	(27)		33	(17)	
Total before netting	5 945	(2 908)	3 037	6 253	(3 105)	3 148
Netting of deferred tax assets and liabilities	(2 346)	2 346	—	(2 380)	2 380	—
Total after netting	3 599	(562)	3 037	3 873	(725)	3 148

In 2023, Nokia recognized a deferred tax expense and a decrease in deferred tax assets of EUR 0.4 billion due to an internal transaction related to an operating model change that led to a remeasurement of deferred tax assets in Finland and the United States.

Nokia has undistributed earnings of EUR 377 million (EUR 356 million in 2023) for which a deferred tax liability has not been recognized as these earnings will not be distributed in the foreseeable future.

Notes to the consolidated financial statements continued

Movements in the net deferred tax balance during the year:

EURm	2024	2023	2022
1 January	3 148	3 502	990
Recognized in income statement, continuing operations	59	(391)	2 454
Recognized in income statement, discontinued operations	—	(3)	(2)
Recognized in other comprehensive income	(77)	51	56
Acquisitions through business combinations	2	—	—
Disposals	(75)	—	—
Other	—	(3)	2
Translation differences	(20)	(8)	2
31 December	3 037	3 148	3 502

In addition, at 31 December 2024, Nokia has unrecognized deferred tax assets of which the majority relate to France. These deferred tax assets have not been recognized due to uncertainty regarding their utilization. A significant portion of the French unrecognized deferred tax assets are indefinite in nature and available against future French tax liabilities, subject to a limitation of 50% of annual taxable profits.

The amount of temporary differences, tax losses carried forward and tax credits for which no deferred tax asset was recognized due to uncertainty of utilization:

EURm	2024	2023
Temporary differences	1 810	1 743
Tax losses carried forward	19 770	19 482
Tax credits	273	344
Total	21 853	21 569

Expiry of tax losses carried forward and unused tax credits:

EURm	2024			2023		
	Recognized	Unrecognized	Total	Recognized	Unrecognized	Total
Tax losses carried forward						
Within 10 years	1 356	1 022	2 378	1 375	1 025	2 400
Thereafter	74	—	74	17	—	17
No expiry	1 972	18 748	20 720	2 229	18 457	20 686
Total	3 402	19 770	23 172	3 621	19 482	23 103
Tax credits						
Within 10 years	126	254	380	143	329	472
Thereafter	45	4	49	48	1	49
No expiry	153	15	168	154	14	168
Total	324	273	597	345	344	689

Nokia continually evaluates the probability of utilizing its deferred tax assets and considers both positive and negative evidence in its assessment. As the majority of the recognized deferred tax assets relate to Finland, Nokia has considered the following factors in the assessment:

- The recent years' cumulative accounting and taxable profit in Finland;
- Expectations regarding future financial performance in Finland; and
- The relevant attributes underlying the deferred tax assets are generally not subject to expiry.

At 31 December 2022, Nokia concluded based on its assessment that it is probable that it will be able to utilize the unused tax losses and deductible temporary differences and re-recognized deferred tax assets of EUR 2.5 billion in the statement of financial position.

In 2023 and 2024, Nokia generated accounting and taxable profit in Finland and continued to recognize deferred tax assets related to Finland. In its assessment, Nokia has not applied any cut-off period, other than expiry under the relevant tax legislation. A significant portion of the tax attributes for which the deferred tax assets relate to are indefinite in nature and available fully against future Finnish tax liabilities. Due to the non-expiry of these assets, the sensitivity of future profit projections affects mainly the period over which the deferred tax assets are expected to be utilized. Nokia will continue to monitor the above factors related to Finland, including in particular its actual profit record, in upcoming periods.

Income tax related to items of other comprehensive income

EURm	2024			2023			2022		
	Gross	Tax	Net	Gross	Tax	Net	Gross	Tax	Net
Remeasurements of defined benefit plans	408	(85)	323	(343)	61	(282)	(424)	77	(347)
Translation differences	537	8	545	(535)	7	(528)	710	1	711
Net investment hedges	(40)	8	(32)	135	(27)	108	(127)	(20)	(147)
Cash flow and other hedges	21	(3)	18	(61)	10	(51)	83	(15)	68
Financial assets at fair value through other comprehensive income	19	(5)	14	10	—	10	(46)	13	(33)
Other increase/(decrease), net	3	—	3	(4)	—	(4)	(3)	—	(3)
Total	948	(77)	871	(798)	51	(747)	193	56	249

OECD Pillar Two model rules

Nokia is within the scope of the OECD Pillar Two model rules, which introduced a global minimum tax rate of 15% per jurisdiction. Pillar Two legislation has been enacted in Finland, the jurisdiction in which Nokia is incorporated, and is effective from 1 January 2024.

Nokia has performed an analysis of the impact of the Pillar Two legislation and based on this analysis, in 2024, the impact on income tax expense is immaterial. The main elements of this analysis were the following:

- Current understanding of the interpretation of the rules.
- Applicability of the safe harbors provided for in the Pillar Two legislation.
- Analysis and calculations of potential income tax expense in respect of jurisdictions not meeting safe harbor tests.

Notes to the consolidated financial statements continued

2.6. Discontinued operations

Accounting policies

Non-current assets or disposal groups are classified as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. Non-current assets or disposal groups classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell. Non-current assets classified as held for sale, or included in a disposal group classified as held for sale, are not depreciated or amortized.

Discontinued operation is reported when a component of Nokia, comprising operations and cash flows that can be clearly distinguished both operationally and for financial reporting purposes from the rest of Nokia, has been disposed of or is classified as held for sale, and that component represents a major line of business or geographical area of operations or is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations. Profit or loss from discontinued operations is reported separately from income and expenses from continuing operations in the consolidated income statement, with prior periods presented on a comparative basis. Intra-group revenues and expenses between continuing and discontinued operations are eliminated.

On 27 June 2024, Nokia announced it had entered into a put option agreement to sell its wholly owned subsidiary Alcatel Submarine Networks (ASN) to the French State. Upon entering into the agreement Nokia classified the assets and liabilities of ASN as held for sale and recorded an impairment loss of EUR 514 million on the measurement of ASN's net assets to fair value less costs to sell. Beginning from the second quarter of 2024 the Submarine Networks business, which was previously reported as part of Network Infrastructure operating segment, is presented as a discontinued operation.

The sale was completed on 31 December 2024. Nokia recorded a gain of EUR 29 million related to the sale and received a cash consideration of EUR 98 million from the sale. Nokia expects to receive the remaining cash consideration of EUR 30 million from the sale in the first half of 2025. In addition, Nokia retained a 20% shareholding in ASN with board representation to ensure a smooth transition until targeted exit, at which point it is planned for the French State to acquire Nokia's remaining interest. Nokia accounts for its remaining interest in ASN as an investment in an associated company.

Critical accounting judgment

Nokia classified its non-core standalone Submarine Networks business, a global provider of submarine communication networks, as held-for-sale and a discontinued operation following the announcement of its sale on 27 June 2024. For financial reporting purposes the Submarine Networks business had been a separate cash-generating unit within the Network Infrastructure reportable segment. Judgment was applied in determining that the Submarine Networks business is a component of Nokia that represents a separate major line of business which should be presented as a discontinued operation.

Results of discontinued operations

EURm	2024	2023	2022
Net sales	1 059	1 120	1 150
Expenses	(989)	(1 090)	(1 105)
Operating profit	70	30	45
Financial income and expenses	(7)	5	15
Impairment loss recognized on the remeasurement to fair value less costs to sell	(514)	—	—
Gain on sale	29	—	—
(Loss)/profit from discontinued operations before tax	(422)	35	60
Income tax expense	(5)	(5)	(3)
(Loss)/profit from discontinued operations⁽¹⁾⁽²⁾	(427)	30	57

(1) Loss/profit from discontinued operations is attributable to the equity holders of the parent in its entirety.

(2) In 2022, the profit from discontinued operations includes EUR 50 million net income resulting from the resolution of a tax dispute related to Nokia's former Devices & Services business which was sold in 2014.

Cash flows from discontinued operations

EURm	2024	2023	2022
Net cash flows from/(used in) operating activities	193	(44)	41
Net cash flows used in investing activities ⁽¹⁾	(188)	(59)	(83)
Net cash flows used in financing activities	(18)	(14)	(11)
Net cash flows used in discontinued operations	(13)	(117)	(53)

(1) Cash proceeds from the disposal of the Submarine Networks business, net of cash disposed of, are included in net cash flows used in investing activities of discontinued operations.

Notes to the consolidated financial statements continued

Reconciliation of gain on sale of Submarine Networks business

EURm	31 December 2024
Cash proceeds	98
Deferred cash consideration	30
Total consideration	128
Carrying amount of net assets on disposal	(170)
Cumulative other comprehensive income	64
Transaction costs	(25)
Fair value of retained interest in associate	32
Gain on sale before tax	29
Income tax	—
Gain on sale after tax	29

Carrying amount of assets and liabilities on disposal

EURm	31 December 2024
ASSETS	
Property, plant and equipment	102
Deferred tax assets	80
Inventories	147
Trade receivables	99
Contract assets	293
Other current financial and firm commitment assets	98
Other assets	89
Cash and cash equivalents	227
Total assets	1 135
LIABILITIES	
Lease liabilities	36
Provisions	46
Other financial and firm commitment liabilities	50
Trade payables	93
Contract liabilities	347
Accrued expenses related to customer projects	184
Other liabilities	209
Total liabilities	965
Net assets on disposal	170

2.7. Earnings per share

Accounting policies

Basic earnings per share is calculated by dividing the profit or loss attributable to equity holders of the parent by the weighted average number of shares outstanding during the year. Diluted earnings per share is calculated by adjusting the profit or loss attributable to equity holders of the parent, and the weighted average number of shares outstanding, for the effects of all dilutive potential ordinary shares. Potential ordinary shares are excluded from the calculation of diluted earnings per share when they are determined to be antidilutive.

EURm	2024	2023	2022
Profit or loss attributable to equity holders of the parent			
Continuing operations	1 704	635	4 193
Discontinued operations	(427)	30	57
Profit for the year	1 277	665	4 250
Number of shares (000s)			
Weighted average number of shares outstanding	5 475 817	5 549 468	5 614 182
Effect of potentially dilutive shares			
Performance shares	1 118	8 190	46 187
Restricted shares and other ⁽¹⁾	53 668	28 265	9 651
Total effect of potentially dilutive shares	54 786	36 455	55 838
Adjusted weighted average number of shares	5 530 603	5 585 923	5 670 020

(1) Includes the matching shares related to the employee share purchase plan.

Earnings per share, EUR			
Basic earnings per share			
Continuing operations	0.31	0.11	0.75
Discontinued operations	(0.08)	0.01	0.01
Profit for the year	0.23	0.12	0.76
Diluted earnings per share			
Continuing operations	0.31	0.11	0.74
Discontinued operations	(0.08)	0.01	0.01
Profit for the year	0.23	0.12	0.75

Notes to the consolidated financial statements continued

Section 3

Compensation and benefits

This section provides information on Nokia's employee benefits including remuneration of the management and Board of Directors. Employee benefits comprise salaries and wages, short-term cash incentives and share-based payments, as well as post-employment benefits in accordance with the local conditions and practices in the countries in which Nokia operates.

Information about the remuneration of the President and CEO and Board of Directors is provided in compliance with Finnish Accounting Standards.

3.1. Summary of personnel expenses

EURm	2024	2023	2022
Salaries and wages ⁽¹⁾	6 163	5 859	6 318
Pensions and other post-employment benefits			
Defined contribution plans	242	249	239
Defined benefit plans ⁽²⁾	157	155	192
Share-based payments	239	201	148
Social security costs	762	830	835
Total	7 563	7 294	7 732

(1) Includes termination benefits.

(2) Excludes amounts recorded in financial income and expenses, refer to Note 3.4. Pensions and other post-employment benefits.

Average number of employees

Number of employees	2024	2023	2022
Continued Operations	78 434	84 795	85 101
Discontinued Operations	1 927	1 894	1 795
Total	80 361	86 689	86 896

3.2. Remuneration of key management

Remuneration of the Group Leadership Team

The amounts below represent each member's time on the Group Leadership Team.

EURm	2024	2023	2022
Short-term benefits	14	13	17
Post-employment benefits ⁽¹⁾	1	1	1
Share-based payments	12	13	13
Termination benefits ⁽²⁾	4	—	1
Total	31	27	32

(1) The members of the Group Leadership Team participate in the local retirement programs applicable to employees in the country where they reside.

(2) Includes both termination payments and payments made under exceptional contractual arrangements for lapsed equity awards.

Remuneration of the President and CEO

EUR	2024	2023	2022
Base salary	1 410 500	1 322 750	1 300 000
Cash incentive payments	1 824 834	1 079 695	2 342 438
Share-based payment expenses ⁽¹⁾	3 117 360	5 041 885	5 425 169
Pension expenses	310 937	422 274	406 806
Other benefits ⁽²⁾	55 044	95 756	113 850
Total	6 718 675	7 962 360	9 588 263

(1) Represents the expense for all outstanding equity grants recorded during the year.

(2) Other benefits consist of telephone, car, driver, mobility, tax compliance support and medical insurance.

Terms of termination of service agreement of the President and CEO

On 10 February 2025, Nokia announced Pekka Lundmark will step down as President and CEO of Nokia effective 31 March 2025. Refer to Note 6.5. Subsequent events for more details.

In accordance with Mr. Lundmark's service agreement, he will receive salary and benefits during the 12-month notice period, and he is entitled to any short- or long-term incentives that will vest during the notice period. Any unvested equity awards would be forfeited after the notice period, unless the Board determines otherwise.

Notes to the consolidated financial statements continued

Remuneration of the Board of Directors

The annual remuneration paid to the members of the Board of Directors, as decided by the Annual General Meetings in the respective years:

	2024			2023			2022		
	Annual fee ⁽¹⁾ EUR	Meeting fees ⁽²⁾ EUR	Shares received ⁽³⁾ number	Annual fee ⁽¹⁾ EUR	Meeting fees ⁽²⁾ EUR	Shares received ⁽³⁾ number	Annual fee ⁽¹⁾ EUR	Meeting fees ⁽²⁾ EUR	Shares received ⁽³⁾ number
Sari Baldauf, Chair ⁽⁴⁾⁽⁵⁾	465 000	10 000	52 993	465 000	10 000	47 427	440 000	—	36 217
Søren Skou, Vice Chair ⁽⁵⁾	220 000	14 000	25 072	225 000	14 000	22 948	210 000	9 000	17 285
Timo Ahopelto ⁽⁴⁾⁽⁶⁾	210 000	10 000	23 932	210 000	10 000	21 418	—	—	—
Bruce Brown	—	—	—	—	5 000	—	210 000	17 000	17 285
Elizabeth Crain ⁽⁴⁾⁽⁵⁾	220 000	12 000	25 072	215 000	15 000	21 928	—	—	—
Thomas Dannenfeldt ⁽⁴⁾⁽⁵⁾⁽⁷⁾	240 000	14 000	27 351	230 000	9 000	23 458	200 000	9 000	16 462
Lisa Hook ⁽⁵⁾⁽⁷⁾	210 000	14 000	23 932	200 000	17 000	20 399	185 000	7 000	15 227
Jeanette Horan	—	—	—	210 000	10 000	21 418	195 000	—	16 050
Edward Kozel	—	—	—	—	5 000	—	205 000	12 000	16 874
Mike McNamara ⁽⁶⁾⁽⁷⁾	210 000	14 000	23 932	—	—	—	—	—	—
Thomas Saueressig ⁽⁶⁾	195 000	14 000	22 223	195 000	14 000	19 889	180 000	7 000	14 816
Carla Smits-Nusteling ⁽⁷⁾	215 000	9 000	24 502	215 000	14 000	21 928	200 000	9 000	16 462
Kai Öistämö ⁽⁶⁾	205 000	10 000	23 362	205 000	10 000	20 908	180 000	5 000	14 816
Total	2 390 000	121 000		2 370 000	133 000		2 205 000	75 000	

(1) Annual fees consist of Board member fees and Committee chair and member fees.

(2) Meeting fees include all meeting fees paid for the term that ended at the Annual General Meeting held on 3 April 2024, and meeting fees accrued and paid in 2024 for the term that began at the same meeting.

(3) Approximately 40% of each Board member's annual compensation is paid in Nokia shares purchased from the market, and the remaining approximately 60% is paid in cash.

(4) Annual fees in 2024 include EUR 30 000 for Thomas Dannenfeldt as Chair and EUR 15 000 for Timo Ahopelto, Sari Baldauf and Elizabeth Crain as members of the Personnel Committee.

(5) Annual fees in 2024 include EUR 20 000 for Elizabeth Crain as Chair and EUR 10 000 for Sari Baldauf, Thomas Dannenfeldt, Lisa Hook and Søren Skou as members of the Strategy Committee.

(6) Annual fees in 2024 include EUR 20 000 for Kai Öistämö as Chair and EUR 10 000 for Timo Ahopelto, Mike McNamara and Thomas Saueressig as members of the Technology Committee.

(7) Annual fees in 2024 include EUR 30 000 for Carla Smits-Nusteling as Chair and EUR 15 000 for Thomas Dannenfeldt, Lisa Hook and Mike McNamara as members of the Audit Committee.

Notes to the consolidated financial statements continued

3.3. Share-based payments

Accounting policies

Nokia offers three types of global share-based compensation plans for employees: performance shares, restricted shares and the employee share purchase plan. All plans are equity-settled.

Employee services received and the corresponding increase in equity are measured by reference to the fair value of the equity instruments at the grant date, excluding the impact of any non-market vesting conditions. Plans that apply tranching vesting are accounted for under the graded vesting model. Share-based compensation plans are generally conditional on continued employment as well as the fulfillment of any performance conditions specified in the award terms. Until the Nokia shares are delivered, the participants do not have any shareholder rights, such as voting or dividend rights, associated with the shares. The share grants are generally forfeited if the employment relationship with Nokia terminates prior to vesting. Share-based compensation is recognized as an expense over the relevant service periods.

Share-based payment expense

In 2024, the share-based payment expense recognized in the income statement for continuing operations for all share-based compensation plans amounted to EUR 239 million (EUR 201 million in 2023 and EUR 148 million in 2022).

Performance shares

In 2024, Nokia had outstanding Performance shares from grants made in 2021, 2022, 2023 and 2024. Starting in 2021, grants made for Performance shares have been targeted on a more limited basis to senior level employees and executives.

Performance share plans at 31 December 2024:

Plan	Performance shares outstanding at target	Confirmed payout (% of target)	Performance period	Settlement year
2021	251 552	12%	2021–2023	2024/2025
2022	10 752 500	0%	2022–2024	2025/2026
2023	13 675 400	—	2023–2025	2026/2027
2024	19 057 490	—	2024–2026	2027/2028

The 2021 and 2022 Performance share grants have a three-year vesting period where Nokia's actual total shareholder return (ATSR) is compared to the target total shareholder return to determine the number of Nokia shares that will be delivered at settlement. The 2021 and 2022 Performance share grants do not include a minimum payout guarantee.

The 2023 Performance share grants apply the ATSR performance metric to two-thirds of the grant. For the remaining one-third of the granted shares, the metrics are either a service condition alone or a Relative total shareholder return (RTSR). RTSR grants measure Nokia's share performance against its peer group companies where minimum payout for this metric requires Nokia to be at least in the 25th percentile when compared with the peer group.

The 2024 Performance share grants apply the performance metrics to two-thirds of the grant. For the remaining one-third of the granted shares, the metrics are either a service condition or performance metrics. The performance metrics of the 2024 performance share grants are 50% RTSR, 40% Cumulative EPS targets adjusted for non-recurring events, and 10% carbon emissions targets.

Restricted shares

In 2024, there were outstanding Restricted shares from grants made in 2021, 2022, 2023 and 2024. Starting in 2021, Nokia has granted Restricted shares to selected employees as the primary method of equity compensation. Restricted shares are Nokia shares that will be delivered to eligible participants at a future point in time, subject to the fulfillment of predetermined service conditions. Restricted shares will either vest on the third anniversary of the award or follow a tranche vesting schedule whereby each plan vests in one or more tranches determined at the award date.

The Restricted share grants are generally forfeited if the employment relationship with Nokia terminates prior to vesting of the applicable tranche or tranches.

Employee share purchase plan

Nokia offers a voluntary Employee Share Purchase Plan (ESPP) to its employees. Participating employees make contributions from their net salary to purchase Nokia shares on a monthly basis during a 12-month savings period. Nokia delivers one matching share for every two purchased shares the employee holds at the end of the plan cycle. In 2024, 7 455 343 matching shares were issued as a settlement to the participants of the ESPP 2023 (6 726 190 matching shares issued under the 2022 Plan in 2023, and 5 243 560 matching shares issued under the 2021 Plan in 2022).

Notes to the consolidated financial statements continued

Share-based payment plans by instrument

	Performance shares		Restricted shares	
	Number of shares outstanding at target	Weighted average grant date fair value (EUR)	Number of shares outstanding	Weighted average grant date fair value (EUR)
1 January 2022	79 827 008		26 763 693	
Granted	12 661 300	3.49	32 238 100	4.15
Forfeited	(2 450 396)		(1 695 734)	
Vested ⁽¹⁾	(26 290 064)		(2 778 431)	
31 December 2022	63 747 848		54 527 628	
Granted	15 207 400	3.10	45 322 400	3.36
Forfeited	(3 916 744)		(1 998 801)	
Vested ⁽¹⁾	(31 691 700)		(3 175 287)	
31 December 2023	43 346 804		94 675 940	
Granted	19 202 484	3.65	57 602 936	3.48
Forfeited	(3 589 329)		(5 471 235)	
Vested ⁽¹⁾	(15 223 017)		(23 834 342)	
31 December 2024	43 736 942		122 973 299	

(1) Vested performance shares at target are to be multiplied by the confirmed payout (% of target) to calculate the total number of Nokia shares settled.

Estimation of grant date fair values

Plan	Grant date fair value
ATSR	Estimated considering the dividend-adjusted Nokia share price at the end of the performance period of the plan and the target payout levels set for the plan.
RTSR	Estimated considering a combination of the dividend-adjusted Nokia share price compared with benchmark companies' share prices at the end of the performance period of the plan and the target payout levels set for the plan.
Restricted Shares	Estimated using the grant date market price of the Nokia share less the present value of dividends expected to be paid during the vesting period.

Notes to the consolidated financial statements continued

3.4. Pensions and other post-employment benefits

Accounting policies

Nokia has various post-employment plans in accordance with the local conditions and practices in the countries in which it operates. Nokia's defined benefit plans comprise pension schemes as well as other benefit plans providing post-employment healthcare and life insurance coverage to certain employee groups. Defined benefit plans expose Nokia to various risks such as investment risk, interest rate risk, life expectancy risk, and regulatory/compliance risk. The characteristics and extent of these risks vary depending on the legal, fiscal and economic requirements in each country as well as the impact of global events. The plans are generally funded through payments to insurance companies or contributions to trustee-administered funds as determined by periodic actuarial calculations.

The costs of defined benefit plans are assessed using the projected unit credit method. The defined benefit obligation is measured as the present value of the estimated future cash outflows using interest rates on high-quality corporate bonds or government bonds with maturities most closely matching expected payouts of benefits. The plan assets are measured at fair value at the reporting date. The liability or asset recognized in the statement of financial position is the present value of the defined benefit obligation at the reporting date less the fair value of plan assets adjusted for effects of any asset ceiling.

Actuarial valuations for defined benefit plans are performed annually or when a material plan amendment, curtailment or settlement occurs. Service cost related to employees' service in the current period and past service cost resulting from plan amendments and curtailments, as well as gains and losses on settlements, are presented in cost of sales, research and development expenses or selling, general and administrative expenses. Net interest as well as pension plan administration costs not considered in determining the return on plan assets, are presented in financial income and expenses. Remeasurements, comprising actuarial gains and losses, the effect of the asset ceiling and the return on plan assets, excluding amounts recognized in net interest, are recognized in other comprehensive income. Remeasurements are not reclassified to profit or loss in subsequent periods.

In a defined contribution plan, Nokia's legal or constructive obligation is limited to the amount that it agrees to contribute to the plan. Nokia's contributions to defined contribution plans, multi-employer and insured plans are recognized in the income statement in the period to which the contributions relate. If a pension plan is funded through an insurance contract where Nokia does not retain any legal or constructive obligations, the plan is treated as a defined contribution plan. All arrangements that do not fulfill these conditions are considered defined benefit plans.

Defined benefit plans

Nokia's most significant defined benefit plans are in the United States, Germany, and the United Kingdom. Together, they account for 92% of Nokia's total defined benefit obligation (93% in 2023) and 91% of Nokia's total fair value of plan assets (91% in 2023).

Summary of defined benefit balances at 31 December

EURm	Defined benefit obligation	Fair value of plan assets	Effects of asset ceiling	Net defined benefit balance
2024				
United States, Pension	(10 688)	16 188	—	5 500
United States, OPEB	(1 393)	701	—	(692)
Germany	(1 959)	1 240	—	(719)
United Kingdom	(529)	736	—	207
Other	(1 220)	1 858	(85)	553
Total	(15 789)	20 723	(85)	4 849
2023				
United States, Pension	(11 325)	16 285	—	4 960
United States, OPEB	(1 471)	675	—	(796)
Germany	(2 037)	1 199	—	(838)
United Kingdom	(782)	957	—	175
Other	(1 253)	1 798	(87)	458
Total	(16 868)	20 914	(87)	3 959

Funded status of defined benefit obligation:

EURm	2024	2023
Wholly funded	12 665	12 782
Partly funded	2 252	3 149
Unfunded	872	937
Total	15 789	16 868

Notes to the consolidated financial statements continued

United States

Nokia has significant defined benefit pension plans and a significant post-employment welfare benefit plan (OPEB) providing post-employment healthcare benefits and life insurance coverage in the United States.

Defined Benefit Pension Plans

The defined benefit pension plans include both traditional service-based programs and cash-balance plans. Salaried, non-union-represented employees are covered by a cash-balance program. All other legacy programs, including legacy service-based programs, were frozen by 31 December 2009. For former employees who, when actively employed, were represented by a union, Nokia maintained two defined benefit pension plans, both of which are traditional service-based programs. On 31 December 2021, these two plans were merged.

Other Post-Employment Benefit Plan

The other post-employment benefit plan provides welfare benefits for certain retired former employees. Pursuant to an agreement with the Communications Workers of America (CWA) and the International Brotherhood of Electrical Workers (IBEW) unions, Nokia provides post-employment healthcare benefits and life insurance coverage for employees formerly represented by these two unions. That agreement was renewed in 2020, and the contract expires on 31 December 2027.

On 1 October 2024, Nokia transferred investment management operations for US Pension, OPEB and 401(k) assets to Mercer in an Outsourced Investment Management (OCIO) transaction.

Germany

Nokia maintains two primary plans in Germany which cover the majority of active employees: the cash-balance plan Beitragsorientierter Altersversorgungs Plan (BAP) for the Group's Nokia employees and a similar cash-balance program (AVK Basis-/Matchingkonto) for the Group's former Alcatel-Lucent employees. Individual benefits are generally dependent on eligible compensation levels, ranking within the Group and years of service. These plans are partially funded defined benefit pension plans, the benefits being subject to a minimum return guaranteed by the Group. The funding vehicle for the BAP is the NSN Pension Trust e.V. The trust is legally separate from the Group and manages the plan assets in accordance with the respective trust agreements.

All other plans have been frozen or closed in prior years and replaced by the cash-balance plans. Benefits are paid in annual installments, as monthly retirement pension, or as a lump sum on retirement in an amount equal to accrued pensions and guaranteed interest.

United Kingdom

Nokia maintains one primary plan in the UK, "Nokia Retirement Plan for former NSN & ALU employees", which is the result of the 2019 merger of the legacy Nokia plan where the plan was merged and members' benefits were transferred to the legacy Alcatel-Lucent plan. The combined plan consists of both money purchase sections with Guaranteed Minimum Pension (GMP) underpin and final salary sections. All final salary sections are closed to future benefit accrual: the legacy Nokia plan closed on 30 April 2012 and the legacy Alcatel-Lucent plan on 30 April 2018. Individual benefits for final salary sections are dependent on eligible compensation levels and years of service. For the money purchase sections with GMP underpin, individual benefits are dependent on the greater of the value of GMP at retirement date and the pension value resulting from the individual's invested funds. Nokia engages the services of an external trustee service provider to manage all investments for the combined pension plan. During 2024, Nokia completed a risk transfer buy-out in the amount of EUR 178 million, with insurer Aviva, for certain beneficiaries whose liability was covered by an existing insurance agreement.

With regard to the implications of the ruling by the High Court in June 2023, and the dismissal of appeal by the Court of Appeal in July 2024, in the case of Virgin Media Limited v NTL Pension Trustees II Ltd, Nokia's UK Pension Trustee will be undertaking an investigation pending further developments of this case in the courts expected in early 2025. As at 31 December 2024, management has not identified any benefit uncertainties for which the potential impact would need to be considered.

Notes to the consolidated financial statements continued

Movements in the defined benefit obligation, fair value of plan assets and the impact of the asset ceiling limitation for the years ended 31 December

Defined benefit obligation

EURm	2024				2023			
	United States pension	United States OPEB	Other pension	Total	United States pension	United States OPEB	Other pension	Total
1 January	(11 325)	(1 471)	(4 072)	(16 868)	(12 340)	(1 615)	(4 357)	(18 312)
Current service cost	(86)	—	(62)	(148)	(83)	—	(74)	(157)
Interest expense	(509)	(67)	(142)	(718)	(563)	(73)	(173)	(809)
Past service cost	(12)	—	7	(5)	(9)	—	3	(6)
Settlements ⁽¹⁾	—	—	178	178	—	—	501	501
Total	(607)	(67)	(19)	(693)	(655)	(73)	257	(471)
Remeasurements:								
Gain/(loss) from change in demographic assumptions	114	17	32	163	66	1	(12)	55
Gain/(loss) from change in financial assumptions	463	62	88	613	(114)	(26)	(161)	(301)
Experience gain/(loss)	94	27	(13)	108	(43)	28	(11)	(26)
Total	671	106	107	884	(91)	3	(184)	(272)
Translation differences	(664)	(87)	(32)	(783)	431	57	(12)	476
Contributions from plan participants	—	(76)	(4)	(80)	—	(60)	(24)	(84)
Benefits paid	1 237	212	272	1 721	1 330	229	249	1 808
Other ⁽²⁾	—	(10)	40	30	—	(12)	(1)	(13)
Total	573	39	276	888	1 761	214	212	2 187
31 December	(10 688)	(1 393)	(3 708)	(15 789)	(11 325)	(1 471)	(4 072)	(16 868)
Weighted average duration of the defined benefit obligation (in years)	9.1	10.3	10.1	9.5	7.7	8.8	10.6	8.5

(1) In 2024, the settlement relates to the transfer of a liability in the amount of EUR 178 million to insurer Aviva as part of a buy-out transaction in the UK. In 2023, the settlement related to the transfer of liabilities from formerly Nokia managed Provident Fund to Indian government managed Provident Fund platform (EPFO).

(2) Includes divestment related transfers.

Notes to the consolidated financial statements continued

Fair value of plan assets

EURm	2024				2023			
	United States pension	United States OPEB	Other pension	Total	United States pension	United States OPEB	Other pension	Total
1 January	16 285	675	3 954	20 914	17 726	637	4 328	22 691
Interest income	755	30	133	918	820	28	171	1 019
Administrative expenses and interest on asset ceiling	(18)	—	(5)	(23)	(17)	—	(4)	(21)
Settlements ⁽¹⁾	—	—	(183)	(183)	—	—	(494)	(494)
Total	737	30	(55)	712	803	28	(327)	504
Remeasurements:								
Return on plan assets, excluding amounts included in interest income	(576)	50	44	(482)	(186)	62	48	(76)
Total	(576)	50	44	(482)	(186)	62	48	(76)
Translation differences	990	41	41	1 072	(624)	(21)	28	(617)
Contributions:								
Employers	27	3	25	55	27	7	41	75
Plan participants	—	76	4	80	—	60	24	84
Benefits paid	(1 237)	(212)	(179)	(1 628)	(1 330)	(229)	(181)	(1 740)
Section 420 transfer ⁽²⁾	(38)	38	—	—	(131)	131	—	—
Other	—	—	—	—	—	—	(7)	(7)
Total	(258)	(54)	(109)	(421)	(2 058)	(52)	(95)	(2 205)
31 December	16 188	701	3 834	20 723	16 285	675	3 954	20 914

(1) In 2024, the settlement primarily relates to transfer of assets in the amount of EUR 178 million to insurer Aviva as part of a buy-out transaction in the UK. In 2023, the settlement relates to the transfer of assets from formerly Nokia managed Provident Fund to Indian government managed Provident Fund platform (EPFO).

(2) Refer to the Future cash flows section below for description of Section 420 transfers.

The impact of the asset ceiling limitation

EURm	2024				2023			
	United States pension	United States OPEB	Other pension	Total	United States pension	United States OPEB	Other pension	Total
1 January	—	—	(87)	(87)	—	—	(84)	(84)
Interest expense	—	—	(1)	(1)	—	—	(2)	(2)
Remeasurements:								
Change in asset ceiling, excluding amounts included in interest expense	—	—	6	6	—	—	5	5
Translation differences	—	—	(3)	(3)	—	—	(6)	(6)
31 December	—	—	(85)	(85)	—	—	(87)	(87)

Net balances

EURm	2024				2023			
	United States pension	United States OPEB	Other pension	Total	United States pension	United States OPEB	Other pension	Total
31 December	5 500	(692)	41	4 849	4 960	(796)	(205)	3 959
Consisting of:								
Net pension assets	5 749	—	1 183	6 932	5 217	—	1 041	6 258
Net pension liabilities	(249)	(692)	(1 142)	(2 083)	(257)	(796)	(1 246)	(2 299)

Notes to the consolidated financial statements continued

Recognized in the income statement⁽¹⁾

EURm	2024	2023	2022
Current service cost ⁽²⁾	148	157	205
Past service cost ⁽²⁾	5	6	(2)
Net interest ⁽³⁾	(176)	(187)	(92)
Settlements ⁽²⁾	5	(7)	(10)
Total	(18)	(31)	101

(1) Includes amounts related to both continuing and discontinued operations.

(2) Amounts related to continuing operations are presented in operating expenses within the income statement.

(3) Amounts related to continuing operations are presented in financial income within the income statement.

Recognized in other comprehensive income

EURm	2024	2023	2022
Return on plan assets, excluding amounts included in interest income	(482)	(76)	(4 646)
Gain/(loss) from change in demographic assumptions	163	55	(4)
(Loss)/gain from change in financial assumptions	613	(301)	4 534
Experience (loss)/gain	108	(26)	(320)
Change in asset ceiling, excluding amounts included in interest expense	6	5	12
Total	408	(343)	(424)

Actuarial assumptions and sensitivity analysis

Actuarial assumptions

The discount rates and mortality tables used for the significant plans:

	Discount rate		Mortality table
	2024	2023	2024
United States ⁽¹⁾	5.3%	4.7%	Pri-2012 w/MP-2020 Mortality projection scale
Germany	3.4%	3.2%	Heubeck 2018G
United Kingdom ⁽²⁾	5.6%	4.5%	CMI 2023
Total weighted average for all countries	4.9%	4.4%	

(1) Mortality tables remain unchanged in the US. 2024 mortality assumption includes an adjustment based upon actual experience.

(2) Mortality tables have been updated from CMI 2021 in 2023 to CMI 2023 for United Kingdom and have been adjusted with 1.5% long-term rate of improvement.

Assumptions regarding future mortality are set based on actuarial advice in accordance with published statistics and experience in each country.

The principal actuarial weighted average assumptions used for determining the defined benefit obligation and sensitivity of the defined benefit obligation to changes in these assumptions:

	2024	2023	Change in assumption	Increase in assumption ⁽¹⁾ EURm	Decrease in assumption ⁽¹⁾ EURm
Discount rate for determining present values	4.9%	4.4%	1.0%	1 162	(1 358)
Pension growth rate	2.1%	3.3%	1.0%	(226)	175
Inflation rate	2.0%	2.3%	1.0%	(249)	219
Life expectancy	86-88 yrs	87-88 yrs	1 year	(589)	559

(1) Positive movement indicates a reduction in the defined benefit obligation; a negative movement indicates an increase in the defined benefit obligation.

Sensitivity analysis

When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the present value of the defined benefit obligation is calculated using the projected unit credit method. The sensitivity analyses are based on a change in an assumption while holding all other assumptions constant and may not be representative of the actual impact of changes. If more than one assumption is changed simultaneously, the combined impact of changes would not necessarily be the same as the sum of the individual changes. If the assumptions change to a different level compared with that presented, the effect on the defined benefit obligation may not be linear. Increases and decreases in the principal assumptions, which are used in determining the defined benefit obligation, do not have a symmetrical effect on the defined benefit obligation primarily due to the compound interest effect created when determining the net present value of the future benefit.

Key source of estimation uncertainty

The determination of pension and other post-employment benefit obligations and expenses for defined benefit plans is dependent on a number of estimates and assumptions, including the discount rate, future mortality rate, annual rate of increase in future compensation levels, and healthcare costs trend rates and usage of services in the United States where the majority of our post-employment healthcare plans are maintained. Changes in assumptions and actuarial estimates may materially affect the benefit obligation, future expense and future cash flow.

Notes to the consolidated financial statements continued

Investment strategies

The overall pension investment objective of Nokia is to preserve or enhance the defined benefit pension plans' funded status through the implementation of an investment strategy that maximizes return within the context of minimizing funded status risk. In formulating the asset allocation for the plans, multiple factors are considered, including, but not limited to, the long-term risk and return expectations for a variety of asset classes as well as current and multi-year projections of the defined benefit pension plans' demographics, benefit payments, contributions and funded status. Local trustee boards are responsible for conducting Asset-Liability Management (ALM) studies, when appropriate; overseeing the investment of plan assets; and monitoring and managing associated risks under company oversight and in accordance with local law. The results of the ALM framework are implemented on a plan level.

Nokia's pension investment managers may use derivative financial instruments including futures contracts, forward contracts, options and interest rate swaps to manage market risk. The performance and risk profile of investments is regularly monitored on a standalone basis as well as in the broader portfolio context. One risk is a decline in the plan's funded status as a result of the adverse performance of plan assets and/or defined benefit obligations. The application of the ALM study focuses on minimizing such risks.

United States plan assets

The majority of Nokia's United States pension plan assets are held in a master pension trust. The OPEB plan assets are held in two separate trusts. The Pension & Benefits Investment Committee formally approves the target asset allocation following the proposal by Nokia's OCIO provider. The overall United States pension plan asset portfolio, at 31 December 2024, reflects a balance of investments split of approximately 20/80 between equity, including alternative investments for this purpose, and fixed income securities.

Disaggregation of plan assets⁽¹⁾

EURm	2024				2023			
	Quoted	Unquoted	Total	% of total assets	Quoted	Unquoted	Total	% of total assets
Equity securities	1 055	—	1 055	5%	1 249	—	1 249	6%
Fixed income securities	14 721	142	14 863	72%	14 750	140	14 890	71%
Insurance contracts	—	648	648	3%	—	807	807	4%
Real estate	—	860	860	4%	—	1 010	1 010	5%
Short-term investments	945	—	945	5%	689	—	689	3%
Private equity and other	103	2 249	2 352	11%	106	2 163	2 269	11%
Total	16 824	3 899	20 723	100%	16 794	4 120	20 914	100%

(1) Beginning in 2024, Nokia reports temporarily held cash positions associated with different asset classes as part of those asset classes. Previously these cash positions were included in short-term investments. Comparative asset balances have been recast accordingly.

Most short-term investments including cash, equities and fixed-income securities have quoted market prices in active markets. Equity securities represent investments in equity funds and direct investments, which have quoted market prices in an active market. Fixed income securities represent direct investments in government and corporate bonds, as well as investments in bond funds, which have quoted market prices in an active market. Insurance contracts are customary pension insurance contracts structured under domestic law in the respective countries. Real estate investments are investments in commercial properties or real estate funds, which invest in a diverse range of real estate properties. Private equity and other investments include investments in private equity limited partnerships and absolute return investments in hedge funds.

Short-term investments are liquid assets or cash, which are being held for a short period of time, with the primary purpose of controlling the tactical asset allocation. Private equity net asset values (NAVs) are determined by the asset managers based on inputs such as operating results, discounted future cash flows and market-based comparable data. Assets invested in alternative asset classes such as private equity, real estate and absolute return are measured using latest available valuations provided by the asset managers, reviewed by Nokia and adjusted for subsequent cash flows.

Notes to the consolidated financial statements continued

Future cash flows

Contributions

Group contributions to the pension and other post-employment benefit plans are made to facilitate future benefit payments to plan participants. The funding policy is to meet minimum funding requirements as set forth in the employee benefit and tax laws, as well as any such additional amounts as Nokia may determine appropriate. Contributions are made to benefit plans for the sole benefit of plan participants. Employer contributions expected to be paid in 2025 total EUR 55 million.

United States

Funding methods

Funding requirements for the two United States qualified defined benefit pension plans are determined by the applicable statutes, namely the Employee Retirement Income Security Act of 1974 (ERISA), the Internal Revenue Code of 1986, and regulations issued by the Internal Revenue Service (IRS). In determining funding requirements, ERISA allows assets to be either fair value or an average value over a period of time; and liabilities to be based on spot interest rates or average interest rates over a period of time. For the non-represented and formerly represented defined benefit pension plans, Nokia does not foresee any future funding requirement for regulatory funding purposes, given the plans' asset allocation and the level of assets compared to liabilities.

Post-employment healthcare benefits for both non-represented and formerly union represented retirees are capped for those who retired after 28 February 1990. The benefit obligation associated with this group of retirees is 99% of the total United States retiree healthcare obligation at 31 December 2024. The US government's Medicare program is the primary payer for those aged 65 and older.

Section 420 transfers

Section 420 of the U.S. Internal Revenue Code (Section 420) allows for the transfer of pension assets in excess of specified thresholds above the plan's funding obligation (excess pension assets) to a retiree health benefits account, a retiree life insurance account, or both, maintained within the pension plan and to use the assets in such accounts to pay for, or to reimburse the employer for the cost of providing applicable health or life insurance benefits, each as defined in Section 420, for retired employees, and with respect to health benefits, their spouses and dependents. Employers making such transfers are required to continue to provide healthcare benefits or life insurance coverage, as the case may be, for a certain period of time (cost maintenance period) at levels prescribed by regulations. Pursuant to Section 420, Nokia has transferred EUR 38 million during 2024 (EUR 131 million in 2023). Section 420 is currently set to expire on 31 December 2032.

Benefit payments

The following table summarizes expected benefit payments from the defined benefit pension plans and other post-employment benefit plans until 2034. Actual benefit payments may differ from expected benefit payments.

EURm	US Pension			US OPEB		Other countries	Total
	Management	Occupational	Supplemental plans	Formerly union represented	Non-union represented		
2025	1 053	214	27	60	61	261	1 676
2026	983	198	26	53	62	241	1 563
2027	919	184	25	49	62	240	1 479
2028	861	170	24	79	62	244	1 440
2029	810	157	23	72	63	269	1 394
2030-2034	3 343	609	101	273	309	1 346	5 981

Benefits are paid from plan assets where there is sufficient funding available to the plan to cover the benefit obligation. Any payments in excess of the plan assets are paid directly by Nokia. Direct benefit payments expected to be paid in 2025 total EUR 108 million.

Section 4

Operating assets and liabilities

This section provides detailed information on Nokia's assets and liabilities related to its operating activities, such as tangible and intangible fixed assets, leases, inventories, trade receivables and other customer related balances, and provisions.

4.1. Goodwill and intangible assets

Accounting policies

Intangible assets acquired separately are measured on initial recognition at cost. Internally generated intangibles, except for development costs that may be capitalized, are expensed as incurred. Development costs are capitalized only if Nokia has the technical feasibility to complete the asset; has an ability and intention to use or sell the asset; can demonstrate that the asset will generate future economic benefits; has resources available to complete the asset; and has the ability to measure reliably the expenditure during development.

The useful life of Nokia's intangible assets, other than goodwill, is finite. Following initial recognition, finite intangible assets are carried at cost less accumulated amortization and accumulated impairment losses. Intangible assets are amortized over their useful lives, generally three years to ten years, using the straight-line method, which is considered to best reflect the pattern in which the asset's future economic benefits are expected to be consumed. Depending on the nature of the intangible asset, the amortization charges for continuing operations are included in cost of sales, research and development expenses or selling, general and administrative expenses.

Goodwill is allocated to the cash-generating units or groups of cash-generating units that are expected to benefit from the synergies of the related business combination and that reflect the lowest level at which goodwill is monitored for internal management purposes. A cash-generating unit, as determined for the purposes of Nokia's goodwill impairment testing, is the smallest group of assets generating cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The carrying value of a cash-generating unit includes its share of relevant corporate assets allocated to it on a reasonable and consistent basis. When the composition of one or more groups of cash-generating units to which goodwill has been allocated is changed, the goodwill is reallocated based on the relative fair value of the affected groups of cash-generating units.

Nokia tests the carrying value of goodwill for impairment annually. In addition, Nokia assesses the recoverability of the carrying value of goodwill and intangible assets if events or changes in circumstances indicate that the carrying value may be impaired. Factors that Nokia considers when it reviews indications of impairment include, but are not limited to, underperformance of the asset relative to its historical or projected future results, significant changes in the manner of using the asset or the strategy for the overall business, and significant negative industry or economic trends.

Nokia conducts its impairment testing by determining the recoverable amount for an asset, a cash-generating unit or groups of cash-generating units. The recoverable amount of an asset, a cash-generating unit or groups of cash-generating units is the higher of its fair value less costs of disposal and its value-in-use. The recoverable amount is compared to the asset's, cash-generating unit's or groups of cash-generating units' carrying value. If the recoverable amount for the asset, cash-generating unit or groups of cash-generating units is less than its carrying value, the asset is considered impaired and is written down to its recoverable amount. Impairment losses are presented in cost of sales, research and development expenses or selling, general and administrative expenses, except for impairment losses on goodwill, which are presented in other operating expenses.

Notes to the consolidated financial statements continued

EURm	Goodwill	Intangible assets	Total
2024			
Acquisition cost at 1 January	6 629	9 893	16 522
Additions	—	97	97
Acquisitions through business combinations	33	—	33
Assets held for sale	(38)	(170)	(208)
Disposals and retirements	(11)	(282)	(293)
Translation differences	260	255	515
Acquisition cost at 31 December	6 873	9 793	16 666
Accumulated amortization and impairment charges at 1 January	(1 125)	(8 807)	(9 932)
Amortization	—	(390)	(390)
Assets held for sale	—	165	165
Disposals and retirements	—	278	278
Translation differences	(12)	(237)	(249)
Accumulated amortization and impairment charges at 31 December	(1 137)	(8 991)	(10 128)
Net book value at 1 January	5 504	1 086	6 590
Net book value at 31 December	5 736	802	6 538
2023			
Acquisition cost at 1 January	6 799	9 778	16 577
Additions	—	299	299
Disposals, retirements and assets held for sale	(22)	(23)	(45)
Translation differences	(148)	(161)	(309)
Acquisition cost at 31 December	6 629	9 893	16 522
Accumulated amortization and impairment charges at 1 January	(1 132)	(8 515)	(9 647)
Amortization	—	(423)	(423)
Impairment	—	(26)	(26)
Disposals and retirements	—	17	17
Translation differences	7	140	147
Accumulated amortization and impairment charges at 31 December	(1 125)	(8 807)	(9 932)
Net book value at 1 January	5 667	1 263	6 930
Net book value at 31 December	5 504	1 086	6 590

Net book value of intangible assets by type of asset

EURm	2024	2023
Customer relationships	317	605
Patents and licenses	304	316
Technologies and IPR&D	12	31
Tradenames and other	51	60
Intangible assets under construction	118	74
Total	802	1 086

At 31 December 2024, the weighted average remaining amortization period is approximately one year for customer relationships, six years for patents and licenses, one year for technologies and IPR&D, and three years for tradenames and other.

Notes to the consolidated financial statements continued

Goodwill

Nokia has allocated goodwill to its operating segments corresponding to groups of cash-generating units (CGUs) that are expected to benefit from goodwill. Refer to Note 2.2. Segment information.

Allocation of goodwill

The following table presents the allocation of goodwill to groups of CGUs at 31 December:

EURm	2024	2023
Network Infrastructure	2 831	2 739
Mobile Networks	2 346	2 228
Cloud and Network Services	559	537

Recoverable amounts

The recoverable amounts of the groups of CGUs in 2024 were based on value-in-use that was determined using a discounted cash flow calculation. The cash flow projections approved by management were based on financial plans covering a forecast period of three years followed by a seven-year period that reflects management's expectations of recovery from the market-driven mid-term decrease in sales and market cyclicality, especially in the Mobile Networks group of CGUs, that then converge to the steady state cash flow projection modelled in the terminal year. The terminal growth rate assumptions do not exceed long-term average growth rates for the industries and economies in which the groups of CGUs operate.

The discount rates reflect current assessments of the time value of money and relevant market risk premiums considering risks and uncertainties for which the future cash flow estimates have not been adjusted. Discounted cash flow projections are based on post-tax cash flows and post-tax discount rates, which do not materially differ from the pre-tax basis discounted cash flow projections. Other key variables in future cash flow projections include assumptions on estimated sales growth, gross margin and operating margin.

Sales growth and gross margin assumptions reflect management expectations of addressable market growth, market share and competitive position, as well as Nokia's strategy and long-term business outlook. Gross margin and operating margin assumptions include the impact of the ongoing transformational and cost savings initiatives, which are expected to reduce cost base and increase operational efficiency especially within Mobile Networks.

Terminal growth rate and post-tax discount rate applied in the impairment test for the groups of CGUs:

Key assumption %	Terminal growth rate		Post-tax discount rate	
	2024	2023	2024	2023
Network Infrastructure	1.5%	1.0%	9.4%	9.3%
Mobile Networks	1.0%	1.0%	8.4%	8.3%
Cloud and Network Services	1.5%	1.0%	8.0%	7.7%

The results of the impairment testing indicate adequate headroom for each group of CGUs in 2024.

Notes to the consolidated financial statements continued

4.2. Property, plant and equipment

Accounting policies

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses. Depreciation is recorded on a straight-line basis over the expected useful lives of the assets as follows:

Buildings and constructions

Buildings and constructions	20–33 years
Light buildings and constructions	3–20 years

Vessels⁽¹⁾

Cable-laying vessels	15–40 years
Cable-laying accessories	4–10 years

Machinery and equipment

Production machinery and measuring and test equipment	1–5 years
Other machinery and equipment	3–10 years

(1) Vessels relate to Submarine Networks business which is presented as a discontinued operation. The assets of Submarine Networks business were classified as held for sale in June 2024. Refer to Note 2.6. Discontinued operations for more information.

Land and water areas are not depreciated.

Maintenance, repairs and renewals are generally expensed in the period in which they are incurred. However, major renovations are capitalized and included in the carrying amount of the asset when it is probable that future economic benefits in excess of the originally assessed standard of performance of the existing asset will flow to Nokia. Major renovations are depreciated over the remaining useful life of the related asset. Leasehold improvements are depreciated over the shorter of the lease term and the useful life. Gains and losses on the disposal of property, plant and equipment are included in other operating income or expenses.

EURm	Land, buildings, constructions and vessels	Machinery, equipment and other	Assets under construction	Total
2024				
Acquisition cost at 1 January	1 434	3 547	167	5 148
Additions	22	230	115	367
Reclassifications	50	55	(105)	—
Disposals and retirements	(51)	(199)	(4)	(254)
Assets held for sale	(548)	(306)	(50)	(904)
Translation differences	39	63	3	105
Acquisition cost at 31 December	946	3 390	126	4 462
Accumulated depreciation at 1 January	(569)	(2 628)	—	(3 197)
Depreciation	(80)	(321)	—	(401)
Impairment	(55)	—	—	(55)
Disposals and retirements	40	190	—	230
Assets held for sale	171	223	—	394
Translation differences	(25)	(46)	—	(71)
Accumulated depreciation at 31 December	(518)	(2 582)	—	(3 100)
Net book value at 1 January	865	919	167	1 951
Net book value at 31 December	428	808	126	1 362
2023				
Acquisition cost at 1 January	1 409	3 589	248	5 246
Additions	33	314	115	462
Reclassifications	107	85	(192)	—
Disposals and retirements	(88)	(374)	(1)	(463)
Translation differences	(27)	(67)	(3)	(97)
Acquisition cost at 31 December	1 434	3 547	167	5 148
Accumulated depreciation at 1 January	(575)	(2 656)	—	(3 231)
Depreciation	(90)	(358)	—	(448)
Disposals and retirements	79	333	—	412
Translation differences	17	53	—	70
Accumulated depreciation at 31 December	(569)	(2 628)	—	(3 197)
Net book value at 1 January	834	933	248	2 015
Net book value at 31 December	865	919	167	1 951

Notes to the consolidated financial statements continued

4.3. Leases

Accounting policies

In the majority of its lease agreements, Nokia is acting as a lessee. Nokia's leased assets relate mostly to commercial and industrial properties such as R&D, production and office facilities. Nokia also leases vehicles provided as employee benefits and service vehicles. There are only minor lease contracts, mainly concerning subleases of vacant leasehold or freehold facilities, where Nokia is acting as a lessor.

As a lessee, Nokia recognizes a right-of-use asset and a lease liability at the commencement date of the lease. Right-of-use assets are measured at cost less accumulated depreciation and impairment losses, and adjusted for any remeasurements of the lease liabilities. Right-of-use assets are depreciated on a straight-line basis over the lease term as follows:

Buildings	3–15 years
Other	3–5 years

Lease liabilities are initially measured at the present value of the lease payments made over the lease term. Nokia uses its incremental borrowing rate to calculate the present value as the interest rate implicit in the lease is not readily determinable. Subsequently, lease liabilities are measured on an amortized cost basis using the effective interest method. In addition, lease liabilities are remeasured if there is a lease modification, a change in the lease term or a change in the future lease payments. The interest component of the lease payments is recognized as interest expense in financial expenses.

Nokia applies practical expedients whereby the payments for short-term leases and leases of low-value assets are recognized as an operating expense on a straight-line basis over the lease term. In addition, Nokia does not separate certain non-lease components from lease components but instead accounts for each lease component and associated non-lease component as a single lease component.

Right-of-use assets

EURm	Buildings	Other	Total
2024			
Acquisition cost at 1 January	1 434	275	1 709
Additions ⁽¹⁾	36	95	131
Assets held for sale	(25)	(47)	(72)
Retirements	(48)	(38)	(86)
Translation differences	25	1	26
Acquisition cost at 31 December	1 422	286	1 708
Accumulated depreciation at 1 January	(677)	(126)	(803)
Depreciation	(135)	(88)	(223)
Impairment	(43)	—	(43)
Assets held for sale	4	40	44
Retirements	48	38	86
Translation differences	(10)	(1)	(11)
Accumulated depreciation at 31 December	(813)	(137)	(950)
Net book value at 1 January	757	149	906
Net book value at 31 December	609	149	758
2023			
Acquisition cost at 1 January	1 423	241	1 664
Additions ⁽¹⁾	74	129	203
Retirements	(39)	(96)	(135)
Translation differences	(24)	1	(23)
Acquisition cost at 31 December	1 434	275	1 709
Accumulated depreciation at 1 January	(589)	(146)	(735)
Depreciation	(140)	(76)	(216)
Impairment	2	—	2
Retirements	39	96	135
Translation differences	11	—	11
Accumulated depreciation at 31 December	(677)	(126)	(803)
Net book value at 1 January	834	95	929
Net book value at 31 December	757	149	906

(1) Additions comprise new lease contracts as well as modifications and remeasurements of existing lease contracts.

Amounts recognized in the income statement

EURm	2024	2023	2022
Depreciation of right-of-use assets ⁽¹⁾	(223)	(216)	(225)
Interest expense on lease liabilities ⁽¹⁾	(33)	(28)	(26)
Impairment charges, net of reversals	(43)	2	6
Total	(299)	(242)	(245)

(1) Includes amounts related to both continuing and discontinued operations.

Amounts recognized in the income statement presented above exclude expenses relating to short-term leases and leases of low-value assets, income from subleasing right-of-use assets and gains or losses arising from sale and leaseback transactions as these are immaterial.

Amounts reported in the statement of cash flows

EURm	2024	2023	2022
Payment of principal portion of lease liabilities ⁽¹⁾	(233)	(239)	(217)
Interest paid on lease liabilities ⁽¹⁾	(33)	(28)	(26)
Total	(266)	(267)	(243)

(1) Includes amounts related to both continuing and discontinued operations.

Amounts reported in the statement of cash flows exclude payments for short-term leases and leases of low-value assets.

The maturity analysis of lease liabilities is presented in Note 5.4. Financial risk management. Commitments related to future lease contracts are presented in Note 6.1. Commitments, contingencies and legal proceedings.

Notes to the consolidated financial statements continued

4.4. Inventories

Accounting policies

Inventories are measured at the lower of cost and net realizable value. Cost is determined using standard cost, which approximates actual cost on a first-in first-out (FIFO) basis. In addition to the cost of materials and direct labor, an appropriate proportion of production overheads is allocated to the cost of inventory. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs necessary to make the sale.

Contract work in progress comprises costs incurred to date for customer contracts where the contractual performance obligations are not yet satisfied. Contract work in progress will be recognized as cost of sales when the corresponding revenue is recognized.

EURm	2024	2023
Raw materials and semi-finished goods	708	1 156
Finished goods	930	980
Contract work in progress	525	583
Total	2 163	2 719

Inventories recognized as an expense during the year in respect of continuing operations was EUR 5 050 million in 2024 (EUR 7 115 million in 2023 and EUR 7 709 million in 2022).

During the year write-downs of inventories to net realizable value totaled EUR 259 million (EUR 287 million in 2023 and EUR 261 million in 2022) and reversals of previous inventory write-downs totaled EUR 54 million (EUR 88 million in 2023 and EUR 98 million in 2022). The write-downs and reversals of previous write-downs have been included in cost of sales. Previous write-downs have been reversed primarily as a result of changes in estimated customer demand.

The amount of inventories expected to be recovered after more than 12 months was EUR 464 million at 31 December 2024 (EUR 666 million in 2023).

4.5. Trade receivables and other customer-related balances

Accounting policies

Customer contracts

Nokia presents its customer contracts in the statement of financial position as either a contract asset or a contract liability, depending on the relationship between Nokia's performance and the customer's payment for each individual contract. On a net basis, a contract asset position represents where Nokia has performed by transferring goods or services to a customer before the customer has provided the associated consideration or before payment is due. Conversely, a contract liability position represents where a customer has paid consideration or payment is due, but Nokia has not yet transferred goods or services to the customer. Contract assets presented in the statement of financial position are current in nature while contract liabilities can be either current or non-current.

Invoices are generally issued as control transfers and/or as services are rendered. Invoiced receivables represent an unconditional right to receive the consideration and only the passage of time is required before the consideration is received. Invoiced receivables are presented separately from contract assets as trade receivables in the statement of financial position. Trade receivables may be converted to customer loan receivables in certain cases where extended payment terms are requested. From time to time Nokia may also extend loans to other third parties and these loans are accounted for similarly as customer loan receivables. Nokia sells trade receivables and customer loan receivables to various financial institutions primarily without recourse in the normal course of business, in order to manage credit risk and working capital cycle.

The business model for managing trade receivables and customer loan receivables is holding receivables to collect contractual cash flows and selling receivables. Trade receivables and customer loan receivables are initially recognized and subsequently remeasured at fair value using the discounted cash flow method.

The changes in fair value are recognized in the fair value reserve through other comprehensive income. Interest calculated using the effective interest method as well as foreign exchange gains and losses are recognized in financial income and expenses.

Discounts without performance obligations presented on the statement of financial position in other current liabilities relate to discounts given to customers which will be executable upon satisfying specific criteria. As these discounts become executable, they are netted against related trade receivables or customer loan receivables.

Expected Credit Losses

Loss allowance for expected credit losses (ECL) is recognized on financial assets measured at amortized cost and financial assets measured at fair value through other comprehensive income, as well as on financial guarantee contracts and loan commitments. Nokia continuously assesses its financial instruments on a forward-looking basis and accounts for the changes in ECL on a quarterly basis using the following method:

- $ECL = PD \times LGD \times EAD$
- Probability of Default (PD) is based on the credit rating profile of the counterparties as well as specific local circumstances as applicable, unless there are specific events that would indicate that the credit rating would not be an appropriate basis for estimating credit risk at the reporting date.
- For Loss Given Default (LGD), the recovery rate is based on the type of receivable, specific local circumstances as applicable and related collateral arrangements, if any.
- Exposure at Default (EAD) is normally the nominal value of the receivable.

Notes to the consolidated financial statements continued

Nokia applies a simplified approach to recognize a loss allowance based on lifetime ECL on trade receivables and contract assets without significant financing components. Based on quantitative and qualitative analysis, Nokia has determined that the credit risk exposure arising from its trade receivables is low risk. Quantitative analysis focuses on historical loss rates, historic and projected sales and the corresponding trade receivables, and overdue trade receivables including indicators of any deterioration in the recovery expectation. Qualitative analysis focuses on all relevant conditions, including customer and country credit rating, to improve the accuracy of estimating lifetime ECL.

For customer loan receivables, the ECL is calculated separately for each significant counterparty using the method described above, including the impact of any collateral arrangements or other credit enhancements to LGD. The estimate is based on 12-month ECL unless there has been a significant increase in credit risk for the specific counterparty since the initial recognition, in which case lifetime ECL is estimated. Breaches of contract, credit rating downgrades and other credit measures are typical indicators that Nokia takes into consideration when assessing whether the credit risk on a financial instrument has increased significantly since initial recognition. Nokia considers additional indicators to determine if a financial asset is credit-impaired including whether the counterparty is in significant financial difficulties and whether it is becoming probable that the customer will enter bankruptcy or financial reorganization. Typically customer loan credit risk is higher than credit risk of trade receivables and contract assets on average.

The change in the amount of ECL for trade receivables and contract assets is recognized in other operating expenses and for customer loan receivables in financial expenses. For customer loan receivables, the loss allowance is recorded as an adjustment in other comprehensive income instead of adjusting the carrying amount that has already been recorded at fair value. If trade receivables and customer loan receivables are sold, the impact of ECL is reversed and the difference between the carrying amount derecognized and the consideration received is recognized in financial expenses.

Customer-related balances

Nokia aims to ensure the highest possible quality in trade receivables and contract assets as well as customer loan receivables. The Credit Risk Management Standard Operating Procedure, approved by the CFO, lays out the framework for the management of business-related credit risks. The Credit Risk Management Standard Operating Procedure sets out that credit decisions are based on credit evaluation in each business, including credit rating and limits for larger exposures, according to defined principles. Group level limit approvals are required for material credit exposures. Credit risks are monitored in each business and, where appropriate, mitigated on a case-by-case basis with the use of letters of credit, collaterals, sponsor guarantees, credit insurance and sale of selected receivables.

Aging of trade receivables, contract assets, and customer financing-related loan receivables at 31 December

EURm	Current	Past due			Total
		1-30 days	31-180 days	> 180 days	
2024					
Trade receivables ⁽¹⁾	4 894	163	195	213	5 465
Contract assets	694	—	—	—	694
Customer financing-related loan receivables	70	—	—	—	70
Total gross receivables	5 658	163	195	213	6 229
Expected credit loss allowance	(78)	(9)	(31)	(108)	(226)
Total net receivables	5 580	154	164	105	6 003
2023					
Trade receivables ⁽¹⁾	4 404	157	279	430	5 270
Contract assets	1 136	—	—	—	1 136
Customer financing-related loan receivables	207	1	20	88	316
Total gross receivables	5 747	158	299	518	6 722
Expected credit loss allowance ⁽²⁾	(207)	(8)	(80)	(302)	(597)
Total net receivables	5 540	150	219	216	6 125

(1) Nokia's payment terms are 89 (104 in 2023) days on average.

(2) In 2023, the decrease in the expected credit loss allowance includes EUR 29 million transferred to other provisions.

The reversal of ECL credited to the income statement was EUR 137 million and EUR 16 million in 2024 and 2023 respectively. In 2022, ECL charged to the income statement was EUR 160 million.

At 31 December 2024, the total ECL related to credit-impaired assets amounted to EUR 62 million (EUR 396 million in 2023 and EUR 379 million in 2022). In 2024, the reduction of ECL related to credit-impaired assets of EUR 334 million includes releases of EUR 233 million related to assets that were written off during the year and EUR 111 million related to assets for which payments were received.

The contractual amount outstanding on financial assets that were written off in 2024 and are still subject to enforcement activity is EUR 68 million (EUR 0 million in 2023)

Notes to the consolidated financial statements continued

Credit risk exposure by customer and country

Credit exposure is measured as the total of trade receivables, contract assets and loans outstanding from customers and committed credits. Trade receivables do not include any major concentrations of credit risk by customer.

Credit risk exposure by customer and country as % of total trade receivables and contract assets as well as loans and loan commitments to customers:

Customer	2024	2023
Customer 1	7.5%	12.2%
Customer 2	4.9%	3.6%
Customer 3	4.7%	3.4%
Total	17.1%	19.2%

Country	2024	2023
Country 1 ⁽¹⁾	21.5%	19.0%
Country 2	10.6%	11.7%
Country 3	5.8%	6.1%
Total	37.9%	36.8%

(1) In 2024, Country 1 was the United States (India in 2023).

Contract assets and contract liabilities

Contract asset balances decrease upon reclassification to trade receivables when Nokia's right to payment becomes unconditional. Contract liability balances decrease when Nokia satisfies the related performance obligations and revenue is recognized. There were no material cumulative adjustments to revenue recognized arising from changes in transaction prices, changes in measures of progress or changes in estimated variable consideration.

During the year, Nokia recognized EUR 1.5 billion (EUR 1.4 billion in 2023) of revenue that was included in the current contract liability balance at the beginning of the period. The amount includes EUR 0.1 billion (EUR 0.2 billion in 2023) related to discontinued operations sold in 2024.

4.6. Other receivables and liabilities

Other non-current receivables

EURm	2024	2023
R&D tax credits	144	127
Indirect tax receivables	27	45
Other	39	41
Total	210	213

Other current receivables

EURm	2024	2023
VAT and other indirect tax receivables	300	302
Prepayments related to contract manufacturing	126	128
IT-related prepaid expenses	47	59
R&D tax credits and grant receivables	43	46
Divestment-related receivables	23	28
Other	228	201
Total	767	764

Other non-current liabilities

EURm	2024	2023
Salaries, wages and social charges	30	42
Other	87	69
Total	117	111

Other current liabilities

EURm	2024	2023
Salaries, wages and social charges	1 531	1 176
Accrued expenses related to customer projects ⁽¹⁾	245	442
Discounts without performance obligations	380	404
VAT and other indirect tax payables	314	323
Other ⁽²⁾	413	479
Total	2 883	2 824

(1) The comparative amount for 2023 includes EUR 169 million related to discontinued operations.

(2) Includes accrued logistics, R&D and IT expenses.

Notes to the consolidated financial statements continued

4.7. Provisions

Accounting policies

Provision is recognized when Nokia has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate of the amount can be made. Management judgment may be required in determining whether it is probable that an outflow of economic benefits will be required to settle the obligation. The amount recognized as a provision is based on the best estimate of unavoidable costs required to settle the obligation at the end of the reporting period.

When estimating the amount of unavoidable costs, management may be required to consider a range of possible outcomes and their associated probabilities, risks and uncertainties surrounding the events and circumstances, as well as making assumptions about the timing of payment. Changes in estimates of timing or amounts of costs required to settle the obligation may become necessary as time passes and/or more accurate information becomes available. Nokia assesses the adequacy of its existing provisions and adjusts the amounts as necessary based on actual experience and changes in facts and circumstances at each reporting date.

EURm	Restructuring	Litigation and environmental ⁽¹⁾	Warranty	Material liability	Other	Total
1 January 2024	255	251	200	136	420	1 262
Charged to income statement						
Additions	397	69	214	144	68	892
Reversals	(9)	(23)	(19)	(82)	(56)	(189)
Total charged/(credited) to income statement	388	46	195	62	12	703
Utilized during year ⁽²⁾	(424)	(64)	(128)	(53)	(34)	(703)
Translation differences and other	—	9	(37)	—	(6)	(34)
31 December 2024	219	242	230	145	392	1 228
Non-current	89	151	19	—	220	479
Current	130	91	211	145	172	749

(1) Environmental provision was EUR 152 million at 31 December 2024 (EUR 154 million at 31 December 2023).

(2) The utilization of restructuring provision includes items transferred to accrued expenses, of which EUR 67 million remained in accrued expenses at 31 December 2024.

Restructuring provision

Nokia provides for the estimated cost to restructure when a detailed formal plan of restructuring has been completed, approved by management, and announced. Restructuring costs consist primarily of personnel restructuring charges. The other main components are costs associated with exiting real estate locations, and costs of terminating certain other contracts directly linked to the restructuring. At 31 December 2024, the restructuring provision consists primarily of amounts related to the announcements made by Nokia on 16 March 2021 and 19 October 2023. The majority of the restructuring cash outflows is expected to occur over the next two years.

Litigation and environmental provisions

Nokia provides for the estimated future settlements related to legal proceedings based on the probable outcome of the claims. Nokia also provides for environmental remediation when Nokia becomes obliged, legally or constructively, to rectify environmental damage relating to soil, groundwater, surface water or sediment contamination. Cash outflows related to the litigation and environmental liabilities are inherently uncertain and generally occur over several periods. For a presentation of legal matters potentially affecting Nokia, refer to Note 6.1. Commitments, contingencies and legal proceedings.

Warranty provision

Nokia provides for the estimated liability to repair or replace products under standard warranty at the time revenue is recognized. The provision estimate is based on historical experience of the level of repairs and replacements. Cash outflows related to the warranty provision are generally expected to occur in the next 18 months.

Material liability provision

Nokia recognizes the estimated liability for non-cancellable purchase commitments for inventory in excess of forecasted requirements at each reporting date. Cash outflows related to the material liability provision are expected to occur over the next 12 months.

Other provisions

Nokia provides for various legal and constructive obligations such as project losses, indirect tax provisions, divestment-related provisions, certain other employee-related provisions than restructuring provisions and asset retirement obligations. Cash outflows related to other provisions are generally expected to occur over the next two years.

Notes to the consolidated financial statements continued

Section 5

Capital and financial instruments

This section provides information on shareholders' equity, shareholders' remuneration and Nokia's capital management objectives. Furthermore, this section comprises the policies and disclosures related to Nokia's financial assets and liabilities and hedge accounting as well as information on Nokia's financial risks and financial risk management principles and objectives.

5.1. Equity

Shares and share capital

Share capital

Nokia Corporation has one class of shares. Each share entitles the holder to one vote at general meetings. The shares have no par value nor is there a minimum or maximum share capital or number of shares under the Articles of Association of Nokia Corporation. The share capital amounted to EUR 245 896 461.96 at 31 December 2024 and 2023, and consisted of 5 605 850 345 (5 613 496 565 in 2023) issued and fully paid shares.

In 2024, Nokia Corporation issued in a directed share issue 150 000 000 (59 500 000 in 2023) new shares to itself without consideration and canceled 157 646 220 (78 301 011 in 2023 related to the second phase of the 2022 program) shares it had repurchased during the year under its share buyback program announced in January 2024.

Share premium

Share premium reserve consists of the share premium account of the Parent Company. In addition, the equity impact corresponding to the employee services received related to the equity-settled share-based compensation plans is recorded in the share premium reserve.

Treasury shares

At 31 December 2024, the number of Nokia shares held by the Group companies was 232 700 997 (87 895 712 in 2023) representing 4.2% (1.6% in 2023) of the share capital and total voting rights.

In 2024, Nokia repurchased 176 832 266 shares under the share buyback programs announced in January and November 2024 (78 301 011 in 2023 under the second phase of the 2022 program). The shares repurchased under the January 2024 program were canceled in December 2024. In addition, Nokia Corporation transferred without consideration 24 380 761 (16 885 827 in 2023) shares held by the Company to employees, including certain members of the Group Leadership Team, as settlement of the Group's equity-based incentive plans and the employee share purchase plan.

Number of shares outstanding at the beginning and at the end of the period

Number of shares 000s	2024	2023	2022
1 January	5 525 601	5 587 016	5 634 993
Settlement of share-based payments	24 380	16 886	15 986
Acquisition of treasury shares	(176 832)	(78 301)	(63 963)
31 December	5 373 149	5 525 601	5 587 016

On 28 February 2025, Nokia completed the acquisition of Infinera Corporation. Refer to Note 6.5. Subsequent events for more information. The aggregated consideration transferred included 127 434 986 Nokia shares in the form of American Depository Shares. The shares transferred were treasury shares held by Nokia Corporation. Considering all share issuances and repurchases of shares under the on-going share buyback program during 1 January – 28 February 2025, the number of shares outstanding has increased by 85 959 508 shares.

Nature and purpose of other equity reserves

Translation differences

Translation differences consist of foreign exchange differences arising from translation of foreign operations into euro, the presentation currency of the consolidated financial statements, as well as gains and losses related to hedging of net investments in foreign operations.

Fair value and other reserves

Pension remeasurements

Pension remeasurements reserve includes actuarial gains and losses as well as return on plan assets and changes in the effect of the asset ceiling, excluding amounts recognized in net interest, related to Nokia's defined benefit plans.

Hedging reserve

Hedging reserve includes the change in fair value that reflects the change in spot exchange rates for certain foreign exchange forward contracts and foreign exchange options, as well as the part of cross-currency swaps that is designated as a cash flow hedge to the extent that the hedges are effective.

Cost of hedging reserve

Cost of hedging reserve includes the forward element of foreign exchange forward contracts and the time value of foreign exchange options related to cash flow hedging of forecast foreign currency sale and purchase transactions.

Notes to the consolidated financial statements continued

Additionally, cost of hedging reserve includes the difference between the change in fair value of the forward element of foreign exchange forward contracts and the time value of option contracts and the amortization of the forward element of foreign exchange forward contracts and time value of option contracts related to net investment hedging. Cost of hedging reserve also includes changes in fair value from foreign currency basis spread related to fair value hedging of foreign currency denominated bonds.

Fair value reserve

Fair value reserve includes the changes in fair value of financial instruments that are managed in a portfolio with a business model of holding financial instruments to collect contractual cash flows including principal and interest, as well as selling financial instruments. The fair value changes recorded in fair value reserve for these instruments are reduced by amounts of loss allowances.

Reserve for invested unrestricted equity

The reserve for invested unrestricted equity includes that part of the subscription price of issued shares that according to the share issue decision is not to be recorded to the share capital as well as other equity inputs that are not recorded to some other reserve. The amount received for treasury shares is recorded to the reserve for invested unrestricted equity, unless it is provided in the share issue decision that it is to be recorded in full or in part to the share capital. The Nokia shares repurchased under the ongoing share buyback program are funded using funds in the reserve for invested unrestricted equity.

Other equity

Retained earnings

Retained earnings is the net total of previous years' profits and losses less dividends paid to the shareholders.

Non-controlling interests

Non-controlling interests represent the share of net assets of certain subsidiaries attributable to their minority shareholders. For more information on the contractual arrangement related to the ownership interests in the Nokia Shanghai Bell Group, refer to Note 6.3. Significant partly-owned subsidiaries.

Changes in other comprehensive income by component of equity

EURm	Translation differences ⁽¹⁾	Fair value and other reserves			
		Pension remeasurements	Hedging reserve	Cost of hedging reserve	Fair value reserve
1 January 2022	(396)	4 242	(7)	(1)	(15)
Foreign exchange translation differences	697	—	—	—	—
Net investment hedging losses	(147)	—	—	—	—
Remeasurements of defined benefit plans	—	(349)	—	—	—
Net fair value gains/(losses)	—	—	24	(27)	(208)
Transfer to income statement	14	—	61	10	175
Movement attributable to non-controlling interests	1	—	—	—	—
31 December 2022	169	3 893	78	(18)	(48)
Foreign exchange translation differences	(547)	—	—	—	—
Net investment hedging gains	105	—	—	3	—
Remeasurements of defined benefit plans	—	(261)	—	—	—
Net fair value gains/(losses)	—	—	2	(25)	(87)
Transfer to income statement	19	—	(66)	38	96
Movement attributable to non-controlling interests	5	—	—	—	—
31 December 2023	(249)	3 632	14	(2)	(39)
Foreign exchange translation differences	623	—	—	—	—
Net investment hedging losses	(31)	—	—	(1)	—
Remeasurements of defined benefit plans	—	326	—	—	—
Net fair value gains/(losses)	—	—	20	(1)	66
Transfer to income statement	(78)	—	(19)	19	(52)
Movement attributable to non-controlling interests	(2)	—	—	—	—
31 December 2024	263	3 958	15	15	(25)

(1) At 31 December 2024, translation differences include a EUR 154 million gain related to net investment hedging (EUR 186 million gain in 2023 and EUR 80 million gain in 2022).

Notes to the consolidated financial statements continued

Capital management

For capital management purposes Nokia defines capital as total equity and interest-bearing liabilities less cash and cash equivalents, current interest-bearing financial investments and non-current interest-bearing financial investments.

The main objectives of Nokia's capital management are to maintain a solid overall financial position and to ensure sufficient financial flexibility to execute Nokia's long-term business strategy and to provide returns to shareholders. From a cash perspective, Nokia aims to maintain the balance of its cash and cash equivalents and interest-bearing financial investments less interest-bearing liabilities at 10-15% of annual net sales over time. To support these objectives, Nokia aims to maintain investment grade credit ratings. At 31 December 2024, Nokia's long-term credit ratings are BBB- (stable) by Fitch, Ba1 (stable) by Moody's, and BBB- (stable) by S&P Global.

With regards to shareholder remuneration, Nokia targets recurring, stable and over time growing ordinary dividend payments, taking into account the previous year's earnings as well as the Company's financial position and business outlook. Nokia may also use share repurchases as a tool to manage its capital structure through the reduction of capital and distribute excess cash to the shareholders.

Distribution of funds

Nokia distributes funds to its shareholders in two ways:

a) as dividends from retained earnings and/or as assets from the reserve for invested unrestricted equity, and b) by repurchasing shares using funds in the unrestricted equity. The amount of any distribution is limited to the Parent Company's distributable funds and subject to its solvency, and may not exceed the amount proposed by the Board of Directors.

Dividend and/or assets from the reserve for unrestricted invested equity

For the financial year 2024

Nokia's Board of Directors proposes to the Annual General Meeting 2025 that no dividend is distributed by a resolution of the AGM for the financial year ended on 31 December 2024. Instead, the Board proposes to be authorized to decide, in its discretion, on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity. The authorization would be used to distribute dividend and/or assets from the reserve for invested unrestricted equity in four installments during the period of validity of the authorization unless the Board decides otherwise for a justified reason. Distributions of dividend and/or assets from the reserve for invested unrestricted equity are recognized as a reduction of equity and a liability when the Board has decided on the distribution. On the date of issuing the financial statements for 2024, the total number of Nokia shares is 5 605 850 345 and, consequently, the total amount of distribution would be EUR 785 million. The total number of shares includes the shares held by the Parent Company which are not entitled to a distribution.

For the financial year 2023

The AGM in 2024 resolved to authorize the Board of Directors to decide on the distribution of an aggregate maximum of EUR 0.13 per share as dividend and/or as assets from the reserve of invested unrestricted equity for the financial year 2023. The authorization was used to distribute a dividend in four installments. During 2024, three installments of dividend were distributed amounting to EUR 0.10 per share and EUR 548 million in total. The fourth installment of EUR 0.03 per share and EUR 161 million in total was paid in February 2025. The total amount of dividend paid for the financial year 2023 was EUR 709 million.

For the financial year 2022

For the financial year 2022, a total dividend of EUR 665 million, corresponding to EUR 0.12 per share, was paid.

Share buyback programs

November 2024 program

In November 2024, Nokia launched a share buyback program to offset the dilutive effect of the acquisition of Infinera Corporation announced on 27 June 2024. The program targets to repurchase 150 million shares for an aggregate purchase price not exceeding EUR 900 million. The repurchases commenced on 25 November 2024 and will end latest by 31 December 2025. By 31 December 2024, Nokia has repurchased 19 186 046 shares under the program for an average price per share of EUR 4.14.

The repurchases will be funded using funds in the reserve for invested unrestricted equity in accordance with the authorization given to the Board of Directors by the AGM, and hence the repurchases will reduce Nokia's total unrestricted equity. The repurchased shares will be canceled.

January 2024 program

In January 2024, Nokia's Board of Directors initiated a share buyback program targeting to return up to EUR 600 million of cash to shareholders in tranches over a period of two years.

The purchases under the first phase of the program commenced on 20 March 2024. In July 2024, Nokia announced it had decided to accelerate the repurchases in a way that the whole share buyback program would be completed by the end of 2024. During the program, which ended on 21 November 2024, Nokia repurchased 157 646 220 shares. The aggregate purchase price of all shares acquired was EUR 600 million, and the average price per share was EUR 3.81.

The repurchases were funded using funds in the reserve for invested unrestricted equity, and hence the repurchases reduced Nokia's total unrestricted equity. The repurchased shares were canceled in December 2024.

Notes to the consolidated financial statements continued

The 2022 program

In February 2022, Nokia's Board of Directors initiated a share buyback program targeting to return up to EUR 600 million of cash to shareholders in tranches over a period of two years.

In the first phase of the program, which was launched on 11 February 2022 and which ended on 11 November 2022, Nokia repurchased 63 963 583 shares. The aggregate purchase price of all shares acquired in the first phase was EUR 300 million and the average price per share was EUR 4.69. The repurchased shares were canceled in December 2022.

In the second phase of the program, which was launched on 2 January 2023 and which ended on 10 November 2023, Nokia repurchased 78 301 011 shares. The aggregate purchase price of all shares acquired under the second phase of the program was EUR 300 million, and the average price per share was EUR 3.83. The repurchased shares were canceled in November 2023.

The repurchases were funded using funds in the reserve for invested unrestricted equity, and hence the repurchases reduced Nokia's total unrestricted equity.

Authorizations given to the Board of Directors

The following authorizations related to the issue and repurchase of shares were given to the Board of Directors at the AGM held on 3 April 2024.

Authorization to issue shares and special rights entitling to shares

The shareholders authorized the Board to issue a maximum of 530 million shares, corresponding to less than 10% of the total number of Nokia's shares, through issuance of shares or special rights entitling to shares in one or more issues during the effective period of the authorization. The Board is authorized to issue either new shares or shares held by Nokia. Shares and special rights entitling to shares may be issued in deviation from the shareholders' pre-emptive rights within the limits set by law. The authorization may be used to develop Nokia's capital structure, diversify the shareholder base, finance or carry out acquisitions or other arrangements, settle Nokia's equity-based incentive plans or for other purposes resolved by the Board of Directors.

The authorization is effective until 2 October 2025, and it terminated the previous authorizations to issue shares and special rights entitling to shares.

Authorization to repurchase shares

The shareholders authorized the Board to repurchase a maximum of 530 million shares, corresponding to less than 10% of the total number of Nokia's shares, using funds in the unrestricted equity, which means that the repurchases will reduce Nokia's distributable funds. The price paid for the shares under the authorization shall be based on the market price of Nokia shares on the securities markets on the date of the repurchase or a price otherwise formed in a competitive process. Shares may be repurchased to be cancelled, held to be reissued, transferred further or for other purposes resolved by the Board of Directors. The Company may enter into derivative, share lending or other arrangements customary in capital market practice. The shares may be repurchased otherwise than in proportion to the shares held by the shareholders. The Board shall resolve on all other matters related to the repurchase of Nokia shares.

The authorization is effective until 2 October 2025, and it terminated the previous authorization to repurchase shares to the extent that the Board has not previously resolved to repurchase shares based on such authorization.

Notes to the consolidated financial statements continued

5.2. Financial assets and liabilities

Accounting policies

Fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial assets and liabilities measured at fair value are categorized based on the availability of observable inputs used to measure their fair value. Three hierarchical levels are based on an increasing amount of judgment associated with the inputs used to derive fair valuation for these assets and liabilities, Level 1 being market values for exchange traded products, Level 2 being primarily based on publicly available market information and Level 3 requiring most management judgment.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest, by using quoted market rates, discounted cash flow analyses and other appropriate valuation models. Nokia uses valuation techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs. At the end of each reporting period, all financial assets and liabilities, that are either measured at fair value on a recurring basis or for which fair values are disclosed in the financial statements, are categorized within the fair value hierarchy based on the lowest level input that is significant to the fair value measurement as a whole.

Classification and measurement

Financial assets

Nokia classifies its financial assets that are debt instruments in the following three categories: financial assets measured at amortized cost, financial assets measured at fair value through other comprehensive income, and financial assets measured at fair value through profit and loss. The selection of the appropriate category is made based on both Nokia's business model for managing the financial asset and on the contractual cash flow characteristics of the asset. Equity instruments and derivative financial assets are measured at fair value through profit and loss.

Nokia's business model for managing financial assets is defined on a portfolio level. The business model must be observable on a practical level by the way the business is managed. The cash flows of financial assets measured at amortized cost are solely payments of principal and interest. These assets are held within a business model that has an objective to hold assets to collect contractual cash flows. Financial assets measured at fair value through other comprehensive income have cash flows that are solely payments of principal and interest, and these assets are held within a business model that has an objective that is achieved both by holding financial assets to collect contractual cash flows and selling financial assets. For these categories, a loss allowance is calculated on a quarterly basis based on a review of collectability (probability of default) and available collateral (loss given default) for the asset, recorded as an adjustment to the carrying amount of the asset and recognized in other financial expenses in the income statement.

Financial assets measured at fair value through profit and loss are assets that do not fall in either of the categories in the paragraph above. Additionally, the accounting for financial assets depends on whether the financial asset is part of a hedging relationship (refer to Note 5.3. Derivative and firm commitment assets and liabilities).

All purchases and sales of financial assets are recorded on the trade date, i.e. when Nokia commits to purchase or sell the asset. All financial assets are initially measured at fair value and subsequently remeasured according to their classification. Subsequently, instruments classified as fair value through profit or loss and instruments classified as fair value through other comprehensive income are remeasured at fair value, while instruments classified as amortized cost are remeasured using the effective interest rate method. For instruments classified as fair value through profit or loss, the fair value adjustments and foreign exchange gains and losses are recognized in the income statement either in other operating income and expenses or financial income and expenses as determined by the purpose of the instruments. For instruments classified as fair value through other comprehensive income, changes in fair value are recognized in the fair value reserve through other comprehensive income (refer to Note 5.1. Equity).

For instruments classified as amortized cost, interest calculated using the effective interest method, as well as foreign exchange gains and losses, are recognized in financial income and expenses in the income statement.

A financial asset is derecognized when substantially all the risks and rewards related to the financial asset have been transferred to a third party that assumes control of the asset. On derecognition of a financial asset, the difference between the carrying amount and the consideration received is recognized in the income statement either in other operating income and expenses or financial income and expenses as determined by the purpose of the instrument. The FIFO method is used to determine the cost basis of financial assets at amortized cost that are disposed of.

Financial liabilities

Nokia classifies its financial liabilities as financial liabilities measured at amortized cost except for derivative liabilities and the conditional obligation related to Nokia Shanghai Bell, which are classified as financial liabilities at fair value through profit and loss.

All financial liabilities are initially recognized at fair value and, in the case of borrowings and payables, net of transaction costs. Financial liabilities are subsequently remeasured according to their classification.

For financial liabilities measured at amortized cost, interest calculated using the effective interest method, as well as foreign exchange gains and losses, are recognized in financial income and expenses in the income statement.

Financial liabilities are derecognized when the related obligation is discharged, canceled or expired. Additionally, a substantial modification of the terms of an existing financial liability is accounted for as a derecognition of the original financial liability and the recognition of a new financial liability. On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid is recognized in financial income or expenses in the income statement.

Notes to the consolidated financial statements continued

Fair value of financial instruments

EURm	2024							2023							
	Carrying amounts				Fair value ⁽¹⁾			Carrying amounts				Fair value ⁽¹⁾			
	Amortized cost	Fair value through profit or loss			Fair value through other comprehensive income ⁽²⁾	Level 2	Total	Total	Amortized cost	Fair value through profit or loss			Fair value through other comprehensive income ⁽²⁾	Level 2	Total
Level 1		Level 2	Level 3	Level 1						Level 2	Level 3				
Non-current interest-bearing financial investments	457	—	—	—	—	457	466	715	—	—	—	—	—	715	717
Investments in venture funds	—	—	—	865	—	865	865	—	5	—	779	—	—	784	784
Other non-current financial assets	179	—	97	—	40	316	316	161	—	96	—	59	—	316	316
Other current financial assets	315	92	—	—	25	432	432	263	—	—	—	22	—	285	285
Derivative assets ⁽³⁾	—	—	197	—	—	197	197	—	—	134	—	—	—	134	134
Trade receivables ⁽⁴⁾	—	—	—	—	5 248	5 248	5 248	—	—	—	—	4 921	—	4 921	4 921
Current interest-bearing financial investments	486	—	1 175	—	—	1 661	1 661	874	—	691	—	—	—	1 565	1 565
Cash and cash equivalents	5 251	—	1 372	—	—	6 623	6 623	4 791	—	1 443	—	—	—	6 234	6 234
Total financial assets	6 688	92	2 841	865	5 313	15 799	15 808	6 804	5	2 364	779	5 002	—	14 954	14 956
Long-term interest-bearing liabilities	2 918	—	—	—	—	2 918	2 986	3 637	—	—	—	—	—	3 637	3 614
Other long-term financial liabilities	33	—	—	45	—	78	78	33	—	—	28	—	—	61	61
Short-term interest-bearing liabilities	969	—	—	—	—	969	969	554	—	—	—	—	—	554	555
Other short-term financial liabilities	883	—	—	488	—	1 371	1 371	65	—	—	471	—	—	536	536
Derivative liabilities ⁽³⁾	—	—	299	—	—	299	299	—	—	286	—	—	—	286	286
Discounts without performance obligations ⁽⁴⁾	380	—	—	—	—	380	380	404	—	—	—	—	—	404	404
Trade payables	3 213	—	—	—	—	3 213	3 213	3 423	—	—	—	—	—	3 423	3 423
Total financial liabilities	8 396	—	299	533	—	9 228	9 296	8 116	—	286	499	—	—	8 901	8 879

(1) The following fair value measurement methods are used for items not carried at fair value: The fair values of long-term interest-bearing liabilities, including current portion, are primarily based on publicly available market information (level 2). The fair values of other assets and liabilities, including loan receivables and loans payable, are primarily based on discounted cash flow analysis (level 2). The fair value is estimated to equal the carrying amount for short-term financial assets and financial liabilities due to limited credit risk and short time to maturity.

(2) No financial instruments measured at fair value through other comprehensive income are categorized in fair value hierarchy level 1 or level 3.

(3) For further information on derivative assets and liabilities, refer to Note 5.3. Derivative and firm commitment assets and liabilities.

(4) For further information on trade receivables and discounts without performance obligation, refer to Note 4.5. Trade receivables and other customer-related balances.

Notes to the consolidated financial statements continued

Financial assets

Interest-bearing financial investments

Nokia invests a portion of the corporate cash needed to cover the projected cash outflows of its ongoing business operations in highly liquid, interest-bearing investments. Interest-bearing financial investments may include investments measured at amortized cost and investments measured at fair value through profit and loss.

Non-current interest-bearing financial investments are investments in highly liquid corporate bonds that are long-term in nature based on their initial maturity and are measured at amortized cost using the effective interest method.

Current interest-bearing financial investments in bank deposits, as well as fixed income and money market securities with an initial maturity or put feature longer than three months, that have characteristics of solely payments of principal and interest and are not part of structured investments, are managed in a portfolio with a business model of holding investments to collect principal and interest and are measured at amortized cost using the effective interest method. These investments are executed with the main purpose of collecting contractual cash flows and principal repayments. However, investments are sold from time to time for liquidity management and market risk mitigation purposes.

Current interest-bearing financial investments may also include money market funds that do not qualify as cash equivalents, investments acquired for trading purposes, investment structures consisting of securities traded in combination with derivatives with complementing and typically offsetting risk factors and other investments that have cash flows not being solely payments of principal and interest. These investments are executed for capital appreciation and other investment returns and can be sold at any time. These investments are classified as fair value through profit or loss, with fair value adjustments, foreign exchange gains and losses and realized gains and losses recognized in financial income and expenses in the income statement. The fair values of these investments are based on publicly available market information.

Corporate cash investments in bank deposits used as collateral for derivative transactions are measured at amortized cost using the effective interest method.

Other financial assets

Other non-current financial assets include unlisted private equity and unlisted venture fund investments, including investments managed by NGP Capital which specializes in growth-stage investing. These investments do not fulfill the criteria of being solely payments of principal and interest and they are classified as investments at fair value through profit and loss. The fair value of these level 3 investments is determined using one or more valuation techniques where the use of the market approach generally consists of using comparable market transactions, while the use of the income approach generally consists of calculating the net present value of expected future cash flows.

For unlisted funds, the selection of appropriate valuation techniques by the fund managing partner may depend on the availability and reliability of relevant inputs. In some cases, one valuation technique may provide the best indication of fair value while in other circumstances multiple valuation techniques may be appropriate.

Inputs generally considered include the original transaction price, recent transactions in the same or similar instruments, completed or pending third-party transactions in the underlying investment or comparable issuers, subsequent rounds of financing, recapitalizations or other transactions undertaken by the issuer, offerings in the equity or debt capital markets, and changes in financial ratios or cash flows, adjusted as appropriate for liquidity, credit, market and/or other risk factors. The fair value may be adjusted to reflect illiquidity and/or non-transferability, with the amount of such discount estimated by the managing partner in the absence of market information.

Level 3 investments are remeasured at each reporting date taking into consideration any changes in estimates, projections and assumptions, as well as any changes in economic and other relevant conditions. These investments include approximately 50 separate venture funds investing in hundreds of individual companies in various sectors and geographies, focusing on 5G, digital health, software and enterprise sectors.

Hence, specific estimates and assumptions used by managing partners in the absence of observable inputs do impact the fair value of individual investments, but no individual input has a significant impact on the aggregated fair value of level 3 investments.

Fair value adjustments, foreign exchange gains and losses, and realized gains and losses from the disposal of these investments are recognized in other operating income and expenses in the income statement.

From time to time Nokia may have investments in listed equity shares classified as level 1 investments. These are exchange traded products with quoted prices readily and regularly available from an exchange representing actual and regularly occurring market transactions on an arm's-length basis.

Other non-current financial assets also include restricted assets and other receivables, customer financing-related loan receivables (refer to note 4.5. Trade receivables and other customer-related balances) and certain other financial assets of a long-term nature.

Restricted assets and other receivables include restricted bank deposits primarily related to employee benefits as well as other loan receivables measured at amortized cost using the effective interest method.

The cash flows of certain other financial assets of a long-term nature do not fulfill the criteria of being solely payments of principal and interest. These investments are measured at fair value using quoted market rates, discounted cash flow models or other appropriate valuation methods as of the reporting date. Fair value adjustments, foreign exchange gains and losses, and realized gains and losses from the disposal of these investments are mainly recognized in financial income and expenses in the income statement.

Other current financial assets include the current part of other non-current financial assets as well as short-term loan receivables measured at amortized cost using the effective interest method.

Cash and cash equivalents

Cash and cash equivalents include cash at bank and in hand as well as highly liquid, fixed income and money market investments that are readily convertible to known amounts of cash with maturities at acquisition of three months or less, as well as bank deposits with maturities or contractual call periods at acquisition of three months or less. Due to the high credit quality and short-term nature of these investments, there is an insignificant risk of change in value. Investments in money market funds that have a risk profile consistent with the aforementioned criteria are also classified as cash equivalents.

Notes to the consolidated financial statements continued

Investments that have cash flows that are solely payments of principal and interest are measured at amortized cost using the effective interest method whereas all other investments are classified as fair value through profit and loss, with fair value adjustments and foreign exchange gains and losses recognized in financial income and expenses in the income statement. The fair values of these investments are based on publicly available market information.

Financial liabilities

Interest-bearing liabilities

Long-term and short-term interest-bearing liabilities are measured at amortized cost using the effective interest method. Long-term and short-term interest-bearing liabilities include issued bonds and other borrowings. Short-term interest-bearing liabilities also include the current portion of long-term interest-bearing liabilities and collaterals for derivative transactions.

Other financial liabilities

Other financial liabilities include a liability related to Nokia's share buyback program reflecting Nokia's commitment under the agreement with a third-party broker conducting the share repurchases on Nokia's behalf.

Other financial liabilities also include a liability for acquiring China Huaxin's ownership interest in Nokia Shanghai Bell. This financial liability is measured based on the expected future cash settlement with any changes recorded in financial income and expenses in the income statement. The measurement of this level 3 financial liability involves estimation of the acquisition price and the distribution of excess cash balances. Unobservable valuation inputs include certain financial performance metrics of Nokia Shanghai Bell. No individual input has a significant impact on the total fair value.

Trade payables

Trade payables are carried at invoiced amount in the statement of financial position. Trade payables include balances payable to suppliers under reverse factoring arrangements with financial institutions. These balances are classified as trade payables and the related payments as cash flows from operating activities (refer to Note 5.4. Financial risk management).

Interest-bearing loans and other borrowings

All borrowings presented in the table below are senior unsecured and have no financial covenants.

Issuer/borrower	Instrument	Currency	Nominal (million)	Final maturity	Carrying amount EURm ⁽¹⁾	
					2024	2023
Nokia Corporation	2.00% Senior Notes	EUR	378	3/2024	—	375
Nokia Corporation	EIB R&D Loan	EUR	500	2/2025	500	500
Nokia Corporation	NIB R&D Loan	EUR	83	5/2025	83	167
Nokia Corporation	2.375% Senior Notes	EUR	292	5/2025	292	289
Nokia Corporation	2.00% Senior Notes	EUR	630	3/2026	624	614
Nokia Corporation	4.375% Senior Notes	USD	500	6/2027	458	430
Nokia of America Corporation	6.50% Senior Notes	USD	74	1/2028	71	67
Nokia Corporation	3.125% Senior Notes	EUR	500	5/2028	487	479
Nokia of America Corporation	6.45% Senior Notes	USD	206	3/2029	199	187
Nokia Corporation	4.375% Sustainability-linked Senior Notes ⁽²⁾	EUR	500	8/2031	513	510
Nokia Corporation	NIB R&D Loan ⁽³⁾	EUR	100	10/2032	100	—
Nokia Corporation	6.625% Senior Notes	USD	500	5/2039	455	463
Nokia Corporation and various subsidiaries	Other borrowings				105	110
Total					3 887	4 191

- (1) Carrying amount includes EUR 46 million of fair value losses (EUR 31 million in 2023) related to fair value hedge accounting relationships, including EUR 137 million of fair value gains (EUR 156 million in 2023) related to discontinued fair value hedge accounting relationships that are amortized over the life of the respective senior notes.
- (2) The bond has a one-time redemption premium at maturity of EUR 4 million in case Nokia does not meet its commitment to reduce its greenhouse gas (GHG) emissions (in tCO₂e) across its value chain (Scope 1, 2, and 3) by 50% between 2019 and 2030. This target is one of Nokia's key sustainability targets and has been selected to be the Sustainability Performance Target in Nokia's Sustainable Finance Framework that enables the issuance of sustainability-linked financing instruments.
- (3) In October 2024, Nokia signed a loan facility agreement of EUR 250 million with the Nordic Investment Bank (NIB) for financing research and development of 5G and 6G technology. As of 31 December 2024, EUR 100 million has been drawn from the facility and is repayable in two equal installments in 2031 and 2032. The availability period of the remaining loan facility of EUR 150 million ends in April 2025.

Changes in level 3 financial assets and liabilities measured at fair value for continuing operations

EURm	2024		2023	
	Financial assets	Financial liabilities	Financial assets	Financial liabilities
1 January	779	(499)	823	(550)
Net gains/(losses) in income statement	40	(25)	(76)	31
Additions ⁽¹⁾	96	(13)	56	—
Deductions ⁽¹⁾	(45)	16	(24)	19
Transfers out of level 3	(5)	—	—	—
Other movements	—	(12)	—	1
31 December	865	(533)	779	(499)

- (1) For level 3 financial assets, additions mainly include capital contributions to venture funds and deductions mainly include distributions from venture funds.

A net gain of EUR 17 million (net loss of EUR 42 million in 2023) related to level 3 financial instruments held at 31 December was included in the profit and loss during 2024.

Notes to the consolidated financial statements continued

5.3. Derivative and firm commitment assets and liabilities

Accounting policies

Fair value

All derivatives are recognized initially at fair value on the date a derivative contract is entered into and subsequently remeasured at fair value. The method of recognizing the resulting gain or loss varies according to whether the derivatives are designated and qualify under hedge accounting.

Foreign exchange forward contracts are valued at market-forward exchange rates. Changes in fair value are measured by comparing these rates with the original contract-forward rate. Currency options are valued at each reporting date by using the Garman & Kohlhagen option valuation model. Interest rate swaps and cross-currency swaps are valued using the discounted cash flow method.

Hedge accounting

Nokia applies hedge accounting on certain foreign exchange forward contracts, options or option strategies, and interest rate derivatives. Qualifying options and option strategies have zero net premium, or a net premium paid. For option structures, the critical terms of the purchased and written options are the same and the notional amount of the written option component is not greater than that of the purchased option.

In the fair valuation of foreign exchange forward contracts, Nokia separates the forward element and considers it to be the cost of hedging for foreign exchange forward contracts. In the fair valuation of foreign exchange option contracts, Nokia separates the time value and considers it to be the cost of hedging for foreign exchange option contracts. In the fair valuation of cross-currency swaps, Nokia separates the foreign currency basis spread and considers it to be the cost of hedging for cross-currency swaps.

Hedge effectiveness is assessed at inception and subsequently on a quarterly basis during the hedge relationship to ensure that an economic relationship exists. As Nokia only enters in hedge relationships where the critical terms match, the assessment of effectiveness is done on a qualitative basis with no significant ineffectiveness expected.

Presentation in the statement of cash flows

The cash flows of a hedge are classified as cash flows from operating activities in cases where the underlying hedged items relate to Nokia's operating activities. When a derivative contract is accounted for as a hedge of an identifiable position relating to financing or investing activities, the cash flows of the contract are classified in the same way as the cash flows of the position being hedged. Cash flows of derivatives used in hedging the foreign exchange risk of Nokia's cash position are presented in cash flows from investing activities.

Cash flow hedges: hedging of forecast foreign currency denominated sales and purchases

Nokia applies cash flow hedge accounting primarily to foreign exchange exposure that arises from highly probable forecast operative business transactions. The risk management strategy is to hedge material net exposures (identified standard net sales exposure minus identified standard costs exposure) by using foreign exchange forwards and foreign exchange options in a layered hedging style that follows defined hedging level ranges and hedge maturities in quarterly time buckets. The hedged item must be highly probable and present an exposure to variations in cash flows that could ultimately affect profit or loss.

For qualifying foreign exchange forwards and foreign exchange options, the change in fair value that reflects the change in spot exchange rates on a discounted basis is recognized in hedging reserve through other comprehensive income (refer to Note 5.1. Equity). The changes in the forward element of the foreign exchange forwards and the time value of the options that relate to hedged items are deferred in the cost of hedging reserve through other comprehensive income (refer to Note 5.1. Equity) and are subsequently accounted for in the same way as the spot element or intrinsic value.

In each quarter, Nokia evaluates whether the forecast sales and purchases are still expected to occur. If a portion of the hedged cash flow is no longer expected to occur, the hedge accounting criteria are no longer met and all related deferred gains or losses are derecognized from fair value and other reserves and recognized in other operating income and expenses in the income statement.

If the hedged cash flow ceases to be highly probable, but is still expected to occur, accumulated gains and losses remain in fair value and other reserves until the hedged cash flow affects profit or loss.

Nokia's risk management objective is to hedge forecast cash flows until the related revenue has been recognized. Each hedge relationship is discontinued during the quarter when the hedge matures, which is also the quarter that it had been designated to hedge. At this point, the accumulated gain or loss of cash flow hedges is reclassified to other operating income and expenses in the income statement. In cases where the forecast amount of revenue is not recognized during a quarter, the full accumulated gain or loss of cash flow hedges designated for said quarter is still reclassified and the portion related to forecast revenue that was not recognized is disclosed as hedge ineffectiveness.

As cash flow hedges primarily mature in the same quarter as the hedged item, there is no significant ineffectiveness resulting from the time value of money. Nokia will validate the magnitude of the impact of discounting related to the amount of gain or loss recognized in fair value and other reserves on a quarterly basis.

Cash flow and fair value hedges: hedging of foreign exchange risk of future interest cash flows

Nokia also applies cash flow hedging to future interest cash flows in foreign currency related to issued bonds. These future interest cash flows are hedged with cross-currency swaps that have been bifurcated and designated partly as fair value hedges (see Fair value hedges: hedging of interest rate exposure below) to hedge both the foreign exchange and interest rate benchmark risk component of the issued bond, and partly as cash flow hedges to hedge the foreign exchange risk related to the remaining portion of interest cash flows on the issued bond. The accumulated gain or loss for the part of these cross-currency swaps designated as cash flow hedges is initially recorded in hedging reserve through other comprehensive income and reclassified to profit or loss at the time when the related interest cash flows are settled.

Notes to the consolidated financial statements continued

Fair value hedges: hedging of interest rate exposure

Nokia applies fair value hedge accounting to reduce exposure to fair value fluctuations of interest-bearing liabilities due to changes in interest rates and foreign exchange rates. Nokia uses interest rate swaps and cross-currency swaps aligned with the hedged items to hedge interest rate risk and associated foreign exchange risk.

Nokia has entered into long-term borrowings mainly at fixed rates and has swapped most of them into floating rates in line with a defined target interest profile. Nokia aims to mitigate the adverse impacts from interest rate fluctuations by continuously managing net interest exposure resulting from financial assets and liabilities by setting appropriate risk management benchmarks and risk limits. The hedged item is identified as a proportion of the outstanding loans up to the notional amount of the swaps as appropriate to achieve the risk management objective. Nokia enters into interest rate swaps that have similar critical terms to the hedged item, such as reference rate, reset dates, payment dates, maturities and notional amount and hence Nokia expects that there will be no significant ineffectiveness. Nokia has not entered into interest rate swaps where it would be paying fixed rates.

Nokia's borrowings are carried at amortized cost. Changes in the fair value of derivatives designated and qualifying as fair value hedges, together with any changes in the fair value of hedged liabilities attributable to the hedged risk, are recorded in financial income and expenses in the income statement. Nokia separates the foreign currency basis spread from cross-currency swaps and excludes it from the hedged risk as cost of hedging that is initially recognized and subsequently measured at fair value and recorded in the cost of hedging reserve through other comprehensive income. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting ceases, the cost of hedging recorded in the cost of hedging reserve is immediately expensed and any fair value adjustments made to the carrying amount of the hedged item while the hedge was effective are recognized in financial income and expenses in the income statement based on the effective interest method.

Fair value hedges: hedging of foreign exchange exposure

In certain cases, related to long-term construction projects within the Submarine Networks business which is presented as discontinued operations, Nokia applied fair value hedge accounting for foreign exchange risk with the objective to reduce the exposure to fluctuations in the fair value of firm commitments due to changes in foreign exchange rates. The change in fair value that reflect the change in spot exchange rates of the foreign exchange forwards designated and qualifying as fair value hedges, together with any changes in the fair value of the hedged firm commitments attributable to the hedged risk, were recorded in financial income and expenses in discontinued operations.

At the end of the hedge relationship, the accumulated changes in the spot element of qualifying fair value hedges were recorded as adjustments to net sales or cost of sales in discontinued operations according to the hedge designation. The changes in the forward element of the foreign exchange forwards that relate to hedged items were deferred in the cost of hedging reserve through other comprehensive income and reclassified to other operating income and expenses in discontinued operations at the end of the hedge relationship.

Hedges of net investments in foreign operations

Nokia applies hedge accounting for its foreign currency hedging of selected net investments. The hedged item can be an amount equal to or less than the carrying amount of the net assets of the foreign operation in the statement of financial position. The risk management strategy is to protect the euro counter value of the portion of this exposure expected to materialize as non-euro cash repatriation in the foreseeable future.

For qualifying foreign exchange forwards, foreign exchange options and option strategies, the change in fair value that reflects the change in spot exchange rates is recognized in translation differences in shareholders' equity (refer to Note 5.1. Equity). The changes in the forward element of foreign exchange forwards as well as the changes in the time value of options (collectively known as the "cost of hedging") is recognized in the cost of hedging reserve through other comprehensive income. The cost of hedging at the date of designation of the foreign exchange forward or option contract as a hedging instrument is amortized to financial income and expenses in the income statement over the duration of the contract. Hence, in each reporting period, the change in fair

value of the forward element of the foreign exchange forward contract or the time value of the option contract is recorded in the cost of hedging reserve through other comprehensive income, while the amortization amount is reclassified from the cost of hedging reserve to profit or loss.

The cumulative amount or proportionate share of changes in the fair value of qualifying hedges deferred in translation differences is recognized as gain or loss on disposal of all or part of a foreign subsidiary.

Derivatives not designated in hedge accounting relationships carried at fair value through profit and loss

For derivatives not designated under hedge accounting, but hedging identifiable forecast exposures such as anticipated foreign currency denominated sales and purchases, the gains and losses are recognized in other operating income and expenses in the income statement. The gains and losses on all other derivatives not designated under hedge accounting are recognized in financial income and expenses.

Embedded derivatives included in contracts are identified and monitored by Nokia. For host contracts that are not financial assets containing embedded derivatives that are not closely related, the embedded derivatives are separated and measured at fair value at each reporting date with changes in fair value recognized in financial income and expenses in the income statement. For host contracts that are financial assets containing embedded derivatives, the whole contract is measured at fair value at each reporting date with changes in fair value recognized in financial income and expenses in the income statement.

Notes to the consolidated financial statements continued

Derivatives and firm commitments

EURm	2024				2023			
	Assets		Liabilities		Assets		Liabilities	
	Fair value ⁽¹⁾	Notional ⁽²⁾						
Cash flow hedges								
Foreign exchange forward contracts	7	381	(19)	733	26	1 206	(19)	1 039
Currency options bought	—	90	—	—	3	466	—	—
Currency options sold	—	—	—	—	—	—	—	23
Fuel hedges	—	—	—	—	—	—	(1)	50
Cash flow and fair value hedges⁽³⁾								
Cross-currency swaps	15	241	(97)	722	—	—	(144)	905
Fair value hedges								
Interest rate swaps	28	1 130	(10)	792	24	1 195	(28)	1 105
Foreign exchange forward contracts	—	—	—	—	14	627	(59)	1 337
Firm commitments	—	—	—	—	22	1 788	(9)	434
Hedges on net investment in foreign subsidiaries								
Foreign exchange forward contracts	3	527	(8)	971	6	1 111	—	81
Derivatives not designated in hedge accounting relationships carried at fair value through profit and loss								
Foreign exchange forward contracts	110	7 129	(165)	6 124	58	6 889	(35)	6 012
Currency options bought	15	770	—	—	—	10	—	—
Embedded derivatives ⁽⁴⁾	19	996	—	—	3	620	—	—
Other derivatives	—	—	—	—	—	12	—	—
Total	197	11 264	(299)	9 342	156	13 924	(295)	10 986

(1) Included in other current financial and firm commitment assets and other financial and firm commitment liabilities in the statement of financial position.

(2) Includes the gross amount of all notional values for contracts that have not yet been settled or canceled. The amount of notional value outstanding is not necessarily a measure or indication of market risk as the exposure of certain contracts may be offset by that of other contracts.

(3) Cross-currency swaps have been designated partly as fair value hedges and partly as cash flow hedges.

(4) Embedded derivatives are related to customer contracts.

To manage interest rate and foreign exchange risks related to Nokia's interest-bearing liabilities, Nokia has designated the following cross-currency swaps as hedges under both fair value hedge accounting and cash flow hedge accounting, and interest rate swaps as hedges under fair value hedge accounting at 31 December:

Entity	Instrument	Currency	Maturity	Notional (million in currency)		Fair value EURm	
				2024	2023	2024	2023
Nokia Corporation	Interest rate swaps	EUR	3/2024	—	378	—	2
Nokia Corporation	Interest rate swaps	EUR	5/2025	292	292	3	—
Nokia Corporation	Interest rate swaps	EUR	3/2026	630	630	(1)	(13)
Nokia Corporation	Cross-currency swaps	USD	6/2027	500	500	9	(28)
Nokia Corporation	Interest rate swaps	EUR	5/2028	500	500	(7)	(13)
Nokia Corporation	Interest rate swaps	EUR	8/2031	500	500	22	20
Nokia Corporation	Cross-currency swaps	USD	5/2039	500	500	(92)	(116)
Total						(66)	(148)

Notes to the consolidated financial statements continued

5.4. Financial risk management

General risk management principles

Nokia has a systematic and structured approach to risk management. Key risks and opportunities are primarily identified against business targets either in business operations or as an integral part of strategy and financial planning. Risk management covers strategic, operational, financial, compliance and reputational risks. Key risks and opportunities are analyzed, managed and monitored as part of business performance management. The principles documented in the Nokia Enterprise Risk Management Policy, which is approved by the Audit Committee of the Board, require risk management and its elements to be integrated into key processes. One of the core principles is that the business or function head is also the risk owner, although all employees are responsible for identifying, analyzing and managing risks, as appropriate, given their roles and duties. Nokia's overall risk management concept is based on managing the key risks that would prevent Nokia from meeting its objectives, rather than focusing on eliminating risks. In addition to the principles defined in the Nokia Enterprise Risk Management Policy, other key policies and operating procedures reflect the implementation of specific aspects of risk management, including financial risk management.

Financial risks

The objective for treasury activities is to guarantee sufficient funding at all times and to identify, evaluate and manage financial risks. Treasury activities support this aim by mitigating the adverse effects on the profitability of the underlying business caused by fluctuations in the financial markets, and by managing the capital structure by balancing the levels of liquid assets and financial borrowings. Treasury activities are governed by the Nokia Treasury Policy approved by the President and CEO, which provides principles for overall financial risk management and determines the allocation of responsibilities for financial risk management activities. Operating procedures approved by the Chief Financial Officer (CFO) cover specific areas such as foreign exchange risk, interest rate risk, credit risk and liquidity risk, as well as the use of derivative financial instruments in managing these risks. Nokia is risk averse in its treasury activities.

Financial risks are divided into market risk covering foreign exchange risk and interest rate risk, financial credit risk, and liquidity risk.

Market risk

Foreign exchange risk

Nokia operates globally and is exposed to transaction and translation foreign exchange risks. The objective of foreign exchange risk management is to mitigate adverse impacts from foreign exchange fluctuations on Nokia's profitability and cash flows. Treasury applies a global portfolio approach to manage foreign exchange risks within approved guidelines and limits.

Transaction risk arises from foreign currency denominated assets and liabilities together with foreign currency denominated future cash flows. Transaction exposures are managed in the context of various functional currencies of Group companies. Material transactional foreign exchange exposures are hedged, unless hedging would be uneconomical due to market liquidity and/or hedging cost. Exposures are defined using transaction nominal values. Exposures are mainly hedged with derivative financial instruments, such as foreign exchange forward contracts and foreign exchange options with most of the hedging instruments having a duration of less than a year.

A layered hedging approach is typically used for hedging of highly probable forecast foreign currency denominated cash flows with quarterly hedged items defined based on set hedge ratio ranges for each successive quarter. Hedged items defined for successive quarters are hedged with foreign exchange forward contracts and foreign exchange options with a hedge ratio of 1:1. Hedging level ranges are adjusted on a monthly basis including hedging instrument designation and documentation as appropriate. In cases where hedges exceed the hedge ratio range for any specific quarter, the hedge portfolio for that specific quarter is adjusted accordingly.

In certain cases, mainly related to long-term construction projects within Submarine Networks business which is presented as a discontinued operation, Nokia applies fair value hedge accounting for foreign exchange risk with the objective to reduce the exposure to fluctuations in the fair value of the related firm commitments due to changes in foreign exchange rates. Exposures are mainly hedged with foreign exchange forward contracts with most of the hedging instruments matching the duration of the underlying projects. Nokia continuously manages the portfolio of hedging instruments to ensure appropriate alignment with the portfolio of hedged items at a hedging ratio of 1:1.

As Nokia has entities where the functional currency is other than the euro, the shareholders' equity is exposed to fluctuations in foreign exchange rates. Changes in shareholders' equity caused by movements in foreign exchange rates are shown as currency translation differences in the consolidated financial statements. The risk management strategy is to protect the euro counter value of the portion of this exposure expected to materialize as foreign currency repatriation cash flows in the foreseeable future. Exposures are mainly hedged with derivative financial instruments, such as foreign exchange forward contracts and foreign exchange options with most of the hedging instruments having a duration of less than a year. Hedged items are defined based on conservative expectations of repatriation cash flows based on a range of considerations. Net investment exposures are reviewed, hedged items designated, and hedging levels adjusted at minimum on a quarterly basis with a hedge ratio of 1:1. Additionally, hedging levels are adjusted whenever there are significant events impacting expected repatriation cash flows.

The foreign exchange risk arising from foreign currency denominated interest-bearing liabilities is primarily hedged using cross-currency swaps that are also used to manage Nokia's interest rate profile (refer to the interest rate risk section below).

Notes to the consolidated financial statements continued

Notional amounts in currencies that represent a significant portion of the currency mix in outstanding financial instruments and other hedged items at 31 December:

EURm	USD	CNY	INR	GBP
2024				
Foreign exchange exposure designated as hedged item for cash flow hedging, net ⁽¹⁾	450	(220)	(175)	222
Foreign exchange exposure designated as hedged item for net investment hedging ⁽³⁾	135	783	208	152
Foreign exchange exposure from interest-bearing liabilities ⁽⁴⁾	(786)	—	—	—
Foreign exchange exposure from items on the statement of financial position, excluding interest-bearing liabilities, net	961	(822)	(718)	(100)
Other foreign exchange derivatives, carried at fair value through profit and loss, net ⁽⁵⁾	735	813	200	83
2023				
Foreign exchange exposure designated as hedged item for cash flow hedging, net ⁽¹⁾	606	(232)	(153)	36
Foreign exchange exposure designated as hedged item for fair value hedging for FX risk, net ⁽²⁾	1 354	—	—	—
Foreign exchange exposure designated as hedged item for net investment hedging ⁽³⁾	—	788	184	106
Foreign exchange exposure from interest-bearing liabilities ⁽⁴⁾	(750)	—	—	—
Foreign exchange exposure from items on the statement of financial position, excluding interest-bearing liabilities, net	2 475	(804)	(346)	(52)
Other foreign exchange derivatives, carried at fair value through profit and loss, net ⁽⁵⁾	(205)	720	(38)	108

(1) Includes foreign exchange exposure from forecast cash flows related to sales and purchases. In some currencies, especially the US dollar, Nokia has substantial foreign exchange exposures in both estimated cash inflows and outflows. These underlying exposures have been hedged.

(2) Includes foreign exchange exposure from contractual firm commitments. These underlying exposures have been substantially hedged.

(3) Includes net investment exposures in foreign operations. These underlying exposures have been hedged.

(4) Includes interest-bearing liabilities that have been hedged with cross-currency swaps and foreign exchange forwards. Refer to Note 5.3. Derivative and firm commitment assets and liabilities.

(5) Items on the statement of financial position are hedged by a portion of foreign exchange derivatives not designated in a hedge relationship and carried at fair value through profit and loss. Embedded derivatives are included in this line item.

Effects of hedge accounting on the financial position and performance

Nokia is using several types of hedge accounting programs to manage its foreign exchange and interest rate risk exposures; refer to Note 5.3. Derivative and firm commitment assets and liabilities. The effect of these programs on Nokia's financial position and performance at 31 December:

EURm	Cash flow hedges ⁽¹⁾	Net investment hedges ⁽¹⁾	Fair value hedges for FX risk ⁽¹⁾	Fair value and cash flow hedges ⁽¹⁾
2024				
Carrying amount of hedging instruments	(12)	(5)	—	(88)
Notional amount of hedging instruments	(1 043)	(1 498)	—	2 885
Notional amount of hedged items	1 043	1 498	—	(2 885)
Change in intrinsic value of hedging instruments since 1 January	(3)	(39)	—	10
Change in value of hedged items used to determine hedge effectiveness	6	39	—	(13)
2023				
Carrying amount of hedging instruments	2	5	(45)	(174)
Notional amount of hedging instruments	(968)	(1 166)	(1 354)	3 205
Notional amount of hedged items	968	1 166	1 354	(3 205)
Change in intrinsic value of hedging instruments since 1 January	22	132	40	89
Change in value of hedged items used to determine hedge effectiveness	(15)	(132)	(42)	(93)

(1) No significant ineffectiveness has been recorded during the periods presented and economic relationships have been fully effective.

Notes to the consolidated financial statements continued

The methodology for assessing foreign exchange risk exposures: Value-at-Risk

Nokia uses the Value-at-Risk (VaR) methodology to assess exposures to foreign exchange risks. The VaR-based methodology provides estimates of potential fair value losses in market risk-sensitive instruments as a result of adverse changes in specified market factors, at a specified confidence level over a defined holding period. Nokia calculates the foreign exchange VaR using the Monte Carlo method, which simulates random values for exchange rates in which Nokia has exposures and takes the non-linear price function of certain derivative instruments into account. The VaR is determined using volatilities and correlations of rates and prices estimated from a sample of historical market data, at a 95% confidence level, using a one-month holding period. To put more weight on recent market conditions, an exponentially weighted moving average is performed on the data with an appropriate decay factor. This model implies that, within a one-month period, the potential loss will not exceed the VaR estimate in 95% of possible outcomes.

In the remaining 5% of possible outcomes, the potential loss will be at minimum equal to the VaR figure and, on average, substantially higher. The VaR methodology relies on a number of assumptions, which include the following: risks are measured under average market conditions, changes in market risk factors follow normal distributions, future movements in market risk factors are in line with estimated parameters and the assessed exposures do not change during the holding period. Thus, it is possible that, for any given month, the potential losses at a 95% confidence level are different and could be substantially higher than the estimated VaR.

The VaR calculation includes foreign currency denominated monetary financial instruments, such as current financial investments, loans and trade receivables, cash, and loans and trade payables; foreign exchange derivatives carried at fair value through profit and loss that are not in a hedge relationship and are mostly used to hedge the statement of financial position foreign exchange exposure, as well as embedded derivatives; and foreign exchange derivatives designated as forecast cash flow hedges, fair value hedges and net investment hedges as well as the exposures designated, as hedged items for these hedge relationships.

The VaR risk measures for Nokia's sensitivity to foreign exchange risks are presented in the Total VaR column and the simulated impact to financial statements is presented in the profit, other comprehensive income (OCI) and cumulative translation adjustment (CTA) columns in the table below.

EURm	2024				2023			
	Total VaR	Profit	OCI	CTA	Total VaR	Profit	OCI	CTA
31 December	36	40	23	—	72	67	18	—
Average for the year	19	15	21	—	32	25	23	—
Range for the year	8-36	9-40	11-25	0-0	19-72	12-67	9-40	0-0

The most significant foreign exchange hedging instruments under cash flow, net investment and fair value hedge accounting at 31 December:

	Currency	Fair value (EURm)	Weighted average hedged rate	Total	Maturity breakdown of notional amounts (EURm) ⁽¹⁾			
					Within 3 months	Between 3 and 12 months	Between 1 and 3 years	Beyond 3 years
2024								
Cash flow hedge accounting	GBP	(5)	0.8423	(222)	(69)	(153)	—	—
	USD	(11)	1.0670	(459)	(170)	(289)	—	—
Net investment hedge accounting	CNY	(6)	7.6474	(783)	(783)	—	—	—
	INR	—	88.8518	(208)	(186)	(22)	—	—
2023								
Cash flow hedge accounting	GBP	(1)	0.8640	(219)	(63)	(156)	—	—
	USD	5	1.0881	(860)	(231)	(629)	—	—
	USD	(2)	1.0832	257	—	119	131	7
Net investment hedge accounting	CNY	4	7.8152	(788)	(788)	—	—	—
Fair value hedge accounting for FX risk	USD	(45)	1.1196	(1 354)	(427)	(301)	(616)	(10)

(1) Negative notional amounts indicate that hedges sell currency, and positive notional amounts indicate that hedges buy currency.

Notes to the consolidated financial statements continued

Interest rate risk

Nokia is exposed to interest rate risk either through market value fluctuations of items on the statement of financial position (price risk) or through changes in interest income or expenses (refinancing or reinvestment risk). Interest rate risk mainly arises through interest-bearing liabilities and assets. Estimated future changes in cash flows and the structure of the statement of financial position also expose Nokia to interest rate risk.

The objective of interest rate risk management is to mitigate adverse impacts arising from interest rate fluctuations on the income statement, cash flow and financial assets and liabilities while taking into consideration Nokia's target capital structure and the resulting net interest rate exposure. Nokia has entered into long-term borrowings mainly at fixed rates and swapped most of them into floating rates, in line with a defined target interest profile. Nokia has not entered into interest rate swaps where it would be paying fixed rates. Nokia aims to mitigate the adverse impacts from interest rate fluctuations by continuously managing net interest rate exposure arising from financial assets and liabilities, by setting appropriate risk management benchmarks and risk limits.

Treasury monitors and manages interest rate exposure centrally. Nokia uses selective sensitivity analyses to assess and measure interest rate exposure arising from interest-bearing assets, interest-bearing liabilities and related derivatives. Sensitivity analysis determines an estimate of potential fair value changes in market risk-sensitive instruments by varying interest rates in currencies in which Nokia has material amounts of financial assets and liabilities while keeping all other variables constant.

Sensitivities to credit spreads are not reflected in the sensitivity analysis.

Interest rate profile of items under interest rate risk management at 31 December:

EURm	2024		2023	
	Fixed rate	Floating rate ⁽¹⁾	Fixed rate	Floating rate ⁽¹⁾
Non-current interest-bearing financial investments	457	—	715	—
Current interest-bearing financial investments	133	1 528	510	1 055
Cash and cash equivalents	54	6 569	55	6 179
Interest-bearing liabilities	(3 150)	(737)	(3 483)	(708)
Financial assets and liabilities before derivatives	(2 506)	7 360	(2 203)	6 526
Interest rate derivatives	2 820	(2 820)	3 057	(3 057)
Financial assets and liabilities after derivatives	314	4 540	854	3 469

(1) All cash equivalents and derivative transaction-related collaterals with initial maturity of three months or less are considered floating rate for the purposes of interest rate risk management.

Nokia's sensitivity to interest rate exposure in the investment and debt portfolios is presented in the fair value column in the table below with simulated impact to the financial statements presented in the profit and other comprehensive income (OCI) columns.

EURm	2024			2023		
	Impact on fair value	Impact on profit	Impact on OCI	Impact on fair value	Impact on profit	Impact on OCI
Interest rates - increase by 100 basis points	3	4	—	(6)	3	1
Interest rates - decrease by 100 basis points	(2)	(5)	—	8	(4)	(1)

Notes to the consolidated financial statements continued

Credit risk

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to Nokia. Credit risk arises from credit exposures to customers, including outstanding receivables, financial guarantees and committed transactions, as well as financial institutions, including bank and cash, fixed income and money market investments, and derivative financial instruments. Credit risk is managed separately for business-related and financial credit exposures.

Financial instruments contain an element of risk resulting from changes in the market price due to counterparties becoming less creditworthy or risk of loss due to counterparties being unable to meet their obligations. Financial credit risk is measured and monitored centrally by Treasury. Financial credit risk is managed actively by limiting counterparties to a sufficient number of major banks and financial institutions, and by monitoring the creditworthiness and the size of exposures continuously. Additionally, Nokia enters into netting arrangements with all major counterparties, which give the right to offset in the event that the counterparty would not be able to fulfill its obligations. Nokia enters into collateral agreements with most counterparties, which require counterparties to post collateral against derivative receivables.

Investment decisions are based on strict creditworthiness and maturity criteria as defined in the Treasury-related policies and procedures. As a result of this investment policy approach and active management of outstanding investment exposures, Nokia has not been subject to any material credit losses in its financial investments in the years presented. Due to the high credit quality of Nokia's financial investments, the expected credit loss for these investments is deemed insignificant based on 12 months' expected credit losses at 31 December 2024. For information on expected credit losses for customer-related balances, refer to Note 4.5. Trade receivables and other customer-related balances.

Nokia has restricted bank deposits primarily related to employee benefits of EUR 114 million (EUR 119 million in 2023) that are presented in other non-current financial assets. Nokia has assessed the counterparty credit risk for these financial assets and concluded that expected credit losses are not significant.

Outstanding non-current and current interest-bearing financial investments, cash equivalents and cash classified by credit rating grades ranked in line with S&P Global Ratings categories at 31 December:

EURm	Rating ⁽¹⁾	Cash equivalents and interest-bearing financial investments					Total ⁽²⁾⁽³⁾
		Cash	Due within 3 months	Due between 3 and 12 months	Due between 1 and 3 years	Due between 3 and 5 years	
2024	AAA	—	1 496	—	8	—	1 504
	AA+ – AA-	720	727	12	27	6	1 492
	A+ – A-	2 004	2 346	380	241	157	5 230
	BBB+ – BBB-	48	244	15	63	26	396
	Other	117	2	—	—	—	119
Total		2 889	4 815	407	339	189	8 741
2023	AAA	—	1 443	25	—	—	1 468
	AA+ – AA-	1 042	149	74	—	8	1 273
	A+ – A-	2 183	1 340	301	255	245	4 347
	BBB+ – BBB-	456	242	134	230	227	1 289
	Other	133	4	—	—	—	137
Total		3 814	3 178	534	485	480	8 514

(1) Bank Parent Company ratings are used here for bank groups. Actual bank subsidiary ratings may differ from the Bank Parent Company rating.

(2) Non-current and current interest-bearing financial investments and cash equivalents include bank deposits, structured deposits, investments in money market funds and investments in fixed income instruments.

(3) Instruments that include a call feature have been presented at their final maturities. Instruments that are contractually due beyond three months include EUR 306 million (EUR 332 million in 2023) of instruments that have a call period of less than three months.

The following table sets out financial assets and liabilities subject to offsetting under enforceable master netting agreements and similar arrangements at 31 December. To reconcile the items presented to the statement of financial position, items that are not subject to offsetting would need to be included, refer to Note 5.3. Derivative and firm commitment assets and liabilities.

EURm	Related amounts not set off in the statement of financial position			Net amount
	Net amounts of financial assets/ (liabilities) presented in the statement of financial position	Financial instruments assets/(liabilities)	Cash collateral (received)/pledged	
2024				
Derivative assets	178	(143)	(33)	2
Derivative liabilities	(296)	143	147	(6)
Total	(118)	—	114	(4)
2023				
Derivative assets	131	(115)	(15)	1
Derivative liabilities	(285)	115	164	(6)
Total	(154)	—	149	(5)

The financial instruments subject to enforceable master netting agreements and similar arrangements are not offset in the statement of financial position as there is no intention to settle net or realize the asset and settle the liability simultaneously.

Notes to the consolidated financial statements continued

Liquidity risk

Liquidity risk is defined as financial distress or extraordinarily high financing costs arising from a shortage of liquid funds in a situation where outstanding debt needs to be refinanced or where business conditions unexpectedly deteriorate and require financing. Transactional liquidity risk is defined as the risk of executing a financial transaction below fair market value or not being able to execute the transaction at all within a specific period of time. The objective of liquidity risk management is to maintain sufficient liquidity, and to ensure that it is readily available without endangering its value in order to avoid uncertainty related to financial distress at all times.

Nokia aims to secure sufficient liquidity at all times through efficient cash management and by investing primarily in highly liquid money market investments. Depending on its overall liquidity position, Nokia may pre-finance or refinance upcoming debt maturities before contractual maturity dates. The transactional liquidity risk is minimized by entering into transactions where proper two-way quotes can be obtained from the market. Nokia aims to ensure flexibility in funding by maintaining committed and uncommitted credit lines.

Nokia's trade payables include balances payable to suppliers under reverse factoring arrangements with financial institutions. These balances are classified as trade payables since the payments are made to the banks on very similar terms as to suppliers. Possible extensions to payment terms beyond the due dates agreed with suppliers are insignificant and there are no special guarantees securing the payments to be made. These arrangements do not result in a significant liquidity risk given the limited amount of liabilities subject to supplier finance arrangements and Nokia's access to other sources of finance.

Liabilities under supplier finance arrangements at 31 December:

Carrying amount of liabilities (EURm)	2024
Presented within trade and other payables	564
Of which suppliers have received payment	250
Range of payment due dates after invoice date (days)	2024
Liabilities that are part of the arrangements	60-90
Comparable trade payables that are not part of an arrangement	30-120

Nokia's significant credit facilities and funding programs at 31 December:

Committed/uncommitted	Financing arrangement	Currency	Nominal (million)	Utilized (million)	
				2024	2023
Committed	Revolving Credit Facility ⁽¹⁾	EUR	1 412	—	—
Committed	NIB Loan Facility ⁽²⁾	EUR	250	100	—
Uncommitted	Finnish Commercial Paper Programme	EUR	750	—	—
Uncommitted	Euro-Commercial Paper Programme	EUR	1 500	—	—
Uncommitted	Euro Medium Term Note Programme ⁽³⁾	EUR	5 000	1 922	2 300
Total				2 022	2 300

(1) The facility has its maturity in June 2026.

(2) The availability period of the remaining loan facility of EUR 150 million ends in April 2025.

(3) All euro-denominated bonds have been issued under the Euro Medium Term Note Programme.

Certain changes in financial liabilities do not have a direct impact on Nokia's liquidity position. A disaggregation of cash and non-cash changes in lease liabilities, interest-bearing liabilities and associated derivatives arising from financing activities has been presented in the table below.

EURm	Long-term interest-bearing liabilities	Short-term interest-bearing liabilities	Derivatives held to hedge long-term borrowings ⁽¹⁾	Lease liabilities ⁽²⁾	Total
1 January 2024	3 637	554	174	997	5 362
Cash flows	(361)	(6)	—	(225)	(592)
Non-cash changes:					
Changes in foreign exchange rates	64	2	(49)	15	32
Changes in fair value	(5)	—	(37)	—	(42)
Reclassification between long-term and short-term	(417)	417	—	—	—
Liabilities associated with assets held for sale	—	—	—	(30)	(30)
Additions ⁽³⁾	—	—	—	117	117
Other	—	2	—	(11)	(9)
31 December 2024	2 918	969	88	863	4 838
1 January 2023	4 249	228	246	1 042	5 765
Cash flows	(283)	(40)	(19)	(239)	(581)
Non-cash changes:					
Changes in foreign exchange rates	(34)	(3)	25	(12)	(24)
Changes in fair value	83	—	(79)	—	4
Reclassification between long-term and short-term	(374)	374	—	—	—
Additions ⁽³⁾	—	—	—	206	206
Other	(4)	(5)	1	—	(8)
31 December 2023	3 637	554	174	997	5 362

(1) Includes derivatives designated in fair value and cash flow hedge accounting relationships as well as derivatives not designated in hedge accounting relationship but hedging identifiable long-term borrowing exposure.

(2) Includes non-current and current lease liabilities. In 2024, cash flows exclude Submarine Networks' cash flows after it was classified as held for sale and a discontinued operation.

(3) Includes new lease contracts as well as modifications and remeasurements of existing lease contracts.

Notes to the consolidated financial statements continued

The following table presents an undiscounted, contractual cash flow analysis for lease liabilities, financial liabilities and financial assets presented on the statement of financial position as well as loan commitments given and obtained. The line-by-line analysis does not directly reconcile with the statement of financial position.

EURm	2024						2023						
	Due					Total	Due					Total	
	within 3 months	between 3 and 12 months	between 1 and 3 years	between 3 and 5 years	beyond 5 years		within 3 months	between 3 and 12 months	between 1 and 3 years	between 3 and 5 years	beyond 5 years		
Non-current financial assets													
Non-current interest-bearing financial investments	3	5	359	129	—	496	—	—	394	385	—	779	
Other non-current financial assets ⁽¹⁾	—	—	57	8	48	113	—	—	60	8	46	114	
Current financial assets													
Other current financial assets excluding derivatives ⁽¹⁾	318	99	—	—	—	417	216	31	—	—	—	247	
Current interest-bearing financial investments ⁽²⁾	1 390	279	—	—	—	1 669	998	595	—	—	—	1 593	
Cash and cash equivalents ⁽²⁾	6 351	114	80	83	25	6 653	6 017	52	30	138	26	6 263	
Cash flows related to derivative financial assets net settled:													
Derivative contracts – receipts	(6)	3	(1)	(1)	4	(1)	(7)	(2)	(11)	(12)	(10)	(42)	
Cash flows related to derivative financial assets gross settled:													
Derivative contracts – receipts	5 492	2 471	1 081	114	—	9 158	8 407	1 582	358	6	—	10 353	
Derivative contracts – payments	(5 428)	(2 416)	(1 017)	(106)	—	(8 967)	(8 349)	(1 560)	(353)	(6)	—	(10 268)	
Trade receivables	4 529	933	39	—	—	5 501	3 834	1 316	184	—	—	5 334	
Non-current financial and lease liabilities													
Long-term interest-bearing liabilities	(21)	(103)	(1 345)	(926)	(1 441)	(3 836)	(33)	(115)	(1 766)	(1 200)	(1 528)	(4 642)	
Long-term lease liabilities	—	—	(294)	(172)	(266)	(732)	—	—	(353)	(199)	(304)	(856)	
Other non-current financial liabilities	(12)	—	(23)	(10)	—	(45)	—	—	(11)	(11)	(11)	(33)	
Current financial and lease liabilities													
Short-term interest-bearing liabilities	(603)	(386)	—	—	—	(989)	(473)	(98)	—	—	—	(571)	
Short-term lease liabilities	(64)	(175)	—	—	—	(239)	(44)	(179)	—	—	—	(223)	
Other financial liabilities excluding derivatives ⁽³⁾	(490)	(2)	—	—	—	(492)	(458)	(24)	—	—	—	(482)	
Cash flows related to derivative financial liabilities net settled:													
Derivative contracts – payments	(2)	(14)	(10)	3	—	(23)	(4)	(29)	(41)	(12)	—	(86)	
Cash flows related to derivative financial liabilities gross settled:													
Derivative contracts – receipts	5 517	1 400	965	160	784	8 826	6 475	1 322	735	541	767	9 840	
Derivative contracts – payments	(5 635)	(1 458)	(1 013)	(174)	(777)	(9 057)	(6 553)	(1 353)	(806)	(551)	(858)	(10 121)	
Discounts without performance obligations	(222)	(149)	(6)	(3)	—	(380)	(151)	(212)	(40)	(1)	—	(404)	
Trade payables	(3 049)	(126)	(25)	(12)	(1)	(3 213)	(3 154)	(204)	(64)	—	(1)	(3 423)	
Commitments given and obtained													
Loan commitments given undrawn ⁽⁴⁾	(5)	(6)	—	—	—	(11)	(1)	(4)	—	—	—	(5)	
Loan commitments obtained undrawn ⁽⁵⁾	(1)	148	1 410	—	—	1 557	(1)	86	1 408	—	—	1 493	
Venture fund commitments undrawn ⁽⁶⁾	306	—	—	—	—	306	381	—	—	—	—	381	

(1) Other non-current financial assets and other current financial assets excluding derivatives mainly include financial receivables from customers and suppliers.

(2) Instruments that include a call feature have been presented at their final maturities. Instruments that are contractually due beyond three months include EUR 306 million (EUR 332 million in 2023) of instruments that have a call period of less than three months.

(3) Other financial liabilities excluding derivatives include a conditional obligation to China Huaxin presented in the earliest period as the exercise period is open.

(4) Loan commitments given undrawn have been included in the earliest period in which they could be drawn or called.

(5) Loan commitments obtained undrawn have been included based on the period in which they expire. These amounts include related commitment fees.

(6) The timing of draw downs for these commitments are dependent on investment decisions of various venture funds and these are typically spread over a time period of several years. For further information on venture fund commitments, refer to Note 6.1. Commitments, contingencies and legal proceedings.

Notes to the consolidated financial statements continued

Section 6

Other
information

This section contains information on Nokia's off-balance sheet commitments and contingencies, Group structure and related party transactions, as well as post reporting date events.

6.1. Commitments, contingencies and legal proceedings

Contractual obligations

EURm	Within 1 year	1-5 years	More than 5 years
2024			
Purchase obligations	2 538	697	3
Lease commitments ⁽¹⁾	9	86	573
2023			
Purchase obligations	3 630	767	14
Lease commitments ⁽¹⁾	—	54	570

(1) Relates to lease contracts that had not yet commenced as at the reporting date.

At 31 December 2024, Nokia has potential undiscounted future lease payments of EUR 812 million (EUR 838 million in 2023) relating to extension options not expected to be exercised and EUR 58 million (EUR 33 million in 2023) relating to termination options expected to be exercised that are not included in the lease liability.

Guarantees and financing commitments

The contingent liabilities in the table below represent the maximum principal amount of guarantees and financing commitments, and do not reflect management's expected outcomes.

EURm	2024	2023
Guarantees on behalf of Group companies		
Guarantees issued by financial institutions		
Commercial guarantees ⁽¹⁾	964	1 477
Non-commercial guarantees	498	615
Corporate guarantees ⁽²⁾		
Commercial guarantees ⁽¹⁾	263	325
Non-commercial guarantees	33	35
Financing commitments		
Customer finance commitments ⁽³⁾	11	5
Venture fund commitments ⁽⁴⁾	306	381

- (1) Commercial guarantees are guarantees that are issued in the normal course of business to Nokia's customers for the performance of Nokia's obligations under supply agreements; these include tender bonds, performance bonds and warranty bonds.
- (2) Corporate guarantees are guarantees with a primary obligation that are issued to Nokia's customers and other third parties.
- (3) Customer finance commitments are available under customer loan facilities. Availability of the facility depends on the borrower's continuing compliance with the agreed financial and operational covenants, and other administrative terms of the facility. The loan facilities are primarily available to fund purchases of network infrastructure equipment and services. Refer to Note 4.5. Trade receivables and other customer-related balances.
- (4) As a limited partner in NGP Capital and certain other funds making technology-related investments, Nokia is committed to capital contributions and entitled to cash distributions according to the respective partnership agreements and underlying fund activities.

Notes to the consolidated financial statements continued

Legal matters

Accounting policies

Nokia discloses ongoing legal matters that relate to possible obligations whose existence will be confirmed by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of Nokia. These matters are assessed continually to determine whether an outflow of resources embodying economic benefits has become probable so as to recognize a provision.

Nokia is and will likely continue to be subject to various legal proceedings that arise from time to time, including proceedings related to intellectual property, antitrust, commercial disputes, product liability, environmental issues, tax, health and safety, employment and wrongful discharge, sales and marketing practices, international trade, securities, privacy matters and compliance. While management does not expect any of the legal proceedings it is currently aware of to have a material adverse effect on Nokia's financial position, litigation is inherently unpredictable, and Nokia may in the future receive judgments or enter into settlements that could have a material adverse effect on its results or cash flows.

Litigation and proceedings

Mass labor litigation in Brazil

Nokia is defending against a number of labor claims in various Brazilian labor courts. Plaintiffs are former employees whose contracts were terminated after Nokia exited from certain managed services contracts. The claims mainly relate to payments made under, or in connection with, the terminated labor contracts. Nokia has closed the majority of the court cases through settlement or judgment.

Asbestos litigation in the United States

Nokia is defending approximately 300 asbestos-related matters, at various stages of litigation. The claims are based on premises liability, products liability, and contractor liability. The claims also involve plaintiffs allegedly diagnosed with various diseases, including but not limited to asbestosis, lung cancer, and mesothelioma.

Intellectual property rights litigation

Amazon

In 2023, Nokia commenced patent infringement proceedings against Amazon in several countries. The patents in suit cover video-related technologies implemented in Amazon's services and devices. Amazon filed patent infringement proceedings in relation to its patents against Nokia in the US and counterclaims to Nokia's actions, including a UK rate setting action. Amazon's appeals against the preliminary injunction awarded to Nokia in a regional court in Brazil were denied. In September 2024, a regional court in Germany ruled that Amazon was infringing one of Nokia's patents and issued an injunction.

Litigations concluded during the year

During 2024, Nokia has concluded separate multi-year patent license agreements with OPPO, vivo, Verifone and HP, thereby resolving all pending patent litigations between the parties in all jurisdictions. In addition, in 2024, Continental withdrew the breach of contract and FRAND (fair, reasonable and non-discriminatory terms) -related claims it had brought against Nokia, thus ending the on-going dispute between the parties.

Notes to the consolidated financial statements continued

6.2. Group companies

The Group's subsidiaries at 31 December 2024

Country of incorporation	Company name	Parent holding %	Group ownership interest %	Country of incorporation	Company name	Parent holding %	Group ownership interest %	
Finland	Comptel Oy	—	100.0	China	Alcatel-Lucent Shanghai Bell Information Products Co., Ltd.	—	50.0	
	Nokia Innovations Oy	100.0	100.0		Hunan Huanuo Technology Co., Ltd.	—	50.0	
	Nokia Investments Oy	100.0	100.0		Lucent Technologies Investment Co., Ltd.	—	100.0	
	Nokia Solutions and Networks Asset Management Oy	—	100.0		Lucent Technologies Qingdao Telecommunications Systems Ltd.	—	51.0	
	Nokia Solutions and Networks Branch Operations Oy	—	100.0		Nokia (Shanghai) Enterprise Management Co., Ltd.	—	100.0	
	Nokia Solutions and Networks Oy	100.0	100.0		Nokia Networks (Chengdu) Co., Ltd.	—	50.0	
	Nokia Technologies Oy	100.0	100.0		Nokia Shanghai Bell Co., Ltd. ⁽¹⁾	—	50.0	
	Nokia Teknologia Oy	100.0	100.0		Nokia Shanghai Bell Software Co., Ltd.	—	50.0	
Afghanistan	Nokia Siemens Networks Afghanistan LLC	—	100.0	Nokia Solutions and Networks (Suzhou) Co., Ltd.	—	100.0		
Algeria	Nokia Algeria Sarl	—	100.0	Nokia Solutions and Networks (Suzhou) Supply Chain Service Co., Ltd.	—	100.0		
Angola	Alcatel-Lucent Angola, Limitada	—	100.0	Nokia Solutions and Networks Investment (China) Co., Ltd.	—	100.0		
Argentina	Nokia Solutions and Networks Argentina S.A.	—	100.0	Nokia Solutions and Networks System Technology (Beijing) Co., Ltd.	—	50.0		
Armenia	Nokia Solutions and Networks CJSC	—	100.0	RFS Radio Frequency Systems (Shanghai) Co., Ltd.	—	50.0		
Australia	Nokia Services Pty Limited	—	100.0	Colombia	Nokia Solutions and Networks Colombia Ltda.	—	100.0	
	Nokia Solutions and Networks Australia Pty Ltd	—	100.0		Costa Rica	Alcatel Centroamerica S.A.	—	100.0
	Radio Frequency Systems Pty Limited	—	50.0			Nokia Costa Rica S.A.	—	100.0
Austria	IRIS Telecommunication Austria GmbH	—	100.0	Croatia	Nokia Solutions and Networks d.o.o.	—	100.0	
	Nokia Solutions and Networks Holding Österreich GmbH	—	100.0		Czech Republic	Nokia Solutions and Networks Czech Republic, s.r.o.	—	100.0
	Nokia Solutions and Networks Österreich GmbH	—	100.0	Denmark		Nokia Denmark A/S	—	100.0
Azerbaijan	Nokia Solutions and Networks Baku LLC	—	100.0	Dominican Republic	Nokia Dominican Republic, S.A.S.	—	100.0	
Bangladesh	Nokia Solutions and Networks Bangladesh Limited	—	100.0	Ecuador	Nokia Solutions and Networks Ecuador S.A.	—	100.0	
Belgium	Nokia Bell NV	—	100.0	Egypt	Nokia Egypt S.A.E.	—	100.0	
Bolivia	Nokia Solutions and Networks Bolivia S.A.	—	100.0	El Salvador	Nokia El Salvador, S.A. de C.V.	—	100.0	
	Nokia Solutions and Networks d.o.o. Banja Luka	—	100.0	Estonia	Nokia Solutions and Networks OÜ	—	100.0	
	Nokia Solutions and Networks d.o.o., Sarajevo	—	100.0		France	Alcatel Lucent	—	100.0
Brazil	Nokia Solutions and Networks do Brasil Telecomunicações Ltda.	—	100.0	Camilec		—	100.0	
	RFS Brasil Telecomunicações Ltda.	—	50.0	Evolium	—	100.0		
Bulgaria	Nokia Solutions and Networks EOOD	—	100.0	Nokia Networks France	—	100.0		
Cameroon	Societe de Telecommunication Camerounaise - Sotelcam	—	99.6	Nokia Participations	—	100.0		
Canada	Nokia Canada Inc.	—	100.0	Nokia Participations Chine	—	100.0		
Chile	Nokia Solutions and Networks Chile Ltda.	—	100.0					

Notes to the consolidated financial statements continued

Country of incorporation	Company name	Parent holding %	Group ownership interest %	Country of incorporation	Company name	Parent holding %	Group ownership interest %
	Radio Frequency Systems France	—	50.0	Lao Peoples Democratic Republic	Nokia Shanghai Bell Lao Sole Co. Ltd.	—	50.0
Germany	Alcatel SEL Unterstutzungs GmbH	—	100.0	Latvia	Nokia Solutions and Networks SIA	—	100.0
	IRIS Telecommunication GmbH	—	100.0	Lithuania	UAB Nokia Solutions and Networks	—	100.0
	Nokia Asset Verwaltungsgesellschaft mbH	—	100.0	Malaysia	Comptel Communications Sdn Bhd	—	100.0
	Nokia Display Technics GmbH i.L.	—	100.0		Nokia Services and Networks Malaysia Sdn. Bhd.	—	100.0
	Nokia Electronics Bochum GmbH i.L.	—	100.0	Mexico	Nokia Operations de México S.A. de C.V.	—	100.0
	Nokia Kunststofftechnik GmbH i.L.	—	100.0		Radio Frequency Systems de Mexico S.A. de C.V.	—	50.0
	Nokia Solutions and Networks GmbH & Co. KG	—	100.0	Moldova	"Nokia Solutions and Networks" S.R.L.	—	100.0
	Nokia Solutions and Networks International Holding GmbH	—	100.0	Morocco	Nokia Solutions and Networks Morocco SARL	—	100.0
	Nokia Solutions and Networks Management GmbH	—	100.0	Myanmar	Nokia Solutions and Networks Myanmar Limited	—	100.0
	Nokia Technology GmbH	—	100.0	Netherlands	Alcatel-Lucent RT International B.V.	—	50.0
	Nokia Unterstutzungsgesellschaft mbH	—	100.0		Alcatel-Lucent Services International B.V.	—	100.0
	RFS Holding GmbH	—	50.0		Nokia Solutions and Networks B.V.	—	100.0
Greece	Nokia Solutions and Networks Hellas Single Member S.A.	—	100.0	New Zealand	Nokia New Zealand Limited	—	100.0
Guatemala	Nokia Operations de Guatemala, S.A.	—	100.0	Nicaragua	Lucent Technologies Nicaragua, S.A.	—	100.0
Hong Kong	Nokia Hong Kong Limited	—	100.0	Nigeria	Alcatel-Lucent Nigeria Limited	—	100.0
	Nokia Shanghai Bell (Hong Kong) Limited	—	50.0		Nokia Solutions and Networks Nigeria Ltd.	—	100.0
Hungary	Nokia Solutions and Networks Kft.	—	100.0	Norway	Nokia Solutions and Networks Norge AS	—	100.0
	Nokia Solutions and Networks TraffiCOM Kft.	—	99.0	Pakistan	Alcatel-Lucent Pakistan Limited	—	90.0
India	Comptel Communications India Private Limited	—	100.0		Nokia Solutions and Networks Pakistan (Private) Limited	—	100.0
	Nokia India Private Limited	100.0	100.0	Paraguay	Nokia Paraguay S.A.	—	100.0
	Nokia Solutions and Networks India Private Limited	—	100.0	Peru	Nokia Solutions and Networks Peru S.A.	—	100.0
	Noktel Teleequipments Manufacturers India Private Limited	—	100.0	Philippines	Lucent Technologies Philippines Inc.	—	100.0
	RFS India Telecom Private Limited	—	50.0		Nokia Shanghai Bell Philippines, Inc.	—	50.0
Indonesia	PT Nokia Solutions and Networks Indonesia	—	100.0		Nokia Solutions and Networks Philippines, Inc.	—	100.0
Iran	Pishahang Communications Networks Development Company (Private Joint Stock)	—	90.0	Poland	IRIS Telecommunication Poland sp. z o.o.	—	100.0
Ireland	Nokatus Insurance Company Designated Activity Company (DAC)	100.0	100.0		Nokia Solutions and Networks sp. z o.o.	—	100.0
	Nokia Ireland Limited	—	100.0	Portugal	Alcatel-Lucent Portugal, S.A.	—	100.0
Israel	Nokia Solutions and Networks Israel Ltd.	—	100.0		Nokia Solutions and Networks Portugal S.A.	—	100.0
Italy	Nokia Solutions and Networks Italia S.p.A.	—	100.0	Puerto Rico	Nokia Puerto Rico Inc.	—	100.0
	Nokia Solutions and Networks S.p.A.	—	100.0	Romania	Nokia Networks S.R.L.	—	99.2
Jamaica	Nokia Jamaica Limited	—	100.0	Russia	AO "Nokia Solutions and Networks"	—	100.0
Japan	Nokia Innovations Japan G.K.	—	100.0		OOO "Nokia Solutions and Networks"	—	100.0
	Nokia Solutions and Networks Japan G.K.	—	100.0	Saudi Arabia	Alcatel-Lucent Saudi Arabia Co., Ltd.	—	100.0
Kazakhstan	"Nokia Solutions and Networks Kazakhstan" LLP	—	100.0		Nokia Arabia Limited	—	100.0
Kuwait	Nokia Solutions and Networks Kuwait W.L.L.	—	49.0		Nokia Regional Headquarters Company	—	100.0

Notes to the consolidated financial statements continued

Country of incorporation	Company name	Parent holding %	Group ownership interest %	Country of incorporation	Company name	Parent holding %	Group ownership interest %
Senegal	Nokia West and Central Africa SA	—	100.0		Fenix Group, Inc.	—	100.0
Serbia	Nokia Solutions and Networks Serbia d.o.o. Beograd	—	100.0		MRAC, Inc.	—	100.0
Singapore	Nokia Solutions and Networks Singapore Pte. Ltd.	—	100.0		Nassau Metals Corporation	—	100.0
Slovakia	Nokia Slovakia, A.S.	—	100.0		Nokia Apps Distribution LLC	—	100.0
Slovenia	Nokia Solutions and Networks, telekomunikacijske resitve, d.o.o.	—	100.0		Nokia Federal Solutions LLC	—	100.0
South Africa	Nokia Solutions and Networks South Africa (Pty) Ltd	—	100.0		Nokia Innovations US LLC	—	100.0
	Nokia South Africa (Pty) Ltd	—	69.9		Nokia Investment Management Corporation	—	100.0
South Korea	Nokia Solutions and Networks Korea Ltd.	—	100.0		Nokia of America Corporation	—	100.0
Spain	Nokia Spain, S.A.	—	100.0		Nokia US Holdings Inc.	—	100.0
	Nokia Transformation, Engineering & Consulting Services Spain S.L.U.	—	100.0		SAC AE Design Group, Inc.	—	100.0
Sri Lanka	Nokia Solutions and Networks Lanka (Private) Limited	—	100.0		SAC Wireless of CA, Inc.	—	100.0
Sweden	Nokia Solutions and Networks AB	—	100.0		SAC Wireless, LLC	—	100.0
Switzerland	Alcatel-Lucent Trade International AG	—	100.0	Uruguay	Western Electric Company Incorporated	—	100.0
	Nokia Solutions and Networks Schweiz AG	—	100.0	Uzbekistan	Nokia Solutions and Networks Tashkent LLC	—	100.0
Taiwan	Nokia Solutions and Networks Taiwan Co., Ltd.	—	100.0	Venezuela	Alcatel de Venezuela C.A.	—	100.0
	Taiwan International Standard Electronics Limited	—	60.0		Nokia Solutions and Networks Venezuela C.A.	—	100.0
Tanzania	Nokia Solutions and Networks Tanzania Limited	—	100.0	Vietnam	Alcatel-Lucent Vietnam Limited	—	100.0
Thailand	Nokia (Thailand) Co., Ltd.	—	100.0		Nokia Solutions and Networks Technical Services Vietnam Company Limited	—	100.0
Tunisia	Nokia Solutions and Networks CCC	—	100.0				
	Nokia Solutions and Networks Tunisia SA	—	100.0				
Turkey	Alcatel Lucent Teletas Telekomunikasyon A.S.	—	65.0				
	IRIS Telekomünikasyon Mühendislik Hizmetleri A.S.	—	100.0				
	Nokia Solutions Networks Iletisim A.S.	—	100.0				
Ukraine	LLC "Nokia Solutions and Networks Ukraine"	—	100.0				
United Arab Emirates	Alcatel Lucent Middle East and North Africa DMCC	—	100.0				
	Nokia Networks LLC	—	100.0				
	Nokia Solutions and Networks AE FZ-LLC	—	100.0				
	Nokia Solutions and Networks LLC - OPC	—	100.0				
United Kingdom	Alcatel IP Networks Limited	—	100.0				
	Alcatel-Lucent Centro Caribbean Holding Limited	—	100.0				
	Nokia Software UK Limited	—	100.0				
	IRIS Service Delivery UK Ltd	—	100.0				
	Nokia UK Limited	—	100.0				
	STC	—	100.0				
United States	Alcatel-Lucent International Holdings Inc.	—	100.0				
	Bell Laboratories Inc.	—	100.0				

(1) Nokia Group owns 50% plus 1 share of Nokia Shanghai Bell Co., Ltd. with China Huaxin, an entity controlled by the Chinese government, holding the remaining ownership interests. Nokia Shanghai Bell Co., Ltd. is the parent company of the Nokia Shanghai Bell Group (NSB Group). Refer to Note 6.3. Significant partly-owned subsidiaries.

Notes to the consolidated financial statements continued

The Group's associated companies and joint ventures at 31 December 2024

Country of incorporation	Company name	Parent holding %	Group ownership interest %
Finland	HMD Global Oy	—	10.0
Austria	TETRON Sicherheitsnetz Errichtungs-und BetriebsgmbH	—	35.0
China	Alcatel Shenyang Telecommunication Co., Ltd.	—	27.5
	Fujian FUNO Mobile Communication Technology Co.,Ltd.	—	49.0
	Zhejiang Bell Technical Co., Ltd.	—	20.0
Cuba	Copal, S.A.	—	49.0
France	ASN Holding	—	20.0
	Cibair	—	19.0
	III - V LAB	—	40.0
Hong Kong	TD Tech Holding Limited	—	51.0
Nigeria	ITT Nigeria Limited	—	40.0
Saudi Arabia	Nokia Solutions and Networks Al-Saudia Co. Limited	—	49.0
United States	MobileMedia Ideas LLC	—	40.0

Notes to the consolidated financial statements continued

6.3. Significant partly-owned subsidiaries

Nokia holds an ownership interest of 50% plus one share in Nokia Shanghai Bell's parent company, Nokia Shanghai Bell Co., Ltd. (NSB), with China Huaxin Post & Telecommunication Economy Development Center (China Huaxin) holding the remaining ownership interests. Nokia applied judgment to conclude that it is able to control NSB based on an assessment of various factors including the ability to nominate key management personnel, decision-making related to the management of NSB operations and Nokia's exposure to variable returns from NSB.

In 2017, Nokia entered into a contractual arrangement providing China Huaxin with the right to fully transfer its ownership interest in NSB to Nokia and Nokia with the right to purchase China Huaxin's ownership interest in NSB in exchange for a future cash settlement. To reflect this, Nokia derecognized the non-controlling interest balance related to NSB and recognized a financial liability based on the estimated future cash settlement to acquire China Huaxin's ownership interest.

In 2024, Nokia and China Huaxin have been together reviewing the future ownership structure of NSB. Following those discussions, Nokia exercised its call option, outlined in NSB's shareholders' agreement, to initiate the process to become the sole shareholder by purchasing China Huaxin's approximately 50% share in NSB. The execution of the call option is subject to completing required steps under NSB's shareholders' agreement.

The measurement of the financial liability is complex as it involves estimation of the expected future cash settlement and the distribution of excess cash balances. In 2024, Nokia recognized a EUR 5 million loss (EUR 2 million loss in 2023) in financial income and expenses to reflect a change in the estimated future cash settlement. At 31 December 2024, the expected future cash settlement amounted to EUR 487 million (EUR 455 million in 2023).

Financial information for the Nokia Shanghai Bell Group

Financial information below is presented after elimination of intercompany transactions between entities within the Nokia Shanghai Bell Group but before elimination of intercompany transactions with the rest of the Nokia Group.

EURm	2024	2023
Summarized income statement		
Net sales ⁽¹⁾	760	979
Operating profit/(loss)	46	(6)
Profit/(loss) for the year	11	(26)
Profit/(loss) for the year attributable to:		
Equity holders of the parent	11	(26)
Non-controlling interests ⁽²⁾	—	—
Summarized statement of financial position		
Non-current assets	353	400
Non-current liabilities	(59)	(100)
Non-current net assets	294	300
Current assets ⁽³⁾	1 622	1 642
Current liabilities	(854)	(900)
Current net assets	768	742
Net assets⁽⁴⁾	1 062	1 042
Non-controlling interests ⁽²⁾	—	—
Summarized statement of cash flows		
Net cash flows from operating activities	204	51
Net cash flows (used in)/from investing activities	(2)	2
Net cash flows used in financing activities	(85)	(41)
Translation differences	26	(38)
Net increase/(decrease) in cash and cash equivalents	143	(26)

(1) Includes EUR 11 million (EUR 19 million in 2023) net sales to other Nokia Group entities.

(2) Based on the contractual arrangement with China Huaxin, Nokia does not recognize any non-controlling interest in NSB.

(3) Includes a total of EUR 843 million (EUR 700 million in 2023) of cash and cash equivalents.

(4) The distribution of the profits of NSB requires the passing of a special resolution by more than two-thirds of its shareholders, subject to a requirement that at least 50% of the after-tax distributable profits are distributed as dividends each year.

Notes to the consolidated financial statements continued

6.4. Related party transactions

Nokia has related party transactions with its subsidiaries, associated companies, joint ventures and pension funds as well as the management and the Board of Directors. Transactions and balances between group companies are eliminated on consolidation. For more information on principles of consolidation and principal Group companies, refer to Note 1.2. General accounting policies, and Note 6.2. Principal Group companies, respectively.

Transactions and balances with associated companies and joint ventures

EURm	2024	2023	2022
Sales	36	46	74
Purchases	(147)	(141)	(127)
Trade and other receivables	73	18	36
Trade and other payables	(35)	(31)	(26)

Investments in associated companies and joint ventures are individually immaterial. The aggregate carrying amount for the investments in associated companies and joint venture was EUR 124 million in 2024 (EUR 88 million in 2023).

On December 2024, Nokia completed the sale of Alcatel Submarine Networks (ASN) to the French State. Nokia retained a 20% shareholding with board representation to ensure a smooth transition until targeted exit, at which point it is planned for the French State to acquire Nokia's remaining interest. The retained interest is accounted for as an investment in an associate. Refer to Note 2.6. Discontinued operations for more information on disposal of the Submarine Networks business.

Nokia holds a 51% ownership interest in TD Tech Holding Limited ("TD Tech HK"), a Hong Kong based joint venture holding company which Nokia has accounted for as an investment in associated companies and joint ventures. In 2024, TD Tech HK completed the divestment of the entire business of the joint venture through the sale of its operating subsidiaries to a consortium consisting of Huawei Technologies, Chengdu High-tech Investment Group and other buyers. Following the divestment, Nokia is in the process of exiting from its shareholding in the parent company TD Tech HK. Nokia considered the transactions as a sale of associated companies and joint ventures, recorded a gain of EUR 191 million related to the sale and received a cash consideration of EUR 248 million from the sale in 2024.

In 2016, Nokia entered into a strategic agreement with HMD Global Oy (HMD) granting HMD an exclusive global license to create Nokia branded mobile phones and tablets for 10 years. Under the agreement, Nokia receives royalty payments from HMD for sales of Nokia branded mobile phones and tablets, covering both brand and patent licensing. In August 2023, Nokia and HMD amended the licensing agreement so that HMD's exclusive license to create Nokia branded devices will expire by March 2026. Nokia has held an ownership interest in HMD since 2020 which it has accounted for as an investment in associate. In 2023, Nokia recorded an impairment loss of EUR 28 million related to its investment in HMD in the share of result of associates and joint ventures.

Transactions with pension funds

Nokia has borrowings of EUR 35 million (EUR 37 million in 2023) from Nokia's German pension fund, a separate legal entity. The indefinite loan bears 6% annual interest and can be terminated by either party with a 90-day notice. The loan is included in short-term interest-bearing liabilities in the statement of financial position. For more information on Nokia's post-employment benefit plans, refer to Note 3.4. Pensions and other post-employment benefits.

Transactions with the Group Leadership Team and the Board of Directors

No loans were granted to the members of the Group Leadership Team and the Board of Directors in 2024, 2023 or 2022. For information on remuneration of Nokia's key management personnel, refer to Note 3.2. Remuneration of key management.

6.5. Subsequent events

Non-adjusting events after the reporting period

Change of President and CEO

On 10 February 2025, Nokia announced its President and CEO, Pekka Lundmark, will step down effective 31 March 2025. The Board of Directors has appointed Justin Hotard as the next President and CEO. He will start in his new role on 1 April 2025. Mr. Lundmark will stay on as an advisor to Mr. Hotard until the end of the year to ensure a smooth transition.

Mr. Hotard joins Nokia with more than 25 years of experience with global technology companies, driving innovation and technology leadership as well as delivering revenue growth. He currently leads the Data Center & AI Group at Intel. Prior to this role, he held several leadership roles at large technology companies, including Hewlett Packard Enterprise and NCR Corporation.

Infinera acquisition

On 28 February 2025, Nokia completed the acquisition of Infinera Corporation (Infinera), pursuant to the definitive agreement announced on 27 June 2024. Infinera, the San Jose based global supplier of innovative open optical networking solutions and advanced optical semiconductors, has become part of the Nokia group effective as of the closing with Nokia holding 100% of its equity and voting rights. The acquisition will significantly improve Nokia's scale and profitability in optical networks, and accelerate Nokia's growth strategy in data centers and strengthen its presence both in North America and with webscale customers.

The aggregated consideration transferred of EUR 1.7 billion is a combination of cash of EUR 1.1 billion and Nokia shares in the form of American Depository Shares of EUR 0.6 billion, corresponding to 127 434 986 shares. Additionally, the acquisition resulted in a make whole conversion for Infinera's convertible senior notes in line with relevant bond indentures. Following the ongoing conversion and subsequent observation period for Nokia stock price, any surrendered notes are expected to be settled in cash during the second quarter of 2025.

Nokia will report the acquired business as part of its Network Infrastructure segment. The acquisition will be accounted for as a business combination using the acquisition method. Nokia is currently in the process of determining the initial purchase accounting for this transaction. Considering the timing of the acquisition and the issuance of consolidated financial statements for the year ended 31 December 2024, Nokia determined it to be impracticable to disclose a preliminary purchase price allocation at this time.

Parent Company income statement

EURm	Note	2024	2023
Net sales		—	1
Gross profit		—	1
Selling, general and administrative expenses		(67)	(59)
Other operating income	4	14	7
Other operating expenses	4	(23)	(7)
Operating loss		(76)	(58)
Financial income and expenses			
Income from non-current investments	5	50	411
Interest and other financial income	5	549	638
Interest and other financial expenses	5	(622)	(654)
Loss on sale of liquidated businesses	5	(2)	—
Total financial income and expenses		(25)	395
(Loss)/profit before tax		(101)	337
Income tax	6	2	9
(Loss)/profit for the year		(99)	346

The notes are an integral part of these financial statements.

Parent Company statement of financial position

At 31 December

EURm	Note	2024	2023	EURm	Note	2024	2023
ASSETS				SHAREHOLDERS' EQUITY AND LIABILITIES			
Non-current assets				Shareholders' equity			
Intangible rights		2	2	Share capital	10	246	246
Total intangible assets		2	2	Share premium	10	46	46
Land and water areas	7	8	9	Fair value and other reserves	10	41	21
Buildings	7	65	69	Reserve for invested unrestricted equity	10	13 448	14 849
Machinery and equipment	7	1	1	Retained earnings	10	1 025	1 394
Other tangible assets	7	4	4	(Loss)/profit for the year	10	(99)	346
Assets under construction	7	8	3	Total equity		14 707	16 902
Total tangible assets		86	86	Provisions	11	30	47
Investments in subsidiaries	8	18 192	18 695	Non-current liabilities			
Non-current interest-bearing financial investments	8, 13	457	715	Long-term interest-bearing liabilities	12, 13	2 647	3 383
Other non-current financial investments	8, 13	1	1	Total non-current liabilities		2 647	3 383
Total investments		18 650	19 411	Current liabilities			
Non-current loan receivables from Group companies	13	1 412	2 714	Short-term interest-bearing liabilities to Group companies	12, 13	8 179	9 228
Non-current loan receivables from other companies	13	16	1	Short-term interest-bearing liabilities to other companies	12, 13	914	475
Other non-current receivables		23	28	Other financial liabilities to Group companies	13	35	88
Deferred tax assets	6	19	19	Other financial liabilities to other companies	13	1 605	740
Total other non-current assets		1 470	2 762	Accounts payable to Group companies		48	54
Total non-current assets		20 208	22 261	Accounts payable to other companies		37	20
Current assets				Accrued expenses and other liabilities to Group companies	15	33	43
Current interest-bearing financial investments	13	1 576	1 512	Accrued expenses and other liabilities to other companies	15	92	88
Current loan receivables from Group companies	13	1 187	2 362	Total current liabilities		10 943	10 736
Other financial assets from Group companies	13, 14	43	101	Total liabilities		13 590	14 119
Other financial assets from other companies	13, 14	225	131	Total shareholders' equity and liabilities		28 327	31 068
Prepaid expenses and accrued income from Group companies ⁽¹⁾	9	158	162				
Prepaid expenses and accrued income from other companies ⁽¹⁾	9	509	491				
Total current assets		3 698	4 759				
Cash and cash equivalents	13	4 421	4 048				
Total assets		28 327	31 068				

(1) Classification of balance sheet items was changed in 2024. The comparative year has been revised accordingly.

The notes are an integral part of these financial statements.

Parent Company statement of cash flows

For the year ended 31 December

EURm	2024	2023	EURm	2024	2023
Cash flow from operating activities					
(Loss)/profit for the year	(99)	346	Capital return on shares in subsidiary companies	502	—
Adjustments, total	117	(343)	Dividends received from subsidiary companies	—	411
Depreciation and amortization	3	6	Purchase of property, plant and equipment and intangible assets	(6)	(5)
Income tax	(2)	(9)	Proceeds from sale of property, plant and equipment and other intangible	—	4
Financial income and expenses, net	73	16	Proceeds from other non-current receivables	1 400	4
Other financial items	(50)	(411)	Proceeds from current receivables	1 120	2 471
Share-based payment	99	59	Purchase of non-current investments	(278)	(290)
Provisions	(10)	—	Proceeds from non-current investments	544	190
Disposals of intangible and tangible assets	3	—	Purchase of current investments	(579)	(1 487)
Gain on sale of property, plant & equipment	—	(4)	Proceeds from current investments	560	3 156
Liquidation of a subsidiary	2	—	Net cash from investing activities	3 263	4 454
Other income and expenses	(1)	—	Purchase of own shares	(680)	(300)
Change in net working capital			Payments of long-term borrowings	(1 049)	(300)
Decrease/(increase) in receivables	10	(37)	Payments of short-term borrowings	(358)	(1 890)
Increase/(decrease) in non-interest-bearing liabilities	6	(5)	Dividends paid	(715)	(612)
Cash from/(used in) operations	34	(39)	Group contributions, net	—	(560)
Interest received	486	589	Net cash used in financing activities	(2 802)	(3 662)
Interest paid	(603)	(651)	Net increase in cash and cash equivalents	373	691
Other financial income and expenses paid/received, net	(2)	1	Cash and cash equivalents as of 1 January	4 048	3 357
Income taxes paid	(3)	(1)	Cash and cash equivalents as of 31 December	4 421	4 048
Net cash used in operating activities	(88)	(101)			

The notes are an integral part of these financial statements.

Notes to the Parent Company financial statements

1. Accounting principles

Basis of presentation

Nokia Corporation (Parent Company) is responsible for arranging Nokia's internal financing. Changes in the internal and external financing needs arising from changes in operative and organizational models affect the Parent Company's financial position.

Parent Company financial statements are prepared in accordance with the Finnish Accounting Standards (FAS). The Parent Company applies Chapter 5 section 2a of the Finnish Accounting Act to the recognition, measurement and presentation of derivative contracts and other financial instruments, as applicable, and thus applies the same accounting policies as in the consolidated financial statements.

The Parent Company has one branch which is located in Switzerland: Nokia Oyj, Succursale de Lancy. The branch is included in the Parent Company's financial statements. For the full list of all Group companies, refer to Note 6.2. Group companies in the consolidated financial statements.

Foreign currency translation

Financial statements of the Parent Company are presented in euro. Transactions in foreign currencies are recorded at exchange rates prevailing at the date of the transactions. For practical reasons, a rate that approximates the actual rate at the date of the transaction is often used. Monetary assets and liabilities denominated in foreign currency are translated at the exchange rates prevailing at the end of the reporting period. Foreign exchange gains and losses are recognized in financial income and expenses.

Share-based payments

The Parent Company offers three types of equity-settled share-based compensation plans for employees: performance shares, restricted shares and the employee share purchase plan. Share-based compensation is recognized as an expense when the shares are delivered. The settlement covers taxes and similar charges incurred.

Pensions

Contributions to pension plans are expensed in the period to which the contributions relate. Pension expenses are reported according to the local legislation.

Intangible assets and property, plant and equipment

Intangible assets are stated at cost less accumulated amortization. Property, plant and equipment is stated at cost less accumulated depreciation. Depreciation and amortization are recorded on a straight-line basis over the expected useful lives of the assets as follows:

Intangible assets	3–7 years
Buildings	20–33 years
Machinery and equipment	3–10 years

Land and water areas are not depreciated.

Classification and measurement of financial assets

Investments in subsidiaries are stated at cost or at cost less accumulated impairment, if the estimated future revenue generated by the investment is expected to be permanently lower than the acquisition cost. Interest-bearing financial assets with Group Companies are carried at nominal value and not in excess of their probable value. Derivative assets are classified at fair value through profit and loss. The Parent Company classifies its other financial assets into the following categories: financial assets measured at cost and financial assets measured at fair value through profit and loss. The selection of the appropriate category is made based on both the Parent Company's business model for managing the financial asset and on the contractual cash flow characteristics of the asset.

The business model for managing financial assets is defined on a portfolio level. The business model must be observable on a practical level by the way the business is managed. The cash flows of financial assets measured at cost are solely payments of principal and interest. These assets are held within a business model that has an objective to hold assets to collect contractual cash flows. Financial assets are measured at fair value through profit or loss if they do not meet the requirements of the aforementioned category. Additionally, the accounting for financial assets depends on whether the financial asset is part of a hedging relationship (see the section on hedge accounting below).

All purchases and sales of financial assets are recorded on the trade date, i.e. when the Parent Company commits to purchase or sell the asset. A financial asset is derecognized when substantially all the risks and rewards related to the financial

asset have been transferred to a third party that assumes control of the financial asset.

Interest-bearing financial investments

The Parent Company invests a portion of the corporate cash needed to cover the projected cash outflows of its ongoing business operations in highly liquid, interest-bearing investments. Interest-bearing financial investments may include investments measured at cost and investments measured at fair value through profit and loss.

Non-current interest-bearing financial investments are investments in highly liquid corporate bonds that are long-term in nature based on their maturity on the reporting date and are measured at cost and not in excess of their probable value.

Current interest-bearing financial investments in bank deposits, as well as fixed income and money market securities with initial maturity or put feature longer than three months that have characteristics of solely payments of principal and interest and are not part of structured investments, are managed in a portfolio with a business model of holding investments to collect principal and interest and measured at cost and not in excess of their probable value. These investments are executed with the main purpose of collecting contractual cash flows and principal repayments. However, investments are sold from time to time for liquidity management and market risk mitigation purposes.

Current interest-bearing financial investments may also include money market funds that do not qualify as cash equivalents, investments acquired for trading purposes, investment structures consisting of securities traded in combination with derivatives with complementing and typically offsetting risk factors and other investments that have cash flows not being solely payments of principal and interest. These investments are executed with the purpose of collecting contractual cash flows and principal repayments as well as for capital appreciation and can be sold at any time. These investments are classified as fair value through profit or loss, with fair value adjustments, foreign exchange gains and losses and realized gains and losses recognized in financial income and expenses in the income statement. The fair values of these investments are based on publicly available market information.

Corporate cash investments in bank deposits used as collateral for derivative transactions are measured at cost.

Notes to the Parent Company financial statements continued

Loans receivables from Group Companies

Loans are subject to quarterly review as to their collectability and available collateral. An allowance is made if a loan is deemed not to be fully recoverable. The related cost is recognized in financial expenses to reflect the shortfall between the carrying amount and the present value of the expected future cash flows. Interest income on loan receivables is recognized in financial income.

Cash and cash equivalents

Cash and cash equivalents include cash at bank and in hand as well as highly liquid, fixed-income and money-market investments that are readily convertible to known amounts of cash with maturities at acquisition of three months or less, as well as bank deposits with maturities or contractual call periods at acquisition of three months or less. Due to the high credit quality and short-term nature of these investments, there is an insignificant risk of change in value. Investments in money-market funds that have a risk profile consistent with the aforementioned criteria are also classified as cash equivalents.

Impairment of financial assets

Loss allowance for expected credit losses is recognized on financial assets measured at cost, financial assets measured at fair value through fair value reserve, interest-bearing assets with Group companies, financial guarantee contracts and loan commitments. The Parent Company continuously assesses its financial instruments on a forward-looking basis and accounts for the changes in expected credit losses on a quarterly basis. Refer to Note 4.5 Trade receivables and other customer-related balances in the consolidated financial statements.

Classification and measurement of financial liabilities

The Parent Company classifies derivative liabilities at fair value through profit and loss and all other financial liabilities at nominal value.

Interest-bearing liabilities

Interest-bearing liabilities, including the current portion of long-term interest-bearing liabilities and collaterals for derivative transactions, are measured at nominal value. Transaction costs are initially recognized as prepaid expenses and amortized to the income statement over the life of the instrument. Foreign exchange gains and losses as well as interest expenses are recognized in financial income and expenses in the income statement.

Accounts payable

Accounts payable are carried at the invoiced amount.

Derivative financial instruments

Other financial assets and other financial liabilities are mainly comprised of derivatives. They are recognized initially at fair value on the date a derivative contract is entered into and subsequently remeasured at fair value. The method of recognizing the resulting gain or loss varies according to whether the derivatives are designated and qualify under hedge accounting.

Derivatives not designated in hedge accounting relationships carried at fair value through profit and loss

Foreign exchange forward contracts are valued at market-forward exchange rates at the reporting date. Changes in fair value are measured by comparing these rates with the original contract-forward rate. Currency options are valued at each reporting date by using the Garman & Kohlhagen option valuation model. Changes in fair value are recognized in financial income and expenses in the income statement.

Fair values of forward rate agreements, interest rate options, futures contracts and exchange-traded options are calculated based on quoted market rates at each reporting date. Discounted cash flow method is used to value interest rate and cross-currency swaps. Changes in fair value are recognized in financial income and expenses in the income statement.

Interest income or expense on interest rate derivatives is accrued in the income statement during the financial year.

Hedge accounting

The Parent Company applies hedge accounting on certain forward foreign exchange contracts, certain options or option strategies, and interest rate derivatives. Qualifying options and option strategies have zero net premium, or a net premium paid. For option structures, the critical terms of the purchased and written options are the same and the nominal amount of the written option component is not greater than that of the purchased option.

The Parent Company applies fair value hedge accounting to reduce exposure to fair value fluctuations of interest-bearing liabilities due to changes in interest rates and foreign exchange rates. Interest rate swaps and cross-currency swaps are used aligned with the hedged items to hedge interest rate risk and associated foreign exchange risk.

Changes in the fair value of derivatives designated and qualifying as fair value hedges, together with any changes in the fair value of hedged liabilities attributable to the hedged risk, are recorded in financial income and expenses in the income statement. The Parent Company separates the foreign currency basis spread from cross-currency swaps and excludes it from the hedged risk as cost of hedging that is initially recognized and subsequently measured at fair value and recorded in cost of hedging reserve. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting ceases, cost of hedging recorded in cost of hedging reserve is immediately expensed and any fair value adjustments made to the carrying amount of the hedged item while the hedge was effective are recognized in financial income and expenses in the income statement based on the effective interest method.

The Parent Company also applies cash flow hedging to future interest cash flows in foreign currency related to issued bonds. These future interest cash flows are hedged with cross-currency swaps that have been bifurcated and designated partly as fair value hedges to hedge both foreign exchange and the interest rate benchmark risk component of the issued bond and partly as cash flow hedges to hedge the foreign exchange risk related to the remaining portion of interest cash flows on the issued bond. The accumulated gain or loss for the part of these cross-currency swaps designated as cash flow hedges is initially recorded in hedging reserve and reclassified to profit or loss at the time when the related interest cash flows are settled. The Parent Company separates the foreign currency basis spread from cross-currency swaps and excludes it from the hedge relationship as cost of hedging that is initially recognized and subsequently measured at fair value and recorded in cost of hedging reserve.

Deferred tax

Deferred tax assets are recognized to the extent it is probable that future taxable profit will be available against which the unused tax losses, unused tax credits and deductible temporary differences can be utilized. The company continually evaluates the probability of utilizing its deferred tax assets and considers both positive and negative evidence in its assessment. Evaluation takes into account that Nokia entities in Finland can balance their taxable profits via the group contribution system.

Notes to the Parent Company financial statements continued

2. Personnel expenses

EURm	2024	2023
Salaries and wages	32	29
Share-based payments	—	1
Pension expenses	4	6
Social security expenses	—	1
Total	36	37

Average number of employees	2024	2023
Marketing	8	9
Administration	191	205
Total average	199	214
Number of employees at 31 December	194	212

Management remuneration

Refer to Note 3.2. Remuneration of key management personnel in the consolidated financial statements.

There were no loans granted to the members of the Nokia Group Leadership Team or Board of Directors at 31 December 2024 or 2023.

3. Auditor's fees

Deloitte Oy served as our auditor and our sustainability reporting assurer for the financial year ended 31 December 2024 and as our auditor for the financial year ended 31 December 2023. The auditor and the sustainability reporting assurer are elected annually by our shareholders at the Annual General Meeting for the next financial year commencing after the election.

The following table presents fees by type paid to Deloitte's network of firms for the years ended 31 December:

EURm	Parent Company		Nokia Group	
	2024	2023	2024	2023
Audit fees	9	10	18	20
Audit-related fees	2	—	3	2
Tax fees	—	—	—	1
Other fees	—	—	—	—
Total	11	10	21	23

In 2024, Deloitte Oy performed non-audit services for the Parent company for total fees of EUR 2 113 thousand (EUR 483 thousand in 2023). These services included services described in Auditing Act 1:1.2 § for EUR 1 871 thousand in 2024 (EUR 24 thousand in 2023) and other non-audit services for EUR 242 thousand (EUR 459 thousand in 2023).

Notes to the Parent Company financial statements continued

4. Other operating income and expenses

EURm	2024	2023
Other operating income		
Release of environmental provision	10	—
Sale of building rights	—	4
Rental income	3	3
Other income	1	—
Total	14	7
Other operating expenses		
Write-off of receivables	(23)	(6)
Other expenses	—	(1)
Total	(23)	(7)

5. Financial income and expenses

EURm	2024	2023
Income from non-current investments		
Dividend income from Group companies	50	411
Total	50	411
Interest and other financial income		
Interest income from Group companies	275	440
Interest income from other companies	231	170
Foreign exchange gains, net	29	22
Other financial income from other companies	14	6
Total	549	638
Interest and other financial expenses		
Interest expenses to Group companies	(414)	(462)
Interest expenses to other companies	(189)	(179)
Loss on liquidation of shares and businesses	(2)	—
Other financial expenses to other companies	(19)	(13)
Total	(624)	(654)

Financial income and expenses include EUR 13 million expense related to derivative financial instruments subject to hedge accounting (EUR 93 million expense in 2023) and EUR 10 million income related to liabilities subject to fair value hedge accounting (EUR 89 million income in 2023).

6. Income taxes

EURm	2024	2023
Current tax	(3)	(4)
Tax relating to previous financial years	—	3
Deferred tax	5	10
Total	2	9

At 31 December 2024, the company has recognized deferred tax assets of EUR 19 million (EUR 19 million in 2023). Furthermore, at 31 December 2024, the company had unrecognized deferred tax assets of EUR 12 million related to unused tax credits (EUR 12 million in 2023) and EUR 20 million related to deductible temporary differences (EUR 20 million in 2023), the use of which was not considered probable and therefore no deferred tax asset has been recognized in the statement of financial position.

Notes to the Parent Company financial statements continued

7. Tangible assets

EURm	Land and water areas	Buildings	Machinery and equipment	Other tangible assets and advance payments	Assets under construction	Total
Acquisition cost at 1 January 2023	9	160	16	5	—	190
Additions	—	2	—	—	3	5
Acquisition cost at 31 December 2023	9	162	16	5	3	195
Accumulated depreciation at 1 January 2023	—	(88)	(14)	(1)	—	(103)
Depreciation ⁽¹⁾	—	(5)	(1)	—	—	(6)
Accumulated depreciation at 31 December 2023	—	(93)	(15)	(1)	—	(109)
Net book value at 1 January 2023	9	72	2	4	—	87
Net book value at 31 December 2023	9	69	1	4	3	86
Acquisition cost at 1 January 2024	9	162	16	5	3	195
Additions	—	—	—	—	6	6
Disposals and retirements	(1)	(3)	—	—	—	(4)
Reclassifications	—	1	1	—	(1)	1
Acquisition cost at 31 December 2024	8	160	17	5	8	198
Accumulated depreciation at 1 January 2024	—	(93)	(15)	(1)	—	(109)
Disposals and retirements	—	2	—	—	—	2
Depreciation ⁽¹⁾	—	(4)	(1)	—	—	(5)
Accumulated depreciation at 31 December 2024	—	(95)	(16)	(1)	—	(112)
Net book value at 1 January 2024	9	69	1	4	3	86
Net book value at 31 December 2024	8	65	1	4	8	86

(1) Recognized in selling, general and administrative expenses.

8. Investments

EURm	2024	2023
Investments in subsidiaries		
Net carrying amount at 1 January	18 695	18 695
Capital return	(501)	—
Disposals	(2)	—
Net carrying amount at 31 December	18 192	18 695
Non-current interest-bearing financial investments		
Net carrying amount at 1 January	715	697
Additions	278	288
Disposals	(544)	(190)
Reclassification	2	(84)
Other changes	6	4
Net carrying amount at 31 December	457	715
Other non-current financial investments		
Net carrying amount at 1 January	1	1
Additions	2	—
Other changes	(2)	—
Net carrying amount at 31 December	1	1

Subsidiaries and associated companies are presented in note 6.2. Group companies in the consolidated financial statements.

9. Prepaid expenses and accrued income

EURm	2024	2023
Expected future cash settlement to acquire non-controlling interest in Nokia Shanghai Bell ⁽¹⁾	486	454
Accrued interest	44	73
Other receivables from Group companies	99	61
Other accrued income from Group companies ⁽²⁾	26	42
Other prepaid expenses and accrued income from other companies ⁽²⁾	12	23
Total	667	653

(1) Refer to Note 6.3. Significant partly-owned subsidiaries in the consolidated financial statements.

(2) Classification of balance sheet items was changed in 2024. The comparative year has been revised accordingly.

Notes to the Parent Company financial statements continued

10. Shareholders' equity

Changes in shareholders' equity

EURm	Share capital	Share premium	Fair value and other reserves	Reserve for invested unrestricted equity	Retained earnings ⁽¹⁾	Total
At 1 January 2023	246	46	31	15 091	2 006	17 419
Settlement of share-based payments	—	—	—	59	—	59
Acquisition of treasury shares ⁽²⁾	—	—	—	(300)	—	(300)
Net fair value gains/(losses)	—	—	(10)	—	—	(10)
Dividends	—	—	—	—	(612)	(612)
Profit for the year	—	—	—	—	346	346
At 31 December 2023	246	46	21	14 849	1 740	16 902
Settlement of share-based payments	—	—	—	99	—	99
Acquisition of treasury shares ⁽²⁾	—	—	—	(1 501)	—	(1 501)
Net fair value gains/(losses)	—	—	20	—	—	20
Dividends	—	—	—	—	(715)	(715)
Loss for the year	—	—	—	—	(99)	(99)
At 31 December 2024	246	46	41	13 448	926	14 707

(1) Includes treasury shares of EUR 344 million reducing the amount of retained earnings.

(2) In 2024, Nokia repurchased 176 832 266 shares under the share buyback programs announced in January and November 2024 (78 301 011 in 2023 under the second phase of the 2022 program). Shares were repurchased using the reserve for invested unrestricted equity, and hence the repurchases reduced Nokia's total unrestricted equity. The shares repurchased under the January 2024 program were canceled in December 2024. In connection with the share buyback program launched in November 2024, Nokia has recorded a liability and a reduction of reserve for invested unrestricted equity of EUR 821 million to reflect Nokia's commitment under the agreement with a third-party broker conducting the share repurchases on Nokia's behalf. For more information on Nokia's share buyback programs, refer to Note 5.1. Equity in the consolidated financial statements.

Fair value and other reserves

EURm	Hedging reserve			Cost of hedging			Total		
	Gross	Tax	Net	Gross	Tax	Net	Gross	Tax	Net
At 1 January 2023	42	(8)	34	(3)	—	(3)	39	(8)	31
Fair value and cash flow hedges									
Net fair value gains/(losses)	(19)	4	(15)	9	(2)	7	(10)	2	(8)
Transfer to income statement	(2)	—	(2)	—	—	—	(2)	—	(2)
At 31 December 2023	21	(4)	17	6	(2)	4	27	(6)	21
Fair value and cash flow hedges									
Net fair value gains/(losses)	12	(2)	10	15	(3)	12	27	(5)	22
Transfer to income statement	(2)	—	(2)	—	—	—	(2)	—	(2)
At 31 December 2024	31	(6)	25	21	(5)	16	52	(11)	41

Distributable earnings

EURm	2024	2023
Reserve for invested unrestricted equity	13 448	14 849
Retained earnings	1 025	1 394
(Loss)/profit for the year	(99)	346
Unrestricted equity total	14 374	16 589
Distributable funds total	14 374	16 589

The shares of the Parent company

Refer to Note 5.1. Equity in the consolidated financial statements.

Notes to the Parent Company financial statements continued

11. Provisions

EURm	2024	2023
Divestment-related	30	37
Other	—	10
Total	30	47

12. Interest-bearing liabilities

Issuer/borrower	Instrument	Currency	Nominal (million)	Final maturity	Carrying amount EURm ⁽¹⁾	
					2024	2023
Nokia Corporation	2.00% Senior Notes	EUR	378	3/2024	—	375
Nokia Corporation	EIB R&D Loan	EUR	500	2/2025	500	500
Nokia Corporation	NIB R&D Loan	EUR	83	5/2025	83	167
Nokia Corporation	2.375% Senior Notes	EUR	292	5/2025	292	289
Nokia Corporation	2.00% Senior Notes	EUR	630	3/2026	625	615
Nokia Corporation	4.375% Senior Notes	USD	500	6/2027	459	432
Nokia Corporation	3.125% Senior Notes	EUR	500	5/2028	488	481
Nokia Corporation	4.375% Sustainability-linked Senior Notes ⁽²⁾	EUR	500	8/2031	517	515
Nokia Corporation	NIB R&D Loan ⁽³⁾	EUR	100	10/2032	100	—
Nokia Corporation	6.625% Senior Notes	USD	500	5/2039	458	467
Nokia Corporation	Other borrowings from Group companies				8 179	9 228
Nokia Corporation	Other borrowings from other companies				39	17
Total					11 740	13 086

- (1) Carrying amount includes EUR 46 million of fair value losses (EUR 31 million in 2023) related to fair value hedge accounting relationships, including EUR 137 million of fair value gains (EUR 156 million in 2023) related to discontinued fair value hedge accounting relationships that are amortized over the life of the respective senior notes.
- (2) The bond has a one-time redemption premium at maturity of EUR 4 million in case Nokia does not meet its commitment to reduce its greenhouse gas (GHG) emissions (in tCO₂e) across its value chain (Scope 1, 2, and 3) by 50% between 2019 and 2030. This target is one of Nokia's key sustainability targets and has been selected to be the Sustainability Performance Target in Nokia's Sustainable Finance Framework that enables the issuance of sustainability-linked financing instruments.
- (3) In October 2024, Nokia signed a loan facility agreement of EUR 250 million with the Nordic Investment Bank (NIB) for financing research and development of 5G and 6G technology. As of 31 December 2024, EUR 100 million has been drawn from the facility and is repayable in two equal installments in 2031 and 2032. The availability period of the remaining loan facility of EUR 150 million ends in April 2025.

Significant credit facilities and funding programs:

Committed / uncommitted	Financing arrangement	Currency	Nominal (million)	Utilized (million)	
				2024	2023
Committed	Revolving Credit Facility ⁽¹⁾	EUR	1 412	—	—
Committed	NIB Loan Facility ⁽²⁾	EUR	250	100	—
Uncommitted	Finnish Commercial Paper Programme	EUR	750	—	—
Uncommitted	Euro-Commercial Paper Programme	EUR	1 500	—	—
Uncommitted	Euro Medium Term Note Programme ⁽³⁾	EUR	5 000	1 922	2 300
Total				2 022	2 300

- (1) The facility has its maturity in June 2026.
- (2) The availability period of the remaining loan facility of EUR 150 million ends in April 2025.
- (3) All euro-denominated bonds have been issued under the Euro Medium Term Note Programme.

All borrowings and credit facilities presented in the tables above are senior unsecured and have no financial covenants.

Notes to the Parent Company financial statements continued

13. Fair value of financial instruments

Financial assets and liabilities recorded at fair value are categorized based on the amount of unobservable inputs used to measure their fair value. Three hierarchical levels are based on an increasing amount of judgment associated with the inputs used to derive fair valuation for these assets and liabilities, level 1 being market values for exchange traded products, level 2 being primarily based on publicly available market information, and level 3 requiring most management judgment. At the end of each reporting period, Nokia categorizes its financial assets and liabilities to the appropriate level of fair value hierarchy. Items carried at fair value in the following table are measured at fair value on a recurring basis.

EURm	2024					2023				
	Carrying amounts				Fair value ⁽¹⁾	Carrying amounts				Fair value ⁽¹⁾
	Amortized cost	Level 2	Level 3	Total	Total	Amortized cost	Level 2	Level 3	Total	Total
Non-current Interest-Bearing financial investments	457	—	—	457	466	715	—	—	715	717
Other non-current financial investments	—	—	1	1	1	—	—	1	1	1
Non-current loan receivables from Group companies	1 412	—	—	1 412	1 412	2 714	—	—	2 714	2 714
Non-current loan receivables from other companies	16	—	—	16	16	1	—	—	1	1
Current loan receivables from Group companies	1 187	—	—	1 187	1 187	2 362	—	—	2 362	2 362
Other current financial assets from Group companies including derivatives	—	43	—	43	43	—	101	—	101	101
Other current financial assets from other companies including derivatives	—	225	—	225	225	—	131	—	131	131
Current interest-bearing financial investments	486	1 090	—	1 576	1 576	874	638	—	1 512	1 512
Cash and cash equivalents	3 050	1 371	—	4 421	4 421	2 605	1 443	—	4 048	4 048
Total financial assets	6 608	2 729	1	9 338	9 347	9 271	2 313	1	11 585	11 587
Long-term interest-bearing liabilities to other companies	2 647	—	—	2 647	2 636	3 383	—	—	3 383	3 368
Short-term interest-bearing liabilities to Group companies	8 179	—	—	8 179	8 179	9 228	—	—	9 228	9 228
Short-term interest-bearing liabilities to other companies	914	—	—	914	914	475	—	—	475	475
Other financial liabilities to Group companies including derivatives	—	35	—	35	35	—	88	—	88	88
Other financial liabilities to other companies including derivatives	1 119	—	486	1 605	1 605	—	286	454	740	741
Total financial liabilities	12 859	35	486	13 380	13 369	13 086	374	454	13 914	13 900

(1) The following fair value measurement methods are used for items not carried at fair value: The fair values of long-term interest-bearing liabilities are primarily based on publicly available market information (level 2). The fair values of other assets and liabilities, including loans receivable and loans payable are primarily based on discounted cash flow analysis (level 2). The fair value is estimated to equal the carrying amount for current financial assets and financial liabilities due to limited credit risk and short time to maturity. Refer to Note 5.2 Financial assets and liabilities in the consolidated financial statements.

The level 2 category includes financial assets and liabilities measured using a valuation technique based on assumptions that are supported by prices from observable current market transactions. These include assets and liabilities with fair values based primarily on publicly available market information, financial assets with fair values based on broker quotes and assets that are valued using the Parent Company's own valuation models whereby the material assumptions are market observable. The majority of the Parent Company's cash equivalents, current investments, over-the-counter derivatives and certain other products are included within this category.

Level 3 financial liabilities include a liability for acquiring China Huaxin's ownership interest in Nokia Shanghai Bell. The fair value of the financial liability related to the obligation is determined according to the present value of the expected future cash payment. Change in this liability does not have an impact on income statement. Refer to Note 6.3. Significant partly-owned subsidiaries in the consolidated financial statements.

Reconciliation of the opening and closing balances of level 3 financial assets and liabilities:

EURm	Level 3 Financial	Level 3 Financial
	Assets	Liabilities
At 1 January 2023	1	(482)
Other movements	—	28
At 31 December 2023	1	(454)
At 1 January 2024	1	(454)
Other movements	—	(32)
At 31 December 2024	1	(486)

Notes to the Parent Company financial statements continued

14. Derivative financial instruments

EURm	Assets		Liabilities	
	Fair value ⁽¹⁾	Notional ⁽²⁾	Fair value ⁽¹⁾	Notional ⁽²⁾
At 31 December 2024				
Fair value hedges				
Interest rate swaps	28	1 130	(10)	792
Cash flow and fair value hedges⁽³⁾				
Cross-currency interest rate swaps	15	241	(97)	722
Derivatives not designated in hedge accounting relationships carried at fair value through profit and loss				
Forward foreign exchange contracts, other companies	120	8 037	(190)	7 685
Forward foreign exchange contracts, Group companies	43	3 536	(35)	2 734
Currency options bought, other companies	15	860	—	—
Currency options sold, Group companies	—	—	—	90
Total	221	13 804	(332)	12 023
At 31 December 2023				
Fair value hedges				
Interest rate swaps	24	1 195	(29)	1 105
Cash flow and fair value hedges⁽³⁾				
Cross-currency interest rate swaps	—	—	(143)	905
Derivatives not designated in hedge accounting relationships carried at fair value through profit and loss				
Forward foreign exchange contracts, other companies	104	9 697	(114)	8 453
Forward foreign exchange contracts, Group companies	101	5 655	(85)	5 209
Currency options bought, other companies	3	476	—	—
Currency options bought, Group companies	—	23	—	—
Currency options sold, other companies	—	—	—	23
Currency options sold, Group companies	—	—	(3)	476
Total	232	17 046	(374)	16 171

(1) Included in other current financial assets and other current financial liabilities in the statement of financial position.

(2) Includes the gross amount of all notional values for contracts that have not yet been settled or cancelled. The amount of notional value outstanding is not necessarily a measure or indication of market risk as the exposure of certain contracts may be offset by that of other contracts.

(3) Cross-currency interest rate swaps have been designated partly as fair value hedges and partly as cash flow hedges.

Derivative financial instrument designation to hedging relationships in the table above presents the use of and accounting for derivative financial instruments from the perspective of the Parent Company's standalone financial statements, which may differ from the designation in the consolidated financial statements. Refer to 5.3. Derivative and firm commitment assets and liabilities in the consolidated financial statements.

Notes to the Parent Company financial statements continued

15. Accrued expenses and other liabilities

EURm	2024	2023
Accrued interest expenses	47	52
Salaries and social expenses	12	9
VAT and other indirect taxes	20	11
Other accrued expenses to Group companies	32	43
Other accrued expenses to other companies	14	16
Total	125	131

16. Commitments and contingencies

EURm	2024	2023
Contingent liabilities on behalf of Group companies		
Lease guarantees	1 058	1 028
Other guarantees	1 429	1 523

At 31 December 2024, operating lease commitments amounted to EUR 3 million (EUR 3 million in 2023).

17. Financial risk management

Nokia has a systematic and structured approach to financial risk management across business operations and processes. Financial risk management policies and procedures are group-wide, and there are no separate or individual financial risk management policies or procedures for the Parent Company. Hence, internal and external financial risk exposures and transactions are managed only in the context of the Nokia financial risk management strategy. The Parent Company is the centralized external dealing entity in Nokia. The Parent Company executes all significant external financial transactions with banks based on Nokia's financial risk management strategy and executes identical opposite internal financial transactions with Nokia companies as required. Refer to Note 5.4. Financial risk management in the consolidated financial statements.

18. Subsequent events

Change of President and CEO

On 10 February 2025, Nokia announced its President and CEO, Pekka Lundmark, will step down effective 31 March 2025. The Board of Directors has appointed Justin Hotard as the next President and CEO. He will start in his new role on 1 April 2025. Mr. Lundmark will stay on as an advisor to Mr. Hotard until the end of the year to ensure a smooth transition.

Mr. Hotard joins Nokia with more than 25 years' experience with global technology companies, driving innovation, technology leadership and delivering revenue growth. He currently leads the Data Center & AI Group at Intel. Prior to this role, he held several leadership roles at large technology companies, including Hewlett Packard Enterprise and NCR Corporation.

Infinera acquisition

On 28 February 2025, Nokia Group completed the acquisition of Infinera Corporation (Infinera), pursuant to the definitive agreement announced on 27 June 2024. The acquisition was carried out through a subsidiary of Nokia Corporation while EUR 0.6 billion of the aggregated consideration of EUR 1.7 billion consisted of the shares of the Parent company in the form of American Depositary Shares (ADSs). The shares transferred were treasury shares held by the Parent company and totaled 127 434 986 shares. The Parent company recognized the amount corresponding to the value of shares issued as an increase in the reserve for invested unrestricted equity. Refer to Note 6.5. Subsequent events in the consolidated financial statements for more information on the acquisition.

Signing of the Annual Accounts, the Review of the Board of Directors and the Sustainability Statement 2024

The distributable funds on the statement of financial position of the Parent Company on 31 December 2024 were EUR 14 374 million, of which the loss for the financial year 2024 was EUR 99 million. The Board of Directors proposes to the Annual General Meeting 2025 that based on the statement of financial position to be adopted for the financial year ended on 31 December 2024, no dividend is distributed by a resolution of the Annual General Meeting for the financial year ended on 31 December 2024. Instead, the Board proposes to the Annual General Meeting to be authorized to decide, in its discretion, on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity. On the date of issuing the financial statements for 2024, the number of the Company's shares is 5 605 850 345, and the authorization would equal to an approximate maximum of EUR 785 million. The proposed total authorization for asset distribution is in line with the Company's dividend policy.

The financial statements, prepared in accordance with applicable accounting regulations, give a true and fair view of the assets, liabilities, financial position and profit or loss of both Nokia Oyj and the Group, as applicable. The board review contains a fair review of the development and results of the business operations of both Nokia Oyj and the Group as well as a description of the most material risks and uncertainties and other aspects of Nokia's condition. The sustainability report included in the board review has been prepared in accordance with the reporting standards referred to in Chapter 7 of the Finnish Accounting Act and Article 8 of the Taxonomy Regulation.

13 March 2025

Sari Baldauf
Chair

Søren Skou

Timo Ahopelto

Elizabeth Crain

Thomas Dannenfeldt

Lisa Hook

Mike McNamara

Thomas Saueressig

Carla Smits-Nusteling

Kai Öistämö

Pekka Lundmark
President and CEO

The Auditor's note

Auditor's Report has been issued today
Helsinki, 13 March 2025
Deloitte Oy
Authorized Public Accountant Firm

Marika Nevalainen
APA

Auditor's report

To the Annual General Meeting of Nokia Corporation

Report on the Audit of the Financial Statements

(Translation of the Finnish Original)

Opinion

We have audited the financial statements of Nokia Corporation (business identity code 0112038-9) for the year ended 31 December 2024. The financial statements comprise the consolidated statement of financial position, income statement, statement of comprehensive income, statement of changes in shareholders' equity, statement of cash flows and notes, including material accounting policy information, as well as the parent company's statement of financial position, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position, financial performance and cash flows in accordance with IFRS Accounting Standards as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

Basis for opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 3 to the parent company financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our application of materiality

We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

Based on our professional judgement, we determined materiality for the consolidated financial statements as a whole as follows:

Materiality in the Group financial statements	
Materiality	€150 million
Basis for determining materiality	0.8% of consolidated net sales
Rationale for the benchmark applied	Given the importance of net sales to investors and other users of the financial statements, we have used it as the primary benchmark.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

Auditor's report continued

Key audit matter

Revenue recognition – Accounting for significant and complex contracts

Refer to Note 2.1 to the financial statements

The Company recognises revenue in accordance with International Financial Reporting Standard 15 Revenue from Contracts with Customers. Certain contracts that the Company enters into are particularly significant in value and contain highly complex terms and conditions which impact revenue recognition. Such complexities include the determination of the standalone selling price, combination of contracts assessments, accounting for contractual discounts, subsequent modifications and promised goods or services not yet transferred at the date of such modification, or other factors occurring during the contract period that may impact revenue recognition.

Given the level of complexity and management judgement involved in the accounting for significant and complex contracts, performing audit procedures to evaluate the reasonableness of these accounting judgements required a high degree of auditor judgement, and there was significant audit effort in obtaining sufficient audit evidence.

This matter is a significant risk of material misstatement referred to in EU Regulation No 537/2014, point (c) of Article 10(2).

How our audit addressed the key audit matter

Our audit procedures related to the determination of the appropriateness of the accounting for significant and complex contracts included the following, among others:

- We assessed management's accounting policy in relation to the areas of complexity identified in all significant and complex contracts and assessed whether management's conclusions, including determination of standalone selling price, were in compliance with IFRS 15;
- We tested the effectiveness of controls over revenue recognition of significant and complex contracts, specifically focusing on controls relating to the areas of accounting complexity;
- We utilised data analytics to identify contracts that were significant in value and contained complexities to identify the relevant testing population;
- We analyzed the terms and conditions of significant and complex contracts entered into or modified during the current-period, to identify all performance obligations and tested the allocation of the transaction price to each distinct performance obligation.

Key audit matter

Valuation of Goodwill – Mobile Networks Group of Cash Generating Units

Refer to Note 4.1 to the financial statements

Nokia's evaluation of goodwill for impairment involves the comparison of the recoverable amount of each applicable cash generating unit ("CGU"), or group of CGUs, to its carrying value on at least an annual basis, in line with International Accounting Standard 36 Impairment of Assets. The total carrying amount of the goodwill balance is EUR 5,736 million as of 31 December 2024, of which EUR 2,346 million is allocated to Mobile Networks ("MN"). We identified the valuation of MN's goodwill as a critical audit matter due to recent volatility in the market in which MN operates as well as significant estimates and assumptions made by management in the value in use discounted cash flow calculation related to sales growth and operating margin.

Management's discounted cash flow model for the MN group of CGUs consists of cash flow projections based on financial plans covering a forecast period of three years, followed by a seven-year period that reflects management's expectations of recovery from the market-driven decrease in sales and market cyclicality, leading to a steady state cash flow projection modelled in the terminal year.

Auditing the significant judgements and assumptions management made to estimate the recoverable amount of MN required a high degree of auditor judgement and increased audit effort, including the need to involve our valuation specialists.

How our audit addressed the key audit matter

Our audit procedures related to the determination of the appropriateness of management assumptions in relation to sales growth and operating margin in the MN cashflows utilised in impairment testing included the following, among others:

- We tested the effectiveness of the Company's controls over goodwill impairment evaluation, specifically focusing on controls related to the determination of the recoverable amount, as well as controls over forecasting;
- We held discussions with key members of management to understand how the Board approved MN forecasts, including key assumptions around sales growth and operating margin were derived;
- We utilised our valuation specialists to evaluate the appropriateness of the valuation methodology and mathematical accuracy of management's discounted cash flow model as well as reasonableness of other underlying assumptions including the discount rate and terminal growth rate;
- We challenged sales growth and operating margin assumptions by comparing to (1) historical and forecasted peer company data, (2) historical actual results, and (3) prior period internal forecasts;
- We read analyst reports to identify supporting or contradictory information in relation to management's sales growth and operating margin assumptions.

We have no key audit matters to report with respect to our audit of the parent company financial statements. There are no significant risks of material misstatement referred to in EU regulation No 537/2014, point (c) of Article 10(2) relating to the parent company's financial statements.

Auditor's report continued

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with IFRS Accounting Standards as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.

- Plan and perform the group audit to obtain sufficient appropriate audit evidence regarding the financial information of the entities or business units within the group as a basis for forming an opinion on the group financial statements. We are responsible for the direction, supervision and review of the audit work performed for purposes of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Auditor's report continued

Other reporting requirements

Information on our audit engagement

We were first appointed as auditors by the Annual General Meeting for the financial year 1.1. - 31.12.2020, and our appointment represents a total period of uninterrupted engagement of five (5) years.

Other information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report but does not include the financial statements or our auditor's report thereon.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in compliance with the applicable provisions, excluding the sustainability report information on which there are provisions in Chapter 7 of the Accounting Act and in the sustainability reporting standards.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in compliance with the applicable provisions. Our opinion does not cover the sustainability report information on which there are provisions in Chapter 7 of the Accounting Act and in the sustainability reporting standards.

If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact. We have nothing to report in this regard.

Other statements

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the profit shown in the balance sheet and the distribution of other unrestricted equity is in compliance with the Limited Liability Companies Act. We support that the Members of the Board of Directors of the parent company and the Managing Director should be discharged from liability for the financial period audited by us.

Helsinki, 13 March 2025

Deloitte Oy

Audit Firm

Marika Nevalainen
Authorised Public Accountant (KHT)

Auditor's ESEF assurance report

Independent auditor's report on the ESEF financial statements of Nokia Corporation

(translation of the Finnish Original)

To the Board of Directors of Nokia Corporation

We have performed a reasonable assurance engagement on the financial statements

(549300A0JPRWG1KI7U06-2024-12-31-fi.zip) of Nokia Corporation (0112038-9) that have been prepared in accordance with the Commission's regulatory technical standard for the financial year ended 31.12.2024.

Responsibilities of the Board of Directors and the Managing Director

The Board of Directors and the Managing Director are responsible for the preparation of the company's report of the Board of Directors and financial statements (the ESEF financial statements) in such a way that they comply with the requirements of the Commission's regulatory technical standard. This responsibility includes:

- preparing the ESEF financial statements in XHTML format in accordance with Article 3 of the Commission's regulatory technical standard
- tagging the primary financial statements, notes and company's identification data in the consolidated financial statements that are included in the ESEF financial statements with iXBRL tags in accordance with Article 4 of the Commission's regulatory technical standard and
- ensuring the consistency between ESEF financial statements and the audited financial statements.

The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of ESEF financial statements in accordance with the requirements of the Commission's regulatory technical standard.

Auditor's independence and quality management

We are independent of the company in accordance with the ethical requirements that are applicable in Finland and are relevant to the engagement we have performed, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The auditor applies International Standard on Quality Management (ISQM) 1, which requires the firm to design, implement, and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Auditor's responsibilities

Our responsibility is to, in accordance with Chapter 7, Section 8 of the Securities Markets Act, provide assurance on the financial statements that have been prepared in accordance with the Commission's regulatory technical standard. We express an opinion on whether the consolidated financial statements that are included in the ESEF financial statements have been tagged, in all material respects, in accordance with the requirements of Article 4 of the Commission's regulatory technical standard.

Our responsibility is to indicate in our opinion to what extent the assurance has been provided. We conducted a reasonable assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000.

The engagement includes procedures to obtain evidence on:

- whether the primary financial statements in the consolidated financial statements that are included in the ESEF financial statements have been tagged, in all material respects, with iXBRL tags in accordance with the requirements of Article 4 of the Commission's regulatory technical standard and
- whether the notes and company's identification data in the consolidated financial statements that are included in the ESEF financial statements have been tagged, in all material respects, with iXBRL tags in accordance with the requirements of Article 4 of the Commission's regulatory technical standard and
- whether there is consistency between the ESEF financial statements and the audited financial statements.

The nature, timing and extent of the selected procedures depend on the auditor's judgment. This includes an assessment of the risk of a material deviation due to fraud or error from the requirements of the Commission's regulatory technical standard.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

Our opinion pursuant to Chapter 7, Section 8 of the Securities Markets Act is that the primary financial statements, notes and company's identification data in the consolidated financial statements that are included in the ESEF financial statements of Nokia Corporation (549300A0JPRWG1KI7U06-2024-12-31-fi.zip) for the financial year ended 31.12.2024 have been tagged, in all material respects, in accordance with the requirements of the Commission's regulatory technical standard.

Our audit opinion on the audit of the consolidated financial statements of Nokia Corporation for the financial year ended 31.12.2024 has been expressed in our auditor's report dated 13.3.2025. With this report we do not express an opinion on the audit of the consolidated financial statements nor express another assurance conclusion.

Helsinki, 13 March 2025

Deloitte Oy
Audit firm

Marika Nevalainen
Authorised Public Accountant (KHT)

Assurance report on the Sustainability Statement

Assurance report on the Sustainability Statement

To the Annual General Meeting of Nokia Oyj

(Translation of the Finnish Original)

Assurance of the Sustainability Statement

We have performed a limited assurance engagement on the group sustainability statement of Nokia Oyj (0112038-9) that is referred to in Chapter 7 of the Accounting Act and that is included in the report of the Board of Directors for the financial year 1.1.–31.12.2024.

Opinion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the group sustainability statement does not comply, in all material respects, with

- the requirements laid down in Chapter 7 of the Accounting Act and the sustainability reporting standards (ESRS);
- the requirements laid down in Article 8 of the Regulation (EU) 2020/852 of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (EU Taxonomy).

Point 1 above also contains the process in which Nokia Oyj has identified the information for reporting in accordance with the sustainability reporting standards (double materiality assessment) and the tagging of information as referred to in Chapter 7, Section 22 of the Accounting Act.

Our opinion does not cover the tagging of the group sustainability statement with digital XBRL sustainability tags in accordance with Chapter 7, Section 22, Subsection 1(2), of the Accounting Act, because sustainability reporting companies have not had the possibility to comply with that provision in the absence of the ESEF regulation or other European Union legislation.

Basis for Opinion

We performed the assurance of the group sustainability statement as a limited assurance engagement in compliance with good assurance practice in Finland and with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information.

Our responsibilities under this standard are further described in the Responsibilities of the Authorised Sustainability Auditor section of our report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Matter

We draw attention to the fact that the group sustainability statement of Nokia Oyj that is referred to in Chapter 7 of the Accounting Act has been prepared and assurance has been provided for it for the first time for the financial year 1.1.–31.12.2024.

Our opinion does not cover the comparative information that has been presented in the group sustainability statement. Our opinion is not modified in respect of this matter.

Authorised group sustainability auditor's Independence and Quality Management

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our engagement, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The authorised group sustainability auditor applies International Standard on Quality Management ISQM 1, which requires the authorised sustainability audit firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Responsibilities of the Board of Directors and the Managing Director

The Board of Directors and the Managing Director of Nokia Oyj are responsible for:

- the group sustainability statement and for its preparation and presentation in accordance with the provisions of Chapter 7 of the Accounting Act, including the process that has been defined in the sustainability reporting standards and in which the information for reporting in accordance with the sustainability reporting standards has been identified as well as the tagging of information as referred to in Chapter 7, Section 22 of the Accounting Act and
- the compliance of the group sustainability statement with the requirements laid down in Article 8 of the Regulation (EU) 2020/852 of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088;
- such internal control as the Board of Directors and the Managing Director determine is necessary to enable the preparation of a group sustainability statement that is free from material misstatement, whether due to fraud or error.

Inherent Limitations in the Preparation of a Sustainability Statement

In preparing the group sustainability statement, the company is required to conduct a materiality assessment to identify relevant matters to be reported. This process involves significant management judgement and choices. Due to the nature and characteristics of sustainability reporting, this type of information involves estimates and assumptions, as well as measurement and evaluation uncertainties.

In reporting forward-looking information, management is required to prepare the forward-looking information on the basis of disclosed assumptions about events that may occur in the future and possible future actions by the Group. The actual outcome is likely to be different since anticipated events frequently do not occur as expected.

Assurance report on the Sustainability Statement continued

Responsibilities of the Authorised Group Sustainability Auditor

Our responsibility is to perform an assurance engagement to obtain limited assurance about whether the group sustainability statement is free from material misstatement, whether due to fraud or error, and to issue a limited assurance report that includes our opinion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of the group sustainability statement.

Compliance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) requires that we exercise professional judgment and maintain professional skepticism throughout the engagement. We also:

- Identify and assess the risks of material misstatement of the group sustainability statement, whether due to fraud or error, and obtain an understanding of internal control relevant to the engagement in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Design and perform assurance procedures responsive to those risks to obtain evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Description of the Procedures That Have Been Performed

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. The nature, timing and extent of assurance procedures selected depend on professional judgment, including the assessment of risks of material misstatement, whether due to fraud or error. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our procedures included for ex. the following:

- Performed inquiries of the company's management and personnel responsible for collecting and reporting the information contained in the group sustainability statement at the group level and for subsidiaries, as well as at the different levels and business areas of the organization.
 - Obtained an understanding of the company's sustainability reporting process, internal controls, and information systems related to the sustainability reporting process through inquiries.
 - Reviewed the supporting documentation and records prepared by the company, where applicable, and assessed whether they support the information included in the group sustainability statement.
 - Performed site visits at selected locations.
 - With respect to the double materiality assessment process, we evaluated the implementation of the process conducted by the company in relation to the requirements of the ESRS standards and assessed whether the disclosed information on the double materiality assessment is in accordance with the ESRS standards.
 - Evaluated whether the group sustainability statement meets the requirements of the ESRS standards, in all material aspects, regarding material sustainability matters to a significant extent.
 - With respect to the EU taxonomy information, we obtained an understanding of the process by which the company has identified taxonomy-eligible and taxonomy-aligned economic activities and assessed the compliance of the related disclosed information with the regulations.
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Helsinki, 13 March 2025

Deloitte Oy

Authorised Sustainability Audit Firm

Marika Nevalainen
Authorised Sustainability Auditor (KRT)

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Introduction and use of certain terms

Use of certain terms

Nokia Corporation (“Parent Company”) is a public limited liability company incorporated under the laws of the Republic of Finland and registered to the Finnish Trade Register since 1896. In this report, any reference to “we,” “us,” “Nokia Group,” “the Group,” “the company” or “Nokia” means Nokia Corporation and its consolidated subsidiaries and generally Nokia’s continuing operations, except where we separately specify that the term means Nokia Corporation or a particular subsidiary or business segment only or our discontinued operations. References to “our shares,” matters relating to our shares or matters of corporate governance refer to the shares and corporate governance of Nokia Corporation.

Nokia Corporation has published its consolidated financial statements in euro for periods beginning on or after 1 January 1999. In this report, references to “EUR,” “euro” or “€” are to the common currency of the European Economic and Monetary Union, references to “dollars,” “US dollars,” “USD” or “\$” are to the currency of the United States, references to “Chinese yuan” or “CNY” are to the official currency of the People’s Republic of China, references to “INR” or “Indian rupee” are to the official currency of the Republic of India and references to “GBP” or “British pound” are to the official currency of the United Kingdom. Additional terms are defined in the “Glossary.”

Forward-looking statements

Forward-looking statements

Certain statements contained in this report constitute "forward-looking statements." Forward-looking statements provide Nokia's current expectations of future events and trends based on certain assumptions and include any statement that does not directly relate to any current or historical fact. The words "believe," "expect," "expectations," "anticipate," "foresee," "see," "target," "estimate," "designed," "aim," "plan," "intend," "influence," "assumption," "focus," "continue," "project," "should," "is to," "will," "strive," "may," "could," "forecast," or similar expressions as they relate to us or our management are intended to identify these forward-looking statements, as well as statements regarding:

- a) business strategies, projects, market expansion, growth management, and future industry trends and megatrends and our plans to address them;
- b) future performance of our businesses and any future distributions and dividends;
- c) expectations and targets regarding financial performance, results, operating expenses, cash flows, taxes, currency exchange rates, hedging, cost savings and competitiveness, as well as results of operations including targeted synergies and those related to market share, prices, net sales, income and margins;
- d) expectations, plans, timelines or benefits related to our ongoing transactions, investments and changes in our organizational and operational structure;
- e) market developments in our current and future markets and their seasonality and cyclicity, including the communications service provider market, as well as general economic conditions, future regulatory developments and the expected impact, timing and duration of potential global pandemics and geopolitical conflicts on our businesses, our supply chain, our customers' businesses and the general market and economic conditions;
- f) our position in the market, including product portfolio and geographical reach, and our ability to use the same to develop the relevant business or market and maintain our order pipeline over time;

- g) any future collaboration or business collaboration agreements or patent license agreements or arbitration awards, including income from any collaboration or partnership, agreement or award;
- h) timing of the development and delivery of our products and services;
- i) the outcome of pending and threatened litigation, arbitration, disputes, regulatory proceedings or investigations by authorities;
- j) restructurings, investments, capital structure optimization efforts, divestments and our ability to achieve the financial and operational targets set in connection with any such restructurings, investments, and capital structure optimization efforts including our ongoing cost savings program;
- k) future capital expenditures, temporary incremental expenditures or other R&D expenditures to develop or rollout new products; and
- l) sustainability and corporate responsibility.

These statements are based on management's best assumptions and beliefs in light of the information currently available to it and are subject to a number of risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from such statements. These statements are only predictions based upon our current expectations and views of future events and developments and are subject to risks and uncertainties that are difficult to predict because they relate to events and depend on circumstances that will occur in the future. Risks and uncertainties that could affect these statements include but are not limited to the risk factors specified under the section "Risk factors" of this report and in our other filings or documents furnished with the authorities. Other unknown or unpredictable factors or underlying assumptions subsequently proven to be incorrect could cause actual results to differ materially from those in the forward-looking statements. We do not undertake any obligation to publicly update or revise forward-looking statements, whether as a result of new information, future events or otherwise, except to the extent legally required.

Glossary

Glossary

2G (Second Generation Mobile Communications): Also known as GSM (Global System for Mobile Communications): A digital system for mobile communications that is based on a widely-accepted standard and typically operates in the 900 MHz, 1800 MHz and 1900 MHz frequency bands.

3G (Third Generation Mobile Communications): The third generation of mobile communications standards designed for carrying both voice and data generally using WCDMA or close variants. See also WCDMA.

3GPP (The Third Generation Partnership Project):

A consortium comprising several standards organizations which develop protocols for mobile telecommunications. The initial goal was to develop a global technical specification for a 3G mobile phone system. Since then, the operations have been extended and today the main focus is on 5G networks.

4G (Fourth Generation Mobile Communications): The fourth generation of mobile communications standards based on LTE, offering IP data connections only and providing true broadband internet access for mobile devices. See also LTE.

5G (Fifth Generation Mobile Communications): The next major phase of mobile telecommunications standards. 5G is a complete redesign of network architecture with the flexibility and agility to support upcoming service opportunities. It delivers higher speeds, higher capacity, extremely low latency and greater reliability.

6G (Sixth Generation Mobile Communications): The cellular industry introduces a new generation about every ten years. The next generation of technology is expected to be introduced by 2030 and is generally referred to as 6G.

Access network: A telecommunications network between a local exchange and the subscriber station.

AirScale Radio Access: A 5G-ready complete radio access generation that helps operators address the increasing demands of today and tomorrow. The solution comprises: Nokia AirScale Base Station with multiband radio frequency elements and system modules; Nokia AirScale Active Antennas; Cloud RAN with Nokia AirScale Cloud Base Station Server and the cloud-based AirScale RNC (Radio Network Controller) for 3G; Nokia AirScale Wi-Fi; common software; and services which use intelligent analytics and extreme automation to maximize the performance of hybrid networks.

Alcatel-Lucent: Alcatel-Lucent Group, that has been part of the Nokia Group since 2016.

Artificial Intelligence (AI): Autonomous and adaptive intelligence of machines, where machines have the ability to perform tasks in complex environments without constant guidance by a user and have the ability to improve performance by learning from experience.

Bandwidth: The width of a communication channel, which affects transmission speeds over that channel.

Base station: A network element in a mobile network responsible for radio transmission and reception to or from the mobile station.

Broadband: The delivery of higher bandwidth by using transmission channels capable of supporting data rates greater than the primary rate of 9.6 Kbps.

Churn: A measure of the number of customers or subscribers who leave their service provider, e.g., a mobile operator, during a given time period.

Cloud: Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort.

Cloud and Network Services: Our Cloud and Network Services business group enables CSPs and enterprises to deploy and monetize 5G, cloud-native software and as-a-Service delivery models.

Cloud RAN: Cloud RAN refers to all or some of the baseband functions being run on a commercial off-the-shelf (COTS) computing platform rather than purpose-built hardware.

Convergence: The coming together of two or more disparate disciplines or technologies. Convergence types are, for example, IP convergence, fixed-mobile convergence and device convergence.

Core network: A combination of exchanges and the basic transmission equipment that together form the basis for network services.

CSPs: Communications service providers. One of Nokia's customer segments.

Digital: A signaling technique in which a signal is encoded into digits for transmission.

Discontinued operations: Submarine Networks business, which was previously reported as part of Network Infrastructure operating segment, was sold in 2024 and is presented as a discontinued operation.

Drones-as-a-Service (DaaS): A service model where drones are provided on-demand or via subscription, including all necessary components (e.g., drones, docking stations, control stations and software). The model is used for tasks like emergency response, infrastructure inspection, and surveillance, with drones operated remotely or autonomously, including Beyond Visual Line of Sight (BVLOS) operations.

Ecosystem: An industry term to describe the increasingly large communities of mutually beneficial partnerships that participants such as hardware manufacturers, software providers, developers, publishers, entertainment providers, advertisers and ecommerce specialists form in order to bring their offerings to market. At the heart of the major ecosystems in the mobile devices and related services industry is the operating system and the development platform upon which services are built.

Enterprise verticals: One of Nokia's customer segments. An enterprise vertical represents a grouping of companies by an industry (like energy or transportation) that offers products and services that meet specific needs of that industry. Within the enterprise verticals segments, we primarily focus on transportation, energy, manufacturing, logistics and the public sector.

ETSI (European Telecommunications Standards Institute): Standards produced by the ETSI contain technical specifications laying down the characteristics required for a telecommunications product.

Event-Driven Automation platform (EDA): A modern infrastructure automation platform that combines speed with reliability and simplicity. It makes data center network automation more trustable and easier to use, from small edge clouds to the largest AI fabrics.

Fixed Wireless Access (FWA): Uses wireless networks to connect fixed locations such as homes and businesses with broadband services.

Glossary continued

Future X: A network architecture – a massively distributed, cognitive, continuously adaptive, learning and optimizing network connecting humans, senses, things, systems, infrastructure and processes.

Greenfield networks: A new network built without any legacy infrastructure, systems, or constraints from previous deployments. Without the need for backward compatibility, it allows for the adoption of the latest technologies and architectures.

GSM (Global System for Mobile Communications): A digital system for mobile communications that is based on a widely accepted standard and typically operates in the 900 MHz, 1800 MHz and 1900 MHz frequency bands. See also 2G.

Hexa-X: European Commission's flagship 6G initiative for research into the next generation of wireless networks. The initiative began in January 2021 with Nokia as project lead, working closely with a strong consortium of European partners.

Hyperscalers: One of Nokia's customer segments. Hyperscaler refers to companies like Alphabet (Google), Amazon (Amazon Web Services), Microsoft and Meta Platforms (Facebook) that provide cloud solutions at a global scale leveraging massive connected data centers.

Industry 4.0 (the fourth industrial revolution): Enables enterprises, governments and public sector agencies to use innovative digital technologies, smart automation and advanced analytics to transform their operating processes. This blending of technologies creates a convergence of the physical and digital worlds, enabling an era of massive industry improvements and positive impacts for societies.

Industry 5.0 (the fifth industrial revolution): Enables enterprises, governments, and public sector agencies to modernize their operational processes through the integration of digital technologies, smart automation, and human-machine collaboration. This blending of technologies creates a convergence of human creativity, decision-making, and machine efficiency, enabling an era of highly personalized and sustainable manufacturing with a focus on human-centered improvements and positive impacts for societies.

Infinera: Infinera Corporation, a global supplier of innovative open optical networking solutions and advanced optical semiconductors. In 2024, Nokia announced its plans to acquire the company and the acquisition of Infinera was closed in February 2025.

Nokia in 2024

Internet of Things (IoT): All things such as cars, the clothes we wear, household appliances and machines in factories connected to the internet and able to automatically learn and organize themselves.

IP (Internet Protocol): A network layer protocol that offers a connectionless internet work service and forms part of the (Transmission Control Protocol) TCP/IP protocol.

IP (Intellectual Property): Intellectual property results from original creative thought, covering items such as patents, copyright material and trademarks, as well as business models and plans.

IPR (Intellectual Property Rights): Legal rights protecting the economic exploitation of intellectual property, a generic term used to describe products of human intellect, for example patents, that have an economic value.

IPR licensing: Generally, an agreement or an arrangement where a company allows another company to use its intellectual property (such as patents, trademarks or copyrights) under certain terms.

IVAS codec (Immersive Voice and Audio Services Codec): An extension of the EVS codec that enables spatial audio in mobile communication. It features advanced technologies, such as the metadata-assisted spatial audio (MASA) format, allowing smartphones and other devices with multiple microphones to capture spatial audio without specialized equipment. It also supports head-tracking, enhancing the spatial audio experience based on the listener's movement.

LTE (Long-Term Evolution): 3GPP radio technology evolution architecture and a standard for wireless communication of high-speed data. Also referred to as 4G.

Massive MIMO (Multiple Input Multiple Output) radios: Advanced technology, which extends the MIMO concept by using a large array of transmit and receive antennas. Nokia provides an extensive portfolio of Massive MIMO radios to deliver high-performance 5G with optimized capacity, coverage and energy efficiency.

Mission-critical networks/communications: One of the key elements of 5G. Mission-critical communications meets the needs of emergency responders such as emergency operations centers, fire departments, emergency vehicles, police, and search and rescue services, replacing traditional radio with new communications capabilities available to smartphone users.

Mobile broadband: Refers to high-speed wireless internet connections and services designed to be used from multiple locations.

Mobile Networks: Our Mobile Networks business group offers products and services for radio access networks covering technologies from 2G to 5G, and microwave radio links for transport networks.

Network Infrastructure: Our Network Infrastructure business group provides fiber, copper, fixed wireless access technologies, IP routing, data center, subsea and terrestrial optical networks – along with related services – to customers including communications service providers, webscales (including hyperscalers), digital industries and governments.

Nokia Bell Labs: Our research arm engaged in discovering and developing the technological shifts needed for the next phase of human existence as well as exploring and solving complex problems to radically redefine networks.

Nokia Technologies: Our Nokia Technologies business group is responsible for managing Nokia's patent portfolio and monetizing Nokia's intellectual property, including patents, technologies and the Nokia brand.

Operating System (OS): Software that controls the basic operation of a computer or a mobile device, such as managing the processor and memory. The term is also often used to refer more generally to the software within a device, for example, the user interface.

O-RAN: The term O-RAN refers to interfaces and architecture elements as specified by the O-RAN alliance. O-RAN Alliance is a specification group defining next-generation RAN infrastructures, empowered by principles of intelligence and openness.

Platform: Software platform is a term used to refer to an operating system or programming environment, or a combination of the two.

PON (Passive Optical Network): A fiber access architecture in which unpowered fiber optic splitters are used to enable a single optical fiber to serve multiple endpoints without having to provide individual fibers between the hub and customer.

Private wireless network: Private wireless is a standalone network focused on industrial operational assets and users. A private wireless network provides broadband connectivity, similar to a public wireless network, but is owned and controlled by the organization that built or purchased it.

Glossary continued

RAN (Radio Access Network): A mobile telecommunications system consisting of radio base stations and transmission equipment.

SEP (Standard-Essential Patent): Generally, patents needed to produce products which work on a standard which companies declare as essential and agree to license on Fair, Reasonable and Non-Discriminatory (FRAND) terms. Can also be referred to as essential patent.

Standalone (SA): Network architecture that allows independent operation of a 5G service without interaction with an existing 4G core and 4G radio network.

Submarine Networks: In 2024, Nokia sold its wholly owned subsidiary, Alcatel Submarine Networks (ASN), a global submarine communication networks leader, to the French State. The business unit was previously reported as part of Nokia's Network Infrastructure business groups segment and is now presented as a discontinued operation.

Technology licensing: Generally, refers to an agreement or arrangement where under certain terms a company provides another company with its technology and possibly know-how, whether protected by intellectual property or not, for use in products or services offered by the other company.

Telco cloud: Applying cloud computing, SDN and NFV principles in telecommunications environment, for example separating application software from underlying hardware with automated, programmable interfaces while still retaining telecommunications requirements such as high availability and low latency.

Transmission: The action of conveying signals from one point to one or more other points.

Virtual Reality (VR): The simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.

WAN (Wide Area Network): A geographically distributed private telecommunications network that interconnects multiple local area networks.

WCDMA (Wideband Code Division Multiple Access): A third-generation mobile wireless technology that offers high data speeds to mobile and portable wireless devices. Also referred to as 3G.

Webscale companies: Companies which are investing in cloud technology and network infrastructure on an increasing scale to fulfill their needs for massive, mission-critical networks.

XGS-PON (10Gbps Symmetrical Passive Optical Network): A high-speed optical network technology that enables both upstream and downstream gigabit and multigigabit services. Its adoption is accelerating, helping operators improve competitiveness, revenue, and network efficiency, while meeting the growing demand for bandwidth from video, online gaming, and emerging applications like virtual reality.

Investor information

Investor information

Information on the internet

www.nokia.com

Available on the internet: financial reports, information on members of the Group Leadership Team, other investor-related materials and information on events, and press releases as well as environmental and social information, Code of Conduct, Corporate Governance Statement and Remuneration Statement.

Investor Relations contacts

investor.relations@nokia.com

Annual General Meeting

Date: 29 April 2025

Place: Helsinki, Finland

Dividend

The Board proposes to the Annual General Meeting 2025 to be authorized to decide, in its discretion, on the distribution of an aggregate maximum of EUR 0.14 per share as dividend from the retained earnings and/or as assets from the reserve for invested unrestricted equity.

Financial reporting

Our interim reports in 2025 are planned to be published on 24 April 2025, 24 July 2025 and 23 October 2025. The full-year 2025 results are planned to be published in January 2026.

Information published in 2024

All our global press releases and statements published in 2024 are available on the internet at www.nokia.com/en_int/news/releases.

Stock exchanges

The Nokia Corporation share is quoted on the following stock exchanges:

	Symbol	Trading currency
Nasdaq Helsinki (since 1915)	NOKIA	EUR
New York Stock Exchange (since 1994)	NOK	USD
Euronext Paris (since 2015)	NOKIA	EUR

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NOKIA

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