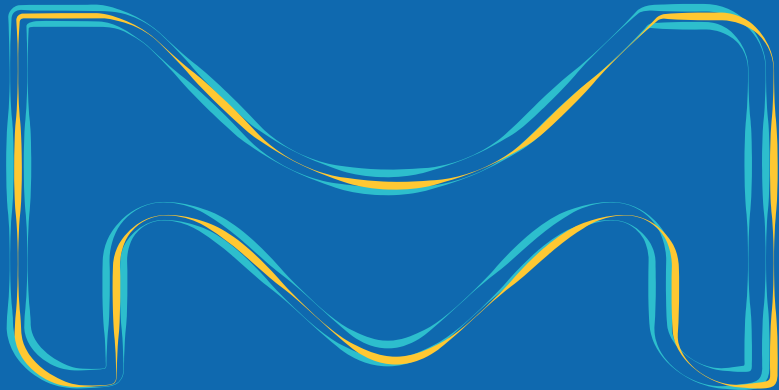


OUR CORPORate RESPONSIBILITY

General Overview

as of February 2020



MERCK

successful business with a conscience



science is at the **heart**
of everything we do.

We want to develop products that
create
sustainable value
for our customers, for our company and for
society.

"Merck has been operating for more than 350 years. Our long history has taught us that sustainable business success is always the result of responsible conduct."

Stefan Oschmann,
Chairman of the
Executive Board and CEO



View from the outside 1/2

External stakeholders value our engagement



FTSE4Good

Since 2008, Merck shares have been **included in the FTSE4Good Index**.



Merck was confirmed as a constituent of the **Ethibel Sustainability Index (ESI) Excellence Europe** in 2018.

STOXX

In 2018, **the Merck share was once again included in STOXX Global ESG Leaders Index**, a sustainability index that assesses companies based on key environmental, social and governance criteria.



Since 2015 Merck has been a member of the **Euronext Vigeo – Eurozone 120**. The index includes companies that show high performance with respect to 38 sustainability drivers.



In 2018, Sustainalytics awarded us 79 out of 100 points, putting us among the leading pharmaceutical companies – with particularly high marks in corporate governance, community outreach, and environmental performance.

View from the outside 2/2

Proof points for our leading position



In 2018, Oekom research AG gave Merck a "B-" rating which means Merck has once more achieved **prime status**.



Merck received **Gold** status in 2019, among the **top 1% of companies**.

EcoVadis annually examines 45,000 suppliers from 150 countries. The rating focuses on 21 criteria; topic areas: environment, social affairs, ethics, and sustainable procurement.



In the **2018 Access to Medicine Index** Merck ranked **fourth place** again.

The ranking appreciates Merck's efforts supporting low and middle income countries by providing expertise and lab supplies.



Participation in CDP (formerly Carbon Disclosure Project) since 2008.

CDP Climate: In 2018, we scored "C" (2017: B).

CDP Water: In 2018 we received a "B-" (2017: B).



Merck ranks on **fourth place among its peer companies** and achieved a total of 54 out of 100 points ("robust") with respect to environmental, social and governance (ESG) topics.

In 2018 Vigeo Eiris, a sustainability rating and research agency, analyzed ~ 4,500 companies.

Fulfilling our

corporate responsibility strategy ...

We seek to create added value both for Merck as well as for the community...

... focusing our strength on those areas where we can achieve the highest impact.



We conduct our business in a responsible manner:


By doing so, we secure our **social license to operate** and enhance the competitiveness of our company.

Strategic sphere Global Health Improving care globally

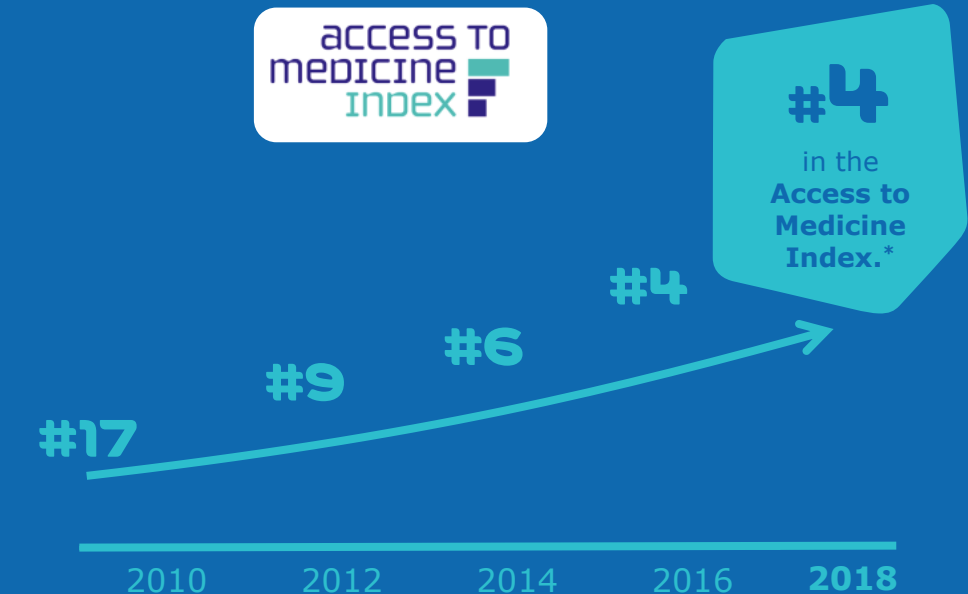


We provide people with **access to adequate high-quality healthcare**, for example

- We improved **access to better therapies in diabetes, cancer, hypertension, and fertility** in underserved regions through the Merck Capacity Advancement Program
- We strengthened the **Merck Global Health Institute** to accelerate R&D, incorporate access provisions and build capacity
- We conduct **awareness campaigns** e.g. for diabetes, thyroid disorders and cancer


Transparency on patents to insure public health needs: Pat-INFORMED initiative recognized as a **best practice** in the **2018** Access to Medicine Index


Colorectal Cancer Awareness Month campaign **#gutstrength** reached **162,000** people



* The ATM Index assesses the degree to which companies have improved access to medicines in developing nations.



Strategic sphere Global Health

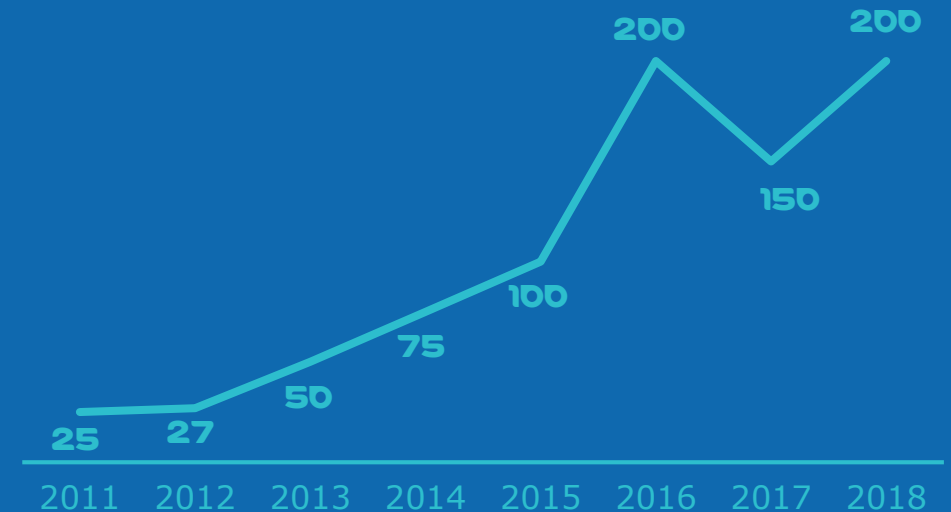
Our engagement in Africa

Preventing and treating infectious diseases

- We aim to eliminate the worm disease **schistosomiasis**
 - Since 2007, we have donated over 900 million praziquantel tablets to WHO for distribution across 46 nations in Africa
 - We support the NALA Foundation with a Schistosomiasis Health Education Project targeting 850,000 people in Ethiopia
 - We are developing a pediatric formulation of praziquantel for children under the age of six (Phase III study will be implemented in 2019)
- We help delivering integrated and **sustainable health solutions against malaria** (treatments, diagnostics, prevention methods)
- New compound is being developed as a single-dose combination to treat and potentially prevent **malaria in children** (Phase I study underway since 2017)



Number of praziquantel tablets donated to WHO (millions)



Strategic sphere Sustainable Solutions

More sustainable products throughout their life-cycle

Continuously improving the **sustainability performance of our products** and helping our customers to reach **their sustainability targets**:

With the Design for Sustainability (DfS) program, **we reduce environmental impacts** of devices and instruments, also through customers' own use, when developing a new product.

For example:

- By the end of 2018, 27% of these DfS product development projects met three or more product sustainability criteria.
- EZ-Fit™ Manifold laboratory filter now requires **47% less raw material** than its predecessor.

Our in-house-developed web-based tool **DOZN™** enables us to assess green alternatives of various chemicals, creating transparency for our customers.

For example:

- **Cyrene™**: Bio-based solvent derived from waste cellulose is used as an alternative to the critical substance formamide.
- To date, we have used this matrix to assess and improve more than 40 products.


In **2018**
Cyrene was shortlisted for the "innovation of the year" at the Ethical Corporation's Responsible Business Awards.

We develop display technologies that **reduce energy consumption**.

For example:

- We are developing high performance **OLED materials** for vacuum evaporation methods and printing processes. OLEDs increase the energy efficiency of displays.
- Our **liquid crystal window technology** under the new brand eyrise™ can lower the energy consumed by building climate control by up to 40%.


At **BAU 2019**
we showed an iconic building design by renowned Brazilian architect Oscar Niemeyer.

Strategic sphere Broad Minds

Foster creativity and curiosity



By making education on all levels and culture accessible, we nurture characteristics that are essential to us as a high-tech company, namely creativity, enthusiasm for new discoveries and curiosity:

In 2018 approximately **3,500** students conducted research in the TU Darmstadt laboratories

We inspire a love of science in the next generation of researchers with a special focus on science education.

- **Junior laboratories** with the Technical University (TU) of Darmstadt
- **School booster program** in Germany helped ~70 schools conducting experiment-based science
- **Curiosity Cube** tour within SPARK program travelled 30,000 kilometers in North America



Deutsche Philharmonie Merck is our musical ambassador

Literature can stimulate imagination and give courage:

We further writers who drive cultural exchange in our globalized world

~**31,000** people attending concerts in 2018

In 2018 more than **66,000** students engaged by SPARK Global Volunteer Program

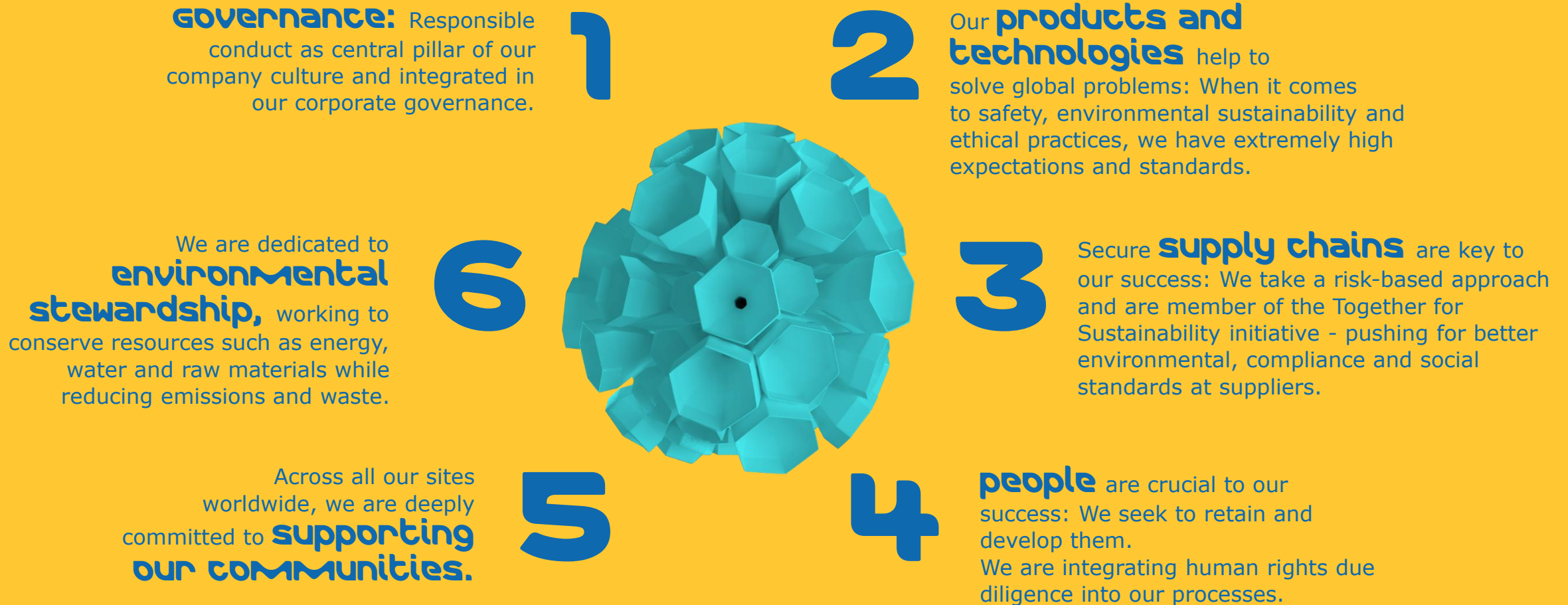
Merck has more than **10** professors teaching on an voluntary basis. In addition we are sponsoring several university professorships.

1 Million € annually will be provided over the **next 35 years** for the new research award **Future Insight Prize**

5 literary prizes in Germany, India, Italy, Japan and Russia

How do we secure our social license to operate?

Looking, listening and doing better



Our social license to operate: Governance

Integrating responsible behavior into our governance

1

Company **values**, along with the external regulations and our commitment to initiatives

2

Group-wide **guidelines** such as the Corporate Environment, Health and Safety (EHS) Policy, the Human Rights Charter or the Genome Editing Principle

3

Derived from the charters, principles and policies, our **internal standards** give specific guidance to those responsible for operational processes

Our employees are educated and trained on all guidelines that apply to them.

 **11,404**

employees and contractors took part in 2018 in the anti-corruption training available in 15 languages.

In response to the European General Data Protection Regulation (EU GDPR), we redesigned our regular

data privacy eLearning course, rolling it out in 17 languages.

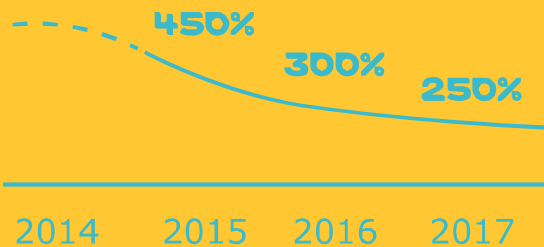
Corporate Governance at Merck

Reaching a new level of transparency in board compensation and CG

Improvements underway:

- Intense dialogue with national and international investors to discuss state of the art compensation systems
- Board compensation system is built on best practice and leading voluntary guidelines: Reported according to the German Corporate Governance Code
- Last voting of AGM on the compensation system (not mandatory for Merck as a KGaA) in 2018
- Since 2018 Merck provides a more transparent and user friendly remuneration report
- Awarded in 2018 with the "Euroshareholder Award for the Most shareholder-friendly Directors' Pay System DAX30"
- Introduction of maximum age (75 years) and maximum length of membership (15 years) in the Supervisory Board in 2017
- Open for a dialogue between Supervisory Board and investors

Total Cap for LTI Grant Amount in total



[Follow link](#)



[Follow link](#)

Corporate Governance at Merck

The best of both worlds –family-owned and publicly listed

Share capital of limited liability shareholders

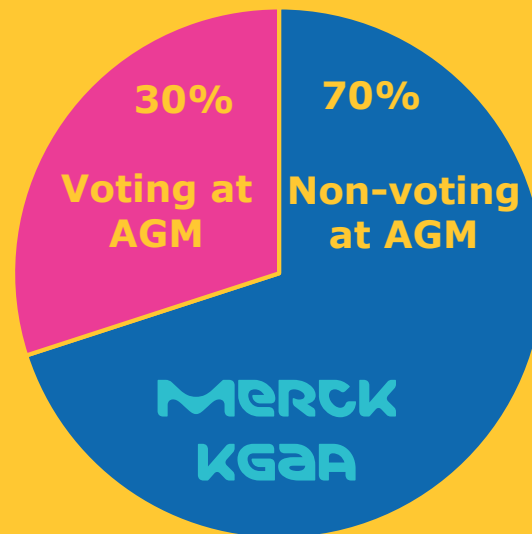
€ 168,014,927.60 (129,242,252 shares)

- Around 30% of the total capital of Merck KGaA is publicly traded
- Only the share capital of limited liability shareholders is entitled to vote at General Meetings
- The supervisory board is elected to promote the interest of the share holders

Equity interest of General Partner E. Merck KG

€ 397,196,314.35

- General partner, holds around 70% of the total capital of Merck KGaA
- Limited role of the Supervisory Board of Merck KGaA (however, no restrictions of its audit duties)
- Instead, some of the responsibilities that lie with the Supervisory Board of a German stock corporation are fulfilled at Merck KGaA by the Board of Partners of E. Merck KG



Total capital
€ 565,211,241.95

Corporate Governance at Merck

Profile of skills, expertise and diversity of Supervisory Board



In their entirety, the Nominees for the election of the Supervisory Board in 2019 **fulfill the profile of skills, expertise and diversity** (see Merck's Annual Report). Newly elected members complete a comprehensive **on-boarding process**.

Profile of skills,
expertise and
diversity



Profile	met
Important fields of Merck	✓
Main sales geographies	✓
Management experience	✓
Experience in business administration	✓
External supervisory & control boards	✓
Percentage of women	✓
Digital	✓
ESG (Environment, Social, Governance)	✓

The **Profile of Skills, Expertise and Diversity** for Merck's Supervisory Board aims at:

- Min. 4 members with experience in **main important fields** of Merck (HC, LS, PM)
- Min. 3 members with experience in the **main sales geographies** of Merck (Europe, Americas, Asia-Pacific)
- Min. 3 members with **management experience** in medium- to large-sized companies
- Min. 4 members who have in-depth knowledge of **business administration**
- Min. 4 members which are also members in other **external supervisory and control boards**
- A **percentage of women** of min. 37,5%

Corporate Governance at Merck

Boards and Committees

Shareholders of Merck KGaA

- Shareholders hold ~30% of the total capital of Merck KGaA
- This capital is divided into bearer shares and one name share without nominal value listed at the German Stock Exchange's Prime Standard, member of the DAX 30 (German Blue Chips). The bearer shares are entitled to vote at Merck's Annual General Meeting with one vote per share.
- The Merck Share is a name share.

Supervisory Board

- Its Chairman leads the AGM, representing the interests of Merck's shareholders
- Approving the financial statements of Merck KGaA
- Working together with Executive Board, receiving reporting on progress regarding business and financial development at Merck, having 1 committee: Nomination Committee
- Containing 16 members: 8 employee representatives, 8 representatives incl. 2 family representatives and 6 elected and independent shareholder representatives

Nomination Committee

- Define criteria for the selection process and target profile of potential supervisory board members
- Make proposals for new candidates

Personnel Committee

- Decisions regarding members of the Executive Board
- Executive Board employment contracts
- Compensation system

E. Merck KG: Partners' Meeting & Family Board

- E. Merck KG holds ~70% of the total capital of Merck KGaA (99.9% Merck Family)
- These 70% of the total capital are not entitled to vote at Merck's AGM
- Family Board represents the entrepreneurial interests of the Merck family (elected by partners' meeting)

Board of Partners

- Elected by the Family Board and taking over some duties of a usual Supervisory Board:
- Appointment, dismissal and supervision of Executive Board members of Merck KGaA
- Granting approval of extraordinary business transactions and approves the annual financial statements of E. Merck KG.
- It contains 5 members of the Family Board and 4 external members of the business community, having 3 committees: Personnel, Finance, R&D Committee

Finance Committee

- Analyzing and discussing the annual financial statements
- Recommends an auditor for the annual financial statements

R&D Committee

- Reviewing and discussing the research activities of Healthcare, Life Science and Performance Materials

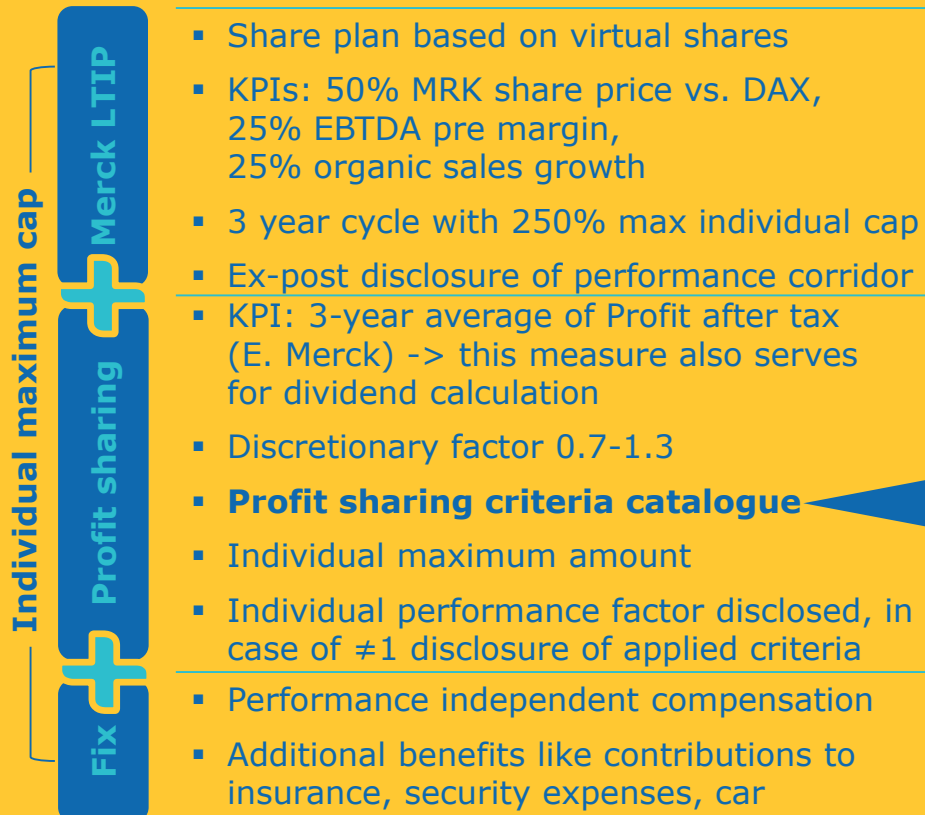
Executive Board

- The Executive Board is the management body and the face of E. Merck KG
- Conducting the business of Merck KGaA, representing the company externally re. strategy, business development, financials
- Implementing the resolutions passed by E. Merck KG and Supervisory Board

Corporate Governance at Merck Remuneration System

Last AGM approval on
remuneration system:

2018



Increasing criteria (bonus)

- + Successful M&A activities
- + Strategic development or reorganization
- + Achievements in important projects
- + Achievements in the area of individual responsibility
- + Contributions to stakeholder objectives like CSR, diversity

Lowering criteria (malus)

- Violations of internal rules, e.g. code of conduct or external rules on responsibility, unethical behavior or contradictory to our company values
- Failure in executing important projects
- Missing objectives in the area of individual responsibility

Improved remuneration system since 2018

- Share ownership guideline
- Claw back rule
- Disclosure of total and single compensation caps
- Disclosure of LTIP corridor ex-post
- Using GCGC tables
- Including CSR and diversity in profit sharing catalogue
- Approved by AGM in 2018

At Merck, unlike publicly listed German stock corporations, it is not the Supervisory Board, but the Personnel committee of the Board of Partners of E. Merck KG that decides on the amount and composition of compensation received by our Executive Board members.

Corporate Governance at Merck

Anticipatory resolutions on capital measures

1

Authorized Capital

- valid until April 2022
- 56.521.124,19 €
- 33,6% of base capital
- Exclusion of subscription rights of 20% (cumulative with contingent capital described below)

Merck can issue stock without shareholder approval of 33.6% of shares outstanding (with a maximum of 20% exclusion of subscription rights)

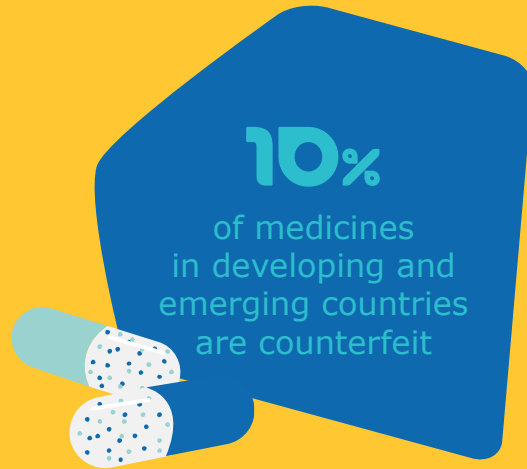
2

Contingent Capital

- valid until April 2023
- 16.801.491,20 €
- 10% of base capital
- Exclusion of subscription rights of 20% (cumulative with authorized capital described above)
- Authorization to issue warrant and/or convertible bonds, participation rights or participation bonds, or a combination of these instruments

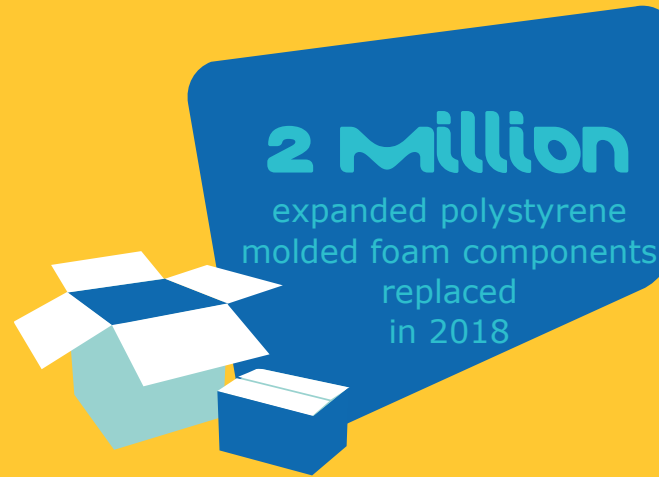
Our social license to operate: Products & technologies

Products with sustainable impact



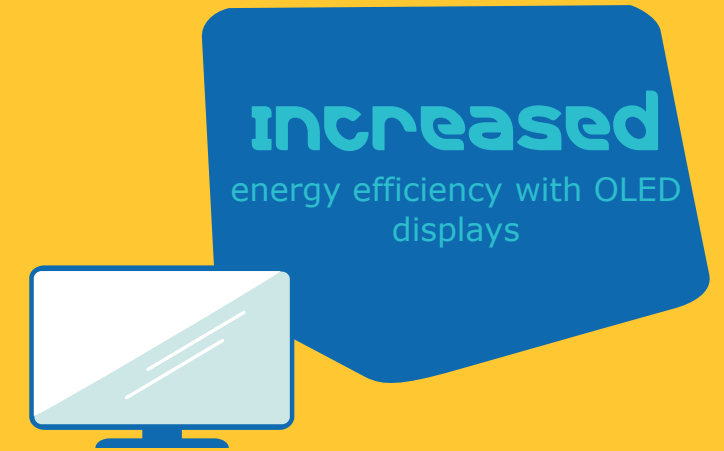
Fighting counterfeit medicines

- We secure our products against counterfeiting and are deeply committed to fighting product-related crime
- We apply a unique serial number to our pharmaceutical packaging
- With the GPHF Minilab®, a portable, compact laboratory, counterfeit medicines can be detected quickly, easily and inexpensively



Committed to circular economy

- >300,000 products in our Life Science portfolio need sustainable packaging
- We used approximately 669 metric tons of molded pulp packaging material in 2018
- End of 2018, we kicked-off our sustainable packaging plan with four goals:
 - Reduce amount of packaging
 - Achieve zero deforestation
 - Improve plastic sustainability
 - Maximize recycling



Thin & light with supreme contrast

- OLED materials increase energy efficiency of displays while providing brilliant colors and razor-sharp images
- OLED production: Some material always remains in the used containers and machinery. Our customers can collect this residual and send it back to us. We then prepare it so that it reaches its original quality again and can be reused.

Our social license to operate: People (1/3)

Engagement is key



Realizing people's full potential

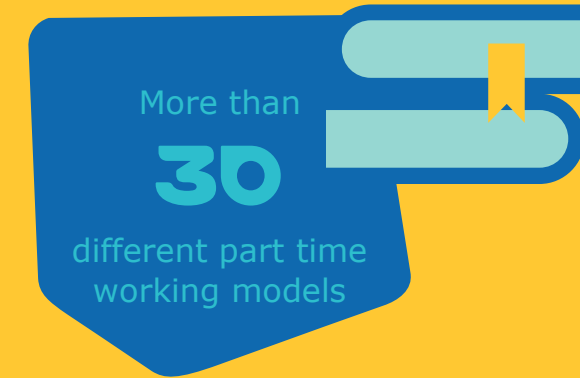
- Regular feedback on employee performance
- Leaders and subordinates work together to define individual objectives
- 70% of employees create development plan reflecting each employee's tasks and strategic priorities



Employee engagement

Annual Group-wide Employee Engagement Survey:

- platform for employees and management to share opinions and ideas
- benchmark against our competitors
- 2018 we included questions regarding employee health. The input is used to calculate our company's Healthiness Index from 2019 on.

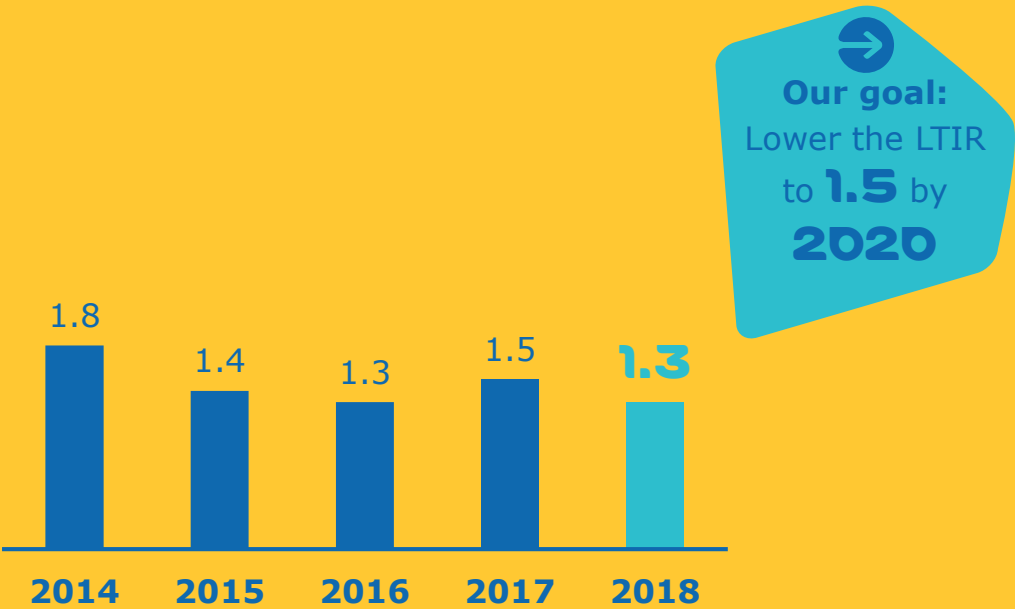


Better work-life balance

- New Group-wide guideline facilitates the use of flexible working time and location options in the twelve major countries
- Part-time employees (5% of total workforce) receive the same job benefits as fulltime workers
- Parental leave conditions beyond statutory requirements for 45% of workforce

Our social license to operate: People (2/3)

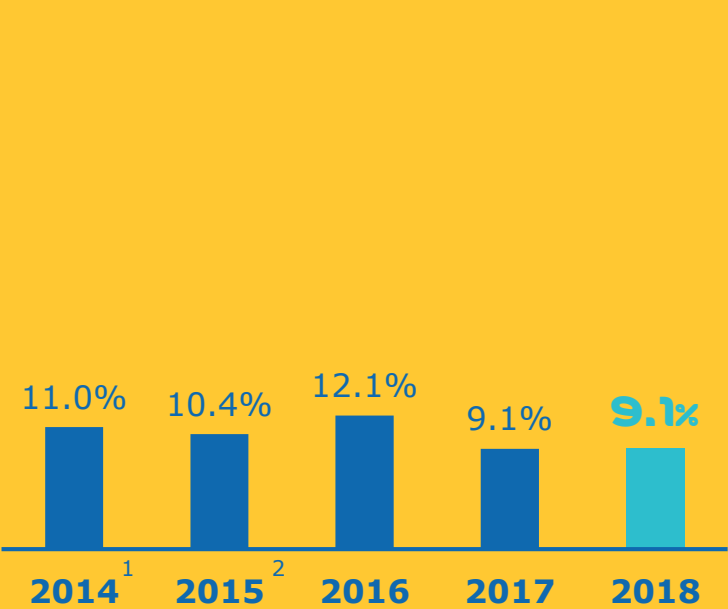
Well on track for our goals



Health & Safety for our people

The lost time injury rate (LTIR)* is the indicator to assess the success of our safety efforts.

* LTIR = workplace accidents resulting in missed days of work per one million man-hours.



Turnover rate

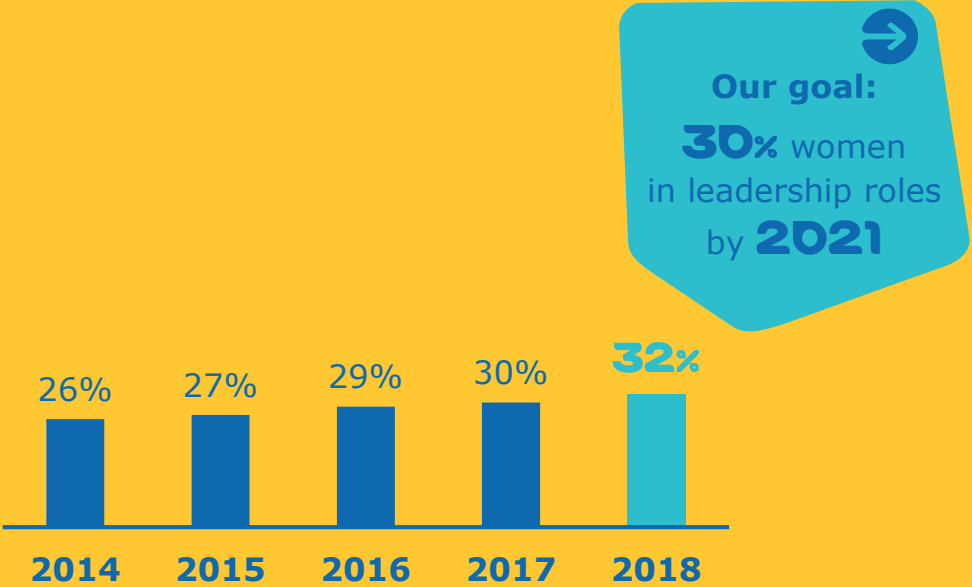
Focus on a stable workforce that brings our strategy to life and moves the business forward.

¹ Employee turnover for 2014 was calculated: Total number of leavers of the past 12 months multiplied by 100 divided by the employee headcount as of December 31.

² Employee headcount from 2015 on is calculated: Total number of leavers from the past 12 months divided by the average employee headcount multiplied by 100.

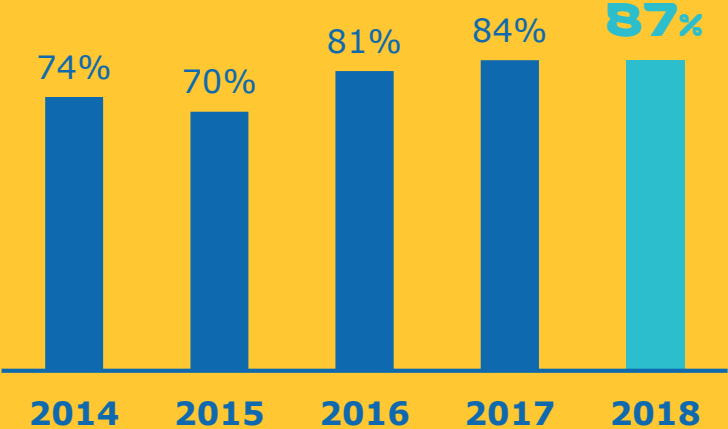
Our social license to operate: People (3/3)

Well on track for our goals



Diversity

Focus on women in leadership and increasing internationality. In 2018, we overachieved our target for 2021.



Rich leadership pipeline

We identify and advance suitable employees with leadership potential. In 2018 87% of our vacant leadership positions were filled internally.

Our social license to operate: Supporting our communities

Charitable activities together with our employees

2018



Spending a total of around
€ 36
million on
community
involvement

- We mainly support social projects that align with **our strategic focus areas, namely Global Health, Sustainable Solutions and Broad Minds** and happen in the vicinity of our sites and in the countries where we operate.
- Focus on long-term initiatives: **Our activities are intended to have a positive, long-lasting effect** on the community.
- Our employees participate in corporate volunteering programs. In 2018, we introduced a new **Group-wide Corporate Volunteering Guideline**, which grants our people up to two days of paid leave per year to volunteer in initiatives that are supported by our company.



350 GOOD DEEDS

During our anniversary year we conducted more than **350 charitable activities** in 60 countries worldwide: Our employees were engaged in around 60% of the projects.

Our social license to operate: Environmental stewardship

Reducing our environmental footprint

We meet a strict set of environmental regulations at all our sites

- Since 2009, our company has held a Group ISO 14001 certificate: All production sites with more than 50 employees must implement the requirements of the certificate. 81 sites worldwide are covered.
- In 2018, we passed 10 ISO 14001 audits, including facilities added to the Group certificate.

We foster increasing climate protection

- Despite more than **doubling our sales** between 2006 and 2018, we managed to reduce our greenhouse gas emissions by 11% relative to the 2006 baseline.

* Compared to 2006

** Compared to 2016

**To mitigate
the impact resulting
from our operations**

We strive to conserve water

- We minimize the amount of pharmaceutical active ingredient residue in our wastewater by optimizing production and purification processes. All our pharmaceutical manufacturing facilities have wastewater treatment plants.

Goal for 2020:
Cut water use by **10%** at our sites in water-stressed areas

We reduce waste and recycle as much as possible

- We ensure that raw materials are recycled and that unrecyclable waste is discarded in an environmentally sustainable manner in line with the strictest waste disposal standards.

Goal for 2025:
Reduce the ecological impact of our waste by **5%****

Goal for 2020:
Reduce our greenhouse gas emissions by **20%***





Goals Summary

ESG goals

We are working on ambitious goals

Environment

Climate

We endeavor to reduce direct and indirect emissions to mitigate our impact on the climate.



Waste

We consider it fundamental to both prevent and recycle as much of our waste as possible.



Water

For us, sustainable water management means not negatively impacting the aquatic ecosystems



Social

Product safety

Product safety is one of our top priorities: From safe handling of hazardous substances to ensuring patient safety.



Employees

We aim to be an attractive employer, encouraging creativity and development under ideal working conditions.



Access to Medicine

We support a variety of initiatives that improve access to health particularly for people in low- and middle-income countries.



Governance

Growth & Profit sharing

Our growth results from innovations and acquisitions strengthening our position in important markets, supported by strong cash-flow, long-term margins of >30% and a conservative but reliable dividend.



Risk management

We are focusing on a diversified business model: Our 3 sectors have pioneering knowledge to develop products to improve life for patients, further the success of our customers and meet global challenges.



Steering

Our core values along with the external regulations lead to business-guiding charters and principles for our responsible governance, documented in our Corporate Responsibility strategy and report.



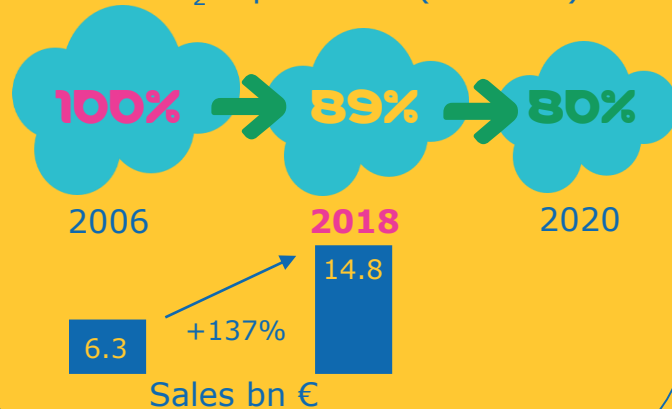
ESG goals

Emissions, water, waste reduced despite growing business

Emission target:

- Growth-independent reduction of Merck's greenhouse gas emissions of 20% until 2020 vs. 2006
- Despite sales growth of 137% 2006 vs. 2018 we achieved a 11% reduction of CO2 equiv.
- We still confirm our goal for 2020 expecting positive impact from latest initiatives, e.g. process optimizations and change to renewable energy

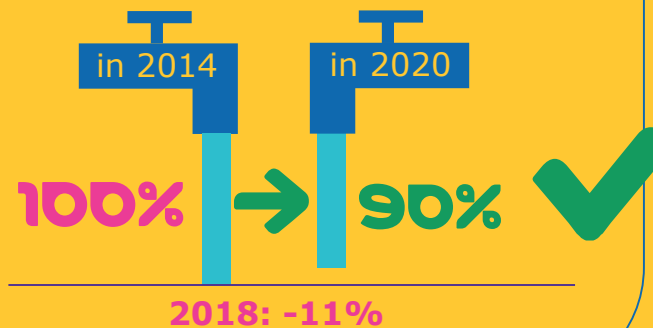
CO₂-Equivalents (absolute)



Water target:

- At 24 sites with relevant water use in areas of high water stress we aim to cut water consumption by 10% until 2020 vs. 2014
- 2018, we lowered our water consumption by 11% resulting from sustainable water management and re-usage
- All pharmaceutical manufacturing facilities have wastewater treatment plants

Water consumption
in water stress areas




Waste target:

- We reduce waste and recycle as much as possible - we aim to reduce the environmental impact of our waste by 5% until 2025 compared to 2016
- The Merck Waste Score allows us to compare the amount of waste our sites are producing
- We ensure that raw materials are recycled and that unrecyclable waste is discarded

Merck Waste Score

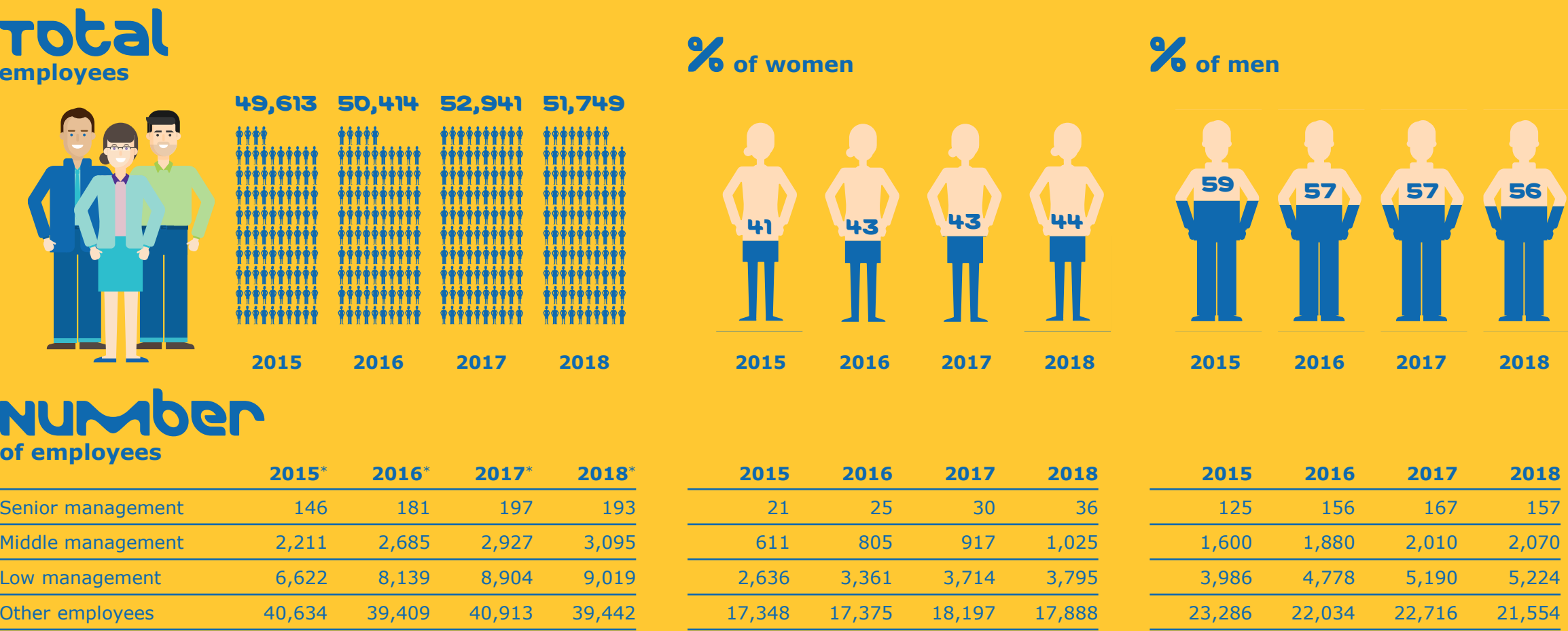




selected figures

Employees

Number of employees by hierarchical level



* From 2015 on, these figures include Sigma-Aldrich, however as of Dec. 31, 2017 the job grading system had not yet been implemented for employees of Sigma-Aldrich legal entities in Germany, or for employees of Allergopharma. These employees are included under "thereof other employees (Role 3 and below)".

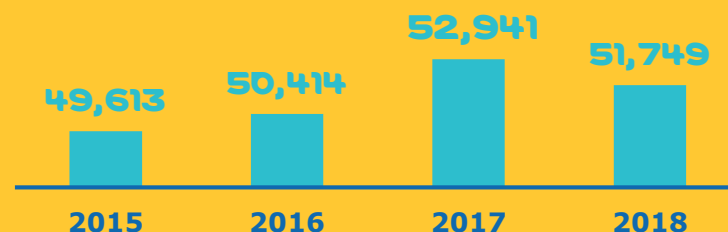
Employees

Number of employees by region



North America

	2015*	2016	2017	2018
Total	9,794	10,037	10,520	10,978
Women	4,183	4,308	4,518	4,742
Women (%)	43	43	43	43



Europe

	2015*	2016	2017	2018
Total	23,429	24,438	25,980	25,792
Women	10,316	10,884	11,627	11,464
Women (%)	44	45	45	44

Latin America

	2015*	2016	2017	2018
Total	4,352	4,140	4,050	3,340
Women	1,986	1,910	1,896	1,648
Women (%)	46	46	47	47

Middle East and Africa

	2015*	2016	2017	2018
Total	942	1,045	1,097	1,097
Women	425	483	519	519
Women (%)	45	46	47	47

Asia-Pacific

	2015	2016	2017	2018
Total	11,096	10,754	11,294	11,096
Women	3,706	3,981	4,298	4,348
Women (%)	33	37	38	41

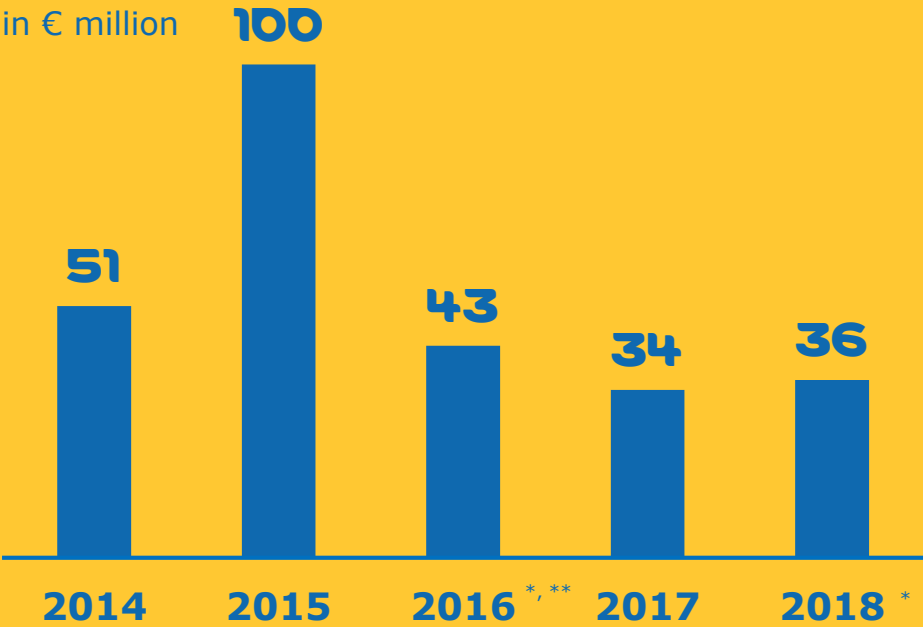
* Includes Sigma-Aldrich as of 2015; As of Dec. 31

External contractors are currently not logged in our employee data system, nor do we currently have any plans to integrate them.

Society Spending

spending on community involvement






in € million



^{*} Includes Sigma-Aldrich as of 2016 and excludes the Merck Foundation as of 2018
^{**} From 2016 on, we are separating spending on patient support programs such as our Erbitux® China Patients Assistance Program from our community involvement figures.

Focus of our local community involvement in %

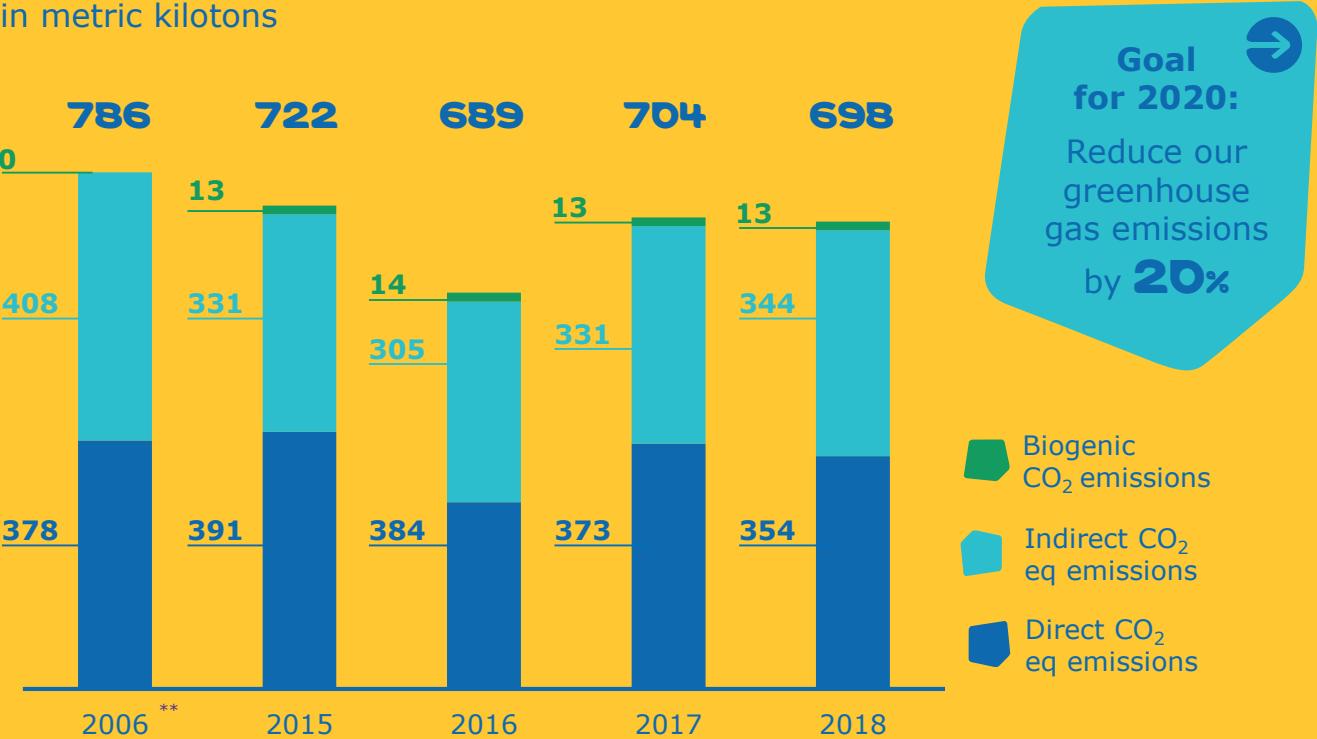
Based on number of projects

	2014	2015	2016 ^{*,**}	2017	2018 [*]
 Global Health	33	33	35	38	34
 Broad Minds	38	33	36	43	42
 Sustainable solutions: Environment	10	7	5	4	2
 Disaster relief	4	6	2	2	2
 Other	15	21	22	13	20

Environment

Total Greenhouse Gas Emissions

total greenhouse gas emissions
in metric kilotons



eq = equivalent
* In line with the Greenhouse Gas Protocol, for all previous years (up to the 2006 baseline) the greenhouse gas emissions have been calculated based on the current corporate structure of the reporting year and retroactively adjusted for acquisitions (e.g. Sigma-Aldrich in 2015) or divestments of (parts of) companies, or for changes in emission factors (portfolio-adjusted).
** Baseline for our emission targets is 2006.

scope 1*
emissions that **we produce ourselves**, for instance by burning fossil fuels to generate power.

scope 2*
emissions **from the consumption of purchased energy**, such as electricity or district heating.

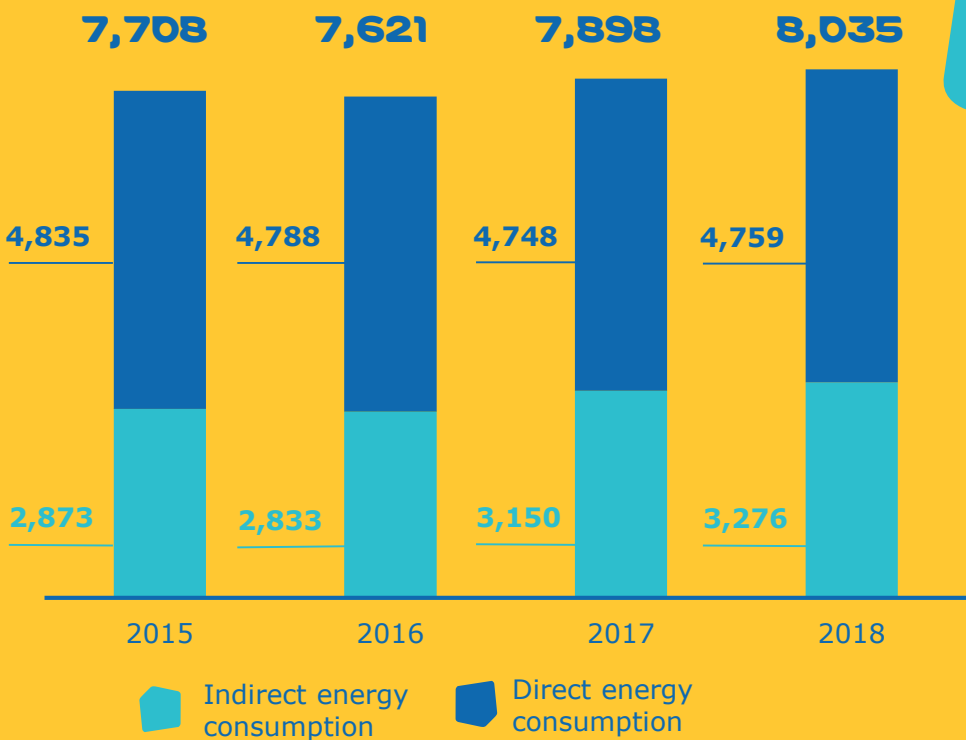
FOCUS
40 of our sites account for **roughly 80%** of our greenhouse gas emissions



Environment

Moderate energy consumption and less waste

Energy consumption
in terajoules



Goal for 2020: ➔
Full integration of the purchase of electricity from renewable sources

