

# Sustainable Value Enhancement

Our goal is to run our business responsibly along the entire value chain. Everyone should benefit from this – our customers, our employees, the environment and society. With our vision “Shaping mobility – for generations to come”, part of our TOGETHER 2025+ Group strategy, we aim to make mobility sustainable for present and future generations.

The main financial key performance indicators for the Volkswagen Group are described in the “Results of Operations, Financial Position and Net Assets” chapter. Nonfinancial key performance indicators also provide information on the efficiency of our Company’s value drivers. These include the processes in the areas of research and development, procurement, production, marketing and sales, information technology and quality assurance. In all of these processes, we are aware of our responsibility towards our customers, our employees, the environment and society. In this chapter we provide examples of how we want to increase the value of our Company in a sustainable way.

## SUSTAINABILITY

Sustainability means maintaining intact environmental, social and economic systems with long-term viability at a global, regional and local level. The Volkswagen Group can influence these systems in various ways and actively takes responsibility to make a contribution to their sustainability. We have thus developed a sustainable style of company management and put in place the necessary management structures.

We have anchored our goal to sustainably shape mobility for present and future generations in our Group strategy TOGETHER 2025+. In addition, we want to be an excellent employer and a role model for the environment, safety and integrity. Sustainability is thus at the center of our corporate actions.

A particular challenge when implementing our strategic goals on all levels of the value chain is the complexity of our Company, with its twelve brands, more than 660 thousand employees and 118 production sites. At the same time, we are guiding our Group through the furthest-reaching process of change in its history. The transformation sweeping our entire industry is dominated especially by the transition to e-mobility, digitalization and new mobility services. We want to

master these challenges and become a leading company for individual mobility in this electric and connected age.

Protecting the climate is currently the greatest global challenge affecting all three sustainability dimensions. We want to provide our own highly unique answer to this and have decided on an ambitious decarbonization program. With the implementation of this program, we want to be a net-carbon-neutral company by 2050. We are assuming a pioneering role by making this voluntary commitment based on the Paris Climate Agreement. We are guided in this by the specifications of the Task Force on Climate-Related Financial Disclosures (TCFD) For more information, please see our Sustainability Report for fiscal year 2020.

In the field of digitalization, we also want to help shape the transformation and are pressing ahead with developments in our vehicles and mobility services on the one hand and in our operating processes and management on the other. The digital transformation requires us not just to develop new technologies and be able to harness them, but also to devise a forward-looking human resources strategy that takes our employees along this path of change, trains them accordingly, and ensures that their jobs are secure.

## Parameters and guiding principles

Our actions are determined by the Volkswagen Group Essentials as the foundation of values and the basis for our shared corporate culture. The Volkswagen Group Essentials support managers and employees in overcoming legal and ethical challenges that arise in their daily work. At the same time, we are guided in our activities by a large number of internal guidelines on sustainability.

On this basis, our objective is to attain that the Volkswagen Group’s actions are in line with international agreements and frameworks such as the Sustainable Development Goals (SDGs) of the United Nations (UN), the declarations of the International Labour Organization (ILO), the principles

and conventions of the Organization for Economic Co-operation and Development (OECD) and the UN covenants on basic rights and freedoms.

**Management and coordination**

The structure and workflows of Group-wide sustainability management were expanded in the reporting period. The related structures, processes and responsibilities are codified in a separate Group policy. We view sustainability management as a continuous improvement process. The core elements include assumption of overall responsibility for sustainability by the Chairman of the Board of Management of Volkswagen AG, specification of the competence of the responsible Board members for specific sustainability management concepts and implementation of the Group Sustainability Steering Committee as a top management committee. The members of this steering committee include managers from central Board of Management positions and representatives of the brands and the Group Works Council. The steering committee defines concrete strategic goals and programs, establishes measures for uniform further development of sustainability management across divisions, brands and regions and decides on fundamental sustainability issues. It also handles the enhancement of Group-wide sustainability management. The offices of the Group Sustainability Steering Committee are the responsibility of the Group’s Sustainability function.

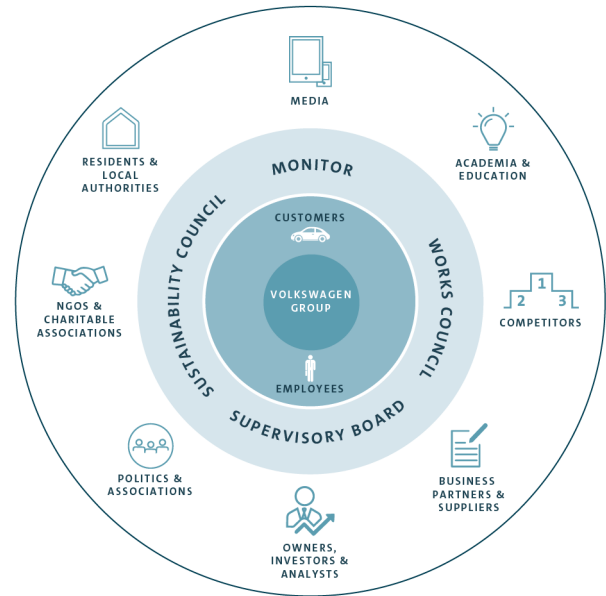
**Strategic stakeholder management**

Our stakeholders are individuals, groups, or organizations who have an influence on or are influenced by the course or the result of corporate decisions. Our customers and employees are at the center of our stakeholder network. Based on our annual stakeholder assessment, we have identified eight more stakeholder groups of equal value around this core. The Group’s supervisory and advisory bodies such as the Supervisory Board, the Works Council and the Sustainability Council act as a special interface between internal and external stakeholders. The Monitor appointed by the US Department of Justice until the termination of his duties in September 2020 was a stakeholder of the Volkswagen Group as well.

We understand stakeholder management as systematic, continuous interaction with key stakeholder groups in line with our TOGETHER 2025+ Group strategy. Stakeholder management aims to systematically record expectations and use feedback from our stakeholders to critically reflect on strategic planning processes.

To be able to systematically incorporate our stakeholders’ suggestions and recommendations, we have given our stakeholder management an organizational structure in the form of external committees. At Group level, these are the Sus-

**THE VOLKSWAGEN GROUP’S STAKEHOLDERS**



tainability Council and the Stakeholder Panel. The latter took a break in 2020 due to the pandemic. In addition, we offer our stakeholders a broad range of opportunities for interaction and feedback channels including regular discussion panels with stakeholders, stakeholder surveys and international cooperative projects.

**Sustainability Council**

The Sustainability Council set up in 2016 provides assistance to the Volkswagen Group with important, strategic sustainability issues and is made up of internationally renowned experts from the academic world, politics and society. The Council establishes its own working methods and areas of focus independently, has far-reaching rights for the purposes of exchanging information, consultation and initiating action, and consults regularly with the Board of Management, top management and the employee representatives. In the reporting year, the Volkswagen Group extended its collaboration with the Sustainability Council by two more years.

In 2020, the agenda for the intensified dialogue between Volkswagen and the Sustainability Council included the CEO Alliance for Europe’s Recovery, Reform and Resilience, jointly initiated by the Chairman of the Board of Management of Volkswagen AG and the Council in support of the EU Green Deal, aspects of corporate governance and integrity, decarbonization, employment in times of advancing digitalization and e-mobility, and sustainable action in international markets.

The Council also launched two new projects: a research project on the distribution effects of climate-related fiscal and transport policies with the Mercator Research Institute on Global Commons and Climate Change, building on the preceding project on climate-conscious transport policies, and a study with the Fraunhofer Institut für Arbeitswirtschaft und Organisation (IAO – Fraunhofer Institute for Industrial Engineering) to examine the effects of digitalization and e-mobility on employment. The Open Source Lab on Sustainable Mobility concluded its work in 2020 with the publication of the project results.

#### Materiality analysis

In 2020, we forged ahead with the overhaul of our materiality analysis begun in the previous year and established a new binding sustainability strategy with the development of a sustainability narrative for the Volkswagen Group. Some 60 stakeholders were involved in this process, including decision-makers from various business areas and brands as well as representatives of the Sustainability Council.

The materiality process is used to identify and evaluate the most important sustainability issues for the Group. The decisive factors here are the impact on the environment and society, stakeholder expectations, the business model of Volkswagen AG and adherence to legal provisions and internationally established reporting standards.

The sustainability strategy developed based on the materiality analysis focuses on the key sustainability issues within the Group strategy TOGETHER 2025+, which is supported by the vision “Shaping Mobility – for generations to come” and the seven Group principles. The sustainability narrative clearly illustrates how the Volkswagen Group intends to achieve its overarching strategic objective of sustainable growth. Not only will it lay the foundation for per-

formance management and improvement in environmental, social and governance performance, but it will also boost confidence among stakeholders and in the financial markets.

To implement the transformation with a holistic approach and run our business responsibly along the value chain, we prioritized four focus areas that are essential for our core business.

- > Decarbonization
- > Circular economy
- > Responsibility in supply chains and in business
- > Workforce transformation

The focus areas are each underpinned by forward-looking ambition and are developed and implemented within the framework of programs and initiatives.

#### Corporate citizenship

As a good corporate citizen, we aim to be a constant source of economic impetus for local structural development and equal opportunities. We have always believed in the importance of recognizing our social responsibilities toward our stakeholders. The main focus of our corporate social engagement activities is on supporting future, educational and community projects at many of our sites across the world. In 2020, the brands and companies launched or continued around 700 projects and initiatives worldwide.

#### CSR-PROJECTS

<https://www.volkswagenag.com/en/sustainability/reporting/cc-projects.html>

## TOGETHER4INTEGRITY

**HOLISTIC INTEGRITY AND COMPLIANCE MANAGEMENT SYSTEM**

Integrity and compliance are major priorities in the Volkswagen Group. Marking the end of the Monitorship, the Chairman of the Volkswagen AG Board of Management Herbert Diess said: "The end of the Monitorship is not the end of our journey. I am committed to the continuous improvement of our organization and its culture, and so are all my Board of Management colleagues. This mindset is essential to our ambition of making safer and more intelligent zero-emission vehicles for today's customers and for generations to come."

We firmly believe that acting with integrity and in compliance with the rules is vitally important for our Company's future success. It is for this reason that we have embedded integrity and compliance in our Group strategy TOGETHER 2025<sup>+</sup>. Our objective is to act as a role model for integrity and compliance and thus deepen the trust of our employees, customers, shareholders and partners – both existing and future – in our Company.

To achieve this aim, we have been building a comprehensive and holistic integrity and compliance management system (ICMS) since 2018. This is being rolled out as part of the Together4Integrity (T4I) program and is based on the five principles of the internationally recognized ECI, which relate to strategy, risk management, a culture of integrity, a speak-up environment and resolute accountability. In this context we are also implementing the measures that we defined based on the recommendations made by the Independent Compliance Monitor Larry D. Thompson.

T4I aims to establish robust, consistent process standards that are anchored in the Group's corporate policies or organizational guidelines. The purpose is to give integrity and compliance an equally important strategic and operational priority in our Company as, for example, sales revenue, profit,

product quality or employer attractiveness. T4I is thus one of the most extensive change programs in the history of the Group. In 2020, the Group Board of Management resolved to form the Group Board of Management Integrity and Compliance Committee (K-VAC), which, among other things, takes over the tasks of the Group Compliance Committee established during the Monitorship. The main tasks of the K-VAC include continuing to develop the ICMS and the corporate culture as well as managing the uniform implementation of the initiatives combined in T4I across all divisions and brands.

Through T4I we aim to implement the ICMS by 2025 in around 850 Group companies in which we hold a majority stake. By the end of 2020, 639 companies had already begun the implementation. This will strengthen Group-wide corporate governance and reduce the corresponding risks. The ICMS is therefore also a substantial contribution to the sustainability of the Volkswagen Group. We also want to live up to our responsibilities in terms of our influence on companies not controlled by Volkswagen.

**Integrity encourages ethical decision-making**

An essential role of the ICMS is to introduce integrity as a strategic key to success in all the Group's brands and companies. This includes integrating integrity into decision-making processes. For example, every resolution proposal submitted to the Board of Management must highlight the extent to which the intended decision is in line with the Group's integrity and compliance, what risks arise from it and how the risks can be reduced. Similar requirements apply to Group brands and companies and to Group bodies to which the Board of Management has delegated decision-making powers.

### Compliance means adherence to rules

We firmly believe that long-term commercial success can only be achieved if each and every individual complies with laws, regulations and commitments. Compliant behavior must be a matter of course for all Group employees. The compliance organization provides worldwide support in the form of programs, guidelines, processes and practical advice. The compliance Infopoint is a core element of this. This is available to all employees.

Our compliance organization focuses on preventing corruption, fraudulent breaches of trust and money laundering. Compliance in mergers & acquisitions, noncontrolled shareholdings and safeguarding business and human rights are other key areas. In addition, we expedited the integration of the topic of business and human rights into the ICMS and accorded the topic vital strategic importance. Here, we follow the UN's requirements and principles on business and human rights due diligence. An investigation of all companies in the Group within the scope of compliance was conducted in 2020 with the aim of identifying risks in respect of human rights. Based on the findings, these companies were given a set of binding measures that they must implement by December 31, 2021.

### T4I brings together activities from eleven key initiatives

The ICMS defines standards for integrity and compliance. T4I is rolling out and implementing these standards uniformly throughout the Group in the form of more than 100 packages of measures. The packages of measures are divided into eleven key initiatives:

#### 1. HR Compliance Policies and Procedures

The focus is on standard HR processes such as recruitment, training, promotion and remuneration (bonus payments). For example, integrity and compliance matters have been included as criteria for the recruitment process and staff development measures for managers since 2019. Employment contracts contain integrity and compliance clauses. Integrity and compliance have also been covered by annual employee appraisals since 2020. Performance-related remuneration from senior executive positions is now also partly determined by integrity and compliance standards.

#### 2. Code of Conduct

The Volkswagen Group's Code of Conduct is the key instrument for strengthening employees' awareness of responsible action and decisions, giving employees support and guidance, and finding the right contact persons in cases of doubt. The framework is available online to employees and also to external third parties.

Every employment contract refers to the Code of Conduct and commits the employee to comply with it. Regular

training is intended to increase its efficacy. The Code of Conduct is also taken into account when calculating their variable, performance-related remuneration, which is set as part of the employee appraisals. Members of the higher levels of management are annually certified on the Code of Conduct. They confirm that they will comply with the Code of Conduct and undertake to report any serious regulatory violations.

#### 3. Integrity Program

The integrity program is designed to reinforce the culture of integrity. The most important instruments in this program include dialogue-oriented communication measures and event formats. These communicate to employees the importance of integrity and motivate employees to behave with integrity even in the face of external pressure. Associated actions include encouraging a culture of handling mistakes constructively, more transparency in taking decisions and a greater willingness to discuss mistakes and risks openly.

#### 4. Risk Management and Internal Controls

This initiative involves operating an effective risk management system. Uniform, defined structures should ensure transparent handling of risks from our business activities and enable them to be managed. This refers to the annual regular governance, risk and compliance (GRC) process focused on systemic risks, the quarterly risk process (QRP) focused on acute risks, the standard ICS (internal control system) aimed at safeguarding processes, and root cause analysis. The initiative to support the QRP also includes the introduction of the "Riskradar" IT system and training of risk managers.

#### 5. ICRA and Compliance Organization

This key initiative describes the organization and processes of the Compliance department at Group level and in the individual Group companies. It shapes the Company's compliance strategy, sets Group-wide standards for the internal compliance risk assessment (ICRA) and contains measures for managing and mitigating the compliance risks. The ICRA has been carried out since 2018, with the Group companies being assigned to different risk categories on the basis of a comprehensive questionnaire. To reduce potential risks, we rolled out standardized compliance measures in the relevant business units, the scope of which varies depending on the business units' individual risk exposure. The degree to which measures have been implemented is reported on a regular basis, but at least once per year. Business units with a high risk are regularly monitored by the Divisional Compliance Officer or Regional Compliance Officer and starting in 2021, audited by an external auditor.

**6. Whistleblower system and incident response**

This initiative brings together all measures for the establishment and operation of the whistleblower system. The whistleblower system is the central point of contact for reporting cases of serious rule-breaking in the Volkswagen Group. The aim is to avert damage to the Company and its employees through the use of binding principles and a clearly governed process. An investigation is only initiated after the information received has undergone a thorough examination and the latter has identified concrete indications of rule-breaking. The affected parties are treated fairly: the presumption of innocence applies as long as rule-breaking has not been proven. They are listened to at an early stage and vindicated if wrongly suspected. Strict confidentiality and secrecy apply throughout the investigation. Appropriate sanctions are applied where misconduct is proven. Whistleblowers are protected and their statements are treated confidentially. A wide range of channels is available for reporting information on misconduct, including anonymously if preferred.

**7. M & A and NCS Compliance**

In the event of planned mergers and acquisitions, the relevant companies are audited according to integrity and compliance standards. This prevents a Group company from being confronted with unidentified integrity or compliance risks when acquiring another company. This key initiative also promotes compliance in non-controlled shareholdings (NCS), i.e. companies that are not controlled by a Volkswagen Group company as a majority shareholder (excluding Chinese joint ventures). During mergers and acquisitions (M&A) and the supervision of NCSs, strategic, economic and ethical considerations are key to the sustainability of investment decisions.

**8. Business partner due diligence**

Business partner due diligence entails reviewing the integrity and compliance systems of suppliers, service providers and sales partners. This review of existing and potentially new business partners is carried out as part of a risk-based, transparent, documented process that is implemented worldwide using an IT-based tool. This initiative also includes the offer to assist business partners in meeting the required standards. Companies that do not meet the standards defined in the Volkswagen Code of Conduct for Business Partners should not receive new business.

**9. Product compliance**

The product compliance management system (PCMS) shall ensure that our products comply with the legal and regulatory requirements of the exporting and importing country, external standards and contractually agreed customer requirements, as well as internal standards and externally communicated voluntary commitments throughout their life cycle. We have defined clear roles and responsibilities for our PCMS with regard to design, implementation and monitoring.

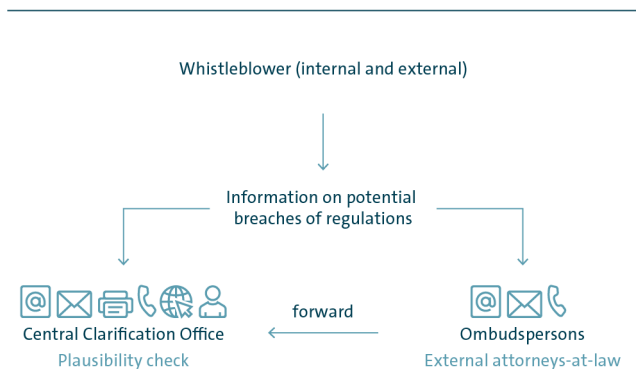
**10. Environmental compliance**

Statutory environmental regulations and voluntary commitments are binding at all locations and in all business fields. The Group’s environmental policy and the environmental compliance management system stipulate the corresponding requirements and responsibilities for all strategy, planning and decision-making processes in the Group brands and companies. This also includes a system of metrics to determine progress in meeting environmental targets: in the fields of renewable energy, CO<sub>2</sub> emissions and resource efficiency. We make allowance for the actual and potential environmental risks and opportunities in our products’ entire life cycle.

**11. Anti-corruption**

We advocate fairness in business dealings and have a clear zero-tolerance policy on active or passive corruption. We have therefore produced Group policies on dealing with gifts and invitations, donations and sponsorship. This initiative also includes the development and implementation of trainings for employees in divisions or companies with a high risk exposure.

**REPORTING CHANNELS OF THE WHISTLEBLOWER SYSTEM**



### Emphatically developing a culture of integrity

The holistic integrity and compliance management system being established Group-wide through T4I provides the regulatory framework for acting with integrity and in compliance with the rules and results in uniform corporate governance throughout the Group in relation to integrity and compliance. It is also advancing the culture of integrity. The aim is to inspire and motivate employees and strengthen their own drive to act with integrity in all situations. Both, uniform corporate governance and a mature culture of integrity contribute to the effectiveness of the ICMS as a major factor in the sustainability of the Volkswagen Group.

Volkswagen's corporate culture is founded on the seven Group Essentials. They define how we at Volkswagen want to work together and thus supplement the Code of Conduct. The Group Essentials also form the frame of reference for the Role Model Program, which encourages dialogue-oriented and distance-reducing collaboration.

T4I inspires and motivates employees, especially with launch events and perception workshops. Both events are held in each Group or brand company at the start of the implementation of T4I and involve both employees and managers across hierarchies as players in the change process. The perception workshops are primarily about the actual practice of integrity and compliance – measured by the perception of employees. Here, representatively selected employees and managers give their assessment of this practice and discuss opportunities for improvement. The perception workshops will be repeated annually until the key initiatives have been fully implemented. They measure the progress of the relevant company with regard to integrity and compliance and show where further action is needed.

### Monitoring of implementation and effectiveness

Methods of impact monitoring and progress measurement are an integral part of our ICMS. The planning and reporting system of the T4I program provides information on the implementation status of all packages of measures at any time. It is used for reporting to the Board of Management and the boards of the Group and brand companies as well as for monitoring potential delays and initiating countermeasures.

In addition to the recurring perception workshops, our annual employee opinion survey shows the progress in our

culture of integrity. This Group-wide survey asks whether it is possible for each individual to act with integrity. If the answer is no, the relevant manager must identify and clear the possible obstacles together with the team. The question was asked in the opinion survey for the first time in 2017 and since then, including in the reporting period, has been one of the three questions with the highest level of agreement, with a significant improvement in the value. The level of agreement among employees each achieved an average value in the highest category of the underlying five-level range.

### Contributing to the Group's strategic indicators

To measure the level of target achievement in the area of Integrity & Legal Affairs, we defined a strategic indicator for the major brands that manufacture passenger cars:

> Compliance, a culture of error management and behaving with integrity.

This is based on an evaluation of the answers to three questions in the opinion survey relating to compliance with regulations and processes, dealing with risks and errors and the opportunity to act with integrity. In the case of negative deviations, the affected departments develop and implement measures. The indicator continuously improved on the previous good figure until 2020. On average, the level of agreement among employees was in the highest category of the underlying five-level range.

As an additional measuring tool, we use the Integrity Index developed by independent business ethicists from the Technical University of Munich. Based on more than 100 criteria in the categories of: the compliance & infrastructure, working atmosphere & integrity culture, products & customers, society, and partners & markets; it gives a comprehensive picture of an organization's integrity. The integrity index was started in 2019 as a pilot project for Volkswagen Passenger Cars Germany and Audi (German sites). The scientists found that both of the brands examined exhibited a "good" integrity level overall.

The findings were used in the reporting year in a structured follow-up process to derive and implement improvement measures together with the respected departments.

Further information on the topics of integrity and compliance can be found in the Group Sustainability Report 2020.

**Independent Compliance Monitorship successfully completed**

In September 2020, the Independent Compliance Monitor, Larry D. Thompson, certified that Volkswagen has fulfilled its obligations under its Plea Agreement with the US Department of Justice (DOJ) to maintain a compliance program that will prevent, detect and punish violations of anti-fraud and environmental laws. Certification applies to Volkswagen AG and its subsidiaries and affiliates with the exception of Porsche AG and Porsche Cars North America, which were not part of the Monitorship. Over the course of the Monitorship, which began in 2017 and is now concluded, Volkswagen enhanced and improved its structures, processes and systems in many divisions of the company including technical development, governance, risk management, compliance and legal functions. Volkswagen expanded the whistleblower system, strengthened processes to prevent corruption and antitrust violations, and created a due diligence process for business partners. The Group also flattened hierarchies, decentralized decision-making and gave more responsibility to its brands and regional companies.

The completion of the Monitorship is not the end of the process; the Group remains committed to continuous further improvement of compliance and its corporate culture.

Thompson also served as Independent Compliance Auditor and issued his third and final audit report in June 2020. That report established that there had been no new violations of the relevant settlements with the Environment and Natural Resources Division of the DOJ, the California Attorney General, the US Environmental Protection Agency (EPA) and the California Air Resources Board.

On September 2, 2019, Volkswagen also announced that the Company had concluded a settlement agreement with the EPA, which had been the reason for commissioning a second auditor for the Volkswagen Group. This agreement was concluded to prevent it from being excluded from public contracts in the United States. This second auditorship is scheduled to last three years and will run until August 2022.

**WHISTLEBLOWER SYSTEM**

<https://www.volkswagenag.com/en/group/compliance-and-risk-management/whistleblowersystem.html>

whistleblowersystem.html

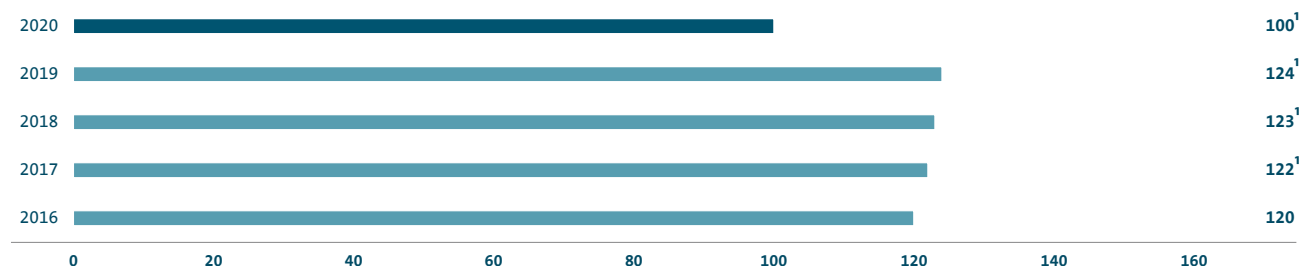
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## CO<sub>2</sub> EMISSIONS OF THE VOLKSWAGEN GROUP'S EUROPEAN (EU27+3) NEW PASSENGER CAR FLEET

in grams per kilometer (NEDC)



<sup>1</sup> Subject to confirmation of CO<sub>2</sub> data within the scope of official publication by the European Commission.

### RESEARCH AND DEVELOPMENT

Forward-looking mobility solutions with brand-defining products and services would be unthinkable without innovation. This makes our research and development work essential for sustainably increasing the value of the Company.

Together with our Group brands, we have launched measures based on our future program TOGETHER 2025<sup>+</sup> to link development activities across the Group. At the heart of this is an efficient, cross-brand development alliance characterized by a close network of our experts, collaboration on an equal footing, an innovative working environment and the pooling of development activities. The aim is to make use of synergy effects across the Group and act as a role model for the environment, safety and integrity. The development alliance plays a major part in driving the Volkswagen Group's transformation and helping to make it fit for the future.

In view of this strategic focus, we concentrated in the reporting period on continuing to develop forward-looking mobility solutions, establishing technological expertise to strengthen our competitiveness, expanding our range of products and services and improving the functionality, quality, safety and environmental compatibility of our products and services.

We use a strategic indicator in Europe and the United States to evaluate the effectiveness of our measures to reduce CO<sub>2</sub> emissions when driving:

- > CO<sub>2</sub> fleet emissions. The Volkswagen Group's new passenger car fleet in the EU (excluding Lamborghini and Bentley) emitted an average of 99.9 g CO<sub>2</sub>/km<sup>1</sup> (NEDC) in the reporting period in accordance with the statutory measurement bases, thus down 20% on the prior-year figure. The CO<sub>2</sub> pool established together with other manufacturers fell

just 0.8 g CO<sub>2</sub>/km short of its target. Owing to delays in product launches and contrary to the original planning, it was not possible to achieve the target despite substantial improvements compared with 2019. As small volume manufacturers, the Lamborghini and Bentley brands each have an independent fleet for the purposes of European CO<sub>2</sub> legislation and were both above their individual targets. In the United States, the regulation of fleet emissions is different to that in Europe, for example in terms of the underlying test process, the period of evaluation, which corresponds to the model year of the vehicles rather than the calendar year, and the period for compensating for any breaches of CO<sub>2</sub> limits, which comprises three model years. In fiscal year 2020, we complied with the regulations that apply to our greenhouse gas account in the United States, subject to any alternative notification by the authorities.

### Fuel and drivetrain strategy

With a view to the legal regulations on emissions, we are currently developing a forward-looking vehicle and drivetrain portfolio: we have set ourselves the objective of increasing drive system efficiency with each new model generation – irrespective of whether it is a combustion engine, a hybrid or a purely electric drive system. The Volkswagen Group closely coordinates technology and product planning with its brands so as to avoid breaches of fleet fuel consumption limits, since these would entail substantial excess emissions premiums. Around one in five new Volkswagen Group vehicles worldwide is to have a purely electric drive by the year 2025; depending on market development, this could be over two million electric vehicles a year. As part of our electrification

campaign, we aim to offer our customers worldwide around 70 completely battery-electric vehicles by 2030, of which production of approximately 20 models has already started. In addition, a total of around 60 hybrid models are planned by the end of the decade, just over half of which are already in production. By 2030, the Volkswagen Group aims to have electrified its entire model portfolio – from high-volume models to premium vehicles. This will mean offering at least one electric version – battery electric or hybrid vehicles – of each of our passenger car models across all Group brands. To this end, in addition to the Modular Electric Drive Toolkit (MEB), we are also developing an all-electric platform for our premium and sports brands – the Premium Platform Electric (PPE).

The Volkswagen Group is committed to achieving the goals of the Paris Agreement on climate change and intends to become a net-carbon-neutral company by 2050.

To offer sustainable, affordable mobility in the future for as many people around the world as possible, we offer a range of drivetrains with a focus on electrification. From today's perspective, conventional combustion engines look set to continue to make up the lion's share of drive technology in the coming years. In the interest of using resources responsibly, it is therefore essential to further enhance this engine segment and systematically consolidate it for specific markets. Powertrain measures such as significantly more sophisticated exhaust gas purification or mild hybridization of our vehicles, as well as vehicle measures such as optimized aerodynamics or reduced rolling resistance will be necessary to fulfill future emissions standards. With the new Golf 8 we offer more efficient and more sustainable mobility in the volume segment: The Golf's new petrol mild hybrid drivetrain significantly reduces fuel consumption compared to its predecessor.

It is more important to us than ever to rigorously pursue our modular approach. We are reducing the number of individual modules so that we can make a large product portfolio economically viable. For example, we aim to reduce the number of versions of conventional combustion engines in the Group by more than a third in the long term. This will create capacity for the development and production of new hybrid and electric drives.

#### Life cycle engineering and recycling

Technological innovation for reducing fuel consumption is not enough on its own to minimize the effect of vehicles on the environment. We consider the environmental impact we cause throughout the entire life cycle and at all stages of the value chain. This includes the manufacturing process with the associated extraction of raw materials, the production of

materials, the processes at our suppliers and our own production operations at our sites, the use phase with the resulting vehicle emissions and the necessary supply of fuel, and ultimately the recycling of the vehicle at the end of its life cycle. We identify the stages of the life cycle at which improvements will have the greatest effect and develop appropriate solutions. We call this life cycle engineering. Recycling, for example, is an important means of reducing environmental impact and conserving resources. We therefore already take the recyclability of the required materials into consideration when developing new vehicles, use high-quality recycled material and avoid pollutants. Under the European Directive on end-of-life vehicles, passenger cars and light commercial vehicles must be 85% recyclable and 95% recoverable. Our vehicles registered in Europe comply with these standards.

#### Leveraging synergies increases efficiency

When developing vehicles, we cooperate closely with our brands to leverage synergies. The joint strategy of our development alliance involves, for example, making the Group more competitive and viable in the long term by deploying resources more effectively and efficiently in the research and development of new mobility-related technologies, products and services. In our Group-wide development alliance, the brands therefore not only work with each other, but also for each other on key technologies, forming cross-brand networks of expertise to address topics of importance for the future. Against this background, responsibilities in Technical Development were reorganized in 2020 in order to coordinate module development even more efficiently and leverage synergies in module variance, components, parts and processes. We consolidated the Group's activities in and responsibility for the development, procurement and quality assurance of all battery cells in a central Center of Excellence under the umbrella of the Volkswagen Passenger Cars brand. In the Center, a pilot line for cell production was put into operation in 2019 to build up expertise for the Group in the area of cell design but also throughout the entire value chain.

We also manage our modules centrally to reduce costs, capital expenditure and complexity. We are seeking to reduce expenditure in the modular toolkits, while at the same time facilitating widespread electrification and a focus on autonomous systems. We want to achieve this through a considerable reduction in complexity using streamlined platforms that synergize but do not overlap. To this end, the individual Group brands draw on the modular toolkits, thus creating synergies between the various models of a product line, as well as across the product lines. By streamlining the toolkits, we are giving ourselves the financial leeway needed for

developments in the future trends of digitalization and autonomous driving. The high-volume passenger car brands have introduced the model-line organization, thus strengthening their responsibility for the success of vehicle projects, improving project work across different cross-departmental areas, accelerating decision-making and intensifying the focus on project results.

We are also leveraging synergies by constantly sharing best practices, for instance in virtual development and testing. Last but not least, the centralized development and consolidation of our IT systems is also helping to strengthen cooperation across the brands, make development activities more comparable and reduce the Group's IT costs.

#### Sustainable mobility, connectivity and automated driving

Mobility of people and goods is a basic prerequisite for economic growth and social development, especially in times of the Covid-19 pandemic. At the same time, natural resources are dwindling and climate change is advancing. This calls for comprehensive mobility concepts to minimize the environmental impact. Such solutions need to be efficient, sustainable, crisis-proof, customer-oriented and accessible anytime and anywhere.

We are researching and developing such concepts and solutions in our Group-wide alliance: when shaping the future of mobility, we are looking not only at the automobile, its components and related services, but at all modes of transport and transport infrastructures, at people's mobility habits and at other relevant factors. Innovations such as digital connectivity and automated driving allow for new approaches to solving problems. We strive to utilize these and thus to play our part in a comprehensive mobility system for the future and to help shape our industry's transformation.

In its pursuit of autonomous driving, the Volkswagen Group further improved its assistance systems and automated driving functions and introduced these in vehicles in 2020. The objective is to market highly automated driving functions for private vehicles, shared mobility systems and commercial mobility providers as a core competency of the Group. The Volkswagen Group has presented its vision of an autonomous mobility system by unveiling the Sedric family, comprising fully autonomous vehicles for short- and long-distance mobility, as well as sports cars, self-driving delivery vehicles and heavy trucks. These vehicles will enable new forms of mobility in both cities and rural areas, particularly for user groups that have so far been excluded from access to mobility.

As part of the TOGETHER 2025+ strategy, we are working with the Software-enabled Car Company module to make software development one of the core competencies of the Volkswagen Group. Starting on January 1, 2020, we have brought

together all of our interests and subsidiaries that develop software for vehicles and digital ecosystems in the Car.Software Organisation, an independent entity with Group responsibility. This first step involved more than 3,500 employees. Since mid-2020, experts who used to work in the various Group brands and regions have been working together under the umbrella of the Car.Software Organisation.

The Car.Software Organisation is developing software for five applications within the Group:

- > a uniform vehicle operating system "vw.os" for all Group vehicles as well as their connectivity with the Volkswagen Automotive Cloud;
- > a standardized infotainment platform;
- > all assistance systems including highly automated driving and parking;
- > functions for connecting the drivetrain, chassis and charging technology; and
- > ecosystems for all the brands' mobility services and digital business models.

From the middle of this decade onwards, all new vehicle models throughout the Group are to be based on a uniform, cross-brand software platform, including the "vw.os" operating system and Volkswagen Automotive Cloud, as well as a uniform architecture. At the end of 2024, this architecture will be used for the first time in an Audi model as part of the Artemis project. It is then to be deployed in high-volume vehicles to generate economies of scale and thus reduce the cost of in-vehicle software for all brands.

#### Pooling strengths with strategic alliances

The aim of our future program TOGETHER 2025+ is to transform our core business and to establish a mobility solutions business area at the same time. It is decisive to the success of this plan that we place our innovative strength on even broader foundations.

Within the Volkswagen Group, we combine technological innovation activities in the Volkswagen Group Innovation unit. At seven locations worldwide in the USA, Europe and Asia, employees are working on sustainable solutions for urban and interurban mobility systems in line with our strategic vision "Shaping mobility – for generations to come". Technologies and activities from Volkswagen Group Innovation that are ready for pre-development are regularly transferred to our Group brands. This means that the areas of digitalization, sustainability and e-mobility receive continuous support through innovative projects. In this way, we are creating an agile innovation structure that allows us to initiate new milestone projects with innovative international partners, even at short notice.

Growth in the mobility sector is strongly defined through regional innovation activities. Volkswagen therefore concen-

trates its strategic venture-capital activities and partnerships in the Group's international innovation ecosystem. This helps us to identify the regional needs of customers more precisely, to adjust our product range correspondingly and to establish competitive cost structures. In doing so, we rely to a greater extent than in the past on partnerships, acquisitions and venture-capital investments and manage investment selection centrally so as to generate maximum value for the Group and its brands. It is against this backdrop that we have formed an alliance with Ford Motor Company with the intention of working together on the development of vans and mid-sized pickups. At the beginning of June 2020, Ford Motor Company and Volkswagen AG signed additional contracts within their existing global alliance for light commercial vehicles, electrification and autonomous driving. The contracts serve as the foundation for a total of three vehicle projects. In addition to the existing collaboration on the mid-sized pickup, projects are underway for a city van and a one-tonne cargo van. In total, the three alliance projects amount to a volume of approximately 8 million vehicles over the entire model cycle. In addition, we are investing with Ford in Argo AI, a company that is working on the development of a system for autonomous driving. This alliance allows both car companies to integrate Argo AI's self-driving system into their own models independently of each other. The system is to make fully automated driving possible, and thus to open up new opportunities, particularly for ride-sharing providers and delivery services in urban areas through the use of fully automated vehicles. At the start of June 2020, a transaction was completed with Argo AI and Ford on cooperation to develop autonomous driving. Subsequently, the Volkswagen Group company AID was incorporated into Argo AI. In addition, Ford intends to use the Modular Electric Drive Toolkit (MEB) developed by Volkswagen for a zero-emissions volume model that should be offered in Europe from 2023. The aim of the cooperation is to place both Volkswagen and Ford in a position that enables them to improve their competitiveness, tailor their products to better meet the needs of customers worldwide and at the same time to leverage synergies related to cost and investment.

The strategic partnership with Microsoft enables us to accelerate our transformation into a mobility service provider with a fully connected vehicle fleet and our Volkswagen We digital ecosystem. Together, we will press ahead with software development for the automobile of tomorrow and new services for our customers, thus comprehensively strengthening and expanding our IT expertise and solutions.

Battery technology is to become a core competency of the Volkswagen Group. The battery accounts for 20% to 30% of the cost of materials in electric vehicles; in future, it will be one of the most important components when differentiating between products. We have already pooled our in-house expertise in battery cells in a Center of Excellence and at the same time intend to accelerate technological change and the development of expertise through intelligent partnerships. We anticipate that we will need a battery capacity of more than 150 GWh a year in the period to 2025 just to equip our own electric fleet with lithium-ion batteries. To cover this enormous demand, we have defined strategic battery cell suppliers for our most important markets and the first MEB models, and we aim to initiate further long-term strategic partnerships in China, Europe and the USA. A 16 GWh battery cell factory is to be built in Salzgitter. Looking ahead, we are already preparing for the next generation: we intend to bring solid-state batteries to market readiness in collaboration with our partner QuantumScape.

Our Group brands Volkswagen Passenger Cars, Audi and Porsche are involved in the pan-European High-Power Charging (HPC) joint venture IONITY, under which a comprehensive charging infrastructure is being built to safeguard long-distance mobility: by the end of the reporting year, 325 charging stations were already in operation. By the end of 2021, we plan to have 400 charging stations in place.

We support the design of the framework conditions for the approval and introduction of our own self-driving system by our active involvement in public projects. The experience we are gathering here will benefit the Group brands and thus also our customers.

**Key R&D figures**

In fiscal year 2020, we filed 6,795 (7,614) patent applications worldwide for employee inventions, the majority of them in Germany. The fact that an ever-increasing share of these patents is for important cutting-edge fields underscores our Company's innovative power. These fields include driver assistance systems, automation and connectivity as well as alternative drive systems.

The Automotive Division's total research and development costs in the reporting period amounted to €13.9 (14.3) billion and were 2.9% lower than in the previous year; their percentage of the Automotive Division's sales revenue – the R&D

ratio – came to 7.6 (6.7)% due to the fall in sales revenue as a result of the Covid-19 pandemic. Along with new models, the focus was primarily on the electrification of our vehicle portfolio, a more efficient range of engines, digitalization and new technologies. The capitalization ratio was 46.6(36.1)%. Research and development expenditure recognized in profit or loss in accordance with IFRSs decreased to €12.1 (13.2) billion.

As of December 31, 2020, our Research and Development departments – including the equity-accounted Chinese joint ventures – employed 53,268 people (–3.1%) Group-wide, corresponding to 8.0% of the total workforce.

**RESEARCH AND DEVELOPMENT COSTS IN THE AUTOMOTIVE DIVISION**

€ million	2020	2019
Total research and development costs	13,885	14,306
of which capitalized development costs	6,473	5,171
Capitalization ratio in %	46.6	36.1
Amortization of capitalized development costs	4,644	4,064
Research and development costs recognized in profit or loss	12,056	13,199
Sales revenue	182,106	212,473
Total research and development costs	13,885	14,306
<b>R&amp;D ratio</b>	<b>7.6</b>	<b>6.7</b>

## PROCUREMENT

In fiscal year 2020, the main task for Procurement was once again to safeguard supplies, and to help create competitive, innovative products and optimize cost structures. In addition, we continued to drive digitalized procurement processes forward.

### Procurement strategy

The Group strategy TOGETHER 2025+ stands for more speed, focus and stringency, within the Procurement division as well, accelerating change even more. The focus in 2020 was on implementing the concepts developed in the procurement strategy. Procurement's key performance indicators were defined as part of a combined system of targets for Group Components and Procurement. This system of targets now gives greater weight to sustainability aspects in the supply chain, alongside the targets for material and investment costs and the timely award of contracts.

Target-costing strategies are becoming increasingly important in Procurement. They allow costs to be made transparent and concepts to be influenced in the early stage of product development by focusing on calculatory potentials. They also provide approaches for worldwide benchmarking and the exchange of best practices.

A cross-divisional strategic value chain management has been implemented to support profitable growth and safeguard the availability of hardware and software that is strategically relevant and/or crucial for ensuring supplies. The Strategic Value Chain Management committee that has been set up takes strategically important "make, buy or partner" decisions on a regular basis.

The growing volume of software and the new partners and suppliers this entails necessitate adjustments to the process chain and Procurement's award criteria. The Corporate Sourcing Committee Digital Car is in charge of awarding contracts for vehicle and vehicle-related software optimally and on a weekly basis.

### Volkswagen FAST – Supplier network as the basis for success

The FAST (Future Automotive Supply Tracks) initiative from Group Procurement is instrumental in advancing the Volkswagen Group and its supply network in terms of partnerships and future viability.

FAST facilitates the regular exchange of information so that both sides are strongly positioned to cope with the future challenges facing the automotive industry. Based on a set of established criteria, a comprehensive assessment of the previous year is disclosed to the suppliers so that improvements can be made together. Strategic agreements on

globalization and innovation continue to be core issues of this exchange, in addition to existing supply relationships.

FAST partners are prioritized in the cross-divisional innovation process in that they are given the opportunity to present innovations to representatives from the Procurement and Technical development divisions at upper management level in strategy meetings. FAST partners are invited to attend relevant innovation events at which they can contribute their expertise. Where possible, digital communication media were used for the annual meeting in the reporting year due to the spread of the SARS-CoV-2 virus. The program is updated and refined on an ongoing basis in order to take full advantage of the potential from the FAST initiative in the future as well.

### E-mobility

A key task for Procurement is to safeguard supplies for the continually growing requirements of the e-mobility offensive over the next five to ten years in a sustainable way, and while optimizing cost structures.

Group Procurement puts a particular focus on high-voltage batteries and e-resources. By means of benchmarking and requirements-based training, we are increasing our purchasing expertise in this context.

When awarding contracts to our electric mobility partners, we have laid down requirements as regards sustainable supplier sources, transparent, traceable supply streams, and energy- and carbon-optimized supply chains. We pool global demand from the European, American and Asian markets and award Group contracts with the aim of achieving cost leadership for electric mobility solutions. To this end, we consider diversification in conjunction with dual-supplier strategies as well as localization of the supplier portfolio for all core components of the electric vehicle fleet in an effort to reduce economic and geopolitical risks.

### Digitalization of supply

We are working systematically to implement a completely digitalized supply chain. This is intended to help us to safeguard supply and leverage synergies throughout the Group in order to take a leading position in terms of cost and innovation. We are therefore creating a shared database and using innovative technologies to enable efficient, networked collaboration in real time – both within the Group and with our partners. The objective of our functional area strategy for Procurement is to standardize transactions with our suppliers in the future and automate them where possible. This will not only reduce transaction costs but will also accelerate business processes. Potential supply risks can be reported in an automated way in order to identify measures

and alternatives faster together. The cornerstone for the future of Procurement was laid in 2018 in the form of Group Procurement's digitalization strategy. This strategy aims not only to eliminate the weaknesses of Procurement's IT system environment but also to increase the organization's effectiveness, efficiency and future viability.

#### Structure of key procurement markets

Our procurement process is organized at a global level, with a presence in the key markets around the world. This enables us to procure production materials, investments in property, plant and equipment, and services worldwide at the quality required and on the best possible terms. Networking among the brands' procurement organizations enables us to leverage synergies across the Group in the various procurement markets.

In addition to the brands' procurement units, the Volkswagen Group operates eight regional offices. In growth markets, we identify and train local suppliers to generate cost advantages for all Group production sites. In this context, we are also focusing on start-ups and software suppliers. In familiar and established markets, the regional offices support access to the latest technologies and innovations.

#### Management of purchased parts and suppliers

Today's supplier portfolio is characterized by global distribution, segmentation and diversification. We address the challenges this presents by supporting and monitoring the industrialization of suppliers with our procurement supplier management. This starts with auditing and assessing suppliers in preparation for the nomination process and continues with monitoring the maturity of the industrialization of purchased parts, to the complete acceptance and confirmation of the required production capacity at the individual supplier locations. The complexity of the components requires regular monitoring of production processes in order to identify any disruptive factors at an early stage and take action to remedy these. Close cooperation with the quality assurance units at the production sites is crucial for a stable supply of purchased parts for our start-up and series production vehicle projects. The global supplier management network worked reliably, particularly in the face of the challenges posed by the Covid-19 pandemic, and supplies to vehicle and component plants were largely safeguarded throughout the reporting year. Bottlenecks and supply disruption occurred globally due to the restrictions on mobility and border closures, resulting from the pandemic.

#### Sustainability in supplier relationships

Successful relationships with our business partners are based on respecting human rights, compliance with occupational health and safety standards, active environmental protection and combating corruption. These sustainability standards are defined in the contractually binding Volkswagen Group requirements for sustainability in relations with business partners (Code of Conduct for Business Partners). These signed documents also contain the expectation that any subsuppliers will be subject to the same standards. We review compliance with the requirements, which has been an explicit condition for award of contract since 2019.

In our sustainability rating – introduced in 2019 and expanded in 2020 – we determine suppliers' sustainability performance by means of self-disclosures and on-site audits. By the end of the reporting year, we had obtained 13,041 ratings for suppliers, covering 76% of the total order volume. Both the validation of the self-assessment questionnaire and the on-site audits are carried out by selected service providers. As a rule, contracts are not awarded to suppliers who fail to comply with regulations or do not implement these adequately. Tying award decisions to sustainability criteria is one of the strongest levers for enforcing these. We address existing sustainability risks and violations of sustainability principles by systematically implementing measures; this also includes the upstream supply chain. Depending on the severity, these may entail the inclusion of stipulations and measures in performance specifications for suppliers. Despite the adversities caused by the Covid-19 pandemic, we once again stepped up our focus on advanced and continuing training for suppliers; in fiscal year 2020, more than 12 thousand suppliers took advantage of the training programs.

The focus of our activities in 2020 was on decarbonization, respecting human rights and responsible raw material sourcing.

With regard to decarbonization, the Volkswagen Group is striving to continuously reduce greenhouse gas emissions or avoid them altogether over the entire life cycle of a vehicle. The Group's transformation into a provider of sustainable mobility solutions and in particular the trend towards electric mobility are shifting the action required from the service life of the vehicle to supply chains and the manufacture of vehicles and components. We are aware of our social responsibility and are committed to the 2°C target of the Paris Climate Agreement. We have therefore incorporated the use of renewable energy into the specifications for battery suppliers.

In respecting human rights in our supply chains, we are guided by international agreements and frameworks as required by the UN Guiding Principles on Business and Human Rights and the principles and conventions of the OECD. To comply with these requirements, we launched a human rights due diligence management system in 2020 to make human rights risks in our supply chain transparent and to mitigate these risks. An additional management system has been set up to effectively manage the sometimes extensive risks in the raw material supply chains. This sets out in detail the prioritization and processing of the raw material supply chains that we classify as particularly high risk. Our current focus is on 16 raw materials. The inclusion of additional transparency requirements for our battery suppliers in 2020 represented a milestone for responsible raw material procurement. These requirements include the disclosure of the entire upstream supply chain by our battery suppliers and is effective for new contracts awarded from fiscal year 2020 onwards.

#### COMPONENTS BUSINESS

A realignment of the Group-wide components business was decided on as part of the Group strategy TOGETHER 2025<sup>+</sup> and implemented as of January 1, 2019. The aim is the further improvement of future viability and competitiveness by means of cross-brand management of component activities and an added-value strategy coordinated throughout the Group. Synergies are to be leveraged across both traditional technologies and topics of the future to advance the transition to electric mobility.

The components business manages around 75 thousand employees worldwide. The focus of their expertise is the development and manufacture of vehicle components. In order to realign these competencies in a future-oriented way, it was decided as part of the Group strategy to combine components activities around the world into an independent corporate entity, Volkswagen Group Components, under the umbrella of Volkswagen AG.

The entity has been organized into business areas: Engine and Foundry, Transmissions and Electric Drive, Chassis and Battery System, Battery Cell and Seats. In each of the business areas, innovative power and competitiveness is to be

increased by means of an economical product portfolio that is viable for the future, a continuously optimized product range and economies of scale exploited across all business areas. Group Components in the Volkswagen Group is to be responsible for the development and production of battery systems and electric drives for new electric vehicles as well as for the development and pilot production of battery cells and the management of production partners. There are also plans to reuse the battery cells in innovative reutilization concepts such as the flexible fast charging station and then to recycle them in a climate-friendly manner.

#### PRODUCTION

The international, cross-brand production network enables the process from the supplier to the factory and assembly line, and from the factory to dealers and customers. Enduring efficiency is a prerequisite for our competitiveness. To be able to meet the challenges of the future, we rely on holistic optimizations, forward-looking innovations, flexible supply streams and structures, and an agile team. In fiscal year 2020, the global vehicle production volume was 17.8% below the previous year's level, reaching 8.9 million units. This was primarily attributable to the global spread of the SARS-CoV-2 virus and the measures taken to contain the pandemic, such as temporary closures of factories or reduced factory output, particularly in the first half of 2020, due to interruption to supply chains and logistics and closures of dealerships. Despite the continuing difficult conditions in many markets, production in the second half of 2020 stabilized at close to the previous year's level. To maintain production processes amid the pandemic conditions and protect our employees, we developed and agreed behaviors and measures as part of our Safe Production Initiative to prevent possible chains of infection between the people working in the network. These mainly include the obligation to wear face masks, adherence to behavioural rules, particularly regarding social distancing, hygiene requirements and ensuring regular ventilation, and the reorganization of shift models and breaks. We constantly review the measures taken to contain the Covid-19 pandemic and adjust them if necessary.

Productivity increased by 0.8% year-on-year.



## VEHICLE PRODUCTION LOCATIONS OF THE VOLKSWAGEN GROUP

Share of total production 2020 in percent



### “Intelligently networked” production strategy

Production is supporting the Group strategy TOGETHER 2025+ with its functional area strategy, “Intelligently Networked”. By intelligently connecting people, brands and machines, we aim to pool the strengths and potential of our global production and logistics and take advantage of the resulting synergy effects. We are guided in this by four strategic goals:

- > Versatile production network
- > Efficient production
- > Intelligent production processes
- > Future-ready production

With cross-brand initiatives we have created content clusters in which expert teams work on the strategic topics relevant for production in the Group. Examples include the competitive design of our global production network, the reduction and offsetting of environmental impact throughout the production process, and digitalization with its implications for production and working processes and for collaboration. A scenario-based strategy process has been developed in the course of the transformation phase in production and is geared to an observation period running until 2040. The overarching aim is to increase productivity and profitability. We want to ensure that our locations remain competitive by having our factories work at optimal capacity, enabling us to manufacture high-quality products that give customers maximum benefits at competitive prices.

### Global production network

The Group’s production network encompasses twelve brands and 118 production locations, including our Chinese joint ventures. Standardizing production with uniform product concepts, plants, operating equipment and production processes is a key factor in our forward-looking production. We are constantly enhancing our production concepts and aligning them with new technologies to achieve ambitious targets in the individual projects.

The flexible production capacity provided by our platforms allows us to leverage synergies, respond to market challenges, make requirements-based use of the production network and realize multibrand locations. Currently, almost half of the 47 passenger car locations are already multibrand locations. The Bratislava site continues to serve as a prime example in the Group, producing vehicles for the Volkswagen Passenger Cars, Audi, Porsche, SEAT and ŠKODA brands.

The Volkswagen Group has set itself the goal of becoming a world-leading provider of battery electric vehicles by 2025. The basis for this is the introduction of the Modular Electric Drive Toolkit (MEB), which we are using to complement our range with additional battery-electric vehicles. We have been manufacturing battery-electric vehicles based on the MEB in Zwickau, the Volkswagen Group’s first electric car factory, since 2019. One example is the ID.3 from the Volkswagen Passenger Cars brand. In 2020, the portfolio of the MEB

platform was expanded in Zwickau to include the ID.4 from Volkswagen Passenger Cars as well as at the Mlada Boleslav location with the addition of the Enyaq iV from ŠKODA.

In order to design multibrand projects and electric mobility to be cost-effective in conjunction with existing concepts, it is necessary to make production flexible and efficient. Making maximum use of potential synergy effects is also a decisive factor for the success of future vehicle projects. Using common parts and concepts as well as identical production processes enables reduced capital expenditure and provides the opportunity to better utilize existing capacities. The future will also see electric vehicle projects at multibrand locations such as Hanover.

#### Production locations

Following the sale of Renk, the Volkswagen Group's production network, including our Chinese joint ventures, is now comprised of 118 locations in which passenger cars, commercial vehicles and motorcycles, as well as powertrains and components are manufactured.

With 66 locations, Europe remains our most important production region for vehicles and components. There are 24 sites in Germany alone. The Group has 34 locations in the Asia-Pacific region, five in North America, nine in South America and four in Africa.

Despite difficult conditions due to the effects of the Covid-19 pandemic, we carried out 81 production start-ups in the reporting year: 33 for new products and successor products and 48 for product upgrades and derivatives.

#### The Group's production system

The Group's production system provides methods and tools designed to bring about continuous, sustainable workflow improvements at all Group brand and regional sites in production and production-related environments. When refining the methods, we incorporate new topics and ongoing trends, focusing, for example, on digitalization and the switch to electric mobility. Digitalization in particular is opening up new areas of application, for instance through the use of digital data and models. Furthermore, digitalization also provides the opportunity to transpose existing methods into digital formats and create new, IT-based tools. In this way, we are taking advantage of the opportunities presented by digitalization and are making increased use of digital formats and digital tools in training courses and workshops.

The people in the Group play a pivotal role in anchoring the production system. We promote a culture of appreciative cooperation, in which leadership and individual responsibility are indispensable.

#### New technologies and digitalization

3D printing is still one of the key technologies for Industry 4.0 and digitalizing the automotive value chain. These technologies, also dubbed additive manufacturing, are being used successfully at nearly all Volkswagen Group sites in the manufacture of components and also operating equipment. They open up wholly new opportunities in the areas of development, design, production and after sales. Due to the digital nature of 3D printing, which requires no tools whatsoever, components and operating equipment can be flexibly implemented directly from digital drawings, and completely new designs and component geometries can be created. Developments for large-scale automotive production applications point to considerable potential for the future. To this end, Volkswagen leverages the diversity of the Group, achieved through close collaboration between its brands, and cooperates with leading technology providers and research institutions.

Augmented reality links the virtual world with the physical one and, as a mature technology, likewise plays a key part in the digitalization of the value chain – not least in view of ongoing restrictions on contact and travel caused by the Covid-19 pandemic. In this regard, there is potential to increase efficiency and innovative capability in areas such as remote support, employee training, quality assurance and the development process. Along with the implementation of new solutions that use data glasses, tablets or projectors as an output medium, existing augmented reality applications are continuously being rolled out to other Group sites.

The basis for the digitalization of the production system is often the harnessing of production data. One focus is the use of artificial intelligence on image data, the so-called "industrial computer vision". Here, the Volkswagen Group developed its own platform for the implementation of specific projects and is rolling out applications across its brands and locations. Examples include checking that vehicle license plates are correct or detecting cracks in the press shop.

Alongside new technologies, moving the IT architecture over to a cloud-based platform solution will be the main task in the coming years on the road to digitalized manufacturing. For this, the Volkswagen Group is developing, among other things, the Industrial Cloud in collaboration with Amazon Web Services and the integration partner Siemens. The cloud-based platform with its simplified data exchange is a vital prerequisite for making innovations available rapidly across all sites. Examples include intelligent robotics, related inline measuring systems, continuous quality control loops, predictive maintenance applications or data analysis functions for analyzing and comparing cross-plant processes. The cloud-

based platform can be used to scale new applications directly to all sites and operate them centrally. The entire project will take several years to be implemented. Moreover, Volkswagen is creating its Industrial Cloud as an open platform with the goal of incorporating companies from the entire value chain in addition to its own locations. In the long term, the Volkswagen Group aims to integrate its global supply chain with over 30,000 sites of suppliers and partner companies into the cloud, creating a constantly growing, worldwide ecosystem.

In order to identify future innovations and new business models along the entire value chain, our open innovation approach enables an influx of innovative ideas and technologies from external start-ups, thus driving forward-looking innovations for our products, services and processes within the Volkswagen Group.

#### GoTOzero Impact Factory

We are planning the production of tomorrow with our functional area strategy, “Intelligently Networked”. Emissions levels and the use of resources at Volkswagen Group locations require particular attention. The goTOzero Impact Factory program is developing specific steps for more sustainable production, with a vision toward creating a factory that has no adverse environmental impact.

We have developed a checklist to help the sites determine their status on the way to becoming a “Zero-Impact Factory”. This currently comprises 140 environmental criteria and thus provides the basis for continuous reduction of energy consumption and CO<sub>2</sub> emissions, for example.

To implement such programs, a new management system will be introduced at all production sites worldwide, linking the main compliance issues with environmental management. This environmental compliance management system provides a solid foundation for compliance with all external and internal rules relating to the environment for instance in the course of production processes.

We are encouraging networking and communication between the brands worldwide in order to leverage synergies. Our environmental experts meet regularly in working groups. In addition, we provide our employees with training on the topic of environmental protection.

We record and catalog environmental measures in an IT system and make these available for a Group-wide exchange of best practices. In the reporting period, around 1,520 implemented measures in the area of environment and energy were documented in this system. They serve to improve infrastructure and production processes for passenger cars and light commercial vehicles and are incorporated into the decarbonization index (DCI), for example. These activities are beneficial from an environmental and often also from an economic perspective

as well as having a positive effect on the Group’s environmental indicators.

#### GoTOzero Impact Logistics

In the joint “goTOzero Impact Logistics” initiative, Group and brand logistics departments work together to help achieve the goals of the goTOzero environmental mission statement. Continuous optimization of the transport network and logistics processes reduces emissions – this includes the use of digitalization tools. The use of new low-emission technologies for transporting production materials and vehicles will also be continuously analyzed and accelerated.

The measures the Volkswagen Group is taking to achieve future carbon-neutral logistics include, for example, moving shipments from road to rail and almost complete avoidance of CO<sub>2</sub> through the use of green electricity in rail transport in Germany in collaboration with Deutsche Bahn AG.

Other examples of the use of the railways as a low-emission mode of transport are the delivery of battery modules to Braunschweig from the supplier in Wrocław, Poland, and the transport of battery systems from the component site in Braunschweig to the Zwickau plant in order to produce completely battery-electric vehicles.

In addition, Group Logistics is using the world’s first two roll-on/roll-off (RoRo) charter ships powered by low-pollution liquefied natural gas (LNG) for transporting vehicles across the North Atlantic.

#### SALES AND MARKETING

We regard ourselves as an innovative and sustainable mobility provider for all commercial and private customers worldwide – with a unique product portfolio encompassing twelve successful brands and innovative financial services.

Together with their sales partners and importers, our passenger car brands agreed on a procedure for integrating state-of-the-art products and services into the sales network. The priority thereby is the safe handling of customer data and the way in which this is processed for digital products and services or in connection with the vehicle purchase. The legal requirements for handling customer data have been tightened in many countries. At the same time, new Group vehicles that are permanently connected to the internet are about to be launched. We are increasingly investing in distribution systems and processes with the goal of further digitalizing and improving the individual customer experience in all distribution channels.

The Volkswagen Group’s financial strength and profitability is attributable to an extensive portfolio of strong brands. The objective of our strategic Best Brand Equity module is to continuously sharpen the brand profiles, demarcate the respective vehicle segments that are served by the brands as

clearly as possible and add to them in a targeted way as required. Our aim is to achieve high market saturation with great efficiency and a low level of brand cannibalization. Market positioning is an important element for increasing brand values. To this end, we have established automobile-specific customer segmentation to steer the positioning of our brands which we consistently apply throughout the strategy and product process.

#### Customer satisfaction and customer loyalty

The Volkswagen Group aims its sales activities at exciting its customers. This is our top priority, as satisfied customers remain loyal to our brands and recommend our products and services to others. In addition to satisfaction with our products and services, we value our customers' emotional connection to our brands. It is important for us to retain customers and win new ones. To measure our success in this area, we compile and analyze two strategic indicators for the passenger car-producing brands:

- > **Loyalty rate.** Proportion of customers of our passenger car brands who have bought another Group model. Thanks to their faithful customers, the Volkswagen Passenger Cars, Audi, ŠKODA and Porsche brands have remained in the upper loyalty rankings of the core European markets in comparison with their competitors for a number of years. Following a decrease in the loyalty rates between 2016 and 2018, these figures stabilized for the Volkswagen Passenger Cars, Audi and Porsche brands and have since risen for ŠKODA and SEAT. Compared to other manufacturer groups, the Volkswagen Group continues to hold a top spot in the core European markets in terms of loyalty.
- > **Conquest rate.** Newly acquired passenger car customers as a proportion of all potential new customers. Here, too, the Volkswagen Group has a top ranking in comparison with competitors, primarily thanks to the good scores achieved by the Volkswagen Passenger Cars brand.

In the core European markets, the figures of the Volkswagen Passenger Cars brand relating to brand image and confidence in the brand stabilized in 2020 above the level for the market as a whole. Porsche remains in top position in the image ranking.

In the financial services business, we use two strategic indicators. The two indicators are currently being revised in light of changes in customer needs and in the product range, the short- and long-term impact of the Covid-19 pandemic and the strategic alignment of financial services in the Volkswagen Group:

- > **Customer satisfaction.** A high level of customer satisfaction is one of the key objectives of our financial services activities. Our goal is to satisfy customers completely. This is the

reason why we have measured both external and internal customer satisfaction in our markets in recent years.

- > **Customer loyalty.** Trust in and loyalty to our services rely on customer satisfaction with our product range and service. For this reason we ascertained the re-entering contract rates in our markets in past years based on product sales to customers, for financing and lease agreements for repurchases of new Volkswagen Group vehicles.

#### E-mobility and digitalization in Group Sales

As part of our electrification campaign, we aim to offer our customers worldwide around 70 completely battery-electric vehicles and approximately 60 hybrid models by 2030. This campaign will be complemented by vehicle-related, customer-focused offerings, such as customized charging infrastructure solutions and mobile online services. The Volkswagen Group is thus transforming from an automotive manufacturer into a mobility service provider. This poses new challenges for sales.

We are making highly targeted use of the opportunities of digitalization in sales, which include an improved customer approach. Our actions are guided by a clearly defined strategy that requires extensive cooperation between the brands to achieve the greatest possible synergies. Our aim here is to create a completely new product experience for the customers of our brands – one which impresses with a seamless communication process, from the initial interest in purchasing a vehicle, to servicing and ultimately to the sale of the used car. In doing so, we are opening up new business models relating to every aspect of the connected vehicle – in particular with regard to mobility and other services. Vehicles are becoming an integral part of the customer's digital world of experience.

We also align our internal processes and structures to the methods and new forms of working created by digital innovation. This results to project teams operating across different business areas, new forms of cooperation, a more intensive relationship with the international start-up scene, a consolidation of venture capital expertise – as a form of supporting innovative ideas and business models – and new lean systems and cloud-based IT solutions.

#### Fleet customer business

Business relationships with fleet customers are often long-term partnerships. In a volatile environment, this customer group guarantees more stable sales of well-equipped, profitable vehicle models than the private customer segment.

The Volkswagen Group has an established base of business fleet customers, especially in Germany and the rest of Europe. Our extensive product range enables us to satisfy their individual mobility needs from a single source.

In an overall passenger car market in Germany that declined by 19.1% in the reporting year, business fleet customers accounted for 16.2 (14.8)% of total registrations. The Volkswagen Group's share of this customer segment slipped to 42.1 (44.1)%. Outside Germany, the Group's share of registrations by fleet customers in Europe was up slightly at 26.5 (25.7)%. This trend shows that fleet customers' confidence in the Group remains at a high level. We were able to consolidate our strong market position in the fleet customer business in Europe.

#### After Sales and Service

In addition to individual service, the timely provision of genuine parts is essential to assure passenger car customer satisfaction in After Sales. The genuine parts supplied by our passenger car brands and the expertise of the service centers stand for quality and ensure the safety and value retention of our customers' vehicles. With our global after sales network including more than 130 of our own warehouses, we are creating the prerequisites to supply almost all our authorized service facilities around the world within 24 hours. We regard ourselves as a complete provider of all products and services relevant to customers in the after sales business. Together with our partners, our mission is to ensure the worldwide mobility of our customers. The partner businesses offer the entire portfolio of services in all vehicle classes. We are continuously expanding our range of tailored services in order to improve convenience for our customers and increase customer satisfaction.

In the Digital After Sales project, we are modernizing processes and IT systems in After Sales. By adopting an approach that focuses product and service development on the specific needs of both dealers and customers, we aim to reduce the time needed for administrative tasks at the dealers through automated, interrelated services and also stabilize existing IT systems and boost efficiency. Innovative digital after-sales services will additionally improve the customer experience.

Around the world, our commercial vehicles business also prides itself on products of quality and on customer focus. Our range of trucks, buses and engines is complemented by services that aim to guarantee fuel efficiency, reliability and wide vehicle availability. Workshop service and service contracts are intended to offer customers a high degree of certainty, in addition to a high level of quality. We are reducing servicing times and costs with a view to the vehicles' total operating costs and helping to retain their value.

In the Power Engineering segment, we help our customers to secure the availability of machinery with MAN

PrimeServ. The global network of more than 100 PrimeServ locations stands for excellent customer focus and offers, among other things, replacement parts of genuine-part quality, qualified technical service and long-term maintenance contracts.

#### QUALITY

The quality of our products and services plays a key role in maintaining customer satisfaction. Customers are particularly satisfied and loyal when their expectations of a product or service are met or even exceeded. Appeal, reliability and service determine quality as it is perceived by the customer throughout the entire product experience. Our objective is to positively surprise our customers and inspire enthusiasm in all areas, and thus to win them over with our quality.

Digitalization was once again the beating heart of our work in the reporting year: we are sharpening our focus on software-based system development, which is a critical factor for success in respect of customer satisfaction. Consistent application of the "Automotive SPICE" process assessment model that we use to improve our processes is particularly important in our activities. It is a key building block for meeting the requirements of our customers, as well as those of the regulatory and legislative bodies.

Volkswagen has been implementing cybersecurity measures in the Group for some time now. For example, we have an independent cybersecurity network in place across all regions and Group brands and monitor potential cyber risks. This enables us to act fast when potential threats arise. The UNECE (United Nations Economic Commission for Europe) has provided for corresponding certification and homologation in the future to ensure that companies can guarantee that these aspects are dealt with properly so as to protect the users of our vehicles from potential attacks. Our Group pursues the goal of implementing standards in the areas of both accident prevention and security. We are refining the established processes within the framework of an Automotive Cyber Security Management System in keeping with the requirements of the UNECE regulation. In this context, Volkswagen is implementing comprehensive measures across departments in the Group. One of these is a Group-wide communications campaign launched for the Volkswagen Passenger Cars brand to underline the importance of this issue.

#### Strategy of Group Quality

We review our functional area strategy periodically and coordinate it with the brands. We align our activities with our goal expressed in the motto: "We embody outstanding quality and ensure reliable mobility for our customers

worldwide.” Group Quality and the brands’ quality organizations play an active role at all stages of product emergence and testing, making an important contribution to successful product launches, high customer satisfaction and low warranty and ex gratia repair costs.

The strategy of Group Quality developed in this context comprises the following four goals:

- > We excite our customers with our outstanding quality by understanding what exactly they perceive as quality and implementing this in our products.
- > We contribute to competitive products with optimal quality costs by ensuring robust processes, thereby reducing the expense involved in testing each vehicle.
- > We make our contribution to sustainability, security and integrity by embodying and designing high standards of quality in products and processes.
- > We are becoming an excellent employer by promoting the personal development of every single employee even more intensively.

To achieve our goals, we have defined a variety of work packages. All are focused on the topics that are decisive to the success of the quality organizations in the Volkswagen Group.

#### Contributing to the Group’s strategic indicators

We use a strategic indicator to measure the contribution of Group Quality at the top level of consideration for the major passenger car-producing brands.

- > Warranty and ex gratia repair payments per vehicle after 12 months in service. This indicator shows all warranty and ex gratia repair payments for the vehicles produced worldwide in each production year, expressed in euros per vehicle. All vehicles from the Volkswagen Passenger Cars, Audi, Porsche, ŠKODA, SEAT and Volkswagen Commercial Vehicles brands are included in this figure. Extraordinary items resulting from initiatives such as recalls or in connection with the diesel issue are not taken into account. While the figures for the 2017 and 2018 production years remained at a constant level, it was possible to reduce the allowances for vehicles manufactured in 2019 which are within the targeted corridor. Particularly noteworthy is the Volkswagen Commercial Vehicles brand, the figures for which improved by more than 10% year-on-year in the 2019 production year.

In 2020, the Board of Management decided to replace the “Tow-in 12 MIS” strategic indicator with this new indicator, as evaluation of global warranty and ex gratia repair payments is a more comprehensive instrument for the economic management of customer perceptions of product quality.

#### Legal and regulatory compliance

The legal and regulatory compliance of our products is paramount in our work. In our processes we employ the principle of multiple-party verification, which involves mutual support and control between the business units. Among other things, software development is accompanied by quality milestones at all brands, whereby all systems, components and parts that directly influence a vehicle’s safety, type approval and functioning and therefore require particular vigilance are safeguarded through multiple-party verification. At the series production stage, we are also ensuring that the conformity checks on our products are carried out and assessed with the participation of all business units involved. This applies particularly to checks related to emissions and fuel consumption.

We are also dedicating increased attention to our quality management system, reinforcing the interdisciplinary, process-driven approach throughout the Group. The quality management system in the Volkswagen Group is based on the ISO 9001 standard. This standard must be complied with for us to obtain type approval for the manufacture and sale of our vehicles. We conducted numerous system audits in the reporting period to verify that our sites and brands comply with the requirements of the standard. Particular focus was placed on assessing the risk of non-compliance with defined processes. Our quality management consultants pay attention to ensuring that these and other new requirements, as well as official regulations, are implemented and complied with; they are supported in this endeavor by a central office in Group Quality.

#### Observing regional requirements

Our customers in the different regions of the world have very diverse needs as far as new vehicle models are concerned. Another important task is therefore to identify and prioritize these regional factors so that they can be reflected in the development of new products and the production of established vehicle models – together with other important criteria such as the quality of locally available fuel, road conditions, traffic density, country-specific usage patterns and, last but not least, local legislation. We mainly use market studies and customer surveys to determine region-specific customer requirements.

In order to be able to ensure that the perceived quality of our vehicles is at a level commensurate with that of our competitors, we take the needs of our regional customers into account in our vehicle audits. Every brand works together with the individual regions to decide how its product is to be positioned there. In this way, we strengthen

the brands' responsibility. So that the vehicle audit returns comparable results, consistent quality benchmarks apply across all brands and regions. We are continually adapting these to changing requirements. For more than 40 years now, we have been deploying auditors around the world to assess, from the customer's perspective, the vehicles that are ready for delivery and to ensure that these vehicles comply with the benchmarks defined.

#### EMPLOYEES

The Volkswagen Group is one of the world's largest employers in the private sector. On December 31, 2020, we employed a total of 662,575 people, which includes the Chinese joint ventures. This figure represents a 1.3% decrease compared with the end of 2019. The ratio of Group employees in Germany to those abroad remained largely stable over the past year; at the end of 2020, 44.4 (44.3)% of the workforce worked in Germany.

#### Human resources strategy and principles of the human resources policy

With the functional area strategy for Human Resources – "Empower to transform" – the Group is continuing with key and successful approaches in its human resources policy. These include the pronounced stakeholder focus in corporate governance, comprehensive participation rights for employees, outstanding training opportunities, the principle of long-term service through systematic employee retention and remuneration that is fair and transparent. At the same time, the new human resources strategy is setting innovative trends. Hierarchies are being dismantled, and modern forms of working such as agile working – an approach whereby most of the responsibility for the work organization is transferred to the teams – are set to be expanded.

In the Human Resources division, we are guided within the framework of our strategy by five overarching objectives:

- > The Volkswagen Group, including all of its brands and companies, aims to be an excellent employer worldwide.
- > Highly competent and dedicated employees strive for excellence in terms of innovation, added value and customer focus.
- > A forward-looking work organization ensures optimal working conditions in factories and offices.
- > An exemplary corporate culture creates an open work environment that is characterized by mutual trust and collaboration.
- > The Company's human resources work is highly employee-oriented, strives for operational excellence, and yields strategic value-added contributions.

During the implementation of our future program TOGETHER 2025<sup>†</sup>, we paid particular attention in the reporting period to the level of achievement regarding the goals set by the applicable strategic KPIs. For the passenger car-producing brands, we compile and analyze the following information:

#### EMPLOYEES BY MARKET

in percent, as of December 31, 2020



- > Internal employer attractiveness. This indicator is determined by asking respondents, as part of the opinion survey, whether they perceive the respective company as an attractive employer. The target for 2025 is 89.1 out of a possible total of 100 index points. A score of 88.2 index points was achieved in the reporting period, contrasting with 85.6 points in the previous year. The scope of this survey extends beyond the brands that manufacture passenger cars.
- > External employer attractiveness. The ability to recruit top talent is of decisive importance, particularly in view of the Company's transformation into one of the world's leading providers of sustainable mobility solutions and the associated development of new business fields. We use this strategic indicator once a year to check the positioning of the major passenger car-producing brands on the labor markets for graduates. Rankings in surveys conducted by renowned institutions, in which we aim to achieve top scores for the Group brands featured, serve as the basis for this. The Porsche and ŠKODA brands fully met and partly exceeded their targets in fiscal year 2020, while Volkswagen Passenger Cars, Volkswagen Commercial Vehicles, SEAT and Audi missed or only partially achieved them.
- > Diversity index. Given the cultural diversity in our global markets and the growing economic momentum, success in a highly competitive marketplace requires an ever-wider range of experience, world views, solutions to problems and product ideas. The diversity of our workforce provides potential for innovation in this area, which we aim to make even better use of in future. As we establish diversity management across the Group, this strategic indicator expresses the development of the proportion of women in management and the internationalization of top management as a percentage of the active workforce worldwide. In particular, it underpins the objective of the human resources strategy, which is aimed at contributing to an

exemplary leadership and corporate culture. The proportion of women in management amounted to 15.3% in 2020 and was one percentage point up on the prior-year level. We aim to raise this figure to 20.2% by 2025. Our goal is to increase the level of internationalization in top management, the uppermost of our three management tiers, to 25.0% in 2025; in the past fiscal year this was 18.7 (18.4)%.

One strategic indicator has been defined for the financial services business:

- > External employer ranking. This involves taking part in external benchmarking, in general once every two years. The aim is to position ourselves as an attractive employer and derive appropriate measures to achieve a ranking among the top-20 employers by 2025, not just in Europe, but globally. Volkswagen Financial Services AG was represented in various national and international best-employer rankings the last time it participated in 2019. Coming in 11th place, it was among the top European employers in the “Great Place to Work” employer competition.

The implementation of our Group strategy TOGETHER 2025+ has been accompanied by a work package that we defined with the Excellent Leadership module under the slogan “Accelerate the transformation” to drive the change towards an open, cooperative, diverse management culture that places emphasis on acting with integrity. Communication and collaboration will be improved across the brands and regions, open, partnership-based and value-based leadership will be intensified, management development and training will undergo fundamental change, and an even more systematic approach to succession planning will be taken so that the Group has the right people available for the right positions. In 2020, we overhauled our staff development system in line with our business requirements and introduced scouting day management, a new selection procedure that will enable us to identify suitable talent for selected functions in specialist or executive management objectively, accurately and promptly. Individual responsibility, transparency and greater practical relevance already characterize the career paths leading to management; the evaluation of talented candidates addresses employees from different levels of the hierarchy.

To master the challenges of the transformation, the Group and the employee representatives have signed agreements for the future that will position the Group’s individual brands more efficiently and also structure employee career prospects. The Volkswagen Passenger Cars brand’s roadmap for digital transformation is one example, as is the Audi brand’s Audi.Zukunft agreement, both of which were refined in fiscal year 2020.

We are also driving large-scale cultural change to achieve greater openness and transparency in line with our corporate strategy. The seven Volkswagen Group Essentials define the shared underlying values and the foundation for cultural change across all of the brands and companies:

- > We take on responsibility for the environment and society.
- > We are honest and speak up when something is wrong.
- > We break new ground.
- > We live diversity.
- > We are proud of the work we do.
- > We not me.
- > We keep our word.

Group-wide activities such as team dialog and the role model program encourage employees to analyze the Group Essentials and incorporate them into all work processes. In the role model program, managers from all brands improve the corporate culture together with their staff.

#### Training and professional development

At Volkswagen, our capacity for innovation and our competitive position largely depends on the commitment and knowledge of our employees, particularly during the transformation.

Staff training at Volkswagen is organized according to vocational groups. These comprise all employees whose tasks are based on similar technical skills and who require related expertise in order to perform their jobs. A skills profile lays down the specialist and interdisciplinary skills for each job and serves as a guide for training measures.

Volkswagen Group employees have access to a wide range of training measures – from further training in general Company-related issues to specific training or personal development programs. Thanks to these opportunities, Volkswagen employees are able to further develop and steadily deepen their knowledge throughout their working lives. In this process, they are also able to learn from more experienced colleagues, who pass on their knowledge as experts in the vocational group academies. Training measures are based on the dual training principle, which combines theoretical content with practical experience on the job by means of specific tasks.

The range of learning opportunities is being expanded continuously. Since 2019, the Volkswagen Group Academy has forged partnerships with renowned external training portals to expand online learning, for example on IT topics. The Company has set aside additional funds for the transformation of personnel skills made necessary by digitalization. These resources are used for special training for the groups of employees and departments affected by the transformation. In addition, Volkswagen is striking out in new directions with the Faculty 73 program and is providing in-house training for the software developers who are needed



for the digital transformation. The academic year started in 2020 with 100 participants. The program is designed for employees and also external applicants with IT affinity and an interest in software development.

#### Vocational training and cooperative education

The core component of training at Volkswagen is vocational training or, for young people eligible to enter university, cooperative education (dual study programs combining university studies with on-the-job training). As of the end of 2020, the Volkswagen Group trained 17,939 young people. We have introduced the principle of dual vocational training at many of the Group's international locations over the past few years and are continuously working on improvements. Once a year, Volkswagen honors its highest-achieving vocational trainees in the Group with the Best Apprentice Award.

Even after their vocational training has been completed, young people at the start of their careers are encouraged to continue their professional development in our Company. At Volkswagen AG, for example, we developed the AGEBI+ program, which promotes fully qualified vocational trainees who are eligible for university and wish to combine a degree program in subjects that are relevant to Volkswagen's future – such as electrical engineering, chemistry or computer science – with closely related practical experience.

#### Development of university graduates

Volkswagen offers two structured entry and development programs for university graduates and young professionals. In the StartUp Direct trainee program, graduate trainees gain an overview of the Company over two years while working in their own department and also take part in supplementary training measures. University graduates interested in working internationally can participate in the 18-month StartUp Cross program. The aim here is to get to know the Company in all its diversity and to build up a broad network. During their participation in the program, young professionals become familiarized with several locations in Germany and other countries by working in various departments. Both programs also include several weeks' experience working in production. In 2020, Volkswagen AG hired a total of 151 graduate trainees as part of these programs, 32.5% of whom were women.

Young people can also take part in graduate trainee programs at the other Group companies as well as at the Group's international locations, such as ŠKODA in the Czech Republic, SEAT in Spain or Scania in Sweden.

#### Increasing attractiveness as an employer and development programs for specific target groups

A human resources policy that promotes a work-life balance is a major component of Volkswagen's attractiveness as an employer; in particular, it contributes to greater gender

#### PROPORTION OF WOMEN

as of December 31

%	2020	2019
Employees	17.0	16.8
Vocational trainees <sup>1</sup>	20.5	21.4
Graduate recruits <sup>2</sup>	32.5	31.7
Total management	15.1	14.2
Management	17.3	16.2
Senior management	11.6	10.8
Top management	7.0	6.8

1 Excluding Scania.

2 Volkswagen AG

equality. We are working continuously to develop family-friendly working time models and to increase the number of women in management positions. In line with the Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern in Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst (German Act on the Equal Participation of Women and Men in Leadership Positions in Private and Public Sectors), Volkswagen AG is aiming to have a 13.0% share of women at the first management level and 16.9% at the second management level by the end of 2021. As of December 31, 2020, the proportion of women in the active workforce at the first level of management was 10.9 (11.4)% and at the second level of management it was 16.7 (16.4)%.

In order to encourage women with great potential to advance within the Company, we have set targets relating to the development of the proportion of women in management for every Board of Management business area at Volkswagen AG. This approach is supported by many different measures ranging from cross-brand mentoring programs to a quota system for the management selection procedure and targets for the share of women among external hires.

In recent years, a large number of company regulations have also come into effect in the Group to make it easier for employees to balance the demands of work and home life and allow staff to arrange their own individual working model. These include flexible working hours, variable part-time work and shift models, leave of absence programs enabling employees to care for family members, the possibility to convert salary components into paid leave, childcare services that are associated with the company or are company-owned, and remote working.

At Volkswagen AG, which first entered into its works agreement for remote working back in 2016, around 40 thousand employees were making use of a more flexible working arrangement as of the end of the 2020 fiscal year.

**AGE STRUCTURE IN YEARS OF VOLKSWAGEN GROUP EMPLOYEES**  
*as of December 31, 2020; in percent*



The Covid-19 pandemic brought fundamental changes to the way we work and collaborate with one another. As in other companies, at Volkswagen the pandemic acted primarily as a catalyst for the breakthrough of digitalization in knowledge work: virtual communication and collaboration, and new formats of knowledge transfer and training, for example through podcasts or online tutorials, were set up and expanded at short notice. In addition, digital tools enabled us to remain operational throughout the measures introduced to contain the pandemic, such as business closures.

**Preventive healthcare and occupational safety**

Preventive healthcare and occupational safety are key elements of human resources policy in the Volkswagen Group. In fiscal year 2019, we underpinned this by drawing up a corresponding Group Policy. This defines basic requirements and objectives relating to occupational health and safety, laying down rules for the organization thereof as well as the responsibilities of the Group, brands and companies.

In addition to fulfilling statutory requirements, Volkswagen’s Health department places strong emphasis on preventive approaches with regard to health, fitness and performance. Employees are given the opportunity to have regular check-ups followed by a talk in which they receive offers that draw on recent scientific findings for improving their individual health. In fiscal year 2020, our Health department faced unique challenges due to the spread of the Covid-19 pandemic and the measures that needed to be put in place. Our top priority was to safeguard production in the Group without putting the protection and health of our employees in jeopardy. To this end, we developed and implemented a variety of actions such as hygiene measures, setting up dedicated test centers at Volkswagen locations and providing input and guidance from the Health department on the Safe Production Initiative, which supports safe and healthy manufacturing under pandemic conditions.

**Employee participation**

Codetermination and employee participation are important pillars of our human resources strategy. Volkswagen aims to promote high levels of expertise and a strong sense of team spirit. This includes employees’ opinions, assessments and criticism being heard.

We brief our employees extensively on upcoming changes so as to involve them in strategic decision-making as early as possible. When shaping labor relations to embody cooperation and social peace, we are guided by universal human rights and the standards of the International Labour Organization (ILO). Building on these principles, we have agreed various charters and declarations with the European and the Global Works Councils which set out the principles of labor policy in the Volkswagen Group as well as employee rights.

By means of the opinion survey, an employee poll conducted at 172 companies belonging to the Group, the Company not only regularly gathers information regarding employee satisfaction, but also inquires about the manifestation of our corporate culture and the manner in which, for example, compliance requirements are implemented. Based on the results, follow-up processes are implemented in which measures are developed and executed. Over 540 thousand employees in 38 countries were invited to take part in the 2020 survey. The participation rate was 81%. The average result from all of the answers provided for the questions in the opinion survey – the sentiment rating – is an important parameter of the survey; in 2020 it stood at 82.2 out of a possible total of 100 index points. The score achieved in 2020 was thus higher than the previous year’s figure, which amounted to 80.0 points.

In addition, we also encourage employee involvement by means of Idea Management. Employees have the opportunity to put their creativity and knowledge to use in the form of ideas for improvements, thus contributing to streamlining workflows, further enhancing ergonomics in the workplace, reducing costs and continuously increasing efficiency. The system also provides monetary incentives by offering set rewards.

Employee participation in the Company’s success through the issuance of treasury shares in the form of an employee share program is not currently offered.

**INFORMATION TECHNOLOGY (IT)**

Volkswagen is working hard on strengthening its digital competencies with a view to shaping and safeguarding the Company’s future viability. To this end we are continuously upgrading our IT systems so that they are sustainable in the long term and are progressively moving our systems and applications over to new cloud platforms. Our primary concern is further increasing the efficiency of the IT systems used throughout the Company and standardizing these as far

as possible. We are also concentrating on building up our expertise and specialist IT knowledge, especially in key digital technologies such as artificial intelligence and the use of new IT technologies in products, services and business processes.

To safeguard the development of core competencies in our Company in the fields of technology, digitalization and autonomous driving, we are building up IT resources that will help shape and push the Company's digital transformation.

Due to the global spread of the Covid-19 pandemic, we have taken measures to protect the workforce, such as an increased use of remote working. In this context, safeguarding access to the IT infrastructure in all brands and companies was a major priority in fiscal year 2020. Usage figures for VPN (virtual private network) access and digital collaboration applications soared compared with the previous year. IT system availability improved once again year-on-year.

The Group IT Steering Committee was formed in 2019 to leverage synergies, to manage the Group's IT project portfolio and promote communication with departments on IT projects. Planning and managing the IT project portfolio at Group level make sure that budgets and resources are employed in a coordinated fashion in the development, implementation and use of IT solutions. In fiscal year 2020, the Group IT Steering Committee prioritized the IT project portfolio with all brands so as to take account of the Group's situation during the Covid-19 pandemic.

Volkswagen embraces digitalization in the Company; its in-house IT labs are just one example of this. The labs act as centers of innovation and expertise that conduct research, experiment with new technologies and make these available for productive use in applications for the organization. Here, Group IT, research institutes, technology partners and policy-makers work closely together on future trends in information technology. At the same time, the labs function as liaison offices for start-ups. This allows the experience and strategic expertise of a large company like Volkswagen to be combined with the pragmatism and speed of young start-ups. Highly specialized experts at the IT labs in Munich, and increasingly also in Wolfsburg, are working, for example, on exploiting the potential of quantum computers for areas that have a commercial application. The focus here is on the optimization of traffic flows and the simulation of materials and alloys. Initial experimental projects are also investigating opportunities for combining the potential of quantum computers with self-learning systems (quantum machine learning).

In addition, the IT labs are used to transfer knowledge throughout the entire Company on topics such as data analytics (process for the systematic analysis of data in electronic form) and decentralized databases, that allow network participants to jointly process and store data (distributed ledger technologies), and to make new technologies usable for the Company. For instance, numerous bot projects are being implemented to automate business processes (robotic process automation), and self-learning systems will be used to intelligently analyze data to assist staff in recurring administrative work by preparing such activities independently and passing them on to staff for decision-making.

The further convergence of different business areas with IT is also opening up potential. In production, for example, big data processes help us to analyze faulty machinery and take action at an early stage. Big data refers to data volumes that are too vast and too complex to be analyzed and evaluated using manual or conventional methods. Production processes are also safeguarded by artificial intelligence and camera systems (computer vision). The systems and equipment in the factories are linked together in an integrated overall system, enabling efficiency to be increased and digital pilot projects to be integrated into the existing architecture much more easily than before. In conjunction with the different departments, Group IT is also contributing its expertise to the field of research and development. For instance, digitalized work tools such as the "virtual concept vehicle" make the product development process faster and more efficient. Value creation in sales is being increased with the help of advanced analytics (a process for systematic analysis of future events and behavior), for example in optimizing the use of parking lots and vehicle collection processes.

The IT department engages in extensive activities to give Volkswagen's employees access to digital media and work tools. The provision of state-of-the-art IT applications for digital collaboration and the expansion of options for conducting business on mobile devices are designed to improve productivity in the long term. The Company's internal network, Group Connect, promotes knowledge transfer and networking among all employees. The platform puts experts in touch with one another across the brands and the world.

In software development centers we develop cross-brand software for digital ecosystems and for new business

processes in the Group. We thereby maintain in-house expertise in the rapid, demand-oriented development of software and IT solutions. This capability will become increasingly important as the Company's digital transformation evolves.

Cutting-edge technologies for the industrial Internet of Things are being developed at the software development center in Dresden. In collaboration with a leading cloud provider, Amazon Web Services, we are working on a digital production platform that will enable Volkswagen to significantly reduce its production costs in the future.

Safeguarding data and information throughout the Volkswagen Group worldwide is one of the main tasks of IT and is being continued with the Group Information Security Program launched in fiscal year 2020. The objective of the program is to create uniform processes and solutions across the Group to further enhance information security in the areas of cloud security and secure software development. The main focus is on topics that could one day pose information security risks for the Group. The program's content and orientation will be reviewed annually and updated if necessary.

CAR2X technology offers our customers protection by warning them, for example, about traffic hazards. CAR2X technology enables direct wireless communication among the vehicles themselves and with the transport infrastructure. This TÜV IT-certified technology, implemented in accordance with European standards, represents a technical milestone in our CAR2X program.

We are one of the first vehicle manufacturers to require our suppliers to have passed TISAX (Trusted Information Security Assessment Exchange) certification. This sends out a strong signal about cross-company information and data security. TISAX certification is an assessment method developed by the German Association of the Automotive Industry and is based on the new international industry standard and the requirements of the automotive world. The aim is for sensitive data and information to be dealt with securely by our suppliers.

The tasks of automotive cybersecurity are to avert cyber attacks on our vehicles throughout the entire product life cycle and in the supply chains and to protect our customers' personal data in our vehicles. The first Group policies in the Volkswagen Group based on the legal requirements of the UNECE regulation have been implemented. Cross-brand organizational guidelines are being specified and implemented on this basis, taking the organizational circumstances into account.

Our "Protected Customer" program addresses the requirements of the UNECE regulation. To enable us to protect our customers against cyber attacks, and to implement our

solutions in conformity with national and international legislation, we are establishing integrated, cross-brand, cross-regional security management systems for information and cybersecurity. One of the aims of this program, which is set to run until 2021, is to safeguard the complete life cycle of our vehicles and the digital mobility services.

Key central information security processes have been audited within the international ISO 27001 framework and were recertified in 2020. This is the most important standard for information security and extends beyond IT to also cover issues such as human resource security, compliance, physical security and legal requirements.

In fiscal year 2020, we continued the activities of our Group program for systematic implementation of the European General Data Protection Regulation (GDPR) and developed Group-wide standards for GDPR compliance. This gave rise to uniform processes, procedures and systemic solutions, as well as a Group-wide GDPR dialogue. In addition, knowledge relating to data protection was continuously built up through extensive training and qualification measures. Whenever new IT solutions are developed, requirements based on the Privacy by Design principle are taken into account from the outset. The basic requirements of the GDPR, transparency in processing and the minimization of personal data, remain essential goals in all existing and future processes. To facilitate long-term compliance with the GDPR, the development of the data protection management organization that began in 2019 was steadily continued and implemented in regular operations.

#### ENVIRONMENTAL STRATEGY

As one of the largest automobile manufacturers, Volkswagen takes responsibility for the environmental impact of its activities. Based on the TOGETHER 2025+ Group strategy, we have set ourselves ambitious environmental targets. With the environmental mission statement goTOzero, we aspire to minimize environmental impact along the entire life cycle – from raw material extraction until end-of-life – for all our products and mobility solutions in order to keep ecosystems intact and to exert a positive influence on society. Compliance with environmental regulations, standards and voluntary commitments is a basic prerequisite of our actions. Our focus is on four prioritized action areas:

> Climate change. We are committed to the 2°C target of the Paris Climate Agreement. By 2025, we plan to reduce the greenhouse gas emissions of our passenger cars and light commercial vehicles by 30% over the total life cycle compared with 2015. We use the decarbonization index to document our progress. We intend to become a net-carbon-neutral company by 2050.

- > Resources. We intend to reduce production-related environmental impact, maximize our resource efficiency and promote circular economy approaches in the areas of materials, energy and water.
- > Air quality. We are driving e-mobility forward with the intention of improving the local air quality. Our target is a share of battery electric vehicles in our model portfolio of around 20% by 2025.
- > Environmental compliance. Where integrity is concerned, we aim to become a role model for a modern, transparent and successful enterprise by covering the environmental impact of our mobility solutions over all life cycle stages. To this end, we use effective management systems, the effectiveness of which is monitored regularly.

With our future program TOGETHER 2025+, we have defined a strategic indicator:

- > Decarbonization index (DKI). The DKI measures the emissions of CO<sub>2</sub> and CO<sub>2</sub> equivalents (jointly referred to as CO<sub>2</sub>e) by the major passenger car- and light commercial vehicle-producing brands in the regions of Europe (EU27, United Kingdom, Norway and Iceland), China and the USA over the entire life cycle. In this index, the use phase is calculated over 200,000 km and with reference to region-specific fleet values without statutory flexibilities. The CO<sub>2</sub>e intensity of the charging current of the electric vehicles is also calculated based on region-specific electricity mixes. Our vehicle life cycle assessments, which are used as the data basis for calculating supply chain and recycling emissions, have been verified externally and independently in accordance with ISO 14040. In the DKI, we have a meaningful measuring instrument that makes our progress and interim results public and verifiable. The DKI calculation methodology is adapted according to internal and external requirements such as new test cycles for fleet emissions. Published DKI values can therefore also be adjusted to the new methodology and thus changed to facilitate the presentation of a time series that is methodologically consistent. By 2025, the DKI is to be reduced by 30% compared with the base year 2015. In the reporting year, the DKI value averaged 43.0 t CO<sub>2</sub>e/vehicle. Compared with the value calculated for 2019, this represents an increase of 0.2 t CO<sub>2</sub>e/vehicle.

We once again markedly enhanced and expanded our climate protection targets in the reporting year. The Volkswagen Group aims to reduce the CO<sub>2</sub> emissions of its vehicles by 30% in the production and use phase between 2018 and 2030. The independent Science Based Targets Initiative confirmed to the Volkswagen Group that due to its climate targets, the Company fulfills the conditions for limiting global warming to “significantly below 2 degrees Celsius.”

#### Organization of environmental protection

Volkswagen has created an environmental policy that sets out guidelines for environmental decision-making, for the management of projects and for the Group’s environmental stewardship. Thus, parameters are set for the conduct and working methods of management and staff in five areas: management behavior, compliance, environmental protection, collaboration with stakeholders and continuous improvement.

The Board of Management of Volkswagen AG is the highest internal decision-making body for environmental issues. Both it and the brands’ boards of management take business, social and environmental criteria into account when making key company decisions. The Group-wide management of environmental protection is the responsibility of the Group Steering Committee for the Environment and Energy. Other bodies take responsibility for steering key individual aspects. They include the Group CO<sub>2</sub> Steering Committee, the Group Steering Committee for Fleet Compliance and Exhaust Gas, and the Group Sustainability Steering Committee.

The Volkswagen Group coordinates the activities of the brands, which in turn steer the measures in the regions. The brands and companies are responsible for their own environmental organization. They base their own environmental protection activities on the targets, guidelines and principles that apply throughout the Group.

Our declared aim is to comply with legal and regulatory requirements. Furthermore, we are guided by company standards and targets. The intention of our environmental compliance management systems is to ensure that environmental aspects and obligations are taken into account in our business operations. Disregard for the rules is treated as a severe compliance violation, as are fraud and misconduct. Compliance with our Environmental Policy Statement and with other Group environmental requirements is evaluated annually and reported to the Board of Management of Volkswagen AG, the respective boards of management of the brands or the managing directors of the companies.

**SEPARATE NONFINANCIAL GROUP REPORT**

The combined separate nonfinancial report of Volkswagen AG and the Volkswagen Group in accordance with sections 289b and 315b Handelsgesetzbuch (HGB – German Commercial Code) for fiscal year 2020 will be available on the website [https://www.volkswagenag.com/presence/nachhaltigkeit/documents/sustainability-report/2020/Nichtfinanzieller\\_Bericht\\_2020\\_d.pdf](https://www.volkswagenag.com/presence/nachhaltigkeit/documents/sustainability-report/2020/Nichtfinanzieller_Bericht_2020_d.pdf) in German and at [https://www.volkswagenag.com/presence/nachhaltigkeit/documents/sustainability-report/2020/Nonfinancial\\_Report\\_2020\\_e.pdf](https://www.volkswagenag.com/presence/nachhaltigkeit/documents/sustainability-report/2020/Nonfinancial_Report_2020_e.pdf) in English by no later than April 30, 2021.

**REPORT ON POST-BALANCE SHEET DATE EVENTS**

For more information on the agreement covering the key points of a comprehensive realignment of MAN Truck & Bus SE, please refer to the details provided in “Events after the balance sheet date” of the notes to the consolidated financial statements.