

**VOLKSWAGEN**

AKTIENGESELLSCHAFT



# Responsibility and Change

Sustainability Report 2016

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This publication is an abridged version of our online Sustainability Report 2016. To read the report in full, please visit: [sustainabilityreport2016.volkswagenag.com](http://sustainabilityreport2016.volkswagenag.com)

# Group

## 12 Brands, 120 Locations

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## One Group

With 12 brands, the Volkswagen Group – based in Wolfsburg, Germany – is one of the world’s leading automobile manufacturers and the largest in Europe. In 2016, the Group – including Chinese joint ventures – delivered a total of 10,296,997 cars and commercial vehicles to customers. This equated to 11.9% of the global passenger car market. The Group’s sales revenue totaled €217,267 million in 2016, while earnings after tax came to €5,379 million. More than 620,000 employees produce an average of 43,000 vehicles per working day at 120 manufacturing locations on four continents, or are involved in providing mobility-related services.

### STRUCTURE

Volkswagen AG is the parent company of the Volkswagen Group. It develops vehicles and components for the Group’s brands, but also produces and sells vehicles, in particular passenger cars and light commercial vehicles from the Volkswagen Passenger Cars and Volkswagen Commercial Vehicles brands. In its function as parent company, Volkswagen AG holds direct or indirect interests in AUDI AG, SEAT S. A., ŠKODA AUTO a. s., Dr. Ing. h. c. F. Porsche AG, Scania AB, MAN SE, Volkswagen Financial Services AG and a large number of other companies in Germany and abroad. More detailed disclosures are contained in the list of shareholdings in accordance with sec-

tions 285 and 313 of the Handelsgesetzbuch (HGB – German Commercial Code), which can be accessed at [www.volkswagen.com/en/ir](http://www.volkswagen.com/en/ir) and forms part of the annual financial statements.

Volkswagen AG is a vertically integrated energy company within the meaning of section 3 para. 38 of the Energiewirtschaftsgesetz (EnWG – German Energy Industry Act) and is consequently subject to the provisions of the EnWG. In the electricity sector, Volkswagen AG performs electricity generation, sales and distribution together with a Group subsidiary.



**Matthias Müller**  
Chairman of the Board of Management of Volkswagen Aktiengesellschaft



**Dr. rer. soc. Karlheinz Blessing**  
Human Resources and Organization



**Dr.-Ing. Herbert Diess**  
Chairman of the Brand Board of Management of Volkswagen Passenger Cars



**Dr. rer. pol. h. c. Francisco Javier Garcia Sanz**  
Procurement



**Prof. Dr. rer. pol. Dr.-Ing. E. h. Jochem Heizmann**  
China



**Andreas Renschler**  
Commercial Vehicles



**Prof. Rupert Stadler**  
Chairman of the Board of Management of AUDI AG



**Hiltrud Dorothea Werner**  
Integrity and Legal Affairs (since February 1, 2017)

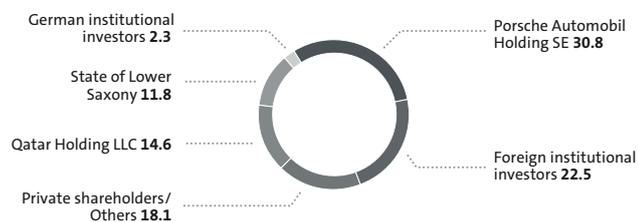


**Frank Witter**  
Finance and Controlling

Volkswagen AG’s Board of Management is the body ultimately responsible for managing the Group. The Supervisory Board appoints, monitors and advises the Board of Management, and is directly consulted on decisions of fundamental significance for the Company.

## Shareholder Structure

at December 31, 2016 in % of voting capital



## Employees by Continent

in % at December 31, 2016



## Group Key Figures

Volume data	2016	2015
Vehicle sales (units) in thousand	10,391	10,009
Vehicle production (units) in thousand	10,405	10,017
Research and development costs in €bn	13.7	13.6
Employees at Dec. 31.	626,715	610,076
Proportion of female employees in %	16.0	16.0
Proportion of apprentices in % <sup>1</sup>	4.6	4.7
Average hours of training per employee <sup>3</sup>	21.5	17.8
Average cost of training per employee in € <sup>3</sup>	1,276	1,346
CO <sub>2</sub> emissions European new car fleet in g/km <sup>2</sup>	120	121
CO <sub>2</sub> emissions in kg/veh. <sup>4</sup>	883	882
Energy consumption in kWh/veh. <sup>4</sup>	2,090	2,106
<b>Financial data (IFRS) in € million</b>	<b>2016</b>	<b>2015</b>
Sales revenue	217,267	213,292
Operating result after special items	7,103	-4,069
Earnings before tax	7,292	-1,301
Earnings after tax	5,379	-1,361

<sup>1</sup> At the Group in Germany.

<sup>2</sup> Subject to official publication by the European Commission.

<sup>3</sup> Average for total Group workforce in the reporting period.

<sup>4</sup> Production of cars and light commercial vehicles, prior-year figures adjusted.

## PRODUCTS

The Volkswagen Group is one of the leading multibrand groups in the automotive industry. The Company's business activities comprise the Automotive and Financial Services divisions. All brands in the Automotive Division – with the exception of the Volkswagen Passenger Cars and Volkswagen Commercial Vehicles brands – are legally independent separate companies. The business activities of the various companies in the Volkswagen Group focus on developing, producing and selling passenger cars, light commercial vehicles, trucks and buses. The product portfolio of the Passenger Cars Business Area ranges from motorcycles to fuel-efficient small cars and luxury vehicles. In the Commercial Vehicles Business Area, the collaboration between

the MAN and Scania brands is managed and coordinated under the umbrella of Volkswagen Truck & Bus GmbH. The commercial vehicles portfolio ranges from pickups to heavy trucks and buses. Power Engineering manufactures large-bore diesel engines and special gear units, among other things. A wide array of financial services, which will be gradually expanded to include mobility services rounds off the Company's portfolio. With its brands, the Volkswagen Group has a presence in all relevant markets around the world, with Western Europe, China, the USA, Brazil, Mexico and Turkey currently representing its key sales markets.

## LOCATIONS AND EMPLOYEES

The Volkswagen Group's production network comprised 120 production sites at the end of the reporting year. Europe remains the heart of our production activities, with 71 facilities that manufacture vehicles and components, 28 of them in Germany alone. The significance of the Asia-Pacific region continues to grow, with a total of 31 pro-

duction sites. North America (five) has added another site, and in South America (nine), the number of sites remained unchanged in the reporting period. The Group has four production sites in Africa.

## MARKETS

Despite difficult economic conditions in 2016, the Group sold 10,391,113 (2015: 10,009,605) vehicles to dealers. The Group's share of the global passenger car market currently stands at 11.9%. The Group maintained its strong competitive position in the reporting period thank to its wide range of attractive and environmentally friendly models. Worldwide, for the manufacture of its products, the

Group purchased goods and services in the amount of €166.5 billion. This includes purchasing figures for the Chinese joint-venture companies.

Further details on the Group's development, holdings and changes affecting production locations or activities can be found [here](#).



## THE VOLKSWAGEN VALUE CHAIN

### Research & Development

Year for year, the Volkswagen Group invests more in research and development than any other company in the world, laying the foundations for new models and innovative concepts with which to master the challenges of the future: digitization, networking and electric mobility.

The Volkswagen Group employs  
**48,063 people**  
in Research & Development



Mensch - Roboter - Kooperation

### Procurement



The annual  
procurement volume  
comes to **166.5 Bn. €**

Every year, the Volkswagen Group purchases a wide range of raw materials, components and other goods. A sustainable supply chain and environmentally compatible transportation solutions form an indispensable part of demonstrating comprehensive responsibility for human rights, as well as a commitment to the environment and to the battle against corruption.

### Production

Every working day, the Volkswagen Group manufactures an average of 43,000 vehicles. As we do so, efficient production ranks alongside employee health and safety as our core goal. New concepts help prepare employees for the future, covering every step from vocational education and training onwards.

**120**  
production locations  
on four continents (2016)



### Marketing & Sales



**>10.2 million**  
vehicles sold worldwide (2016)

The Volkswagen Group markets its vehicles in 153 countries. Around the world, comfort and safety are considered the key customer requirements. We continuously reduce the fuel consumption of our models and offer alternative mobility services.

### After-Sales & Financial Services

Service provision includes supporting dealerships to ensure they can provide quality advice and maintenance; managing the original parts business; and providing innovative vehicle-related financial services. Fuel-economy driver training courses play an effective part in cutting fuel consumption and thus CO<sub>2</sub> emissions.

**3,412**  
people attended Driving Experience  
eco-driving course (2016)

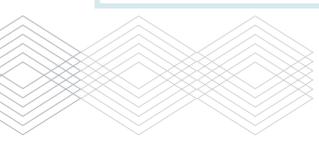


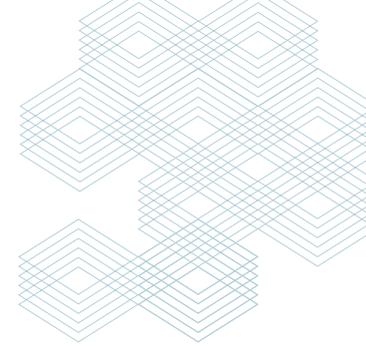
### Recycling



End-of-life vehicles are  
**85% recycled**  
and  
**95% recovered**

Recycling makes a key contribution to reducing our products' impact on the environment and conserving resources. It is not just a matter of recycling vehicles at the end of their service life – on the contrary, even at the development stage for new vehicles, we pay attention to the recyclability of the required materials, the use of high-quality recycled material and the avoidance of pollutants. At the same time, we factor in aspects of the use phase, such as the treatment and disposal of service fluids or high-wear components.





# Strategy

## Our Objective – To Provide Sustainable Mobility

As one of the world's largest industrial corporations, our Group bears a special social responsibility. We intend to put our creative powers to good use for the benefit of people and the environment. Every year we produce more than 10 million vehicles. This gives rise to positive effects such as new jobs, regional prosperity and individual opportunities for participation – but also to negative impacts such as emissions and resource consumption. In view of the growing trend toward digitalization, we will in the future be faced with new issues – for example, what we do with our customers' data, how we ensure that they are secure and protected at all times, and what legal and ethical problems are raised by automated driving. It is our task to ensure responsible and efficient production, and to make mobility not only as safe, convenient and environmentally compatible as possible, but at the same time affordable for large numbers of people. After all, individual mobility remains a basic human need, and fulfilling this need is the main mission of our Group.

With its future program TOGETHER – Strategy 2025, the Volkswagen Group has launched the biggest change process in its history, laying the foundations for lasting success in tomorrow's world of mobility and for its evolution into a globally leading provider of sustainable mobility.

# Letter to our Stakeholders

Dear Readers and Colleagues,

These are not normal times for Volkswagen. You can even sense this in the timing of our reports – our sustainability report for 2015 only appeared toward the end of November 2016.

But now we are back on schedule, so to speak. We are pleased to present our report for 2016 in good time for our annual general meeting. However, this does not mean that everything is back to normal at our Company. There is no question that in terms of corporate responsibility, dealing with the repercussions of the diesel crisis is still one of our top priorities. Each of the key developments over the past 12 months has been given its own dedicated chapter in this report.

**“This makes it all the more essential for us to establish a solid framework of values, in the form of our renewed commitment to sustainable, responsible business practices.”**

Corporate responsibility is also about running our business prudently and successfully. Together with our entire workforce, we can be proud that in an extremely challenging year, we met and exceeded our operational objectives. At the same time, in mid-2016, we introduced our TOGETHER – Strategy 2025 program. This represents our vision for the future, guiding our actions, defining specific targets and detailing how we should achieve them. We intend to become a world-leading provider of sustainable mobility. Low-emission drive technologies; smart mobility services; innovative, safe solutions for autonomous driving – these are among the ambitious plans we are working on right now as we look ahead to the future. You will find more details in this report.

We are undergoing a profound and challenging – yet at the same time, extraordinarily exciting – transformation. This in turn poses an important question: how do we want to work together in the future? This is one of the issues addressed in our TOGETHER strategy, in which we launch a transformation of our corporate culture that may be unique in the history of Volkswagen. This will result in flatter hierarchies, decentralized decision-making and an open, collaborative style of working that explicitly encourages constructive criticism, while simultaneously encouraging all our employees to think and act like responsible entrepreneurs. As we pursue this radical transformation, our managers bear special responsibility – they must lead by example and work closely with their teams to bring about this sweeping cultural change.

When we talk about openness, we also mean that we intend to pay even greater attention to how our stakeholders, as well as outside experts, view our work. With this aim in mind, we set up our Group Sustainability Council in late 2016. Nine respected experts from the worlds of politics, research and NGOs are now advising us on issues

such as sustainable mobility, environmental protection and the future of work. The council has already started its activities and is in the process of developing its first projects. We stay in close contact with council members and look forward to the many ideas they will generate.

**“We are undergoing a profound and challenging – yet at the same time, extraordinarily exciting – transformation.”**

Over the last year, Volkswagen also substantially extended the Company’s voluntary commitment to behave ethically and with integrity. One outcome of this was the creation of a new position on our Board of Management. Hiltrud Werner, an outstanding expert and former head of Group Internal Audit, has taken on the challenging role of Board Member for Integrity and Legal Affairs following the departure of Christine Hohmann-Dennhardt.

The Volkswagen Group is changing, just as the automotive industry as a whole is changing. As we see it, developments over the next ten years will be even more far-reaching than the changes we have seen in the last 100 years. This makes it all the more essential for us to establish a solid framework of values, in the form of our renewed commitment to sustainable, responsible business practices.

**“Low-emission drive technologies; smart mobility services; innovative, safe solutions for autonomous driving – these are among the ambitious plans we are working on right now as we look ahead to the future.”**

This report is an expression of this commitment. In a spirit of transparency, accountability and comparability, the statements, figures and data included in this report follow the guidelines of the Global Reporting Initiative (GRI) and the Sustainable Development Goals (SDGs) of the United Nations. The report also represents our Communication on Progress under the United Nations Global Compact (UNGC).

We look forward to receiving your suggestions and feedback,



M. Müller



B. Osterloh

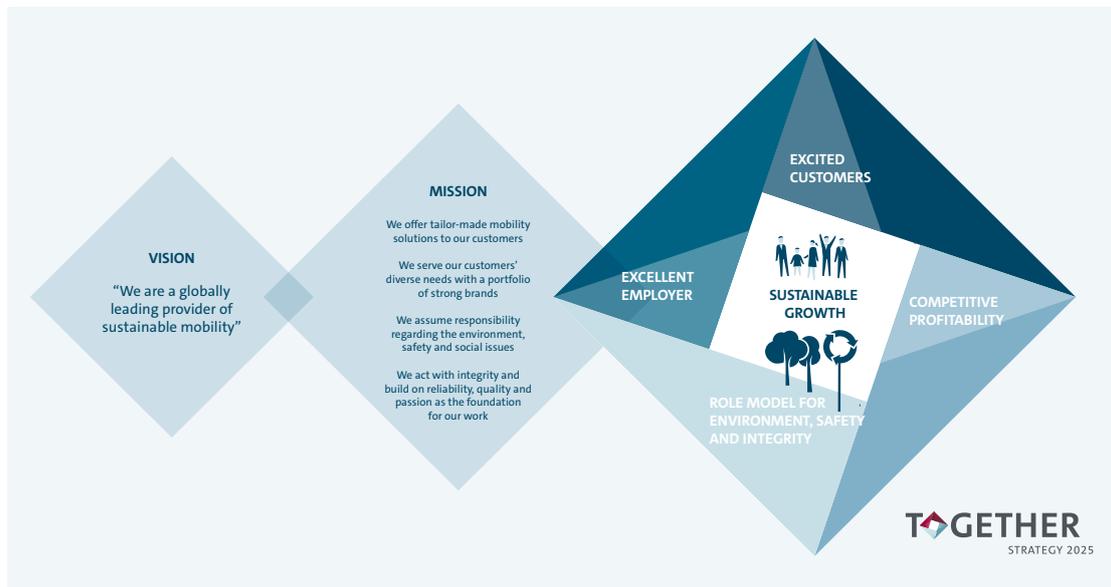
# Our approach

For Volkswagen, sustainability means pursuing economic, social and ecological objectives simultaneously and with equal energy. It is our aim to create lasting values, offer good working conditions, and conserve resources and the environment. When it comes to the diesel crisis, we have failed to live up to our own standards in several areas. The irregularities in the handling of emissions tests contradict everything that we stand for. We regret this immensely and are aware that we have let our stakeholders down. We will do everything in our power to prevent incidents of this kind from reoccurring, and are fully committed to re-embracing our standards and winning back public trust. We continue to apply our sustainability concept with the aim of ensuring that opportunities and risks associated with our environmental, social and governance activities are identified as early as possible at every stage of the value creation process. In keeping with this aim, we are determined that our corporate social responsibility activities will have a lasting, positive impact on the Company's value and reputation.

The automotive world is undergoing a profound transformation, and automated driving, e-mobility and connected vehicle concepts are the dominant trends. Technological changes are influencing customer needs and business models; new competitors are entering the market from other industries; shorter innovation cycles and the establishment of new core competencies are requiring ever more capital; stricter emission standards and increased market volatility are leading to more complex underlying conditions. All this poses new challenges for us as a vehicle manufacturer.

Against this backdrop, in June 2016 the Volkswagen Group Board of Management launched our TOGETHER – Strategy 2025 program for the future, with the full approval of the Supervisory Board. It is our aim to play a decisive role in shaping the mobility not just of today, but of tomorrow as well. This is why we are repositioning our Company with the vision of becoming one of the world's leading providers of sustainable mobility. Our future program will make the Volkswagen Group more focused, efficient, innovative and sustainable – bringing us closer to our customers and setting us on a steady course of profitable growth.

## The Volkswagen Group of the Future



## TOGETHER – STRATEGY 2025

We know that growth can only take place hand in hand with social responsibility and environmental protection. TOGETHER – Strategy 2025 effectively bridges the conceptual gap between sustainability and business objectives. It creates the framework and defines the key building blocks for the future evolution of the Group, with its strong brands, international production sites and skilled, dedicated workforce. The Code of Collaboration formulated as part of our future program is the foundation on which the Group strategy rests. The Code describes how collaboration is to take place within the Group and between individuals in their daily work. Its core values are encapsulated in the terms “open and honest”, “uncomplicated”, “without prejudice”, “on an equal footing” and “for one another”. The change process is complemented by the corresponding strategies of the brands and functions.



e-Golf (100 kW/136 PS). Electrical consumption in kWh/100 km: 12.7 (combined), CO<sub>2</sub> emissions in g/km: 0 (combined), efficiency class: A+.



The new Group strategy comprises a raft of far-reaching strategic decisions and specific initiatives essentially aimed at safeguarding the Group's long-term future and generating profitable growth. A total of 16 strategic Group initiatives are assigned to the four key building blocks of the program, which are: comprehensively transforming our core automotive business; establishing a new mobility solutions business; strengthening the Group's innovative power; and securely funding our investments.

#### First key building block: transforming our core business

Developing, building and selling vehicles will remain essential for the Volkswagen Group going forward. However, there will be far-reaching and lasting changes to this business. That is why we are profoundly restructuring our core business to face this new era of mobility.

#### MOIA – Rethinking mobility

The automotive industry is undergoing rapid change. Alongside the traditional automotive business, innovative, digitally connected mobility services promise a high growth dynamic. Together with newly founded company MOIA, Volkswagen is laying the foundations for sustained success in tomorrow's world of mobility throughout the Group and across all brands. Individual mobility for everyone – this is what MOIA stands for. Convenient, at the touch of a button, at affordable prices and without having to own your own car. As a first step, the app-based ride-hailing business sector shows the greatest potential for MOIA. The Volkswagen Group has already opened the way for new mobility concepts with its stake in Gett, one of the world's leading ride-hailing providers. Gett app users can already instantly book rides, deliveries and logistics services at the touch of a button in more than 100 cities worldwide. At the same time, MOIA is also focusing on a second major business activity, namely the ride-pooling business. The company's goal is to set up its own app-based on-demand ride-pooling services – also known as connected commuting. It is aiming for holistic transport solutions that make individual and public transport more efficient by avoiding unnecessary individual journeys and optimizing the use of existing road infrastructure. This approach concentrates on transport that takes users beyond the boundaries of a single city.



#### Second key building block: establishing a mobility solutions business

The second key building block of the new Group strategy is the new cross-brand mobility solutions business, in which we are setting up mobility services. In this context, we have established MOIA, a new business unit which will focus on ride hailing. Subsequently, we are aiming to develop or acquire further attractive and profitable services that are tailored to customer requirements, such as robotaxis, carsharing and on-demand transport for the logistics industry. To achieve this, we will rely to a greater extent than previously on partnerships, acquisitions and venture capital investments. Investment selection will be managed centrally so as to generate maximum value for the Group and its brands.

#### SEDRIC – Automated driving at the touch of a button

In the future, fully automated vehicles will enrich the mobility experience of many people. A mobility concept based on intensively used self-driving vehicles will take up less space, consume less energy, and be safer and more sustainable at the same time. And the concept offers tailor-made mobility for everyone: adults and children, senior citizens and people with physical disabilities, urban residents who do not have their own cars or driving licenses, and visitors to a new city who suddenly decide they want a convenient way to get from A to B.

With SEDRIC (self-driving car), the Volkswagen Group has not only developed a completely new, fully autonomous concept car, but also an integrated mobility concept showing how we will use our roads in the future. A cross-brand ideas platform for the Volkswagen Group, SEDRIC, which features an innovative control system, is giving entirely new meaning to the concept of automated driving. The touch of a button, a verbal command or a smartphone app is enough to summon the self-driving automobile, which comes and takes its passengers conveniently, reliably and safely to their destination.



**Third key building block: strengthening innovative power**

Both the transformation of our core business and the new mobility solutions business require us to strengthen our traditionally excellent ability to innovate and place it on an even broader footing. To this end, the Volkswagen Group is pushing ahead with the digital transformation of all parts of the Company.

**Fourth key building block: secure funding**

Becoming one of the world's leading providers of sustainable mobility calls for substantial capital expenditure. This expenditure is to be funded primarily through efficiency gains across all brands and functions; operational excellence is something that concerns the entire value chain, from product development and sourcing to production and distribution. Additional funds for future investments can also be generated by optimizing the existing portfolio of brands and equity investments.

**Goals and key performance indicators of the Group's strategy**

The strategic initiatives describe how we intend to achieve our vision of becoming a world-leading provider of sustainable mobility. For this purpose, we have defined four target dimensions – excited customers, excellent employer, role model for environment, safety and integrity, and competitive profitability – which are designed to help us grow sustainably.

**Target dimension: excited customers**

This target dimension focuses on the diverse needs of our customers and on tailor-made mobility solutions. We aspire to exceed our customers' expectations, generating maximum benefit for them. That calls not only for the best products, the most efficient solutions and the best service, but also for flawless quality and an outstanding image. We want to excite our existing customers, win over new ones and retain their loyalty in the long term – because only loyal and faithful customers will recommend us to others.

The strategic KPIs include, for example, the loyalty rate, conquest rate and breakdowns.

**Target dimension: excellent employer**

Skilled and dedicated employees are one of the keys to sustainable success. We wish to promote their satisfaction and motivation by means of equal opportunities, a modern and attractive working environment, and a forward-looking work organization. An exemplary leadership and corporate culture forms the basis for this, enabling us to retain our core workforce and attract new talent.

The strategic KPIs of this target dimension include the Group's attractiveness as an employer as determined internally by means of the opinion survey and as perceived externally, as well as the equality index.

**Target dimension: role model for the environment, safety and integrity**

Every day, we at the Volkswagen Group assume and exercise responsibility in relation to the environment, safety and society. This sense of responsibility informs all our thoughts and actions in equal measure in all the decisions we make.

We pay particular attention to the use of resources and the emissions of our product portfolio as well as those of our locations and plants, with the goal of continuously reducing our carbon footprint and lowering pollutant emissions. Through our innovations and outstanding quality, we offer our customers maximum product safety.

We want to regain and strengthen the trust of our customers and restore the Group's positive public image. The most important principles in this process include compliance with laws and regulations, the establishment of secure processes, and dealing openly with mistakes so that they can be avoided or rectified in the future. In terms of integrity, Volkswagen aims to become a role model for a modern, transparent and successful enterprise.

The strategic KPIs of this target dimension include the decarbonization index and emissions metrics, as well as compliance, process reliability and an error management culture.

**Target dimension: competitive profitability**

Investors judge us by whether we are able to meet our obligations as regards interest payments and debt repayments. As equity holders, they expect adequate dividends and a lasting increase in the value of their shares.

We make investments with a view to achieving profitable growth and strengthening our competitiveness, thus keeping the Volkswagen Group on a firm footing and ensuring it remains an attractive investment option.

The goals we have set ourselves are to achieve operational excellence in all business processes and to become the benchmark for the entire industry.

The strategic KPIs are operationalized for internal management purposes: target and actual data are derived from Volkswagen Group figures.

## Strategic KPIs: competitive profitability

	2015	2025
Operating return on sales <sup>1</sup>	6 %	7 to 8 %
Research and development ratio (R&D ratio) in the Automotive Division	7.4 %	~ 6 %
Capex/sales revenue in the Automotive Division	6.9 %	~ 6 %
Net cash flow in the Automotive Division	8,887 Mio. €	Positive, to allow a distribution ratio of 30%
Net liquidity in the Automotive Division	24,522 Mio. €, 11.5 %	~10% of consolidated sales revenue
Return on investment (ROI) in the Automotive Division	-0.2 %	>15 %

<sup>1</sup> 2015 before special items.

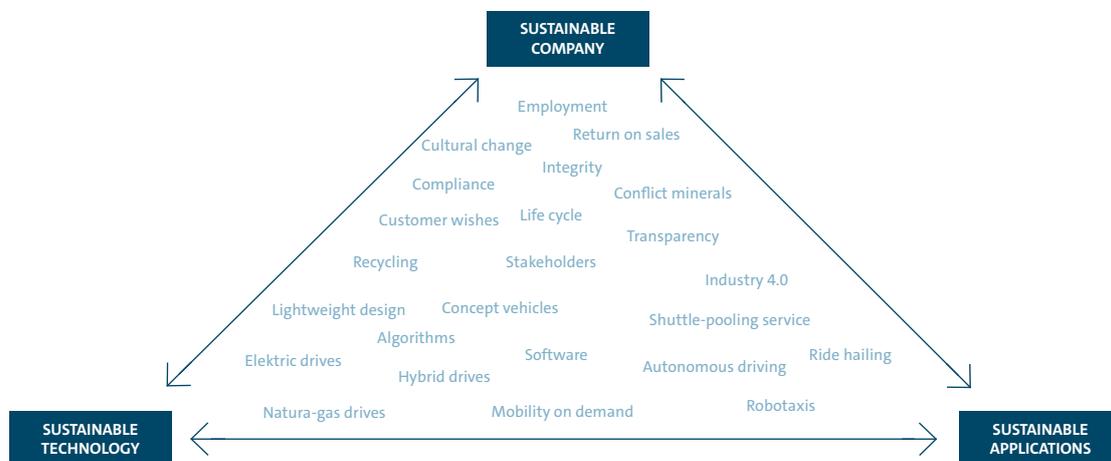
## SUSTAINABLE MOBILITY

GRI G4-18

Mobility is one of the key conditions for economic growth. The latest challenge is to cater to the growing demand for mobility despite diminishing resources and, in the process, reduce its negative effects on the environment. Holistic mobility concepts have to be efficient, sustainable, customer-oriented and, above all else, designed in such a way that they are accessible anytime and anywhere. We at Volkswagen are researching and developing groundbreaking mobility solutions for our customers that will shape the future in this area. We do not limit our focus to automotive mobility, but take in other modes of transport as well and examine structural issues such

as urbanization, urban development and the quality of transport infrastructure. We also take account of demand trends, such as the shared use of vehicles.

It is our goal to provide our customers around the globe with viable, long-term mobility solutions that place equal priority on economic, social and ecological objectives. To offer such solutions, a company must operate sustainably – which means developing sustainable technologies and creating an environment in which they are applied in a sustainable manner. This is our understanding of sustainable mobility.



However, the economic, social and environmental requirements placed on our mobility solutions often contain inherently conflicting goals, as can be seen in some of the examples discussed below:

- Individual mobility solutions facilitate participation in society and individual autonomy. In the future, many people will still want their own cars – despite the continuously increasing availability of innovative mobility concepts such as robotaxis and carsharing. This applies particularly in the growing consumer markets of emerging and developing countries. However, the desire for individual mobility also contributes to increased consumption of natural resources and accelerates the process of human-made climate change.
- The enormous market success of SUVs underscores the attractiveness of Volkswagen products. Fulfilling these existing customer wishes safeguards the economic success of the Volkswagen Group and provides job security to its employees. But the higher fuel consumption of SUVs compared with other vehicle models makes it more difficult for the Volkswagen Group to meet the climate targets it has set.
- Government legislation has made ecological structural change inevitable. Electrification has the potential to transform mobility and makes compliance with carbon emission regulations possible. However, this profound change presents new challenges for existing production methods and requires retraining for employees.

At the same time, the shift toward electric mobility and the associated investments in production capacity, like for the manufacturing of innovative battery technology, also generate new employment opportunities.

- But electric mobility also raises new environmental questions, such as how to measure the environmental impact of electric and hybrid vehicles compared with conventional vehicles in terms of the use of mineral resources in production and the recycling of battery cells at the end of the product lifecycle.
- Automated vehicles and new mobility services offer more convenience, boost safety, and encourage further optimization of transport and traffic systems, especially in urban agglomerations. The lines between individual and collective mobility are becoming increasingly blurred. The result is a new competitive environment with completely new players, to which the Volkswagen Group must adapt.

Identifying, openly addressing and finding solutions to these issues – in collaboration with our stakeholders whenever possible, but at the very least in a spirit of constructive dialog – is essential to the Volkswagen Group's sustainable growth. Whenever we fail to achieve a balance between economic, social and environmental objectives, long-term risks emerge both for our stakeholders and for the financial success of the Volkswagen Group.

## MATERIALITY ANALYSIS AND SUSTAINABILITY MANAGEMENT

GRI G4-18, G4-19, G4-20, G4-22, G4-23, G4-24, G4-25, G4-26

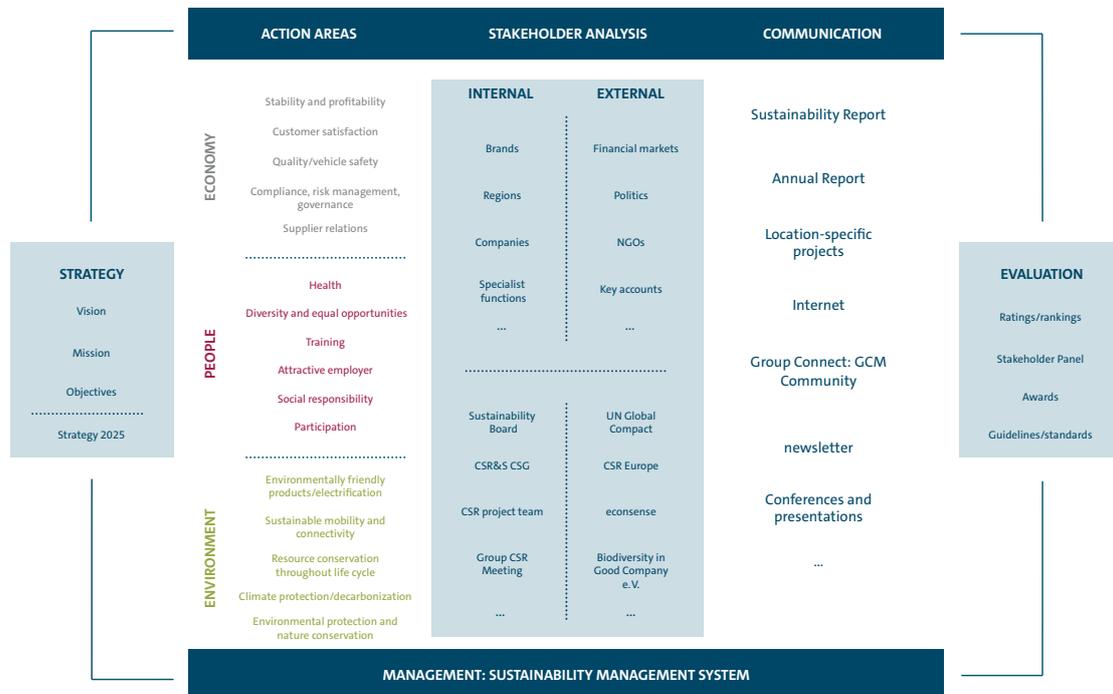
Even if the major challenges are known and can be assessed, the resulting demands on the Volkswagen Group are nevertheless subject to constant change and must be reassessed at regular intervals, necessitating ongoing adjustments to our strategic planning. Consequently, within the Volkswagen Group we have several specialized functions engaged in observing megatrends in society, analyzing the overall economic environment, tracking emerging customer trends and continuously benchmarking our products and services against the competition. The results are brought together in a process known as the planning round, which ensures that the important decisions for production, purchasing and sales structures

are made on the basis of a ten-year timeline. Another instrument for identifying challenges and expectations and for dealing with changing underlying conditions is the stakeholder dialog, which we cultivate at both Group and market level (see “[Stakeholder Management](#)”).

Based on these observations and in light of the widespread societal challenges we face, in 2016 we once again reviewed the identified areas in which the Volkswagen Group can and must make a special contribution – because these are fields where we have a significant impact or where we are particularly well placed to exert influence, and where consequently a great deal is also expected of us.

## Materiality Analysis and Sustainability Management in the Volkswagen Group

GRI G4-18, G4-19, G4-24, G4-26



In 2016, two developments played a role in a detailed analysis of the topics of material importance to the Volkswagen Group. Specifically, these were the question of the strategic realignment of the Company under our TOGETHER – Strategy 2025, and the question of handling the repercussions from the diesel crisis.

In practice, our approach to the analysis and identification of significant issues was as follows:

- From global challenges, we derived a list of 16 central action areas in which we need to provide answers. We did this on the basis of the following sources: external studies, industry analyses and our brands' stakeholder surveys, as well as internal guidelines such as the Group-wide TOGETHER – Strategy 2025 and the individual strategies of our divisions.
- The identification of these action areas was largely based on the findings of three expert workshops held in 2015, addressing topics relating to the economy, the environment and people. One key objective was to develop targets and indicators for issues deemed significant. The findings were incorporated into the corporate restructuring which followed as part of the TOGETHER – Strategy 2025, enabling a systematic examination of non-financial performance indicators.
- Since the creation of the Volkswagen Group's Corporate Strategy unit in November 2015, information and ideas are shared more closely and intensively between the sustainability and strategy teams. This has included, for example, participation in the Corporate Sustainability Steering Committee and in strategy workshops.
- To ensure that sustainability is implemented as part of the corporate strategy, four workshops were held with sustainability officers from the brands and specialist departments in the first half of 2016. One important result was a clear focus in the topic of decarbonization. This led us to revisit the "climate protection/decarbonization" action area, which was then included in TOGETHER – Strategy 2025 with an indicator (decarbonization index). In addition, activities bundled under "environment and nature conservation" were made more visible in that action area.
- Whereas – in light of the diesel issue – at the 2015 Group CSR Meeting (GCM) we held discussions with representatives of the brands and regions, examining the Group's sustainability performance based on an analysis of our strengths and weaknesses, at the 2016 GCM we focused completely on TOGETHER – Strategy 2025. This included discussing the significance of the United Nations' Sustainable Development Goals (SDGs) for the Volkswagen Group and conducting an assessment. The results were explored

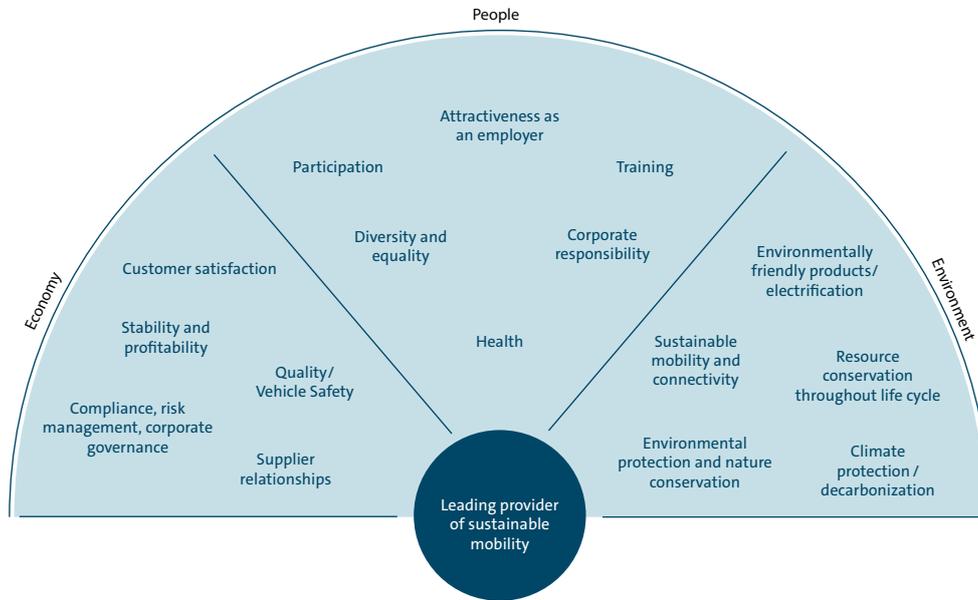
in depth by the various sustainability committees and have been integrated into the Group's comprehensive realignment process.

6. Following these detailed discussions, the overall findings of the materiality process led to the realization that in view of the Group's size, its potential influence and the associated responsi-

bility, all the issues on the [Global Reporting Initiative \(GRI\)](#) list of sustainability aspects can and must be regarded as "significant" for the Volkswagen Group. The specific measures within the action areas are still being fleshed out in line with the objectives, values and indicators in our TOGETHER – Strategy 2025.

## Volkswagen Group's Key Action Areas

GRI G4-19, G4-20, G4-21



This representation of the 16 key action areas, broken down into the three dimensions of Economy, People and Environment, is intended to illustrate the factors we focus on in order to be a leading global provider of sustainable mobility. In view of our broad international standing, we have deliberately avoided any prioritization of our action areas. On the one hand, the relevance of the individual areas may vary by region; on the other hand, we do not want to judge,

for example, whether the health of more than 625,000 employees worldwide is more important than, for example, resource conservation throughout the vehicle life cycle – or vice versa. As we understand it, sustainable development means taking equal account of economic, environmental and social interests and maintaining an appropriate balance between them.

# Sustainable management

The Volkswagen Group has made a commitment to sustainability-oriented, transparent and responsible management. The greatest challenge to putting this into practice at all levels and all stages of the value chain is our complexity, with 12 brands, more than 625,000 employees and 120 production sites. In line with the recommendations of the German Corporate Governance Code, we practice Group-wide sustainability coordination and forward-looking risk management, and rely on a clear framework for the future-oriented handling of environmental issues, responsibility toward our employees and social engagement by our brands and in the various regions. The remuneration of the Group Board of Management is geared to the Company’s long-term results.

## COORDINATION OF SUSTAINABILITY

GRI G4-26

Sustainability has top priority at the Volkswagen Group. We have established a clear structure for coordinating sustainability activities, including internal and external sustainability committees.

## Volkswagen Sustainability Organization

GRI G4-26



Our internal sustainability coordination reflects the inseparability of our corporate and sustainability strategies. We firmly believe that a company can only be successful in the long term if its corporate activities remain in balance with the environment and society. This is why at Volkswagen, sustainability is a management issue. In its function as our Sustainability Board, in 2016, the Group Board of Management under the leadership of CEO Matthias Müller regularly

worked on strategic questions of holistic sustainability management, encompassing issues of environmental as well as social responsibility.

The Group Board of Management is regularly informed by the Corporate Sustainability Steering Committee on issues related to sustainability and corporate responsibility. The steering commit-

tee includes top managers from central Group business areas and representatives of the Group Works Council and the brands. Its tasks include defining strategic sustainability goals and position statements, identifying key action areas, and approving the sustainability report. Indicators are used to monitor the extent to which these sustainability goals are being met. The steering committee meets regularly under the leadership of the external affairs and sustainability function.

The sustainability office supports the steering committee. Its duties include coordinating all sustainability-related activities within the Group and the brands. Relevant economic, environmental and social issues are integrated into the ongoing development of the Group's sustainability strategy. As part of the environmental and socio-political regulatory process, we maintain an ongoing dialog with policymakers with the aim of providing information and advice and learning from each other. Stakeholder expectations from the brands and regions are comprehensively discussed in the sustainability office. The office also handles the monitoring and coordination of sustainability ratings, the results of which increasingly impact on companies' attractiveness to investors. And finally, it is responsible for drawing up the sustainability report and coordinating the Sustainability Council and its meetings.

At divisional level, the CSR project team fosters a regular exchange of information on current projects between the various sustainability experts within the Volkswagen Group. In addition, other project teams work across business areas on topics such as reporting, stakeholder management and sustainability in supplier relations.

## FUNCTIONS AND COMPOSITION OF THE MANAGEMENT BODIES

The Board of Management of Volkswagen AG, which has nine members, is the ultimate body responsible for managing the Group. Each member is responsible for one or more functions, and some members also have responsibility for a region. The Group Board of Management is supported in its work by the boards and management teams of the brands and regions, and of the other Group companies and affiliated companies. The Supervisory Board, which appoints, monitors and advises the Board of Management, is consulted directly on decisions that are of material significance for the

These coordination and working structures have also been established across the brands and are subject to ongoing development.

With the aim of continuously improving our sustainability concept and living up to the expectations of our stakeholders, the Volkswagen Group has set up two external committees, the Sustainability Council and the Stakeholder Panel, to independently advise the Group.

Appointed in 2016, the international Sustainability Council is made up of renowned experts from the scientific community, government and society. Council members regularly consult with the Board of Management, senior managers and employee representatives. The council's role is to keep a watchful, critical eye on developments within the Company and in society. The Sustainability Council is authorized to proactively propose topics and implement projects subject to prior agreement. More detailed information on the council's members and activities can be found [here](#).

In cooperation with the Institute for Market, Environment and Society (imug), we set up a Stakeholder Panel that has kept track of our sustainability activities, especially those covered in our sustainability reporting, for the past 20 years and provided a critical commentary. The panel includes some 100 national and international stakeholders from government, academia and research, the financial markets, and civil society. Detailed interviews are conducted and the findings applied to sharpen our understanding of the expectations of our external stakeholders. This helps us ask the necessary critical questions and systematically optimize our sustainability management and reporting to make them more effective.

Company. The composition of the Supervisory Board complies with the Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern an Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst (FührposGleichberG – Act on the Equal Participation of Women and Men in Leadership Positions in the Private and Public Sectors), which specifies a statutory quota of at least 30% women and at least 30% men. Shareholder and employee representatives have resolved that each side shall meet this quota separately.

## GUIDELINES AND PRINCIPLES

Our business practices are in line with the recommendations of the German Corporate Governance Code, and we coordinate sustainability across the Group. This reflects our conviction that stable, long-term business based on ethical criteria is a prerequisite for acting in an environment-friendly way and playing a responsible part in shaping the future of people within the Group and in society at large.

Voluntary undertakings and principles that apply across the Group form the basis and backbone of our sustainability management. These include our Model of Sustainable Development, our stakeholder guidelines and our corporate guidelines.

### Model of Sustainable Development:

The Model of Sustainable Development, which Volkswagen adopted in 2002 to mark the UN World Summit in South Africa, build a bridge between our traditions and our future while providing a framework for sustainable corporate policy with three key elements:

- a lasting balance between economic, ecological and social systems and the aim for a long-term balance of divergent interests,
- responsibility for our own actions at regional, national and global level,
- transparent communications and fair cooperation.

## Stakeholder Guidelines

Content	Date	Type
UN Declaration of Human Rights	Dec. 10, 1948	Download PDF, 6 pages, 38.12 KB
International Covenant on Economic, Social and Cultural Rights	Dec. 19, 1966	Download PDF, 10 pages, 56.06 KB
International Covenant on Civil and Political Rights	Dec. 19, 1966	Download PDF, 25 pages, 79.05 KB
ILO Tripartite Declaration of Principles	Nov. 1, 1977	Download PDF, 37 pages, 628.19 KB
"Agenda 21" on sustainable development (Rio 1992)	June 1, 1992	Download PDF, 361 pages, 3.32 MB
OECD Anti-Bribery Convention	Dec. 17, 1997	Download PDF, 12 pages, 126.67 KB
ILO Declaration on Fundamental Principles and Rights at Work	June 18, 1998	Download PDF, 8 pages, 36.1 KB
European Convention for the Protection of Human Rights and Fundamental Freedoms	June 1, 2010	Download PDF, 31 pages, 1.26 KB
OECD Guidelines for Multinational Enterprises	May 25, 2011	Download PDF, 106 pages, 1.13 MB
German Corporate Governance Code (DCGK)	May 5, 2015	Download PDF, 20 pages, 206.56 KB
EITI Principles & Standard (English)	Feb. 23, 2016	Download PDF, 64 pages, 3.24 MB
Sustainable Development Goals (SDGs) (English)	June 1, 2016	Download PDF, 4 pages, 517.33 KB
German Sustainability Code (DNK)	June 1, 2016	Download PDF, 19 pages, 2.04 MB

In addition, we are committed to the United Nations Global Compact, and since 2002 have remained dedicated to promoting human rights, upholding labor standards, protecting the environment and combatting corruption. In 2013, this commitment was extended to

include the CEO Water Mandate, which aims to ensure careful use of water resources. Until the diesel crisis has finally been resolved, we have agreed that the [Volkswagen Group's membership](#) should be suspended.

## Corporate Guidelines

Content	Date	Type
Co-operative Conduct at the Workplace	Jan. 1, 2007	Download PDF, 4 pages, 1.79 MB
Group Environmental Principles governing Products	Dec. 1, 2008	Download PDF, 1 page, 518.04 KB
Mission Statement on Biodiversity	Dec. 31, 2008	Download PDF, 3 pages, 26.44 KB
Charter on Labor Relations	Oct. 29, 2009	Download PDF, 8 pages, 64.45 KB
Group Environmental Policy	June 1, 2010	Download PDF, 1 pages, 12.63 KB
Group Occupational Safety Policy	Dec. 31, 2010	Download PDF, 2 pages, 9.36 KB
Social Charter	May 11, 2012	Download PDF, 3 pages, 112.66 KB
Charter on Temporary Work	Nov. 30, 2012	Download PDF, 8 pages, 150.89 KB
Group Environmental Principles governing Locations/Production	June 1, 2012	Download PDF, 30 pages, 1.29 MB
Sustainability in Supplier Relations	Dec. 31, 2014	Download PDF, 20 pages, 849.65 KB
Code of Conduct	Sept. 1, 2015	Download PDF, 24 pages, 360.67 KB
Charter on Vocational Education and Training	June 5, 2015	Download PDF, 5 pages, 28.84 KB
Principles and Guidelines for Political Lobbying	Aug. 31, 2016	Download PDF, 7 pages, 398.47 KB
Policy on Taxation and Customs Duties: Summary	Dec. 31, 2015	Download PDF, 1 page, 308.58 KB
Mission Statement on Biodiversity	Dec. 31, 2015	Download PDF, 7 pages, 3.01 MB
Policy on Conflict Resources	Dec. 31, 2016	Download PDF, 1 page, 638.56 KB
Code of Conduct for Business Partners	April 30, 2016	Download PDF, 11 pages, 276.49 KB
Anti-Corruption Guidelines	Jan. 31, 2016	Download PDF, 36 pages, 1.58 MB

# Strategic Stakeholder Management

As an automobile manufacturer encompassing 12 brands and 120 production sites in 153 markets, we are confronted with a broad spectrum of requirements, expectations and attitudes on a daily basis. The enormous diversity of our interactions represents an enormous opportunity, because the relationships which our companies maintain with their stakeholders are invaluable to the work we do together. At the same time, this diversity of interests is also a challenge, because it can result in conflicting objectives.

## VOLKSWAGEN BALANCES STAKEHOLDER DEMANDS

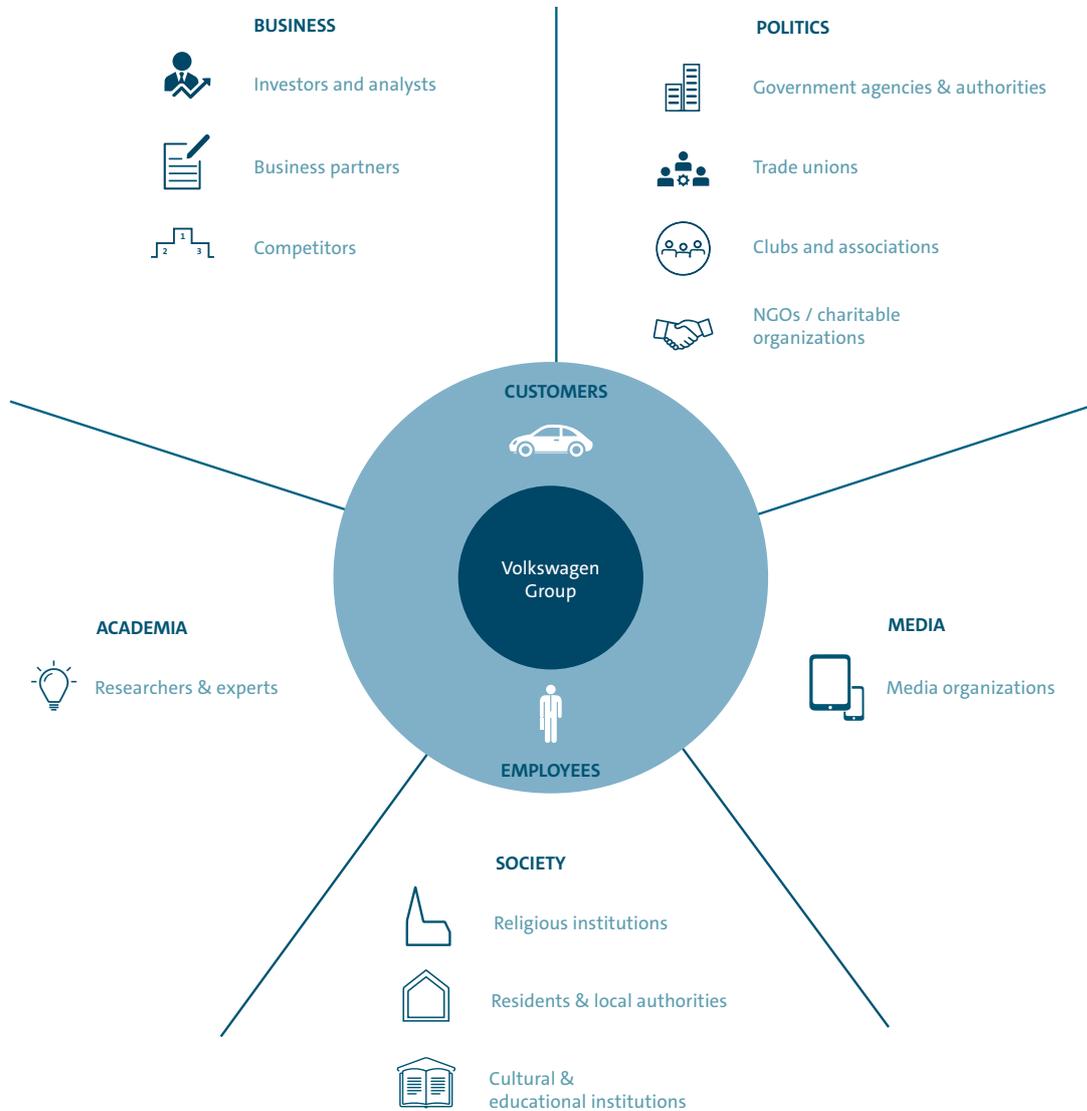
GRI G4-21, G4-24, G4-25, G4-27

Around the globe, we are confronted with a broad spectrum of stakeholder requirements, expectations and attitudes on a daily basis. The enormous diversity of our interactions is invaluable to the work we do. At the same time, this diversity of interests is also a challenge, because it can result in conflicting objectives.

Stakeholders are individuals, groups or organizations with a legitimate interest in how the Volkswagen Group reaches its corporate decisions and in the implications of those decisions. Our customers and employees form the center of our stakeholder universe. Based on our regular contacts, we have identified twelve additional stakeholder groups surrounding this core, which we make no attempt to prioritize.

# Volkswagen Group Stakeholders

GRI G4-21, G4-24



## Volkswagen Group Stakeholders

In the 2016 reporting year, our stakeholders took advantage of surveys and dialog events to communicate numerous expectations of the Volkswagen Group. We have summarized their suggestions and feedback, as well as our reactions to this input, for you [here](#).

## Stakeholder Suggestions and Volkswagen AG Responses

Topics	Stakeholders	Volkswagen AG
Sustainability management	Integrate sustainability strategy and corporate strategy	<p>TOGETHER – Strategy 2025</p> <ul style="list-style-type: none"> <li>- Vision: Sustainable mobility</li> <li>- Mission for sustainable growth: We offer tailor-made mobility solutions to our customers and serve their diverse needs with a portfolio of strong brands. We assume responsibility regarding the environment, safety and social issues. We act with integrity and build on reliability, quality and passion as the foundation for our work.</li> </ul>
Integrity and compliance	Place integrity and technological competence on equal footing	<ul style="list-style-type: none"> <li>- Creation of the position of Board Member for Integrity and Legal Affairs</li> <li>- TOGETHER – Strategy 2025: Model for integrity</li> <li>- Multilingual integrity program</li> </ul>
Greenhouse-gas and pollutant emissions	Close the gap between emissions in the lab and on the street	<ul style="list-style-type: none"> <li>- TOGETHER – Strategy 2025: Carbon footprint KPI</li> <li>- Electrification</li> <li>- Volkswagen welcomes the introduction of RDE and WLTP, as both testing methods will help close the gap between emissions measured in the laboratory and those generated under real-world driving conditions.</li> </ul>
Sustainability communication	Identify and communicate conflicting objectives	<ul style="list-style-type: none"> <li>- Shift sustainability magazine provides critical self-scrutiny and dialog</li> <li>- Decision-making processes are informed by regular stakeholder surveys and dialog events</li> </ul>
Corporate strategy	KPIs for transformation into mobility services provider	<ul style="list-style-type: none"> <li>- Development of new KPIs in conjunction with TOGETHER – Strategy 2025</li> </ul>

### HOLISTIC APPROACH TO STRATEGIC STAKEHOLDER MANAGEMENT

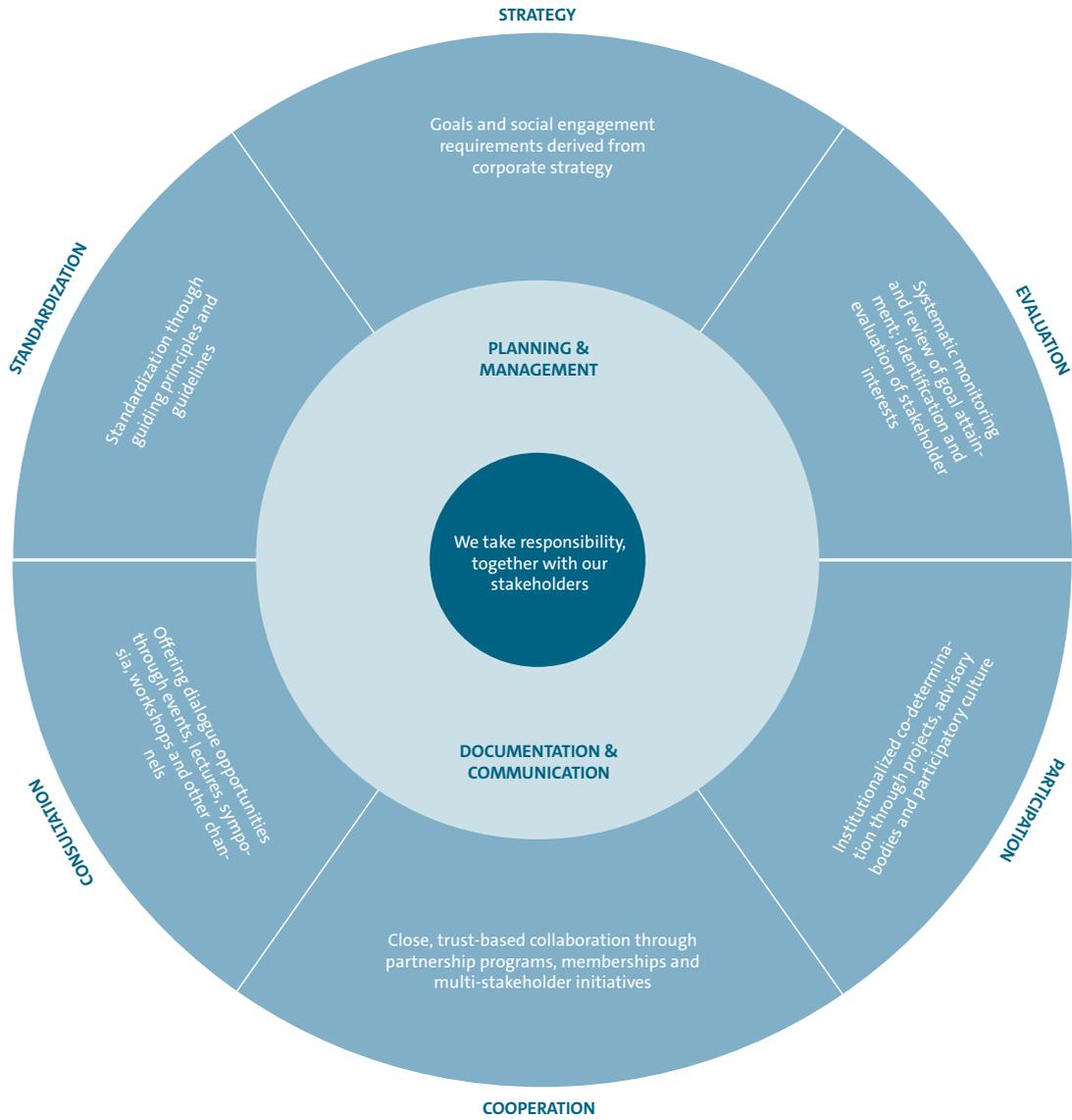
G4-21, G4-25, G4-26, G4-27

We have a strategic stakeholder management system in place to help the Volkswagen Group navigate the large numbers of diverse stakeholders and their needs, and ensure they are included in our business decisions. We will only be successful in the long term if we familiarize ourselves thoroughly with the interests, needs and expectations of our stakeholders and deal with them proactively. To successfully facilitate a dialog of equals, our stakeholder management system must meet the following criteria:

- Systematically recording the expectations placed on Volkswagen
- Productively sharing the knowledge of all parties involved

- Jointly developing solutions to problems
- Transparently making decisions

We believe that stakeholder management means fostering relationships with our stakeholders. This requires systematic and strategic planning, implementation and monitoring of our activities. To this end, in the 2016 reporting year we restructured and consolidated our stakeholder management system in line with a holistic approach.



GRI G4-21, G4-24, G4-25, G4-26, G4-27

## Stakeholder Management at Volkswagen

- **Planning and Governance:** Our brands and divisions are responsible for maintaining direct contact with our stakeholders. We bring these processes together under one roof at Group level, ensuring that information is shared between Group, brands and regions, establishing clear guidelines for stakeholder management, and coordinating the activities of Group sustainability officers (sustainability management).
- **Documentation and Communication:** Our Sustainability Report is our primary medium for documentation. *Shift*, our sustainability magazine, supplements this report with critical self-scrutiny and forward-looking perspectives. We regularly provide additional information on [current projects](#) in [press releases](#) and [social media](#). For internal communications, we also use our online community Group Connect, several magazines and a short messaging service. We employ the latter to send out weekly information on current topics and issues in two languages. The Group Sustainability Council has its own newsletter.
- **Standardization:** Our stakeholder management is guided by the standards established by many different levels of regulation (policies). The most important policies include the AccountAbility 1000 Stakeholder Engagement Standard and the latest generation of the Global Reporting Initiative (GRI Standards). We also remain committed to the objectives and principles of sustainable development.
- **Consultation:** An overview of our programs and initiatives for dialog and interaction can be found [here](#). In the reporting year, the primary forums for direct, face-to-face discussions were the Audi Stakeholder Forum in Brussels, the Scania Sustainable Transport Forum in Paris, and the Stakeholder Panel dialog event held by Volkswagen AG in Hanover. Information received from NGOs, such as a recent study conducted by terre des hommes that made us aware of issues surrounding the production of mica in India, can also lead us to initiate discussions and examine opportunities for cooperation.
- **Partnerships:** At the Group level, our work with selected stakeholders takes the form of strategic partnerships. In the reporting year, this included our cooperation with the German Red Cross (DRK) and Kiron. Since 1998, the Volkswagen Group Works Council has been successfully collaborating with terre des hommes, a children's and young people's charity, in the "One hour for the future" campaign. Our memberships provide an additional format for cooperation with our stakeholders. A list of our current memberships can be found [here](#).
- **Participation:** Stakeholder relations are not a one-way street. We see our stakeholders as equal partners, and involve them in our decision-making processes. In addition to the strong culture of co-determination at Volkswagen, which played a role in the development of our Social Charter and Charter on Labour Relations, the activities of our Group Sustainability Council should also be mentioned [here](#).
- **Evaluation:** Stakeholder management begins with the question of stakeholder needs and ends with systematic monitoring of results. Each year, we collect feedback from our stakeholders through our Stakeholder Panel and our comprehensive stakeholder surveys. The results of our 2016 reputation study, which we used to obtain a systematic picture of the opinions and expectations of our stakeholders, can be found [here](#). In addition, three dissertation projects are currently examining suggestions for the further development of our stakeholder management approach. An overview of these projects can be found [here](#).

“Revitalize the global partnership for sustainable development” is one of the United Nation’s goals for sustainable development.

# Corporate Citizenship

Volkswagen has always believed in the importance of assuming social responsibility for our stakeholders. As an internationally active corporation, we bear a global responsibility that extends beyond our factory gates. The [Sustainable Development Goals \(SDGs\)](#) defined by the United Nations in 2015 will provide an important frame of reference for our corporate citizenship going forward. One of the objectives behind the revision of our corporate citizenship strategy in 2016 was to identify those SDGs to which the Volkswagen Group can contribute most effectively.

We consider it important to take a strategic approach to corporate citizenship, so we select and develop our projects carefully – both independently and in collaboration with local partner organizations and NGOs. Alongside our objective of helping to address global challenges, the needs of local stakeholders play an equally important role for us. Local project management allows us to react flexibly to these needs. To achieve the aim of lasting structural change, we also place great value on continuity and long-term partnerships.

## STRATEGIC CORPORATE CITIZENSHIP

The building blocks of our corporate citizenship initiatives are decentralized project management, diversity, and space for local needs. Nevertheless, in the future we intend to pursue the networking of projects at Group level more aggressively, which will allow us to scale up successful projects and bundle resources even more efficiently. We also want to obtain a more comprehensive overview of the effectiveness of our projects. With this in mind, we are looking at new ways to quantify our activities. Building on the London Benchmarking Group input-output-impact (IOI) method for measuring the effectiveness of corporate citizenship initiatives, we have analyzed selected projects to find out who they benefit. As part of this process, we have also aggregated our inputs across the Group and recorded the different objectives in detail.

This extensive pool of data gives us a comprehensive overview of the backgrounds, objectives and effectiveness of our environmental and community projects. Based on this information, we will revise our corporate citizenship strategy in 2017 and define new areas of focus in line with our TOGETHER – Strategy 2025. We will also, however, continue to prioritize a balance between large-scale transregional projects that address strategically important issues, and local projects that take local problems and stakeholder expectations into account.

In selecting and implementing projects, we are guided by our [Group-wide policies](#), which provide the decision-making framework for all our activities:

- The projects align with our corporate mission while addressing a global challenge or a specific local or regional issue.
- They are an expression of the diversity within the Group and the social environment in which the projects are being carried out.
- They are developed in close dialog with local stakeholders, who are also involved in their implementation.
- Projects are managed locally under the responsibility of the units that operate in that region.

By turning our attention to both local and international issues, we are able to live up to the many and diverse expectations of our stakeholders. In 2016, the Group and all its brands and regions were involved in around 200 projects, which included development, educational and social welfare initiatives.

A description of our organizational structure and the guidelines associated with our management approach to Corporate Social Responsibility can be found at [Chapter People > Competent and dedicated employees > Commitment to Society](#).

## Worldwide Responsibility

Through some 200 projects around the globe, the Volkswagen Group is making a contribution to social mobility in the fields of education, diversity and health while at the same time promoting road safety, regional economic development, sports, and the arts. These projects can take on countless forms in order to meet different local needs and challenges. In India, our T5 was repurposed as a mobile health clinic in very short order; in Uitenhage, South Africa, we are helping young entrepreneurs to launch start-ups; and in China, we are running seminars and campaigns to raise awareness of child safety on roads. An overview of our many, varied projects, together with detailed descriptions of each project, can be found [here](#).

# Risk Management

Promptly identifying the risks and opportunities associated with our operating activities and taking a forward-looking approach to managing them is crucial to our Company's long-term success. A comprehensive risk management and internal control system (RMS/ICS) helps the Volkswagen Group deal with risks in a responsible manner.

The aim of RMS/ICS is to identify potential risks at an early stage so that suitable countermeasures can be taken to avert the threat of loss to the Company, and so that any risks that might jeopardize its continued existence can be ruled out.

The organizational design of the Volkswagen Group's RMS/ICS is based on the internationally recognized COSO framework for enterprise risk management (COSO: Committee of Sponsoring Organizations of the Treadway Commission). In the reporting year, Volkswagen again pursued a holistic, integrated approach that combines a risk management system, an internal control system

and a compliance management system (CMS) within a single management strategy. Uniform Group principles are used as the basis for managing risks in a consistent manner.

In the reporting year, we continued to develop our RMS/ICS. In addition to the ad hoc and annual risk assessment, the Board of Management also receives quarterly risk reports. This additional reporting on the current risk situation raises awareness of risks in the Company and encourages an open approach to dealing with them. We continued to reinforce the internal control system in the area of product compliance in 2016. This includes what are known as the Golden Rules, which we describe in the chapter on the diesel issue in the Volkswagen AG 2016 Annual Report, pages 96 and 97.

Assessing the probability and extent of future events and developments is, by its nature, subject to uncertainty. We are therefore aware that even the best RMS cannot foresee all potential risks and even the best ICS can never completely prevent illicit actions.

## “THREE LINES OF DEFENSE” APPROACH

Another key element of the RMS/ICS at Volkswagen is the three lines of defense model, a basic element required, among others, by the European Confederation of Institutes of Internal Auditing (ECIIA). In line with this model, the Volkswagen Group's RMS/ICS has three lines of defense that are designed to protect the Company from the occurrence of significant risks.

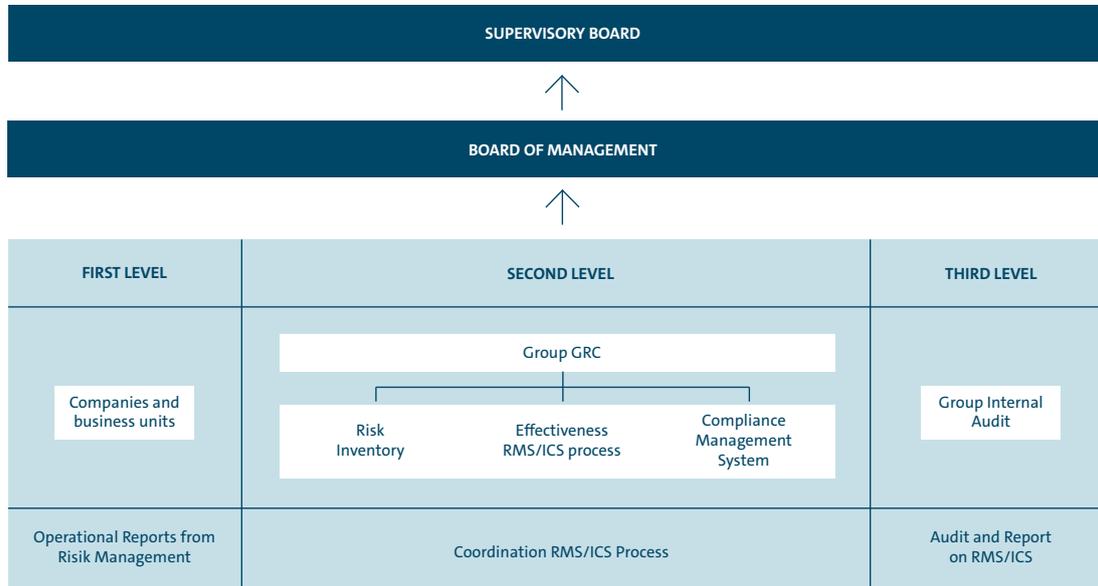
- The first line of defense is formed by the divisions, companies and brands. Events that may give rise to risks are identified and assessed locally in the divisions and by the investees. Thanks to reports during the year via the paths documented above, the Board has an overall picture of the current risk situation at all times. The minimum requirements for the RMS/ICS are laid down in a single guidance document for the entire Group. This also includes a process for timely notification of significant risks.
- The second line of defense is the Group Governance, Risk & Compliance (GRC) department, which sets standards for the

RMS/ICS and coordinates the quarterly risk survey and the annual GRC control process. In the GRC control process, the brands, major companies and individual functions identify systemic risks and verify the effectiveness of the RMS/ICS. This serves as a basis for updating the overall picture of the potential risk situation and assessing the effectiveness of the system. The Group Board of Management receives a report on significant risks, which are also defined in terms of quantitative and qualitative assessment criteria and given probability ratings.

- The third line of defense is Group Internal Audit, which makes regular checks on the structure and implementation of the RMS as part of its independent audit activities

A detailed overview of our risk management and internal control system can be found in the Report on Risks and Opportunities in the Group Management Report of our 2016 Annual Report.

## “Three Lines Of Defense” Approach



### SIGNIFICANT RISKS

The diesel issue both causes risks for the Volkswagen Group and has an impact on existing risks. The Volkswagen Group has made suitable provisions for risks arising from the diesel issue, in particular for the upcoming service campaigns, recalls and customer-related measures, as well as legal risks, but also for residual value risks.

Risks that could impact on the Volkswagen Group’s bottom line also include general environmental risks and climate change risks. These risks are identified, assessed and managed by the Group’s divisions and companies within the framework of the RMS. This includes risks

which can result from CO<sub>2</sub> and emissions legislation and regulations. Extreme weather situations, storms or floods can lead to failure of information and communication technology, supplier failure resulting in production stoppages, or general production downtime at one of our more than 100 production locations worldwide.

More information on economic, political, financial and operational risks can be found in the Report on Risks and Opportunities in the Group Management Report of our 2016 Annual Report.

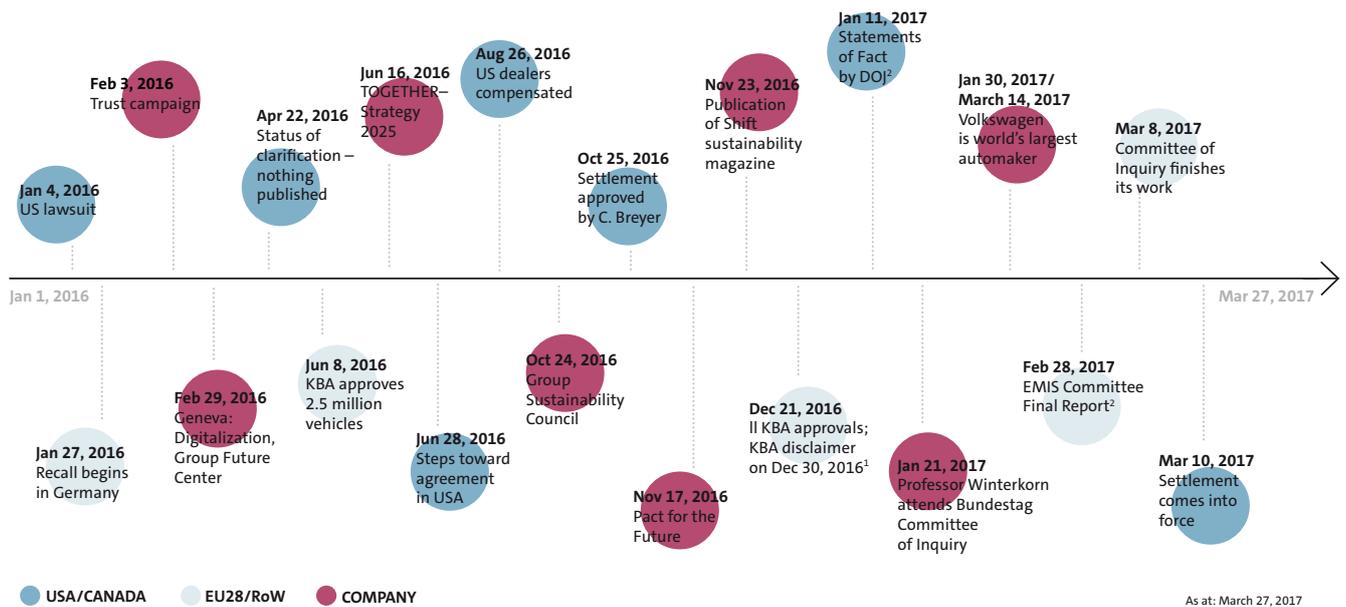
# Diesel Crisis. A Status Report

## TO OUR STAKEHOLDERS

Volkswagen does not tolerate any breaches of the law or other wrongdoing. We deeply regret the behavior that gave rise to the diesel crisis. Such misconduct runs contrary to all the values that Volkswagen stands for. We have taken significant steps to strengthen accountability, extend transparency and prevent something like this from ever happening again.

The trust of our customers, our shareholders, partners, employees and the general public is our most important asset. The Group has substantially elevated its commitment to working ethically and with integrity. Volkswagen can and will set an example in the years ahead as to how a large, global company embodies and takes its social responsibility seriously.

## Chronicle



<sup>1</sup> Annual Report: In fiscal year 2016, the Kraftfahrt-Bundesamt (KBA – German Federal Motor Transport Authority) issued the official approvals needed for modification of Volkswagen Group vehicles fitted with four-cylinder EA 189 1.2 I, 1.6 I and 2.0 I diesel engines falling within its remit. Only the approval of the technical solutions for 14,000 vehicles is still outstanding, which is expected to be granted by April 2017.

<sup>2</sup> Department of Justice (DOJ); Emission Measurements in the Automotive Sector (EMIS)

## IMPACT

**Operating result for 2016:** Special items recognized in operating profit relating to the diesel issue amounted to €–6.4 billion in fiscal year 2016, mainly due to higher provisions for legal risks.

**Legal risks:** Various legal risks are associated with the diesel issue. The provisions recognized for this matter and the contingent liabilities disclosed as well as the other latent legal risks are partially subject to substantial estimation risks given the complexity of the individual factors, the ongoing approval process with the authorities and the fact that the independent, comprehensive investigations have not yet been completed. The legal risks include (detailed information can be found in the chapter on “Litigation”):

- Criminal and administrative proceedings worldwide (excluding the USA/Canada)
- Product-related lawsuits worldwide (excluding the USA/Canada)
- Lawsuits filed by investors worldwide (excluding the USA/Canada)
- Proceedings in the USA/Canada.

Should these legal risks materialize, this could result in considerable financial charges. Further risks from the diesel issue can be found in the Report on [Risks and Opportunities](#).

## CLARIFYING THE FACTS

In January 2017, Volkswagen AG agreed with the US government to resolve federal criminal liability relating to the diesel issue. The Volkswagen Group also agreed with the US government to resolve civil penalties and injunctive relief under the Clean Air Act and other civil claims against the Company relating to the diesel issue.

The coordinated resolutions involve four settlements, including a plea agreement between Volkswagen AG and the DOJ. The plea agreement is accompanied by a published Statement of Facts that lays out relevant facts and has been acknowledged by Volkswagen AG.

As part of its plea agreement, Volkswagen AG has agreed to plead guilty to three felony counts under US law: conspiracy, obstruction of justice and using false statements to import cars into the US. The plea agreement, which is subject to US federal court approval, provides for payment of a criminal fine of \$2.8 billion and the appointment of an independent monitor for a period of three years. The independent monitor will assess and oversee the Company's compliance with the terms of the resolution. This includes overseeing the implementation of measures to further strengthen compliance, reporting and monitoring systems, and an enhanced ethics program.

### Organizing the Clarification

Volkswagen AG commissioned an external investigation by US law firm Jones Day. This is an independent and comprehensive investigation into the diesel issue. Jones Day is updating the Company and the Department of Justice (DOJ) on the current results of its investigation on an ongoing basis and assisting Volkswagen AG in its cooperation with the judicial authorities. The course of action in clearing up the situation was determined largely by the investigating authorities.

Furthermore, Volkswagen AG filed a criminal complaint in September 2015 with the responsible public prosecutor's office in Braunschweig,

which is independently investigating the matter, including allegations of fraud. Searches were carried out in Wolfsburg and elsewhere with the involvement of special agents from the State Office of Criminal Investigation.

We are cooperating with all the responsible authorities to clarify these matters completely and transparently.

Investigations were divided into two parts. The Group Internal Audit function, which involved bringing together experts from various Group companies to form a task force, focused – as instructed by the Supervisory Board and Board of Management – on reviewing relevant processes, reporting and control systems as well as the accompanying infrastructure. This function paid special attention to the processes of software development for the engine control unit. The Group Internal Audit function provided its findings to the external experts from Jones Day. The internationally renowned law firm was engaged by Volkswagen AG to fully clarify the facts and responsibilities in a second investigation. Jones Day has received operational support from auditing firm Deloitte.

The special investigation has involved conducting interviews with employees and managers who were identified by Jones as relevant sources of information on the diesel issue. In addition, Jones Day has evaluated documents and data (such as emails).

### Communicating the Results of the Investigation

As already stated in April 2016, the US lawyers mandated by Volkswagen had strongly advised against publication of interim results at that time. They had a number of reasons for making this recommendation. Among other things, publication could have impaired the ongoing investigation and had a significant negative impact on the cooperation between Volkswagen and the DOJ.

How long will it take until the company is able to leave the diesel crisis behind it?

**“I can't give you an exact time period – but it will take us quite a while. Serious mistakes were made at Volkswagen. We have already paid dearly for them, and we remain committed to taking responsibility for our actions. At the same time, we are using the crisis as a starting point from which to steer Volkswagen in the right direction.”**

Hans Dieter Pötsch, Chairman of the Supervisory Board, in an interview.

## ACTIONS

### Monitor

The plea agreement provides for payment of a criminal fine of \$2.8 billion and the appointment of an independent monitor for the next three years. The independent monitor will assess and oversee Volkswagen's compliance with the terms of the resolution. These conditions include measures for further strengthening compliance and the reporting and control systems at Volkswagen, as well as implementing an enhanced ethics program.

Volkswagen has agreed to this solution and intends to comply with the terms of each of the agreements reached.

As part of the sought-for consent decree, Volkswagen has agreed to report on the steps it will take to further develop the processes that will enable the Group to manage the ethical behavior of employees, research and development, quality assurance and compliance with US environmental legislation.

### Optimizing Processes

The initiatives implemented in response to the diesel crisis aim to further strengthen operational processes as well as reporting and control systems, in order to ensure that responsibilities are clearly and unequivocally regulated at all times. In addition, a more robust whistleblower system and new, stricter standards for performing in-house emission tests have been established. The Group has significantly expanded its voluntary commitment to act ethically and with integrity, and forged ahead with decentralization within the organization. Brands and regions can now run their business operations much more autonomously. These and other initiatives are part of a comprehensive transformation of Volkswagen's corporate culture into a more entrepreneurial, international organization.

Within the Volkswagen Group, emissions tests are now always audited by independent third parties. In addition, "real-life" tests of emission characteristics under real-world driving conditions are now carried out internally. In tests of this kind, before a model is given technical approval, a deliberate search is made for anything that indicates the possible use of a defeat device. Important: in each case, these tests must be carried out by a different department, which is/ was not responsible for developing the vehicle model to be tested.

Volkswagen has not only optimized its technical processes, but also improved its general compliance organization.

Specific **corrective action** was proposed by Group Internal Audit for the weaknesses it identified in 2015.

As part of a structured follow-up process, implementation of corrective actions in 2016 was continuously tracked and reported to the relevant bodies. A total of 31 measures were de-fined by Group Internal Audit and the majority of them were implemented by the end of 2016. The plan is to implement the remaining measures by the middle of 2017.

While the procedural investigations of Group Internal Audit primarily applied to processes associated with diesel technology in 2015, the findings resulting from the investigations in the reporting period were transformed into general guidelines to shore up governance and compliance. The "Golden Rules" encourage greater attentiveness and increase acceptance of critical process steps. These rules represent minimum requirements in multiple categories, including the organization, process and tools & systems categories of control unit software development, emission classification and escalation management.

Self-assessments were performed in the Volkswagen Passenger Cars, Audi and Porsche brands to ensure structured application of the Golden Rules and thus to optimize the internal control system (ICS) in the areas affected. The results were validated as an integral part of an investigation by the audit departments in the relevant brands or by Group Internal Audit. By applying this consistent methodology across the brands, the implementation status of the guidelines in the Golden Rules was established and transparency created regarding the degree of maturity of the ICS for the relevant processes; also for the Board of Management.

In addition, a cross-brand project that ensures similar implementation of the Golden Rules while taking the individual features of the brands into account was initiated under the responsibility of Group Research and Development. As part of this, development departments within the group reviewed their processes. Representatives of the brands are working on the optimization of their processes in project groups.

Key elements of the process optimization are:

- Early identification and interpretation of legislation around the world and alignment of the product portfolio with the legal requirements
- Guidelines for the development of software for drive control units with documentation of the features of relevance to registration
- Introduction of multiple controls for approvals in the product development process
- Reorganization within development for the purpose of separating the responsibility for the development of drives from official approvals
- Formation of new bodies for cross-brand management and clarification of compliance issues
- Uniform process standards and work instructions that give those involved legal certainty in the work process
- Training programs in which everyone involved in the process is required to participate

- Regular reporting to the Group Board of Management in order to create transparency in relation to the implementation status of this process optimization

Adaptation of the Golden Rules to other vehicle development processes and other areas of development is being addressed.

### Integrity Program

On January 1, 2016, we started to create the organizational framework for a centralized integrity management function by setting up the new Board of Management position for Integrity and Legal Affairs. This Group function is responsible for planning, preparing and implementing programs and projects aimed at raising, clarifying and intensifying a collective awareness of integrity, as well as reinforcing a shared culture of integrity in the Company. A continuous exchange of ideas and discussion of issues relating to integrity are key components of the integrity management function.

Volkswagen's goal is to enhance the culture of integrity in the Company and create a collective awareness of integrity. To this end, we launched an [integrity program](#) in 2016 involving all employees that is based on six action areas:

- 1. Dialog & communication:** We provided information at regular intervals on the concept of integrity and its importance as well as on the evolution of the integrity program. In addition, we set up an integrity mailbox to create opportunities for direct communication between the integrity management team and the workforce. An exchange in the form of a live chat also took place on the GroupConnect internal social network.
- 2. Sounding Board program:** A shared understanding of what integrity means at Volkswagen can only be developed with the involvement and the experience of the entire workforce. This is why we have instituted the Sounding Board program as a key initiative in the integrity program. It will ensure close collaboration and dialog between the integrity management team and the workforce with the help of integrity ambassadors – voluntary support staff from management and staff circles. Interactive services forming part of this program round off the communications portfolio.
- 3. Executive program:** Management's function as a role model for integrity along with managers' special responsibility was clearly illustrated in a letter signed by all members of the Group Board of Management and in supplementary information circulated to executives and managers. The topic of integrity was also a fixed part of numerous management events.
- 4. Processes & tools:** We are continuously examining the possibility of incorporating our principles of integrity into the Company's key management elements, for example in the field of human resources and collaboration with business partners
- 5. Monitoring & reporting:** Regular monitoring of the integrity program not only helps us to fine-tune and readjust; it also underlines the relevance of the concept of integrity for employees and managers. Here, continuous evaluation of feedback from the integrity ambassadors and from employees and managers on issues relating to the adaptation and refinement of concepts plays just as important a role as the reporting in internal media and publications such as the sustainability report.
- 6. Internationalization:** Once the pilot phase at the Wolfsburg site has ended, we intend to expand the integrity program to all brands, companies and regions. Managers of our Governance and Risk & Compliance functions will act as key intermediaries in this context.



# Economy

## Responsibly along the entire value chain

In the future, technological innovations will allow us to meet the mobility needs of business and society, conserving resources through significant advances in efficiency and economy.

### Management approach

The automotive world is undergoing a period of revolutionary change, and autonomous driving, e-mobility, connected vehicle concepts and the dynamics of digital transformation are showing the new way forward. Technological innovations are exerting huge influence on customer expectations and established business models, new players are entering the market, shorter innovation cycles are the norm, and the development of new core competencies requires steadily increasing capital investment. Combined with ever more stringent emissions standards and a highly volatile market, all these factors are creating ever more demanding market conditions. This presents us, as an automotive manufacturer, with new challenges – but also with a whole range of new opportunities, including prospects for lasting growth. Our aim is to operate responsibly along the entire value chain. Everyone should benefit from this – our customers, our employees, the environment and society as a whole. We intend to become one of the world's leading providers of sustainable mobility, creating enduring values, offering good working conditions, and treating the environment and natural resources with due care.

The early identification of pioneering developments and trends in the ever more complex fields of social, political, technological, environmental and economic activity represents an important basis for innovation and thus for the success of our business. This aware-

ness of current and future trends is crucially important for the correct orientation of our research and development activities. Only if we are armed with a reliable vision of technical possibilities and at the same time, of their limitations, can we position the Group in such a way as to ensure sustainable growth. This is why the Volkswagen Group's research institutions scattered throughout the world's key automotive markets monitor pioneering developments directly at the coal face, thereby gaining crucial insights that will help safeguard the Group's future.

In the reporting period, we focused our research activities on devising new mobility solutions, as well as developing expertise in technological innovation that will make us even more competitive. Our development activities focused on expanding our product range and enhancing the functionality, quality, safety and environmental compatibility of our products.

Our company's long-term success also depends on how promptly we identify risks and opportunities, and how systematically we comply with laws, regulations, ethical principles and our own voluntary commitments. Thus prudent risk management, effective internal monitoring systems and a stringent compliance organization are of enormous importance to us. Not only do we set high standards within the Volkswagen Group, we also insist that all our suppliers along our entire value chain comply with these standards.

## MARKET DEVELOPMENTS

In 2016, the pace of global economic growth was slightly slower than in the previous year. By contrast, global demand for vehicles was higher. Despite persistently difficult market conditions, the Volkswagen Group delivered more than 10 million vehicles to customers. In the reporting period, we launched a large number of attractive new models on the market, some of which were based on the Modular Transverse Toolkit (MQB). The current product portfolio comprises 336 models, covering almost all key segments and body types, ranging from subcompact cars to supercars in the passenger car segment, from pickups to heavy trucks and buses in the commercial vehicles segment, plus motorcycles. By taking account of regional market and customer needs, we have systematically geared our product portfolio to profitable growth.

### GLOBAL DEMAND FOR PASSENGER CARS HITS NEW RECORD HIGH

In fiscal year 2016, the number of new passenger car registrations rose to 81.1 million vehicles worldwide, exceeding the previous year's record by 5.4%. Demand was up in the Asia-Pacific, Western Europe, North America and Central Europe regions, while new passenger car registrations in South America, Eastern Europe and Africa failed to match the previous year's levels.

We expect trends in the various regional passenger car markets to vary considerably in 2017. Overall, growth in global demand for new vehicles will probably be slower than in the reporting period.

The Volkswagen Group is well positioned to deal with the mixed development of automotive markets around the world. Our broad, selectively expanded product range features the latest generation of engines as well as a variety of alternative drive technologies, putting us in a good position compared with our competitors.

Our goal is to offer all customers the mobility and innovations they need, strengthening our long-term market position in the process. Our policy of adding maximum value at local level is a vital part of this approach – and with good reason. Not only does it allow us to reap numerous economic benefits, it also minimizes our risk exposure. In each case, we are an important local driver of growth, while at the same time being in a better position to accommodate our customers' wishes.

### SECTOR-SPECIFIC ENVIRONMENT

Sector-specific conditions were significantly influenced by fiscal policy measures, which made a substantial contribution to the mixed trends in sales volumes in the various target markets during the 2015 financial year. The instruments used for this were tax reductions or increases, incentive programs and sales incentives, as well as import duties.

Non-tariff trade barriers designed to protect various countries' domestic automotive industries made the free movement of vehicles, parts and components more difficult. Protectionist tendencies were especially evident where markets were on the decline.

This is contributing to increased volatility in the global procurement and sales markets. In response to this changing environment, we intend to focus more strongly on high-growth segments and regions – such as the economy segment in China and India. In particular, as we continue to transform our core business, we will differentiate the positioning of our Group brands more precisely and further optimize our vehicle and powertrain portfolio as we target the most attractive, fastest growing market segments. We will unveil more SUV models, integrate digitalization more systematically into our products and provide important stimuli for the future through our e-mobility offerings.

## Key Figures by Market<sup>1</sup>

Thousand vehicles/€ million	Vehicle sales		Sales revenue	
	2016	2015	2016	2015
Europe/Other markets	4,635	4,524	138,079	132,535
North America	968	941	35,454	35,384
South America	421	540	7,973	10,148
Asia-Pacific <sup>2</sup>	4,367	4,005	35,761	35,225
Volkswagen Group <sup>2</sup>	10,391	10,010	217,267	213,292

<sup>1</sup> All figures shown are rounded, so minor discrepancies may arise from addition of these amounts.

<sup>2</sup> The sales revenue of the joint venture companies in China is not included in the figures for the Group and the Asia-Pacific market.

## QUALITY ASSURANCE

The quality of our products and services plays a key role in maintaining customer satisfaction. Customers are particularly satisfied and remain loyal when their expectations of a product or service are met or even exceeded. Throughout the product experience, appeal, reliability and service are what determine quality as perceived by the customer. Our objective is to positively surprise and excite our customers in all areas and thus win them over with our outstanding quality. We continued to aspire to this objective in the reporting period. The diesel issue has shown, however, that we must broaden our previous understanding of quality. Quality assurance now checks the compliance of our products even more intensively.

We are also placing greater emphasis on our quality management system than before, thereby reinforcing the process-driven approach across all our business activities Group-wide. Quality management in the Volkswagen Group is based on the ISO 9001 standard: we must comply with the provisions of this standard to obtain type approval for producing and selling our vehicles. Following the revision of the standard in 2015, we applied the new requirements to all the Group's locations and brands during the reporting period. One key change in the standard concerns the assessment of risks in the event of non-compliance with defined processes. To ensure that we

implement and comply with these and other new requirements, as well as all relevant official regulations, we have developed guidelines, tips and recommendations for our quality management consultants, and provide support as they apply them in practice.

As a further step, we now apply the multiple internal controls principle – based on mutual support and cross-checks between divisions – even more rigorously, and have developed important additional skills in, for example, software security. This particularly affects the control mechanisms between technical development and quality assurance before and after the start of production. In product development, we have introduced the same principle for the approval of power units. And at the series production stage, we are now working even harder to carry out conformity checks on our products with the participation of all business units involved, performing assessments and making decisions on this basis. This applies particularly to exhaust emissions and fuel consumption.

By taking these and other measures, quality assurance is ensuring that we not only satisfy all legal requirements imposed on us as a manufacturer, but that our products do so as well.

## THE MODULAR STRATEGY

Our modular platforms and toolkits allow us enormous flexibility in the design of our production facilities. The Modular Transverse Toolkit (MQB) and Modular Production Toolkit (MPB) enable us to cut development costs, manufacturing times and any necessary one-off expenses, and can also be used over several vehicle generations. The toolkits also allow us to use the same production systems in the same plant to manufacture different models from different brands in varying quantities. This means that we can use our capacities more flexibly throughout the entire Group, enabling us to achieve efficiency gains.

In addition to conventional petrol (gasoline) and diesel engines, the MQB also gives us the opportunity to integrate alternative powertrains, such as natural-gas, hybrid or electric drives. Previously, we had to make individual, vehicle-specific adjustments to each model. The MQB has created an extremely flexible vehicle architecture that permits the specific dimensions stipulated by the design concept – such as wheelbase, track width, wheel size and seat position – to be harmonized throughout the Group and then applied in flexible ways. Other dimensions, such as the distance between the pedals and front wheel hubs, are always the same. This ensures that the front of the car always conforms to the same system, making it easier to exploit synergies. The MQB platform used across the Group was installed in the eight millionth vehicle in late 2016.

All Group brands are surging ahead with the development of electric traction. We have expanded our expertise in this area by bringing additional technical specialists and experts on board. Based on the experience we have gained with existing vehicle architectures, we designed the Modular Electrification Toolkit (MEB) for the compact segment. This can be deployed across multiple brands for passenger cars and light commercial vehicles alike. The MEB means we can now develop very exciting vehicles and supports ranges of 300 to 600 km (190 to 375 miles) in all-electric mode. It also makes it possible to factor in vehicle-specific requirements and achieve savings by bundling volume purchases. Thanks to the Volkswagen Group's modular toolkit strategy, modules can be deployed across different model series and brands, thus achieving substantial synergies. This applies in particular to models that share the same platform. We have integrated the production of electrified vehicles into the manufacturing processes at our existing plants, for example in Wolfsburg, Emden, Bratislava, Ingolstadt and Leipzig. The electric motors are manufactured at our plant in Kassel.

In 2016, we presented our visionary I.D. concept vehicle. With a range of up to 600 km (375 miles), the zero-emission vehicle is scheduled for market launch in 2020, and represents the vanguard of an entirely new fleet of highly innovative electric vehicles based on the MEB platform.

# Product Responsibility

By taking full responsibility for our products, we aim to keep our customers as safe as possible on the road by offering a comprehensive range of road-safety solutions and a broad spectrum of efficient, affordable and practical powertrain technologies. The Volkswagen Group takes responsibility for the products supplied by all its brands. This responsibility extends to passive and active safety systems, conservation of resources, and climate and environmental protection. In particular, we are prioritizing the electrification of our vehicle fleet. One objective of our future program TOGETHER – Strategy 2025 is to significantly increase the proportion of our total sales accounted for by all-electric cars over the next few years. This will help us to further reduce carbon emissions and air pollution.

## 809,000 CARS FROM WOLFSBURG

In 2016, the Volkswagen plant in Wolfsburg produced around 809,000 vehicles. The plant's daily production capacity now exceeds 3,800 vehicles.

## INVESTMENT AND INNOVATION

In 2016, the Volkswagen Group further extended its innovation and technology leadership by investing in new models, environmentally compatible drive technologies and optimized production processes. At the same time, we aim to step up the efficiency of our cross-brand innovation management, as well as the networking of our brands' development processes. By creating overarching technology networks we avoid parallel developments and facilitate efficient technology transfer, while simultaneously reducing our development costs. At present, 46,000 highly qualified employees are working on these projects in research and development facilities around the world. The philosophy behind the Volkswagen Group's entire research and development effort is "Innovation for All". The result will be new models with even more efficient powertrains. These include electric cars powered entirely by battery, as well as plug-in hybrids. Our core business as a whole is steadily shifting toward electric propulsion as we pursue our electrification initiative, which is second to none in the industry. And we are making the necessary investments in research into and development of various types of electric drive, suitable energy storage solutions, and series production of the relevant modules.

We see mobility as a holistic concept and bundle our mobility-related activities under the heading of "Smart Mobility". Higher efficiency, better connectivity and greater flexibility in turn create safer, more comfortable and more environmentally compatible mobility solutions, making an important contribution to the implementation of the United Nations' Sustainable Development Goals (SDGs). Examples of this approach include the development of driver assistance systems, autonomous ("piloted") driving and our IT labs. To ensure that our approach to mobility remains consistently holistic, we are pooling all these activities in our new Mobility Solutions

business area, which will also be a core element of our TOGETHER strategy. We want to redefine the whole concept of mobility, working closely with selected partners to accomplish this. The first step in this direction is our investment in Gett, a ride-hailing service. Gett is already operating in more than 100 cities, including major cities such as New York, Moscow and London. One out of three taxis in the British capital is already using the service to find new customers.

In December 2016, we also set up MOIA, a company dedicated to new mobility solutions with a particular focus on ride hailing – the instant provision of mobility services. Subsequently, we intend to develop or acquire further attractive and profitable services tailored to customer requirements, such as robot taxis, carsharing, and on-demand transport services for the logistics industry. To achieve this, we will rely – to a greater extent than hitherto – on partnerships, acquisitions and venture capital investments. The selection of suitable investments will be managed centrally, with the aim of generating maximum value for the Group and its brands.

Audi has reaffirmed its progress in the field of autonomous driving – the Audi A7 piloted driving concept car, a research vehicle, is capable not only of carrying out all freeway driving maneuvers on its own, but also and more importantly, of respecting other road users while doing so. "Piloted driving" is made possible by the zFAS driver assistance control unit, a central control system that uses state-of-the-art, high-performance processors to evaluate signals from all sensors in real time, continuously generating a model of the surrounding environment. Long-range radar sensors, lane-keeping assistants and laser scanners – not to mention a high-resolution, wide-angle 3D video camera – enable the concept car to change lanes, overtake, accelerate and brake on its own, without human intervention.

The g-tron model range also continues to grow; in addition to the Audi A3 Sportback g-tron, Audi will soon bring two more CNG models to market. The spring of 2017 saw the launch of the Audi A4 Avant g-tron and the Audi A5 Sportback g-tron. Compared to a petrol-engined car in the same performance class, Audi g-tron models produce 80% fewer CO<sub>2</sub> emissions. They achieve this reduction by running on Audi e-gas, a green fuel.

Volkswagen Group's IT labs are responding to the digitalization trend. They are islands of innovation, where new IT solutions are developed in close collaboration with Group specialist departments, external research institutions and technology partners. The labs act as test laboratories for the Group as a whole, advise on questions about future IT developments, and act as an interface with business startups.

Data:Lab in Munich is our center of expertise specializing in big data, advanced analytics and machine learning. The Data:Lab team consists of data scientists, project managers and technology wizards who are supported by experts from leading big data firms, research institutions and startup companies. Successful projects developed by Data:Lab include forecasts of customer wishes and predictions of customer loyalty, as well as a long-term, all-time forecast for spare parts scheduling at our central depot in Kassel.

We are also opening Digital:Lab in Berlin. Projects under development here include a digital mobility platform and systems for processing traffic-related information generated by vehicles. In addition, we are expanding our Smart:Production:Lab in Wolfsburg, which specializes in Industry 4.0 solutions with a particular focus on the use of IT in production and logistics.

### A WATCHFUL EYE

The new Passat features an optional head-up display (HUD) intended to improve road safety. Trip data and alerts are projected onto a screen that slides out in the driver's field of vision. Drivers can thus keep their eyes on the road ahead while simultaneously taking note of on-screen information that is seemingly displayed two meters in front of the vehicle. Because alerts appear directly in the driver's line of sight, reaction times are reduced. And drivers' eyes do not have to refocus so often from far-field to near-field vision.

## SAFE VEHICLES AND ROAD SAFETY

All our activities are geared to Vision Zero, which is to say zero fatalities or severe injuries in and due to vehicles manufactured by the Volkswagen Group. This has been and continues to be the key objective for our work in this area. We take a holistic view of vehicle safety, from avoiding accidents completely to reducing or avoiding their consequences. The Group's accident research departments play a pivotal role in this work, reconstructing and evaluating accidents in order to obtain information that will help boost future vehicle safety – findings that feed directly into our vehicle development activities, leading to new, user-oriented innovations.

In best-case scenarios, the powerful, active systems produced by our specialists help to avoid accidents from the outset. These include emergency braking systems (such as Front Assist) and lane-keeping systems (such as Lane Assist). Where the collision itself is unavoidable, a raft of passive systems avoids or mitigates the consequences of the accident for vehicle occupants. In particular, the coordinated interaction of the vehicle structure with the occupant retention system plays a central role. Our integral safety concept seamlessly combines passive and active systems. For example, following a collision involving one of our new vehicles, a multi-collision brake is activated to bring the stricken vehicle to a halt and avoid secondary collisions, or at least reduce the energy released by the collision.

## AIMS AND MEASURES TO IMPROVE SAFETY

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The ultimate aim of our Vision Zero is: zero fatalities or severe injuries in and due to vehicles manufactured by the Volkswagen Group. To progress toward this vision, we have set ourselves the following goals:

- avoidable accidents should not happen,
- unavoidable accidents will be actively mitigated,
- the severity of accidents will be minimized.

To achieve these goals, the Group's accident researchers collect data from real traffic accidents. Their investigations include:

- technical analyses of the vehicles involved to establish the technical severity of the accident,
- medical analyses of injuries suffered by people involved in the accident,
- psychological analyses of the circumstances surrounding the accident.

The findings of these analyses are used to develop measures to protect people inside and outside the vehicle. These include the development of body shell concepts, occupant retention systems and new driving assistance systems capable of avoiding accidents or mitigating their consequences.

The Volkswagen Group is an active member of the German Road Safety Council (DVR), contributing expertise and experience with the aim of making mobility safer. We also take part in conferences on vehicle safety around the world.

## EURO NCAP AND IIHS

Euro NCAP (European New Car Assessment Programme) and IIHS (Insurance Institute for Highway Safety) regularly test models built by the Volkswagen Group. The following models were put through their paces in 2016:

- 5-star rating for Tiguan – Euro NCAP
- 5-star rating for SEAT – Euro NCAP
- 5-star rating for Audi Q2 – Euro NCAP
- Top Safety Pick plus for Audi A3, Audi A4 und Audi A6 – IIHS
- Top Safety Pick plus for Audi Q5 and Audi Q7 – IIHS
- Top Safety Pick plus for VW Golf, Golf SportWagen and Golf GTI – IIHS
- Top Safety Pick plus for VW Jetta and VW Passat – IIHS

## PRODUCT SAFETY

Our customers attach the utmost importance to product safety. So we take a meticulous approach to quality assurance along the entire value chain, from purchasing right through to sales.

Right at the start, when a vehicle is first being developed, we use standardized processes to exclude potential use risks. At the next

stage, production, we bring the collective experience of our global, cross-location network of product safety officers to bear. In their work, they rely on lessons-learned processes to ensure that our products stay safe. Because the approach followed by our product safety officers has proved its worth, we are now gradually implementing it among our suppliers, hence along our entire supply chain.

## ODORS AND EMISSIONS FROM VEHICLE INTERIORS

The German automotive industry has been concerned about air quality inside vehicle interiors since the mid-1980s. From the beginning, Volkswagen has played a significant role in development work in this field. For good reason: odors and emissions from plastic components inside the vehicle can cause people to feel unwell, and in extreme cases may even be harmful to health. To avoid these issues, we check the properties of the materials and components we use very carefully. Our internal Group standard VW 50180 sets down our requirements for material characteristics. Compliance with these requirements is partially verified while components are still being designed and developed. And suppliers must demonstrate that they are complying with these requirements by the sample prototype inspection stage at the very latest. In the case of around 20% of the components used in Group vehicles, suppliers' compliance data is further verified in our laboratories. In addition to checking materials and components, we also evaluate odors and emissions in the passenger compartment when we start the manufacturing stage of new concept vehicles and production vehicles.

We have established quality specifications for the components and operating fluids we use, focusing not only on their functional properties but also on the durability of the materials from which they are made. These specifications provide the framework within which Volkswagen’s materials specialists, for example, define and verify

components’ resistance to aggressive fuels and oils. They do this by storing the components to be tested – ranging from individual seals or gaskets through to complete fuel-delivery modules – in containers filled with the appropriate test fluid.

### INFORMATION AND LABELING

Volkswagen Group companies are obliged by law to provide users of their products with appropriate information about the risks that may arise from their intended use or foreseeable misuse. Group companies fulfil this obligation by providing instruction manuals and in specific instances, placing warning stickers inside the vehicle. Furthermore, since December 1, 2011, all passenger vehicles manufactured in Germany must carry a weight-based efficiency label similar to the energy consumption labels used for household appliances. Efficiency ratings range from A+ (highly efficient) to G (inefficient). The label also informs users of fuel consumption, annual fuel costs, CO<sub>2</sub> emissions and annual tax charges under Germany’s CO<sub>2</sub>-based vehicle tax. In the case of electric vehicles, the label provides information on energy consumption. All our brands provide details of their models’ fuel consumption and CO<sub>2</sub> emissions on their websites. Information on consumption figures and emissions for all of the models mentioned in this report can be found in this table. The Volkswagen and Audi brands also publish Environmental Commendations describing improvements in the environmental performance of new vehicles and technologies over their predecessors or reference models.

### CUSTOMER SATISFACTION

Volkswagen knows that customer satisfaction is one of the most important factors contributing to the lasting success of the Company. Customer satisfaction is benchmarked across all our brands using standardized performance indicators: brand image, desirability, future purchase consideration, product quality and brand communication awareness.

The “Group KPI” platform is one important instrument supporting the targeted management of value-creating measures for each of our brands. It provides access to key indicators such as unit sales growth and customer loyalty, while also allowing the brands to set up their own indicators for tracking customer satisfaction.

## Brand Value Management at Volkswagen Group

Group covers KPI’s in five dimensions, going beyond basic brand image monitoring

SALES GROWTH	... to ensure direct contribution of marketing efforts to sales success
CUSTOMER LOYALTY	... to improve customer losses to Group external brands
BRAND STRENGTH	... to ensure superior image and shape differentiation of Group brands
BUDGET EFFICIENCY	... to increase efficiency of >2,0 bn € Group marketing spendings
BRAND PROGRESS	... to measure and ensure brand progress according to long-term strategy

In terms of customer satisfaction with their products, Audi and Porsche are leaders in the core European markets when compared with other Group brands and with their competitors. The other brands in the Group also score higher than competing brands. In terms of customer satisfaction with dealers, all Group brands achieve figures at or above the level of the competition. The Volkswagen Passenger Cars brand has maintained a high level of

We use market research studies to involve our customers in the product development process as well. The studies help boost customer satisfaction in the long term by providing us with the customer perspective on our products and highlighting the improvements they would like to see. We also ask for customer feedback when evaluating prototypes prior to market launch.

customer loyalty in its core European markets for several years in a row. However, the emissions issue had a negative impact on brand image, brand trust, and customer satisfaction with products compared with 2015. The loyalty of Audi, Porsche and ŠKODA customers has kept these brands in the upper rankings in comparison with competitors for a number of years.

## Local Value Added

Local production in our most important sales markets is a core element of our sustainable growth strategy. The benefits are clear: Lower logistics costs, procurement prices in line with local market conditions, elimination of import duties and immunity from volatile exchange rates all contribute to the competitiveness of our brands in these markets. And people in the regions benefit as well, because we create skilled jobs and contribute to the development of local economies by attracting supplier businesses to the areas around our production locations. In Pune, India, for example, 69 new supplier businesses have been founded since our plant was set up, creating around 13,500 direct and indirect jobs. And thanks to the long-term presence of partners at the Kaluga site, the plant there can now draw on more than 60 local suppliers for the models produced.

Creating jobs in our plants and with our suppliers and strengthening regional economies is a key part of our growth strategy. But we don't stop there. As a major player in regional economies and with the aim of actively promoting the United Nations' Sustainable Development Goals (SDGs), we support local projects related to the arts, culture,

education, the sciences, health and sports, as well as structural development and nature conservation in the regions (CSR projects worldwide).

And through our payment of taxes and duties, we help ensure that state and municipal investments in infrastructure and public welfare are possible in many parts of the world.

### TAXES AND SUBSIDIES

We pay taxes wherever we add value. Worldwide, we paid around €3.3 billion in income taxes; by far the largest proportion of this was paid in Germany. In the 2016 fiscal year, the Volkswagen Group received €435 million in performance-related public subsidies. Furthermore, government grants of €218 million were deducted from the costs of property, plant and equipment, and another €12 million in noncash benefits received were not capitalized as asset costs.

# Supplier Management

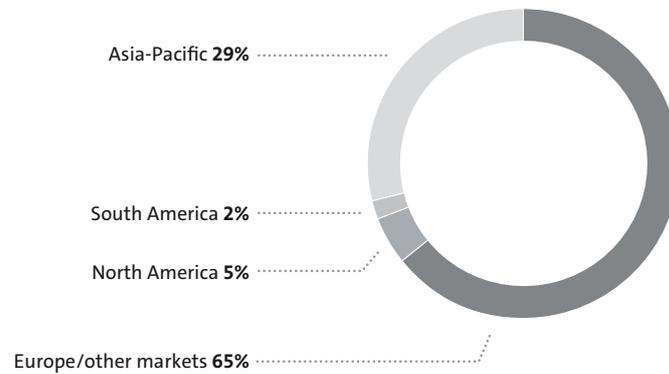
As globalization continues to advance and value creation increasingly shifts toward our various sales markets, the Volkswagen Group's sustainability efforts do not stop at our factory gates. At 39 locations in 23 countries, the Volkswagen Group's procurement network ensures that our production facilities are supplied with production

materials of the requisite quality and in the required quantities – on a sustainable basis and at competitive prices. In the reporting year, our procurement volume totaled €166.5 billion. These figures include the data from our Chinese joint ventures.

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## Group Procurement Volume

in %



We share the responsibility associated with the globalization of our procurement processes with our suppliers and their subcontractors – responsibility for a successful future, for a fair and just society, and for the environment. Only by working closely with our business partners can we succeed in ensuring compliance with sustainability standards and thereby make a contribution toward achieving the United Nations' Sustainable Development Goals (SDGs). With these objectives in mind, we rolled out our "Sustainability in Supplier Relations" concept in 2006 and continue to develop it on an ongoing basis. And in 2016, we began integrating the OECD Due

Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas into our supplier management approach.

In this context, in 2016 we expanded our Code of Conduct for Business Partners to include a passage on our duty to promote responsible supply chains for minerals from countries affected by conflict or classified as high-risk. We also made corresponding revisions to the Volkswagen Guideline on Raw Materials from Conflict Regions.

**SUSTAINABILITY IN SUPPLIER RELATIONS**

The Sustainability in Supplier Relations concept is based on the “Volkswagen Group requirements regarding sustainability in its relationships with business partners (Code of Conduct for Business Partners)”. The latter formulate the Volkswagen Group’s expectations for our business partners’ conduct with respect to key environmental, social and compliance standards. By including contractual integration of sustainability requirements into the procurement process, we aim to ensure compliance with our sustainability standards along the entire supply chain worldwide. These requirements are based on the principles of the UN Global Compact, the International Chamber of Commerce’s Business Charter for Sustainable Development and the relevant conventions of the International Labour Organization. They are supplemented by Volkswagen’s Environmental Policy, the environmental targets and regulations derived from it, the Group’s Quality Policy and the Volkswagen Declaration on Social Rights.

Not only do we include sustainability requirements in our supplier contracts, we also expect our suppliers to acknowledge these sustainability requirements before submitting a quotation. This explicit acknowledgement must be updated every twelve months. These requirements have been integrated into our contracts with all suppliers to General Procurement since November 2013, and into our contracts with all suppliers of production materials since January 2014. They apply to all outsourced goods and services worldwide.

Our Sustainability in Supplier Relations concept rests on three pillars: requirements, monitoring and development. We apply these three benchmarks to the ongoing assessment and improvement of our suppliers’ sustainability performance.

REQUIREMENTS	MONITORING	DEVELOPMENT
<ul style="list-style-type: none"> <li>■ Environmental protection</li> <li>■ Employees’ rights</li> <li>■ Transparent business relationships</li> <li>■ Fair behavior in the marketplace</li> </ul>	<ul style="list-style-type: none"> <li>■ Sustainability questionnaire</li> <li>■ “Sustainability in Supplier Relations” flag</li> <li>■ Sustainability audits</li> <li>■ Continuous dialog with suppliers</li> </ul>	<ul style="list-style-type: none"> <li>■ E-learning for suppliers and purchasing staff</li> <li>■ Face-to-face training courses</li> <li>■ OEM workgroups</li> <li>■ Dialog with external stakeholders</li> </ul>
<ul style="list-style-type: none"> <li>■ Requirements are contractually mandated</li> <li>■ Avoidance of conflict minerals</li> </ul>	<ul style="list-style-type: none"> <li>■ Verification of understanding and implementation of requirements</li> </ul>	<ul style="list-style-type: none"> <li>■ Ongoing development of Sustainability in Supplier Relations concept</li> </ul>

**SUPPLIER REQUIREMENTS**

Among other data, the Volkswagen Group uses a country risk analysis to obtain a clearer picture of social, environmental and human-rights risks in regions where potential suppliers operate before entering into negotiations with them. This takes both third-party information and in-house empirical data into account.

To identify current developments as well as long-term structural challenges in each country, we rely on the ongoing dialog between our brands and the regions during the regular meetings and video conferences held by the Sustainability Procurement Network. This network supports the continuous exchange of information between 20+ experts in our Group procurement organizations around the world.

The Volkswagen Group also subjects all potential new business partners and suppliers to an integrity check (Business Partner Check). By examining the social integrity of potential business partners, we aim to reduce the risk of forming relationships that could adversely affect the Group and its business.

In addition, the procurement risk management system constantly monitors and analyzes the financial stability of our suppliers. A suite of different processes is applied to help eliminate supply risks due to supplier failure, but also to minimize the financial impact of crises and insolvencies in the supply chain.

Among other activities, our early-warning systems also screen, for example, press and Internet coverage of relevant sustainability issues. Relevant information is passed on to the appropriate Procurement centers to support internal processes and decision-making.

The Volkswagen Group expects its suppliers to avoid the use of any materials made from the smelted ores of conflict minerals. Minerals are considered conflict minerals if non-governmental armed groups are supported directly or indirectly through their extraction, transportation, trade, handling, processing or export.

Information regarding the facilities used by suppliers or their subcontractors for the smelting or refining of minerals such as tin,

tantalum, tungsten or gold must be disclosed to the Volkswagen Group upon request.

We call on our suppliers to practice due diligence along the supply chain. This includes the implementation of measures to ensure that the minerals used by the suppliers – in particular tantalum, tin, tungsten and gold – do not directly or indirectly promote or support armed conflicts.

## SUPPLIER MONITORING

In the course of the business process, our business partners are required to complete our sustainability questionnaire and to document their activities relating to selected areas of responsibility. The questionnaire covers the following areas of relevance to Volkswagen AG:

- cooperation and collaboration (also with subcontractors)
- environmental responsibility

For this purpose, Volkswagen recommends using the standardized conflict minerals reporting template made available by the [conflict-free sourcing initiative \(cfsi\)](#). Based on the cfsi data, Volkswagen will inform suppliers who have business relationships with non-compliant smelters and/or refiners about alternative options for working with conflict-free smelters and/or refiners.

- employee rights
- transparent business relationships

By the end of the reporting year, 21,067 of our suppliers had submitted responses to our questionnaire. This covers 88% of our total procurement volume.

## Status of Sustainability Questionnaire

	Total in 2012 - 2016 cumulated	Status in 2016, based on procurement expenditure	Procurement expenditure-based target for 2016	Procurement expenditure-based target for 2017
Sustainability questionnaire (self-assessment)	21,067	88%	93%	93%

We are transferring our sustainability questionnaire over to the self-assessment questionnaire developed for use throughout the industry in a joint project with other automotive corporations involved in the European Automotive Working Group on Supply Chain Sustainability organized by CSR Europe. We use the responses to these self-assessments to help identify measures to improve performance, and then communicate the latter to our suppliers. This means we are able to give our suppliers specific, needs-based recommendations for improving their sustainability performance.

Alongside the well-established Volkswagen survey, in the reporting year 1,336 of our suppliers filled out this multi-OEM industry questionnaire, which also includes questions addressing the issue of conflict minerals.

We also expect our suppliers to take active responsibility for themselves. In the field of environmental protection, we require our main suppliers to put in place a certified environmental management system in accordance with ISO 14001 and/or EMAS; to date, 87% of our suppliers have documented such a system. As part of the EMAS and ISO 14001 environmental certification and auditing procedures at Volkswagen AG sites, the contractors and suppliers who work on the site premises and have an environmental impact are also subject to regular audits. In addition, we expect our suppliers to have a certified occupational health and safety management system that complies with OHSAS 18001, SA8000 and/or AA1000.

## Procurement Volume-based Proportion of Environmental and Social Certification of Main Suppliers

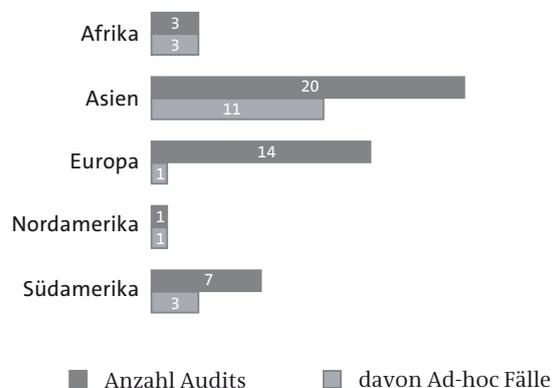
	2016 (in %)	2015	2014	2013	2012
<b>Environmental certification (EMAS, ISO 14001)</b>					
Verified	55%	49%	48%	44%	30%
Self-assessed	32%	35%	39%	40%	not taken into account
Total	87%	84%	87%	84%	not taken into account
<b>Social certification (OHSAS 18001, SA8000, AA1000)</b>					
Verified (total)	13%	9%	8%	6%	not taken into account

Selected business partners identified by the self-assessments or internal analysis system as being at increased risk of non-compliance with sustainability requirements are subjected to third-party sustainability audits, which cover all aspects of our sustainability requirements and include interviews with employees of the selected suppliers.

Should the audit uncover non-compliance or areas requiring improvement, we work with the supplier to develop a program of measures for improving the situation and assist with its implemen-

tation. In the event of serious compliance violations by a supplier, we open an “ad-hoc case”. In 2016, an independent external services provider carried out a total of 45 audits, resulting in 19 ad-hoc cases. This demonstrates the effectiveness of this instrument and helps us to take action in more targeted, efficient ways.

## Audits and resulting Ad-hoc Cases in 2016 by Continent



If there is reason to suspect that tier 1 suppliers or their subcontractors are failing to comply with our sustainability requirements, we ask the party concerned for a written statement using a standardized report (6D Report). Based on the six points we specify in the report, our business partners can describe the status quo and any remedial measures. If the answers prove unsatisfactory, we take further appropriate steps, such as the examination of documents, visits to the supplier's premises or other customized supplier development activities.

Where there is an ad-hoc case or suspected case of non-compliance, the implementation of a series of remedial measures is coordinated by the ad-hoc expert team from the relevant brand or region, in turn coordinated and supported by the Group's team of ad-hoc experts in Wolfsburg.

#### AD-HOC EXPERT TEAM:

Every brand and every region has set up an ad-hoc expert team. Team members include experts from specialized fields such as occupational safety, occupational health, environment and personnel. This approach helps us to cover all issues which could potentially arise in ad-hoc cases, and to address them efficiently. By this means we were able to agree on specific improvement measures with affected suppliers during the reporting year, resulting in an optimization in their sustainability performance. The ad-hoc expert team in Wolfsburg plays a supporting and coordinating role in this process.

#### EXAMPLES OF AD-HOC CASES:

In 2016, we worked with selected suppliers to address challenges involved in complying with sustainability requirements in their management of subcontractors. Due to the complexity of the supply chains involved, we are continuing to work on these issues with these suppliers in 2017.

In another case, a third-party CSR audit documented non-compliance with our working-hours policy. We worked with the supplier to develop an action plan, and the implementation of this plan was monitored by the responsible ad-hoc expert team. Ultimately, this approach succeeded in establishing a process that will ensure this supplier complies with our policy on working hours.

## Ad-hoc Cases in 2016

Group procurement in total

Geographical distribution*		Context		Type of supplier	
Europe	18 cases	Social standards	30 cases	Direct supplier	45 cases
Asia	25 cases	Environmental protection	5 cases	Subcontractor	8 cases
North America	4 cases	Compliance	2 cases		
South America	3 cases	Multiple contexts	16 cases		
Africa	3 cases				
<b>Total</b>	<b>53 cases</b>		<b>53 cases</b>		<b>53 cases</b>

\*In terms of geographical distribution, Russia and Turkey are allocated to Asia.

In addition to these 53 ad-hoc cases, the Internal Audit function uncovered an additional 83 cases which resulted in measures being agreed with suppliers. These cases involved supplier conduct that failed to comply with regulatory or contractual requirements which was either reported by individuals or discovered in the course of regular program audits.

Because of these infringements and the abovementioned ad-hoc cases, 39 business relationships were terminated in the reporting period. The increase in terminated business relationships is closely related to procedures initiated in response to the results of audits by the Internal Audit function.

## SUPPLIER TRAINING

To anchor the Sustainability in Supplier Relations concept more firmly throughout the Group, we are making employees more aware of and providing training in sustainability issues. The concept of “sustainability in the supply chain” is an established part of the skills profile for all Procurement employees. In 2016, more than 950 purchasing staff worldwide were given training in this area.

To facilitate ongoing supplier development, in the course of our business relations we make an electronic learning (e-learning) module

The internal and external point of contact for suspected cases of non-compliance with our sustainability requirements – especially where violations of human rights are concerned – is the e-mail address [sustainability@vwgroupsupply.com](mailto:sustainability@vwgroupsupply.com).

In addition, both employees and third parties can address possible cases of non-compliance via the Volkswagen Group’s national and international employee representation bodies, as well as national and international trade union federations. The Volkswagen Group’s worldwide ombudsman system can also be used to confidentially report irregularities to two external lawyers appointed by the Group. Since 2014, it has also been possible for information providers to communicate anonymously with the ombudsmen via an online channel.

on sustainability available in all languages of the countries which have been defined as compliance risks. To successfully complete the module, suppliers must pass a final test. We made further progress here in 2016, with 25.000 suppliers – representing 82% of the procurement volume – completing the e-learning module by the end of the reporting year. For training purposes, this tool is available both to the supplier’s workforce and to employees of Volkswagen AG Procurement.

## Status of Sustainability e-Learning

	Total in 2012-2016 cumulated	Status in 2016, based on procurement expenditure	Procurement expenditure-based target for 2016	Procurement expenditure-based target for 2017
E-learning	25,002	82%	83%	83%

Alongside the e-learning format, we also conduct topic-specific sustainability training courses and workshops with our suppliers at selected locations. During the reporting period, training events were organized in countries such as Argentina, Brazil, China, South Africa and the U.S. In total, 1,300 employees of more than 800 of our suppliers were given training on sustainability issues. The main focus of these events was on the “Social rights of employees”. Some of these training activities were organized in cooperation with other automotive manufacturers under the auspices of the European Working Group on Supply Chain Sustainability.

We also organize stakeholder dialogs in order to discuss the concept of and structures required to apply our sustainability standards. This informed exchange of ideas with representatives of political and governmental organizations, civil society, research institutions and NGOs, as well as other companies and our suppliers, ensures the continuous development of our concept. One such discussion of issues surrounding sustainability in supplier relations took place on March 1 of the reporting year.

Through our involvement in national and international industry and sector associations, we are also working with other automotive manufacturers to create shared communication platforms with the aim of driving forward sustainability in the supply chain. Volkswagen Group is a member of, for example, the German Association of the Automotive Industry (VDA) and *econsense – the Forum for Sustainable Development of German Business*, and is also part of the Automotive Industry Action Group (AIAG). Audi AG is also involved in the Aluminium Stewardship Initiative.

In the European Automotive Working Group on Supply Chain Sustainability, part of the European Business Network for Corporate Social Responsibility (CSR Europe), we are working to develop recognized frames of reference for companies in the automotive industry. In collaboration with other members of this working group, we have developed an industry-wide self-assessment questionnaire on sustainability performance, and offered related training courses to suppliers.

In the context of our VDA activities, the VDA issued a “Recommendation for guiding principles in the automotive industry for improving sustainability in the supply chain” for the first time in 2016. These guiding principles not only advocate more sustainability in the supply chain, but also recommend the use of the standardized self-assessment questionnaire developed by the European Working Group on Supply Chain Sustainability. We hope that this will also encourage our direct suppliers to make greater use of this questionnaire for their subcontractors.

In the reporting year, as part of our implementation of the OECD’s Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, the Volkswagen Group of America became a member of the Conflict-Free Sourcing Initiative.

## SUMMARY

Throughout all process steps and supplier development measures, our top priority is to maintain a balanced dialog in a fair-minded spirit of partnership. Keeping this key objective of ongoing, sustainable collaboration firmly in mind, we work with our suppliers to find even more opportunities to improve sustainability, such as boosting resource efficiency and continuously improving working conditions.

The Volkswagen Group reserves the right to verify business partners’ compliance with our sustainability requirements, either by in-house

## OUTLOOK FOR 2017

In 2017, we plan to perform the same number of sustainability audits as in 2016, supplemented by a pilot process for on-site assessment of compliance with our sustainability requirements.

Moreover, our objectives for 2017 include the provision of training that aims to continuously build our suppliers’ and employees’ awareness of and capacity to engage with sustainability issues.

We also intend to step up our engagement in industry-wide working groups and initiatives. In particular, we plan to continue rolling out the self-assessment questionnaire developed by the CSR Europe working group and use its findings to further enhance the processes of the Volkswagen Group procurement network. Furthermore, with

As part of our efforts to work with our suppliers to minimize the negative environmental impacts of our vehicles, Volkswagen joined the CDP Supply Chain Program in 2015. We foster direct contact with our suppliers by organizing specialist workshops in which we discuss and develop joint, innovative approaches for the environmental optimization of certain components.

The Future Automotive Supply Tracks (FAST) initiative also plays a key role in our supplier development strategy. FAST is Group Procurement’s core initiative for developing the Volkswagen Group and its supply network, both to ensure a strong future and to involve suppliers in key goals earlier and more intensively. In addition to innovation and globalization, the FAST dialogs also focus on sustainability issues.

experts or by external audits on suppliers’ premises, as outlined above. In the event of non-compliance with our sustainability requirements, in extreme cases we will terminate the business relationship, especially if the supplier shows no interest in improvement. Our top priority, however, is to create a sustainable supply chain by encouraging proactive compliance with our sustainability requirements through dialog with and the ongoing development of our business partners.

Together with our suppliers, we aim to become even better!

respect to certain selected raw materials, we intend to work with the relevant business partners to identify ways of creating greater transparency along the supply chain.

With respect to reducing CO<sub>2</sub> emissions, we are intending to implement a project for closed-loop aluminium scrap recycling. In addition to conserving resources, this project will also lower the carbon footprint associated with the use of aluminium sheeting.

And in the area of collaborative initiatives, in 2017 we will be lead partner in the DRIVE Sustainability initiative.

# Integrity

The Volkswagen AG is currently undergoing the most far-reaching process of change in the Company's history. Painful experience, especially the massive loss of trust that followed the diesel crisis, has made it clear that when it comes to integrity, our primary aim must be to become a role model for a modern, transparent and successful enterprise. This intention represents one of the key objectives of our TOGETHER – Strategy 2025.

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## “TOGETHER – Strategy 2025” Objectives



On January 1, 2016, the Volkswagen Group created a new Board of Management position for “Integrity and Legal Affairs”, laying the organizational groundwork for centralized integrity management across the Group.

The integrity management function is responsible for planning, preparing and implementing programs and projects aimed at raising, clarifying and intensifying a collective awareness of integrity, as well as reinforcing a shared culture of integrity within the Company. Key components of the integrity management function include a continuous exchange of ideas and dialog concerning integrity-related issues.

Because we value a neutral outside perspective, in October 2015 the Volkswagen Group appointed a Sustainability Council of leading experts in research, academia, science and politics. Their remit is to provide advice on, among other things, questions of business ethics and integrity. With their independent expertise and recommenda-

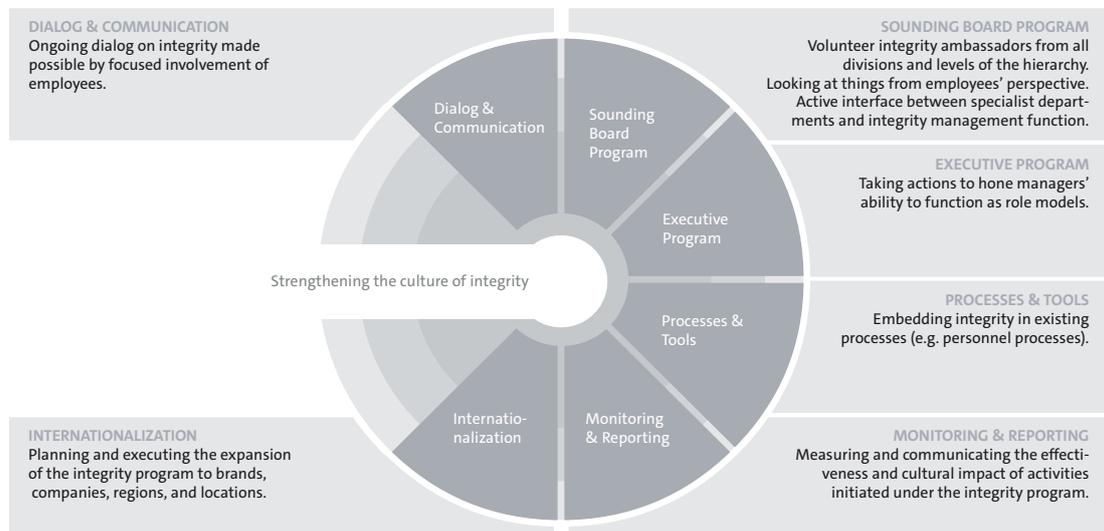
tions, they will support our efforts to fulfil our social responsibilities, promote integrity, foster our stakeholder dialog, and help drive the steady, sustainable progress of our corporate development.

Together, we intend to live by a new, partnership-based culture of integrity in which we can all believe, and of which we can all be proud.

**INTEGRITY PROGRAM**

The Volkswagen Group’s goal is to enhance the culture of integrity in the Company and create a collective awareness of integrity. To this end, in 2016 we launched an integrity campaign that included in a series of activities designed to encourage all employees to engage with the topic of integrity. At the end of December 2016, we moved from the integrity campaign to a multi-dimensional integrity program that is based on six action areas:

**The Six Action Areas of the Integrity Program**



Ethical behavior is a prerequisite for the business success and successful future of our Company. Only with enduring and dependable integrity can the Company gain and strengthen the trust of its employees, customers, shareholders and business partners. Each and every one of our employees – and especially our managers – is asked to ensure that integrity becomes an integral part of our daily working lives.

## DIALOG & COMMUNICATION

In September 2016, we launched an intensive communication campaign in Wolfsburg. In the first phase, we raised employee awareness of the topic of integrity by deploying visual messages on posters, displays and monitors throughout the production site. This was followed by a second phase in which employees were actively included in the dialog, and various participatory activities such as an employee survey were conducted as part of a special event at a works meeting. Next, we accepted volunteers from all parts of the company and levels of the hierarchy as Integrity Ambassadors for our Sounding Board program.



## SOUNDING-BOARD-PROGRAM

Through the Integrity Ambassadors, the Sounding Board program ensures close collaboration and dialog between the integrity management team and the workforce.

In Wolfsburg, 140 Integrity Ambassadors for the Volkswagen Passenger Cars brand are already playing an active role in our transformation process by acting as liaisons in their departments, communicating the importance of integrity, encouraging networking and actively supporting our culture of integrity. Our goal is to establish permanent lines of communication between our employees and the integrity management team. We also look to the Integrity Ambassadors to help us analyze ethical dilemmas which may arise in our specialist departments and spotlight positive examples of ethical behavior within the Company.

In addition, the Sounding Board program also organizes several interactive events each quarter which provide a platform for the ambassadors to actively share ideas with the integrity management function and the Board Member for Integrity and Legal Affairs.

## EXECUTIVE PROGRAM

The entire Group Board of Management signed a letter to all executives and managers in the Company, clearly emphasizing the responsibility of each and every member of management to serve as a role model for integrity. The topic of integrity has also been high on the agenda at many management meetings, including the Global Top Management Conference, the Governance, Risk and Compliance Global Conference, and other Group management information events.

## PROCESSES & TOOLS

As part of our sustainability drive, and with the aim of establishing integrity as the bedrock of our business practices, we are also integrating ethical practices into our personnel recruitment and training processes.

And by including a question about ethics in our annual employee opinion survey, we hope to be able to draw conclusions about the culture of integrity at Volkswagen and identify when there is a concrete need for action to address a specific issue

## MONITORING & REPORTING

Regular monitoring of the measures defined in each action area helps us to fine-tune and readjust our integrity program. Our own reporting on the effectiveness of measures that have been implemented also plays an important role.

## INTERNATIONALIZATION

Since October 2016, the Group integrity management function has been working closely with the brands and companies to plan, formulate and roll out the successive expansion of the integrity program. The employees responsible for governance, risk and compliance within the brands and companies are playing an important role in this process.



# Compliance

In the long term, a company can only be successful if it acts with integrity, complies with statutory provisions worldwide and stands by its voluntary undertakings and ethical principles, even when this is the harder choice.

We remain committed to this principle – especially in light of the misconduct uncovered in the 2015 fiscal year, which runs contrary to all of the values that Volkswagen stands for. Compliance must be second nature to all Group employees.

By raising awareness and educating employees, Volkswagen aims to prevent potential breaches before they occur. Nevertheless, we are aware that even the best compliance management system can never entirely prevent criminal actions by individuals.

The principles set down in the *Volkswagen Group's Code of Conduct* are of essential importance here. These guidelines have been communicated and can be accessed by all Group employees via the Volkswagen portal, and on the web pages of the Volkswagen Group.

The Group's Internal Audit, Security, Personnel Management and Legal departments are responsible for investigative measures and responses.

Since January 2016, the Group Chief Compliance Officer has reported directly to the Board Member for Integrity and Legal Affairs. The Group Chief Compliance Officer is supported in his work by 14 Chief Compliance Officers (responsible for the brands, Volkswagen Financial Services and Porsche Holding GmbH in Salzburg, Austria), who are in turn assisted by Compliance Officers in the Group companies. The compliance organization is networked together by various arrangements, including regional workshops. One networking event held in the organization in the reporting year was a major Governance, Risk & Compliance (GRC) Global Conference in Berlin. It was attended by some 300 employees from 30 nations and all Group brands, who shared their ideas in workshops and presentations focusing on current and upcoming issues in compliance and risk management.

Various bodies support the work of the compliance organization at Group and brand company level. These include the Compliance Board at senior management level and the core Compliance team, which pools Group expertise in compliance issues.

In 2016, the CEO of Volkswagen AG, Matthias Müller, made the following statement at a management meeting in Wolfsburg

“We want to make integrity the fundamental bedrock of everything we do across the entire Group. With this aim, we will redouble our Group-wide efforts to comply with regulations and legislation.” He continued: “Compliance is not a job for a single individual or department. It is something that as managers, we must all treat as an integral part of our responsibilities.”

## COMPLIANCE AT VOLKSWAGEN

Volkswagen applies a holistic approach to compliance which integrates its compliance management system (CMS), risk management system (RMS) and internal control system (ICS). One way to identify and assess potential compliance risks is to use a standard process that is now in place across the Group. Thanks to this process for cataloging systemic risks, in the reporting year more than 2,400 assessments of potential compliance risks and the relevant

remedial measures were reported by more than 100 units; more than 500 tests were staged within Group companies to evaluate the effectiveness of these measures. Based on the findings of such tests, preventive measures are drawn up and the appropriate compliance programs defined. During the selection process for new production locations, Group Production assesses the sites with a view to identifying potential corruption risks, among others.

## COMPLIANCE MEASURES

In response to the diesel crisis, we have developed activities targeting improved product compliance in the development and production process, as well as in quality assurance. Furthermore, development processes have been designed in such a way that even an attempt to circumvent mandatory regulations is easier to identify and prevent at an early stage. In this context, we have further strengthened conformity assessments for our products, among other things.

What is more, in the reporting period we expanded the range of services for providing our employees with advice and support, extending our advisory services and our range of online tutorials. We also published a new information guide for our staff on how to prevent money laundering.

The structure and procedures of the Volkswagen Group whistleblowing system have been completely reorganized. A guideline issued by the Group's Board of Management sets out clear protections for both information providers and those under investigation. As of 2017, the Board Member for Integrity and Legal Affairs is responsible for the process of recording and analyzing the information reported by whistleblowers. As before, Group Internal Audit and Group Security are responsible for investigations.



## PREVENTION THROUGH INFORMATION

To raise awareness of the importance of compliance, since 2010 all new employment contracts entered into between Volkswagen AG on the one part, and both management staff and employees covered by collective agreements on the other, have included a reference to the Code of Conduct plus the obligation to comply with it. Completion of the online training module on the Code of Conduct is mandatory for all new employees. Since 2014, compliance with the Code of Conduct has been a factor in calculating employees' variable, performance-related pay component.

By means of appropriate preventive measures integrated in our existing management system, we foster compliance with the rules within our organization and sharpen our employees' awareness. However, we are also aware that the risk of individual misconduct can never be completely eliminated. To raise employee awareness of compliance-related issues, we use both traditional communication channels such as employee magazines and information stands, and electronic media such as intranet portals, apps, blogs, audio-podcasts and online newsletters and guidelines. For example, our [Anti-Corruption Guidelines](#) are available worldwide to all employees,

business partners and members of our governance bodies on the Volkswagen portal as well as the Internet.

Business partners of the Volkswagen Group are subject to a Business Partner Check, a risk-oriented assessment of their integrity. With the aid of the "Volkswagen Group requirements regarding sustainability in its relationships with business partners" ([Code of Conduct for business partners](#)), we raise supplier awareness of issues such as human rights.

In 2016, around 187,000 employees across the Group took part in more than 6,000 classroom and e-learning courses on the topics of compliance in general, as well as money laundering, the Code of Conduct, competition and antitrust legislation, human rights and combating corruption. Online e-learning programs and classroom training courses are firmly anchored in existing corporate processes. Employees of Volkswagen AG, all brand companies and a large number of Group companies are able to obtain personal advice about compliance issues by contacting the compliance organization via a dedicated e-mail address.

## E-Learning program and classroom training courses\*

	2016	2015
<b>Classroom training courses</b>		
Code of Conduct	27,631	21,067
Combating corruption	22,652	26,189
Competition and antitrust law	16,021	11,592
Preventing money laundering	4,608	5,348
Human rights	4,875	4,043
Other compliance topics	27,924	32,874
<b>Total participants</b>	<b>103,711</b>	<b>101,113</b>
<b>E-learning programs</b>		
Code of Conduct / human rights	36,047	27,390
Combating corruption	25,563	33,292
Competition and antitrust law	9,171	16,891
Preventing money laundering	13,234	13,951
<b>Total participants</b>	<b>84,015</b>	<b>91,524</b>

\* On the subject of human rights, more than 4,500 employees worldwide received more than 90 hours of training distributed across 240 classroom training courses. In addition, employees can learn more about this topic using our e-learning programs. Human rights issues are also a key part of the Group-wide "Minimum standards for security" used by the Group Security organization.

Across all regions, 6,049 managers participated in classroom training and e-learning courses on combating corruption.

### CHECKS, AUDITS AND SANCTIONS

Group Internal Audit regularly and systematically reviews processes within the Company, using approaches such as the internationally recognized COSO Enterprise Risk Management framework. It also carries out random checks irrespective of any suspicion of non-compliance and investigates whenever actual breaches are suspected. The worldwide ombudsman system in place since 2006 can be used to confidentially report corruption, fraudulent activities or other serious irregularities (such as human rights violations or ethical misconduct) in 11 different languages to two external lawyers appointed by the Group. Naturally, the people providing the information need not fear being punished by the Company for doing so.

As of December 2014, there is also the option of using an additional online channel to communicate with the ombudsmen. A technically secure digital mailbox allows suspected breaches to be reported – anonymously, if so desired. After checking them for plausibility, in 2016 the ombudsmen passed on 125 reports to the Volkswagen Group's Anti-Corruption Officer, the Head of Group Internal Audit; the identities of the individuals providing the information were kept confidential if requested. In addition, information on a further 110 cases was given directly to the Anti-Corruption Officer. During local internal audits of the brands and Group companies, 481 reports were submitted to the Anti-Corruption Officer.

All such reports are followed up. For all breaches of the law and violations of internal regulations, necessary sanctions are first reviewed and then applied where necessary. In 2016, action was taken against a total of 121 employees across the Volkswagen Group as a result of the findings of investigations based on information received as described above. In 53 of these cases worldwide, the employee's contract was terminated. Moreover, in the reporting year, following special audits that were based on information received, ten contracts with business partners were terminated or not renewed due to non-compliance with contractual conditions for avoiding corruption.

A risk-oriented assessment of the Group's core business processes provides the basis for the auditing program of Group Internal Audit, the China region, and the eight other Group Audit departments operated by brands with local audit functions. The business processes of all Volkswagen Group companies are systematically classified in terms of risks which, in the auditors' view, are relevant to the audit. The issues with the highest risk levels are incorporated into the auditing programs. In 2016, a total of 1,274 audits were conducted across the Volkswagen Group worldwide. Among other things, these audits examine internal control mechanisms for the prevention of corruption (dual-control principle, segregation of functions), the existence of compliance guidelines and preventive measures.

Another aspect of the audit function is advising the Volkswagen Group's specialist departments. In particular, this advisory activity helps to define processes, ensure they are designed in compliance with internal standards, and that they can be applied worldwide. In addition, a Continuous Auditing System has been installed. This function is responsible for, among other things, using structured analysis of data in the financial systems to boost the effectiveness of the Internal Control System (ICS). The continuous auditing procedures help to identify specific weak points in the ICS more rapidly and so avoid losses.

In accordance with the normative standards issued by the German Institute for Internal Auditing (DIIR), internal audit functions should be audited externally at least once every five years. An external

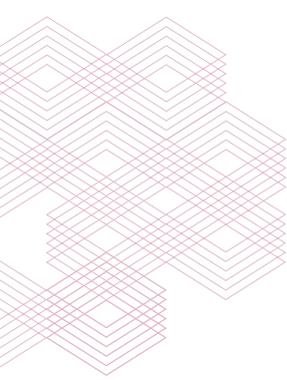
quality assessment of the Volkswagen Group's internal audit system was carried out by an audit firm in the period between the third quarter of 2014 and the first quarter of 2015. In addition to central management and supervisory processes, this took into consideration the quality of the brands' and regions' internal audit functions (sample size: Volkswagen AG, AUDI AG, SEAT S.A., Volkswagen de Mexico, Volkswagen Group China). The audit firm confirmed that all the internal audit units examined are fully compliant with the underlying DIIR Standard No. 3 "Quality management in the internal audit activity" and in many areas, use leading internal audit methodologies and practices. In 2016, the internal quality management function also saw further development, and a continuous improvement process was initiated under the auspices of Group Internal Audit.

## Ratings and Indices

Because analysts and investors view corporate social responsibility (CSR) and sustainability as key indicators of forward-looking corporate governance, their recommendations and decisions are increasingly based on factors that include companies' CSR and sustainability profiles. They look to sustainability ratings in particular to evaluate a company's performance in terms of environmental compatibility, social responsibility and economy. Achieving top marks in these ratings not only sends a clear signal to stakeholders,

but also helps make a company more attractive as an employer and boosts the motivation of its employees.

Before the emissions issue, Volkswagen held leading positions in sustainability rankings and indices such as the Dow Jones Sustainability Indices, the CDP Carbon Disclosure Project, Sustainalytics and oekom research. However, Volkswagen has now been downgraded or removed from these ratings.



# People

## Shaping Change

Across its 12 brands, the Volkswagen Group aims to be an attractive employer and a good partner for society. Reliability, trustworthiness and fairness are our watchwords – no matter whether we are talking to individual employees, negotiating with collective representative bodies, collaborating with regional partners in local infrastructure development projects, or cooperating with civil society initiatives and associations.

Our human resources strategy seeks to ensure that the Group and our workforce are well placed to adapt to the ever more rapidly evolving challenges of the networked digital world. The in-service training we offer enables our employees to keep their knowledge and skills up to date, while individual health programs boost their fitness and performance levels. Our newly introduced Diversity Policy is helping to promote culture change and equal opportunities. And through our involvement in numerous social projects around the globe, we are ensuring our company is firmly anchored in local communities.

As a global enterprise with 120 production sites across Europe, the Americas, Asia and Africa, we have wide-ranging experience of cultural differences, approaches and world views. Our company is committed to respect, tolerance and openness, and we ensure equal opportunities and equal treatment for all our employees around the world. We also engage with stakeholders in numerous ways to promote the sustainable development of the towns, cities and regions in which we operate.

# Management Approach

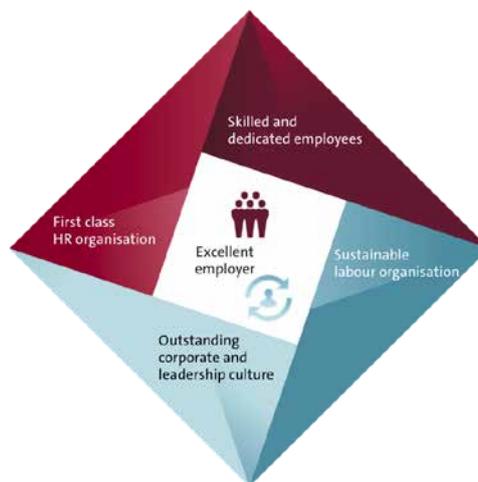
For 70 years now, industrial relations at Volkswagen have been guided by a social pact that enables employees and their elected representatives to exercise their long-established and extensive rights to have a say in the running of the company. From this a unique model for the cooperative resolution of disagreements between the social partners has evolved. In its human resources policies, Volkswagen explicitly realizes the potential of this model with its focus on conciliation, consensus and continuity in order to

- appropriately remunerate good performance,
- benefit from the careful selection and long-term service of employees to maximize upskilling,
- capitalize on workers' consultation rights to help drive continuous improvement processes, and
- systematically harness the team spirit of our workforce to achieve our strategic goals.

This approach is founded on our conviction that sustainably excellent performance is only possible if the company is seen to be an attractive employer which, as well as providing a safe workplace where the latest tools are used, offers employees stimulating work, optimally supports them as individuals and is well integrated in society.

On launching its TOGETHER 2025 strategy in October 2016, the Volkswagen Group also approved a new "We empower to perform" human resources strategy with five overarching objectives for personnel management:

- The Volkswagen Group aims to be an excellent employer across all its brands and companies worldwide.
- Highly skilled, dedicated employees strive for excellence in terms of innovation, added value and customer focus.
- Sustainable work practices ensure optimal working conditions in factories and offices.
- An exemplary corporate culture creates a work climate characterized by openness, mutual trust and cooperation.
- While striving for operational excellence and strategic added value, personnel management within the Group is strongly focused on employees.



## THE FIVE OBJECTIVES OF THE "WE EMPOWER TO PERFORM" STRATEGY

With its new "We empower to perform" strategy, the Volkswagen Group is continuing to pursue the successful key tenets of its human resources policy. As well as seeking to appropriately balance performance and remuneration, these include its strong stakeholder focus, comprehensive employee participation rights, excellent training opportunities and systematic retention programs. The new human resources strategy is also setting innovative new trends: modern forms of work such as agile working – where managers and team members work together to increase the efficiency with which all tasks are performed – are set to be expanded on many fronts, while

collaborative robots will take on heavy lifting work in factories in the future and digital processes will simplify many administrative tasks.

By 2020, the Volkswagen Group will roll out a diversity management system, not only to ensure that men and women are treated equally, but also to prevent other forms of discrimination – against people with performance impairments, for example – and to support the development of each individual employee in accordance with their own particular abilities. In addition, culture change initiatives are already underway to establish flatter hierarchies, a more open form

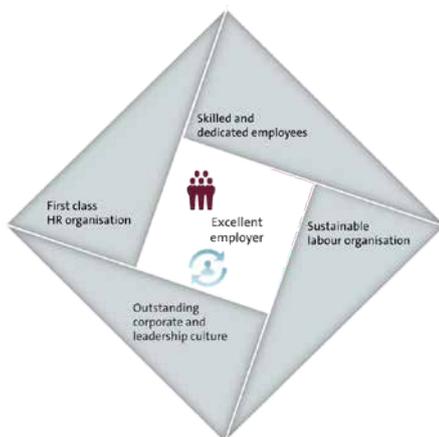
of collaboration and a greater focus on the big picture within the Company's divisions. To benefit both the Group and its employees, working times and locations are also set to become more flexible. More weight will be attached to social sustainability and it will be systematically incorporated into our human resources strategy: in the future, personnel management will more quickly and consistently reflect social and cultural megatrends, such as employees' aspirations to participate in decision-making for instance. The traditional focus of personnel management – such as providing optimal support and training opportunities for employees along with the careful planning and deployment of human resources – will also continue to apply.

We have developed our “We empower to perform” strategy against the backdrop of a rapidly changing situation in the automotive

industry, where we are seeing the automobile world undergoing the greatest period of disruption in its history. Our human resources strategy is designed to help the Volkswagen Group become a global leader in mobility on a long-term profitable and sustainable basis. At the core of this strategy is our mission to be an excellent employer. In setting ourselves this strategic objective, we are expressly underscoring our intention to remain, well into the future, an outstanding employer whose skilled and high-performing workforce is at the forefront of the automotive value chain.

A first-rate team of this kind does not just come about by accident, however. It is the product of extensive investment and carefully developed concepts for training, upskilling, employee support and – last but by no means least – maintaining and improving health and fitness.

## Strategic Objective: Excellent Employer



Seeking to be an attractive employer is not an end in itself. We will only be able to sustain the enduring commitment and motivation of our employees if we keep the promises we have made about the working conditions in our company. And only if we can make these promises visible, credible and transparent to the outside world will we be perceived as attractive in an increasingly competitive talent market and consequently be able to attract the best people to the company.

The “We empower to perform” strategy fuses these two perspectives by seamlessly integrating our consistent promise as an employer with the employee experience, i.e. how our quality as an employer is actually experienced on a day-to-day basis.

We may not always succeed in uniting these different perspectives in everyday life, but we are evidently succeeding more and more often – despite the diesel crisis, in 2016 we received a number of awards for being an attractive employer and topped various employer rankings. For instance, the Volkswagen Group ranked third among engineering, IT and business graduates in the trendence institute's survey of the most attractive employers in Europe. And, as in the previous year, trendence's poll of over 300,000 engineering, IT and business graduates from a total of 24 European countries voted the Volkswagen Group the most popular employer in the automotive sector.

In 2016, trendence's Young Professionals Barometer, which measures the career aspirations and expectations of some 10,000 young professionals with up to eight years' work experience from across all sectors, ranked our Audi brand third and our sports car maker Porsche sixth. In the wake of the diesel scandal, the Volkswagen brand saw a drop in its popularity from 16th to 31st. In a similar survey carried out by the Universum market research institute in which experienced engineers were asked to state their ideal employer, Audi took second place while Porsche came third. The Volkswagen brand ranked seventh.

Among Czech graduates, trendence found ŠKODA Auto to be the most popular employer. In a number of other countries, including the United Kingdom, Spain, Mexico, South Africa and China, Volkswagen and its 12 brands rank among the most respected employers.

Alongside the external impression that graduates and young professionals have of us, there is of course also an internal perspective – how our own employees view their workplace and working environment. Personnel management at the Volkswagen Group is therefore endeavoring to create conditions at all levels that will deliver a positive experience of Volkswagen as an employer. Along with providing interesting jobs and attractive working conditions, our guiding principles are designed to underline the status of employees as confident, entrepreneurial, creative people who are involved

in decision-making. In particular, we would like to highlight three aspects

- the codification of Group-wide employment rights in guidelines and charters
- the involvement of employees through their elected representatives
- the entitlement of our workforce to a share in profits.

## EMPLOYMENT RIGHTS IN THE VOLKSWAGEN GROUP

The foundations underpinning the provision of attractive, long-term working conditions are a raft of charters and declarations agreed with our Group European Works Council (GEWC) and Global Group Works Council (GGWC) which govern the collective rights of our employees in the workplace and the organization of their work. These include:

- **The Declaration on Social Rights and Industrial Relations at Volkswagen (the Volkswagen Social Charter).** Volkswagen set out the fundamental social rights of employees in this declaration in 2002. These are based on the relevant conventions of the International Labour Organization. A revised version of the Social Charter was signed in 2012.
- **The Charter on Labor Relations.** This charter came into force in autumn 2009 and combines greater rights to consultation with shared responsibilities. It defines the rights to information, consultation and co-determination enjoyed by employee representatives from brands, companies and sites represented on the GEWC and the GGWC.

- **The Charter on Temporary Work.** In November 2012, Volkswagen's executive management, the GEWC and GGWC signed a charter setting out the principles governing temporary work. These included, for example, a guide ratio of temporary employees to core workforce, stipulations on equal pay, equal treatment and qualification programs, plus a time limit of 36 months before the offer of a permanent position must be considered.

- **The Charter on Vocational Education and Training.** As well as a high standard of education, the Group is seeking to offer attractive training opportunities at its various locations. Approved in 2015, this charter recognizes vocational training as a core aspect of labor relations. To comply with the charter, the social partners must jointly define certain aspects such as the trainee selection process, the duration and quality of vocational training, plus the conditions for subsequently hiring trainees following an apprenticeship.

These policy foundations underpin the rights of elected employee representatives at the Group level in the European and Global Works Councils. They provide a binding framework for developing existing local labor relations in a responsible manner using cooperative conflict resolution approaches.

## EMPLOYEE PARTICIPATION THROUGH ELECTED REPRESENTATIVES AND COLLECTIVE BARGAINING

Volkswagen has an internationally recognized culture of co-determination. At many sites, employees are represented in two ways: firstly, by a trade union, and secondly, by representatives elected to a works council. Many companies in the Group also have a supervisory board on which the workforce is represented. The International Charter on Labor Relations allows employee representatives around the world to conclude agreements with local management on specific rights to information, consultation and co-determination.

This widespread form of participation has proved highly successful over many decades. When major changes are expected, such as in the case of the pact negotiated in 2016 regarding the future of the Volkswagen brand for example, employee representatives are involved in the planning process from an early stage. This ensures that such processes of change are tackled jointly and have the support of all employees. These co-determination structures are by no means static, however. Our international employee representative bodies

are constantly being adapted in line with the ongoing development of the Group. In addition to the Group European Works Council and the Group Global Works Council (set up in 1990 and 1999 respectively), in recent years a number of committees have also been established to reflect the increasing complexity of the Group (such as committees specifically concerned with commercial vehicles, financial services and sales companies, mechanical engineering and so forth). In 2016, the decision was taken to set up a separate committee for the Volkswagen brand itself, due to start work in 2017. The committees of the European Works Council and the Global Works Council meet at least once a year. In addition, all members of these two works councils attend a joint session every year. As well as exchanging information internally and discussing the current situation at the various sites, the respective HR managers and Group executive management also share information about future product and workforce plans and consult each other on social welfare and personnel standards.

## REMUNERATION, REWARDING PERFORMANCE, PROFIT-SHARING AND RETIREMENT PROVISION

As stated in our Social Charter, all remuneration and benefits paid for a normal working week should at the very least correspond to the respective statutory minimums – and this applies not only to our employees, but to all our suppliers too. Because they are collectively agreed with trade unions, however, nearly everywhere our rates of pay are considerably higher than the prevailing minimum levels. When setting pay, we make no gender distinctions: people are recruited, hired and promoted solely on the basis of their qualifications and skills. Remuneration is based strictly on the job performed.

A total of nine new collective agreements were concluded at international car production plants in 2016. In some cases, these involved industrial action: strikes were held at Lamborghini, Ducati and Italdesign during national pay negotiations within the Italian metalworking and electrical engineering industry. There was also a stoppage at Scania in São Bernardo do Campo, Brazil during collective bargaining talks. Group sites in Brazil and Belgium were affected by politically motivated strikes. A regional strike against planned cost-cutting measures and government reforms triggered a one-day strike at Volkswagen do Brasil's Anchieta plant. Workers at Audi's factory in Brussels also took part in protests as part of national strike action against actual and planned government cutbacks and reforms. As a company, we respect the right of our employees to take part in lawful strikes.

Together with remuneration packages that include a profit-related element so employees can share in the company's success, the systematic encouragement and rewarding of good performance are key qualities of an excellent employer. Since 2010, Volkswagen AG has consistently applied standard criteria for skills development and performance assessment across its entire workforce, from apprentices to top managers, which are underpinned by concrete incentive programs within the pay structure.

Salaried employees at Volkswagen AG are paid according to a three-tier system:

- basic pay in the form of a competitive monthly salary,
- a performance-related component which additionally rewards individual performance and

- an entitlement to profit-sharing, which is laid down in the collective agreement.

This three-tier system has proved to be an expedient way of enabling employees to share in the company's success.

Employees of Group companies in Germany and around the world also enjoy further company benefits.

Along with an attractive remuneration package for our active employees, we are also concerned to make provision for those embarking on the next stage of their life. By offering occupational pension schemes, Volkswagen AG, its brands and subsidiaries make an important contribution to ensuring that retirees still have an income in later life. In addition to employer contributions, employees can convert part of their pre-tax salary into pension contributions. They can also opt to defer a further proportion of their compensation in the form of a direct retirement insurance contract.

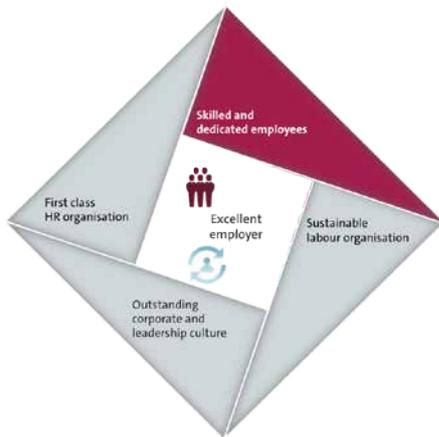
Volkswagen AG's Time Asset Bond is a scheme for reducing the length of an employee's working life. Since 1998, employees have had the option to contribute to the bond out of their gross pay and working time credits. They can then use the time assets accumulated to take paid time off in the run-up to retirement. Such benefits also help boost our attractiveness as an employer in the long term.

Depending on location, benefits may also include subsidized transport and meals, low-cost accommodation, monthly childcare allowances and discounts on selected leisure activities. Additional healthcare or supplementary pension benefits round off the range of company benefits offered.

The extensive social rights enjoyed by employees, strong workforce representation, participation in decision-making processes, performance-related remuneration and good retirement provision form the building blocks of our attractiveness as an employer, which together constitute the bedrock of our human resources policy. These aspects are further augmented by numerous initiatives, agreements and programs which aim to develop our workforce and create versatile first-rate teams.



# Strategic Objective: Skilled and Committed Employees



The second goal of our human resources strategy is to cultivate skilled and committed employees. For us, commitment means first and foremost actively participating and helping to add value, using one's initiative, but also taking change in one's stride and personally initiating process improvements. It also means seeing the bigger picture and taking an interest in the environment or events and developments in society at large.

## ON-THE-JOB COMMITMENT

We like to see our employees tackling their work enthusiastically, showing commitment and team spirit while contributing their expertise. In return, we invest in our workforce, foster a good working atmosphere and offer attractive opportunities for career development. As well as listening to their opinions and constructive criticism, this includes actively involving employees in improving processes and assuring quality. One tool used for this purpose throughout the Group is our Employee Opinion Survey . We use this standardized Group-wide employee survey to obtain regular feedback on employee satisfaction, and by extension on the extent to which we have fulfilled our goal of being an attractive employer. The survey also helps to systematically identify scope for improvement and pinpoint the areas where managers need to take action within their organizational units. In 2016, we revised the Employee Opinion Survey to include additional questions and new tools to help line managers discuss the results with employees. The 2016 survey was conducted at 172 sites and companies in 45 countries. Approximately 440,000 of over 540,000 employees in the participating Group companies responded; this is equivalent to a response rate of 81%. In 2016, the score on the employee satisfaction index – a key indicator generated by the opinion survey – was 78 out of 100.

We also rely on participation to make ongoing improvements to our production systems. All the Group's vehicle brands use standardized production systems which are continually developed with input from employees. On the basis of four company agreements on the "Volkswagen Way", the Volkswagen brand workforce has been involved in improving organizational efficiency since 2007. This has been done using a variety of tools and methods designed to contin-

uously improve processes and structures in the areas of productivity, quality, ergonomics, leadership and teamwork. Using "train the trainer" methods, the Group and brands are gradually bringing all their plants up to speed. A trainer from the Group provides support to participants during the initial stages of this pilot. By training jointly, group and team leaders gain a greater understanding of each other's roles while everyone attains the same level of knowledge.

This is not just limited to our plants in Germany. In 2016, for instance, a new tool was trialed by our CIP team in the Group production system at SEAT Componentes at El Prat in Spain. The CIP team focuses on eliminating waste in processes. Everything takes place on the shop floor, from organizing workstations and standardizing workflows through to detecting non-conformances and resolving problems. A wide range of the Group's production system methodology modules are used as part of the CIP team's feedback loop.

Our ideas management program is another important tool for encouraging employee engagement. This program enables employees to bring their creativity, knowledge and initiative to bear and take responsibility for improving both processes and products. Over 580,000 ideas were submitted in 2016, saving the company approximately €435 million. Ideas management is an important leadership and motivational tool for plant supervisors and managers. It also contributes to improving health and safety in the Volkswagen workplace and helps us reach our targets for reducing energy and water consumption, waste, solvents and CO<sub>2</sub> emissions.

## Ideas Management in the Volkswagen Group\*

	2016	2015
Ideas suggested	583,017	536,081
Suggestions implemented	482,453	360,454
Savings (€million)	435.6	374.9
Bonuses (€million)	40.0	38.7

\* 46 participating production plants, results according to respective local agreements.

### COMMITMENT TO SOCIETY

Volkswagen can look back on a long tradition of engagement with society, not least at international level. As well as supporting local development, educational and social welfare projects at numerous sites, in many regions we act as an economic driver, helping to strengthen education, culture and civil society, as well as promote sustainable development in the form of infrastructure development.

Over the reporting year, we were involved in around 200 projects around the globe designed to enhance economic and social structures. We also provide emergency assistance on an ad-hoc basis, following natural disasters for example. With our commitment to these causes and the partnerships into which we enter with local political and civil society stakeholders, we underscore the importance of the United Nations' Sustainable Development Goals in our daily operations.

One example of corporate regional responsibility in practice is Wolfsburg AG, a public-private partnership between Volkswagen AG and the city of Wolfsburg. As well as supporting start-ups and businesses seeking to relocate to this city where the Group is headquartered, the organization works with numerous partners to jointly create knowledge networks and provide funding for academic and community facilities. The main focus is on education, energy, health, recreation and, of course, mobility – traditionally one of Wolfsburg's strongest areas of expertise. In cooperation with the regional development organization Allianz für die Region GmbH, Wolfsburg AG is devising forward-looking solutions for improving job prospects and quality of life across the whole of southeastern Lower Saxony.

Charitable donations constitute a further cornerstone of the Group's long-term engagement with society. We support a wide range of social initiatives and charitable projects around the world. The principles governing donations and sponsorships are set out in our Group-wide Code of Conduct, which stipulates we may give donations in cash and in kind to support activities and projects primarily devoted to research and education, culture, sports and social causes. Donations may only be given to recognized non-profit organizations or ones specifically endorsed to receive donations. Volkswagen does not donate to political parties, party-affiliated foundations or individual politicians. In the reporting period, Volkswagen AG made donations amounting to €33.2 million.

Added to this amount are the donations made by our employees, which go to help support people in need in the vicinity of Volkswagen AG's various locations. In 2016, Wolfsburg employees alone donated

more than €450,000. One beneficiary, for example, was the local "Wolfsburger für Wolfsburg" non-profit association. Among other things, the association funds nature experience days for children and adolescents receiving treatment on the "Rainbow" psychosomatic ward of the Wolfsburg pediatrics clinic.

In the "One Hour for the Future" campaign, Volkswagen and Audi employees donate one hour's pay to help street children, raising substantial amounts for those in need. Since the summer of 2003, this initiative has also included the collection of "spare cents", where Volkswagen AG employees in Germany and abroad donate the odd cents on their monthly pay slips to this campaign as well. The funds raised are used to support a total of 140 projects in seven countries around the world.

Another workforce initiative led to the sale of sustainably produced fair-trade products in the company's cafes and restaurants, where the sale of products bearing the Fairtrade seal has been promoted since 1999. Through this commitment, Volkswagen is helping producers in developing countries establish socially sustainable businesses. In 2016, our annual consumption of fairly traded coffee rose by 30% to 103 t, and a fairly traded orange juice was added to the menu. Since 2014, three varieties of fairly traded rice have also been served in Volkswagen eateries.

The Volkswagen Employees' Foundation, established in 2011, is playing an increasingly significant role in terms of our social engagement. This charitable foundation aims to support youth outreach as well as education and vocational training at all levels, with a particular emphasis on improving the living conditions of children and adolescents, irrespective of their origin, background or religion. The Foundation focuses its activities on the neighborhoods of Group sites worldwide, implementing projects in partnership with children's charity terre des hommes. Since 2011, the Volkswagen Employees' Foundation has launched or supported more than 20 projects in Germany and elsewhere. For instance, the Foundation contributed to the construction of the children's refuge in Neindorf near Wolfsburg and the conversion of the "Alte Schule" annex into a versatile learning and activity center. This center assists with the holistic care of children in need of psychomotricity and experiential learning support. The Foundation's partner for this project is the Diaconate of Wolfsburg, which runs the only children's refuge within a 100-km radius. The Volkswagen Employees' Foundation also supports two projects run by the city of Wolfsburg which aim to help refugees integrate into society. Both

projects target child refugees and young adults aged between 11 and 22. The “Alphabetisierungsgruppen” literacy project offers language learning courses with parental involvement. The city of Wolfsburg runs “Step by Step”, a three-month intensive integration program for refugee children designed to make it easier for them to integrate into mainstream education in Germany.

Alongside these projects, which are directly supported by Volkswagen or the Volkswagen Works Council, we also encourage our employees to volunteer for local causes in their free time. To coordinate and provide targeted support for volunteering activities, the “Volkswagen pro Ehrenamt” initiative (Volkswagen Supports Volunteering) is an integral part of personnel management. Employees who wish to do voluntary work can contact the volunteering office, who then use

## SYSTEMATIC SKILLS DEVELOPMENT

As well as commitment, we place an equally strong emphasis on developing employees’ skills. Volkswagen has a highly sophisticated education and training system which enjoys close ties with public educational establishments such as vocational schools and universities all over the world. At Volkswagen, enabling employees to acquire further qualifications is organized around occupational families (“Berufsfamilien”). Employees who require similar skills to perform their jobs and who possess the associated competencies are said to belong to an occupational family. The general and technical competencies required for each specific activity are defined in skills profiles. Employees are offered a wide range of opportunities to gain further qualifications, allowing them to continually update their skills and deepen their knowledge throughout their working lives.

## DUAL MODEL OF VOCATIONAL EDUCATION AND TRAINING

The dual model of vocational education and training, where theory and practice are closely intertwined, creates the foundations for acquiring the advanced skills, high quality standards and excellent performance that the Volkswagen Group demands. Here, too, the content of the training is very much geared to the skills required in the various occupational families. Volkswagen has rolled out this dual model at many of its locations outside Germany as well, and is continuing to embed the model as the core framework for acquiring skilled worker qualifications. For instance, in 2016 a group of apprentices at Volkswagen do Brasil were the first intake to graduate as mechatronics engineers by passing an examination set by the German Chamber of Commerce and Industry. When planning new plants, dual vocational training is taken into account from the outset. Accordingly, more than three-quarters of all trainees in the Group learn their trade through the dual system.

As at the end of 2016, the Volkswagen Group had trained 19,490 young people in some 60 recognized occupations on 50 dual-study courses. We also support the career development of new entrants once they have completed their apprenticeship. Particularly talented young skilled workers are supported through “talent groups”. This two-year

their database to identify a suitable project for them to support in the future. Since 2007, around 2,600 volunteers have been matched to suitable vacancies through this volunteer exchange.

Volkswagen employees who are looking for a new challenge following retirement can register with our in-house “Senior Experts” team. This offers them the opportunity to contribute their expertise regionally or globally either within the company or by volunteering with external organizations. In 2016, around 135 Senior Experts took part in projects of their choosing, putting their specialist knowledge to good use and contributing to a valuable intergenerational exchange of experience. During the reporting year, 28 departments and more than 20 Volkswagen sites worldwide benefited from the program.

In the process, they also learn from more experienced colleagues who act as experts and pass on their know-how in our occupational family academies.

We are systematically expanding our network of academies for occupational families. During the reporting period, the Governance Academy was established, along with the Academy of Technical Development, as stipulated in the pact for the future agreed with the Works Council. Employees in the new model line organization will be served by the existing Product Academy. From 2017 onward, irrespective of brand or where an employee is based, skills development and training for all occupational families at Volkswagen will be delivered by one of the 15 academies.

training and development program recruits the best 10% of apprentices from each year’s intake at Volkswagen AG and Volkswagen Sachsen GmbH in Zwickau. 102 skilled workers joined the program during the reporting year, taking the total to 851 young men and women since the initiative was launched in 2008.

On completion of an apprenticeship, the “Wanderjahre” (year abroad) program offers young people the opportunity to spend 12 months working for a Group company abroad. During the year under review, 15 Volkswagen Group sites in 13 countries took part in this development program, including – for the first time – Volkswagen Truck & Bus as well as MAN Truck & Bus Germany. In 2016, 33 participants from Germany plus nine from four other countries began their year abroad within the Volkswagen Group.

Once a year, Volkswagen honors its highest-achieving trainees across the Group with the “Best Apprentice Award”. In 2016, nine young women and 36 young men from a total of 43 Group locations received this award for their outstanding performance and technical expertise.

## CAREER DEVELOPMENT FOR GRADUATES

Volkswagen recruits and fosters academic talent through two programs: the Student Talent Bank and the Academic Talent Pool. Student Talent Bank fosters high-achieving students in both work-related and interdisciplinary areas. The aim here is to encourage former interns to join the company and give them the best possible preparation for embarking on a career at Volkswagen. Shortly before they complete their degree or doctorate, students showing high potential are transferred into the Academic Talent Pool. This program enables talented young students who have already demonstrated their abilities through an internship, dissertation or PhD at Volkswagen to raise their profile within the company, boosting their chances of starting a career in their chosen specialist field.

Volkswagen also offers two structured entry and development programs for university graduates and young professionals. In addition to working in their own field, trainees in the StartUp Direct program attend additional training courses and obtain a good overview of the company over a two-year period. University graduates interested in

working internationally can take part in the 18-month StartUp Cross program. This enables them to get to know Volkswagen as a whole and start to network extensively. Through postings in a variety of specialist areas during this period, participants get to know the Volkswagen Passenger Cars brand and gain experience at its various sites at home and abroad. Both programs also require trainees to spend several weeks in production. Volkswagen took on 114 trainees under the two programs in 2016, of whom around 26% were women.

Trainee programs are also offered at international Group locations such as at ŠKODA in Czechia and Scania in Sweden. In addition, since 2012 the Volkswagen Group's StartUp Europe trainee program has offered young engineers from southern Europe – where unemployment continues to be a major issue for young academics in particular – an opportunity to gain international work experience. This Volkswagen program is designed to attract university graduates from Italy, Spain and Portugal. Three months at a brand or subsidiary in their home country are followed by 21 months at a Group company in Germany.

## EXTENSIVE TRAINING OPPORTUNITIES FOR SPECIALISTS AND EXECUTIVES

At the Volkswagen Group Academy, skilled specialists can choose from a broad range of advanced training courses – from further training in occupational or cross-disciplinary areas of general interest to the Company, to specific qualifications in the occupational families, through to comprehensive personal development programs. Here, too, the focus is on the dual-study model which combines theory with practical experience. Overall, around 106,000 qualification activities totaling 13.3 million hours of training were completed

across the Group in 2016. Over 590 training courses and programs were newly developed for the Volkswagen brand alone.

We have standardized many of the development programs and selection procedures for executives, managers and group leaders across the Group. During the reporting year, the Volkswagen Group Academy ran some 615 training programs and assessment centers for executives, managers and group leaders in 15 countries.

## ACADEMIC SKILLS DEVELOPMENT

As part of the Volkswagen Group Academy, AutoUni employs top in-house experts and collaborates with higher-education institutions to furnish the company with leading-edge knowledge for the future. Its programs and collaborative study models use a blended learning format which combines face-to-face classroom teaching with online content, supplemented by lectures and conferences. Subjects covered in 2016 included digital transformation, sustainability, e-mobility, driverless cars, Industry 4.0, and the workplace of the future. Around 9,200 people from 59 locations worldwide took part in over 160 AutoUni events.

AutoUni cooperates with internationally renowned universities, institutes and research centers on numerous research projects, disser-

tations and theses, and offers PhD students in the Group a platform for exchanging ideas and gaining interdisciplinary qualifications. As at the end of 2016, more than 400 PhD students were engaged in researching topics of future interest to Volkswagen's various Group companies in Germany.

In addition, AutoUni facilitates networking between the internal contacts for universities within the Group and keeps track of links to universities around the globe: during the year under review, over 1,700 national and international cooperation agreements with universities, research institutes and universities of applied sciences were in place.

## IMPACT OF DIGITALIZATION ON TRAINING

New technologies can usefully complement traditional modes of learning and skills transfer. As the core training provider for the Group, the Volkswagen Group Academy is consequently incorporating these technologies in various projects. The digitalXperience program is exploring ways of using digital technology to enhance the content and learning formats of dual-track vocational training as part of gearing up for the future. These measures are flanked by systematic skills development among the teaching staff at the Volkswagen Group Academy.

Audi AG is employing tablets as a complementary mobile learning platform for vocational training in Ingolstadt and Neckarsulm as well as in its Brussels and Győr training centers. Trainers are also being instructed in how to work with tablet PCs. In 2016, ŠKODA launched virtual classrooms and online language courses for German and English.

As part of the corporate learning and digital learning initiatives, AutoUni and the Volkswagen Group Academy's Group-wide training networks are also making increased use of digital technology to develop new training programs. At the same time, the Volkswagen Group Academy is setting up an Education Lab designed to create stronger ties with education start-ups and translate the findings of educational research into new technologies. These will then be tested in collaboration with the teaching staff and students at Volkswagen to aid learning and skills transfer.

All these measures are aimed at maintaining and enhancing the high standard of skills and the outstanding expertise of Volkswagen employees all over the world. Above all, we are committed to delivering learning and teaching within the framework of occupational families, by following the dual vocational training model where theory and practice are closely intertwined. Systematic knowledge transfer by in-house experts at all levels and across all brands and specialist fields is another key factor underpinning our success.

## HEALTHCARE AND SOCIAL PROVISION

Our efforts to ensure that our employees have well-developed skills and a high level of commitment address the first two facets of our strategic objective to cultivate "skilled and committed employees". However, alongside a willingness to perform (through participation) and empowerment to perform (through having the right qualifications), there is a third facet, namely capability. This requires our workforce to be physically and mentally capable of coping with the stresses and strains that any form of work involves.

Consequently, we do not simply regard the protection and promotion of our employees' health as a self-evident social obligation and reflection of our corporate culture, but also as an integral part of our human resources strategy. Volkswagen's holistic approach to health management goes well beyond traditional preventive healthcare and occupational safety; it also includes aspects such as work organization, ergonomics, prevention, integration and rehabilitation, along with leadership styles.

As well as complying with Group guidelines on protecting and promoting health, the medical and healthcare services we provide for our employees are in line with the relevant statutory requirements and internal regulations at each site. All sites have at least emergency health provision, while most also offer medical services under the oversight of a physician.

In the context of health, sustainability means ensuring that, ideally, every employee is still healthy when they retire. Protecting and promoting employees' health is a priority for the company, shared by both management and employee representatives. Under the auspices of our TOGETHER 2025 strategy process, we have launched our own Group health initiative. Over the coming years, we will further develop and implement innovative approaches to prevention, workplace health management and ergonomics throughout the Group. The aims of the health initiative are clearly defined: to improve employees' quality of life, reduce stress, avoid chronic illness and consequently also boost performance and reduce absences.

## IMPROVING OCCUPATIONAL SAFETY

Like preventive healthcare and emergency health provision, the continuous improvement of occupational safety is vitally important to us. As long ago as 2004, the Volkswagen Group drew up an occupational safety policy which is binding on all Group companies around the globe. The same standards of work organization, occupational safety and healthcare apply to all our employees worldwide, taking into account local medical infrastructures and the relevant statutory requirements in each case. Group-wide audits are

conducted to ensure compliance with these worldwide standards. For this purpose, in 2010 the Group launched its own occupational safety management system (KAMS). This system is used to analyze the organizational structures and processes for occupational safety at all participating Group companies. The findings are held in a central database with Group-wide access. To improve the sharing of information, in recent years the exchange of reports on serious and fatal accidents within the Group has been harmonized. As a result,

all sites can take specific action to prevent such accidents in the future. Since 2012, Volkswagen in Germany has also been running mandatory occupational safety training modules for all prospective

managers. Similarly, the group leader qualification modules have also been standardized and now form a mandatory part of basic group leader training.

## WORKPLACE ERGONOMICS

The Group continues to attach a high priority to improving workplace ergonomics. Its focus in 2016 was on firmly anchoring ergonomics in the 2025 production strategy, in particular by leveraging ergonomics and synergies across all our brands. A number of projects were implemented in the reporting period:

- Together with Technical Development, Quality Assurance, Planning, Industrial Engineering and Production units, in 2016 a standard process for reducing the effort required to record and analyze force measurements and for designing workstations was developed and agreed.
- The drafting and approval of the Ergonomics White Paper provided the basis for planning workstations in production and logistics, with the aim of reducing the physical strain associated with the high-speed, value-adding production methods geared to matching customer demand.
- In the future, cross-brand guidelines for ergonomic assessments in logistics will enable transparent, reproducible workload analyses for logistical activities.
- At Volkswagen-branded locations – currently as part of a pilot project – a workplace management system is being used to match workplace demands to individual employees' physical capacity. As

a result, employees can be deployed in jobs that optimally reflect their capabilities.

- Since June 2016, humans and robots have been working hand in hand at Volkswagen's Wolfsburg plant, and the first human-robot collaboration (HRC) initiative has now been deployed on the Golf production line. In the drive preassembly section, where individual powertrain components are assembled to produce an engine ready for installation, employees are assisted by a robot. Collaborative robots have already been deployed in other Group plants as well.

At the same time, for several years Volkswagen has been making improvements throughout the product development process with the aim of ensuring that the quality of jobs and the physical demands placed on employees by production processes are taken into consideration from the earliest planning and design stages of new vehicle models.

This involves leveraging both research and practical experience to combine state-of-the-art ergonomic workstations with innovative work processes. "Ergo assistants" on production lines give employees advice and guidance directly at their workstations on how they can optimize workflows from an ergonomic standpoint.



Robots perform tasks that would not be ergonomic for humans

## PREVENTIVE HEALTHCARE

Ergonomics in factories and offices is one side of the occupational health equation; individual preventive measures are the other. The Volkswagen Checkup – a free, comprehensive health screening program for all employees – is now established at all German sites and helps employees stay fit and healthy and maintain their performance. Employees appreciate the high-quality diagnostics and follow-up preventive healthcare and exercise programs.

This checkup has now been rolled out to almost all international sites. Other preventive healthcare programs have been brought into line with Group-wide standards. In many cases, country-specific supplementary examinations, such as HIV and tuberculosis tests, have been added.

## Checkups within the Volkswagen Group<sup>1</sup>

	2016
Volkswagen AG Germany	14,323
Audi, Germany, Belgium, Hungary, Mexico	10,648
MAN Truck & Bus, Germany	1,521
MAN Diesel Turbo, Germany and international	983
ŠKODA	14,297
SEAT	12,425
Automobili Lamborghini	130
Volkswagen, China <sup>2</sup>	44,206
Volkswagen Autoeuropa, Portugal	2,296
Volkswagen Slovakia	2,301
Volkswagen Navarra, Spain	2,552
Volkswagen Group Rus, Russia	3,881
Volkswagen India, India <sup>2</sup>	3,448
Total	113,011

<sup>1</sup> Initial and follow-up Checkups.

<sup>2</sup> Checkups are not wholly in line with the Group standard.

## REHABILITATION MEASURES

At many sites, we offer a tailored rehabilitation program to reintegrate employees following serious or long-term illness, providing specific job-related support at an early stage. The aim is to restore an employee's ability to work within three to at most six months.

At Volkswagen AG, the program may also include specially tailored services, depending on the particular needs in each case. Examples

are "JobReha" which offers one to three weeks of outpatient, day-patient or inpatient treatment, mainly for musculoskeletal problems, and the "RehaFit" program, which focuses on orthopedic or psychological rehabilitation. Other examples include physiotherapy and general or targeted stamina-building exercises at workplace fitness centers. Support and counseling services for employees with mental health or psychosomatic problems are also being steadily expanded.

## SOCIAL PROVISION IN THE WORKPLACE

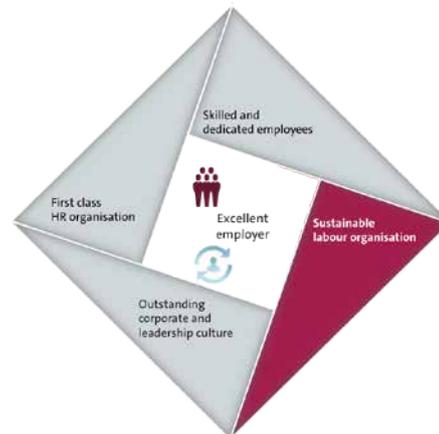
If an employee falls ill, our involvement is not solely limited to providing assistance of a medical nature, however. Volkswagen AG also supplements benefits paid by social insurance providers, for example sick pay, and provides support to relatives of employees who die.

The company also has a collective accident insurance scheme which insures employees for accidents resulting in death or disability. In exceptional circumstances of financial need, Volkswagen AG can also provide employees with short-term loans.

# Strategic Objective: Work Organization Fit for the Future

A job's attractiveness depends first and foremost on the workplace itself. Accordingly, we endeavor to provide an innovative working environment in our plants and offices which allows individuals to fulfill their potential. This includes introducing new approaches such as Scrum and design thinking in knowledge work, as well as innovative practices on the shop floor, for instance by systematically designing technology around the workforce. In addition, we offer working time models tailored to individual workers' requirements and specific programs for employees with special needs, as in these cases in particular, customized forms of work organization can significantly boost performance and job satisfaction levels.

For instance, Volkswagen AG's Work2Work program has been creating new career opportunities for performance-impaired employees since 2001. An employee's current potential is matched to workplace requirements so that despite performance impairments, the individual is nevertheless still able to make a significant contribution to value creation. Almost 2,000 employees have benefited from this program in recent years, and 541 people are currently employed in Work2Work jobs in Wolfsburg across some 100 different activities. In 2016, the proportion of severely disabled people in Volkswagen AG's total workforce came to 7.74%, considerably more than the statutory quota of 5%. The fact that approximately 55% of these severely disabled employees work in production demonstrates that we have plenty of experience in providing special workstations for



people with performance impairments. We are also committed to employees with disabilities in other countries too. For instance, over 200 people with disabilities work in six sheltered workshops at ŠKODA production plants in Czechia. We also support jobs for severely disabled people by awarding contracts to workshops for people with disabilities. Orders worth over €19.5 million were placed in 2016.

## EXPANDING BARRIER-FREE ACCESS

Creating the workplaces of the future also means making them barrier-free. This includes ensuring that all employees, regardless of any impairment, can access and use all buildings, information and communication facilities without assistance. To make it easier for all our employees to find barrier-free parking spaces, cafés, canteens, self-service shops, elevators and first-aid stations in our

plants, we have drawn up an "accessibility map" which is updated on an ongoing basis. We are also constantly increasing the number of barrier-free workstations and training facilities, as well as our barrier-free processes. In 2015, we rolled out an accessible online application process for our vocational training programs; this was further expanded in 2016.

## INNOVATIVE WORKING TIME MODELS

Flexible working time plays a significant role in innovative work organization models. Volkswagen is continuously working to further enhance the ability of its employees to combine work and family life. In September 2016, Volkswagen AG introduced a far-reaching company agreement governing mobile working, i.e. work away from the usual workplace. Since October 2016, workers at Audi AG have been entitled to flexible working arrangements in terms of location and time, provided this is feasible for the particular job in question. These agreements are satisfying the wishes of many employees for more flexibility in choosing where and when they work.

Volkswagen AG is extremely flexible in its undertaking to re-employ workers who take extended leave: for the past 20 years or so, employees have been able to take up to eight years' leave of absence without having to give a reason. Regardless of whether this leave is used as a sabbatical, for parental leave or career development purposes, employees have a guaranteed right to re-employment on the same terms and conditions as before. Both Audi and Porsche also have arrangements for sabbaticals in place. At Audi, this is governed by the company agreement on sabbaticals drawn up in 2009, while at Porsche, it is governed by the 2014 company agreement on volun-

tary personal leave. This sabbatical model comprises a work phase and an unpaid leave phase. The minimum duration of the unpaid leave period is two months, and the maximum is twelve months.

We also offer a wide range of options for taking a leave of absence to care for close family members. Employees are entitled to take up to 10 working days of leave at short notice, to make arrangements for appropriate care for instance. They may also take up to six months part-time or full-time leave to care for a family member.

Another option is to work part-time for up to 24 months in order to meet caring obligations. At Porsche, employees have been able to apply for time off to care for family members since 2014. If care is urgently required within the family, they can take up to three months' leave.

We believe these measures greatly contribute to the present and future attractiveness of work at Volkswagen, consequently also ensuring the company remains competitive.

## Strategic Objective: Exemplary Leadership and Corporate Culture



In the wake of the diesel crisis, as part of the Group's TOGETHER 2025 strategy, the Volkswagen Group began a process of radical transformation from the ground up. This includes ideas and initiatives for revitalizing our corporate culture. In 2016, for instance, we formulated new Group-wide management principles and re-

### EQUAL OPPORTUNITIES AS LEVERS OF CHANGE

As part of the drive to revitalize our corporate culture, our efforts in 2016 were focused above all on implementing diversity management. This was not simply a response triggered by the fallout from the diesel crisis, but represents a radical modernization of our corporate culture. Different cultural circumstances in global markets and an increasingly dynamic economic situation demand from us an ever more broad-based array of experiences, world views, problem solutions and ideas for products. The diversity of our workforce offers us potential for innovation which we are seeking to leverage more effectively in the future.

As part of our commitment to the **United Nations' Sustainable Development Goals**, we champion diversity and equal opportunities

viewed the criteria for appointments to management positions. One important new policy introduced in 2016 was the Code of Collaboration, which anchors our interactions within the Group in a clearly defined set of values. As the code defines the principles for trust-based collaboration within the Group, it also constitutes a key pillar of our strategy. It describes how employees should cooperate within the brand network and uses terms such as "open and honest", "uncomplicated", "without prejudice", "on an equal footing" and "for one another".

Beneath the umbrella of the overarching Group strategy, the Group brands are establishing their own brand strategies and defining their own corporate values based on the Code of Collaboration. For instance, the new corporate values of the Volkswagen brand are "together", "courageous", "customer-focused", "efficient", "open and honest" and "attentive". These were announced in November 2016 following intensive, international consultations. Thousands of Volkswagen employees contributed to the formulation of these values in a wide variety of ways. 2017 will see campaigns to raise awareness of these values, as well as embed them in HR processes and corporate structures.

at all our locations around the world. Our position is crystal clear: Volkswagen stands for respect, tolerance and cultural openness. We guarantee equal opportunities and equal treatment irrespective of ethnicity, race, gender, disability, ideology, faith, nationality, sexual orientation, social background or political conviction, provided the latter is based on democratic principles and tolerance toward those who hold different views. The Volkswagen Group Code of Conduct, which was jointly agreed with our social partners in the Social Charter in 2002, underpins these aspirations throughout the Group. Under the code, every employee and member of an executive board is responsible for ensuring that colleagues work together in partnership and is obliged to report any breaches immediately.

If any employee feels they are being discriminated against, in addition to their statutory right to lodge a complaint, they may also contact trained staff for advice and support. At the initiative of the Works Council, employees' obligations and their rights to non-discrimination were laid down in 1996 in the "Cooperative Conduct at the Workplace" company agreement applicable to all Volkswagen AG employees at all its sites. The agreement also covers bullying and other forms of discrimination. Every new employee receives a copy

of it when they join the company. The subject of discrimination is also covered in management training courses. A separate brochure describing the benefits of colleagues working together in a collaborative way aims to raise awareness of and prevent discrimination. It includes information on how employees themselves can take action if they perceive discrimination, what advice is available, and the processes when making a complaint.

## VOLKSWAGEN SHOWS RACISM THE RED CARD

The Volkswagen Group is supporting "International Weeks against Racism", a United Nations initiative. Volkswagen organized a large number of related events between March 13 and March 26, 2017, sending out a clear signal against discrimination and xenophobia. Across the Group, hundreds of employees of Group brands, subsidiaries and global facilities took part in a worldwide photo campaign, posting up selfies in support of the cause. CEO Matthias Müller led by example, calling for a clear stance opposing racism: "If you stay silent for too long, you shouldn't be surprised if things that seemed set in stone just yesterday start to fall apart," he said, as he explained the Group's commitment. At the same time, he underscored the importance of intercultural, international tolerance for the Volkswagen Group: "Our diversity is part of Volkswagen's DNA. True collaboration in intercultural, multiethnic teams around the world – whether in offices or on the factory floor – is based on respect and tolerance," said Müller. He stressed that Volkswagen has as little patience for racism as for any other form of discrimination at work. "We have a clear code of conduct and impose heavy penalties for violations – up to and including dismissal!"

## VOLKSWAGEN IN URUMQI – INTEGRATION AND INCLUSION IN PRACTICE

Xinjiang, the largest province (in terms of area) in the far west of China, is regularly troubled by unrest among the Uyghurs, a Muslim minority group. Since 2013, Volkswagen and the Group's Chinese joint-venture partner have been running a production facility in the province, in the city of Urumqi. Volkswagen is countering the unstable political situation in the region by actively assuming social responsibility. A quarter of the workforce is currently composed of members of ethnic minorities, of whom half are men and women from the original Uyghur population; so proportionally, the composition of the workforce reflects the ethnic profile of the greater Urumqi area. In addition, Volkswagen has set up a dedicated staff canteen at the plant that serves dishes prepared exclusively according to Islamic dietary requirements.

Volkswagen's pioneering work in this area is bolstered by a wide range of CSR projects supporting all parts of the population of Urumqi and Xinjiang Province. The full scope of these CSR activities includes environmental protection, education and research, healthcare, culture, sport and the advancement of women.



## ADVANCING WOMEN AND COMBINING WORK AND FAMILY

As part of our diversity agenda, we continue to attach great importance to advancing the careers of women in the workforce. As a voluntary undertaking, the Group first proposed differentiated targets for the proportion of female employees in the workforce back in 2011. The following principle applies: we recruit the best graduates from each year in the required disciplines, taking as our starting point the proportion of female graduates on each course. When all the courses relevant to Volkswagen are averaged out, these differentiated quotas produce a recruitment target for female graduates of 30%.

Bringing more qualified women into the company will enable us to steadily increase the percentage of women in senior positions over the coming years. Volkswagen AG has set the following targets for increasing the proportion of women in management:

- by the end of 2021, 13.0% of employees at the first level of management should be female
- and by the same deadline, women should make up 16.9% of employees at the second level.

For senior positions at the brands and companies in Germany where equal treatment is prescribed by law, the Volkswagen Group is aiming for 14.3% of managers at all levels to be female by 2021. In order to support the career development of female talent in the company, in the course of 2017, all companies with a headcount of over 1,000 will define targets for appointing women to management positions. On this basis, at the beginning of 2018 we will then specify a new broader target for the Volkswagen Group worldwide.

In 2016, the proportion of women in management in the Volkswagen Group in Germany (excluding Scania, MAN and Porsche) was 11.0%, up from 10.3% the year before.

We are taking a variety of measures to encourage this trend. For instance, 2016 saw the third cohort embark on the cross-brand management mentoring program, with 43 women from the Volkswagen Group in Germany participating. In addition, Volkswagen offers the “Kompass” program specifically to encourage female talent to aim

for a career in management. Over the reporting period, 60 women from Volkswagen AG, MAN, Volkswagen Sachsen GmbH, Volkswagen Osnabrück, Volkswagen Financial Services AG and Autovision GmbH took part in this program. There is a key difference between the objectives of the two programs: while “Kompass” prepares women for potential leadership roles at Volkswagen, the mentoring program is aimed at women in the talent pipeline who have already been identified as potential high flyers.

Volkswagen aims to attract female students at an early stage. Our Germany-wide “Woman DrivING Award” and “Woman Experience Day” both target female engineering and IT students and graduates, aiming to interest them in technical careers with us.

With its “Sie und Audi” (Audi and You) program, Audi AG has been supporting the career development of talented female high-achievers in all fields and at all levels for a number of years. The program focuses on different target groups and include, for example, a mentoring program for female talent as well as various seminars and networking opportunities. In addition, Volkswagen is aiming to increase the proportion of female skilled workers and group leaders in Germany to 10%. In the 2016 fiscal year, the percentage of female skilled workers in the Volkswagen Group in Germany (excluding Scania, MAN and Porsche) was 7.6%, and 5.1% for group leaders.

In order to increase the proportion of female trainees in industrial and technical trades from 23.3% in 2016 to 30% in 2021, Volkswagen is specifically seeking to attract female talent, for example by arranging special work experience and orientation days for young women. The aim of these events is to give young women a taste of training in these technical occupations and help them make career choices. For many years, the Volkswagen Passenger Cars, Audi, Porsche, Volkswagen Commercial Vehicles, MAN and Volkswagen Financial Services brands have participated in the Germany-wide “Girls’ Day” or “Day of the Future” event. During the reporting year, the “Girls’ Day” format offered over 2,000 female school students a practical insight into the industrial/technical careers offered in the automotive sector. During its “Technical Day”, ŠKODA gave 250 female school students the opportunity to try out occupations in science and technology by taking part in practical exercises.

## Programs for the Advancement of Women at Volkswagen

Program	Target group and focus	Company
<b>Programs for recruiting talented women</b>		
Girls' Day	Female school students in Germany. Program offers a practical insight into careers in the automotive industry.	Volkswagen AG, Volkswagen Commercial Vehicles, Volkswagen Sachsen GmbH, Volkswagen Osnabrück GmbH, Volkswagen Financial Services AG, Audi AG, Porsche AG, MAN
Lower Saxony Technikum	Female students in Germany with school-leaving qualifications (Abitur). Program offers placements with focus on technology.	Volkswagen AG locations in Wolfsburg, Braunschweig, Hanover, Emden and Salzgitter; Volkswagen Osnabrück GmbH, MAN T&B Salzgitter
Woman Experience Day	Female undergraduates and graduates in engineering and IT.	Volkswagen AG
Woman DrIVING Award	Competition for female engineers in Germany.	Volkswagen AG
Femtec.Network	Recruitment of female undergraduates, graduates and professionals specializing in engineering and sciences.	Porsche AG
Girls for Technology Camp / Girls in Research Camp	Female school students interested in technical subjects experience and experiment with technology for themselves.	Audi AG, MAN T&B in Munich
talents@ZEIT	Female graduates and young professionals.	MAN T&B
WOMAN's career day	Electrical and automotive engineering, mechanical engineering, mechatronics, industrial engineering.	MAN
<b>Programs for developing talented women</b>		
Mentoring program for female Meister	Female skilled workers and Meister. Program offers advancement and qualification.	Volkswagen AG, Volkswagen Sachsen GmbH, Audi AG
Kompass	Female high-potentials. Program offers advancement and qualification.	Volkswagen AG, Volkswagen Commercial Vehicles, Volkswagen Financial Services AG, AutoVision, Volkswagen rGmbH, Volkswagen Sachsen GmbH
Management mentoring program	Female managers. Program offers advancement and qualification.	Volkswagen AG, Volkswagen Commercial Vehicles, Volkswagen Financial Services AG, VW Sachsen GmbH, AUDI AG, MAN, AutoVision, ŠKODA, Porsche AG
Sie und Audi ("Audi and You")	Various programs offering high-potential candidates advancement and qualification on their way to becoming team leaders or managers.	Audi AG

As well as attracting and fostering female talent, Volkswagen is continually striving to improve employees' ability to combine work and family life. To us, a family-oriented human resources policy is one of the key qualities of an attractive employer.

The Group offers many different arrangements to enable individuals to juggle the demands of work and home. These include flexible part-time working and shift patterns, or teleworking and mobile working at Volkswagen and Audi, as well as working for Porsche from a home office. All brands also run programs to ensure a smooth return to work after a period of parental leave. "Careers and kids" is a new initiative at Volkswagen which supports young mothers and fathers during their parental leave and helps them find the best way of picking up their careers again following their return to work.

Another step on the way to becoming a family-friendly enterprise is our ongoing expansion of tailored childcare provision. Both in Germany and other countries, the Volkswagen Group has found childcare facilities in the vicinity of the company to be beneficial.

In addition to well-established existing facilities, such as those at Volkswagen Financial Services AG or run by the Volkswagen Group of America in Chattanooga, in recent years we have set up a number of daycare centers near our operating locations. We also intend to expand childcare provision at other sites along the lines of the concepts used at the Volkswagen plants in Hanover and Emden, which were set up in collaboration with the respective local authorities. All German sites of the Volkswagen Passenger Cars, Audi, Porsche, Volkswagen Commercial Vehicles and MAN brands offer childcare during school holidays. And the range of childcare provision outside Germany is also expanding, with children's holiday camps at, for example, Volkswagen plants in Shanghai, Navarra, Chattanooga and Kaluga.

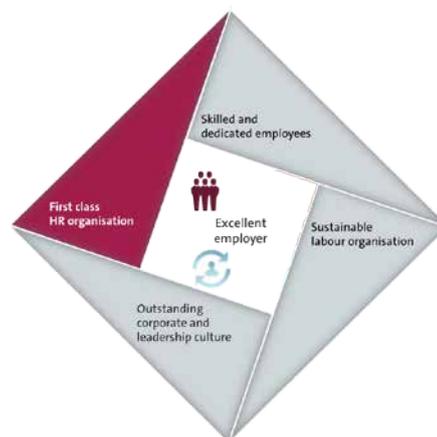
With these wide-ranging measures, we are confident that we are making a real contribution, not only to more diversity, but also to a culture of openness and inclusion across all our brands and companies.

## Strategic Objective: First-Rate HR Organization

All the objectives and various activities described require a solid foundation. As passionate HR people, we are convinced that only strong personnel management focused on the interests of both the company and its employees can provide the basis for good work policies in an environmentally and socially responsible enterprise.

Highly competent and qualified HR staff are crucial for implementing human resources policies that motivate people to perform their best. Accordingly, our fifth strategic objective is to continuously improve our HR organization. This goal that we have set ourselves is ambitious – HR will shape and support all upcoming change and transformation processes in the company, without ever losing sight of the objective of creating highly productive, people-friendly working environments. To attain this vision, we are currently improving the organization of personnel management. Our future efforts will center firstly, on the digital transformation of work processes, and secondly, on refocusing personnel management.

The "We empower to perform" human resources strategy will formulate our previous personnel management objectives in more detail. Not only will we ensure that our top teams have the requisite skills; in collaboration with the specialist units, we will work on laying the foundations for enabling the teams to develop their full potential – among other things by equipping them to continually



adapt to changing circumstances. The goal is thus to make HR fit for the digital age, release energies for cultural change and transformation, while at the same time contributing to the Group's competitiveness and sustained economic success. We intend to reinforce our strengths while preserving the tried and tested – but also to tackle new challenges and shape the working environment of the future. So: "Welcome, transformation"!

# Helping Refugees: Meeting, Educating, Integrating

Since the summer of 2015, the Volkswagen Group has been vigorous in its efforts to support the wave of refugees arriving in Germany. Together with employees and their representatives, the Group and brands have been donating time, expertise and resources. Volkswagen considers that the most urgent priorities for refugees at present are to learn German and acquire entry-level qualifications, as these are the keys for accessing further education and training and integration in the labor market. In 2016, approximately 2,650 refugees were given access to language and foundation training courses. The Volkswagen Group's commitment to aiding refugees comprises three strands, in which the following took place during 2016:

- Meeting: support for several thousand refugees by means of donations, volunteering and get-to-know events.
- Educating: grants for 100 refugees, language and integration courses for 1,400+ refugees over several months, classes and targeted support for integration and skills for work, support for minors at school.
- Integrating: work placements and internships for 340 refugees, skill assessment measures and career guidance for over 870 refugees.

## MEETING – FROM INITIAL AID TO HELP WITH EVERYDAY LIFE

Since the summer of 2015, many Volkswagen employees have given their time and know-how to help set up accommodation for and provide practical assistance to refugees. The company supports this large-scale voluntary involvement by offering the services of its experts, making donations in kind and providing vehicles for aid organizations.

Evolving out of initial efforts to provide immediate aid, the brands and their employees have been involved in developing a variety of short and long-term social support initiatives. These range from organizing language courses and participation in sports through to helping

with everyday life. For instance, MAN initiated a **long-term trainee sponsorship program** for unaccompanied refugee minors. As part of this program, the trainees organize opportunities to meet and get to know refugees, while refugees get an insight into work at MAN. These initiatives are complemented by a variety of projects run by individual brands which are aimed at encouraging employees and refugees to get to know one another and swap experiences. One example of this is the "Kitchen Stories" intercultural cooking evenings offered by Volkswagen.

## EDUCATING – FROM LANGUAGE COURSES TO HIGHER EDUCATION

At various stages of their educational journey, the Volkswagen Group is helping refugees learn the language, obtain qualifications and understand German culture. This begins with the very youngest: the Volkswagen Employees' Foundation supports children and adolescents during three years at school through donations of some €2.5 million to fund language learning, integration and the acquisition of qualifications.

Across the Group, the Volkswagen and Audi brands offer – directly or in cooperation with educational providers – language courses at different levels over a number of months. In addition, Audi is enabling

two classes to obtain school-leaving certificates. Participants, who are over the compulsory schooling age, are helped to acquire a general secondary school certificate ("Hauptschulabschluss") through a combination of general lessons, additional German lessons and socio-educational support.

The Volkswagen Group also helps refugees obtain university degrees. In cooperation with the charity start-up "Kiron Open Higher Education", university places in IT and engineering are offered. Two years of online study combined with a classroom phase at a German university lead to a Bachelor's degree.

## INTEGRATING – FROM PLACEMENT TO STARTING A CAREER

The aim of initiatives in this area is to help prepare refugees step by step for entering the German education system and labor market. Through placements and internships at a number of different Volkswagen Group brands, refugees gain an initial insight into working life in Germany.

To get this project off the ground, in 2016 the Volkswagen brand ran a pilot refugee work experience program. The program was accompanied by workplace training modules covering language, job application coaching and intercultural awareness.

Volkswagen Financial Services runs training courses to help refugees obtain truck drivers' licenses. In addition, they offer access to vocational qualifications that recognize qualifications in financial services obtained in refugees' countries of origin.

In Hanover, as part of a SPRINT language and integration project, Volkswagen Commercial Vehicles is offering young refugees a

combination of German lessons and hands-on experience in a work environment – the first initiative of its kind in Lower Saxony.

With a combination of vocational subjects, career guidance and practical experience, the “integration year” at Porsche prepares refugees for apprenticeships or starting work. The first intake of the Porsche integration year graduated in August 2016. Most participants were either able to start an apprenticeship or were taken on by the company on a temporary contract basis. At Audi and MAN, initiatives to provide refugees with entry-level qualifications have also been successfully launched.

In line with our philosophy of sustainability, the projects described will continue throughout 2017 and the range of projects will be further expanded. New initiatives to help refugees prepare for work and obtain qualifications are set to commence in 2017.



Meeting – “Kitchen Stories” are intercultural cooking evenings for refugees and Volkswagen employees



Integrating – Work placements offer initial insights into working in Germany



Educating – Language courses for various levels of ability (here at Audi AG)



# Environment

## Our goal: to make each new generation of vehicles more eco-friendly than its predecessor

Climate change, resource availability and urbanization are among the major global challenges facing the Volkswagen Group. These challenges are reflected in growing demands from all sides – from politicians enforcing ambitious environmental regulations around the world, from investors who expect us to anticipate and manage the resulting risks, and from customers with their growing interest in low-emission, environmentally friendly vehicles. Our **TOGETHER – Strategy 2025** aims to make a significant contribution to achieving a reality in which mobility has fewer negative environmental impacts, and to attaining the United Nations' **Sustainable Development Goals (SDGs)**. Our goal is to become a role model for environmental protection. We believe the transformation of our core business is the right way to meet these objectives. In coming years, we intend to launch a major electrification initiative and enter new areas of business.

## Environmental management

The Volkswagen Group has a long tradition of commitment to environmental protection. Our environmental strategy sets binding, measurable targets at every stage of the value chain, aimed at further improving environmental protection within the Group.

### THE VOLKSWAGEN GROUP'S FUTURE PROGRAM, TOGETHER – STRATEGY 2025, REVEALS HOW VOLKSWAGEN PLANS TO EXCEL. :

By taking responsibility for environmental issues, we intend to become a role model in all things related to the environment. This sense of responsibility informs all our thoughts and actions in equal measure in all the decisions we take. We pay particular attention to the emissions and resource utilization of our product portfolio, our locations and our plants. With this in mind, we have defined the following targets:

- To continuously reduce our carbon footprint
- To continuously reduce our pollutant emissions
- To continuously reduce our resource consumption

In our quest to become a role model in all things related to the environment, we have drawn up several guidelines:

- In addition to addressing the global challenge of climate change (reducing CO<sub>2</sub> emissions), our approach covers all other environmental resources, especially in terms of conserving water, soil and air quality as well as energy and raw materials. Our decades of experience and the expertise we have built up as a result will come to fruition both globally and locally.
- We employ a holistic approach by researching, developing and democratizing environmentally friendly innovations, significantly reducing environmental impacts in the process.
- We significantly reduce environmental impacts throughout the entire product life cycle by setting ourselves ambitious goals and acting as a driving force in both the production phase (supply chain) and use phase of our products.
- We communicate our measures, achievements and projects as transparently as possible.
- Our achievements are substantiated by top rankings in environmental awards.

Our Group targets state that all newly developed vehicles should improve on the environmental performance of predecessor models in every respect over the vehicle's entire life cycle. In production, by 2018 we aim to reduce the five key environmental indicators – energy and water consumption, waste for disposal, and CO<sub>2</sub> and

VOC emissions – by 25% per manufactured vehicle compared with the 2010 baseline. Based on the mean value of these five indicators, by 2016 the Group had already succeeded in reducing the environmental impact per unit of production of our passenger cars and light commercial vehicles by 25.3%.

## ORGANIZATION – POLICIES AND GUIDELINES

We can only reach our ambitious targets if environmental issues are firmly entrenched in our organizational and decision-making processes. Our long-established environmental management system provides the basis for this.

All environmental protection activities in the Volkswagen Group are centered around our global principles, which have been expanded and improved over the years, and which are binding for all Group brands:

- Group Environmental Policy (2010)
- Group Environmental Principles Locations/Production (2007)
- Group Environmental Principles Product (2008)
- Mission Statement on Biodiversity (2008)

All those responsible within the Group, within the brands and at our locations are required to comply with these environmental principles. The environmental policies and targets of the **VW Passenger Cars/VW Commercial Vehicles, Audi, Bentley, Lamborghini, MAN, Porsche, Scania, ŠKODA** and **SEAT** brands are likewise derived from these principles.

### SEAT ENVIRONMENTAL MANAGEMENT COMPLIES WITH ISO 14006

In 2016, SEAT became the first company in Spain's automotive sector to be certified under the ISO 14006 Ecodesign standard, a certificate which guarantees that the company complies with an environmental management system in all its product design and development processes. Awarded by the TÜV Rheinland organization, the certificate attests to SEAT's environmental strategy and the ecodesign criteria that now drive the design and development of its entire model line-up. Obtaining ISO 14006 Ecodesign certification is an important milestone for the company, in that it helps the management system to continuously identify, verify and improve the environmental aspects of its design and development processes. The ISO 14006 Ecodesign certificate ensures that any possible impact that a product could have on the environment is carefully considered from the time it is first conceived, encouraging a preventive approach. It considers the environmental impact of a vehicle at each stage in its life cycle, from the development process through to final disposal once it is no longer in use.

As at the end of 2016, in addition to the Group's environmental protection activities, 97 out of our 120 production sites held a valid ISO 14001 or EMAS certificate. At our Wolfsburg location, home of the Technical Development department, it was decided to temporarily suspend EMAS registration for 2015. In November 2016, following a review by environmental auditors, the plant was re-entered on the EMAS register. In 2016, the environmental management system of the Volkswagen brand's Technical Development department was successfully recertified to the new ISO 14001:2015 standard. The key new features of this ISO standard include the introduction of the so-called "High-Level Structure" (HLS), greater consideration for environmental factors, and an integrated approach to competitive context based on opportunities and risks.

Many of the production facilities of the **Volkswagen, Audi, ŠKODA, SEAT, Bentley, Lamborghini, Porsche, Volkswagen Commercial Vehicles** and **MAN** brands have had their energy management systems certified under the ISO 50001 standard.

Since 2009, the "Integration of Environmental Factors into the Volkswagen Brand's Product Development" in the Technical Development department of the Volkswagen Passenger Cars brand has also been certified to ISO/TR 14062.

## Sites with Environmental Certification

previous year in brackets

EMAS	ISO 14001	ISO 50001
23 (22)	95 (95)	42 (35)

Some locations apply both EMAS and ISO 14001.  
A list of all certified locations can be found on the internet.

### GROUP ENVIRONMENTAL PROTECTION BODIES

The Group Board of Management is the highest decision-making authority on environmental matters. Since 2012, it has simultaneously functioned as the Group's Sustainability Board. The CSR and Sustainability Steering Committee reports directly to the Sustainability Board on a regular basis, and is made up of representatives of Group units, brands and companies. The Group-wide management of environmental protection is the responsibility of the Corporate Environment and Energy Steering Committee, with input from numerous specialist bodies such as:

- the Corporate Life Cycle Engineering Working Group
- the Corporate Resource-efficient Production Working Group

### ENGAGING THE WORKFORCE

Only a well-informed, qualified workforce can implement the specific measures derived from our Environmental Strategy and achieve the set targets. Since 1976, Environmental Officers at our European locations have regularly convened to share their knowledge and experience. Regular Group Environmental Conferences were introduced in 1998 as a forum for the Group's Environmental Officers and experts to discuss strategies, measures and projects, and draw up joint action plans. In support of the production process, the Volkswagen brand has introduced Environmental Ambassadors (SfU) – employees who have been specially trained as environmental experts. Worldwide, more than 1,000 ambassadors are now operating as front-line contacts and multipliers for production employees. So-called Energy Experts (SfE) are also given special advanced training in energy saving. The Wolfsburg facility alone has more than 70 SfEs helping their colleagues to save energy. Cross-brand, inter-departmental steering committees and working groups also operate at both management and expert

- the Corporate CO<sub>2</sub> Steering Committee
- the Vehicle Recycling Steering Committee and
- the Corporate Energy Working Group

These committees assess and analyze environmental opportunities and risks. To cover the entire value chain (life cycle approach), the corresponding Group divisions are represented on the Corporate Environment & Energy Steering Committee.

The brands and companies are independently responsible for environmental organization at their own headquarters and locations, but base their respective environmental policies on the targets, guidelines and principles that apply across the Group.

level. Employee engagement is supported by an intranet portal showcasing best-practice examples and facilitating direct contact with all the relevant specialists. The portal also outlines fundamental energy-saving guidelines and tips, including a number generated by the central Ideas Management program.

As a further element of organized workforce involvement in meeting the Volkswagen Group's environmental targets, a "Works Agreement on Environmental Protection" has been in place at Volkswagen AG factories (including the Technical Development department in Wolfsburg) since 1995, and was most recently updated in 2013. It motivates employees to incorporate environmental protection into their everyday work, so that environmental management objectives and measures become an integral part of production reality at all our factories and across all our development activities.

## CLIMATE CHANGE

Volkswagen welcomes the ratification of the Paris Agreement on climate change, which aims to limit global warming to less than 2°C above pre-industrial levels. Referring to international climate agreements, our CEO Matthias Müller is calling for the automotive industry to ensure that all fleet CO<sub>2</sub> emissions “are steadily reduced to zero by 2050.”

Our most effective lever for reducing our global carbon footprint is to optimize CO<sub>2</sub> emissions from the vehicle fleet. This estimate is supported by the Scope 3 GHG Inventory we have been publishing since 2012, according to which 74% of total CO<sub>2</sub> emissions are generated during the use phase.

Our powertrain and fuel strategy is therefore crucial in pointing the way ahead for CO<sub>2</sub>-neutral, sustainable mobility. Fundamentally, our approach is based on the massive expansion of our expertise in electric mobility. Furthermore, Volkswagen is intensifying its commitment to the development and use of fuels that produce less CO<sub>2</sub>.

In 2016, we brought nine models with alternative drives to market. They included the following battery electric vehicles (BEVs): the new VW e-up!, the new VW e-Golf, the new VW Golf GTE and the new Audi Q7 e-tron quattro and Audi A3 e-tron. They also included the following vehicles powered by compressed natural gas (CNG): the new VW Golf TGI and Audi A3 g-tron. This means that in Europe alone (as from spring 2017), the Group now offers a total of 21 models equipped with all-electric, plug-in hybrid or natural-gas powertrains.

A new all-electric e-Crafter concept vehicle was unveiled in 2016 at the IAA Commercial Vehicles motor show. The production version of the vehicle represents a zero-emission urban delivery vehicle with unlimited freight capacity and a range of up to 160 km (100 miles). The first vehicles will be delivered to customers in late 2017.

By 2025, the Group is planning to launch more than 30 new all-electric vehicle models. We will then be in a position to sell two to three million all-electric vehicles each year, representing around a quarter of our total unit sales.

The Group made a commitment to reducing the CO<sub>2</sub> emissions of its European new-car fleet to 95 g/km by 2020 at an early stage. We also undertake to uphold CO<sub>2</sub> specifications in general, including those affecting light commercial vehicles.

At the moment the Volkswagen Group offers

- 36 models ≤ 95g CO<sub>2</sub>/km,
- 100 models ≤ 100 g CO<sub>2</sub>/km,
- 450 models ≤ 120 g CO<sub>2</sub>/km and
- 596 models ≤ 130 g CO<sub>2</sub>/km in Germany

(respectively engine/gearbox variations, corresponding to DAT guideline (Q2/2017).

# Products

The automotive industry is on the verge of making the next quantum leap in innovation. While fuel-efficient conventional vehicles with low CO<sub>2</sub> emissions will remain important for the foreseeable future, it is digitalization, combined with electric mobility and autonomous driving, that will transform our business – with implications that many people are not yet aware of. Over the next few years, not only

will cars undergo a massive transformation as electric vehicles start to penetrate the marketplace, mobility itself will become a separate product, redefined by customers, new players and traditional automakers. As the basis for new mobility services, the Group has created two new business areas: Digitalization and New Mobility Services.

## PRODUCT DEVELOPMENT

Our product development process lays the foundations for maximizing the fuel economy and resource efficiency of our vehicles.

During the 2016 fiscal year, the Volkswagen Group’s research and development activities concentrated on expanding our product portfolio and improving the functionality, quality, safety and environmental compatibility of our products, while simultaneously reducing the number of platforms we use. The Volkswagen Group invested €11.5 billion in research and development in 2016, much of which was spent on efficiency-enhancing technologies.

## NUMEROUS PATENTS FILED

In the 2016 fiscal year, we filed 6,465 patent applications worldwide (compared with 6,244 the previous year) for employee inventions, more than half of them in Germany. The year-on-year increase is primarily attributable to the rising number of applications relating to driver assistance systems, conventional and alternative powertrains, and lightweight construction, once again highlighting the company’s outstanding capacity for innovation.



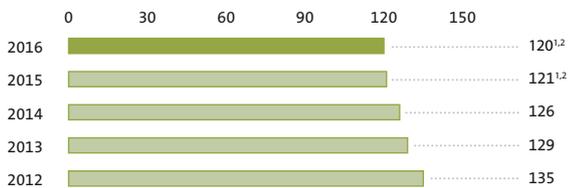
Audi Q7 e-tron 3,0l TDI quattro – fuel consumption in l/100 km: from 1.9 to 1.8 (combined); energy consumption in kWh/100 km: from 19.0 to 18.1 (combined); CO<sub>2</sub> emissions in g/km: from 50 to 48 (combined); CO<sub>2</sub> efficiency class: A+

The Volkswagen Group’s new passenger car fleet in the EU (excluding Lamborghini and Bentley) emitted an average of 120 g CO<sub>2</sub>/km over the reporting period. For the purposes of European CO<sub>2</sub> legislation, the Lamborghini and Bentley brands each have an independent fleet, both of which likewise met their individual targets. In the

USA, the fleet emissions figure is 162 g CO<sub>2</sub>/km (Audi/VW calendar year; not VW Group of America), in China 153 g CO<sub>2</sub>/km (VW Group (Import) Co, Shanghai Volkswagen, FAW-Volkswagen) – equivalent to 6.51 l/100 km – and in Brazil 131 g CO<sub>2</sub>/km.

## CO<sub>2</sub> Emissions<sup>1,2</sup>

of the Volkswagen Group’s European (EU28)<sup>1</sup> new Passenger Car Fleet in grams per kilometer



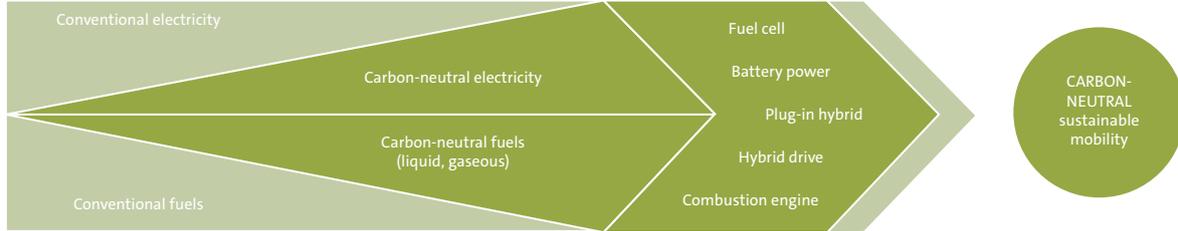
<sup>1</sup> This figure is the volume-weighted average of all specific CO<sub>2</sub> emissions from new passenger cars registered for the first time in the respective calendar year, based on the calculation logic defined in EU Regulations (EC) 443/2009 („NEDC test cycle“).

<sup>2</sup> Subject to official publication by the European Commission.

## POWERTRAIN AND FUEL STRATEGY

The Volkswagen Group’s Powertrain and Fuel Strategy is based on a three-pronged approach consisting of the optimization of conventional powertrains, more intensive use of low-carbon fuels and greater focus on hybrid/all-electric powertrains. It paves the way for carbon-neutral, sustainable mobility in line with the United Nations’ Sustainable Development Goals (SDGs). We aim to boost powertrain efficiency with each new generation of vehicles – regardless of whether they are driven by combustion engines, hybrid drives, plug-in hybrids, all-electric powertrains or, perhaps in the near future, fuel-cell systems. All our mobility concepts are tailored to the requirements and customer needs of our respective markets. By taking this approach, we will broaden our portfolio of drive systems, aiming for increased coexistence of conventional powertrains and electric mobility systems in the future. Our current modular matrix platforms are designed so that the full range of drive systems can be deployed and flexibly fitted on production lines in all our global locations. In the future, Volkswagen will focus on massively expanding our range of electric drives. We will also be adding an electrified version of our modular matrix (the Modular Electrification Toolkit or MEB) that will form the backbone of upcoming electric vehicles. In addition, Volkswagen is accelerating the introduction of liquid and gaseous fuels from renewable or CO<sub>2</sub>-neutral sources. Even users of existing vehicles can benefit from these approaches.

## Powertrain an Fuel Strategie



VW Passat GTE – fuel consumption in l/100 km: from 1.7 to 1.6 (combined); energy consumption in kWh/100 km: from 12.8 to 12.2 (combined); CO<sub>2</sub> emissions in g/km: from 39 to 37 (combined); CO<sub>2</sub> efficiency class: A+

We have significantly reduced the fuel consumption of our vehicles with conventional drive systems through the use of efficient TFSI, TSI and TDI engines, dual-clutch transmissions, lightweight construction and improved aerodynamics. And we continue to work to enhance our conventional powertrains’ potential for improvement and make our engines as clean as possible by fitting our petrol engines with gasoline particulate filters, our diesel engines with the latest and most efficient SCR catalytic converters.

### GASOLINE PARTICULATE FILTERS (GPF)

Particulate filters for petrol engines, known as “gasoline particulate filters (GPF)”, will come into much more widespread use across our whole portfolio. In a step-by-step rollout starting in 2017, all the Group fleet’s direct-injection TSI and TFSI engines will be fitted with gasoline particulate filters. This will reduce emissions of fine soot particulates by direct-injection petrol engines by up to 90%.

By 2022, up to seven million Volkswagen Group vehicles could be fitted with the technology every year. The first engines to be equipped with GPF in June 2017 will be the 1.4 TSI in the new Volkswagen Tiguan and the 2.0 TFSI in the Audi A5<sup>2</sup>. The system will then be implemented in other models and engine generations.

Over the reporting period, Volkswagen continued to develop the TSI engine family. The latest generation celebrated its debut in the spring of 2017, in the form of the 1.5 TSI evo in the new Golf. This will be followed by various new engines, including a BlueMotion version capable of 96 kW (130 hp). The TSI evo is the perfect validation of the Group’s strategy of using modular high-tech toolkits to make pioneering technologies available to customers in standard production vehicles.

## 1.5 TSI EVO ENGINES

The latest generation of the new EA211 TSI Evo engine, presented at the international Vienna Motor Symposium, starts with the 1.5 TSI, initially with outputs of 96 kW and 110 kW. Highlights of the new power unit include the first-time appearance in a production car of an exhaust-gas turbocharger with variable turbine geometry (VTG), the Miller combustion process with a high compression ratio of 12.5:1, a common-rail injection system with pressures of up to 350 bar, an innovative thermal management system, and ACT variable cylinder deactivation technology. These high-technology elements result in efficiency improvements of up to 10% compared with the previous-generation 1.4 TSI engine (92 kW). The improvements in fuel consumption take effect across broad swathes of the engine map, so have a direct impact on customers' everyday driving experience.

Natural-gas engines play an important role in our powertrain portfolio. The chemical composition of the fuel means that CO<sub>2</sub> emission levels are around 25% lower than those produced by petrol (gasoline) engines. Our customers can experience this in the new Golf TGI (81 kW with six-speed transmission: natural gas 3.6 kg/100 km and 98 g CO<sub>2</sub>/km; 81 kW with DSG: natural gas 3.5 kg/100 km and 95 g CO<sub>2</sub>/km).

Both the Audi A4 g-tron and the Audi A5 Sportback g-tron exhibited in Geneva in 2017 are sporty, versatile and optionally almost carbon-neutral. The two g-tron models will be launched in the spring of 2017, representing yet another Audi offering that contributes to the future of sustainable mobility. Following the launch of the A3 Sportback g-tron, this will bring another two other models to market that run on natural gas or Audi's climate-friendly e-gas.

Natural gas is also an economical, clean alternative for powering heavy commercial vehicles. In order to be able to use natural-gas engines in long-distance trucks and buses, however, compressed natural gas (CNG) must be replaced with liquefied natural gas (LNG), because this is the only way to achieve the required energy density and hence the desired range. The relevant infrastructure must be improved before the widespread use of natural gas as a fuel becomes feasible. For example, only a few countries have well-developed networks of filling stations offering natural gas. With Scania's introduction of the opticruise automated gearshift system for gas trucks, these vehicles are becoming more attractive. Now offering gas trucks running on biogas, ethanol and ordinary diesel engines adapted for biodiesel and HVO, Scania is strengthening its position as the commercial vehicle manufacturer with the broadest range of vehicles running on renewable fuels. MAN also manufactures Euro-6 trucks and buses with various drive systems that can be powered by biodiesel or biomethane (sustainable natural gas).

We are expanding our conventional and natural gas-powered engine range using components that electrically assist the powertrain, and are determined to make electric mobility a new Volkswagen trademark. Our range already includes all-electric vehicles such as the e-up!, the e-load up! and the new e-Golf, which, with a maximum range of

300 km (NEDC), has a significantly longer range than its predecessor. All these vehicles are already capable of driving with zero local emissions on short and medium journeys. By combining drive concepts in this way, Volkswagen sees an opportunity to offer customers electric vehicles that will meet almost all their mobility needs, build trust in the new technologies, and thus help bring about the electric mobility breakthrough.

Most customers want to take their vehicles on longer trips as well. Until all-electric vehicles offer the range required for longer journeys, Volkswagen regards plug-in hybrid vehicles that combine highly efficient combustion engines with zero-emission electric motors as an excellent bridging technology. For some years, we have been offering hybrid models in multiple vehicle classes. Porsche showed off the new Panamera E-Hybrid at the Paris Motor Show. And across the Group as a whole, we will be launching 17 new plug-in hybrids over the next two years. By 2025, we intend to bring 30 new all-electric vehicles to market.

The percentage of drivers who mainly travel short distances is growing. They include commuters and city residents, but also delivery vehicles in urban areas. The population shift towards urban areas continues unabated, and is by no means confined to the burgeoning megacities of Asia and South America. On short, local journeys, all-electric vehicles like the e-up!, e-load up! and e-Golf are emission-free, hence of particular interest to customers who only cover short or medium distances in their everyday driving. Private battery recharging options – such as charging stations installed on customers' premises – must be supplemented by a good public recharging infrastructure in the medium to long term.

September saw the groundbreaking ceremony for Dresden's largest electric mobility recharging facility. The facility, which is directly adjacent to the Volkswagen "Gläserne Manufaktur" (Transparent Factory) exhibition space, obtains the electricity it needs for its fast-charging stations from photovoltaic panels on the Volkswagen building. This ensures that the recharged vehicles are carbon-neutral.

Eco-friendly drivetrain technologies in the Group<sup>1,3</sup>

Vehicles produced

		2015	2016	Change (2015 to 2016)	
Globally	Gas drives (natural gas and LPG)	86,781 (0.90 %)	72,955 (0.73 %)	↘	-16%
	Hybrid drives	39,107 (0.40 %)	39,037 (0.39 %)	↘	-0.2%
	All-electric drives	17,076 (0.18 %)	15,729 (0.16 %)	↘	-0.8%
	Eco-friendly drives (total)	142,949 (1.48 %)	127,721 (1.27 %)	↘	-11%
		2015	2016	Change (2015 to 2016)	
Western Europe <sup>2</sup>	Gas drives (natural gas and LPG)	34,678 (1.04 %)	30,807 (0.90 %)	↘	-11%
	Hybrid drives	33,759 (1.01 %)	33,222 (0.97 %)	↘	-1.6%
	All-electric drives	12,987 (0.39 %)	9,480 (0.28 %)	↘	-27%
	Eco-friendly drives (total)	81,424 (2.43 %)	73,509 (2.16 %)	↘	-10%

<sup>1</sup> Volkswagen Group production: VW PC, Audi, ŠKODA, SEAT, VW light commercial vehicles, Audi light commercial vehicles excl. luxury brands.

<sup>2</sup> Western Europe: BEL, DNK, DEU, FIN, FRA, GRC, GBR, IRL, ISL, ITA, LUX, NLD, NOR, AUT, PRT, SWE, CHE, ESP, rest of W. Europe.

<sup>3</sup> Various factors account for the slight decline, including a model change (Golf BEV) and the elimination of the LPG incentive.

The Volkswagen Group's modular toolkit strategy achieves significant synergies by focusing on modules that can be used across multiple model series and brands. The vehicle architecture is designed in such a way that all types of drive system can be integrated flexibly and economically. This is particularly true of models based on the same platform; for example, they can use a standardized plug-in hybrid system consisting of a highly efficient turbocharged petrol engine, an electric motor, a compact six-speed dual-clutch transmission developed specifically for these applications, and a lithium-ion battery. We have incorporated the production of electrified vehicles into the manufacturing processes at our existing factories, including Wolfsburg, Emden, Bratislava, Ingolstadt and Leipzig.

The Modular Electrification Toolkit (MEB) is designed as a new toolkit for building vehicles based on an all-electric powertrain. This design approach offers a wide range of advantages, especially in terms of packaging, i.e. the arrangement of powertrain components, auxiliary systems and interior features.

The first compact Volkswagen based on the MEB will be the I.D., which celebrated its world premiere at the Paris Motor Show where it kicked off the countdown to the future. A new electric car fleet will soon follow. The I.D. has a range of between 400 and 600 km (250-400 miles), and thanks to a newly developed "design DNA" for electric cars, will be immediately recognizable as a zero-emission vehicle. The new compact electric car will be launched in 2020, in parallel with the new Golf – at a price level equivalent to a comparably powerful, well-equipped Golf. The production version of the I.D. will make a significant contribution to ramping up the electric mobility market. Initially, the powertrain in the I.D. will consist of an electric motor with a peak output of 125 kW (170 hp) which, together with power electronics and transmission, is built into the rear axle. Other powertrain components include a high-voltage flat battery built into the floor of the car, and auxiliary systems housed in the front of the vehicle.

Later production versions may also include electric motors with more or less power, but the design concept also allows for I. D. models with different sizes of battery.

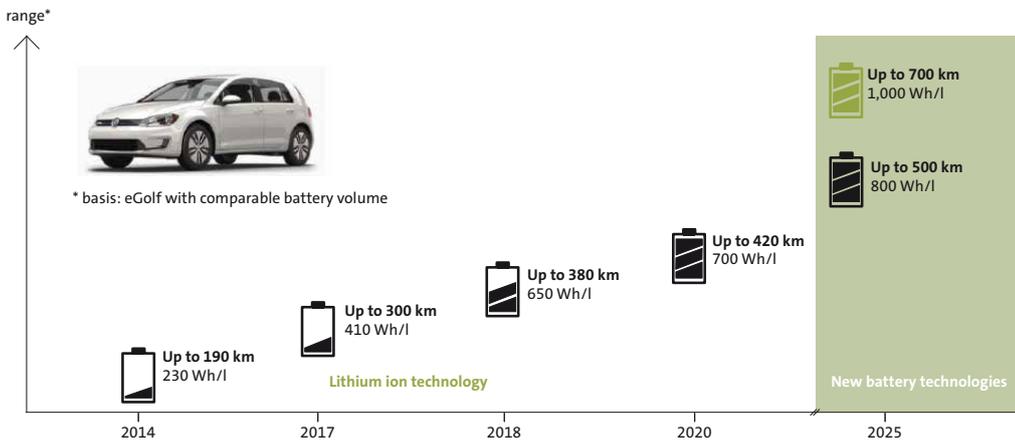
The vehicle's battery can be charged by cable or through an inductive charging interface in the front of the vehicle. It will also be possible to send the car away to automatically recharge itself by induction. The fast-charging system means that it takes just 30 minutes to recharge the battery to 80% capacity.

The heart of an electric vehicle is its battery, the energy content of which is the deciding factor in determining the vehicle's range. For

all-electric and plug-in hybrid vehicles, we currently use lithium-ion cells that are assembled into battery systems at our Braunschweig factory. We are also researching other types of battery based on solid electrolytes, which have a higher energy density and also meet stricter safety standards. We are investigating ways of industrializing these technologies. Meanwhile, the next generation of electric and plug-in hybrid vehicles will still be fitted with improved lithium-ion technology. Electric motors are manufactured at our plant in Kassel.

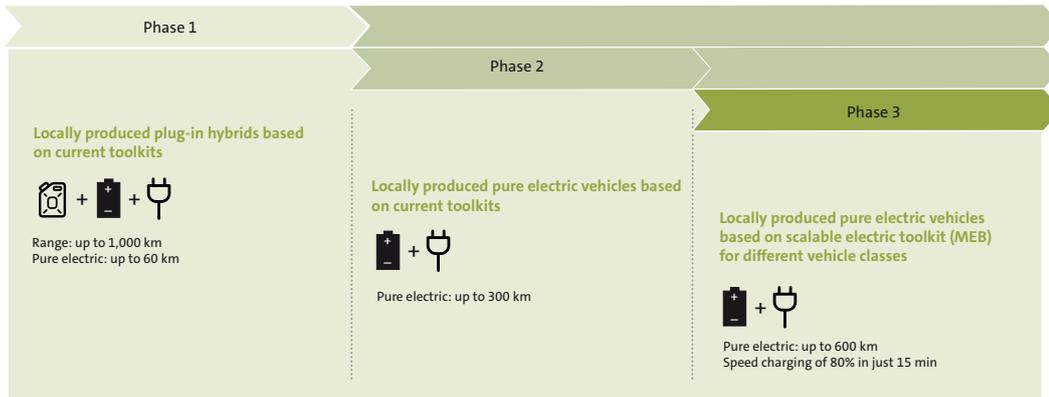
A battery roadmap detailing the development of energy density and ranges was presented by Thomas Sedran at the Goldman Sachs 8th Annual Global Automotive Conference in London in December:

## Roadmap battery cell chemistry and energy density



Starting in 2016, we have been producing electrified vehicles based on our Modular Longitudinal Matrix (MLB) locally in China. Electrified vehicles based on our Modular Electrification Toolkit (MEB) will follow at a later date. We are also planning to localize core components, including the high-voltage battery system.

## Volkswagen Group China will be prepared to deliver around 1.5 million zero emission cars to Chinese customers by 2025



Hydrogen will still not be widely available as a fuel in the medium term. Both hydrogen filling stations and production plants for producing hydrogen as a renewable will need to be developed. Volkswagen has been working on fuel-cell technologies for over 15 years and has gained extensive experience operating test fleets. The decision as to whether to proceed to series production will depend on market requirements and infrastructure. Volkswagen is actively involved in the H2 Mobility project, the aim of which is the systematic development of an H2 infrastructure in Germany.

### CO<sub>2</sub> LIMITS FOR TRUCKS AND BUSES

Having already adopted CO<sub>2</sub> legislation for passenger cars and light commercial vehicles, in May 2014 the European Commission set out its strategy for reducing CO<sub>2</sub> emissions from trucks and buses, with the aim of reducing CO<sub>2</sub> emissions from the entire EU commercial-vehicle fleet. Until now, CO<sub>2</sub> emissions from commercial vehicles have not been recorded, since the size, weight, application, mileage and usage conditions of trucks and buses are extremely varied. Manufacturers are currently collaborating with the EU Commission to draw up a generally accessible quantification and binding declaration of vehicle CO<sub>2</sub> emissions using the VECTO CO<sub>2</sub> simulation model (Vehicle Energy Consumption Calculation Tool). The aim is to further enhance transparency and increase market pressure. Before the EU agrees CO<sub>2</sub> limits for trucks and buses, however, an impact assessment must first be carried out in order to identify the most cost-effective solution.

Given the huge diversity of vehicle models and multi-stage production processes that characterize heavy commercial vehicles, it would not be appropriate to use the one-size-fits-all approach to maximum admissible CO<sub>2</sub> limits applied to cars and vans. Along with our competitors, we advocate a transparent quantification of CO<sub>2</sub> emissions that looks at the vehicle as a whole, i.e. including trailers and bodywork, and not just at the engine or tractor unit. This trans-

Thanks to our conventional and alternative technologies, as well as our modular toolkit strategy (including the new MEB), which allows innovations to be incorporated rapidly into different vehicles, we are ideally positioned to meet the challenges of the future. We have expanded our expertise in the field of electric traction by bringing additional specialists and experts on board.

parency should intensify the competition to build the most fuel-efficient, hence carbon-efficient, commercial vehicles, resulting in lower CO<sub>2</sub> emissions. Europe's commercial-vehicle industry supports the aim of reducing CO<sub>2</sub> emissions and improving road safety.

However, new vehicles are not solely responsible for CO<sub>2</sub> emission trends. Important roles are also played by tires with reduced rolling resistance, by the aerodynamic trim of trailers, and by driving behavior, as well as alternative fuels, transport infrastructure and traffic conditions. In view of this, there is a joint obligation on automakers, but also on policy-makers, automotive suppliers, petroleum companies and logistics companies, to take concerted action to minimize CO<sub>2</sub> emissions in the European transport sector. Possible solutions could include long trucks; according to scientific studies by the Federal Highway Research Institute (BAST), they could cut CO<sub>2</sub> emissions by up to 25% and are currently participating in field trials on German roads. This would make tackling CO<sub>2</sub> emissions the joint responsibility of manufacturers, haulage companies and policy-makers. The state would be responsible for developing appropriate infrastructure, the haulage companies for a more intelligent management of logistics processes. As manufacturers, our responsibility would include investing in the development of more fuel-efficient vehicles and alternative powertrains.

## NEDC TEST CYCLE COMES IN FOR CRITICISM

The New European Driving Cycle (NEDC), the procedure used in the EU to measure passenger-car fuel consumption, has come in for repeated criticism from environmental organizations. Critics claim that the CO<sub>2</sub> emissions measured in the NEDC's 20-minute laboratory-based test cycle are much lower than the emission levels generated in today's actual, on-the-road driving conditions. Like all other vehicle manufacturers, however, we must comply with this legally mandated test cycle.

The European Union is planning to introduce the new World Light Vehicles Test Procedure (WLTP) in September 2017, which is intended to produce more realistic consumption figures. Volkswagen welcomes the introduction of this new test procedure. Like the NEDC, the WLTP aims to provide an objective benchmark for comparing technical products.

## LIFE CYCLE ENGINEERING

A comprehensive environmental assessment entails more than just an analysis of fuel consumption; it must consider all the environmental impacts of a vehicle over its full life cycle, from the manufacturing process – including resource extraction, production of materials, supplier processes and our own in-house production at all locations – through the use phase – including driving emissions, fuel preparation and supply – through to the ultimate recycling of the vehicle at the end of its life cycle.

Improving each vehicle's environmental performance over its full life cycle is one of our Technical Development department's most firmly anchored environmental objectives. In order to meet this goal, we prepare detailed life cycle assessments (LCA) of new vehicles, powertrains, components and materials, so as to identify those areas where improvements will have the biggest effect. We then develop innovations targeting precisely these hotspots. This process is known as Life Cycle Engineering. An eponymous working group is tasked with ensuring the uniform Group-wide implementation of Life Cycle Engineering. One of the outcomes of the working group's activities was the creation of the in-house software package LEAD (Life Cycle Environmental Assessment Database), a server-based system for the Group-wide sharing of harmonized data that guarantees the use of standardized routines for calculating environmental footprints.

As part of optimizing the whole value chain in the most holistic way, we aim to minimize the environmental impact of our vehicles by working closely with our suppliers. This is why Volkswagen joined the CDP Supply Chain Program (SCP) back in 2015. In addition, we seek to stay in direct contact with our suppliers by organizing targeted work-

## RESOURCE EFFICIENCY

Compared with purely environmental Life Cycle Engineering, our analysis of the efficiency of our resource utilization takes the whole process one step further. Measures to improve a product's environmental performance over its life cycle are also assessed in commercial terms, so we can identify which approaches achieve the greatest environmental improvements in relation to the amount invested.

A further important European regulation pertains to Real Driving Emissions (RDE) for passenger cars and light commercial vehicles. The packages of legislation are currently being elaborated; uniform limits for nitrogen oxide and particulate emissions will then apply across the EU from September 2017. These limits must be complied with in real-world road traffic, making the RDE test procedure fundamentally different from the Euro 6 standard still in force, which stipulates that the limits are compulsory on the test bed. The RDE regulation is intended primarily to improve air quality in urban areas and areas close to traffic. It will lead to stricter requirements for exhaust gas aftertreatment in passenger cars and light commercial vehicles.

shops in which we jointly discuss and develop innovative approaches to the environmental optimization of components and processes.

In 2016, we used the CDP SCP to send out a questionnaire to 119 suppliers. We received comprehensive responses from 83% of them – 13% more than the average response rate in the SCP. This year, the CDP evaluated the "Ability" of the 3,300 participating companies to make contact with their suppliers. On a scale from A to D, Volkswagen achieved an A– ranking, versus an average rating of C–. The ranking was based on an analysis of the answers to the questionnaire.

We report on Life Cycle Engineering successes to our customers, shareholders and other stakeholders by issuing what we call Environmental Commendations. Based on an environmental impact assessment complying with ISO standards 14040 and 14044, Environmental Commendations describe the environmental improvements in our latest models compared with their predecessors. The Volkswagen Passenger Cars and Commercial Vehicles brands both publish Environmental Commendations. So does the Audi brand, under the heading Environmental Footprint.

Alongside LCAs, we also use other life-cycle approaches. In 2015, we worked closely with the Technical University of Berlin (Technische Universität Berlin) to further develop our methods for calculating what is known as the "water footprint". Based on a vehicle's LCA, we calculate and analyze the amount of water consumed by the vehicle over its entire life cycle. This enables us to take specific actions to reduce water consumption

Group Research is involved in two long-term projects examining what the resource-efficient factory and resource-efficient vehicle of the future will look like. New technologies such as electric and fuel-cell vehicles play a key role here, especially in terms of their resource requirements as well as new closed-loop recycling concepts.

**“PROACTIVE RESOURCE EFFICIENCY”: USE OF RECYCLED MATERIALS (ECO-FRIENDLY MATERIALS)**

Minimizing our consumption of primary raw materials is a key objective for Volkswagen. With this in mind, we explicitly insist on the use of quality-assured recycled materials in almost all vehicle components.

Recycled materials – also referred to as secondary raw materials – are materials manufactured from production residues or end-of-life materials. They must meet the same high Volkswagen quality standards as primary raw materials; this we ensure by subjecting them to regular inspections. Only the highest quality materials are used in order to guarantee the safety, reliability and longevity of our products and satisfy our customers’ extremely high expectations.

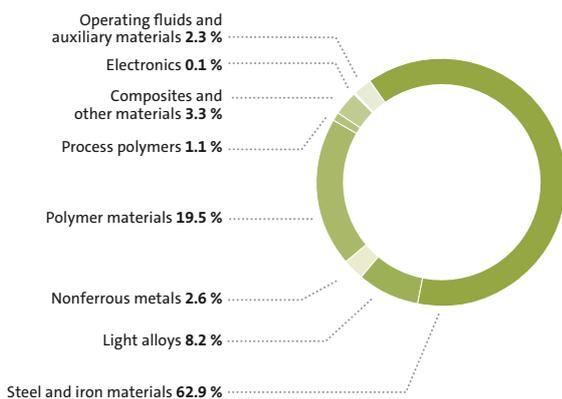
To calculate the proportion of recycled materials in an entire vehicle, we identify the materials in all its components and their recycled material content, and add them up. In order to do this, we depend on reliable information obtained directly from our suppliers, as well as data from industry-specific associations, since a single vehicle model may include around 5,000 components containing more than 10,000 material items.

As well as dramatically improving a vehicle’s environmental footprint, the use of recycled and renewable materials can also make good economic sense. New Volkswagen branded vehicles already have a high proportion of recycled and renewable content, accounting for approximately one-third of the weight of six models (Polo 5 and 6, Golf 6 and 7, Passat 8, Sharan) for which precise figures have already been calculated.

Wherever possible, the Group’s brands use renewable raw materials. For example, natural fibers like flax, cotton, wood, cellulose and hemp are used in floor insulation, boot linings, door and side panel trim and hood insulation. Similarly, kenaf and flax fibers are used in armrests, while paper fibers are used in cargo floors and roof reinforcement structures, and cotton fibers in floor insulation.

In December 2016, Volkswagen signed a pilot agreement for returning scrap aluminium directly to suppliers for subsequent reuse in vehicles. The implementation of the Aluminium Closed Loop Project in 2017 will be the very first time a closed loop for aluminium has been organized with non-Group suppliers.

**Input materials and primary products as illustrated by the example of the VW Golf**



## LIGHTWEIGHT CONSTRUCTION

Lightweight body shell production remains a strategic development priority. Volkswagen uses hot-formed, high-strength steels in production models. We are also pursuing a composite materials approach for specific vehicles and platforms, using a range of different materials in one body shell. Lightweight materials such as aluminium are also used in the development of new platforms.

The proportion of hot-formed metals in the latest Passat has been increased by more than 75% compared with its predecessor. New additions include crossmembers at the front and rear of the car and in the transmission tunnel. While this means more energy is consumed in the production process, the reduced fuel consumption resulting from component weight savings has a dramatic impact on CO<sub>2</sub> emissions and energy consumption over the vehicle's life cycle as a whole.

Porsche continues to pursue a policy of "smart lightweight construction" by implementing a sophisticated mix of materials in body

designs. One example from the reporting period is the start of series production of the new Panamera. For the first time, the Panamera's roof and side panels are made out of aluminium, and more than 30% of the bodywork is also now made out of aluminium. But the proportion of high-strength steel alloys has also been increased, among other things by integrating a highly complex tube of super-high-strength steel as the bulkhead support.

On September 22, 2016, the Open Hybrid LabFactory (OHLF) was opened in the presence of Federal Research Minister Professor Wanka and other dignitaries. We are researching economical lightweight construction technologies for series production as part of the OHLF public-private partnership, a joint venture with the Lower Saxony Research Center for Vehicle Technology (NFF) at the Technical University of Braunschweig, the Fraunhofer Gesellschaft and various other industry partners.

Audi is committed to the use of lightweight construction to improve the dynamics of its models while at the same time reducing fuel consumption. The Audi Q7 body is largely made of aluminium. Thanks to the Audi Space Frame construction, the vehicle body only weighs a little more than 200 kg – 71 kg less than its predecessor. The weight of the vehicle as a whole has been reduced by as much as 325 kg.

Lightweight construction and a high level of rigidity are also defining characteristics of the body shell of the Audi R8 Coupé. Along with various aluminium components, the supercar's high-strength, almost torsion-free backbone consists of a rear panel, center tunnel and three-part B-pillars that are all made of carbon fiber-reinforced plastic (CFRP).

Similarly, lightweight construction plays a key role in the successful new Audi A4, which entered production in 2015. Depending on the model variant, an intelligent choice of materials and more extensive use of lightweight construction techniques make the new Audi A4 a full 65 kg lighter than its predecessor. The car produces 6 t fewer greenhouse gas emissions (equivalent to CO<sub>2</sub>) over its full life cycle than its predecessor, thanks to the use of eco-friendly production methods, reduced weight, and a wide range of efficiency enhancements such as outstanding aerodynamics (the 1.4 TFSI ultra has a drag coefficient of just 0.23). This translates into a 16% improvement. In this way, we have succeeded in reducing emissions even at the production stage, despite our increased use of lightweight construction materials. While the earlier model generated around 7.16 t of greenhouse gases in the production phase, the new Audi A4's production process has reduced this by around 4% to 6.85 t.



## ENVIRONMENTAL AWARDS

Volkswagen Group and Group brand models received numerous awards in 2016 for their environmentally friendly features. Here are some examples:

- In the ADAC EcoTest, the models tested in 2016 – including the ŠKODA Octavia Combi 1.4 TSI G-TEC, ŠKODA Superb Combi 1.6 TDI GreenLine and VW Passat Variant 1.6 TDI SCR BlueMotion – were all awarded the top 5-star rating. The overall results of the ADAC EcoTest are based on a range of metrics, including tests of emissions of e.g. carbon monoxide, hydrocarbons, nitrogen oxides and particulates in realistic driving cycles. Driving cycles are conducted with daytime running lights (or low-beam headlights) switched on, the air-conditioning system turned on, and a 200 kg payload. In late 2016, the ADAC EcoTest methodology was revised. Vehicles that achieve good results in the EcoTest must now also be tested on the road using a PEMS device (Portable Emission Measurement System). In 2016, the VW up! 1.0 TSI BMT beats was subjected to and successfully passed such a PEMS re-test.
- AUTO TEST, the monthly consumer advice edition of AUTO BILD, and ÖKOTREND, the independent environmental research institution, presented awards for the most environmentally friendly cars in all classes in 2016. Two Volkswagen Passenger Cars models won in their respective classes: the eco-up! 1.0 EcoFuel in the sub-compact class and the Passat GTE in the upper medium (mid-size luxury) class. The Porsche Cayenne E-Hybrid was voted number one in the SUV class. Assessment criteria included the manufacturer's commitment to environmental protection and social responsibility, and the environmental impact of the vehicles over their entire life cycle.
- In the China Eco-Car Assessment Programme (C-ECAP), the VW Golf TSI was the first vehicle ever to be awarded the platinum medal, the best possible ranking. Vehicles were evaluated in six categories, including energy efficiency and recycling quotient.
- In the 2017 VCS environmental rankings, three Group models – the VW up!, ŠKODA Citigo and SEAT Mii – took first places in the sub-compact (mini) class.
- In the compact (small family) class, the Audi A3 Sportback TFSI g-tron beat the VW Golf TGI; both vehicles are equipped with natural-gas drive systems.
- The Caddy TGI beat out other 5-seater vans to take first place.
- The editorial team of Engadget, one of the leading U.S. online technology magazines, bestowed this year's "Best of CES" award on the BUDD-e in the Best Innovation category. Special mention was made of the vehicle's range and fast-charging mode. Online consumer guide SlashGear, which generally rates smartphones, cars, computers and digital lifestyles, also named the BUDD-e as overall winner.
- VW is the brand that has received the most awards in the "Ten best 2016" rankings organized by Car & Driver magazine. After assessing 231 models available on the Brazilian market, a specialist jury chose the move up! TSI as the "most sustainable model" and the speed up! TSI as the "best hatchback", with particular emphasis on the new 1.0 TSI Total Flex engine. The new 1.0 TSI Total Flex engine is Volkswagen do Brasil's most advanced engine and the first in Brazil to feature direct injection, a turbo compressor and Flex technology. The engine has already received a number of awards in the Brazilian marketplace.
- Volkswagen Passenger Cars vehicles emerged from a test organized by Brazil's Quatro Rodas magazine with top marks for energy efficiency. Of all the cars with petrol engines, the speed up! was the most fuel-efficient, followed by the take up! and the Fox BlueMotion. The new Gol Comfortline with its 1.0 MPI engine and the Audi A1 Sport 1.4 TFSI also made it onto the list of most economical vehicles.
- The Green Car of the Year Award is presented by U.S. specialist magazine Green Car Journal. In 2016, two models from the Volkswagen Group were nominated, including the Audi A3 E-TRON in the "Green Car of the Year" and "Connected Green Car of the Year" categories, and the Porsche Cayenne S E-Hybrid in the "Luxury Green Car of the Year" category.
- Next Green Car Ltd. in the UK presents annual awards for the most environmentally friendly vehicles in 10 categories, after evaluating the vehicles' environmental impact throughout their life cycles. In 2016, the VW e-up! was chosen as the winner in the "City Car" category thanks to its local emission output of 0 g and 93-mile range, which is ideal for city traffic.
- The American Automobile Association publishes the AAA Green Car Guide, an annual assessment of environmentally friendly vehicles available on the U.S. market. Among the criteria applied are pollutant emissions and fuel consumption. In the 2016 ranking, the VW e-Golf was awarded the title of "Best in Class" in the compact car class.
- In the competition organized by industry magazines Verkehrs-rundschau and Trucker, the Volkswagen Caddy came out on top in the van category, receiving the "Green Van 2016" award. The Caddy delivered the best overall result based on fuel consumption, payload and load capacity. The EfficientLine 2 fuel-efficiency package for the MAN TGX was awarded the "Green Truck Innovation" accolade for its demonstrable reduction of emissions of atmospheric pollutants, greenhouse gases and noise pollution. Scania was presented with the "Green Truck Future Innovation 2016" environmental award for its hybrid module for delivery vehicles in the Promising Innovations category. The 235 kW (320 hp) hybrid truck achieves fuel savings of up to 18% compared with trucks that run solely on diesel. It can operate exclusively in all-electric mode, or as a hybrid running on pure biodiesel.



e-Golf (100 kW/136 PS) Electrical consumption in kWh/100 km: combined 12.7, CO<sub>2</sub> emissions combined in g/km: 0, efficiency class: A+.



ŠKODA Octavia GreenLine saloon (1.6 TDI) – fuel consumption in l/100 km: urban 3.9 / extra-urban 3.2 / combined 3.5; CO<sub>2</sub> emissions in g/km: 90 (combined); CO<sub>2</sub> efficiency class: A+



up! TSI BMT - Fuel consumption in l/100 km: urban 5.5 / extra urban 3.8 / combined 4.4; CO<sub>2</sub> emissions combined in g/km: 101; efficiency class: B

# Production and Logistics

By 2018, the Volkswagen Group is aiming to reduce levels of the five key environmental indicators per vehicle manufactured – energy and water consumption, waste for disposal, and CO<sub>2</sub> and VOC emissions – by 25% compared with the 2010 baseline. This target applies to all the Group's production locations for passenger cars and light commercial vehicles, and builds on the general production process requirements defined in the Group Environmental Principles. We have already made considerable progress towards reducing all five key indicators.

In terms of environmental impact reduction per unit (UEP), we had already reached our goal by the end of 2016, having cut production-related environmental impacts by 25.3%. The status at the end of 2016 compared with the 2010 baseline breaks down as follows (2015 figures in brackets):

- specific energy consumption: –17.0% (–16.4%)
- specific CO<sub>2</sub> emissions: –19.5% (–19.5%)
- specific VOC emissions: –41.3% (–30.5%)
- specific water consumption: –14.2% (–8.8%)
- specific waste for disposal: –34.6% (–32.1%)

The reduction in environmental impacts across the Group is the result of specific environmental programs by the individual brands, including:

- Think Blue. Factory. – Volkswagen Passenger Cars and Volkswagen Commercial Vehicles

## ENVIRONMENT TASK FORCE

We set up the Environment Task Force in 2014, with the aim of identifying and implementing savings initiatives at Group locations. This team of analysts from the Group environmental research unit acts as a networking intermediary between departments involved in planning, maintenance and operations, helping to close any gaps by providing additional capacity and local expertise.

The broad-based knowledge of the Environment Task Force, combined with the many excellent ideas and solutions from colleagues in our various locations, plus the sharing of initiatives via [massnahmen@web](mailto:massnahmen@web), all help to promote a lively, Group-wide dialog.

- ultra-strategy – Audi
- Green Factory – ŠKODA
- ECOMOTIVE Factory – SEAT
- Environmental Factory – Bentley
- Resource-efficient Production – Porsche
- Blue Rating – Scania
- Climate Strategy – MAN

We encourage close integration and communication between the brands worldwide in order to create synergies, for example with our Environment Task Force. We record and catalog environmental measures in an IT system and make these available for Group-wide sharing of best practices.

In the reporting period, more than 1,600 implemented measures relating to energy and the environment were documented in this system, all serving to improve passenger car and light commercial vehicle production processes. As well as being worthwhile from an environmental viewpoint, these activities also make financial sense, resulting in annual savings of around €49 million. The measures are helping us reduce all five key environmental indicators, although additional negative effects meant that the indicators for energy consumption and CO<sub>2</sub> emissions did not change very significantly.

Although 2016 was – yet again – the world's warmest year since climate records began, a colder winter resulted in increased heating demand across Group locations.

At Volkswagen-branded component manufacturing facilities, the team works hand in hand with the energy management teams in Component Planning, who also help identify potential savings.

Up to and including 2016, the Environment Task Force was involved in 25 projects around the world. Over this period, they implemented savings measures worth €2 million and identified potential savings at Group locations estimated at an additional €9 million.

## ENERGY CONSUMPTION AND CO<sub>2</sub> EMISSIONS

In 2016, energy consumption per vehicle fell from 2,106 kWh in 2015 to 2,090 kWh in 2016. Absolute volumes increased due to the larger number of vehicles produced. This meant that we reduced energy consumption by –17.0% (against the 2010 baseline).

CO<sub>2</sub> emissions (Scope 1 and 2) per vehicle rose from 882 kg in 2015 to 883 kg in 2016. Absolute volumes also increased due to the larger number of vehicles produced. This represents a –19.5% reduction in CO<sub>2</sub> emissions compared with the 2010 baseline.

Our strategy for meeting our targets includes improving energy efficiency, replacing coal with gas for our in-house energy production, and purchasing electricity from renewable sources. We now meet around one-third of our global electricity requirements from renewables.

### Examples of Best Practice

We set a particularly positive example in Brazil, switching to 100% renewable energy despite the country's ongoing economic difficulties. This measure is reducing CO<sub>2</sub> emissions by approximately 21,000 t per year.

In 2016, the first industrial combined heat and power plant in the greater Shanghai metropolitan area went into operation at Volkswagen's Chinese plant in Anting, in the form of a MAN CHP plant. The power plant supplies the site with 26 MW of electricity and 60 t/h of steam. This covers most of the energy and all of the steam requirements of Car Plant 3, meaning that Anting is now making annual savings of around 95,000 MWh of energy and 59,300 t of CO<sub>2</sub>.

Since 2011, VW Kraftwerk GmbH has been investing in the ongoing development of renewables and the construction of highly efficient combined heat and power (CHP) plants driven by natural gas. In the period to 2016, the company invested around €26 million in renewables such as wind farms and photovoltaic power plants. As part of our fuel conversion strategy, VW Kraftwerk GmbH also invested some €15 million in a cogeneration plant in Braunschweig and some €65 million in a gas and steam turbine (combined cycle) plant in Kassel. Furthermore, alongside the company's own electricity generation activities, we are currently implementing a proportional energy program for the Volkswagen Group's production sites in Germany using carbon-neutral Volkswagen Naturstrom®. Over the next few years, VW Kraftwerk GmbH is planning to invest in a new combined cycle plant in Wolfsburg (by 2022) and in the further development of renewables.

- Lamborghini:** New combined cooling, heat and power (CCHP) and district heating plants, coupled with a 17,000 sqm photovoltaic system on the roof of the central production shop at the Sant'Agata site in Italy, were the main factors contributing to the brand's certification as a carbon-neutral manufacturer. Annual CO<sub>2</sub> emissions at the Lamborghini site have been cut by around 820 t. By the end of 2017, the CCHP is expected to reduce annual CO<sub>2</sub> emissions to around 5,600 t, and the company is also planning to convert the plant to run on biogas. Compensatory measures will be taken to offset the remaining CO<sub>2</sub> emissions. Lamborghini is the first company in the world to be certified by DNV GL (Det Norske Veritas Germanischer Lloyd) under their "Carbon Neutrality" program. DNV GL is one of the world's leading service-providers in the classification, verification and management of environmental risks.

A number of other examples illustrate our success in saving energy and reducing CO<sub>2</sub> emissions:

- **VW:** One important lever for reducing energy consumption is on-demand operation of all facilities. In 2016, we reinforced the energy efficiency gains from the first pilot projects involving the load-dependent operation of paint dryers by rolling out the technology at more locations. The change has cut energy requirements by around 7,300 MWh a year, saving around €290,000 and reducing annual CO<sub>2</sub> emissions by approximately 1,900 t.
- In 2016, **MAN** successfully recovered thermal energy at the ship engine test facility in Frederikshavn, Denmark, using the newly installed heat recovery system. The recovered energy was supplied to the municipal district heating system. The heat recovery system is enabling us to avoid over 1,300 t in CO<sub>2</sub> emissions.
- **VW:** We use energy value stream analysis to identify suitable measures for reducing our energy KPI. This technique was trialed at our Bratislava location and others in 2014, reducing annual energy consumption by 12,916 MWh with annual savings of more than €900,000. This methodology has since been rolled out to other sites.



Volkswagen AG plant in Bratislava, Slovakia

## BLUE BUILDING

In our quest for improved environmental performance, the Volkswagen Group does not limit its efforts to the internal workings of our production facilities. We also keep a close eye on our buildings and real estate. With our Blue Building standard and internal “Blue Building” award for energy-efficient, sustainable construction, we aim to reduce CO<sub>2</sub> emissions from our properties while ensuring that they are built and continue to operate sustainably. We aim to significantly undercut statutory energy consumption thresholds.

Volkswagen Immobilien completed the first Blue Building – a Volkswagen-brand car showroom in Hanover – at the end of 2015. In the course of this project, the old building was demolished, reprocessed on site and then reused as part of the foundations for the new building and its outdoor facilities. Recycled waste glass was used as insulation underneath the building.

All lighting in the building and its external facilities is provided by LEDs, while heat and power are supplied by a photovoltaic system and a CHP unit (manufactured by Lichtblick). This cuts CO<sub>2</sub> emissions by up to 58 t per year.

A ventilation and cooling system delivers a steady supply of fresh air, improving the overall quality of life within the building as well as the wellbeing of employees. At night or during the daytime, special louvered windows can be used to cool down the showroom by purely natural means.

Our aim is to steadily refine and improve the Blue Building standard. To do so, we systematically evaluate experience acquired during the planning, construction and operation of our buildings.



## MATERIAL FLOW MANAGEMENT

Volkswagen uses material flow management as a tool for analyzing and evaluating material flows in production and the associated environmental impacts.

Material flows are resources and energy which flow within specified system limits and can be allocated to production processes by originator. Material flow analysis allows us to depict processes more transparently, making it easier to recommend actions for reducing environmental impacts and cutting production costs.

The informative value of a material flow analysis depends on the data available. Incoming and outgoing material flows in processes must be measured both qualitatively and quantitatively, by reference to both internal environmental information systems and

external databases. Any missing data is obtained from in-process measurements.

Material flow analyses are useful to a variety of players. They can be used to sensitize employees to the resource-efficient handling of process materials, as a useful aid for planning new, more resource-efficient plants, or as a decision-making tool for implementing specific measures.

Two comprehensive material flow analyses focusing on material efficiency were carried out in the paint shops of our Poznan and Bratislava car factories. The measures identified in the course of these analyses are currently being prepared for implementation in production.

## EMISSIONS TRADING

The procedure for allocating CO<sub>2</sub> emissions certificates under the European Union's Emissions Trading System changed fundamentally in 2013, at the start of the third trading period (2013–2020). Since 2013, emissions allowances for electricity providers have been auctioned. For the manufacturing industry and certain types of power plant (e.g. CHP plants), a proportion of the certificates were initially allocated free of charge. However, over the course of the trading period, the number of such certificates has been steadily declining; providers requiring additional certificates must purchase them at auction.

In certain industry (sub)sectors, there is a risk that production will be transferred to countries outside Europe now that the amended provisions governing emissions trading have come into force (a phenomenon known as "carbon leakage"). Based on pan-EU

benchmarks, a set number of certificates are being allocated free of charge over the 2013–2020 trading period. The automotive industry was included in the new carbon leakage list that came into effect in 2015.

A total of 30 Volkswagen Group locations are affected by the European Emissions Trading System. For 2016, 1,186,418 emissions certificates were allocated to the Volkswagen Group free of charge (39,769 fewer than in the previous year).

As well as the European Union, other countries in which the Volkswagen Group has production sites are also considering the introduction of emissions trading. Seven pilot projects have been launched in China, for example, although they have not yet affected the Volkswagen Group. The Chinese government plans to expand these pilot projects to form a national emissions trading system.

## SOLVENTS

In 2016, VOC emissions per vehicle were reduced from 2.80 kg in 2015 to 2.42 kg. Compared with the 2010 baseline, emissions per vehicle were reduced by 41.3%. This impressive achievement, whereby targets were not only reached but exceeded in 2016, was driven by numerous VOC-reducing measures in many of the paint shops at Group locations, as well as the state-of-the-art painting and exhaust air treatment systems installed in new plants.

### Examples of Best Practice

- A new, low-impact top coat painting line came onstream in Ingolstadt. Featuring state-of-the-art technology such as air recirculation, dry scrubbing and exhaust air purification, the new facility has reduced the consumption of thermal energy and water per car by 20%. Furthermore, air recirculation is helping to reduce CO<sub>2</sub> emissions per painted vehicle by 30%, while exhaust air purification is reducing VOC emissions by 90%.

## WATER

In 2016, water consumption per vehicle was reduced from 4.1 m<sup>3</sup> in 2015 to 3.9 m<sup>3</sup>. Despite the larger number of vehicles produced, freshwater consumption per vehicle has steadily fallen since 2010 thanks to a raft of recycling measures and the introduction of manufacturing techniques that use minimal water.

Alongside climate protection, conserving our planet's freshwater reserves is one of the pivotal requirements for preserving the basic necessities of life. Water resources are already scarce in many regions of the world, and access to clean drinking water is an increasingly pressing problem for large sections of the global population. This prompted us to adopt water as a focus topic for 2014. Within our sphere of influence, we also support the [United Nations' Sustainable Development Goals \(SDGs\)](#) adopted in September 2015.

Drawing on the comprehensive data collated in our life cycle assessments, we published a pioneering analysis of our water footprint in 2013, in which we identified those processes that consume the most water over the life cycle of a representative selection of Volkswagen-branded models. In 2015, we worked with the Technical University of Berlin to further refine the in-house methodology used to calculate our water footprint.

The water footprint analysis showed that the use phase plays only a minor role. Much of the water consumed is due to the fuel production process. Another significant water consumer is the supply chain for the extraction or creation of raw materials, over which we have no direct influence. Consequently, we are focusing our attention on areas where we can directly influence water consumption: our production sites. We are also making efforts to continuously reduce our water consumption by further improving our vehicles' fuel consumption and using more secondary materials, such as recycled materials, in production. Our latest review indicates that 57% of our entire freshwater consumption – approximately 23 million m<sup>3</sup> – is attributable to sites located in regions where groundwater resources are at risk, especially our plants in Mexico, Spain, South Africa, India and China. In these regions in particular, we have made minimizing water use an even higher priority. We adapt our water use to the varying regional availability of water resources worldwide. At the same time, we support a broad range of projects in which the protection or development of water resources is a key or even the primary objective. The same approach also characterizes the water management strategy adopted by the Corporate Environment & Energy Steering Committee, which defines four action areas:

- Safe and reliable water supply and sewerage. We aim to protect groundwater reserves against pollution, and to avoid production downtimes caused by water shortages.
- Efficient water use throughout the life cycle. By using water as economically and efficiently as possible during the production process, and by recycling as much water as possible, we aim to reduce total water consumption to the great possible extent.



- Social and environmental initiatives. Particularly through our biodiversity projects, we help protect water resources and promote public environmental awareness.
- Transparency. We communicate our goals and activities to the public. In 2013, Volkswagen became the world's first automaker to commit to the United Nations' CEO Water Mandate. Also, since 2011, we have been providing extensive disclosure of our water management practices and progress, by completing the very detailed CDP water management questionnaire. In 2015, we withdrew our responses in the light of the diesel issue. After a one-year suspension in 2015 as a consequence of the diesel issue, we rejoined the program in 2016, achieving a Leadership rating of A– for our Water Disclosure Project.

### 2016 – “Year of Water” in China

Given the high production volume in China, the country's share of Group-wide water consumption is comparatively high. Consequently, 2016 was designated the “Year of Water” in China. Teams of experts analyzed water management at all Volkswagen production sites in China and implemented optimization measures in order to save even more water per vehicle produced. Between 2010 and 2015, we had already achieved water savings of around 14.1% in China. In 2016, we achieved further significant water savings, bringing total savings between 2010 and 2016 up to 22.4%. Systematic analysis enabled us to achieve savings in every part of the factory by, for example, optimizing cooling systems and introducing on-demand management of paint consumption in the paint shop.

### Examples of Best Practice

- We use recycling facilities at some of the Group's locations that use a membrane process to prepare biologically pre-cleaned waste water for reuse, thereby reducing freshwater consumption levels. In 2015, we brought a recycling facility on stream at our Salzgitter plant. This facility processes half the plant's wastewater into recycled water and uses it to feed the central cooling tower. As a result of this measure, we save around 75,000 m<sup>3</sup> of freshwater annually, equivalent to around a quarter of the plant's needs.
- Our Uitenhage plant in South Africa has managed to reduce its water consumption per vehicle by more than 50% (from 6.2 to 2.7 m<sup>3</sup>/vehicle). In 2015, this achievement so impressed the jury of the annual Greening the Future Awards competition that the plant won the national prize in the "Water Efficiency & Management" category.

- In 2016 alone, our Foshan plant successfully reduced its water consumption by more than 26%, from 3.9 to 2.9 m<sup>3</sup> per vehicle, by implementing measures devised during the "Year of Water".

In total, the Group saved 906,807 m<sup>3</sup> of freshwater in 2016 compared with the previous year, thanks to a raft of individual measures and optimizations. However, factors beyond our control, such as fluctuating weather conditions, also influence freshwater consumption. With water prices ranging from around €0.3 – €1.0 per m<sup>3</sup>, this translates into water supply cost savings of approximately €0.5 million in the reporting period.

In order to permanently implement water-saving processes within the Group, a new internal White Paper defines key requirements for the various processes in the production sequence.

## WASTE



By the end of 2016, the volume of waste for disposal per vehicle had been reduced from 16.2 kg in 2015 to 15.2 kg, representing a reduction of 34.6% against the 2010 baseline.

We aim to use **materials and products** as efficiently as possible, and so reduce the volume of waste per unit manufactured.

In order to achieve this goal, we have adopted a three-stage waste strategy:

1. Prioritizing waste recycling and reducing waste for disposal
2. Reducing waste volumes via waste treatment
3. Reducing waste volumes by optimizing production and ancillary processes

Wherever possible, we make great efforts to use standardized waste management systems to optimize our waste management in all divisions. These systems are already used to control waste management processes in all German factories run by the Volkswagen, Volkswagen Commercial Vehicles, Porsche, Audi and MAN brands, and for state-monitored disposal of hazardous waste in particular (Electronic Government). The aim is to roll out these systems in Europe and thereafter across regions around the world.

ŠKODA plants in the Czech Republic and Volkswagen plants in Slovakia also use waste management systems. In 2015/16, implementation in the VW and SEAT plants in Spain, Portugal and Poland was coordinated with in-house IT departments and preliminary plans were drawn up. In 2017, plants in Spain will be equipped with a waste management system.

In 2015, in order to review our waste management processes and recycling, we introduced audits of waste disposal processes as a key control mechanism at many of our sites. This reflects our duty of care to ensure controlled, environmentally friendly waste disposal. In Germany, a standardized procedure for these audits was developed in collaboration with other vehicle manufacturers (original equipment manufacturers or OEMs) and major suppliers. In 2015 and 2016, we carried out audits across multiple locations and OEMs in Europe. Audits have also been carried out in the regions, albeit exclusively for Volkswagen's own brands. In order to set a common benchmark for the quality standards expected of waste disposal services, we also trained potential auditors at a number of eastern European sites, giving them the skills to carry out quality-assured audits so that the results could also be used by other OEMs and suppliers. Based on these positive experiences, similar training programs will be organized at other sites. Descriptions of the audit procedures, as well as audit documentation, are now available in the languages of the various countries in which the Group operates, with the exception of China.

Production waste from packaging and workshops, as well as the Technical Development department, is recycled to the highest possible standards. For the recycling of waste from production and logistics that has a resale value, such as paper, plastics, wood and metal, our Purchasing department has rolled out a Group-wide system to improve the efficiency of the entire process. The focus here is not only on revenue generation, but also on optimized preparation of the waste for efficient transportation.

#### Examples of Best Practice

- In January 2016, an advanced waste management system was introduced at our Bratislava plant for optimizing waste logistics processes. Transponder technology (based on Data Matrix code) is used to identify every single piece of waste at its point of origin and track it seamlessly all the way through to final disposal. At each stage of the disposal process, the system records the volume, fill level, degree of sorting and condition of waste container locations, as well as any wrongly disposed materials. Working together with the waste producers, the waste management department uses the collected information to develop suitable measures for optimizing container volumes, collection intervals, container locations and disposal routes in response to ambient production conditions. This tool has streamlined waste management at the Bratislava plant, as reflected in, for example, the 15% reduction in the amount of cost-incurring waste. Furthermore, substantially less time is required to collate waste figures for reports.
- At the Audi site in Neckarsulm, special containers for dewatering paint sludge are being used experimentally. So far – and contrary to previous experience – the experiment has been successful. The system has reduced the residual liquid content of the sludge, hence the amount of waste, and the sludge has a more solid consistency. Whether the containers are suitable for permanent use will be decided after a long-term pilot.
- At ŠKODA, transportable oil filtration systems are used to increase the service life of oils and so reduce the amount of waste oil. In addition, a new evaporator system for separating emulsions has gone into operation at the Vrchlabi plant, aiming to reduce the volume of waste emulsions for disposal. ŠKODA is also now using washable – i.e. reusable – cleaning cloths instead of disposable ones.
- At the Braunschweig plant, press containers used for household-type commercial waste, cardboard, paper and plastic film are equipped with a GPS signaling system. The system automatically tracks the fill level and position of the containers. Once containers are 75% full, a signal is automatically sent to the waste disposal specialist for transport scheduling purposes. This has enabled the plant to significantly increase full container weights and so reduce the number of disposal runs.

## GREEN LOGISTICS

Logistics is part of the Volkswagen Group's environmental focus. For example, we are optimizing the entire transport chain in order to avoid CO<sub>2</sub> emissions. The aim is to avoid transportation completely or else shift to more environmentally friendly modes of transport, and to reduce fuel consumption. We are pursuing measures and activities for optimizing logistics processes across our brands.

The Corporate Green Logistics Working Group was set up in 2012. The Group is responsible for coordinating and jointly developing initiatives, accounting practices and training packages across the Group.

Choosing the right means of transport is a key starting point for reducing CO<sub>2</sub> emissions. Maritime shipping is regarded as one of the most efficient transport options. So the Volkswagen Group is now involved in the Clean Shipping Network (CSN), an association of marine cargo owners, and is represented on its management board. CSN members can use the Clean Shipping Index (CSI) rating tool to compare environmental efficiency figures such as the emissions of individual ships on particular routes. This is useful for analyzing the environmental impact of shipping. At the request of Volkswagen AG and others, soot particles have now been included in the index, alongside CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, water and chemicals.

Volkswagen Group Logistics is continuously expanding the number of CSI-listed vessels in its own transport network. The ratio is regularly updated and considered whenever the Group offers new transport services to tender.



Starting in 2019, the Volkswagen Group will become one of the first vehicle logistics OEMs to use two car-carrying vessels powered by liquefied natural gas (LNG) supplied by Siem Car Carriers AS between Europe and North America. The alternative, LNG-driven marine engine is improving the environmental compatibility of marine transport and sustainably reducing airborne pollution – CO<sub>2</sub> by up to 25% and NO<sub>x</sub> by up to 30%; soot particles by up to 60% and SO<sub>x</sub> by up to 100%.

Furthermore, the Group is constantly working to find and use alternative and more environmentally compatible transport options for material logistics. Materials from Turkey destined for Volkswagen Autoeuropa in Palmela, Portugal, have been shipped from Izmir to Lisbon since late 2015. Previously, the materials traveled by truck. By changing the means of transport, the company is saving 240 t of CO<sub>2</sub> per year and also cutting costs.

## BIODIVERSITY

Biodiversity signifies the variety of life on our planet, encapsulating the variety of species, genetic differences within species, and the diversity of ecosystems. We rely on it as the basis for our continued existence: healthy food, clean water, fertile soils and a balanced climate. Protecting biological diversity is one of the greatest societal challenges of our time. The United Nations has thus declared the current decade to be the “UN Decade on Biodiversity”.

Volkswagen has been committed to protecting biodiversity since 2007 and is a founder member of the Biodiversity in Good Company e.V. initiative. In our mission statement, we promise to support the protection of species at all locations. On the basis of this commitment, VW Mexico was invited to give a guest presentation at the Business and Biodiversity Forum in Cancun in December 2016. The Forum was part of the United Nations’ Conference of the Parties to the Convention on Biological Diversity (COP13-CBD). We primarily contribute to achieving the targets of the UN Convention on Biological Diversity by minimizing greenhouse gas emissions and utilizing materials and resources as efficiently as possible. As a consequence of the diesel issue, we are putting our membership of the Biodiversity in Good Company e.V. initiative on hold for the time being.

Biodiversity is a component of our environmental management. We have, among other things, appointed a biodiversity officer and commissioned external expert assessments of the risks to water,

The Group Consolidation Center that opened in 2016 in Malacky near Bratislava is also helping to improve the environmentally friendly profile of logistics within the Volkswagen Group. Optimized thermal insulation is reducing heating costs; the use of double doors in the loading and unloading area is ensuring that heat losses are minimized, and LED lighting is cutting electricity consumption by around 50%. At the same time, the bundling of freight in the Consolidation Center has cut the daily traffic volume by an average of around 90 trucks in goods incoming, and around 65 trucks in goods dispatch.

the soil and biodiversity at 32 locations belonging to the Volkswagen Passenger Cars, Porsche and MAN brands.

One of the projects we jointly implemented with Naturschutzbund Deutschland e.V. (NABU) was a wetland conservation project in Germany. In 2016, Volkswagen Financial Services AG once again made a donation in support of NABU’s International Peatland Conservation Fund. The company is currently sponsoring 13 wetland conservation projects in various parts of Germany ranging from Lower Saxony to Bavaria, as well as projects in Poland, Lithuania, Latvia and Estonia.

At our international sites, we collaborate with a range of partners to support the protection of nature and biodiversity. This means we can contribute to local implementation of the United Nations’ Sustainable Development Goals (SDGs). We also fund biodiversity research at our Urumqi site in the Chinese province of Xinjiang. We have been supporting the Dyer Island Conservation Trust in South Africa since 2011; in 2015, the Trust opened a care center for seabirds there. Since 2012, Volkswagen Slovakia has been engaged in a joint venture with Comenius University in Bratislava, breeding crayfish threatened with extinction with the aim of resettling them in Slovakia’s streams and rivers. In 2017, we are planning further research projects in Slovakia’s nature reserves and lakes.



# Sales, use and recycling

Our philosophy of forward-thinking, environmentally minded mobility spans every stage in the value chain. But the use phase is pivotal – not just in terms of impact, but also because it is critical to success as our customers' needs continue to evolve. Fuel-efficient vehicles are just one, albeit vital, component of progressive mobility

## SMART MOBILITY

### Objective

Mobility is an essential prerequisite of a functioning society and economic growth. Our aim is to make mobility even more efficient and environmentally compatible, but also to enable more people to play an active part in society – in line with the United Nations' Sustainable Development Goals (SDGs). We define "smart mobility" as optimized interaction between road users, infrastructure and different modes of transport. Digitalization and connectivity are pivotal in preparing for the use of new products and services and improving traffic flows. However, in addition to environmental protection, smart mobility is also synonymous with improved safety and the economical use of traffic areas, for example through the use of innovative assistance systems to circumvent traffic jams.

### Strategic Approach

During the reporting period, Volkswagen continued its long-standing systematic research into mobility issues. In order to develop appropriate, intelligent solutions, auto mobility must be treated as part of a complete system that incorporates other modes of transport, human settlement patterns, urban and infrastructural developments, new technologies – especially automatic driving, digitalization, electric mobility and connectivity – as well as trending demand (e.g. carsharing, vehicle sharing) and other influencing factors. Part of our strategic approach is to maintain an intensive dialog with the general public and academia.

Challenges and their possible solutions, especially in towns and cities, once again featured high on the mobility agenda for both the general public and academia. Our film "Urban Mobility 2030" helped us refine our strategic appreciation of the challenges posed by urban mobility and the various potential solutions, and to open it up for debate – for example at DRIVE, the Volkswagen Group Forum in Berlin.

Since 2013, Volkswagen has been collaborating with 14 other companies from various industries on the Sustainable Mobility 2.0 project launched by the World Business Council for Sustainable Development (WBCSD). A sustainable approach to future urban mobility needs a credible definition of what the word "sustainable" actually means, and a way of measuring current and future solu-

tions against this yardstick. Using scientific criteria, a catalog of – at the last count – 19 indicators has been developed and trialed in six model cities around the world. In return, each of the participating cities is given a sustainability profile, while a database of solutions also developed as part of the project reveals the most effective measures for each indicator. In the spring of 2016, the European Commission announced that it would actively support the use of these indicators in cities.

with a smaller carbon footprint. This is why we are committed to offering our customers the fullest possible range of mobility services, and why the Group's Environmental Strategy also embraces the final stage of the vehicle's life cycle: recycling.

tions against this yardstick. Using scientific criteria, a catalog of – at the last count – 19 indicators has been developed and trialed in six model cities around the world. In return, each of the participating cities is given a sustainability profile, while a database of solutions also developed as part of the project reveals the most effective measures for each indicator. In the spring of 2016, the European Commission announced that it would actively support the use of these indicators in cities.

### Research Projects

It is also important to produce reliable forecasts of the potential impacts of future solutions on urban air quality, noise pollution or traffic flow (impact assessment). This is where models and simulations make an important contribution, because many solutions – such as dial-a-bus systems – only exert appreciable influence once they have achieved a certain market penetration. Building on these results, it is then possible to develop or optimize the right solutions for the future with much greater exactitude.

In parallel with the ongoing automation of driving functions, innovative methods for identifying situations and using them to calculate traffic-efficient driving strategies are gaining in importance. We are further expanding our research activities in these areas in order to make the most of the limited road area in the vicinity of urban junctions and other sensitive nodes in the traffic system.

More and more of us live in cities. Traffic noise impairs our quality of life, and is produced by many different means of transport. At Volkswagen, we are very aware of our responsibilities as a manufacturer of one of those means of transport in particular – the automobile – and are working intensively on ways to steadily reduce noise emissions from individual vehicles. In these efforts to reduce noise, Volkswagen is even going one step further. We are using a specially developed tool to calculate noise pollution levels in cities and further develop our understanding of the role of the car, assess interactions between different noise sources, and evaluate various measures for reducing noise. Our aim is to improve the noise situation for urban residents in general by entering into dialog with cities and fellow noise emitters.



Volkswagen AG supported the INEES research project by providing 20 VW e-up! cars. VW e-up! energy consumption in kWh/100 km: 11.7 (combined); CO<sub>2</sub> emissions in g/km: 0 (combined); efficiency rating: A+

## AUDI E-GAS FUEL CARD AND GREEN GAS PRODUCTION

Drivers of the Audi A3 Sportback g-tron can become almost entirely carbon-neutral, thanks to the Audi e-gas fuel card. Audi records the amount of gas each customer purchases with the card, and ensures that exactly the same quantity of synthetically produced, renewable Audi e-gas is fed into the German natural-gas network to compensate. The e-gas is produced by the world's largest industrial power-to-gas plant on the grid, which uses a chemical process based on wind power, CO<sub>2</sub> and water to generate synthetic methane, effectively "storing" green electricity in the existing natural-gas network. In 2015, following a successful test sequence, the plant qualified to participate in the balancing energy market. Thus the effects of the Audi e-gas project extend well beyond the automotive industry.

## MOBILITY SERVICES

Mobility Solutions is one of the four cornerstones of our new TOGETHER – Strategy 2025.

In future, the Group plans to invest in carsharing, robotaxis and transport-on-demand initiatives. The strategic partnership with on-demand mobility company GETT is one such initiative, aimed at expanding the **Group's Mobility Solutions** portfolio.

With the rapid expansion of Internet commerce, the number of packages being delivered in towns and cities is rising sharply, resulting in escalating traffic volumes. If deliveries fail because there is no-one to accept the delivery, this is a negative outcome for all parties involved – but also for the environment. Consequently, we aim to create synergies between passenger and goods transportation by devising new logistics concepts that avoid unnecessary journeys. One possible solution, developed in cooperation between Audi and Group Research, is the so-called "parcel car". In the era of networked vehicles, a car boot (trunk) becomes a mobile delivery address to which logistics service providers can gain keyless access. Thanks to this temporary access authorization, by the time the recipient leaves work, the package is already safely in their car boot. Audi AG is jointly testing this solution – dubbed "Audi connect easy delivery" – with DHL Paket and Amazon in Munich, and is preparing to launch it with a view to making the concept available to all Group vehicles in the future.

## MOBILITY MANAGEMENT AT OUR SITES

Of course smart mobility also includes providing solutions for our own employees at Volkswagen sites with what we call "mobility management". This includes, but is not limited to, cars and parking spaces. Examples include cycling campaigns, shuttle-bus services, season tickets for public transport, the provision of ridesharing apps, and parking spaces for carpools.

### Eco-friendly Driving

Regardless of model or brand, alongside the development of ever more efficient vehicles, eco-friendly driving habits are a major factor in reducing fuel consumption and CO<sub>2</sub> emissions, not to mention noise and pollutant emissions. With this in mind, we support our customers by offering a range of courses:

- Customers can also book "Think Blue. Eco-Training." courses directly with Volkswagen in Germany, Hong Kong and Singapore.
- Plenty of fuel-saving hints and tips are provided in dedicated brochures and car manuals

### SAVE FUEL WITH “THINK BLUE. TRAINER.”

“Think Blue. Trainer.” is a driver assistance program offering vital information on current fuel consumption during journeys as a way of encouraging eco-friendlier driving habits. It already features in the e-up! and up! models with conventional power-trains, as well as the Polo and Passat, and will gradually be rolled out to other models. The range of functions offered by the “Think Blue. Trainer.” program can be further extended with the “Volkswagen Car-Net Think Blue. Trainer.” app, which communicates with the vehicle and can be operated via the infotainment system. The app also contains training challenges for additional motivation. All trips are automatically stored, and can be used later for cross-comparison.

### SCANIA ECOLUTION

Ecolution by Scania combines our tailored products with driver services. Based on continuous customer dialogue, the common goal is improved fuel efficiency. Through optimized vehicle specifications, performance diagnostics, driver training and monthly follow-ups, our results show an average 10% reduction in fuel consumption.

### SCANIA FUEL MASTERS

Scania Fuel Masters, a new interactive competition site that Scania launched in October 2015, allows drivers to compare their most fuel-efficient journeys with each other via their mobile phones.

### Audi Mobility Services

Audi offers three innovative carsharing services: Audi shared fleet, Audi select and Audi on demand.

With Audi shared fleet, companies can customize their own corporate fleets. Depending on the individual arrangement, Audi takes care of the on-site implementation and maintenance of the corporate vehicle fleet – from supplying carpool vehicles to regularly servicing, fueling and cleaning them. The highlight: employees can use the pool vehicles for business and private trips. This increases employees’ mobility – even after regular working hours – and can be used as an additional incentive by employers. Even better, Audi shared fleet enhances fleet utilization and cost efficiency.

The Audi select service targets private individuals and corporate customers alike. Over a 12-month period, customers can drive three different Audi models – and for six months, choose a Ducati as well. A premium pool of low-mileage, well-equipped second-hand cars is available for this service.

Audi on demand is a mobility service that gives customers flexible access to premium mobility. Whether for spontaneous short adventures or longer business trips, customers can book the right Audi online; cars are available in a matter of minutes. Munich Airport is the first Audi on demand location in Germany.

### PRODUCT COMMUNICATION

Alongside the development of ever more fuel-efficient new models, the Volkswagen Group boasts a wide range of other offerings for eco-friendly mobility. Our product communications spotlight particularly efficient vehicles and low-carbon technologies by awarding them efficiency badges, and report on the environmental progress new models have made over their predecessors by means of Life Cycle Assessments and Environmental Commendations.

Porsche has also launched a sustainability initiative to support dealers, aimed at improving the energy efficiency of existing Porsche Centers and ensuring that new centers are made as energy-efficient as possible.

### CARSHARING

In 2013, Volkswagen Financial Services, together with its partner Pon Holdings B.V., acquired a stake in market-leading Dutch carsharing company Collect Car B.V., better known as Greenwheels.

## RECYCLING

Recycling makes a key contribution to reducing our products' impact on the environment and conserving resources. This is not just about recycling vehicles at the end of their service life; recycling starts at the new-vehicle development stage, during which we pay close attention to the recyclability of the required materials, the use of high-quality recycled materials, and the avoidance of pollutants. At the same time, we factor in aspects of the use phase, for instance the treatment and disposal of service fluids or high-wear components.

Volkswagen is also constantly working on developing and enhancing recycling methods, processes and technologies. We have developed a multi-award-winning process, VW-SiCon, that allows end-of-life vehicles to be 85% recycled and 95% recovered. This complies with the regulatory requirements that have been in force in the EU since the beginning of the reporting period. With our partners, we are developing modern technologies for recycling components from elec-

tric vehicles in two research projects: LithoRec (lithium-ion battery recycling) and ElmoRel (electric vehicle recycling – key components in power electronics).

Audi also presented a pilot project for the reuse of traction batteries from e-tron models, which could significantly extend the useful life of lithium-ion batteries and substantially improve the environmental impact and cost-effectiveness of vehicles with electric powertrains. Giving batteries a second lease of life by using them as stationary accumulators makes an important contribution to the transition to renewable energy sources.

Last but not least, we should mention the Volkswagen Passenger Cars Genuine Exchange Parts program. Our industrial reconditioning produces high-quality exchange parts that conserve resources and offer the same quality, functionality and warranty as the corresponding new parts while being on average 40% cheaper.

### MAN TRUCK & BUS

MAN Truck & Bus professionally remanufactures used parts for use in vehicle repairs under the "MAN Original Teile® ecoline" brand. The range includes more than 3,000 items. This helps conserve resources, save energy, and cut costs by an average of 30%. We also offer customers in most areas of Europe an extensive portfolio of replacement and spare parts.

# Facts and Figures

In this chapter, we report on how our key financial, personnel and environmental indicators have developed over recent years. These indicators provide information on what has already been achieved, but they also highlight areas where there is still room for improvement. The charts and figures are therefore followed by a presentation of our goals and an estimation of the extent to which those goals have been achieved.

## Sustainable through an through

G4-17

The Volkswagen Group is committed to sustainable, transparent and responsible corporate governance. The principles of our sustainability management are described in detail in the [Strategy chapter](#), as are our continuous improvement goals. Our goals and actions, together with planned activities and current status, are presented in greater detail at the end of this chapter.

The chapter Guidelines and Principles provide an overview of the Group-wide principles, agreements and methods that form the basis for our shared understanding of sustainability across the Group, allowing performance to be measured, controlled and improved.

### MANAGEMENT BY KEY INDICATORS

In order to manage its sustainability performance, the Volkswagen Group collects central performance indicators in line with the requirements of the Global Reporting Initiative (GRI) and the ESG (Environment, Social, Governance) indicator framework of the European Federation of Financial Analysts Societies (EFFAS). Increasingly, shareholders and investors demand transparency, and this makes them an important target group for our sustainability reporting. In recognition of this, we provide an overview of our economic, environmental and social performance in the following chapters on [Financial Indicators](#), [Environmental Indicators](#) and [Personnel Indicators](#). The overview is as comprehensive as possible and stated in quantitative terms.

The key indicators we present are a continuation of those from previous years. There have been no changes in the methods used to report and measure our sustainability performance. The Volkswagen Group's global production network comprised 120 production locations at the end of the reporting year. This is now the fourth time we have reported our emissions in line with Scope 3 of the Greenhouse Gas Protocol (GHG), which makes us one of the trailblazers in our industry.

### Frame of Reference

G4-17, G4-22, G4-23

In general, the indicators relate to the entire Group, including any companies in which our equity interest exceeds 50%. For our joint ventures in China, we report social indicators "at equity", in other words at 50%, but including 100% of environmentally relevant data. However, due to differing definitions or collection methods, it is not yet possible to consolidate the data reported by the brands and regions in all areas, which means that there are still numerous exceptions. In this report indicators which are only relate to parts of the Group are marked with footnotes and explaining which parts. Over the coming years, we will continue to endeavor to make data collection uniform across all locations and companies.

### AUDITING AND STANDARDS

The Volkswagen Group Sustainability Report 2016 has been audited by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC) against the relevant requirements and criteria laid down in the G4 Sustainability Reporting Guidelines of the Global Reporting Initiative, taking supplementary account of the International Standard on Assurance Engagements (ISAE) 3000 (Revised). The audit activities carried out by PwC include: management surveys, surveys of employees responsible for reporting sustainability information, and recording of the processes used to collect, calculate and report sustainability information. In the following Indicators chapters, the quantitative details of the 2016 reporting period audited by PwC are marked with the symbol . Further information about the audit can be found in the Independent Assurance Report.

### ADDITIONAL REPORTING WITHIN THE GROUP

More detailed insights into our environmental management approach are provided by the Environmental Statements which numerous locations compile as part of their voluntary participation in the European EMAS (Eco-Management and Audit Scheme) system. The sustainability reports of the Audi, MAN, Porsche, Scania and ŠKODA brands are also indicative of the Group's commitment to sustainability.

# Financial Indicators

detailed presentation of financial indicators can be found in the current Volkswagen Group Annual Report. The indicators shown below comply with the International Financial Reporting Standards (IFRS) for the entire 2012 to 2016 period.

## Volume Data<sup>1,2</sup>

in thousands

	2016	2015	2014	2013	2012
Vehicle sales (units)	10,391	10,010	10,217	9,728	9,345
In Germany	1,257	1,279	1,247	1,187	1,207
Outside Germany	9,135	8,731	8,970	8,541	8,137
Production (units)	10,405	10,017	10,213	9,728	9,255
In Germany	2,685	2,681	2,559	2,458	2,321
Outside Germany	7,720	7,336	7,653	7,270	6,934
Employees (yearly average)	627	604	583	563	533
In Germany	280	276	265	255	237
Outside Germany	339	329	318	308	296

<sup>1</sup> Volume data including the unconsolidated Chinese joint ventures.

<sup>2</sup> These data have been transferred from the consolidated financial statements and the combined management report 2016 of the Volkswagen AG audited by PwC.

## Financial Data<sup>1</sup>

in € million

Volkswagen Group	2016	2015	2014	2013	2012
Sales revenue	217,267	213,292	202,458	197,007	192,676
Operating profit after special items	7,103	-4,069	12,697	11,671	11,498
Earnings before tax	7,292	-1,301	14,794	12,428	25,487
Earnings after tax	5,379	-1,361	11,068	9,145	21,881
Profit attributable to Volkswagen AG shareholders	5,144	-1,582	10,847	9,066	21,712
Cost of materials	140,307	143,700	132,514	127,089	122,450
Personnel expenses	37,017	36,268	33,834	31,747	29,504
Pension provisions	33,012	27,535	29,806	21,774	23,939
<b>Automotive Division<sup>2</sup></b>					
Cash flows from operating activities	20,271	23,796	21,593	20,612	16,232
Cash flows from investing activities attributable to operating activities <sup>3</sup>	15,941	14,909	15,476	16,199	16,455
Net liquidity at Dec. 31	27,180	24,522	17,639	16,869	10,573

<sup>1</sup> These data have been transferred from the consolidated financial statements and the combined management report 2016 of the Volkswagen AG audited by PwC.

<sup>2</sup> Including allocation of consolidation adjustments between the Automotive and Financial Services divisions.

<sup>3</sup> Excluding acquisition and disposal of equity investments: €18,224 million (€17,270 million).

## Added Value Generated by the Volkswagen Group (Appropriation of funds)\*

in € million

Source of funds	2016	2015	2014	2013	2012
Sales revenue	217,267	213,292	202,458	197,007	192,676
Other income	17,907	20,092	14,192	13,994	24,642
Cost of materials	-140,307	143,700	132,514	127,089	122,450
Depreciation and amortization	-20,924	-19,693	-16,964	-14,686	-13,135
Other upfront expenditures	-23,990	-28,578	-15,063	-21,027	-22,070
<b>Value added</b>	<b>49,953</b>	<b>41,413</b>	<b>52,109</b>	<b>48,198</b>	<b>59,663</b>

Appropriation of funds in € million	2016		2015		2014		2013		2012	
		%		%		%		%		%
to shareholders (dividend)	1,015	2.0	68	0.2	2,294	4.4	1,871	3.9	1,639	2.8
to employees (wages, salaries, benefits)	37,017	74.1	36,268	87.6	33,834	64.9	31,747	65.9	29,504	49.5
to the state (taxes, duties)	3,486	7.0	3,033	7.3	3,817	7.3	3,865	8.0	4,322	7.2
to creditors (interest expense)	4,070	8.1	3,472	8.4	3,389	6.5	3,442	7.1	3,957	6.6
to the Company (reserves)	4,365	8.7	-1,428	-3.4	8,774	16.8	7,274	15.1	20,242	33.9
<b>Value added</b>	<b>49,953</b>		<b>41,413</b>		<b>52,109</b>		<b>48,198</b>		<b>59,663</b>	

\* These data have been transferred from the consolidated financial statements and the combined management report 2016 of the Volkswagen AG audited by PwC.

Key Figures by Brand and Business Field<sup>1</sup>

Thousand vehicles/€ million	Vehicle sales		Sales revenue		Sales to third parties		Operating profit	
	2016	2015	2016	2015	2016	2015	2016	2015
Volkswagen Passenger Cars	4,347	4,424	105,651	106,240	69,523	70,939	1,869	2,102
Audi	1,534	1,529	59,317	58,420	37,460	37,605	4,846	5,134
ŠKODA	814	800	13,705	12,486	6,606	6,128	1,197	915
SEAT	548	544	8,894	8,572	3,967	3,570	153	-10
Bentley	11	11	2,031	1,936	1,590	1,379	112	110
Porsche <sup>2</sup>	239	219	22,318	21,533	20,166	19,663	3,877	3,404
Volkswagen Commercial Vehicles	478	456	11,120	10,341	5,527	4,813	455	382
Scania <sup>2</sup>	83	78	11,303	10,479	11,291	10,479	1,072	1,027
MAN	102	102	10,005	9,958	9,275	9,700	230	-4
MAN Power Engineering	-	-	3,593	3,775	3,590	3,769	194	283
VW China <sup>3</sup>	3,873	3,456	-	-	-	-	-	-
Other	-1,638	-1,608	-58,225	-56,318	23,646	21,922	-1,486 <sup>4</sup>	-2,440 <sup>4</sup>
Volkswagen Financial Services	-	-	27,554	25,901	24,625	23,326	2,105	1,921
Volkswagen Group before special items	-	-	-	-	-	-	14,623	12,824
Special items	-	-	-	-	-	-	-7,520	-16,839
Volkswagen Group	10,391	10,010	217,267	213,292	217,267	213,292	7,103	-4,069
Automotive Division <sup>5</sup>	10,391	10,010	186,016	183,936	189,384	186,869	4,668	-6,305
of which: Passenger Cars business area	9,729	9,374	150,343	149,716	160,409	158,716	4,167	-7,013
Commercial Vehicles business area	662	636	32,080	30,445	25,385	24,383	718	586
Power Engineering business area	-	-	3,593	3,775	3,590	3,769	-217	123
Financial Services Division	-	-	31,251	29,357	27,883	26,424	2,435	2,236

<sup>1</sup> All figures shown are rounded, so minor discrepancies may arise if these amounts are added together.

<sup>2</sup> Including financial services.

<sup>3</sup> The sales revenue and operating results of the joint-venture companies in China are not included in the figures for the Group. The Chinese companies are accounted for using the equity method and recorded a proportionate operating profit of €4,956 million (€5,214 million).

<sup>4</sup> Mainly intragroup items recognized in profit or loss, in particular from the elimination of intercompany profits; the figure includes depreciation and amortization of identifiable assets as part of purchase price allocation for Scania, Porsche Holding Salzburg, MAN and Porsche.

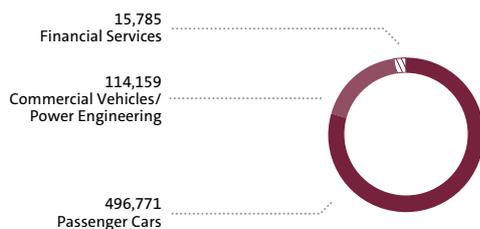
<sup>5</sup> Including allocation of consolidation adjustments between the Automotive and Financial Services divisions.

# Personnel Indicators

The Volkswagen Group including the Chinese joint venture employed on average 626,715 people (+3.0%) in financial year 2016. Domestically in 2016, on average 279,993 people were under contract; their share of the total workforce was slightly below the level of the previous year with 44.7% (45.6%). As of December 31, 2016, the number of active employees in the Volkswagen Group was at 601,443 (+2.8%). In addition, 5,782 employees were in the passive phase of partial retirement and 19,490 young people (+4.5%) were in a training relationship. At the end of the year under review the workforce of the Volkswagen Group came to 626,715 people (+3.0%). Essential factors for the rise in employee numbers were the hiring of qualified staff above all in Germany and China, the volume-based growth abroad and the staff increase in our new plants in Mexico and Poland. Domestically there were 281,518 people employed (+1.0%), abroad 345,197 (+4.2%) by 31 December 2016.

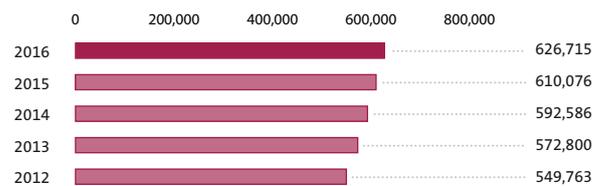
## Number of Employees

in the Volkswagen Group by Segment



## Workforce

in the Volkswagen Group



## Number of Employees

in the Volkswagen Group by Type of Work

	2016	2015	2014	2013	2012
Production workers	289,438	279,771	273,418	265,474	258,685
Non-production workers	317,787	311,654	300,709	289,623	274,364
Apprentices	19,490	18,651	18,459	17,703	16,714
<b>Total workforce</b>	<b>626,715</b>	<b>610,076</b>	<b>592,586</b>	<b>572,800</b>	<b>549,763</b>
of whom: active employees*	601,443	585,242	566,998	545,596	525,245
in passive phased retirement	5,782	6,183	7,129	9,501	7,804

\*All employees with a current contract of employment in a Group company who are involved in the value creation process.

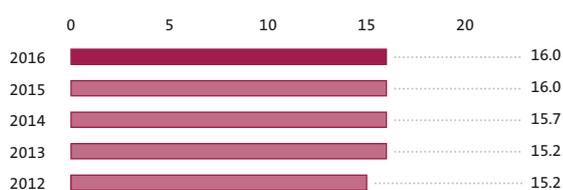
## Number of Employees

in the Volkswagen Group by Regions

	2016	2015	2014	2013	2012
Europe	464,199	451,257	438,631	424,964	410,427
The Americas	58,491	59,329	59,790	61,796	63,193
Africa	6,082	6,388	6,330	6,356	6,461
Asia	96,823	91,991	86,752	78,672	68,704
Australia	1,120	1,111	1,083	1,012	978
<b>Total</b>	<b>626,715</b>	<b>610,076</b>	<b>592,586</b>	<b>572,800</b>	<b>549,763</b>
of whom: temporary staff	21,806	17,909	15,161	17,419	24,914
permanent staff	604,909	592,167	577,425	555,381	524,849

## Female Employees\* ✓

in the Volkswagen Group (in %)



\* since 2011 incl. Scania.  
Since 2013 incl. MAN and Porsche.

## Proportion of Women<sup>1</sup> ✓

in the Volkswagen Group in Germany (in %)

	2016	2015
Total management	11.0	10.3
Total apprentices	29.5	28.3
Industrial apprentices	23.3	22.6
Commercial apprentices	58.6	57.0
Students on "dual system" courses	33.5	33.4
University graduates recruited <sup>2</sup>	26.0	37.0
<b>Total Volkswagen Group in Germany</b>	<b>18.1</b>	<b>17.8</b>

<sup>1</sup> Excl. Scania, MAN and Porsche.  
<sup>2</sup> Volkswagen AG.

It is the goal of the company to further increase the proportion of women from Group-wide 16.0%. This applies in particular to the management. In the year under review the proportion of women in the management circles of the Volkswagen Group in Germany could already be increased to 8.7% in upper management and 12.8% in

the management circle (status at year-end without Scania, MAN or Porsche). In top management the proportion rose from 3.8% in 2015 to 4.7% in the year under review (status at year-end without Scania, MAN or Porsche).

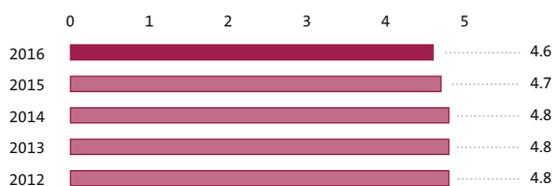
## Apprentices

in the Volkswagen Group

December 2016	Total	Domestic Country	Foreign Country
Volkswagen Passenger Cars	6,807	5,359	1,448
Audi	2,770	2,650	120
ŠKODA	913	2	911
Porsche	794	759	35
Porsche Holding Salzburg	2,042	1,116	926
SEAT	202	47	155
Bentley	155	0	155
Others	581	18	563
<b>Automotive Division</b>	<b>14,264</b>	<b>9,951</b>	<b>4,313</b>
MAN	3,145	2,245	900
Scania	944	0	944
Volkswagen Commercial Vehicles	956	726	230
<b>Commercial Vehicles/Power Engineering Division</b>	<b>5,045</b>	<b>2,971</b>	<b>2,074</b>
Financial Services Division	181	143	38
<b>Group</b>	<b>19,490</b>	<b>13,065</b>	<b>6,425</b>

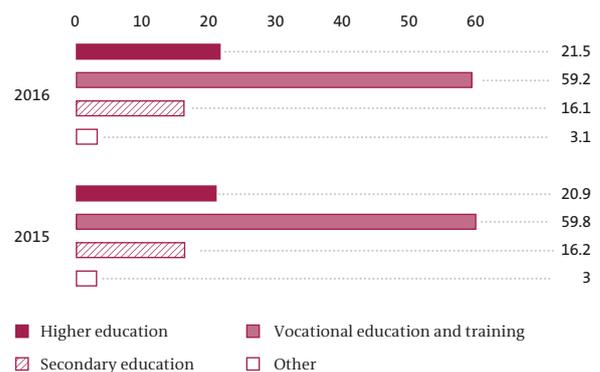
## Apprentices

in the Volkswagen Group in Germany (in %)



## Level of Qualification\*

in the Volkswagen Group (in %)



\* Ohne Scania.  
Ab 2014 inkl. MAN.

The total number of apprentices rose, remaining a constant proportion of the overall workforce over the reporting period.

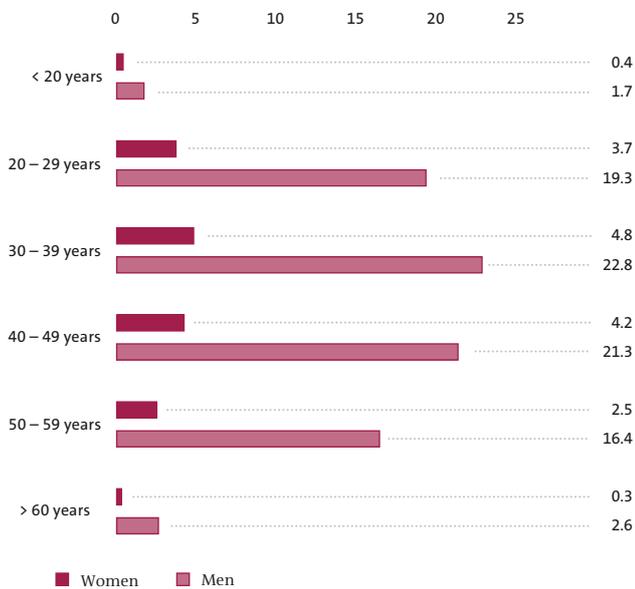
The percentage share of trainees in the total workforce of the Volkswagen Group has been around 5% for years. Collective regulations

ensure that the number of trainees remains almost constant even in economically difficult times.

Through targeted personnel selection, the Volkswagen Group employs a high share of qualified employees. Around 97% of employees have completed training.

## Employee Age structure

in the Volkswagen Group (in %)



## Average Age

at Volkswagen AG

	2016	2015	2014	2013	2012
Women	39.0	38.6	38.4	38.3	38.0
Men	44.2	43.7	43.6	43.7	43.4
Total	43.2	42.9	42.8	42.9	42.6

The average age in Volkswagen AG has remained relatively constant since 2011 – a sign that the adding of trained people and the departure due to age of long-standing employees is in balance.

## Employee Turnover\*

at Volkswagen AG (in %)

	2016	2015	2014	2013	2012
Women	0.3	0.4	0.3	0.3	0.2
Men	0.5	0.4	0.4	0.4	0.4
Total	0.5	0.4	0.4	0.4	0.4

\* Not incl. age-related turnover.

The fluctuation rate states what percentage of employees leave the company in a year. The chart shows that the stability of the employment relationships at Volkswagen is very high.

## Average period of Employment

at Volkswagen AG (in years)



## Absenteeism\*

Cumulative values (in %)



\* Production locations with over 1,000 employees, excluding Scania, MAN, Ducati, Shanghai Volkswagen Powertrain and Volkswagen Automatic Transmission. From 2014: including Porsche. From 2015: including MAN Germany.

Illness-related absence from the workplace not only represents a considerable cost factor for production companies but also a major logistical problem for staff deployment planning. A stronger offer in diagnostics and prevention can support a low working-time-lost ratio. The working time lost in the company is calculated according

to the following formula:  $\text{Absence days} \times 100 / \text{payment-relevant days}$  (payment-relevant days are days on which work performance was expected from the employee).

## Parental Leave\*

at Volkswagen AG

	2016	2015	2014	2013	2012
Women	821	718	601	537	472
Men	2,540	2,112	1,658	1,285	1,114
Total	3,361	2,830	2,259	1,822	1,586

\*Number of employees who started their parental leave in the year in question.

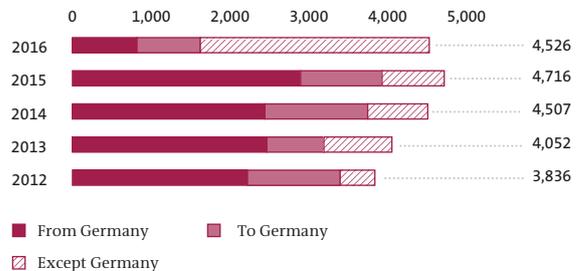
## Returning from Parental Leave

at Volkswagen AG (2016)



## Foreign Service Employees\*

in the Volkswagen Group



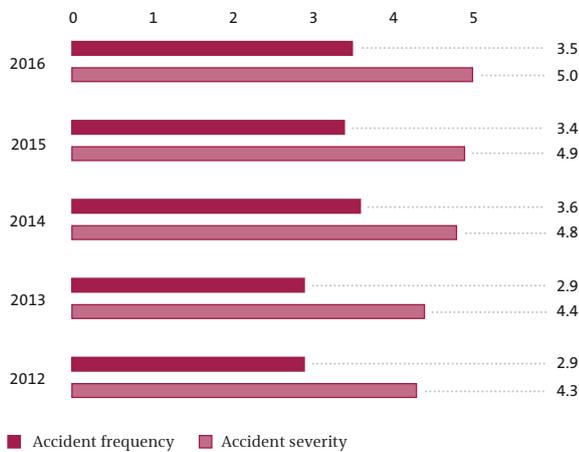
\* From 2013 incl. new Group companies MAN, Scania, Porsche AG, Ducati and Porsche Holding.

For the deployments from Germany we are talking about all employees from German group companies that found themselves on foreign assignment as of the reporting date (in each case December 31). The deployments to Germany include all assignments of foreign group employees in German group companies. The deployments “except Germany”, so-called third-country deploy-

ments, represent how many employees of foreign group companies were assigned to countries other than Germany or their respective homeland. This includes foreign assignments that take place on a contract basis (FSE assignments), business travellers are not included here.

## Accident Indexes\*

in the Volkswagen Group

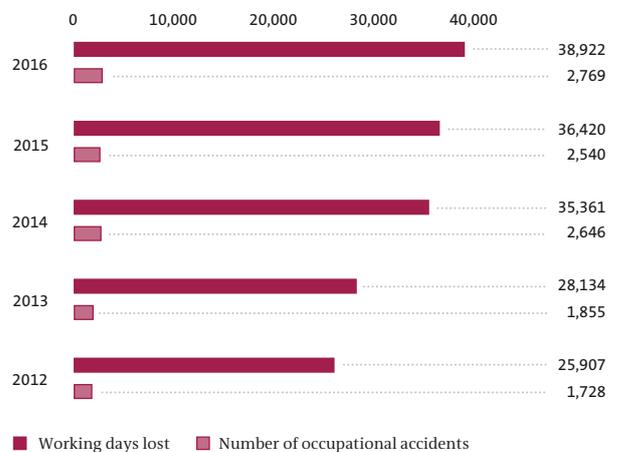


\* Production locations excl. Scania.  
From 2014 incl. MAN.

The accident frequency index provides information about how frequently industrial accidents have happened, in relation to the total of all work hours performed. The underlying calculation formula reads as follows: the number of industrial accidents × 1 million/work hours performed. The accident severity index shows the severity of accidents

## Accident Severity\*

in the Volkswagen Group



\* Production locations excl. Scania.  
From 2014 incl. MAN.

by putting the number of workdays lost due to accidents in relation to the work hours performed. The underlying calculation formula reads as follows: the number of work days lost × 1 million/work hours performed × 10.

# Environmental Indicators

As in previous years we are also reporting important environmental key figures of production for the year under review 2016.

Selected environmental data of the Volkswagen Group are presented here in aggregate form. The data are determined, checked and released to the production locations on the basis of a group-internal standard (VW standard 98 000). In order to increase the degree of precision and the consistency of the information gained, the gathering of the environment-relevant consumption and emission data is subject to a continuous improvement process. This applies in particular to that information that has to be determined with the aid of special calculation algorithms. Furthermore, the values for the December of the past year can contain an estimated portion if for instance it is based on settlements from energy suppliers or waste removers, that at the time of the data gathering were not available. These estimated portions will be replaced at the next data collection by the then known December values.

In analogy to the company-internal environmental strategy enforcement, the time series depicted refer to the base year 2010. The current year under review and the corresponding previous year complete the reporting period.

In total, the environmental data from the production locations are being collected. In addition, starting from the data year 2016 the production locations of Września (Volkswagen Poznań Sp.z o.o.), Września (SITECH Sp. z o.o.), San José Chiapa (Audi México S.A. de C.V) and Amphur Pluakdaeng Rayong (Ducati Motor (Thailand) Co. Ltd.) were included in the collection.

The data from the category "Private and light commercial vehicles" for the years 2010, 2015 and 2016 are reported as in the Volkswagen annual report. The data of the brands Scania AB, MAN SE, Ducati Motor Holding S.p.A. and the VW Kraftwerk GmbH are reported in the category "Other group divisions". The respective proportions are presented differentiated in the charts. If not reported otherwise, all producing locations of the Group as well as the power plants and boiler houses operated by Volkswagen AG at the Wolfsburg, Kassel and Hanover locations are taken into account.

However, only 112 of the 120 Group production locations are included in the coverage of the data. No data is available for the seven Regional Product Centres of Scania or for the Bangalore location of MAN. These correspond to approx. 0.15% of the employees of the producing locations and thus have no relevant influence on the key figures of the Group.

The Volkswagen Group is essentially an automotive manufacturer that produces private and light commercial vehicles as well as heavy commercial vehicles and buses. But in the MAN SE marine propulsion engines and power plant components are also produced. Due to this product diversity the overall environmental impacts cannot summarily refer to the production quantity of the vehicles. For this reason the presentation of the relative key figures occurs only for the category "Private and light commercial vehicles". Their production quantity in the year 2016 came to 10,219,025 vehicles. In addition, 186,067 heavy commercial vehicles were produced.

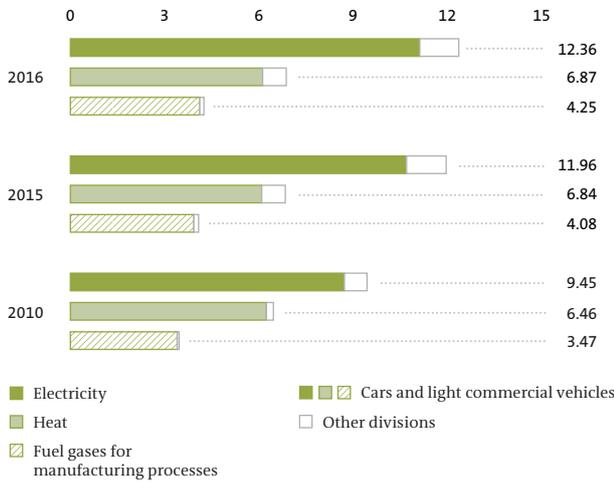
The changing production quantities and the associated changes in the utilization of the locations are reflected in the changes to the absolute values of many indicators. An improvement of specific values could be achieved for some indicators through measures to increase efficiency.

Relevant, but not able to be influenced, are the weather-related influences on the consumption of resources. This above all impacts the room heating requirements, both for the production sites and for the indirect sectors of production since the annual mean temperatures have an impact on the direct consumption of energy sources and of externally procured energy quantities.

The specific values are thus influenced by various aspects. On the one hand the absolute consumption or emissions can change, on the other rising or falling production quantities at the individual production locations influence the key figure trends.

## Energy consumption\* ✓

in million MWh/year



\* Cars and light commercial vehicles and other divisions.

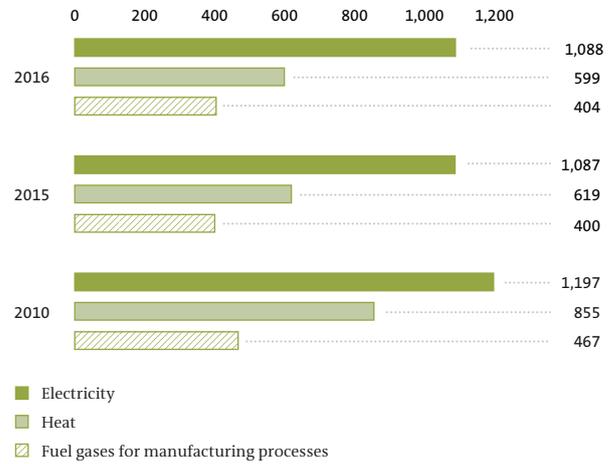
The total energy consumption since 2010 has risen due to the continuous increase in the production quantity.

The consumption of electrical energy has also risen in comparison to 2010. The electrical energy consumption per vehicle could be reduced since 2010 through measures to increase efficiency.

The heat consumption is divided into the room heat requirements for the heating of production plants and their indirect sectors and into the room heat requirements that are used for technical processes. Since the room heat is the greater share of the total heat

## Energy consumption\* ✓

in kWh/vehicle



\* Cars and light commercial vehicles.

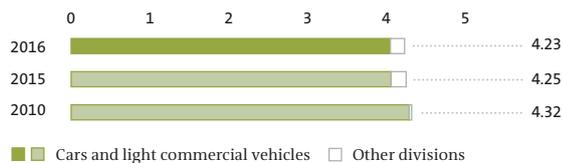
requirements, the development of the total heat requirements is strongly influenced by the course of weather conditions.

Various initiatives coupled with reduced heating demand have caused specific heat consumption per vehicle to fall since 2010.

The already named effects due to a colder weather phase and an increase in production quantity lead to a rise in the absolute consumption of fuel gas for production processes. Also associated with this is a slight worsening in the specific value per vehicle.

## Direct CO<sub>2</sub> emissions (Scope 1)\* ✓

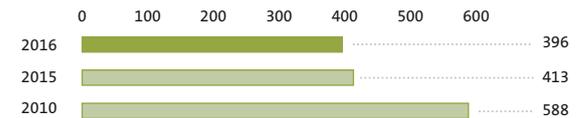
in million tonnes/year



\* Cars and light commercial vehicles and other divisions

## Direct CO<sub>2</sub> emissions (Scope 1)\* ✓

in kg/vehicle



\* Cars and light commercial vehicles

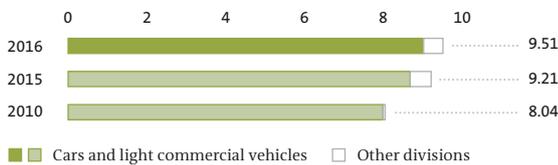
Despite the recording of new production locations and of the associated increased energy consumption, the direct CO<sub>2</sub> emissions in the category private and light commercial vehicles and in the entire Group are on the decline since 2010.

The direct CO<sub>2</sub> emissions are coupled with the burning of fossil fuels, whose use could be reduced. A reduction in the direct CO<sub>2</sub> emissions per vehicle is also to be noted with the reduction in the absolute emissions quantity.

Not taken into account are the direct CO<sub>2</sub> emissions of the official works vehicles. Work is currently being done on the worldwide uniform recording of emissions of the official works vehicles fleet. Initial calculations for the Volkswagen Germany control volume indicate an increase in the total CO<sub>2</sub> emissions of 3.4% in the control volume investigated.

### CO<sub>2</sub> emissions (Scope 1 and 2)\* ✓

in million tonnes/year



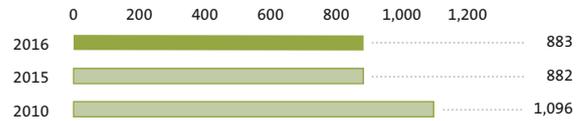
\* Cars and light commercial vehicles and other divisions.

Starting in 2010, due to the increases in consumption for electrical energy, heat and fuel gas for production, the overall CO<sub>2</sub> emissions rose. The CO<sub>2</sub> emissions per vehicle rose minimally from 2015 to 2016, but could be dramatically reduced since 2010.

Via the valuation of the energy and heat consumption of the production locations with suitable CO<sub>2</sub> emission factors, the CO<sub>2</sub> emissions generated by the power plants and boiler houses operated by Volkswagen AG – from the electricity and heat generation for the production locations of Volkswagen AG – also flow into the overall quantity of CO<sub>2</sub> emissions. Due to the changed CO<sub>2</sub> emission fac-

### CO<sub>2</sub> emissions (Scope 1 and 2)\* ✓

in kg/vehicle



\* Cars and light commercial vehicles.

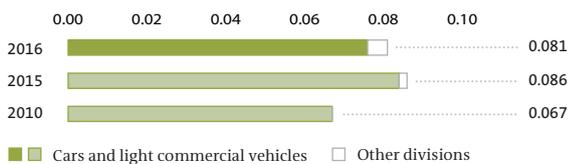
tors from this energy generation, it came to a rise in the absolute and the specific total CO<sub>2</sub> emissions compared to the previous year.

As a special feature in the region of China, starting in 2013 CO<sub>2</sub> factors are being used due to external specifications that do not reflect the rising share of renewable energies.

Not included in the presentations of the CO<sub>2</sub> emissions are the emissions that come about due to the power plants operated by Volkswagen AG as district heating and electricity delivery to third parties. For 2016 this is 374,118 tonnes of CO<sub>2</sub> emissions.

### CO<sub>2</sub> equivalents\*

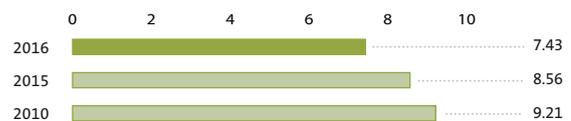
in million tonnes/year



\* Cars and light commercial vehicles and other divisions.

### CO<sub>2</sub> equivalents\*

in kg/vehicle



\* Cars and light commercial vehicles.

The determination of CO<sub>2</sub> equivalents is based on calculations on the basis of specific global warming potential for the most frequently emitted refrigerants and greenhouse gases. Since these emissions do not appear continuously, it can come to larger fluctuations in a time series. However, these emissions have no significant influence on the CO<sub>2</sub> emissions of the Group.

## GHG emissions (Scope 3)

in the Volkswagen Group (cars and light commercial vehicles)

No.	Category	2016 <sup>1</sup>		2015 <sup>1</sup>	
		tonnes CO <sub>2</sub>	%	tonnes CO <sub>2</sub>	%
1	Purchased goods and services <sup>2</sup> ✓	59,415,034	18.2	55,980,353	17.7
2	Capital goods	13,767,328	4.2	13,027,840	4.1
3	Fuel/energy	1,363,103	0.4	1,322,836	0.4
4	Upstream transportation and distribution (U <sup>2,3</sup> )	3,854,829	1.2	3,854,829	1.2
5	Waste generated in operations	2,137,095	0.7	1,996,517	0.6
6	Business travel	668,894	0.2	652,320	0.2
7	Employee commuting	953,480	0.3	939,902	0.3
8	Upstream leased assets (U <sup>3</sup> )	Not reported	0.0	Not reported	0.0
9	Downstream transportation and distribution (D <sup>4</sup> )	Not reported	0.0	Not reported	0.0
10	Processing of sold products	13,000	0.004	13,000	0.004
11	Use phase (150,000 km) <sup>5</sup> ✓	241,679,689	73.6	233,766,999	74.1
12	End-of-life treatment <sup>2</sup>	1,606,582	0.5	1,567,437	0.5
13	Downstream leased assets (D <sup>4</sup> )	1,033,703	0.3	903,449	0.3
14	Franchises	1,550,000	0.5	1,550,000	0.5
15	Investments	Not reported	0.0	Not reported	0.0
Total of reported Scope 3 emissions		328,408,918	100	315,575,482	100

<sup>1</sup> Individual figures are rounded. This may lead to minor discrepancies in the sum total.

<sup>2</sup> Figure based on the 2016 CDP report – the figure for 2016 will appear in the 2017 CDP report.

<sup>3</sup> Upstream.

<sup>4</sup> Downstream.

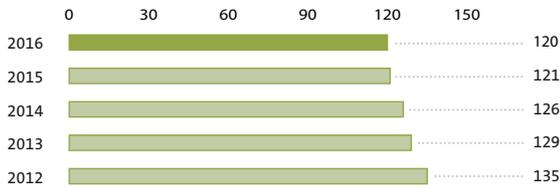
<sup>5</sup> Well-to-wheel.

In agreement with the Scope 3 Standards published with the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute, Volkswagen reports CO<sub>2</sub> emissions on twelve of in total 15 Scope 3 categories, whereby we count among the world's leading companies. The calculations have yielded that in the emission categories of "Purchased goods and services" and "Use phase" approx. 92% of the entire Scope 3 volume is accrued. The

calculation of CO<sub>2</sub> emissions in the use phase is based on a Group fleet value, which represents the global vehicle inventory in the four large regions (EU28, USA, Brazil, China). In order to get as complete a picture as possible, Volkswagen also records the emissions in this category that are accrued during manufacture and the transport of fuels (well to tank).

## CO<sub>2</sub> emission

of the Volkswagen Group's European (EU 28) New Passenger Car Fleet in g/km

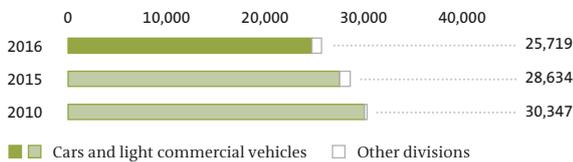


The EU private-vehicle new-car fleet of the Volkswagen Group (excluding Lamborghini and Bentley) in the year under review emitted on average 120g CO<sub>2</sub>/km, thus falling under the European ambient standard for 2015 of 130g CO<sub>2</sub>/km by 9.6g and almost reaching its own objective of 120g. The Lamborghini and Bentley brands each

own an independent fleet within the context of the European CO<sub>2</sub> legislation and have also adhered to their individual target values. The fleet value in the USA is at 162g CO<sub>2</sub>/km, in China at 153g CO<sub>2</sub>/km and in Brazil at 131g CO<sub>2</sub>/km.

## VOC emissions\* ✓

in tonnes/year

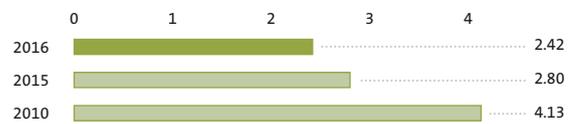


\* Cars and light commercial vehicles and other divisions.

The painting processes are primarily responsible for the VOC emissions. In modern painting plants paints and process materials are used that contain lower quantities of solvents. Plus, measures are taken in the painting processes to capture or eliminate emitted solvents. The process used the most is thermal afterburning the exhaust air which is downstream from the actual painting process.

## VOC emissions\* ✓

in kg/vehicle



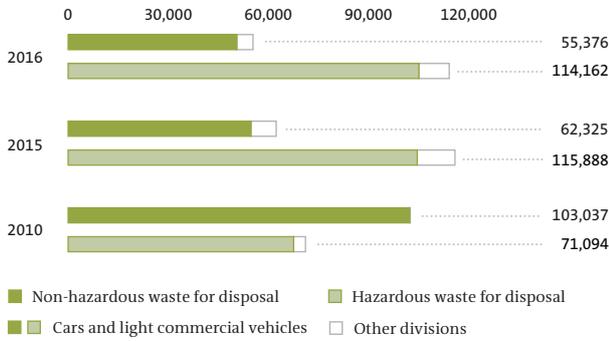
\* Cars and light commercial vehicles.

The ascertainment of emissions into the environment is based both on metrological analyses as well as on calculations.

Despite a rise in vehicle production since 2010 and the associated greater paint volume, it came to a reduction in the absolute VOC emissions. It was possible to dramatically reduce the emissions per vehicle.

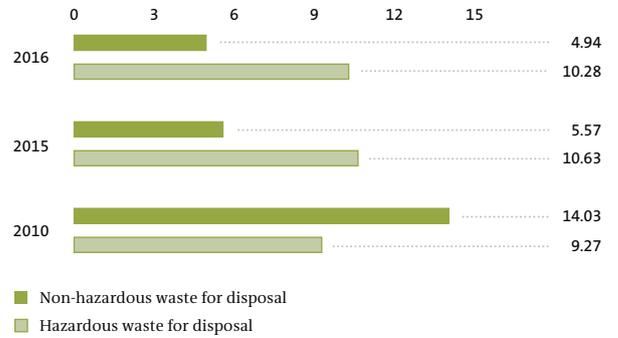
### Waste for disposal<sup>1,2</sup> ✓

in tonnes/year



### Waste for disposal<sup>3</sup> ✓

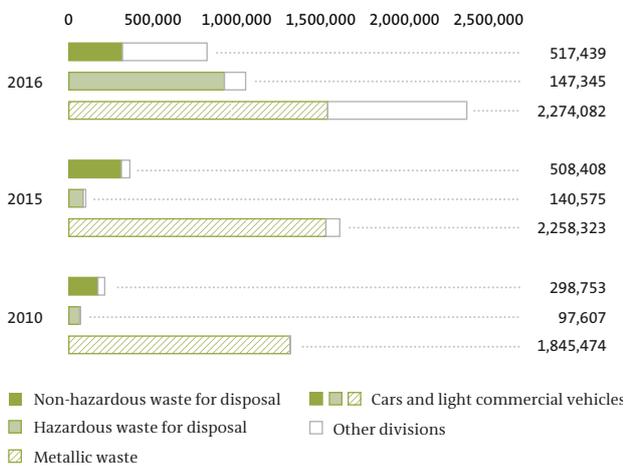
in kg/vehicle



<sup>1</sup>The bars for "Non-hazardous waste for disposal" and "Hazardous waste for disposal" indicate the share attributable to other Group divisions. This is not depicted for the other fractions, however, due to their minimal share in these amounts.  
<sup>2</sup> Cars and light commercial vehicles and other divisions.  
<sup>3</sup> Cars and light commercial vehicles.

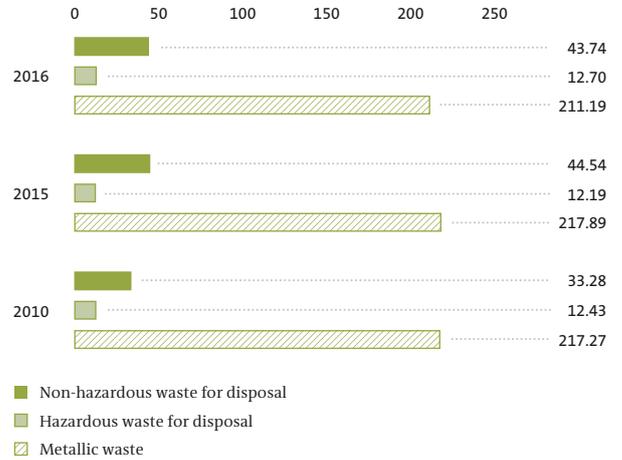
### Waste for recycling<sup>1,2</sup>

in tonnes/year



### Waste for recycling<sup>3</sup>

in kg/vehicle



<sup>1</sup> The bars for "Non-hazardous waste for recycling", "Hazardous waste for recycling" and "Metallic waste" indicate the share attributable to other Group divisions. This is not depicted for the other fractions, however, due to their minimal share in these amounts.  
<sup>2</sup> Cars and light commercial vehicles and other divisions.  
<sup>3</sup> Cars and light commercial vehicles.

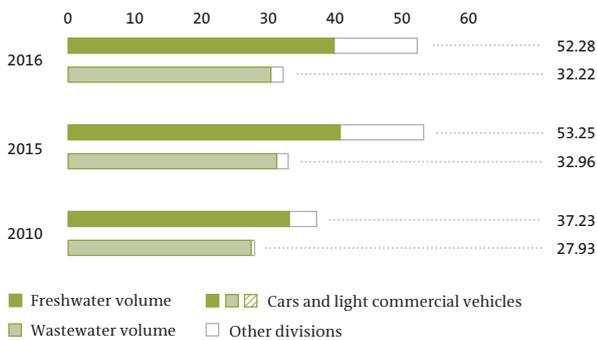
Due to the rise in production quantity compared to 2010 in the category of private and light commercial vehicles, the entire amount of dangerous and non-dangerous wastes generated also rose. The share of waste for removal contained in this category could be reduced from approx. 34% in 2010 to approx. 21% in 2016. In contrast the share of waste for recycling increased from approx. 66% in 2010 to approx. 79% in 2016. The increase in the share of recyclable waste is also the result of the waste strategy established in the Group that has a higher recycling ratio of waste as its goal.

The absolute quantity of metallic “wastes”, which due to their complete recycling potential and due to the returns achieved from their sale are viewed internally as so-called “resources”, has risen over the entire reporting period since 2010. The reason for this was the Group-wide increase in production. When considering all wastes, including the metallic wastes, the recovery rate lies at approx. 95%.

In the past year under review due to the operation of energy generation plants by the Volkswagen Kraftwerk GmbH, power plant residues in the amount of approx. 145,000 tonnes has been allocated to recycling.

### Freshwater and wastewater\*

in million m<sup>3</sup>/year

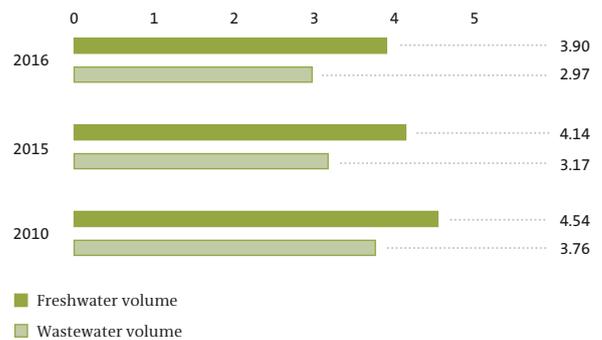


\* Cars and light commercial vehicles and other divisions.

With the increase in the number of private and light commercial vehicles produced, the total consumption of fresh water has also risen in recent years. This increase in consumption is due to the integration of new locations into the reporting. Despite the rise in the number of Group locations, it was possible to continuously decrease the fresh-water consumption per vehicle in the reporting period since 2010. This was achieved through a variety of recycling measures and the introduction of production procedures requiring little water.

### Freshwater and wastewater\*

in m<sup>3</sup>/vehicle

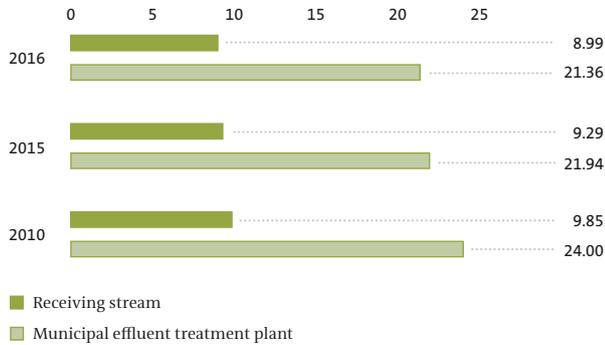


\* Cars and light commercial vehicles.

The quantity of wastewater accrued shows a similar pattern to that of the fresh water. Due to evaporative losses in the cooling towers and in the production process there are quantity differences between fresh and wastewater. The quantity of wastewater per private and light commercial vehicle produced could also be lowered.

## Wastewater discharges<sup>1, 2</sup>

in million m<sup>3</sup>/year

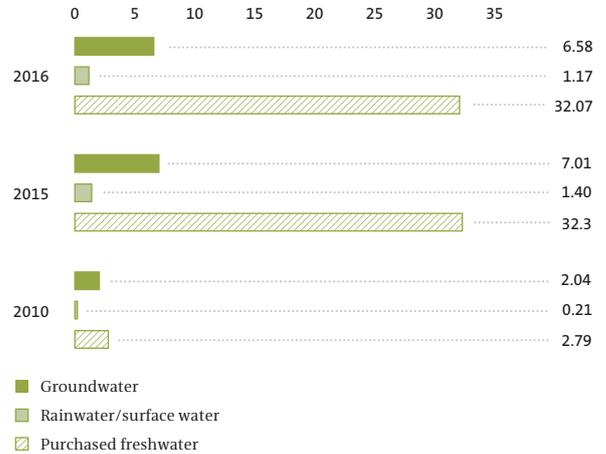


<sup>1</sup> Cars and light commercial vehicles.

<sup>2</sup> In 2010, differentiated figures for the Group as a whole were not yet available.

## Water withdrawal by source<sup>1, 2</sup>

in million m<sup>3</sup>/year



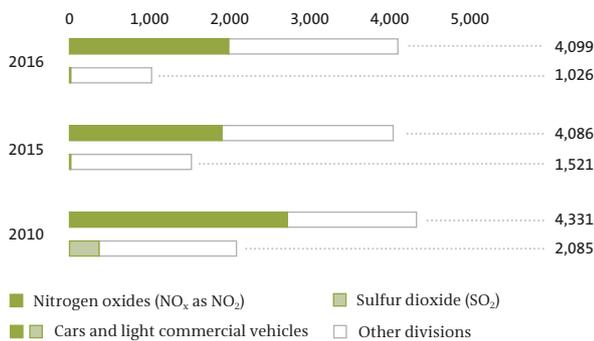
<sup>1</sup> Cars and light commercial vehicles.

<sup>2</sup> Figures for 2014 and 2015 include all Passenger Car and Commercial Vehicle locations; figures for 2010 only apply to Volkswagen AG and Volkswagen Sachsen GmbH locations, because differentiated figures were not yet available for all Group locations.

Depending on the location of the wastewater purification system, locations are differentiated as follows: as an indirect discharger those where the wastewater is discharged into the municipal sewage collection system for further cleaning, and as a direct discharger those that operate their own wastewater treatment system, thereby discharging the cleaned wastewater directly into a body of water.

## Direct NO<sub>x</sub> and SO<sub>2</sub> emissions\*

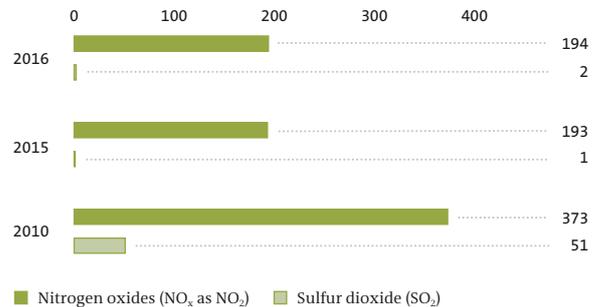
in tonnes/year



\* Cars and light commercial vehicles and other divisions.

## Direct NO<sub>x</sub> and SO<sub>2</sub> emissions\*

in g/vehicle



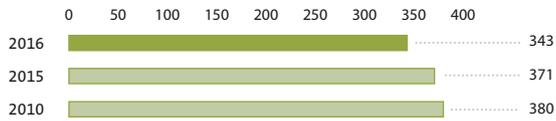
\* Cars and light commercial vehicles.

A clear decline in the absolute NO<sub>x</sub> values as well as in the NO<sub>x</sub> emissions is to be recorded per vehicle in the category of private and light commercial vehicles in the period from 2010 to 2016.

The strong decline in the direct SO<sub>2</sub> emissions since the year 2010 is a result of changes in the positions regarding ownership in a power-generation plant and the replacement of coal as the fuel.

### Particulate emissions\*

in tonnes/year

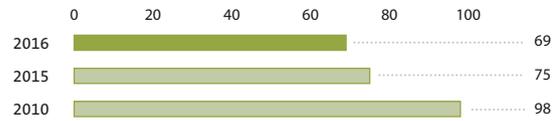


\* Cars and light commercial vehicles Europa (total dust).

The development of airborne particulate emissions in the category private and light commercial vehicles at the European production

### Particulate emissions\*

in g/vehicle

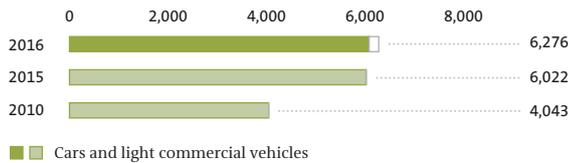


\* Cars and light commercial vehicles Europa (total dust).

locations of the Group are among other things connected to the increase in production.

### Chemical Oxygen Demand (COD)<sup>1,2</sup>

in tonnes/year

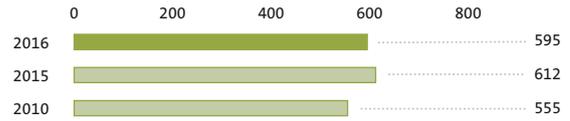


<sup>1</sup> Cars and light commercial vehicles and other divisions.  
<sup>2</sup> Other divisions have not been highlighted in the graphic due to the low proportions involved.

The absolute wastewater parameter “Chemical oxygen demand (COD)” develops similarly to the fresh-water consumption and

### Chemical Oxygen Demand (COD)\*

in g/vehicle

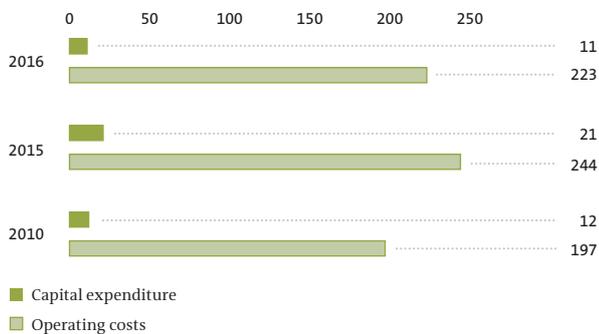


\* Cars and light commercial vehicles.

wastewater amount key figures. This parameter is an indicator for the wastewater’s degree of contamination.

### Environmental protection costs\*

in € million/year



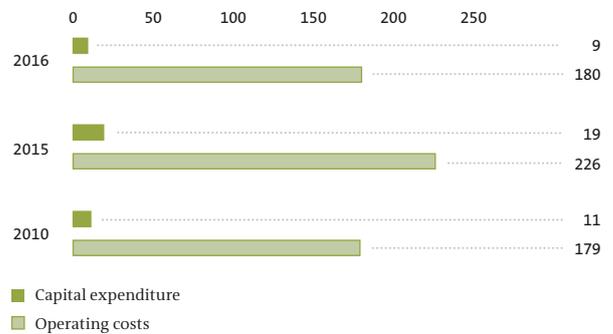
\* Volkswagen AG production locations in Germany

The environmental protection costs are reported for the German locations of Volkswagen AG.

When it comes to expenses for environmental protection measures, differentiation is made between investments and operation costs

### Environmental protection costs\*

in € million/vehicle



\* Volkswagen AG production locations in Germany.

for the production-related environmental protection. Of the total investments the positions accounted to the environmental protection investments are those that are done with the sole or dominant objective of environmental protection. Differentiation is made between end-of-pipe and integrated investments. End-of-pipe environ-

mental protection measures are separate plants separated from the remaining production process. They can be up- or downstream from the production process. In contrast to the end-of-pipe environmental protection measures, the integrated measures already reduce the environmental impact during the production phase of the product.

The reported operating costs solely concern production-related environmental protection measures that protect the environment from damaging influences by avoiding, reducing or removing emissions from the company. This includes, for instance, expenditures for the operation of plants that serve to protect the environment as well as expenditures for the plant-related measures.

## Plants in the vicinity of nature conservation areas

Plant	Distance (km)	Area* (ha)
Braunschweig (D): Oker	0.8	53
Poznań, Logistics (PL): Dolina Cybiny	2.7	30
Chemnitz (D): Zwönitz	2.5	21.3
Poznań, Foundry (PL): Fortyfikacje-w- Poznańiu	6.7	40
Dresden (D): Mühlberg	1	8.3
Poznań, Production (PL): Dolina Cybiny	0.6	40
Ehra-Lessien (D): Vogelmoor	3.9	
Mlada Boleslav, Production (CZ): Radouci	1.2	212
Emden (D)	0.9	400
Vrchlaby, Production (CZ): Krkonose	1.1	23
Hanover (D): Leine	0.75	118
Kvasiny, Production (CZ): Uh inov-Benátky	5	42
Ingolstadt (D): Training ground	3.8	200
Martin, Components (SK): Malá Fatra	< 5	12.4
Kassel (D): Fuldata	1.6	280
Bratislava, Production (SK): Moravy	< 2	178
Leipzig (D): Tannenwald, Strohäü	0	20
Palmela, Production (POR): Arrabida	3.5	24.5
Neckarsulm (D): Jagst, Kocher	0.1	95
Barcelona, Production (ES): Llobregat	3.6	39.3
Osnabrück (D): Mausohr, Belm	5.45	36.1
Martorell, FE, Production (ES): Llobregat	0.85	800
Salzgitter (D): Heerter See	7.5	280
Pamplona, Production (ES): Pena de Etzauri	15	163
Stuttgart (D): Max-Eyth-See	0.75	28.8
Prat, Components (ES): Llobregat	0.7	15.5
Weissach (D): Enztal, Stuttgarter Bucht	0.05	84.9
Brussels, Production (B): Verrewinkel- Kinsendael	3	44
Wolfsburg (D): Barnbruch	0.2	800
Cyőr, Components (HU): Göny i homokvidék	< 1	30
Zwickau (D): Zwickauer Muldetal	0.1	180
Crewe (UK): West Midlands Moor	5.7	
Polkowice, Components (PL): Jelonek	7.9	
Polkowice, Sitech (PL): Jelonek	3.2	

\*Area = Surface area of the production location.

# Goals and Measures

The following goals refer essentially to the Volkswagen Group and are based on our future program TOGETHER – Strategy 2025. Besides the Group-wide sustainability management, the goals will be categorized in accordance with the dimensions of strategy and coordination, economy, people and the environment. In addition the important brands and companies of the Volkswagen Group have formulated their own detailed sustainability goals in coordination with the Group goals. These can be found in the respective publications that are linked in the headings “Brands” and “Regions.”

## STRATEGY & COORDINATION

Action areas	Goals and action	Deadline	Implementation status
<b>Management</b>	Ensure similar management of sustainability within the Group and by the brands	2015	Management structure introduced at Volkswagen Commercial Vehicles
	Sharpen positioning of brands	2025	Ongoing
<b>Transparency</b>	Establish IT-based sustainability management system at Group, brand and company level	2016	Already in use
<b>Stakeholder Dialogue</b>	Establish IT-based stakeholder management system at Group, brand and company level	2016	Definition of criteria and indicators for the Stakeholder Relationship Management System
<b>Market</b>	Transform core business	2025	New
	Build Mobility Solutions business	2025	New
	Secure funding and strengthen innovation power	2025	New

## BUSINESS

Fields of action	Goals and measures	Deadline	Status
<b>Customer satisfaction</b>	Top customer satisfaction in the core markets of product, dealer and last workshop visit	2025	New goals were formulated as part of Strategy 2025. Customer satisfaction index score: 8.80 in 2015.
<b>Quality</b>	Strengthen innovation and technology leadership	2019	2015-2019 investment program: €85.6 billion earmarked for intelligent innovations and technologies. Investments of €11.9 billion in R&D in 2015.
<b>Stability &amp; profitability</b>	Operative turnover returns before erratic items 7 – 8%	2025	New
	Return on capital: Automotive Division before erratic items >15%	2025	New
	Fixed asset investment ratio Automobile Group sector ~6%	2025	New
	Increases in efficiency: Increase operative excellence in all Group sectors and brands. R&D ratio ~6% Increase general sales and administrative costs efficiency. Ratio to turnover under 12%	2025	New
<b>Compliance</b>	Networking of the compliance organization and activities between the brands	Ongoing	Regular Governance, Risk & Compliance (GRC) exchange of experiences with all Group brands, network meeting GRC-Wiki as an information and exchange platform of the GRC organization

	Further deepen compliance knowledge and compliance culture	Ongoing	Target-group-specific information occurs via various media in diverse brands and companies
	Continuous optimization of the Compliance Management System (CMS)	Ongoing	Further development of CMS taking into account international legislation and Group-internal benchmarks
	Ongoing optimization of the integrity review of business partners (business partner check)	Ongoing	Further development and roll-out in new companies
	Conduct and further develop Group-wide compliance training for various target groups	Ongoing	Risk-based alignment for on-site and online training sessions
	Restructuring of the Group-wide whistleblower system	Ongoing	Group-wide minimum standards established, external internet presence, further rollout to brands and companies
<b>Risk management and internal control system (RMS/ICS)</b>	Operation and further development of the RMS/ICS of the operative business sectors	Ongoing	Advising operative business sectors within the context of further implementation of the guideline on RMS/ICS
	Standardization and further development of the risk management methods and of the risk management and internal control process to ensure the continuance of the Volkswagen Group	Ongoing	Intensification of the risk quarterly reporting introduced in 2016 across all management board provinces of the Volkswagen AG and all brands  Further development of the GRC IT system for uniform and standardized reporting of risks
<b>Supplier Relations</b>	Expansion of e-learning tool and sustainability questionnaire	<ongoing> </ongoing>	Turnover-based coverage of 82% for e-learning and 88% for sustainability questionnaire; planned expansion of turnover-based coverage to 83% for e-learning and 93% for sustainability questionnaire in 2017
	More in-depth audits on sustainability	Ongoing	Conducting 45 audits in the period under review; 45 audits are planned in 2017
	Supplier training on sustainability	Ongoing	Qualifying more than 900 suppliers on the topic of sustainability
	Implementing OECD Due Diligence Guidance	Ongoing	Continuation of activities

## PEOPLE

Action areas	Goals and actions	Deadline	Implementation status
Attractive employer	Strategic goal: Excellent employer	Ongoing/ 2025	The Volkswagen Group and its 12 brands aim to be attractive employers for all groups of employees. Particularly the Volkswagen brand – due to the diesel scandal – has lost trust that needs to be won back. As part of our workforce strategy we are working on numerous projects and initiatives, for instance on flexible work and how to balance family and career, which should increase our attractiveness as an employer.
Qualification	Strategic goal: Skilled and committed employees	Ongoing	Strengthening of commitment and entrepreneurship with targeted measures: In 90% of the 36 Volkswagen career families, career-family-specific qualification programmes have already been introduced. Development work continues to be done in the remaining 10%. Qualifying for the transformation: extensive skill-shift in the direction of electric mobility, piloted driving and digital services. Improving participation instruments: Modernizing idea management and use of digital tools (e.g. shift-planning app)
Participation	Personnel policy: Enhance performance and ensure all employees share in success: establish three-part pay system with basic pay, performance-related component and entitlement to profit-sharing as Group standard	Ongoing	Across the Volkswagen Group, the three-part pay system is increasingly being established as a standard, among others by Audi, SKODA, the Volkswagen Group Rus (Kaluga plant), and Volkswagen de México.
Work organization	Strategic goal: Work organization fit for the future	Ongoing	Pilots and blueprints for innovative office space concepts. Keeping factory work attractive: New working time concepts, above all for the shop floor (accounting models, shift work in part-time). Expanded use of agile working methods.
Leadership & culture	Strategic goal: Exemplary leadership and corporate culture	2018	Expansion of diversity management and sustainable increase in percentage of women. Implementation of code of collaboration and corporate values. Implementation of a new management mission statement and new staff development. "Best in class" for company health management.
Organization of personnel management	Strategic goal: First-rate HR organization	2019	Modernization of the HR role and expansion to an all-round change and transformation driver. Development of new competence model for HR staff. Modern and intuitive services "to go" for all employees.

**ENVIRONMENT**

Fields of action	Goals and measures	Deadline	Status
<b>Continuous reduction of carbon footprint</b>	<p>Volkswagen welcomes the ratification of the Paris Agreement on Climate Change, in which the ambitious goal of keeping global warming under 2 degrees Celsius was established.</p> <p>Our Board Chairman Matthias Müller, when referring to international climate agreements, demands that the automotive industry will "have to continuously lower the CO<sub>2</sub> emissions of their fleets in the direction of zero by 2050". The Group is setting itself "science-based targets" in support of the goal.</p>	2020 / 2050	<p>Status of CO<sub>2</sub> fleet value 2016: EU: 120g CO<sub>2</sub>/km (private and light commercial vehicles);</p> <p>China: 153g/km (VGIC+SVW+FAW-VW) accord. 6.51 l/100km; Brazil: 131g CO<sub>2</sub>/km;</p> <p>USA: 162g/km (Audi/VW calendar year. Not VWoA.)</p> <p>Status of environmental pollution from production 2016: 25.3% for private and light commercial vehicles.</p>
	Continuous reduction in the carbon footprint	2025	Reduction of all CO <sub>2</sub> emissions (Scope 1.2.3) in total from 33.3 t/a in 2015 to 33.0 t/a in 2016
	CO <sub>2</sub> reduction of European new-car fleet to 95g CO <sub>2</sub> /km	2020	CO <sub>2</sub> EU fleet value in 2016: 120g CO <sub>2</sub> /km
	Top spots in selected product rankings, ratings and awards	2016	<p>Environmental awards 2016: ADAC EcoTest Skoda Octavia Combi 1.4 TSI G-TEC, with best rating of 5 stars with the new measurement methodology;</p> <p>China Eco-Car Assessment Programme (C-ECAP): VW Golf TSI with platinum medallion best-possible classification;</p> <p>VCS environmental ranking 2017: VW up!, Skoda Citigo and Seat Mii placed top 3 in the mini-class, Audi A3 Sportback TFSI g-tron and VW Golf TGI on 1st and 2nd place in the lower mid-size class and for the vans with 5 seats VW Caddy TGI as the winner.</p>
	Electrification initiative	Until 2025	<p>The new e-up! and new e-Golf (with a range extended to 300km in the NEFZ) came on the market in 2016. At the Paris Motor Show the Volkswagen concept car I.D. was presented, a highly automated electric car, range up to 600 kilometres. A concept vehicle of the new e-Crafter was already introduced at the IAA Commercial Vehicles Show 2016. The series solution stands for emission-free urban delivery activity, without restricting hold volume with a range up to 160 kilometres. The initial vehicles will be delivered to customers the end of 2017.</p>

	Reduction in the greenhouse gas emissions in the energy supply of production in Germany by 40% per produced unit ( base year 2010) by 2020.	2020	Around € 26 million was already invested in renewable energies by 2016 – wind turbines and photovoltaic installations. Additionally, as part of the fuel changeover VW Kraftwerk GmbH invested around € 15 million in a combined heat and power plant in Braunschweig and around € 65 million in a gas and steam turbine plant in Kassel. A few German production locations of the Volkswagen Group were converted to a power supply from Volkswagen Naturstrom® as part of the plant-engineered changes. Planned for the coming years leading up to 2022 are investments by the VW Kraftwerk GmbH in a new gas and steam turbine plant in Wolfsburg and in the further expansion of renewable energies. It was already possible to reduce the CO <sub>2</sub> emissions per vehicle in production in Germany by approx. 30% since 2010 due to measures in the sector of energy provision as well as energy efficiency and other effects, such as lower heating requirements as a consequence of milder weather.
<b>Continuous reduction of resource consumption</b>	HF2: 25% less energy and water consumption, waste and emissions per unit produced Group-wide ( base year: 2010)	2018	Status of environmental pollution from production 2016: 25.3% for private and light commercial vehicles
	On principle, emission tests are checked externally and independently. Introduction of random tests close to reality regarding emission behaviours on the road	2025	Step-by-step from 2017 onwards all Group fleet TSI and TFSI engines with direct injection will be equipped with closed particulate filters (OPF - Ottopartikelfilter). This will reduce the emission of fine soot particulates by up to 90%.
	HF 3: TSI and TFSI engines are equipped with particulate filters.	2017	Start in 2017

Leading provider of sustainable mobility	H4: New business field: New mobility solutions are to be rapidly expanded. Ride hailing as top priority with expansion into other market segments, turnover goal up in the substantial billions.	2025	Expansion of strategic partnerships (e.g. with GETT)
	Leading provider of autonomous vehicles – rapid market introduction planned:	2025	Introduction of Sedric at the Geneva Motor Show 2017
	Forecast and analysis of mobility development, deriving challenges and approaches to solutions for the mobility of tomorrow.	ongoing	

# About This Report

GRI G4-22, G4-23

The Volkswagen Group's Sustainability Report has been published every year since 2011; this year is the second time that the report has been published exclusively online. In addition to information about the Group's sustainability activities in the 2016 financial year (January 1 to December 31, 2016), the report also contains selected information from the 2017 financial year. The editorial content was finalized on April 12, 2017. The report is available in German and English. We anticipate that the next Group Sustainability Report (for 2017) will be published in the second quarter of 2018.

The **Strategy** chapter presents the fundamentals of the Group's strategy for implementing sustainable development across all its brands. Primarily, we discuss the Group's new future program TOGETHER – Strategy 2025, which was presented at the Group's Annual General Meeting on June 22, 2016 and had been further specified at the Annual Media Conference and Investor Conference 2017 on March 14, 2017.

The **Economy, People** and **Environment** chapters set out our management approach in each case, before outlining how the various aspects of these topics are implemented. The key Group-wide indicators and the overarching corporate sustainability roadmap are described in the **Facts and Figures** chapter.

True to the character of a progress report, we aim to focus on the essentials while at the same time communicating a balanced picture of our activities that takes account of all Group brands and companies. Audi, MAN, Porsche, Scania and ŠKODA publish their own sustainability reports, either annually or at two-year intervals.

## FUNDAMENTALS

This report was drawn up in accordance with the fourth generation of guidelines from the Global Reporting Initiative (GRI-G4) with the aid of an IT system that, in addition to Group-wide data acquisition and management, will also be used for stakeholder management within the Group. In terms of content, important guidance was provided by the questionnaires and appraisals of sustainability-oriented rating agencies and RobecoSAM in particular. We also took our lead from Stakeholder Engagement Standard AA1000.

To identify material topics for the Volkswagen Group resulting from various global challenges, we drew upon the findings of the Volks-

wagen Group's Stakeholder Panel which has been in place for many years now, as well as the results of the latest comprehensive stakeholder surveys conducted by Group companies Audi, MAN, Porsche and Volkswagen Financial Services.

The resultant materiality matrix (see **"Our Approach"**) was validated by the Corporate CSR & Sustainability Steering Group.

The present report takes account not only of the recommendations of the Stakeholder Panel following the latter's evaluation of the 2014 Group Sustainability Report (see **"Stakeholder Management"**).

## STANDARDS

The present sustainability report takes account of the G4 reporting guidelines of the Global Reporting Initiative (GRI) in line with the "Comprehensive" option. At the same time, we set out in our **GRI Content Index** available online how we implement the requirements of the United Nations Global Compact (UN GC) and of the **German Sustainability Code (GSC)**. The statements and references that appear in the index relate to the 2016 business year (January 1 to December 31, 2016). Selected information were reviewed by auditing firm PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft. (see **"here"**). The GRI has confirmed the location of indicators G4-17 to G4-27 through its Materiality Disclosure Service.



## SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals (SDGs) set out in the United Nations' 2030 Agenda for Sustainable Development, which came into force at the beginning of 2016, aim to advance sustainability and equality around the world. The 17 SDGs apply universally, and focus on ending poverty, protecting the planet, and promoting peace and prosperity for all people. Between now and 2030, a wide spectrum

of actors from government, civil society, academia and the private sector will work to ensure that the Goals are fully implemented. As a global corporation, Volkswagen is committed to the SDGs and is actively contributing to the actualization of these global development goals through its innovative vehicles, intelligent mobility solutions and wide-ranging activities in support of sustainability. We have included references to the UN's Sustainable Development Goals at appropriate places in the [online report](#).



## SUPPLEMENTARY INFORMATION

In [Supplementary Information](#) available online, we provide a numbered list of links so that readers can rapidly access documents that discuss the selected reporting content in more detail. The latest news on sustainability at the Volkswagen Group can be found on the Group portal: [www.volkswagenag.com/en/sustainability](http://www.volkswagenag.com/en/sustainability)

## FRAME OF REFERENCE

The information in this report relates to the Volkswagen Group as a whole. If any information relates to individual Group brands only, this is clearly indicated in the copy.

## FORWARD-LOOKING STATEMENTS

This sustainability report contains forward-looking statements on the business development of the Volkswagen Group. These statements are based on assumptions relating to the development of the economic and legal environment in individual countries and economic regions, and in particular for the automotive industry, which we have made on the basis of the information available to us and which we consider to be realistic at the time of going to press. The estimates given entail a degree of risk, and actual developments may differ from those forecast. Any changes in significant param-

eters relating to our key sales markets, or any significant shifts in exchange rates relevant to the Volkswagen Group, will have a corresponding effect on the development of our business. In addition, there may be departures from our expected business development if the assessments of the factors influencing sustainable value enhancement, as well as risks and opportunities, presented in this sustainability report develop in a way other than we are currently expecting, or if additional risks and opportunities or other factors emerge that affect the development of our business.

PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft has performed a limited assurance engagement on the German version of the Sustainability Report of the Volkswagen AG and issued an independent assurance report, authoritative in German language, which has been translated as follows:

# Independent Practitioner's Limited Assurance Report

## TO VOLKSWAGEN AG, WOLFSBURG

We have been engaged to perform a limited assurance engagement on the sustainability information marked with  in the online version of the Sustainability Report\* of the Volkswagen AG, Wolfsburg (hereafter the "Company"), for the period from January 1st to December 31st, 2016.

## MANAGEMENT'S RESPONSIBILITY

The Company's Management is responsible for the preparation and presentation of the Sustainability Report in accordance with the criteria as set out in the G4 Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI) (hereafter the "GRI-Criteria") and for the selection of the information to be assessed.

This responsibility includes the selection and application of appropriate methods to prepare the Sustainability Report as well as the use of assumptions and estimates for individual sustainability disclosures which are reasonable in the circumstances. Furthermore, the responsibility includes designing, implementing and maintaining systems and processes relevant for the preparation of the Sustainability Report, which is free of material misstatements due to intentional or unintentional errors.

## AUDIT FIRM'S INDEPENDENCE AND QUALITY CONTROL

We have complied with the German professional provisions regarding independence as well as other ethical requirements.

The audit firm applies the national legal requirements and professional standards – in particular the Professional Code for German Public Auditors and German Chartered Auditors ("Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer": "BS WP/vBP") as well as the Institut der Wirtschaftsprüfer ("Institute of Public Auditors in Germany; IDW"): Requirements to quality control for audit firms ("Entwurf eines IdW Qualitätssicherungsstandards 1 „Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis“ (IdW EQS 1)") – and accordingly maintains a comprehensive system

of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

## PRACTITIONER'S RESPONSIBILITY

Our responsibility is to express an opinion on the sustainability information marked with  in the Sustainability Report based on our work performed.

Within the scope of our engagement we did not perform an audit on external sources of information or expert opinions, referred to in the Sustainability Report.

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information" published by IAASB. This Standard requires that we plan and perform the assurance engagement to obtain limited assurance whether any matters have come to our attention that cause us to believe that the sustainability information marked with  in the Sustainability Report has not been prepared, in all material respects, in accordance with the GRI-Criteria. In a limited assurance engagement the evidence-gathering procedures are more limited than for a reasonable assurance engagement and therefore significantly less assurance is obtained than in a reasonable assurance engagement. The procedures selected depend on the practitioner's judgement. This includes the assessment of the risks of material misstatements of the sustainability information marked with  in the Sustainability Report with regard to the GRI-Criteria.

Within the scope of our work we performed amongst others the following procedures:

- Obtaining an understanding of the structure of the sustainability organization and of stakeholder engagement
- Inspection of relevant documents and inquiries of personnel regarding the further development of the materiality process and the preparation of the materiality matrix as well as the underlying internal control system

- Assessment of selected management approaches according to the guidelines of the GRI G4 in compliance with Disclosure Management Approach a) to c):
  - Management of the environmental impacts of the production
  - Sustainability strategy
  - HR management
  - Management of social responsibility
- Inspection of relevant documents and inquiries of personnel regarding the data collection and consolidation of the Environmental Performance Indicators of the production as well as the underlying internal control system
- Conduction of site and brand visits in order to assess the data collection and consolidation processes as well as the internal control activities regarding the Environmental Performance Indicators of the production:
  - Brand visit SEAT (Martorell, Spain);
  - Site visit plant FAW-Volkswagen Automotive Co. Ltd. (Changchun, China);
  - Site visit plant Emden;
  - Site visit component plant Kassel
- Inspection of the aggregation of selected HR KPIs and scope 3 GHG emissions on group level
- Analytical procedures on selected sustainability information in the Sustainability Report
- Comparison of selected sustainability information with corresponding data in the consolidated financial statements and in the group management report 2016 of Volkswagen AG
- Assessment of the presentation of selected sustainability information in the Sustainability Report regarding the sustainability performance

## CONCLUSION

Based on our limited assurance engagement, nothing has come to our attention that causes us to believe that the sustainability information marked with  in the Sustainability Report of the Company for the period January 1st to December 31st 2016 has not been prepared, in all material respects, in accordance with the GRI-Criteria.

## EMPHASIS OF MATTER – RECOMMENDATIONS

Without qualifying our conclusion above, we make the following recommendations for the further development of the Company's sustainability management and sustainability reporting:

- Inclusion of the conducted distinct prioritization of the material aspects within the presentation of the materiality process in the Sustainability Report
- Focusing on the standardization and formalization of group-wide consistent processes and controls for the data collection on both site and group level, including the appropriate monitoring of the processes on group level

## RESTRICTION ON USE AND DISTRIBUTION

We issue this Report on the basis of the engagement agreed with the Volkswagen AG. The review has been performed for purposes of the Volkswagen AG and is solely intended to inform the Volkswagen AG about the results of the review. The Report is not intended for any third parties to base any (financial) decision thereon. We do not assume any responsibility towards third parties.

Hanover, 8th May 2017

PricewaterhouseCoopers  
Gesellschaft mit beschränkter Haftung  
Wirtschaftsprüfungsgesellschaft

Frank Hübner

Michael Conrad

Wirtschaftsprüfer  
(German Public Auditor)

Wirtschaftsprüfer  
(German Public Auditor)

\* The Sustainability Report is available on the webpage of the Volkswagen Aktiengesellschaft: [www.sustainabilityreport2016.volkswagenag.com](http://www.sustainabilityreport2016.volkswagenag.com). The entity is responsible for their website. Therefore, we do not accept responsibility for any changes that may have occurred to the reported subject matter information or criteria since they were initially presented on the website.

# Brands



## Bringing the Future to Series Production

The TRANSFORM 2025+ strategy is a comprehensive redefinition of the Volkswagen brand. The new strategy focuses on clearer brand positioning across the various regions and segments, backed by significant improvements in efficiency and productivity. At the same time, the brand is investing in electric mobility and connectivity. The “pact for the future” will make the Volkswagen brand more competitive, getting it into shape for the future. It lays the foundation for the company’s transformation from an automotive manufacturer into a successful mobility services provider. In 2016, the I.D. concept vehicle and the BUDD-e both captured the world’s attention. Both concepts are based on the Modular Electrification Toolkit (MEB) platform for electric vehicles. The brand also celebrated the Golf GTI’s 40th birthday.



VW Tiguan 2.0 TDI SCR 4Motion BMT – fuel consumption in l/100 km: urban 6.8–6.5 / extra-urban 5.2–5.0 / combined 5.7–5.6; CO<sub>2</sub> emissions in g/km: 149–147 (combined); CO<sub>2</sub> efficiency class: B

### HIGHLIGHTS OF THE YEAR

The Volkswagen brand – transforming from pure automaker into a mobility services provider fit for the digital and e-mobility age



#### Think Blue. Factory.

The Volkswagen brand has taken a significant step toward environmentally sustainable production. Manufacturing of vehicles and components at its production facilities around the world is 25% more environmentally friendly today than it was five years ago. This means that the brand has hit the ambitious sustainability target it set for itself three years earlier than planned.

Volkswagen’s “Think Blue. Factory” environmental program was the first of its kind in the world of auto manufacturing. And the reduction in environmental impact – the exact figure is 29.2% – is based on the average value of the Volkswagen brand’s five agreed environmental indicators. Between 2010 and the end of 2016, energy consumption was cut by 23.5%, while CO<sub>2</sub> emissions were reduced by 28.6%. The volume of waste for disposal was slashed by an impressive 58.6%; water and solvent consumption had already been reduced by 27.5% and 7.6% respectively. The indicators are measured per unit of production (finished vehicle or component).



All our plants systematically share the secrets of their success with each other and adopt their peers' best practices. Thanks to this, some 5,100 of 6,200 proposed improvement measures have already been actioned. And more than 1,000 employees have been appointed as Think Blue. Factory ambassadors at our sites and production shops around the world.



#### **Volkswagen I.D. Concept Car**

Think New! With this guiding principle and a visionary electric vehicle, Volkswagen offered fascinating prospects for the mobility of the future at the Paris International Motor Show (October 1–16). The world premiere of the I.D. was the focal point of the company's presentation. The zero-emission vehicle is due to go into production as early as 2020; it will kick off a new generation of innovative electric vehicles that are all based on a new vehicle architecture. The I.D. represents a new generation of electric vehicles and heralds a new automotive age: electric, connected and autonomous.

As the first Volkswagen to be based on the new Modular Electrification Toolkit (MEB), the I.D. will be positioned as a compact, all-electric model that extends the Volkswagen range of production vehicles, alongside the bestselling Polo, Golf, Tiguan and Passat. Powered by a 125 kW/170 hp electric motor, the I.D. has a range of up to 600 km and will be priced at the same level as a Golf with comparable performance. The I.D. will become synonymous with the "Zero Emissions" concept.



#### **Dresden – Role Model for Sustainable Urban Mobility**

Dresden is becoming a model city for electric mobility, digitalization and innovative fleet management (including carsharing). The regional capital is planning to make its roads cleaner, quieter, safer and more convenient. Highly automated connected driving systems, plus parking solutions, software-driven mobility services, innovative traffic management and air quality management are additional cornerstones of the partnership. As part of this joint venture, Volkswagen's "Transparent Factory" exhibition space will be gradually expanded to become a "Center of Future Mobility".

Professor Siegfried Fiebig, spokesperson for the Board of Volkswagen Sachsen, signed a Memorandum of Understanding with Dresden's Lord Mayor Dirk Hilbert at the Transparent Factory in Dresden.

The partners have jointly identified four main areas of cooperation. Inspired by the idea of becoming the Center of Future Mobility, the city will implement the following core projects:

- Smart City Dresden 2025+ (pilot projects, demonstrations of future mobility in Saxony's state capital)
- Creation of a Joint Research Lab, (for joint R&D projects between Volkswagen and the city's research institutions such as the Technical University of Dresden)
- Advanced Mobility Academy (training up a new generation of specialists in research, development, production and management in the e-mobility sector)
- Creation of a business incubator in the Transparent Factory (acting as an accelerator for startups developing innovative software solutions for future mobility)

## OTHER SUSTAINABLE PROJECTS

### Volunteering is a badge of honor at Volkswagen.

Volkswagen's strategic initiative "Volkswagen pro Ehrenamt" is the umbrella program for volunteering activities, providing targeted support for social engagement opportunities. Since 2007, a specialist office embedded in the company's HR management function has matched over 2,800 volunteers with suitable projects through a volunteer exchange. Around Germany, some 25,000 employees are now involved in associations, organizations and charities alongside their work. Volkswagen pro Ehrenamt recognizes their commitment, providing support and additional backing. By highlighting positive role models, the company also encourages other employees to engage in voluntary activities.

Our employees' commitment to these causes not only benefits other people, initiatives and facilities, but also strengthens their own key skills, especially their specialist and social skills, as well as their ability to work in a close-knit team. Thus the program dovetails with Volkswagen's own personal and professional development initiatives.

Employees who wish to tackle new challenges once their active careers with Volkswagen have come to an end are supported by our in-house Senior Expert Scheme (KiSEE). This program gives them the opportunity to use their expertise at regional or global level, either as experienced experts within the company, or as volunteer supporters in outside organizations. In 2016, more than 280 senior experts took part in projects of their choosing, ensuring that their vast pool of expert knowledge was put to good use, and encouraging the sharing of valuable expertise between old and new generations.

## AWARDS

### NEXT GREEN CAR

UK-based company Next Green Car Ltd. presents annual awards for the greenest new cars in 10 categories, based on the vehicles' environmental impact throughout their life cycles.

### ECO-CAR ASSESSMENT PROGRAMME

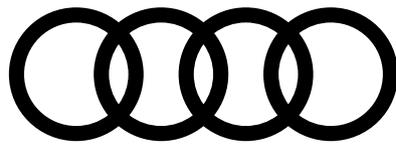
The **VW Golf TSI** became the first vehicle ever to win the Platinum Medal, the highest possible rating in the China Eco-Car Assessment Programme (C-ECAP). The program assesses vehicles against six criteria, including energy efficiency and recycling quotient.

### „BEST OF CES“-AWARD

The editorial team of Engadget, one of the leading U.S. online technology magazines, recognized the BUDD-e in the Best Innovation category in this year's "Best of CES" awards.

### AAA GREEN CAR GUIDE

The American Automobile Association publishes the AAA Green Car Guide, an annual assessment of the greenest cars on the U.S. market. In 2016, the **VW e-Golf** was awarded the title of "Best in Class" in the compact car class.



**Audi**

## Cars made with Success and Passion

The Audi group is one of the most successful manufacturers of premium automobiles, supercars and sporty motorcycles. In the 2016 fiscal year, the Audi Group delivered a total of 2,088,187 vehicles. This figure included 1,867,738 Audi core brand models, representing a 3.6% increase in deliveries to customers. The Lamborghini brand supplied 3,457 vehicles to customers, and Ducati supplied 55,451 motorcycles. The Audi Group increased its sales revenue by 1.5% in 2016, to €59,317 million. Operating profit reached €3,052 million, with an operating return on sales of 5.1%.



Audi A3 Sportback g-tron – CNG consumption in kg/100 km: 3.6–3.3; combined fuel consumption in l/100 km: 5.5–5.1; combined CO<sub>2</sub> emissions in g/km (CNG): 98-89; combined CO<sub>2</sub> emissions in g/km: 128–117

### “VORSPRUNG DURCH TECHNIK” ALSO APPLIES TO SUSTAINABLE BUSINESS

For Audi, corporate responsibility means taking account of economic, ecological and social factors in all decision-making, with the aim of securing a long-term competitive edge. In 2016, with our Strategy 2025 we focused on three major trends: Digitalization, Sustainability and Urbanization. This strategy is Audi’s roadmap for the future. We are pursuing the mission of increasing the sustainability of our vehicles and services along the entire value chain. In addition to our commitment to new drive technologies, we are also investing in carbon-neutral fuels – Audi e-fuels. We will continue to cut our production’s environmental footprint, while working on material cycles that leave no room for waste. And our demand for sustainability will feed into our supply chain. We have defined specific targets for each of these issues in Strategy 2025.

### HIGHLIGHTS OF THE YEAR

“Spend 30 minutes for 400 km –  
fast and simple battery charging”





Audi e-tron quattro concept  
(concept car 2015)

### Key technology for an electric mobility breakthrough

Fast and simple battery charging – including charging on the go – is a key requirement for achieving a breakthrough in electric mobility. With its partners in the Charging Interface Initiative (CharIN) e.V., Audi is supporting common technical standards in the form of the Combined Charging System (CCS). The Combined Charging System (CCS) makes it possible to charge electric cars with alternating current (AC) or direct current (DC) using a standardized charging interface known as the Combo plug. This technology is already fitted on the electrically powered Audi e-tron quattro concept car, which is capable of traveling more than 400 km on a 30-minute charge. That increases to over 500 km if the battery is charged to full capacity.



### Piloted Driving is Safer Driving

Around 90% of all accidents are due to human error. Audi already offers an extensive range of driver assistance systems to help individuals drive more safely and efficiently. In the new Audi A4, for example, intelligent driver assistance systems keep drivers safe when turning across traffic at intersections, help with evasive maneuvers in potential accident situations, warn of cross-traffic when reversing, provide parking assistance and ensure that occupants do not overlook approaching traffic when exiting from the vehicle. In the near future, Audi will also implement highly automated driving technologies. This will mean that in certain situations, the car will – for the first time – be able to take full control of the driving process. Audi refers to this as “piloted driving”. The next generation of the Audi A8 will feature piloted driving in stop-go traffic on motorways at speeds of up to 60 km/h. Audi has further expanded its expertise in the development of piloted driving with the “Digital Motorway Test Bed” initiative. The premium carmaker is testing new technologies for piloted driving and car-to-x communication, as well as safety and usability features, in real-world traffic conditions on the A9 motorway between Nuremberg and Munich. The Vehicle-to-Infrastructure (V2I) communication project connects cars to smart traffic signs that can update to indicate speed limits, traffic jams or road blocks.



Audi e-tron quattro concept (concept car 2015)

### Audi e-tron quattro concept: sporty, efficient, practical

With the Audi e-tron quattro concept, Audi is demonstrating how far its electrification strategy has already advanced. Three electric motors with a combined output of up to 370 kW provide quattro four-wheel drive and electric torque vectoring, which distributes the drive power between the rear wheels as required. At a 150 kW DC fast charging station, it only takes around 50 minutes to charge the battery for a total range of more than 500 kilometers. But the concept model is also equipped with Audi Wireless Charging (AWC), an alternative approach that uses inductive (contactless) charging. This charging method could not be more convenient – for example, maneuvering the Audi e-tron quattro concept into the correct position over the charging pad can be left to the piloted parking system. And provided the sun is shining, the large solar roof supplies extra charging power. At speeds of 80 km/h and more, electrically controlled aerodynamic aids on the hood, sides and rear of the vehicle improve airflow by directing air through and around the vehicle as required. Vertical spoilers on the side panels and the fully enclosed floor pan with newly designed microstructures make a further contribution to reduced drag.

## STAKEHOLDER DIALOG

Audi listens to the opinions and suggestions of relevant stakeholders as a guide for the ongoing development of the company's business strategy. This dialog provides Audi with key pointers for long-term sustainability projects. A series of smaller scale opportunities for dialog will allow us to engage in greater depth with stakeholders in the future.

The third Audi Stakeholder Forum took place in Brussels last year. Politicians, business representatives and academics discussed the opportunities and challenges of e-mobility. These included prioritizing the expansion of the charging infrastructure, as well as finding suitable business models for the future. The first Audi Dealer Dialog 2016 in Ingolstadt also addressed the topic of sustainability. Audi discussed sustainability projects and initiatives with senior managers and dealership advisors. Abroad, Audi México held its first Stakeholder Dialog in Puebla. The discussion focused on regional engagement and interaction between the company and its local stakeholders.

### Responsibility Perspective

The "Responsibility Perspective" series of lectures offers Audi employees the opportunity to share ideas on the subject of sustainability with NGO representatives, academics and politicians. Events organized in 2016 focused on issues of central relevance to Audi's long-term viability: future mobility, responsible corporate management, digitalization and the transformation of the working environment. Professor Stefan Schaltegger, Head of the Center for Sustainability Management at Leuphana University in Lüneburg was among the keynote speakers invited. He talked about sustainable and ethical business practices in corporations. Professor Michael Bargende, Head of the Institute for Internal Combustion Engines and Automotive Engineering (IVK) at the University of Stuttgart, spoke about powertrains of the future. His discussion focused on the question "Is e-tron the diesel killer?"

## AWARDS

### INDUSTRIAL INCLUSION AWARD 2016

AUDI AG has been presented with the Industrial Inclusion Award 2016 in the "Group" category, for its exemplary integration of people with physical disabilities. The award, which is sponsored by the Federal Ministry of Labor and Social Affairs, is presented by an independent expert jury comprising representatives of industry, politics and organizations of disabled people. Audi employs people with physical disabilities for as long as possible within its established teams, including production. A joint study conducted by Audi and the University of St. Gallen has documented the success of this integration process.



**SEAT**

## Technology to enjoy

SEAT is the only company that designs, develops, manufactures and markets cars in Spain. A member of the Volkswagen Group, the multinational has its headquarters in Martorell (Barcelona), exports 81% of its vehicles, and is present in over 80 countries through a network of 1,700 dealerships. In 2016, SEAT generated an operating profit of €143 million – the highest in the history of the brand – and achieved worldwide sales of nearly 410,000 vehicles.

SEAT Group employs more than 14,500 professionals at its three production facilities in Barcelona, El Prat de Llobregat and Martorell, where it manufactures the highly successful Ibiza and Leon. The company also produces the Ateca and Toledo in the Czech Republic, the Alhambra in Portugal and the Mii in Slovakia.

The multinational has a Technical Centre, which acts as a knowledge hub bringing together 1,000 engineers who are focused on developing innovations for Spain's largest industrial investor in R&D. SEAT already features the latest connectivity technology in its vehicle range and is currently engaged in a global digitalization process that will pave the way to the mobility of the future.



SEAT Ibiza (SC) 1.0-1.8 MPI/TSI/Eco (TSI/TDI Start&Stop) (Ecomotive) – fuel consumption in l/100 km: urban 7.8-4.1 / extra-urban 5.3-3.3 / combined 6.2-3.6; CO<sub>2</sub> emissions in g/km: 145-93 (combined); CO<sub>2</sub> efficiency class: D-A

## HIGHLIGHTS OF THE YEAR 2016

**SEAT al Sol**

A sunny outlook! The ambitious SEAT al SOL (“SEAT in the Sun”) project, launched back in 2010, has now completed all installations planned for SEAT facilities and is fully operational. The commissioning of the final two plants in the project has added a total of 53,000 solar panels, which are installed on the roofs of the workshops and above the temporary vehicle storage areas. Covering an area of 276,000 m<sup>2</sup>, equivalent to 40 football fields, the solar plant at the Martorell facility is now the largest in the automotive industry worldwide. All together, the solar plants – rated at nearly 11 MW of nominal power and 12 MW of peak power – can generate up to 17 million kWh per year. This represents 17% of the annual energy required to manufacture the new SEAT Leon, with zero environmental impact. During 2016, the energy produced by SEAT al Sol reached 17.1 million kWh.

**Mega truck**

The SEAT mega truck has been operating since April 2016. A long truck (more than 25m in length), the mega truck has a maximal load capacity of 60 t, which will save 22% of transportation costs and reduce annual CO<sub>2</sub> emissions to just 300 t.

**Social Responsibility Projects**

During 2016, SEAT further expanded its social responsibility activities, focusing on three areas in particular:

- Donations – of cars and parts for educational purposes to high schools, Fundació El Trampolí, the Talita Foundation, the Fight AIDS Foundation, the Spanish Red Cross and the San Juan de Dios Foundation.
- Solidarity campaigns among employees – including Against Breast Cancer and Christmas campaigns.
- Social sponsorships – of Deutsche Schule, the “SOMOS UNO” solidarity event and Gala SIDA 2016

## AWARDS

### **ISO 14006 – ECODESIGN CERTIFICATION.**

SEAT has been certified under the ISO 14006 Ecodesign standard. The company is the first enterprise in Spain's automotive sector to be certified under this standard.

### **TOP EMPLOYER 2016**

In 2016, SEAT received the Top Employer Award for the second time in a row, after making a 35% improvement in the official rankings.

ŠKODA



## The Brand from Central Europe

With over 120 years of vehicle manufacturing experience, ŠKODA AUTO is the largest industrial company in the Czech Republic and the third oldest car manufacturer in the world. In 1991, ŠKODA AUTO was the fourth brand to be incorporated into the Volkswagen Group, when it was positioned as the Group's entry-level brand. Since then, production has increased more than six-fold. Today, ŠKODA AUTO operates three production plants in the Czech Republic and one in India. ŠKODA vehicles are also produced in China, Russia, the Slovak Republic, Ukraine and Kazakhstan.

ŠKODA AUTO currently generates about 8% of the Czech Republic's total exports, supplying vehicles to over 100 countries on five continents. Its product portfolio comprises models in all categories. The seven-model series meet virtually all customer needs. Each model has its own unique positioning and interprets the ŠKODA brand pledge differently for each of its target groups and market segments, from the ŠKODA CITIGO city car and the small ŠKODA FABIA to the compact ŠKODA RAPID and the ŠKODA OCTAVIA in the family compact class; from the ŠKODA YETI off-roader through to the ŠKODA SUPERB at the high end of the model range, as well as the brand's new large SUV, the ŠKODA KODIAQ, first presented to the public in September 2016.

2016 marked the fifth year of the ŠKODA AUTO growth strategy, with 1,126,477 cars sold worldwide. ŠKODA's European market share remained above 4%, while China maintained its position as the brand's strongest market with 317,088 cars sold – an increase of 12.6% over 2015.

In recent years, ŠKODA AUTO has regularly featured at the top of the "Czech 100 Best" rankings in the "Most Important Company" and "Most Admired Company" categories. ŠKODA AUTO employs more than 28,600 people, and is the only company in the Czech Republic to run its own vocational school and university.



Škoda Octavia GreenLine saloon (1.6 TDI) – fuel consumption in l/100 km: urban 3.9 / extra-urban 3.2 / combined 3.5; CO<sub>2</sub> emissions in g/km: 90 (combined); CO<sub>2</sub> efficiency class: A+

The company has won the "Employer of the Year" award on numerous occasions.

Sustainability is key to the success of ŠKODA AUTO in facing present and future challenges. For ŠKODA AUTO, sustainability involves the creation and sharing of values between the company and all stakeholders, internal and external. The company creates shared values through its CSR activities and GreenFuture environmental strategy, but also by establishing and adhering to principles of ethical and transparent conduct.

## HIGHLIGHTS OF THE YEAR 2016

**Millions Donated to Good Causes**

In 2016, ŠKODA employees raised more than two million Czech koruna for NGO projects that were selected by the employees themselves. The company's fund-matching donation doubled this figure, bringing it to four million koruna. In line with ŠKODA's CSR priorities, most of the money went into supporting charitable projects for children, education, barrier-free access for the disabled, and road safety. A certain amount of money was donated to a children's home in Aurangabad, India, as part of ŠKODA AUTO's international aid initiative.

**Teribear Charity Runs**

In 2016, ŠKODA sponsored the Tereza Maxová Children's Foundation's "Teribear charity runs". Every kilometer in the 10-day "Teribear moves Prague" event and the one-day "Teribear moves Mladá Boleslav" event raised money for disadvantaged children. Runners in the Prague event ran day and night, with event partners donating various amounts in Czech koruna per kilometer for projects to support children in need. A total of 9,456 people took part, covering a distance of 159,348.75 kilometers overall and raising more than 8 million koruna. The Mladá Boleslav run on behalf of Nymburk Children's Home involved a large number of ŠKODA employees, as well as members of the general public. During the one-day event, more than 1,687 people covered a total distance of 14,426.4 km, raising almost 300,000 koruna.

**Precision and Efficiency**

At the main plant in Mladá Boleslav, preparations for the new state-of-the-art PXL II servo press line started in 2015 and continued throughout 2016; the total investment amounted to €86.4 million. The new line is the most modern of its kind in Central Europe. For the first time, it is now possible for ŠKODA AUTO to press large aluminium car body parts for reduced-weight vehicles that are more energy-efficient. The new press goes into full operation in 2017. A total of 140 new jobs will be created in connection with this investment.

## OTHER PROJECTS

### Half a Million Trees for the Czech Republic

As part of ŠKODA's long-term "A tree for every car sold in the Czech Republic" project, the company planted more than 640,000 trees in some 50 locations between 2007 and the end of 2016. Trees are planted for the benefit of towns and communities throughout the Czech Republic. The project focuses in particular on the regions in which ŠKODA has production facilities. From the start, employees at ŠKODA production sites have been actively involved in implementing the campaign. They assist in the search for suitable locations, as well as with the actual planting. From the outset, one of the initiative's key objectives was to strengthen the bonds between employees and the areas in which they live and work by encouraging active involvement.

### ŠKODA Academy

The ŠKODA Academy comprises three main parts – an adult training program, a vocational school, and an employee potential assessment center. The adult training program is designed to foster the personal development of ŠKODA AUTO employees, as well as broaden and improve their technical and interdisciplinary skills. 31,948 participants took part in off-the-job adult training courses in 2016, and 61,291 participated in eLearning courses. ŠKODA AUTO's vocational students regularly rank among the best in national and international competitions. Students are invited to enhance their skills in the so-called Apprentice Car project, in which they are asked to build their own prototype car. Under the guidance of professional ŠKODA designers, the project was launched in 2013. In 2016, the students' teamwork resulted in a car named ATERO, based on a ŠKODA RAPID and equipped with a variety of amazing special features. The vocational school offered 14 courses in IT mechatronics, logistics, auto mechanics, electrical engineering and tooling, including a special course for disabled apprentices. The courses were attended by 911 full-time students.

### Z. E. B. R. A. Idea Management

ŠKODA AUTO has implemented the so-called Z. E. B. R. A. idea management program, a motivational program dedicated to supporting employee activities that aim to introduce improvements or innovative cost-saving measures. Since the program was launched in 2010, the number of proposals submitted has increased from 11,620 to around 26,000 in 2016, generating total savings of 302.4 million koruna. Z. E. B. R. A. has thus become a powerful tool under the management of ŠKODA's "Suggestions Centre".

### Healthcare – Focus on Prevention

The ŠKODA Polyclinic, located at the main plant in Mladá Boleslav, provides outpatient medical care for both employees and the general public. The range of care provided includes general medicine, cardiology, dentistry, dermatology, ENT, gynecology, internal medicine, neurology, ophthalmology, orthopedics, pulmonology, sonography, surgery, urology and X-ray diagnostics.

ŠKODA employees can participate in the prevention programs free of charge. These include individual and group training sessions aimed at preventing health problems resulting from workplace or lifestyle factors. In the reporting year, a number of ergonomic interventions were implemented. The company also continued to carry out ergonomic risk assessments using the EAWS (Ergonomic Assessment Worksheet) to analyze and evaluate risks caused by physical stress in the manufacturing process. The EAWS can be used to perform a comprehensive ergonomic assessment of work tasks that takes account of both the intensity and duration of any form of stress. A new project for the psychological assessment of workplaces was introduced, providing an important perspective for improved workplace monitoring.

## STAKEHOLDER DIALOG

As a brand, ŠKODA always aims to maintain close contact with its main stakeholders such as employees, communities, customers, governmental and other administrative bodies, suppliers, academics, NGOs, and professional organizations. ŠKODA identifies relevant needs and requirements through personal discussions, meetings, and participation in public forums, seminars and university lectures.

So far, ŠKODA has always used information from the Volkswagen Group's stakeholder survey and materiality matrix. In 2016, ŠKODA AUTO launched its own stakeholder assessment process in cooperation with PriceWaterhouseCoopers. After reaching major milestones by the end of 2016, the process will be continued in 2017.

**AWARDS****CZECH 100 BEST 2016**

ŠKODA AUTO has been voted the country's best company by "Czech 100 Best" for the 16th consecutive year and has now won the award more times than any other company. Results are based on the votes of nearly 20,000 selected representatives from business and politics. The award is presented by the pan-European company for culture, education and scientific cooperation, COMENIUS.

**ZPŠ**

In 2016, Škoda Health Insurance (ZPŠ) topped the "ZP health index" compiled by the "Platform of health insurance policyholders of the Czech Republic". According to the index, ZPŠ is in the best financial shape, having improved its result since last year by finishing among the "healthiest" insurance companies in the Czech Republic. It was clearly the quality management system and totally professional work of all our employees that helped ZPŠ gain this prestigious independent recognition. Škoda Health Insurance has been using the system for more than 10 years, earning a quality certificate in compliance with the ISO 9001 standard. ZPŠ retained the certificate following the annual audit in September 2016.



## Leading Manufacturer of Luxury Vehicles



Bentley Bentayga Diesel – fuel consumption in l/100 km: 7.9 (combined); CO<sub>2</sub> emissions in g/km: 210 (combined); CO<sub>2</sub> efficiency class: B

Bentley Motors is the most sought-after luxury car brand in the world. The company's headquarters in Crewe, United Kingdom, is home to all its operations including design, R&D, engineering and production of the company's four model lines: Continental, Flying Spur, Bentayga and Mulsanne. The combination of engineering expertise and cutting-edge technology with fine craftsmanship, using skills handed down over generations, is unique to UK luxury car brands such as Bentley, and is an example of high-value British manufacturing at its best. The company, part of the Volkswagen Group since 1998, currently employs around 4,000 people in Crewe. Bentley delivered 11,023 cars in 2016, the company's fourth consecutive year above 10,000 cars.

### HIGHLIGHTS OF THE YEAR



New R&D Center opens  
with 400+ engineers



#### Crewe Engineering and Design UTC Opens

University Technical Colleges (UTCs) provide an exciting educational offering, backed by business partners and a university. Bentley has been involved in all aspects of setting up the school, which opened in 2016. The UTC integrates technical, practical and academic learning in an environment where students can thrive and develop skills needed by industry, thereby strengthening their career opportunities. Bentley helps introduce real-world scenarios into the UTC curriculum, such as the Bentley Seat Challenge. This initiative saw students visit the factory and receive hands-on training, followed by a brief from engineers to create a design for a future Bentley seat.



**Trainee Volunteering**

As part of the trainee programs at Bentley, all apprentices, industrial placement students and graduates are asked to take part in charity fundraising and volunteering projects within the local community. Since 2016, Bentley trainees have been supporting the Prince’s Trust, a charity for young people that helps deliver the TEAM program in Crewe. Trainees have also been delivering digital skills sessions for the elderly, giving advice on how to use technology such as tablets and laptops to encourage digital inclusion.



**Bentley establishes Rotary volunteering club**

Bentley has recently established a company-wide volunteering club in conjunction with the local branch of Rotary International. The Rotary Club of Bentley Cheshire organizes weekly meetings where members can socialize and plan community projects. In their first year, Bentley Rotarians have already dedicated over 1,000 hours to community service, including a project to renovate a garden for cancer patients at a local hospital.

**AUSZEICHNUNGEN**

**TOP EMPLOYER**

**PRINCESS ROYAL TRAINING AWARD**

**INVESTORS IN PEOPLE SILVER**

**CARBON TRUST TRIPLE STANDARD**

**EXCELLENCE IN INDUSTRY –  
(PRIDE OF CREWE AWARDS)**



## Visionary, Cutting Edge, Pure

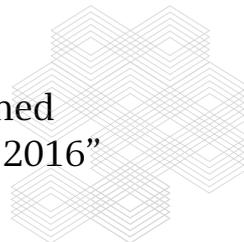
The first Lamborghini ever made was built in the Sant'Agata Bolognese plant in Northern Italy back in 1963. The same factory has been manufacturing these legendary supercars ever since. A part of Volkswagen AG since 1998, Lamborghini continues to enjoy worldwide acclaim as a manufacturer of exclusive, charismatic vehicles. All Lamborghini cars are developed and produced at this single site in Sant'Agata Bolognese. In 2016, the company's 1,415 employees built 3,457 vehicles, generating sales revenue of €906 million.



Lamborghini Huracán RWD coupé – fuel consumption in l/100 km: urban 17.2 / extra-urban 8.9 / combined 11.9; CO<sub>2</sub> emissions in g/km: 278 (combined); CO<sub>2</sub> efficiency class: G

### HIGHLIGHTS OF THE YEAR

## Lamborghini named “Top Employer Italy 2016”



#### Tracce Musicali – Partnership with Teatro Comunale Bologna

In accordance with its Corporate Social Responsibility strategy, Automobili Lamborghini supports cultural initiatives and institutions that aim to enhance the local region's social development. In 2016, Automobili Lamborghini decided to engage in a partnership with Bologna's Teatro Comunale. The Teatro Comunale is the main theater in Bologna, staging performances of opera, music and ballet. It has also established an opera school to support the development of young artists. Automobili Lamborghini sponsored a production of Giuseppe Verdi's opera "Attila" at the Teatro Comunale, and then further strengthened the partnership by organizing "Tracce Musicali", a CSR initiative dedicated to students from Emilia-Romagna schools. The initiative aimed to foster a broader appreciation of musical culture among members of the younger generation by allowing students to attend rehearsals for the 2017 Symphonic Season free of charge.



### Dual Education System Italy (DESI)

During the reporting year, Lamborghini and Ducati continued to develop the CSR project DESI (Dual Education System Italy) jointly organized by both companies and launched in 2014. Other project partners include the Volkswagen Workforce Foundation, the Italian Ministry of Education, University and Research, the Education Ministry of the Emilia Romagna Region and two of Bologna's Technical High Schools. The DESI dual education program currently supports 45 young people in their last year at technical high school, and combines classroom-based theory with practical work experience placements. For the practical training component, Lamborghini and Ducati have set up modern training centers at their respective plants.



### Lamborghini – Biopark and Biomonitoring Project

The biopark, situated in the small Italian municipality of Sant'Agata Bolognese in the city of Bologna, includes a 70,000 m<sup>2</sup> plantation of 9,000 young common oaks (*quercus robur*) and a fruit garden (30 different species on 900 m<sup>2</sup>). Since 2008, similar projects have been carried out by Audi at many of its production plants around the world. These plantations will be monitored over the coming years and decades in a project that will provide insights into forest productivity, stocking (forest density) and the ability of forests to store carbon and maintain biodiversity. Special attractions in the forest include a nature walk featuring native tree species and a wetland area, where local schoolchildren can learn more about the environment. The forest even features a fitness area!

In April 2016, Lamborghini established an apiary in Lamborghini Biopark. The aim is to set up a biomonitoring program that will track several different pollutants by analyzing honey, wax and the honey bees themselves.

Bees are excellent environmental indicators, in that they can be used to indirectly monitor the state of health of the surrounding area. Their natural inclination to explore every corner of a neighborhood in search of vital resources means that every day, foragers from beehives make millions of withdrawals from various environmental matrices: pollen and nectar from flowers, honeydew (later transformed into honey) from leaves infested by sap-feeding insects, various resins from buds and twigs (used to produce propolis), and of course water sources.

Lamborghini's apiary consists of eight hives. During 2016, samples of all the hive matrices (honey, pollen, wax, and the bees themselves) were taken from three of the eight hives and examined for local environmental pollution, including heavy metals, polycyclic aromatic hydrocarbons, and dioxins, as well as pesticides used in agriculture and urban and private green spaces.

In 2016, the apiary produced 240 kg of honey. The honey was found to be free from all the residues under research.

The Lamborghini Biopark project is an opportunity for mutually profitable collaboration between Lamborghini and its host municipality of Sant'Agata Bolognese, because in addition to being a research site, the oak forest adds value to the regional landscape and environment, and also has an educational dimension.

## OTHER PROJECTS

### Trigeneration Plant

Trigeneration, also known as CCHP, is a system which uses a single fuel to simultaneously produce energy for heating, cooling and electricity. The trigeneration plant at Lamborghini, for example, uses natural gas. The thermal energy produced by the fuel is used for air conditioning via the refrigeration cycle of an absorption chiller, which is based on a phase-changing refrigerant combined with an absorbent. The trigeneration plant at Automobili Lamborghini has an installed capacity of 1.2 MWh. Electricity is supplied to the plant as a whole via a transformer, while the thermal energy is delivered via a new hot-water piping network. The original cogeneration plants are used to provide back-up when there are peaks in demand.

The installed thermal capacity of 1,190 kWh is used to meet demand during the winter months from November to March. In summer (from April to October), the refrigeration output of approx. 890 kWh is absorbed by the company's main refrigeration units. This project has a number of different objectives, the most important of which is to reduce CO<sub>2</sub> emissions. By operating the system on natural gas, greenhouse gas emissions can be reduced by an estimated 823 t CO<sub>2</sub>. With a number of minor modifications, it will be possible to convert the system to run on biogas in the future.

### Biogas-Powered District Heating System Reduces Greenhouse Gas Emissions

Automobili Lamborghini is the first Italian automaker to operate its own district heating system. This system pipes hot water to the plant from a biogas-powered cogeneration plant in Nonantola, approximately 6 kilometers away. The hot water (85°C) is pumped through underground pipes to the plant, where the thermal energy is used for heating. Forecasts indicate that the biogas cogeneration plant, which has a total capacity of 1 MW, will in future provide Lamborghini with at least 7,200 MWh of thermal energy annually. This will reduce annual greenhouse emissions by an estimated 1,780 t CO<sub>2</sub>.

## AWARDS

### TOP EMPLOYER ITALIA 2016

In recognition of its excellent workplace environment and outstanding personnel management, Lamborghini has been certified as a "Top Employer Italia 2016". This annual certification is awarded by the Top Employers Institute.



### AEOF CERTIFICATE

The Italian customs authority Agenzia delle Dogane e dei Monopoli has awarded Lamborghini the status of "Authorized Economic Operator – Full", thereby certifying that the company operates to the highest standards of reliability and security in its trade with foreign countries.



### UNIVERSUM AWARDS 2016 – STUDENTS CHOOSE MOST ATTRACTIVE EMPLOYERS

The annual Universum employer rankings reveal which employers are most attractive to students. In an annual survey carried out across all Italian universities, students are asked to name the companies they regard as the most appealing. In 2016, Lamborghini was ranked fifth in the Engineering / IT / Natural Sciences category.





**PORSCHE**

## Driving in its Purest Form



Porsche 718 Boxster S – fuel consumption in l/100 km: urban 10.7–9.5 / extra-urban 6.5–6.0 / combined 8.1–7.3; CO<sub>2</sub> emissions in g/km: 184–167 (combined); CO<sub>2</sub> efficiency class: F/E

Porsche 911 Carrera S – fuel consumption in l/100 km: urban 12.2–10.1 / extra-urban 6.6–6.4 / combined 8.7–7.7; CO<sub>2</sub> emissions in g/km: 199–174 (combined); CO<sub>2</sub> efficiency class: F/E

Porsche Cayenne S – fuel consumption in l/100 km: urban 13.0 / extra-urban 8.0 / combined 9.8; CO<sub>2</sub> emissions in g/km: 229 (combined); CO<sub>2</sub> efficiency class: E

Porsche Macan S – fuel consumption in l/100 km: urban 11.6 / extra-urban 7.6 / combined 9.0; CO<sub>2</sub> emissions in g/km: 212 (combined); CO<sub>2</sub> efficiency class: E

Porsche Panamera S – fuel consumption in l/100 km: urban 12.2 / extra-urban 7.1 / combined 8.9; CO<sub>2</sub> emissions in g/km: 207 (combined); CO<sub>2</sub> efficiency class: E

Porsche is a leading manufacturer of exclusive sports cars and the most profitable carmaker in the world. Porsche sports cars have always stood for performance, quality and inimitable design. Last year the company, which has been a Volkswagen Group brand since 2012 and is represented in 129 markets around the world, sold 237,778 vehicles and recorded revenues of €22,318 million. This means 2016 was the most successful fiscal year in the company's history. It was also the sixth year in a row in which the company achieved record sales revenue, operating result and deliveries. Porsche's most important markets are Western Europe, China and the USA. The company's headcount also reached record levels in 2016, increasing to 27,612 employees across all sites. These locations are currently being upgraded for future plans. At its main plant in Zuffenhausen, for example, 2016 has been all about preparing for the Mission E, Porsche's first all-electric vehicle, which will soon roll off the production line at the factory. The investment of over €1 billion is also creating more than 1,400 new jobs.

### HIGHLIGHTS OF THE YEAR

“Porsche is investing in a sustainable future for its main plant in Zuffenhausen, injecting €1 billion into production of the first all-electric Porsche Mission E and creating 1,400 new jobs.”





#### **Establishment of Porsche Sustainability Council**

In the 2016 fiscal year, Porsche took an important step in its plans to expand stakeholder dialog by creating the Sustainability Council. Its five members, all internationally renowned in academic and social circles, held the Council's first constituent meeting in November and met with the Porsche Executive Board for the first time. Professor Maximilian Gege (co-founder of B. A. U. M., the largest corporate network for sustainable business in Europe), Dr. Sonja Peterson (Scientific Director of the Institute for the World Economy in Kiel), Professor Lucia A. Reisch (a member of the German Council for Sustainable Development), Professor Ortwin Renn (Scientific Director of the Institute for Advanced Sustainability Studies e.V.) and Professor Klaus Töpfer (former German Federal Minister for the Environment, Nature Conservation and Nuclear Safety) will advise the company on issues and challenges arising from relevant ecological and social trends.



#### **20 Years of Environmental Certification at Zuffenhausen**

Saving energy, avoiding waste, printing on both sides of the page – every Porsche employee knows about conserving resources and contributing to the company's environmental sustainability. On May 20, 2016, a team of independent assessors from TÜV carried out their audit of Porsche's compliance with environmental standards in operations and production. In 1996, Porsche was one of the first companies in the federal state of Baden Württemberg to introduce an EMAS (Eco-Management and Audit Scheme) compliant environmental management system at its Zuffenhausen facility. The company obtained this certification in recognition of the system's clearly defined processes, lines of responsibility, and effective implementation.



#### **Refugee Integration Program**

In spring 2016, Porsche AG introduced a comprehensive refugee integration program. Ten men and five women aged between 16 and 38 were given the opportunity to qualify for vocational training or direct entry to a profession by attending a six-month integration program drawn up by Porsche. The program participants came from Eritrea, Syria, Afghanistan, Iran and Iraq. The program focuses on teaching German as well as basic technical skills and cultural awareness. The 13 people who took part in the first year of the program completed the course successfully, with outcomes such as going directly into employment, embarking on a course of vocational training or participating in further initiatives. A new cohort of 15 refugees joined the ongoing program in January 2017.

## STAKEHOLDER DIALOG

### Informing Local Residents about Construction Work in Zuffenhausen

Stakeholder groups involved: local residents and interested members of the public.

Form of dialog: letters were sent to residents living in the vicinity of the main plant in Zuffenhausen inviting them to attend an information event; this event included an explanation of the planned construction works, a question and answer session and a tour of the “Central Workshops” construction site.

### “targa” Newspaper for Residents

Stakeholder groups involved: local residents living in the vicinity of the Zuffenhausen, Weissach and Leipzig sites.

Form of dialog: site-specific information was provided to local residents and interested members of the public about new developments at Porsche such as construction projects, far-reaching company decisions and social outreach activities. Also, two email addresses – targa@porsche.de and nachgefragt@porsche.de – were set up so that interested readers could ask questions and provide feedback.

### Customer surveys

Stakeholder groups involved: customers

Form of dialog: the Sales and Marketing department has christened 2015 “Customer Satisfaction Year” with a view to further improving the quality of customer care worldwide. Under the “Customer Experience Management” initiative, Porsche has implemented hundreds of measures aimed at ensuring high standards of customer service throughout the entire customer lifecycle. As part of the initiative, customer satisfaction surveys generate approximately 17,000 responses every month. This feedback directly reflects customer experience and feeds into the continuous improvement process.

### Identification and Analysis of Key Stakeholder Topics in 2015

The 2015 stakeholder survey on Porsche’s sustainability performance identified the following topics as particularly relevant (top five, in descending order of priority): long-term economic stability, long-term customer relationships, health and safety, fuel consumption/vehicle emissions, and staff development. These and all other survey findings are translated directly into a “materiality matrix”, where they are ranked according to their relevance to stakeholders on the one hand, and to the company on the other. This materiality analysis is then used by Porsche to set priorities for its sustainability reporting. In particular, it underpins the selection and editing of content in the Sustainability Report itself. At the same time, stakeholders’ opinions are also taken into account in internal decision-making, for example in issue prioritization and strategic planning.

## AWARDS

### VEHICLE AWARDS

U. S. Sales Satisfaction Index published by market research institute J. D. Power: First place in the overall brand ranking

U. S. Initial Quality Study published by market research institute J. D. Power: Second place in the overall brand ranking, first place for Porsche 911 and Macan in the respective categories

### SITE AWARDS

J. D. Power “Plant Quality Award”: Zuffenhausen headquarters takes first place in the “Europe/Africa” category

### EMPLOYER AWARDS

“Excellent Employer” award and 2nd place in German Employer Award 2015  
Automotive Top Career Award 2016: First place among students on automotive courses

### AWARDS FOR SOCIAL PARTNERSHIPS

“Vocational Training Award” 2015 from the German-Philippine Chamber of Commerce and Industry for the Porsche Training and Recruitment Center Asia (PTRCA) in Manila



## Commercial Vehicles

# Economical, Reliable, Customer-focused

Global challenges are creating an ever-growing raft of problems for our society and our environment, amid constantly evolving legal and regulatory requirements. These changes are having a tangible impact on companies, and their stakeholders expect solutions. At Volkswagen Commercial Vehicles, we are tackling these challenges head-on. We are actively committed to passing on an intact and healthy living and working environment to future generations, while at the same time securing a strong future for our own company.

The Volkswagen Group aims to become a world-leading provider of sustainable mobility. This ambitious goal can only be achieved if all of its brands work closely together. With our vehicles and services, we are the Group's only brand offering tailor-made transport solutions in the light commercial vehicle market. Alongside our vision – to offer world-leading transport solutions to our customers – we have a responsibility to help the Group achieve its targets as efficiently and effectively as possible. At the same time, we want to make addressing the global challenges of urbanization and climate change our main priorities. These are the two areas in which we add the most value for our customers, society and the environment.

Sustainability is a top priority at Volkswagen Commercial Vehicles. The Brand Board of Management meets twice yearly to formulate a CSR roadmap and decide on focus topics. All departments in the company, from procurement and human resources to production and logistics, take part in regular steering committee meetings in which they set common, binding targets in order to make corporate responsibility the common decision-making framework for processes and projects.



Caddy Delivery Van – fuel consumption in l/100 km: urban 7.6–4.7 / extra-urban 5.3–3.6 / combined 6.2–4.0; CO<sub>2</sub> emissions in g/km: 143–106 (combined).

T6 Transporter Delivery Van KR – fuel consumption in l/100 km: urban 12.6–6.8 / extra-urban 7.9–4.7 / combined 9–5.4; CO<sub>2</sub> emissions in g/km: 222–142 (combined).

Crafter Delivery Van – fuel consumption in l/100 km: urban 8.8–8.3 / extra-urban 7.0–6.9 / combined 7.6–7.4; CO<sub>2</sub> emissions in g/km: 199–193 (combined).

VW Amarok 3.0l TDI (SCR BMT) – fuel consumption in l/100 km: urban 8.6–8.3 / extra-urban 7.3–7.1 / combined 7.8–7.5; CO<sub>2</sub> emissions in g/km: 193–184 (combined).

### HIGHLIGHTS OF THE YEAR



“New standards in fuel consumption –  
Caddy 4 and T6 models use up to 15%  
less fuel”



The e-Crafter concept incorporates the latest developments in battery technology that allow a freely configurable range up to 400 km, depending on customer needs and the demands of the job. This performance makes the vehicle an intriguing prospect for many sectors, over and above urban transport.

### The New e-Crafter – Highlight of the IAA 2016 Commercial Vehicles Show

- World premiere for the first all-electric Crafter
- Concept shows solution for zero-emission urban delivery vehicle nearly ready for series production
- No limits on load space
- Carries up to 1.7 tons
- Range of over 200 km
- First vehicles hit the roads in 2017

Electric power has not altered the character of the new Crafter. The concept vehicle still offers attractive yet robust internal features, including the largest possible payload capacity, an ideal 11.3 m<sup>3</sup> load space and a maximum load height of 1,961 millimeters. A generous 1,380 mm payload width between the wheel arches and a maximum load space length of 4,855 mm round off the vehicle – with no change to package dimensions.

The 100 kW electric drive accelerates the road-ready concept (with a dependable gross weight of 4.25 t) up to the maximum permitted speed of 80 km/h. The vehicle is equally at home on delivery routes along urban highways as it is driving across country. With maximum torque of 290 Nm, available almost instantaneously, real-world driving situations can easily be handled even when carrying a full load weighing 1,709 kg.



Volkswagen Commercial Vehicles plant in Września

### Highly Efficient Environmental Solutions at New Crafter Plant in Września

The new Crafter plant in Września, approximately 50 km from Poznań, was officially opened in October 2016. The design and construction of the new plant met the most demanding environmental standards right from the start, in line with the “Think Blue. Factory.” strategy. From an environmental protection perspective, one of the highlights here is the paintshop, which is exceptionally resource-efficient and consumes remarkably little energy, water or materials. Paint is applied automatically, by 36 robots. Efficient, high-speed rotating atomizers and color changers use much less paint than conventional systems. In the paint booths, process air is scrubbed using a dry separation system, reducing energy consumption in the booth by up to 60%. No water or chemicals are required, and process air volumes are reduced as well. A new system for energy-optimized spray booth air conditioning is also in operation.

The body dryers are equipped with energy-saving heat recovery technology. The body shop uses the latest, most energy-efficient robots and state-of-the-art laser technology that is substantially more efficient. The factory buildings and infrastructure were also built in accordance with Volkswagen’s strict environmental criteria. Ventilation technology and energy media supply meet high standards of efficiency, while the lighting system makes use of natural daylight and LED technology. Water savings were also made in assembly, where the sprinkler booths used to check that vehicles are watertight achieve savings of up to 75% compared to traditional processes. In December 2016, the plant was awarded the Golden Certificate of the German Sustainable Building Council (DGNB). The plant in Września is the only automotive production center in the world to be honored with this distinction, as well as the first and the only building in Poland.



Apprentices and students on placement at Volkswagen Commercial Vehicles supported the soccer teams as volunteers

#### **Working Hard for People with Disabilities:**

#### **Volkswagen Commercial Vehicles supports Hanover Special Olympics**

In June 2016, Hanover, the state capital of Lower Saxony, played host to the Special Olympics, a national sporting event for people with mental disabilities. Some 4,800 athletes competed in 18 disciplines over the week-long event. As the official vehicle supplier, Volkswagen Commercial Vehicles provided 30 vehicles to transport participants, organizers and sporting equipment between the competition venues. 15 apprentices and students on placement at Volkswagen Commercial Vehicles acted as volunteer team assistants in the soccer competitions, supporting the athletes while they competed.

## **OTHER SUSTAINABLE PROJECTS**

### **Golden Bulli 2016**

Volkswagen Commercial Vehicles launched its new “Golden Camper” prize in 2016, recognizing craft workshops that are committed to social responsibility. The prize is open to all workshops licensed under the German Crafts and Trade Code. A specialist panel comprising experts from the industry press, associations and businesses selects the winner. The first prize was presented to Roland Ketterer GmbH, from Donaueschingen-Pföhren in the federal state of Baden-Württemberg. Chair of the Volkswagen Commercial Vehicles Brand Board of Management Dr. Eckhard Stolz handed over the prize at a ceremony held on December 13, 2016. Roland Ketterer, owner of the plumbing firm that bears his name, and his employees came up with the idea and raised funds for the construction of a specialist school for drinking water and solar energy expertise in the Tanzanian town of Chala, home to some 10,000 people. In recognition of its outstanding efforts, the company, which employs 12 people, was rewarded with a versatile, new Transporter panel van.

### **Steadily Reducing CO<sub>2</sub> Emissions:**

#### **Caddy and T6 Reflect Progress**

Volkswagen has set itself the target of reducing fuel consumption for each new model by 10–15% compared with its predecessor. Volkswagen Commercial Vehicles has taken up the challenge and set new benchmarks with the introduction of new engines for the commercial variants of the Caddy 4 and T6 models. In the Caddy, we have succeeded in reducing emissions by up to 30g CO<sub>2</sub>/km – up to 20% less than the previous version.

The engine range includes a 3-cylinder TSI unit and a natural-gas engine in the Caddy TGI. Meanwhile, fuel efficiency in the T6 range has been improved by 20% on average. BlueMotion Technology, including a start-stop system and brake energy regeneration, is standard on these models.

### **e-load up!**

This small delivery vehicle is big on environmental credentials.

- Zero emissions, maximum 990-liter payload capacity for up to 360 kg of goods at a vehicle length of just 3.60 meters
- Versatile, microvan offering A+ class energy efficiency, two seats, four doors, and lots of space in the rear
- Leather steering wheel, electric windows, “Climatronic” air conditioning system, 15” alloy wheels, halogen headlights and LED daytime running lights standard across the e-load up! range

The e-load up! is the ideal solution for anyone clocking up the miles in downtown traffic, such as couriers, pizza delivery drivers and service engineers. This smallest of commercial vehicles is big on payload capacity but has a tiny footprint on the road – great for drivers who need to zip around the city, stopping, parking, loading and unloading.

### **“Think Blue. Factory”: Volkswagen Environmental Program Meets 2018 Targets Ahead of Schedule**

In the reporting period, Volkswagen Commercial Vehicles once again achieved a significant cut in energy consumption at its Hanover site. Compared with the 2010 baseline, when the “Think Blue. Factory.” program was launched, the site consumed around 15% less energy in 2016 despite producing a record 189,600 vehicles. The energy savings equate to the annual average energy usage of around 10,000 households.

Compared with the 2010 baseline, the company now uses 17% less water and has slashed waste for disposal (non-recyclable waste) by an amazing 75%. CO<sub>2</sub> and solvent emissions have fallen by 11% and 13% respectively. At the same time, production volumes have risen significantly in all areas of activity, with 45% more vehicles, 6.4% more cooling systems and 52% more castings.

The savings for each of the five key indicators are even more impressive after adding the number of vehicles produced into the equation; efficiency improvements range from 31% (water) to 85% (waste). Thus the Hanover site has already exceeded Volkswagen’s stated aim of improving these figures by 25% by 2018.

Ralf Ohliger, the Environment Officer in Hanover, reported that “the successes of the ‘Think Blue. Factory.’ environmental program have come about as a result of technical solutions and the many innovative ideas and measures suggested by our workforce. Green production has become a major competitive advantage for us. And our Hanover plant is definitely benefiting from the progress we have made.”

The monetary value of the reduced costs associated with these environmental improvements amount to some €6.5 million over the year.

The key measures that contributed to the success of “Think Blue. Factory” included:

- New, efficient servo press lines (“PXL”)
- Upgrades to the latest, energy-efficient laser technology in the body shop
- Smart finish-drying control system (LAVA load-dependent volume flow adjustment)
- Installation of innovative color changers and highly efficient application technology in the paintshop
- Optimization of the rinsing processes and introduction of a VOC-free rinsing thinner in the paintshop
- Implementation of a new ventilation concept combined with a modernized power supply for the ventilation system in vehicle assembly
- Commissioning of new low-energy, resource-efficient smelting lines in the alloy foundry
- Changeover to a waste water-free process in the radiator manufacturing plant
- Systematic out-of-hours shutdown of production equipment and infrastructure

Since the “Think Blue. Factory.” initiative was introduced in 2010, all Volkswagen and Volkswagen Commercial Vehicles brand production sites have been working to achieve major improvements in plant resource efficiency while simultaneously reducing emissions. The five key indicators that “Think Blue. Factory.” is seeking to improve by 25% per production unit by 2018 include energy and water consumption, waste disposal, and solvent and CO<sub>2</sub> emissions.

### **SPRINT” Language and Integration Project**

Volkswagen Commercial Vehicles has joined forces with the Hanover-based Volkswagen Akademie vocational training organization to support “SPRINT”, a language and integration project for young refugees aged 16–21. The focus of the project has been on work induction. Basic technical skills were taught in an activity-based course similar to an introductory vocational training program. At the same time, the young people improved their language skills, and learned about motivation, punctuality and appropriate behavior. 54 young refugees took part in the project over the course of the year.

“SPRINT”, the language and integration project, teaches the following content over a 12-month period:

- Module I: German language skills (15 hours per week, at vocational school)
- Module II: Introduction to regional culture and traditions (10 hours per week, at vocational school)
- Module III: Introduction to the local world of work (10 hours per week, at Volkswagen Akademie in Hanover)

### **Biodiversity Campaign to Revitalize River Warta**

In autumn 2016, Volkswagen Poznań worked with the “Save the Fish” foundation and local municipal council to organize a biodiversity campaign. As part of the campaign, and with the help of local schoolchildren, almost 1 million fish were released into the river Warta. The activities included fun environmental games and competitions. Before releasing the fish, the schoolchildren took part in an educational activity about water ecology. Following an environmental disaster in 2015, in which 150 km of the river Warta became polluted, the campaign was intended to remedy the situation and restore the ecological balance of the river.

## **STAKEHOLDER DIALOG**

### **“Urban Logistics” Pilot Project**

Volkswagen Commercial Vehicles is engaged in an ongoing dialog with Hanover, state capital of Lower Saxony, and the Hanover-Braunschweig-Göttingen-Wolfsburg metropolitan region, on how best to improve the urban logistics infrastructure. One example of this joint work is the “Urban Logistics” pilot project involving the City, the metropolitan region, Leibniz University of Hanover, the University of Applied Sciences and Arts in Hanover, Braunschweig University of Technology, the Deutsche Post DHL mail and logistics group, and enercity, the Hanover city utilities company. This collaboration is based on two guiding principles: first, that future logistics must be focused on the needs of people in a livable city, and second, that future logistics in a climate-neutral Hanover must be based on quiet, safe, zero-emission transport solutions and an innovative urban infrastructure.

### **Neighborhood Dialog**

The Hanover plant maintains a regular dialog with its neighbors. News about the brand and plant is distributed in a spirit of transpar-

ency. Company representatives make a point of listening to critical questions from local residents, for example about emissions or the local traffic situation. This neighborhood dialog has been in place at Volkswagen Commercial Vehicles since 1998. The open dialog format has helped to break down skepticism and fostered a climate of mutual understanding. The ongoing discourse with the factory’s neighbors has become an integral part of Volkswagen Commercial Vehicles’ corporate and environmental policy.

### **Dialog and Community Involvement**

Volkswagen’s Polish plants in Poznań and Września also maintain regular dialog with their neighbors. At least two meetings with local residents are held each year by all four plants. The meetings are organized with local leaders such as village elders or community councils. Agenda items include the current situation at the factories, as well as social responsibility. One of the social projects in 2016 was the creation of a football pitch in a joint initiative with the neighbors of the Crafter plant in Września.

## **AWARDS**

Volkswagen Commercial Vehicles models won 32 international first-place awards in reader and expert rankings published by renowned industry journals and committees in 2016. The Caddy, T6 and other vehicles also won awards for their sustainability credentials. For example:

The Caddy from Volkswagen Commercial Vehicles won the “Green Van” prize in 2016. Once again, VerkehrsRundschau and Trucker magazines presented this award for the most environmentally friendly commercial vehicle in 2016. The Caddy Maxi was nominated in a category comprising five other vans. It emerged as the victor in the competition thanks to its low fuel consumption, compliance with Euro 6 exhaust emission standards across the range, and ability to transport up to 669 kg in a 4.2 m<sup>3</sup> load space. The tests run by VerkehrsRundschau and Trucker magazines were based on a standardized test route involving a mix of city streets, motorways and minor highways. All of the vans in the test were driven by the

same test driver on the same roads, carrying the same 500 kg load. According to the magazines’ results, the Caddy used 5.8 liters of fuel per 100 km. In addition to the fuel consumption under test conditions, the ratings also took account of the load space dimensions and actual payload weight (based on the calculated weight of the empty test vehicle with a full tank of fuel and driver). Additional points were awarded for fuel-saving technology and the Euro 6-compliant diesel engine.

The new generation of diesel units used in the Caddy meets the latest Euro 6 requirements, as well as the new limits applicable to commercial vehicles from September 2016. TGI versions of both the Caddy and Caddy Maxi are also available. These 1.4-liter engines are tuned to use less fuel and run on cost-efficient CNG. All Caddy engines are fitted with a start-stop system, brake energy regeneration, and tires with optimized rolling resistance.



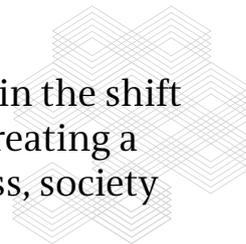
## Driving the shift



Scania is one of the world's leading manufacturers of heavy-duty trucks, urban and intercity buses, and industrial and marine engines. The company has been a Volkswagen Group brand since 2008. On our way to becoming a leading provider of solutions for sustainable transport – a key corporate objective – Scania creates value for customers, employees and society alike. Scania focuses on producing efficient, low-carbon solutions that enhance customer profitability, well aware that success in these efforts depends on close collaboration and partnerships with the aim of finding solutions along the entire value chain. By succeeding in this ambition, we strengthen our own competitiveness, profitability and future success. In 2016, Scania's sales revenue totaled €10.6 billion.

### HIGHLIGHTS OF THE YEAR

“We are committed to becoming the leader in the shift toward a sustainable transport system, creating a world of mobility that is better for business, society and the environment”





### The New Premium

In August 2016, Scania marked its 125th anniversary with the launch of a new generation of trucks, the biggest investment in the company's history. Created to set a new premium standard in the transport industry, the new products and services also represent a major landmark on the journey toward the future of sustainable transport. The new truck delivers 5% fuel savings on average due to an improved powertrain and better aerodynamics. As part of the focus on safety, the new vehicle also includes the world's first rollover side curtain airbag for trucks. Scania's unique solution has the potential to significantly reduce the severity of injuries from rollover accidents.



### BRT Accra Ghana

Scania aims to drive sustainable mobility in rapidly growing cities by offering clever, cost-efficient bus and coach systems and associated services. In Ghana's capital city of Accra, Scania is rolling out the most comprehensive and complete Bus Rapid Transit (BRT) system in the company's history. With 245 connected buses operating in their own dedicated lanes, the system is improving the quality of life in one of Africa's largest cities.



### World's First Electric Road

In June 2016, the world's first electric road was inaugurated near the Swedish city of Gävle. Scania's electrically powered truck was the first to drive the route in open highway traffic, using conductive technology developed by Siemens. The truck on the road is a Euro 6-certified hybrid that operates as an electric vehicle when on the electrified road lane and as a regular hybrid running on biofuel at other times, for example when overtaking. A second truck will go into operation in June 2017.

## OTHER PROJECTS

### Transport Academy to Support Ghana's BRT System

To ensure that the new BRT system in Accra continues to operate successfully, skilled technicians are needed more than ever. To provide in-demand knowledge of heavy-duty vehicles, Scania offers students vocational training at its modern workshop facility. In collaboration with the Government Technical Training Centre (GTTC), a vocational school, Scania provides specialized training for 30 students per year.

### ETHA – Fossil Fuel Alternatives

During 2016, Scania launched the ETHA initiative in cooperation with Lantmännen, a Swedish agricultural cooperative. The purpose of ETHA is to make it easy for companies to choose a sustainable solution without compromising on their needs. ETHA is a full-scale solution for customers, with Scania providing the vehicle technology and Lantmännen providing locally produced bioethanol as well as the necessary infrastructure. This combined effort is reducing CO<sub>2</sub> emissions by 90% – good for customers and the environment.

### Scania for Nutrition

For the past few years, Scania India has been working with four villages on education, health, hygiene and the environment. The foundation stone is the provision of basic education, which improves employment opportunities, changes attitudes to issues like child marriage, and enhances health and hygiene by encouraging better sanitary conditions and functioning toilets. Scania also supplies safe drinking water to schools and daycare centers in the villages, and runs a program called Scania for Nutrition that provides nutritional supplements for improving general health and the villagers' daily lives.



### **Ecolution by Scania**

Ecolution by Scania combines our tailored products with driver services. Based on continuous customer dialog, the common goal is improved fuel efficiency. Through optimized vehicle specifications, performance diagnostics, driver training and monthly follow-ups, we can significantly reduce fuel-consumption levels and CO<sub>2</sub> emissions.

During 2016, Scania increased the number of contracts sold with Ecolution by 37% over 2015, saving our customers on average 12% in fuel and CO<sub>2</sub> emissions.

### **Skill Capture**

Skill Capture is Scania's framework for developing diversity and inclusion practices and implementing them in our everyday business. The purpose of Skill Capture is reflected in the name: to help Scania capture the diversity of skills, expertise and viewpoints of our most valuable assets – our employees.

The process starts with Skill Capture Initial Labs, which focus on establishing ways of working that will allow all our present and future employees to perform at their full potential in a diverse, inclusive corporate culture. This results in concrete actions taken by our management teams. To spread best practices and bring together the most urgently needed improvements, Scania will track how corporate attitudes change throughout the process. Starting in 2016, Initial Labs have been conducted with Scania's top management teams, including the Executive Board. To measure the progress of employees' perception of Scania as a diverse and inclusive company, questions on this issue were included in the 2016 Employee Satisfaction Barometer survey.

### **New Ways of Working**

Aiming to find new ways of working and new ideas for dealing with challenging issues surrounding sustainability, the Procurement department launched the Wild and Crazy project. The Wild and Crazy project is about giving interested purchasers from different departments the opportunity to work together on developing new solutions for challenges facing the Procurement division. The project team members split up into groups to tackle specific issues. After working on each issue for two to three months, they present the results to representatives of Scania's senior management.

### **Scania's Own Transport**

Scania wants to be the benchmark in sustainable logistics. In parallel with actively improving our own transportation network to increase efficiency in logistical flows and minimize CO<sub>2</sub> emissions, we also ensure that social and legal issues are taken into account. To adopt these best practices, decisions within our logistical operations are based on achieving the best balance between three imperatives: CO<sub>2</sub> emissions, quality and cost. When sourcing transport solutions, Scania assigns the same value to CO<sub>2</sub> reduction as to cost-cutting measures or quality improvements. In two important tenders, this approach immediately resulted in emission reductions of 19% and 22% respectively, without compromising quality or increasing costs.

## **STAKEHOLDER DIALOG**

### **Sustainable Transport Forum**

On August 23, 2016, Scania held a Sustainable Transport Forum in Paris, bringing together some of the world's most prominent decision-makers and influencers in the sustainability sphere. "Driving the Shift" focused on how the transport industry can play a crucial transformative role in moving the world toward a sustainable future. There was unanimous agreement in the Forum on the overwhelming and urgent need to make lasting changes for the good of all.

### **Swedish Leadership on Sustainable Development (SLSD)**

Scania is an active member of SLSD, a multi-stakeholder network for sustainable development. The members of this network share knowledge and carry out joint projects to promote sustainable development and reduce poverty. In addition to climate and environmental issues, focal topics in 2016 included promoting the decent work agenda and tackling corruption.

### **ABC City**

By steadily increasing the demand for transport solutions that are efficient, high-capacity and low-carbon, cities are a key driver of change. Improving infrastructure and reducing fuel consumption in cities requires an end-to-end approach that takes account of specific but diverse transport assignments and needs. ABC, the Activity-Based City, is a project launched by Scania in partnership with Skanska, MTR and WSP, four companies with experience in sustainable and innovative city building. The joint project aims to show what cities capable of meeting the urban challenges of the future might look like.

**AWARDS****INTERNATIONAL TRUCK OF THE YEAR**

Within a few weeks of launch, the S-series in Scania's new truck range was honored with the prestigious "International Truck of the Year" award. The jury was fulsome in its praise, saying, "With its new range, Scania has delivered a truck that represents a real 'state of the art' offering in the heavy-duty segment, capable of satisfying not only today's but also tomorrow's transport needs."

**WINNER OF EUROPE'S "1,000-POINT TEST"**

The new truck was named the winner in Europe's 1,000-Point Test, one of Europe's largest comparative truck tests believed by many to be the toughest.

**SCANIA P320 HYBRID TAKES THE "KS-ENERGIE-UND UMWELTPREIS" 2016**



## We provide efficient transportation and energy solutions



The MAN Group is one of the leading commercial vehicle, engine and mechanical engineering companies in Europe. As a supplier of trucks, buses, transporters, diesel engines, turbomachinery and special-purpose transmissions, MAN is a market leader in all areas of business activity. In 2016, its 53,824-strong workforce generated sales revenues of €13.6 billion and an operating profit of €204 million.

### HIGHLIGHTS OF THE YEAR



#### **Munich Cogeneration Plant and Climate Pact with City Business Community**

2016 saw the completion of the project to build a cogeneration plant (CHP) at the Munich site. When the 2.5 MW natural gas CHP went on line in December, it started to contribute toward meeting the site's electricity and heating requirements, marking a major milestone in MAN's climate strategy and "Green Production" initiative. Up to 20% of the site's electricity requirement can now be generated by this local facility.

In addition, by using the heat that is produced during the electricity generation process, the CHP helps to make significant energy and carbon savings. This measure alone will contribute some 40% of the carbon emission reduction target for the Munich site.

As part of the Munich business community climate pact launched by the City of Munich, MAN is in touch with 14 other large local firms that share the aim of reducing greenhouse gas emissions. The agreement was signed by all partners at the City Hall in 2016, when an initial workshop was held. The result of the workshop was a joint measure involving apprentices from all participating companies, who trained as "energy scouts" in sessions provided by the Chamber of Commerce and Industry. MAN's principal contribution to the climate pact is the construction of the Munich CHP, as well as other climate-friendly construction projects on site.



### Energy-efficient LED Lighting

All parts of the MAN SE group of companies ramped up their efforts to switch over to energy-efficient lighting in 2016. Following successful testing of installations completed in previous years, MAN has now completed indoor and outdoor LED lighting installations at over 20 of the sites operated by MAN Truck & Bus, MAN Diesel & Turbo, MAN Latin America and Renk. Not only do these projects tap into LEDs' great potential for improving energy efficiency, they have also optimized the way lighting is used. Modern lighting control systems are helping to deploy efficient lighting in a targeted manner.



### Refugee Relief

Auch 2016 arbeitete MAN eng mit dem SOS-Kinderdorf zusammen. Schwerpunkt bildeten in In 2016, MAN once again worked closely with SOS Children's Villages. With total donations of €150,000, MAN is currently supporting a range of educational projects that prepare children and young people for independent living. This year's focus was on refugee relief initiatives.

An example of the projects that were funded is the social lunch club at the SOS Children's Village in Salzgitter. This club provides children from deprived families with a hot meal before helping them with their homework.

MAN also supports projects at the SOS Children's Villages in Ammersee and Augsburg, where unaccompanied child refugees are looked after in several residential homes. In addition to activities designed to teach important life skills, these children receive German language tuition to help them integrate successfully into their new home.

MAN's commitment to SOS Children's Village is not simply financial; employees are also encouraged to do charitable work. For example, MAN trainees organized a basketball match and a MAN factory tour for young refugees. In addition, four MAN employees in Munich work as mentors, helping young people with their schoolwork and in their search for jobs.

In fiscal year 2016, 39 refugees joined the MAN Group via introductory courses, apprenticeships, internships or various forms of employment.

## IMPLEMENTATION STATUS OF MAN CLIMATE STRATEGY

MAN continued to pursue its climate objectives in 2016, as the company seeks to reduce carbon emissions by 25% by 2020. CO<sub>2</sub> emissions from the company's plants have been reduced by 19.8% compared with the 2008 baseline.

At first glance, this marks further progress. Even at second glance, it confirms the success of the measures that have been adopted. Despite a 5% increase in sales at MAN Truck & Bus, the direct correlation between production volume and CO<sub>2</sub> emissions is steadily declining. A number of projects were completed in 2016, the effects of which had not yet become fully evident in the year under review; thus their full impact will only become clear in the 2017 report.

These include:

- The Munich CHP, where two 2.5 MW generators are helping to reduce annual CO<sub>2</sub> emissions by approximately 9,500 t
- Further expansion of the central well water supply for energy-efficient cooling
- Comprehensive renovation of lighting systems at over 20 different production locations
- Replacement of distributed heating systems by a central CHP at the Rheine plant
- Replacement of pump systems and drives by more efficient installations at several sites

→

In addition to cutting CO<sub>2</sub> emissions from its sites, MAN has also made major leaps forward in reducing the carbon footprint of its products. More than 90% of carbon emissions are produced during the use phase of a product's life cycle. For this reason, research and development activities are now focusing on making commercial vehicles, engines and turbomachinery more efficient, more economical and greener.

However, driving style can also have a significant impact on the fuel consumption of buses and trucks. This has been borne out by the Connected Co-Driver Training program run by MAN ProfiDrive, in which a trainer, acting as a virtual passenger, gives advice to the driver over a set period. Several hundred test drives have shown that this training approach can result in annual savings of up to 3,500 liters of diesel fuel over a total distance of 150,000 km of long-haul operation.

## STAKEHOLDER DIALOG

### Customer Participation and Dialog

Engaging in dialog with our customers is a core initiative of our climate strategy, offering valuable opportunities to share ideas about reducing global carbon emissions. After all, many of them have also set targets to for limiting CO<sub>2</sub>. Understanding the future needs of our customers is essential for us at MAN. By incorporating customers' requirements into the development of our products and services, we can improve the value added. Since 2009, focus groups comprising selected truck and bus customers have been giving us their feedback and holding discussions with MAN experts and MAN Truck & Bus sales executives. We also seek to enter into dialog with customers at trade fairs in order to discuss specific topics. For example, at Power-Gen Europe 2016, MAN Diesel & Turbo introduced a modular power plant concept, while our entire maritime portfolio was present at the leading maritime trade fair SMM 2016.

### Customer Satisfaction

Alongside our employees, our customers are our most important stakeholders, because they have a significant impact on our business success. To foster long-term relationships with customers so that

we can better understand their needs, we carry out regular surveys across all areas of our business. These help to establish whether customers are satisfied with our products and services. For example, MAN Truck & Bus is constantly gaging customer satisfaction through its ongoing Customer-First Study (CFS). In 2016, around 40,000 customers were interviewed by phone as part of the CFS study – considerably more than in the previous year. Over 90% of the respondents rated MAN Truck & Bus as “good” or better, and 70% as “very good”. Thus, customer satisfaction has improved compared with 2015.

Every two years, MAN Diesel & Turbo sends out a comprehensive customer survey as part of the company's Customer Satisfaction Monitoring program. In 2015, some 4,000 customers were asked about the company's products and services. 35% of the respondents rated MAN Diesel & Turbo's performance as “good”, 42% as “very good” and 9% as “excellent”. MAN Diesel & Turbo's next global customer satisfaction survey will be conducted in 2017.

We will use the results of these surveys to test the effectiveness of the measures introduced to improve customer satisfaction and to determine what further actions to take.

## AWARDS

**The NEOPLAN Skyliner has been awarded the International busplaner Sustainability Prize 2017.**

## VOLKSWAGEN FINANCIAL SERVICES

THE KEY TO MOBILITY

# Corporate Responsibility at Volkswagen Financial Services AG

As a global financial services provider and member of the Volkswagen Group, we firmly believe that our business model can only be successful if we act in a sustainable, responsible manner – now and in the future. In reporting year 2016, we continued to pursue a range of activities and topics based on our understanding of corporate responsibility (CR). In light of the emissions issue, we will review our CR activities in 2017 and make any adjustments that may be necessary. In particular, we will communicate intensively with our partners on this, in order to determine whether and on what conditions collaboration will be possible in the future.



Caddy delivery van M1 KR/LR 1,4–2,0l TDI/TSI/TGI SCR/BM/BMT/4MOTION – fuel consumption in l/100 km: urban 7.3–4.9 / extra-urban 5.2 / combined 6.0–4.1; CO<sub>2</sub> emissions in g/km: 146–109 (combined); CO<sub>2</sub> efficiency class: C-A+

## HIGHLIGHTS OF THE YEAR 2016



### My Finance Coach

Volkswagen Financial Services AG provided funding for the My Finance Coach social enterprise through to the summer of 2016. This initiative aimed to encourage children and young people to take a closer interest in economic affairs, and to teach them life skills for dealing with money. Some 280 of Volkswagen Financial Services AG's employees volunteered and were trained as Finance Coaches. They were deployed in pairs to secondary schools, where they worked with teaching staff to explain complicated monetary and financial concepts to the students. Using a range of school-friendly classroom materials, the volunteers showed the young people how to manage their own personal finances responsibly.

In addition, Volkswagen Financial Services AG was involved as a jury member in a nationwide competition for youngsters learning about financial affairs. The competition is a core component of the My Finance Coach course materials, and pupils attending a wide variety of schools across the country take part in the competition throughout the academic year.

For more than ten years, Volkswagen Financial Services AG has been supporting free mobility for children, young people and the elderly with its "Bus Project". This project, organized in cooperation with the Kunstmuseum Wolfsburg, enables participants to experience modern works of art exhibited at the art museum over a 16-week period each year. More than 60,000 school students and some 7,500 senior citizens have visited these exhibitions since the project first started in 2002.



### Social and Regional Responsibility

Volkswagen Financial Services AG founded its charitable foundation for disadvantaged children in Braunschweig in December 2008. “Stiftung – Unsere Kinder in Braunschweig” provides nine establishments – including daycare centers, primary schools and high schools – with customized educational support, including healthy eating, physical education and early musical training. Several other institutions such as sports and youth clubs are also supported on an ad-hoc basis. In 2016, the foundation continued to fund the “Gewaltfrei Lernen” (non-violent learning), “Klasse 2000” (class of 2000) and “Vorbereiten auf das Berufsleben” (preparing for working life) projects. Two new schemes for 2016 included a project that uses theater as a tool for teaching language skills, and another that gives primary schoolchildren the opportunity to experience a day out in nature.

Volkswagen Financial Services AG also carries out regular fundraising campaigns for charities. Its employee donation program, “Belegschaftsspende Mai”, supported a regional charity. Money from the “Restcentspende” (spare cents) initiative was donated to the terre des hommes “One hour for the future” campaign. For the third year running, the workforce held a very successful collection to donate articles to the “Fairkauf” charity department store.

Among the company’s various voluntary activities, the Works Council’s Christmas Tree Wishlist initiative, carried out in cooperation with a range of charities, has become a firm favorite. In 2016, employees answered the Christmas wishes of 547 socially disadvantaged children.

As in the previous year, we continued to make donations to refugee charities. A dedicated website at [www.fsag-hilft.de](http://www.fsag-hilft.de) acts as a permanent portal for employees seeking volunteer opportunities. The money raised by employee donations in 2015, which was doubled to €68,490 by the company, is being used to fund refugee aid projects managed by Refugium, a refugee relief organization in Braunschweig.



### Partnership between Volkswagen Financial Services and German Nature and Biodiversity Conservation Union (NABU)

The aim of the joint venture between Volkswagen Financial Services and German Nature and Biodiversity Conservation Union is to help NABU with wetland conservation projects.

Over the past few years, the two partners have received numerous awards for their commitment. For example, in addition to the project being named an official project of the UN Decade on Biodiversity in 2014 and 2016, they also received the EcoGlobe in 2010, as well as an award in Germany’s “Ausgewählter Ort im Land der Ideen” contest in 2012. This provides further evidence that under Volkswagen’s environmental program, ecological and economic benefits go hand in hand. Volkswagen Financial Services and NABU have extended their joint involvement in wetland conservation at international level, too. NABU and Volkswagen Financial Services launched the International Peatland Conservation Fund to provide finance for international nature conservation and climate protection activities in, for example, the Slowinski National Park in Poland. By 2019, we plan to contribute €1 million in funding to this initiative. The fund complements the German Peatland Conservation Fund, founded in 2012, to which we have already contributed €2 million.

# Regions

## Volkswagen Argentina

While Argentina's economic problems continued in 2016, and the automotive industry was obliged to adjust production headcounts in response to declining demand from Brazil, VW Argentina was able to continue with all CSR projects currently in progress. Despite the above-mentioned production problems, VW Argentina maintained its market leadership in Argentina for the 13th year running.

Employee volunteers played an important role in helping children in kindergartens and social institutions. Nearly every weekend, volunteers organized trips in the Amarok pickups provided by VW, bringing donations of clothes, shoes and educational materials to schools and kindergartens in the interior of the country. As Christmas approached, we organized the "A smile for Christmas" campaign, during which employees donated toys and traditional Argentinian Christmas pastries and sweets to children at five kindergartens and nursery schools. The company also made financial donations for improving the infrastructure in the five schools.

VW also continued to organize the eye exam program for elementary schools in the Tigre region. Since this program was launched in 2008, more than 10,000 children with impaired vision have been given support.

In a joint project with VW, the Ferdinand Porsche Institute and the National Technological University have continued to run a teaching



program for engineers specializing in the automotive industry. Over the last year, 400 students have taken part in the program – in fact, it was the most popular course at the university. This year will see the graduation of the first student intake, helping to improve the competitiveness of Argentina's automotive industry.

### ELECTRIC MOBILITY

VW Argentina has also subscribed to the global "TOGETHER – Strategy 2025" and has started to focus on electric mobility.

Commercializing and developing all-electric vehicles in Argentina will require close cooperation between the industry and government agencies, in order to generate favorable legal conditions and an infrastructure capable of supporting the new vehicles' unconventional characteristics. This work has already started, and although there is

still a way to go, we firmly believe that e-mobility is the future and are determined to bring it to fruition.

With this in mind, we have already started to show off electrically powered vehicles to our customers in the form of the GTE Golf at the e-Golf exhibition on our Summer Stand in Cariló, Buenos Aires.

HIGHLIGHTS OF THE YEAR

“Eye exams and glasses for thousands of elementary-school children in the municipality of Tigre.”



VW Gol (not available in Europe)

**Sustainable Mobility**

All the vehicles which we sell in Argentina comply with government regulations and are optimized to perform well under local conditions. The Argentine Ministry of Industry must grant an LCM (Model Configuration License) allowing the sale of these vehicles. Starting in 2016, all new vehicles must comply with the Euro 4 and Euro 5 emissions standards; from 2017, all vehicles must comply with these standards.

**Ferdinand Porsche Institute**

Education for the future: Volkswagen is helping the Universidad Tecnológica Nacional in Buenos Aires to train engineers for the automotive industry. The students complete their degree program – which combines engineering and technology – at the university’s Ferdinand Porsche Institute in Pacheco, which was established by Volkswagen. The program is the only one of its kind in Argentina. There are 437 students in the UTN/FPI of which 242 study Engineering in Automotive Industry and 195 study Superior Technical Management in Automotive Industry.



VW Amarok 3.0 TDI (SCR BMT) – fuel consumption in l/100 km: urban 8.6 / extra-urban 7.3 / combined 7.8; CO<sub>2</sub> emissions in g/km: 204-203 (combined); CO<sub>2</sub> efficiency class: D



**Improving Vision**

As part of a project launched in 2008, Volkswagen donates equipment for measuring the visual acuity of children in elementary schools. For example, Volkswagen provides a vehicle for local medical personnel to travel to the schools. In 2015, more than 5,000 schoolchildren in 54 schools were given eye examinations. More than 1,000 pairs of glasses were paid for by Volkswagen and provided to those in need. Since the project was initiated in 2008, more than 9,000 children with impaired vision have been given assistance.

## STAKEHOLDER DIALOG

In Argentina, we maintain an intensive dialog with our suppliers, dealers and employees, as well as local NGOs. For the third time, VW Argentina organized a meeting with more than 70 suppliers to discuss sustainability targets.

## AWARDS

**SENIOR  
AUTOMOTIVE EXPORTER**

**GROUP AWARDS:  
COZZUOL IS LOCAL CHAMPION**

For the first time in the history of Volkswagen Group Awards, the Local Champion award was won by an Argentinian company, Cozzuol. We took the opportunity to organize a modest local celebration to which members of the press were also invited. The news was featured by several automotive magazines and websites.

# Volkswagen do Brasil

Volkswagen do Brasil is one of the largest private companies in Brazil. Over a history stretching back more than 60 years, Volkswagen do Brasil has accumulated some impressive milestones: more than 22 million vehicles produced, more than 3.5 million vehicles exported, and historical domestic sales in excess of 18 million units.

The company has three vehicle plants and one engine plant. The three factories for passenger cars and light commercial vehicles are complete production facilities. The Volkswagen do Brasil plants are:

- Anchieta.
- Taubaté.
- São Carlos.
- Curitiba.

In November 2016, during the São Paulo International Auto Show, Volkswagen do Brasil announced that it will be investing R\$7 billion in its operations by 2020.

Since June 2016, the Volkswagen brand has been working under a new regional structure in South America, which also includes Central America and the Caribbean; this is progressing in line with the company's regionalization strategy.



## HIGHLIGHTS OF THE YEAR

“Volkswagen do Brasil was awarded the title of Brazil’s Most Admired Company by CartaCapital magazine.”



### Volkswagen do Brasil invests in a social program to train, recognize and reward young entrepreneurs in paran 

In 2016, the “Gera o Empreendedora Paran ” (Entrepreneurial Generation Parana State) project was set up with the NGO Alian a Empreendedora and the state government, enabling 410 young people to benefit from training and winning awards for their projects and business ideas developed in the community. The project is part-funded by a tax incentive related to investment in the production of the Golf MQB project at the S o Jos  dos Pinhais plant. The revenue covers a 15-year period (starting in 2016) and will continue to support such initiatives, focusing even more intensively on social development, entrepreneurship and innovation, and on various aspects of Industry 4.0, Artificial Intelligence and digital business inclusion for future generations.

<http://www.desafioparana.com.br/>

[https://drive.google.com/a/aliancaempreendedora.org.br/file/d/0By\\_bZbIN8UarS1ExSEFNMIFFQIQ/view?usp=drive\\_web](https://drive.google.com/a/aliancaempreendedora.org.br/file/d/0By_bZbIN8UarS1ExSEFNMIFFQIQ/view?usp=drive_web)



### Volkswagen do Brasil has a presence in world challenge rescue 2016

In 2016, Volkswagen do Brasil provided nearly 40 vehicles for vehicle extraction training sessions at the S o Paulo State Firefighter Academy. The vehicles were used in rescue simulations during events such as Rescue Days – which address rescue procedures for firefighters in Brazil and Latin America. The Fire Department’s engagement helps prepare and ensure more efficient rescue procedures for potential victims of traffic accidents. Ten of these cars were used in the World Rescue Challenge (WRC), the biggest international rescue event carried out in a simulated environment. In October 2016, Brazil hosted the event, the purpose of which is to raise awareness of the topic within the community, improve professional techniques and encourage knowledge sharing.

### Volkswagen do Brasil receives “selo conpet” for vehicle energy efficiency

This is the second time Volkswagen has won this award, on this occasion for 26 different models. The “Selo Conpet” Trophy was presented at the S o Paulo International Motor Show. The award recognizes participants in the INMETRO Vehicle Labeling Program whose vehicles have obtained dual “Green Classification” for fuel consumption. Volkswagen has obtained this classification for 26 models, including the up!, up! I-Motion, cross up!, cross up! I-Motion, up! TSI, cross up! TSI, New Gol 1.0, New Gol 1.6, New Voyage 1.0, New Voyage 1.6, New Saveiro CS (single cabin), New Saveiro CE (extended cabin), New Saveiro CD (double cabin), New Saveiro Cross CE (extended cabin), Fox 1.0, Fox 1.6, Fox 1.6 16V, Fox 1.6 16V I-Motion, CrossFox, CrossFox I-Motion, Golf 1.0 TSI, Golf 1.4 TSI, Golf Variant TSI 1.4, Jetta 1.4 TSI, Jetta 1.4 TSI Automatic and Passat TSI.



## OTHER PROJECTS

### Volkswagen launches regionalization strategy

In 2016, Volkswagen launched its Regionalization Strategy and created a new structure in South America that also incorporates Central America and the Caribbean. The President and CEO of Volkswagen do Brasil, David Powels, is now responsible for all the Volkswagen brand's operations and activities in the new SAM Region (South America, Central America and the Caribbean), supported by an Executive Committee. The SAM Region is composed of 29 countries, has a population of 500 million people and boasts annual vehicle sales of 4.4 million units. In this region, Brazil, Argentina, Colombia, Chile and Peru represent 85% of the brand's sales. With this regionalization strategy, Volkswagen aims to connect more closely with consumers, becoming even more agile and competitive in all regions of the world. The aim is to enchant customers by offering products and services that are updated and adapted in response to local needs. Through lean structures and more agile decision-making, the brand intends to strengthen internal entrepreneurship and profitability in order to foster sustainable growth. Volkswagen do Brasil will continue to work in cooperation with Volkswagen head office, but will have more autonomy to make decisions, plus greater responsibility for targets and results.

## STAKEHOLDER DIALOG

Every three years, Volkswagen do Brasil reviews its materiality matrix in order to update the key topics of interest to stakeholders covered in the document. By late 2014 and early 2015, the company had expanded the stakeholder survey process last performed as part of the document's development process in 2012, by contacting representatives of the following priority stakeholders: individual and corporate customers, communities surrounding all four production plants, dealerships, companies in the automotive sector, employees at all four units, Class Entities, vendors, public-sector agencies, financial institutions, company executives, German head offices, NGOs, and trade unions/associations. This process involved more than 400 interviews and discussion meetings.

A total of 38 topics were mapped, 15 of which were prioritized as the topics of greatest relevance for both the company and its stakeholders. These topics include:

1. Eco-efficient products
2. Efficient production: use of resources and materials
3. Sustainable supply chain
4. Economic performance in Brazil
5. Risk management, compliance and conformity
6. Business ethics
7. Vehicle safety

8. Employment
9. Emissions
10. Mobility
11. Social investments
12. Vision and strategy
13. Disposal of materials, parts and vehicle maintenance
14. Customer satisfaction
15. Occupational health and safety

Upon due analysis of the materiality matrix results in a meeting of the company's Executive Committee, executives decided not to cover the Mobility topic in this year's edition due to its strategic business nature. The Executive Committee members did, however, decide to cover the three following topics in this edition. These topics were mapped in the materiality matrix, but ranked below the cut-off line, set at 50% for both company and stakeholders. The executives chose to cover these topics in this document due to their high relevance for the business:

16. Technology
17. union relations and
18. sustainability education

## AWARDS

**EA211 1.0 TSI NAMED  
“ENGINE OF THE YEAR 2016”  
AUTOESPORTE MAGAZINE**

The new EA211 1.0 TSI Total Flex engine was named “Engine of the Year 2016” at the 49th edition of the Car of the Year Award, Brazil’s most important automotive award sponsored by Autoesporte magazine. The jury was composed of 16 industry journalists and guest engineers.

**VOLKSWAGEN DO BRASIL HONORED  
AT “AEA ENVIRONMENTAL AWARD 2016”  
CEREMONY**

Volkswagen do Brasil was honored at the “10th AEA Environment Award” ceremony organized by the Brazilian Association of Automotive Engineering (AEA). The “Program of Excellence in Industrial Waste Management at Volkswagen do Brasil” received an honorable mention in the “Environmental Responsibility” category. The company also received recognition for contributing to the success of PROCONVE (the Motor Vehicles Air Pollution Control Program), which was launched 30 years ago.

**MOVE UP! TSI NAMED  
“BEST SUSTAINABLE CAR”  
CAR AND DRIVER MAGAZINE**

The “Ten Best 2016” by Car and Driver magazine was judged by a jury of journalists from the magazine, who chose the move up! TSI as the “Best Sustainable Car” and the speed up! TSI as the “Best Hatch”, highlighting the 1.0 TSI Total Flex engine. The competition evaluated 231 models for sale on the Brazilian market.



**VOLKSWAGEN WINS FOUR  
CATEGORIES IN “JORNAL DO CARRO”  
BEST OF YEAR AWARD**

Volkswagen was the winner in four categories of the “Best of the Year” award sponsored by the Jornal do Carro (based in the state of São Paulo), with the Golf Hatch (medium hatchback), Golf Variant and Saveiro (light truck) models. The brand was also considered the Best Value Reseller. This was the 11th edition of the award, which has 26 categories and is made on the basis of votes by newspaper employees and readers.

**VOLKSWAGEN DO BRASIL NAMED  
“NOTABLE COMPANY 2016”  
IN AUTOMOTIVE CATEGORY**

Volkswagen do Brasil won the “Notable Company 2016” award in the Vehicles category, bestowed by Consumidor Moderno magazine. For the third year running, the competition evaluated the performance of 200 Brazilian companies in 19 sectors during 2015. The study that selected the award winners was developed by the Center for Standard Intelligence (CIP), based on research and studies carried out in partnership with several institutes and consultancies, including GfK Custom Research Brasil, Oficina Sophia, DOM Strategy Partners and EISE / HiveLab. The study analyses how companies act and are perceived in a number of different areas. To be considered “Notable”, a company must show consistent performance in “Branding”, “Investments” and “Value”.

# Volkswagen Group China

The Volkswagen Group started building relationships with China back in 1978. The first Santana was produced in Shanghai in April 1983. In October 1984, SAIC Volkswagen Corporation Ltd., the Volkswagen Group's first joint venture in China, was established in Shanghai. In February 1991, FAW-Volkswagen Corporation Ltd. was set up in Changchun, creating the Volkswagen Group's second joint venture in China.

The Volkswagen Group's business activities in China include the production, sale and services of complete vehicles and parts such as engines and transmissions. All the Group's automotive brands have a business presence in China through Volkswagen Group China and its subsidiaries.

Since entering the Chinese market, the Volkswagen Group has risen to a market-leading position in China. In 2016, together with its two joint ventures – SAIC VOLKSWAGEN and FAW-Volkswagen – Volkswagen Group China delivered 3.98 million vehicles to customers on the Chinese mainland and in Hong Kong.

With the aim of adapting to the rapid development of China's automotive market, Volkswagen Group intends to invest €22 billion in China between 2015 and 2019. Two thirds of this figure will be spent on projects relating to sustainable development, such as high-efficiency products and powertrain technologies, and on the development of more environment-friendly production methods.

As China's most dependable partner, Volkswagen not only provides high-quality products and reliable services to Chinese customers, but also spares no effort to fulfil its corporate social responsibilities. In 2014, Volkswagen Group China announced initial funding of ¥50 million for CSR projects in China. In November 2016, Volkswagen



Showcar BUDD-e

Group China announced a further ¥50 million for continued support of CSR projects in sustainable mobility, environmental protection and social care, and for expanding the Group's contribution to Chinese social and economic development.

By continuing to bring the most advanced and environmentally sound technologies and products to China, as well as providing professional services that further enhance customer satisfaction, the Volkswagen Group is driving toward a sustainable future with China's automobile industry.

## HIGHLIGHTS OF THE YEAR 2016



“We at Volkswagen Group China are increasing our efforts to develop e-mobility solutions that meet the needs of our customers.”

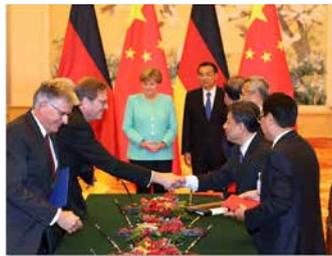
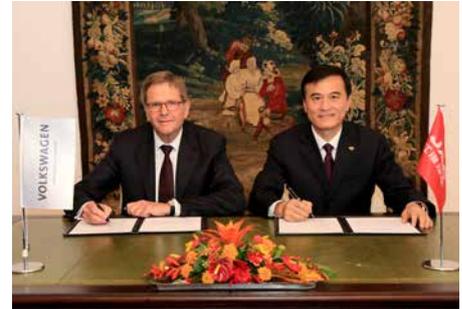
### Volkswagen Group and Anhui Jianghuai Automobile Explore Future Cooperation on NEV in China

On September 7, 2016, Volkswagen AG and Anhui Jianghuai Automobile Co., Ltd. (JAC) signed a Memorandum of Understanding (MoU) in Wolfsburg, heralding the next phase of negotiations between the two companies with the aim of engaging in a long-term joint venture for the development of new energy vehicles (NEV) in China.

According to the MoU, the two parties intend to enter into discussions to evaluate the outlook and feasibility of a new joint venture (“JV”) focusing on NEV products; to engage in full-scope cooperation in various fields, including research and development, manufacture, sales and mobility services of NEV and parts designed to improve fuel efficiency. The main goal will be to further develop zero-emission mobility.

Anhui Jianghuai Automobile Co., Ltd (JAC) is a full-service automotive company encompassing R&D, production, sales and services, and other business activities related to commercial and passenger vehicles, including powertrains. The company has two vehicle brands, “Jianghuai” and “Ankai”.

JAC delivered 333,639 vehicles and chassis in the first six months of 2016 (+14.15%) and NEV sales increased massively over the previous year (+261%), while SUV sales maintained steady growth (+30%).



### Volkswagen Group China Environmental Education Fund Established to Support China’s Environmental Education Activities Nationwide

German Federal Chancellor Angela Merkel joined Chinese Premier Li Keqiang in Beijing on June 14, 2016, to witness the signing of an agreement between Volkswagen Group China and the Chinese Ministry of Environmental Protection’s China Environmental Protection Foundation. The agreement creates a new fund supporting environmental education training for teachers across the country.

The “1,000 Environment-Friendly Youth Ambassadors Action Program” was initiated, is managed and executed by the Ministry of Environmental Protection’s Center for Environmental Education and Communication (CEEC). Volkswagen is the sole sponsor of the ¥10 million phased program, which will run for at least three years, initially from 2016 to 2019. Stated goals include: training 1,000 teachers nationwide each year on environmental issues and environmental education methods, thereby enabling them to develop and tailor suitable curricula. The program will also deliver environmental education and eco-planning skills to thousands of students, empowering them to make an impact in their schools and communities.

Volkswagen will open its Chinese manufacturing facilities for teacher visits, sharing best practices and key lessons in environmental protection.

### Volkswagen Plants in China Take Energy-Saving and Emission-Reducing Measures

#### Combined Heat and Power Project (CHP) of SAIC VOLKSWAGEN

SAIC VOLKSWAGEN’s CHP project is the first such project to be implemented by an industrial firm in Shanghai, while the Anting plant is the first VWAG factory in China to use this system. The primary energy source is natural gas and the plant can produce both electricity and steam for heating purposes. The project was officially launched in April 2015 and when the system came online in February 2016, it was capable of generating 26 MW of electricity and 60 t of steam per hour, capable of meeting most of the electricity demand of CPA3 and the entire Anting plant’s steam requirements.



SAIC VOLKSWAGEN's CHP project represents the efficient use of natural energy, maximizing the utilization of energy resources and significantly reducing emissions of CO<sub>2</sub>, greenhouse gases and TSP. The implementation of this project will reduce energy consumption by the equivalent of 11,594 t of standard coal each year, and reduce annual CO<sub>2</sub> emissions by 59,308 t. It is making an important contribution to the protection of air quality.

#### **Second Stage Sewage Treatment Facility at FAW-Volkswagen Car Plant in Foshan**

The second stage of the sewage treatment station at the FAW-Volkswagen car plant in Foshan is used to treat industrial and sanitary sewage with a treatment capacity of 2,200 m<sup>3</sup>/d. Thanks to an aerobic MBR process, effluent water quality can match the GB/T18920-2002 "Reuse of recycled urban water – water quality standards for urban miscellaneous water consumption". The recycled water is reused for irrigation and toilet flushing. Some 200,000 t of water is recycled annually. The plant has an advanced treatment capacity of 300,000–400,000 t of recycled water for delivery to the cooling water circulation system.

The sewage station is mainly equipped with high-efficiency motors and water pumps (all with frequency control); the degree of automation at the sewage station is well above 90%. The latest flat-membrane process has been implemented for the first time at any FAW-Volkswagen plant, capable of dealing with more than double the usual sludge load. The membrane is also easy to maintain and does not retain pollution. Biological deodorization technology has been used to maintain good air quality around the sewage station area.

#### **Recycling Industrial Steam Condensation instead of Reverse Osmosis (RO) Water for Washing Machines at Volkswagen Automatic Transmission (Dalian) Co., Ltd.**

At VWATD, water from industrial steam condensate was plumbed through to washing machines by adding pipes connecting the industrial steam system to the RO water tank. The main impact of the improvement is a considerable saving in freshwater, as well as a reduction in the working frequency of the RO water pumps and discharges of domestic sewage.

In 2016, the improved process saved 4,800 t of RO water by generating 400 t of condensation water per month. Since the RO water system's production efficiency is around 60%, this represents a saving of around 8,000 t of fresh water. In financial terms, this is equivalent to an annual saving of ¥35,200.

## OTHER PROJECTS

### **Volkswagen Group China is Pioneering the Future of Mobility**

Volkswagen Group China has just signed agreements for potential partnerships with five companies specializing in new mobility services. VGC aims to collaborate intensively with Shouqi Group in the rapidly growing carsharing business. With its longtime automotive partners in Shanghai and Changchun, the company also plans to tap into the fast-growing pre-owned car market and explore strategic cooperation with leading online pre-owned car market company Youxin. With Didi Chuxing, it plans to form a strategic partnership for high-quality, safe and efficient mobility services.

This year is FAW-Volkswagen's 25th anniversary. 2016 marked the start of even more strategic undertakings. New operational bases have been established in northern and eastern China, bringing FAW-Volkswagen's nationwide strategy full circle. In terms of customer satisfaction, FAW-Volkswagen has continued to enhance quality awareness and improve localization and R&D capabilities, while the company's newly released Sustainable Development Report underscores its ongoing commitment to green, responsible, sustainable development.

Faced with new situations and challenges in the market, FAW-Volkswagen is formulating its own Strategy 2025 as the company keeps abreast of new developments and changes within the industry. The company remains committed to sustainable, innovation-driven development, as well as ongoing engagement as a responsible corporate social citizen.

### **Volkswagen Group China Cultural Exchange Fund to Foster Youth Exchanges between Germany and China**

With an endowment of ¥1 million, the Cultural Exchange Fund is an important element in Volkswagen's programs and activities during the 2016 Year of China-Germany Youth Exchange inaugurated by Chinese President Xi Jinping and German Federal President Joachim Gauck in Beijing in March 2016. The fund targets young people up to 35 years of age, particularly young scientists, artists and journalists, and will increase socio-cultural exchanges in education, culture, science and the media.

The fund echoes the wider goals of Volkswagen's Cultural Engagement Program "PACE", fostering Participation, Connection and Exchange. Under this umbrella, Volkswagen aims to create new opportunities for young people to participate in cultural and art programs; proactively connect people to new cultures using social media and lighthouse programs; and promote active bilateral exchanges between China and Germany, allowing the youth of both countries to develop deeper bilateral cooperation and gain broader experience and knowledge

### **Youth Environmental Ambassadors Action & Education Program**

The Youth Environmental Ambassadors Action & Education Program (YEAAEP) is part of Volkswagen's program for the 2016 Year of China-Germany Youth Exchange inaugurated in Beijing by Chinese President Xi Jinping and German Federal President Joachim Gauck in March 2016. 24 PaSch schools, supported by the Goethe-Institut in 14 cities across China, will take part in the 10-month program, which focuses on three areas: Forests, Climate and Resource Efficiency. Experts from environmental organizations such as WWF and Beijing Forestry University have worked together with experts on German as a foreign language to compile a teaching manual for the program.

Upon completion of YEAAEP, all participating PaSch schools will be honored with an environmental protection award, with each student receiving a Young Environmental Ambassador certificate. This program will be rolled out further in the future.

## STAKEHOLDER DIALOG

Being aware of our internal and external stakeholders' needs and expectations is a crucial prerequisite for business success. Volkswagen Group China actively seeks out and maintains dialogs with our stakeholders. Stakeholders include governmental organizations, public organizations, international organizations, non-governmental organizations, local communities, business partners, customers, suppliers, employees, analysts and investors – a network of relationships that is expanding in parallel with our market presence.

## AWARDS

### PERSONNEL

Volkswagen Group China awarded  
“Top Employer” in 2016

SAIC VOLKSWAGEN awarded  
“Top Employer” in 2016

FAW-Volkswagen awarded  
“Top Employer” in 2016

### CSR

Volkswagen Group China awarded  
“Best CSR Management 2016” by  
Southern Weekly

Volkswagen Group China awarded  
“Best Company for CSR 2016” by  
China Newsweek

Volkswagen Group China awarded  
“2016 China Excellent Contribution to  
CSR” by Sina Gongyi

Volkswagen Group China awarded  
“2016 China CSR Excellence Award” and  
“China Top 100 Corporate Citizen” by China  
Philanthropy Times

Volkswagen Group China awarded  
“2016 Best Corporate Citizen” by China  
Automotive News

# Volkswagen India

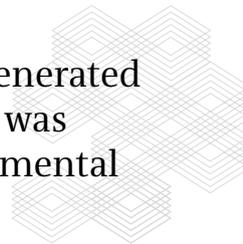
Through Volkswagen Group India, headquartered in Pune, Maharashtra, the Volkswagen Group is represented by five passenger car brands in India: Audi, Lamborghini, Porsche, ŠKODA and Volkswagen. The Volkswagen Group has been present in India for the last 16 years and began its Indian journey with the introduction of the ŠKODA brand in 2001. The Audi and Volkswagen brands were launched in India in 2007, and the Porsche and Lamborghini brands followed in 2012. Each brand has its own character and operates as an independent entity in the market.

Volkswagen Group India has over 25 models and over 240 dealerships in India and operates two plants in Pune and Aurangabad. The Pune plant has an annual manufacturing capacity of 200,000 cars (using a three-shift system) and currently manufactures the Volkswagen Polo, Ameo, Vento, as well as the ŠKODA Rapid. The Aurangabad plant produces various premium and luxury Audi, ŠKODA and Volkswagen models sold in India and has an annual capacity of approximately 89,000 vehicles.



## HIGHLIGHTS OF THE YEAR 2016

“By reducing the amount of waste generated in its plants by 30.5%, VW India was able to meet an important environmental protection objective.”



### Mobile Healthcare

The Mobile Health Clinic Project is Volkswagen India's endeavor to bring healthcare for minor ailments to the doorsteps of 2,200 people who live in the villages of Kan-hewadi tarf Chakan and Sangurdi. Neither of these villages have a primary healthcare center or a resident doctor.

A team comprising two doctors (senior and assistant), and a compounder employed by Volkswagen India, visits the two villages five days a week – Tuesday to Saturday, excluding company and national holidays. Patients are provided with free medical consultations and medicines. The service is also available to guests and others who visit the two villages.

Since launch in August 2015, Volkswagen India's Mobile Health Clinic has provided over 17,000 free medical consultations and free medicines worth € 5200. The team has also referred patients to nearby hospitals for further medical consultation and/or hospital admission based on their condition. The Mobile Health Clinic also runs awareness programs on various health-related topics.

VWIPL also carries out blood-group testing for children residing in these villages.





VW Vento (not available in Europe)

### Key Environmental Goal Achieved – Three Years ahead of Schedule

The Volkswagen plant in Pune is one of 27 Volkswagen car production plants worldwide participating in the “Think Blue. Factory.” environmental program. With this initiative, Volkswagen is seeking to reduce the impact of its vehicle production on the environment by 25% per vehicle around the world. The program was rolled out in 2011 and the Pune plant has been working to achieve this goal since 2012. During the reporting period, the plant celebrated an important achievement: by the turn of the year 2014/2015, waste generation had been reduced by 30.5%. This meant that the Pune plant had met an important target three years ahead of schedule. However, successes were also achieved in other key areas: CO<sub>2</sub> emissions fell by 21.2% and specific energy consumption decreased by 20.6%.

### Fighting Water Shortages

Volkswagen India has built a series of embankments (bunds) for water storage in a drought-affected village in the State of Maharashtra. This CSR project was undertaken under the aegis of a State Government initiative (Jalyukt Shivar Abhiyan) that aims to declare around 5,000 villages in the state drought-free every year till 2019.

These water bunds will have sufficient capacity to store more than 7,500 cubic meters of water and will be especially beneficial for irrigating farmlands.

This is the second water conservation project undertaken by Volkswagen India after the recharging of water resources in the village of Guilani in 2013.



## OTHER PROJECTS

### Promoting Women in Pune

In the reporting period, Volkswagen Group India launched an initiative to promote women at the Pune plant. The aim of this program is to increase the number of women in the workforce to 30% by 2025. Currently, only around 12% of employees are female. The starting shot was fired at a kick-off meeting in March, attended by more than 120 female employees, who were given the details of the skills development initiative aimed specifically at women. In practice, there are three cornerstones to the initiative: the Sakhi (friend) Group, the Compass Program and the Mentor Program. The Sakhi Group seeks to encourage communication between women on a range of different topics, for example the impact of women on the world economy, best practices, Volkswagen's business, networks and personal careers. Under the Compass Program, a select group of women, all of whom have already made progress and established themselves in their respective fields, meets on a regular basis. They are given several months of training to enable them to further develop their high potential. The Mentor Program supports women who have already progressed to another level. The focus here is on mentoring, training, strategy and best practice.

### Dual Education Mechatronics Apprenticeship Program

In 2011, Volkswagen India Academy introduced a 3.5-year dual education Mechatronics Apprenticeship Program. Based on the German dual vocational education and training system (VET), the program imparts theoretical and practical knowledge across fields such as mechanical, electrical and electronic engineering, as well as IT. This is complemented by training in interpersonal skills. Each year the program recruits 16 students who have graduated from class X and meet other eligibility criteria. A unique feature of this program is its focus on recruiting academically bright and financially deserving students from local towns and villages. The students are provided with stipends for the duration of the program. VW also endeavors to ensure that each new intake comprises at least 25% female students.

The students take the tests administered by the National Council for Vocational Training India and Deutscher Industrie-und Handelskammertag (IGCC). The curriculum is made more challenging by giving the students opportunities to participate in both national and international skills-based competitions. Two cohorts of students have successfully completed the program and are now employed at VW. The fifth cohort was enrolled in 2015.

## AWARDS

### VOLKSWAGEN INDIA AWARDED ISO 9001:2015 CERTIFICATION

The Pune-based German automaker became one of the first companies in India to receive this international quality certification. Volkswagen India is also the first company in the Volkswagen Group to be awarded the ISO 9001:2015 certificate. The certification underlines the consistent quality of the company's products and services for customers, and of the company's streamlined processes for more efficient operation.



### VOLKSWAGEN POLO RANKS HIGHEST IN J.D. POWER ASIA PACIFIC 2014 INDIA APEAL STUDY

The Volkswagen Polo was the highest-ranked car in the premium category of the Automotive Performance, Execution and Layout (APEAL) study, based on a customer survey conducted by J. D. Power Asia Pacific.



# Volkswagen de Mexico

At Volkswagen de Mexico, we see sustainable development as an opportunity to focus our innovation skills on ensuring the long-term continuity of our company. It means creating greater value while using fewer resources. We look after the interests of our employees and are committed to maintaining long-term relationships with our distributors, suppliers, the community and our customers. Sustainability means continuous improvement of the technological aspects of our processes and our vehicles in ways that are beneficial to the environment and the consumer, always endeavoring to maintain our technological and quality-focused leadership in the automotive industry.

Social responsibility implies taking an active part in developing the communities around our plants in Puebla and Silao. In addition to creating well-paid jobs, Volkswagen of Mexico provides support for cultural, educational and environmental protection activities – in addition to the philanthropic activities in which our employees are involved.



## HIGHLIGHTS OF THE YEAR 2016

“Volkswagen is the most visible German company in Mexico. That is why the Volkswagen Group is supporting the activities of the German-Mexican year as a premium partner of the ‘Alliance for the Future’ being forged between the two nations.”



### Bilateral German-Mexican Year

Germany and Mexico have a long history of economic and cultural collaboration. Big German companies like Volkswagen have been present in Mexico for many decades. The German Chamber of Industry and Commerce has 750 members and has been active since 1929. German Schools in Mexico City and Puebla are over 100 years old. And cultural exchange between the two countries has been promoted by the Goethe-Institut for 50 years now with the support of the Cultural Foundation of German Industry, of which Volkswagen is also a member.

Starting in June 2016, both countries launched the Bilateral German–Mexican Year, which includes over 1,000 events in the fields of culture, science and economics, under the aegis of the “Alliance for the Future” that is being forged between the two nations.

The Volkswagen Group is supporting the activities of the German-Mexican Year as a premium partner and active participant in several events, such as the German Industrial Fair and the PopUp Tour of several Mexican cities.

### Nature Conservation Program “Por Amor a México”

Since 2006, Volkswagen de México has been funding biodiversity research and conservation projects in Mexico. By 2016, 11 Mexican scientists had been awarded grants of €30,000 each, in recognition of their contributions to species conservation in Mexico and in support of their ongoing work. Each year, the same amount has been donated to a nature conservation research project undertaken by scientists in a protected area. Volkswagen de México has become the country’s most important private donor in the field of biodiversity.

Starting in 2017, under the new motto “Volkswagen, Por Amor a México”, the award is being opened up to the whole of Mexico’s conservationist community, representing all kinds of nature conservation projects, any of which may qualify for the €30,000 grant. A jury of highly respected Mexican scientists specializing in nature conservation will select the two best qualified projects, which will then be submitted for voting by the general public via Volkswagen’s social media channels.

The first award winner of this new contest will be announced in mid-2017.



### A Day for the Future – Supporting the Disadvantaged

In 2002, Volkswagen de México joined forces with the trade union to launch the initiative “A Day for the Future”. Employees voluntarily donate one day’s wages, and the company provides matching funds. The money is donated to projects run by institutions in the state of Puebla that are dedicated to helping sick, orphaned, abandoned or disabled children. Since it was founded 15 years ago, the program has raised a total of €2 million for more than 250 projects.

Since 2014, the Volkswagen fund has also supported a government initiative to improve nutrition for the poorest sections of the population who are at risk of malnutrition. A mobile soup kitchen was installed near the Puebla factory, in the county of Cuautlancingo; it provides two meals per day to the needy population, mainly children and the elderly. The county and state governments maintain the soup kitchen, while Volkswagen provides funding for the food.

**AWARDS**

**EMPRESA SOCIALMENTE RESPONSABLE  
(CEMEFI) 2011–2016**



**MODELO DE EQUIDAD DE GÉNERO (INSTITUTO  
NACIONAL DE LAS MUJERES) 2012–2015**



**EMPRESA INCLUYENTE "GILBERTO RINCÓN  
GALLARDO" (STPS) 2014**



**EMPRESA FAMILIARMENTE RESPONSABLE  
(STPS) 2014**

**ORGANIZACIÓN RESPONSABLEMENTE  
SALUDABLE (CESB) 2015**



**LISTED AS "GREAT PLACE TO WORK" 2016**



**LISTED AS "TOP EMPLOYER MÉXICO" 2016**



# Volkswagen Group Russia

Volkswagen Group Russia is committed to giving back to the local community through social welfare projects which tackle acute problems. Good corporate citizenship is a natural and essential part of the company's role in a large country like Russia.



## HIGHLIGHTS OF THE YEAR 2016

“We have been able to assist around 300 families using the two VW Multivans we made available to the children's hospice in St. Petersburg.”



### Talent Acquisition in Joint Venture with Automotive Transport College

The joint venture between the Volkswagen Group Rus Academy in Moscow and the Automotive Transport College, set up as a pilot project in 2015, continued successfully in 2016. The joint program offers two years of in-service training and study incorporated into the standard curriculum. Upon completing their studies, the most talented college students selected for the program are given apprenticeships in the workshops of Volkswagen Group Rus dealers. The project aims to tie young people into the Volkswagen Group at an early stage. The partnership also provides training sessions for the educators at the college, including in-depth discussion of theory and practice by VW experts, adding international expertise to the professional knowledge and skills of the college instructors and preparing them for running similar programs at the college in the future. The program is warmly welcomed by all those involved and is ongoing.

### Dual Vocational Education and Training (VET)

In 2010, Volkswagen Group Rus (VGR) and the College for Information Technology and Administration in the city of Kaluga, 170 kilometers from Moscow, launched a dual vocational education program which was unique in Russia at that time. Designed by Volkswagen experts, it is modelled on German programs that combine classroom education with practical vocational training and aims to prepare skilled professionals for work in the company. Before this program was established, there was no comparable VET concept of this kind in the country. The Group also cooperates with the Kaluga branch of the Bauman Moscow State Technical University by offering students internships at the plant and organizing lectures by company representatives at the higher education institution. Since the program was launched, 299 students have successfully completed their training (with 54 graduates in 2016) in six different specialist or professional fields, and been awarded their certificates of qualification. New professions and qualifications are gradually being added to the program, further expanding educational cooperation. VGR has actively participated in the development of national professional standards and maintains an ongoing dialog on educational topics with the Federal Institute for the Development of Education, the Agency for Strategic Initiatives, BIBB, the Deutsch-Russische Auslandshandelskammer and the Ministry of Education and Science of Kaluga Region.



### Road Safety for Schoolchildren

At the start of each school year, from September to October, ŠKODA joins forces with its dealers in Russia to run ŠKODA Krokha, a nationwide road-safety project for children aged 7 to 10 years. The initiative, which was first launched in 2011, includes information events presented in entertaining ways, plus an additional online element to teach children about the Highway Code and safe road behavior. In 2016, some 10,000 children from 32 cities in Russia attended road-safety classes and learned how to behave safely on roads as part of the project.

## OTHER PROJECTS

### Fit for Work on the International Stage

At regional level, Volkswagen Group Russia is involved in the MOST project in Nizhny Novgorod Oblast, 400 kilometers (250 miles) from Moscow. The project is aimed at selected students seeking an international career and offers them educational and professional support over a 12-month period. The company initiated MOST in 2014, in cooperation with the International Community Association of Nizhny Novgorod, of which Volkswagen Group Rus is an active member, and leading regional universities. The company supports the project by organizing lectures by company managers, factory visits and work placements.

Volkswagen Group Rus educational projects in cooperation with the Goethe-Institut include the award of corporate scholarships to selected students. In 2016, the program was extended for another three years. The focus group of the Studienbrücke Deutschland project is composed of highly motivated, talented and active school students from Moscow and other Russian regions, specializing in science and technical subjects and showing exemplary levels of academic achievement and vision. They are all planning to continue their education at German universities. They receive one year of German language and cross-cultural pre-university training and advisory support in parallel with their regular school studies. In 2016, five graduates of the program who were given preparatory training with the support of Volkswagen scholarships successfully entered German universities and are now studying in their specialist subjects. The project is ongoing and has been supported by Volkswagen Group Rus since 2012.

### Support for Charitable Institutions

Volkswagen Group Rus supports a number of institutions and organizations committed to social welfare. One example is the children's hospice in St. Petersburg. Since 2010, Volkswagen Commercial Vehicles has been supporting the children's hospice in St. Petersburg, which is also the first children's hospice in Russia. During the reporting period, the company provided two VW Multivans to the hospice for medical and other trips. Around 300 families made use of the assistance provided by doctors, nurses and psychologists both at home and directly at the hospice, with further support for improving the quality of life of both patients and their families.

ŠKODA Auto Russia has been part of Volkswagen Group Rus since 2011, and has provided continuous support to well-known international charity SOS Children's Villages. Currently, the charity uses 11 ŠKODA Octavia and Yeti cars in various locations to provide much-needed mobility across this enormous country's vast territories. In 2016, the company invited children under the charity's supervision to the Ice Hockey World Championship 2016 in Moscow. It was an unforgettable experience, and for some children the first time they had ever visited the capital.

At Christmas time, Volkswagen Group Rus employees from Moscow, Kaluga and Nizhny Novgorod traditionally pay visits and organize donations of gifts or money to orphanages and charities in the vicinity. In 2016, visits were made to six children's institutions and charities. In June, employees of the VGR factory in Kaluga spent a day at Kondrovo orphanage organizing sports programs and master classes and talking about environmental issues with the children. Also in 2016, a group of volunteers from the company's Moscow office initiated a project with an orphanage in Kolomna, 100 kilometers (60 miles) from the capital. Every month throughout the year, they visited 27 children, bringing food and other goods, as well as books and presents. They discussed a wide variety of topics and organized educational games and activities for the kids.

### Sport for a Good Cause / Young Football and Hockey Professionals

The company has provided regular support for sports activities in Russia, and in 2016, became involved in the development of youth sports at the national level. Volkswagen and ŠKODA both continued to organize the Volkswagen Junior Masters Cup and ŠKODA Junior Ice Hockey Cup in Russia, supporting and developing talented young players from all over the country and popularizing sports and a healthy lifestyle.

The Volkswagen Junior Masters Cup has been held in Russia since 2006. The winning team at the national level represents the country biannually in the international finals. In 2015/2016, five teams from Moscow and the Moscow region – a total of 65 young football players aged 11–13 – competed to represent Russia at the VW Junior Masters World Cup in France in May 2016. The project is ongoing and will continue to run across Russia in the future, with the aim of raising further interest in sport generally and football in particular among young players and potential future football stars.

The partnership and joint venture between ŠKODA in Russia and the Russian Ice Hockey Federation and National Ice Hockey Team has been extended to provide active support for youth sport in the country. The ŠKODA Junior Ice Hockey Cup is a significant nationwide project aiming to encourage children's interest in youth sport. The games are organized at professional venues, and famous ice hockey players share their experience with future professionals. In 2016, the company invited the winning team to the Ice Hockey World Championship 2016 in Moscow.

VW Commercial Vehicles has been cooperating with the charitable foundation Flag of Kindness in Russia for over five years. Every year (including 2016), Volkswagen Commercial Vehicles helps the charity with its transport. The Cup of Kindness is a mini football cup organized across the country as part of the "Under the Flag of Kindness" charity campaign, with 12 teams from well-known companies and enterprises, as well as famous actors, musicians, singers and sportsmen, who all compete in Moscow to raise money for charity and in particular for medical research into cures for seriously ill children.

### Support for "Day of the City" in Kaluga (up to your decision if this is a relevant item)

Jointly with its dealers, Volkswagen Group Russia traditionally supports "The Day of the City" in Kaluga, where the Group has a production facility. VW and ŠKODA cars are showcased at the center of the festivities, and factory employees play an active part in the walking parade along the main streets of downtown, one of the major events of the year in Kaluga.

## STAKEHOLDER DIALOG

### Active membership of local business associations (AEB, AHK, ICANN)

**AEB** = Association of European Businesses in Russia <https://www.aeb.ru/>

**AHK** = Deutsch-Russische Auslandshandelskammer <http://russland.ahk.de/>

**ICANN** = International Community Association of Nizhny Novgorod <http://icann-nn.ru/>

Volkswagen Group Russia is a permanent member of the Council for Professional Qualifications in the automotive industry under the Russian President's National Council for Professional Qualifications (company experts are members of different committees).

# Volkswagen Group of America

At Volkswagen Group of America (VWGoA), we believe that effectively confronting the social and sustainability challenges of today and the future requires the collective actions of our employees and partners. We instill a perseverant drive throughout the company to work toward the greater good and to be compassionate citizens. We are proud that our unified efforts have not only enriched our local communities nationwide, but have strengthened our corporate culture. Looking ahead, we pledge to work even harder to build the future we want for our employees, families, neighbors and communities.



VW Golf (modified for the American market)

## HIGHLIGHTS OF THE YEAR



### Group of America Joins the Fight Against Breast Cancer

In September 2016, Volkswagen of America collaborated with The Pink Agenda, a non-profit devoted to eradicating breast cancer, along with breast cancer survivor and television personality Giuliana Rancic and her FAB-U-WISH initiative, to help raise money for breast cancer research and improve the lives of those undergoing breast cancer treatment. As part of the collaboration, Volkswagen auctioned the first limited-edition 2017 Volkswagen #PinkBeetle to arrive in the U.S. market, raising \$30,272.00, with proceeds benefiting The Pink Agenda's and FAB-U-WISH's efforts to fight against breast cancer.

Employees across the Volkswagen Group of America network also celebrated #PinkBeetle Day to kick off the launch of Volkswagen's new #PinkBeetle, in conjunction with Breast Cancer Awareness Month in October. Women In Motion (WIM) Employee Resource Group (ERG) chapters from VWGoA locations across the country planned company-wide fundraisers throughout the month to raise money and awareness for breast cancer research. VWGoA colleagues from across the country helped raise close to \$10,000, with the company matching donations program, for breast cancer awareness.

In the same month, VW Chattanooga participated in the America Cancer Society's Making Strides Against Breast Cancer event, where more than 2,500 supporters and 140 teams raised \$150,000 to help the ACS save lives from breast cancer.

### Sponsoring Young Artists with Disabilities

Volkswagen Group of America is proud of its ongoing relationship with the Kennedy Center and 14-year sponsorship of VSA's work. VWGoA has provided more than \$1 million in funding to support these accomplished artists, as well as underscoring its commitment to diversity and inclusion. The program, which annually features artwork by artists aged 16 to 25, supports individuals with disabilities during a critical time in their lives when many are deciding whether to pursue the arts as a career.

In September 2016, fifteen talented visual artists converged in Washington, D.C. for the culmination of the VSA Emerging Young Artists Program. Every year, this program awards outstanding young artists with disabilities with cash prizes, professional opportunities, and visibility for their work. Alongside a weekend of career development activities in D.C., the 2016 winners attended celebratory receptions on Capitol Hill and at the VWGoA's headquarters Herndon, Va. Their artwork has embarked on a nine-month tour of galleries and schools throughout the United States. The professional connections and exposure that each winner receives through this program allow them to take profound steps in their artistic journeys and careers alike.



### Volkswagen Group of American Employees Give Back

In 2016, more than 300 Volkswagen Group of America employees volunteered approximately 900 hours with charitable organizations in the communities where they live and work as part of the company's "Get Involved Month," an initiative empowering employees across the country to support and give back to their communities within a dedicated month of service.

VWGoA also encourages employees to "Get Involved" year-round, providing robust incentives for employees to serve their communities. They include a matching employee donations initiative, a company-wide Dollars for Doers Program that provides a yearly one-time financial donation to a charity at which a full-time employee has volunteered for eight hours or more, and providing employees with a paid time off to volunteer.

## AWARDS

### VOLKSWAGEN GROUP OF AMERICA HONORED BY THE HUMAN RIGHTS CAMPAIGN FOUNDATION AS A BEST PLACE TO WORK FOR LGBT EQUALITY.

At Volkswagen Group of America, we embrace the diversity in our workforce, and strive to create a culture of respect and inclusion for every employee regardless of race, creed, religion, origin, gender or sexual orientation. We have proudly earned a 100 percent score on the Human Rights Campaign Foundation's 2016 Corporate Equality Index (CEI) and the distinction of "Best Places to Work for LGBT Equality".

# Imprint

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## **DISCLAIMER**

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## **FORWARD-LOOKING STATEMENTS**

This report contains forward-looking statements on the development of the Volkswagen Group and its companies as well as on economic and political developments. These statements are assumptions that we based on all the information available to us at the time of reporting. If the assumptions made fail to materialize or additional risks occur, then the actual results, development and performance of the Group may differ from the forecasts given. The Volkswagen Group therefore assumes no liability for the forward-looking statements presented here.

The German version is binding. The English version is a convenience translation for information purposes only.

## **YOUR FEEDBACK**

In the interests of improving and advancing our commitment to sustainability, we would be delighted to receive your feedback on our sustainability report. You can send us your views online under the above mentioned mail address.