

Report on Risks and Opportunities

(CONTAINS THE REPORT IN ACCORDANCE WITH SECTION 289(4) OF THE HGB)

Promptly identifying the risks and opportunities arising from our operating activities and taking a forward-looking approach to managing them is crucial to our Company's long-term success. A comprehensive risk management and an internal control system help the Volkswagen Group deal with risks in a responsible manner.

In this section, we first explain the objective and structure of the Volkswagen Group's risk management system (RMS) and internal control system (ICS) and describe these systems with regard to the financial reporting process. We then outline the main risks and opportunities arising in our business activities.

OBJECTIVE OF THE RISK MANAGEMENT SYSTEM AND INTERNAL CONTROL SYSTEM AT VOLKSWAGEN

Only by promptly identifying, accurately assessing and effectively and efficiently managing the risks and opportunities arising from our business activities can we ensure the Volkswagen Group's long-term success. The aim of the RMS/ICS is to identify potential risks at an early stage so that suitable countermeasures can be taken to avert the threat of loss to the Company, and any risks that might jeopardize its continued existence can be ruled out.

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

STRUCTURE OF THE RISK MANAGEMENT SYSTEM AND INTERNAL CONTROL SYSTEM AT VOLKSWAGEN

The organizational design of the Volkswagen Group's RMS/ICS is based on the internationally recognized COSO framework for enterprise risk management (COSO: Committee of Sponsoring Organizations of the Treadway Commission). Structuring the RMS/ICS in accordance with the COSO framework for enterprise risk management ensures that potential risk

THE THREE LINES OF DEFENSE MODEL



areas are covered in full. Uniform Group principles are used as the basis for managing risks in a standardized manner. Opportunities are not recorded.

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

The minimum requirements for the RMS/ICS, including the concept of the three lines of defense, are set out in guidelines for the entire Group.

The RMS/ICS was further developed in the past fiscal year. A new risk management IT system, Risk Radar, was introduced in almost all brands. In this way, we have increased

process and data security and reduced our manual workload through automated workflows and end-to-end system support for the analysis of data. At the same time, risk awareness in the Company is further intensified, risk transparency is improved and risks can be analyzed with end-to-end system support. The ICS has been standardized for risky business processes in significant companies. We will continue to develop our RMS/ICS in the future.

First line of defense: operational risk management

The primary line of defense comprises the operational risk management and internal control systems at the individual Group companies and business units. The RMS/ICS is an integral part of the Volkswagen Group’s structure and workflows. Events that may give rise to risk are identified and assessed locally in the divisions and at the investees. Countermeasures are introduced immediately, the remaining potential impacts assessed, and the information incorporated into the planning in a timely manner. Material risks are reported to the relevant committees on an ad hoc basis. The results of the operational risk management process are incorporated into budget planning and financial control on an ongoing basis. The targets agreed in the budget planning rounds are continually reviewed in revolving planning updates. At the same time, the results of risk mitigation measures are incorporated in a timely manner into the monthly forecasts regarding further business development. This means that the Board of Management also has access to an overall picture of the current risk situation via the documented reporting channels during the year.

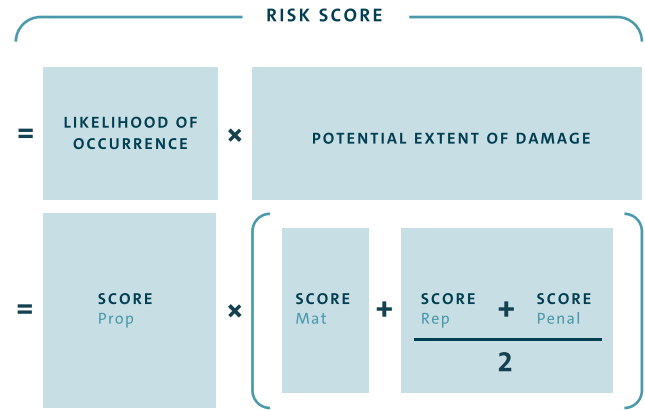
The risk management and internal control system in operation also includes compliance with the so called Golden Rules in the areas of control unit software development, emission classification and escalation management. These rules are the minimum requirements in the organization, processes and tools & systems categories.

Second line of defense: identifying and reporting systemic and acute risks using Group-wide processes

In addition to the ongoing operational risk management, the Group Risk Management department sends standardized surveys each year on the risk situation and the effectiveness of the RMS/ICS to the significant Group companies and units worldwide (regular Governance, Risk & Compliance (GRC) process).

As part of this process, each systemic risk inherent to the process or inherent to the business that is reported is recorded and assessed in our RICORS IT system. The risk assessment is made by multiplying the criterion of likelihood of occurrence (Prop) with the potential extent of the damage. The extent of the damage is calculated from the criteria of

CALCULATION OF RISK SCORE



financial loss (Mat) and reputational damage (Rep) and criminal relevance (Penal). A score between 0 and 10 is assigned to each of these criteria. The measures taken to manage and control risk are taken into account in the risk assessment (net perspective). The result is a risk score that expresses the risk.

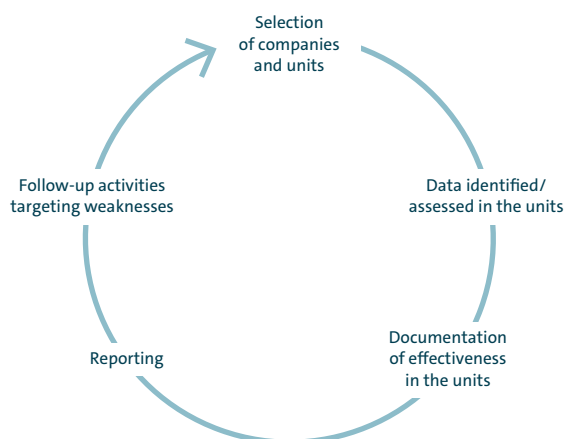
The score for a likelihood of occurrence of more than 50% in the analysis period is classified as high; for a medium classification the likelihood of occurrence is at least 25%. For the criterion of financial loss, the score rises with an increasing scale; the highest score of 10 is reached upwards of €1 billion. The criterion of reputational damage can have characteristics ranging from local erosion of confidence and loss of trust at local level to loss of reputation at regional or international level. Criminal relevance is classified based on the influence on the local company, the brand or the Group.

In addition to strategic, operational and reporting risks, risks arising from potential compliance violations are also integrated into this process. Moreover, the effectiveness of key risk management and control measures is tested and any weaknesses identified in the process are reported and rectified.

All Group companies and units selected from among the entities in the consolidated Group on the basis of materiality and risk criteria were subject to the regular GRC process in fiscal year 2019.

Quarterly risk reports are produced in addition to the annual risk assessment. These depict the Volkswagen Group’s acute – short to medium-term – risk situation. The assessment of risks from this quarterly risk process (QRP) is conducted in the Risk Radar IT system similarly to that of the annual regular GRC process. All Group brands as well as

ANNUAL STANDARD GOVERNANCE, RISK AND COMPLIANCE PROCESS



Porsche Holding Salzburg, Volkswagen Financial Services AG and Volkswagen Bank GmbH are included in the QRP.

In addition, significant changes to the risk situation that can arise in the short term, for instance from unexpected external events – such as the current spread of the coronavirus – are reported to the Board of Management as required. This is necessary if, among other things, the risk may lead to damages of over €1 billion.

Based on the feedback from the annual standard GRC process and quarterly risk surveys, the overall picture of the potential risk situation is updated and the system's effectiveness assessed.

A separate Group Board of Management Committee for Risk Management examines the key aspects of the RMS/ICS every quarter. Its tasks are as follows:

- > to further increase transparency in relation to significant risks to the Group and their management,
- > to explain specific issues where these constitute a significant risk to the Group,
- > to make recommendations on the further development of the RMS/ICS,
- > to support the open approach to dealing with risks and promote an open risk culture.

Risk reporting to the committees of Volkswagen AG depends on materiality thresholds. Systemic risks from a risk score of 20 and acute risks from a risk score of 40 or potential financial damages of €1 billion or more are regularly presented to the Board of Management and the Audit Committee of the Supervisory Board of Volkswagen AG.

Third line of defense: Review by Group Internal Audit

Group Internal Audit helps the Board of Management to monitor the various divisions and corporate units within the Group. It regularly checks the risk early warning system and the structure and implementation of the RMS/ICS and the compliance management system (CMS) as part of its independent audit procedures.

RISK EARLY WARNING SYSTEM IN LINE WITH THE KONTRAG

The Company's risk situation is ascertained, assessed and documented in accordance with the requirements of the Gesetz zur Kontrolle und Transparenz im Unternehmensbereich (KonTraG – German Act on Control and Transparency in Business). The requirements for a risk early warning system are met by means of the RMS/ICS elements described above (first and second lines of defense). Independently of this, the external auditors check both the processes and procedures implemented in this respect and the adequacy of the documentation on an annual basis. The plausibility and adequacy of the risk reports are examined on a random basis in detailed interviews with the divisions and companies concerned together with the external auditors. The latter assessed our risk early warning system based on this volume of data and ascertained that the risks identified were presented and communicated accurately. The risk early warning system meets the requirements of the KonTraG.

In addition, scheduled examinations as part of the audit of the annual financial statements are conducted at companies in the Financial Services Division. As a credit institution, Volkswagen Bank GmbH, including its subsidiaries, is subject to supervision by the European Central Bank, while Volkswagen Leasing GmbH as a financial services institution and Volkswagen Versicherung AG as an insurance company are subject to supervision by the relevant division of the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin – the German Federal Financial Supervisory Authority). As part of the scheduled supervisory process and unscheduled audits, the competent supervisory authority assesses whether the requirements, strategies, processes and mechanisms ensure solid risk management and solid risk cover. Furthermore, the Prüfungsverband deutscher Banken (Auditing Association of German Banks) audits Volkswagen Bank GmbH from time to time.

Volkswagen Financial Services AG operates a risk early warning and management system. This system ensures that the locally applicable regulatory requirements are adhered to and at the same time enables appropriate and effective risk management at Group level. Important components of it are regularly reviewed as part of the audit of the annual financial statements.

Monitoring the effectiveness of the risk management system and the internal control system

To ensure the effectiveness of the RMS/ICS, we regularly optimize it as part of our continuous monitoring and improvement processes. In the process, we give equal consideration to both internal and external requirements. On a case-by-case basis, external experts assist in the continuous enhancement of our RMS/ICS. The results culminate in both regular and event-driven reporting to the Board of Management and Supervisory Board of Volkswagen AG.

THE RISK MANAGEMENT AND INTEGRATED INTERNAL CONTROL SYSTEM IN THE CONTEXT OF THE FINANCIAL REPORTING PROCESS

The accounting-related part of the RMS/ICS that is relevant for the financial statements of Volkswagen AG and the Volkswagen Group as well as its subsidiaries comprises measures intended to ensure that the information required for the preparation of the financial statements of Volkswagen AG, the consolidated financial statements and the combined management report of the Volkswagen Group and Volkswagen AG is complete, accurate and transmitted in a timely manner. These measures are designed to minimize the risk of material misstatement in the accounts and in the external reporting.

Main features of the risk management and integrated internal control system in the context of the financial reporting process

The Volkswagen Group's accounting is essentially organized along decentralized lines. For the most part, accounting duties are performed by the consolidated companies themselves or entrusted to the Group's shared service centers. In principle, the audited financial statements of Volkswagen AG and its subsidiaries prepared in accordance with IFRSs and the Volkswagen IFRS Accounting Manual are transmitted to the Group in encrypted form. A standard market product is used for encryption.

The Volkswagen IFRS Accounting Manual, which has been prepared in line with external expert opinions in certain cases, ensures the application and assessment of uniform accounting policies based on the requirements applicable to the parent. In particular, it includes more detailed guidance on the application of legal requirements and industry-specific issues. Components of the reporting packages that are required to be prepared by the Group companies are also set out in detail there, and requirements have been established for the presentation and settlement of intragroup transactions and the balance reconciliation process that builds on this.

Control activities at Group level include analyzing and, if necessary, adjusting the data reported in the financial statements presented by the subsidiaries, taking into account the reports submitted by the auditors and the outcome of the meetings on the financial statements with representatives of the individual companies. These discussions address both the plausibility of the single-entity financial statements and specific significant issues at the subsidiaries. Alongside plausibility checks, other control mechanisms applied during the preparation of the single-entity and consolidated financial statements of Volkswagen AG include the clear delineation of areas of responsibility and the application of the dual control principle.

The combined management report of the Volkswagen Group and Volkswagen AG is prepared – in accordance with the applicable requirements and regulations – centrally but with the involvement of and in consultation with the Group units and companies.

In addition, the accounting-related internal control system is independently reviewed by Group Internal Audit in Germany and abroad.

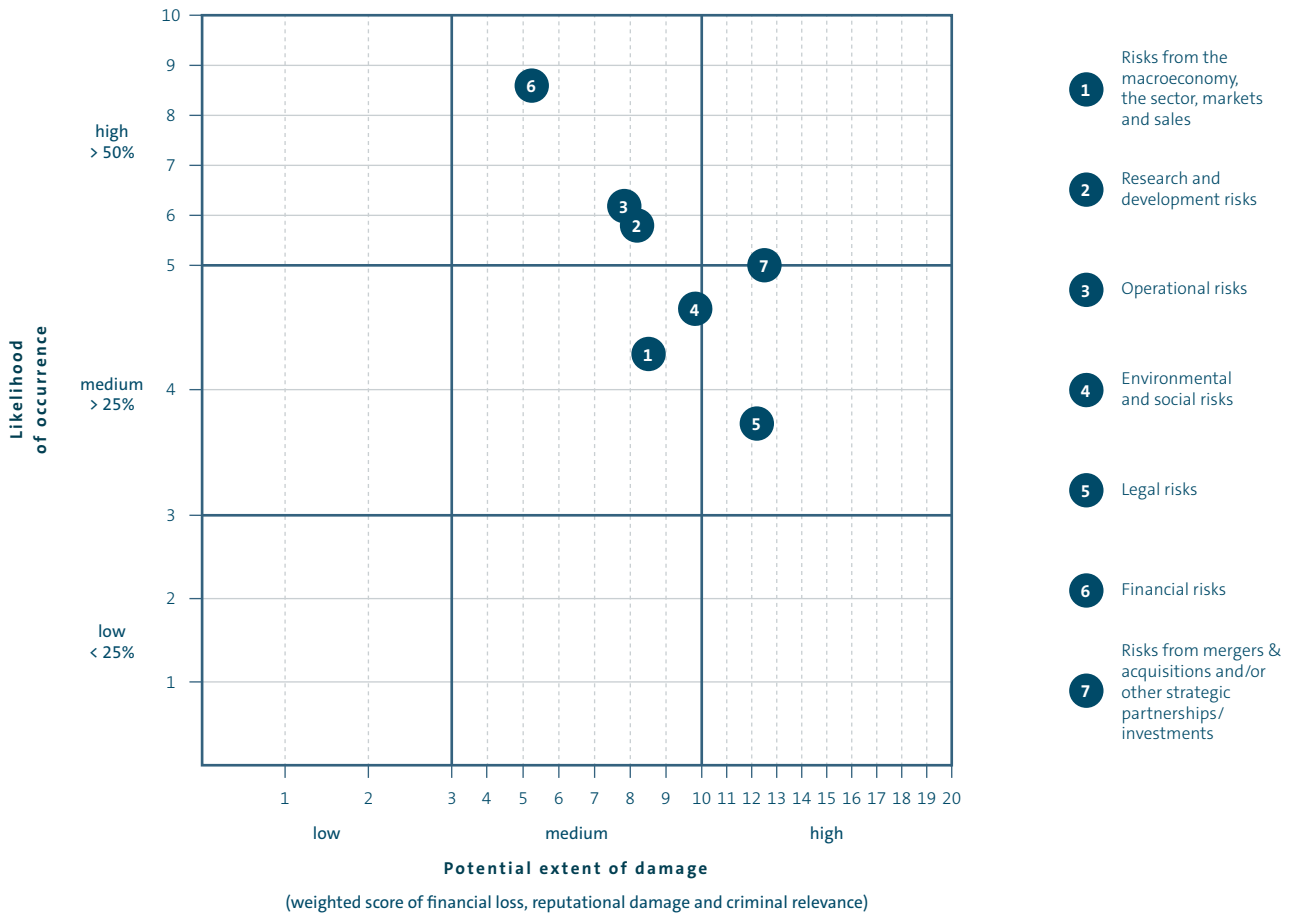
Integrated consolidation and planning system

The Volkswagen consolidation and corporate management system (VoKUs) enables the Volkswagen Group to consolidate and analyze both Financial Reporting's backward-looking data and Controlling's budget data. VoKUs offers centralized master data management, uniform reporting, an authorization concept and maximum flexibility with regard to changes to the legal environment, providing a future-proof technical platform that benefits Group Financial Reporting and Group Controlling in equal measure. To verify data consistency, VoKUs has a multi-level validation system that primarily checks content plausibility between the balance sheet, the income statement and the notes.

RISKS AND OPPORTUNITIES

In this section, we outline the main risks and opportunities arising in our business activities. In order to provide a better overview, we have grouped the risks and opportunities into categories. At the beginning of each risk category, we state the most significant risks in order of their importance as identified using the risk score from the regular GRC process and the quarterly risk process (QRP). We then describe the individual risks in no particular order. Unless explicitly mentioned, there were no material changes to the specific risks and opportunities compared with the previous year even though the weighting of individual risks has increased with the transformation of the industry.

AVERAGE SCORES OF THE RISK CATEGORIES



The risks from the regular GRC process and the QRP reported to the Board of Management and the Audit Committee are incorporated into the assessment of the Volkswagen Group’s risk categories. The risk categories are plotted based on the average scores.

We use analyses of the competition and the competitive environment in addition to market studies to identify not only risks but also opportunities that have a positive impact on the design of our products, the efficiency with which they are produced, their success in the market and our cost structure. Where they can be assessed, risks and opportunities that we expect to occur are already reflected in our medium-term planning and our forecast. The following therefore reports on internal and external developments as risks and opportunities that, based on existing information, may result in a negative or positive deviation from our forecast or targets.

Risks and opportunities from the macroeconomy, the sector, markets and sales

The most significant risks from the regular GRC process and the QRP lie in restrictions on trade and increasingly protectionist tendencies resulting in a negative trend in markets and unit sales.

Macroeconomic risks and opportunities

We believe that risks to continued global economic growth arise primarily from turbulence in the financial and commodity markets, increasingly protectionist tendencies, and structural deficits, which pose a threat to the performance of individual advanced economies and emerging markets. In addition, there are increasing environmental challenges that affect individual countries and regions to varying degrees. The possible worldwide transition from an expansionary monetary policy to a more restrictive one also presents risks

for the macroeconomic environment. Persistently high private- and public-sector debt in many places is clouding the outlook for growth and may likewise cause markets to respond negatively. Declines in growth in key countries and regions often have an immediate impact on the state of the global economy and therefore pose a central risk. In particular, the Volkswagen Group would be adversely affected by a disorderly Brexit and by other trade policy measures such as tariffs or non-tariff trade barriers.

The economic development of some emerging economies is being hampered primarily by dependence on energy and commodity prices and capital inflows, but also by socio-political tensions. Corruption, inadequate government structures and a lack of legal certainty also pose risks.

Geopolitical tensions and conflicts, along with signs of fragmentation in the global economy, are a further major risk factor to the performance of individual countries and regions. In light of the existing, strong global interdependence, local developments could have adverse effects on the world economy. Any escalation of the conflicts in Eastern Europe, the Middle East, or Africa, for example, could cause upheaval on the global energy and commodity markets and exacerbate migration trends. An aggravation of the situation in East Asia could put further strain on the global economy. The same applies to violent conflicts, terrorist activities, cyber attacks and the spread of infectious diseases, which may prompt unexpected, short-term responses from the markets.

On the whole, we do not anticipate a global recession for the year 2020. However, due to the risk factors mentioned, as well as cyclical and structural aspects, a decline in global economic growth or a period of below-average growth rates is possible.

The macroeconomic environment may also give rise to opportunities for the Volkswagen Group if actual developments differ in a positive way from expected developments.

Sector-specific risks and market opportunities/potential

Western Europe, especially Germany, and China are our main sales markets. A drop in demand in these regions due to the economic climate would have a particularly strong impact on the Company's earnings including financial services. We counter this risk with a clear, customer-oriented and innovative product and pricing policy.

Outside Western Europe and China, delivery volumes are spread widely across the key regions: Central and Eastern Europe, North America and South America. In addition, we either already have a strong presence in numerous existing

and developing markets or are working systematically towards this goal. Particularly in smaller markets with growth potential, we are increasing our presence with the help of strategic partnerships in order to cater to local requirements.

Price pressure in established automotive markets for new and used vehicles as a result of high market saturation is a particular challenge for the Volkswagen Group as a supplier of volume and premium models. Competitive pressures are likely to remain high in the future. Individual manufacturers may respond by offering incentives in order to meet their sales targets, putting the entire sector under additional pressure.

Excess capacity in global automotive production may lead to a rise in inventories and therefore an increase in the amount of capital tied up. With a decline in demand for vehicles and genuine parts, automotive manufacturers may adjust their capacities or intensify measures to promote sales. This would lead to additional costs and greater price pressure.

The growth markets of Central and Eastern Europe, South America and Asia are particularly important to the Volkswagen Group. These markets harbor considerable potential; however, the underlying conditions in some countries in these regions make it difficult to increase unit sales figures there. Some have high customs barriers or minimum local content requirements for production, for example. At the same time, wherever the economic and regulatory situation permits, there are opportunities above and beyond current projections. These arise from faster growth in the emerging markets where vehicle densities are currently still low.

In Europe, there is a risk that further municipalities and cities will impose a driving ban on diesel vehicles in order to comply with emission limits. In China, restrictions on vehicle registrations could enter into force in further metropolitan areas in the future. Furthermore, China imposed a so-called "new energy vehicle quota" in 2019, which means that battery-electric vehicles, plug-in hybrids and fuel cell vehicles will have to account for a certain proportion of a manufacturer's new passenger car fleet. To ensure compliance with emissions standards, we continuously tailor our range of vehicle models and engines to the conditions in the relevant markets. These requirements may lead to higher costs and consequently to price increases and declines in volumes.

The demand that built up in individual established markets in times of crisis could result in a more marked recovery if the economic environment eases more quickly than expected.

Economic performance varied in individual regions in fiscal year 2019. The resulting challenges for our trading and

sales companies, such as efficient inventory management and a profitable dealer network, are considerable and are being met by appropriate measures on their part. However, financing business activities through bank loans remains difficult. Our financial services companies offer dealers financing on attractive terms with the aim of strengthening their business models and reducing operational risk. We have installed a comprehensive liquidity risk management system so that we can promptly counteract any liquidity bottlenecks at the dealers' end that could hinder smooth business operations.

We continue to approve loans for vehicle finance on the basis of the same cautious principles applied in the past, for example by taking into account the regulatory requirements of section 25a(1) of the Kreditwesengesetz (KWG – German Banking Act).

Volkswagen may be exposed to increased competition in aftermarkets for regulatory reasons. This is due to the provisions of the block exemption regulations, which have applied to after-sales services since June 2010, and also to the amendments included in EU Regulation 566/2011 of June 8, 2011 and EU Regulation 858/2018 applicable from September 1, 2020, regarding access by independent market participants to technical information.

In Germany, legislation is currently being prepared to restrict or abolish design protection for repair parts through the introduction of a repair clause. In addition, the European Commission is evaluating the market with regard to existing design protection. A possible restriction or abolition of design protection for visible replacement parts could adversely affect the Volkswagen Group's genuine parts business.

The automotive industry faces a process of transformation with far-reaching changes. Electric drives, connected vehicles and autonomous driving are associated with both opportunities and risks for our sales. In particular, more rapidly evolving customer requirements, swift implementation of legislative initiatives and the market entry of new competitors from outside the industry will require changed products, a faster pace of innovation and adjustments to business models. There is uncertainty regarding the widespread use of electric vehicles and the availability of the necessary charging infrastructure.

Furthermore, we cannot entirely rule out the possibility of freight deliveries worldwide being shifted from trucks to other means of transport, and demand for the Group's commercial vehicles falling as a result.

Below, we outline the regions and markets with the greatest growth potential for the Volkswagen Group.

China

In China, the largest market in the Asia-Pacific region, there was a noticeable year-on-year decline in the passenger car market in the reporting year. Demand for vehicles is expected to increase in the coming years due to the need for individual mobility. However, the current trade dispute with the USA will slow the pace of this growth. It is also expected that demand will shift from the coastal metropolises to the interior. In order to leverage the considerable opportunities offered by this market – also with regard to e-mobility – and to defend our strong market position in China over the long term, we are continuously expanding our product range to include models that have been specially developed for this market. We are further extending our production capacity in this growing market through additional production facilities.

India

Despite political stability, India's economic momentum slowed in 2019. The passenger car market was unable to continue its growth path and declined considerably. We expect the market to fall slightly short of the prior-year level in 2020 but to return to growth in subsequent years. Against this backdrop, the Group is currently consolidating its activities, as India remains an important strategic future market for the Group.

USA

The volume of the US vehicle market in 2019 was slightly down on the previous year. In 2020, the market volume is again expected to be slightly down on the reporting period. In the USA, Volkswagen Group of America is consistently pursuing the strategy of becoming a full-fledged volume supplier. The expansion of local production capacity – including a production facility for electric vehicles in the future – will allow the Group to better serve the market in the North America region. We are also working intensively on offering additional products specifically tailored to the US market.

Brazil

The economic environment eased somewhat in the reporting year, while Brazil's political path has been uncertain since the presidential elections. The volume of demand in the vehicle market continued to recover markedly compared with the weak prior years. We anticipate a continued upturn in demand in 2020. The growing number of automobile manufacturers with local production has resulted in a sharp increase in price pressure and competition. The Brazilian market plays a key role for the Volkswagen Group. To

strengthen our competitive position here, we offer vehicles that have been specially developed for this market and are locally produced, such as the Gol and the Virtus.

Russia

The volume of the Russian vehicle market in 2019 was slightly down on the previous year and we are forecasting that the passenger car market will slightly exceed the reporting year in 2020. However, the heavy reliance on oil and gas income, rising taxes, currency volatility resulting at present in high vehicle prices, the political crisis and the related sanctions imposed by the EU and the USA continue to impact the development of demand negatively. The market remains strategically important to the Volkswagen Group, which is why we have a strong focus on market cultivation there.

The Middle East

Political and economic uncertainty is weighing on the region's main sales markets, particularly Turkey. Here, the continued weakness of the Turkish lira and the resulting high inflation, among other things, led to a decline in purchasing power and therefore weaker demand in 2019. Despite the instability, however, the Middle East region offers short-term and long-term growth potential. We aim to leverage the potential for growth with a range of vehicles that has been specifically tailored to this market, without as yet having our own production facilities there.

Power Engineering

Trends in the global economy, such as increasing interest in technologies to reduce emissions and a greater international division of labor, are set to continue, despite increased geopolitical and macroeconomic risks compared with the previous year. This also applies to the resulting transport routes and volumes and to the demand for touristic offers such as cruises. Growing global energy needs call for innovation in industry and a growing willingness on the part of governments to invest in line with the global climate policy.

We are working systematically to leverage market opportunities across the world, for example by positioning ourselves as a solution provider for reduced-carbon drive system and energy generation technologies as well as for storage technologies. Moreover, significant potential can be leveraged in the medium term by enhancing our after-sales business through the introduction of new products and the expansion of our service network. The requirements for occupational safety, which will continue to increase in the future, the availability of the plants that are already in operation, the increase in environmental compatibility, and efficient operation, together with the large number of engines and plants, will provide the basis for growth.

As part of the capital goods industry, the Power Engineering business is affected by fluctuations in the investment climate. Even minor changes in growth rates or growth forecasts, resulting from geopolitical uncertainties or volatile commodities and foreign exchange markets, for example, can lead to significant changes in demand or the cancellation of already existing orders. The measures we use to counter the considerable economic risks include flexible production concepts and cost flexibility by means of temporary employment, working time accounts and short-time work, and – if necessary – structural adjustments.

Sales risks

As a result of the diesel issue, the Volkswagen Group may experience decreases in demand, possibly exacerbated by media reports or insufficient communication. Other potential consequences include lower margins in the new and used car businesses and a temporary increase in funds tied up in working capital. The Volkswagen Group has recognized provisions arising from the diesel issue, in particular for the service measures, recalls and customer-related measures. Further significant financial liabilities may emerge due to existing estimation risks particularly from technical solutions, repurchase obligations, customer-related measures and possible official or statutory requirements for diesel vehicles.

The Volkswagen Group's multibrand strategy may weaken individual Group brands if there are overlaps in customer segments or the product portfolio. This effect may be reinforced by the Volkswagen Group's common-parts strategy, as this strategy means that, in some cases, the differences in product substance between the brands are small. This could result in internal cannibalization between the Group brands, higher marketing costs, or repositioning expenses. By sharpening the brand identities as part of our Best Brand Equity strategic module, we are working to minimize these risks.

Viewed over an extended period, the fleet customer business is more stable than the business with retail customers; in 2019, it continued to be characterized by increasing concentration and internationalization.

The Volkswagen Group is well positioned with its broad portfolio of products and drive systems, as well as its target-group-focused customer care. There is no concentration of default risks at individual fleet customers or markets. The consistently high market share in Europe shows that fleet customers still have confidence in the Group.

Consumer demand is shaped not only by real factors such as disposable income, but also by psychological factors that cannot be planned for. Unexpected buyer reluctance could stem from households' worries about the future economic

situation, for example. This is particularly the case in saturated automotive markets such as Western Europe, where demand could drop as a result of owners holding on to their vehicles for longer. We are countering reluctance to buy with our attractive range of models and our strict policy of customer orientation.

A combination of buyer reluctance in some markets as a result of the crisis, and increases in some vehicle taxes based on CO₂ emissions – which have already been observed in many European countries – may shift demand towards smaller segments and engines. We counter the risk that such a shift will negatively impact the Volkswagen Group's financial situation by constantly developing new, fuel-efficient vehicles and alternative drive technologies, based on our drivetrain and fuel strategy.

Automotive markets around the world are exposed to risks from government intervention such as tax increases, which curb private consumption, restrictions on trade, and protectionist tendencies. Sales incentives may lead to shifts in the timing of demand.

Commercial vehicles are capital goods: even minor changes in growth rates or growth forecasts may significantly affect transport requirements and thus demand. The production fluctuations occurring as a result require a high degree of flexibility from manufacturers. Although production volumes are significantly lower, the complexity of the trucks and buses range does in fact significantly exceed the already very high complexity of the passenger cars range. Key factors for commercial vehicle customers are total cost of ownership, vehicle reliability and the service provided. Furthermore, customers are increasingly interested in additional services such as freight optimization and fleet utilization, which we offer in the commercial vehicle segment through the digital brand RIO, for example.

Power Engineering's two-stroke engines are produced exclusively by licensees, particularly in South Korea, China and Japan. On account of volatile demand in new ship construction, there is excess capacity in the market for marine engines, which may result in a decline in license revenues and bad debt losses. Due to changes in the competitive environment, especially in China, there is also the risk of losing market share. We address these risks by constantly monitoring the markets, working closely with all licensees and introducing new and improved technologies.

Other factors

Going beyond the risks outlined in the individual risk categories, there are other factors that cannot be predicted and whose repercussions are therefore difficult to control.

Should these transpire, they could have an adverse effect on the further development of the Volkswagen Group. In particular, such occurrences include natural disasters, epidemics – such as the current spread of the coronavirus –, violent conflicts and terrorist attacks.

The spread of the coronavirus could give rise to risks for global economic growth and subsequently risks for the Volkswagen Group particularly with regard to procurement, production and sales.

Research and development risks

The most significant risks from the regular GRC process and QRP result from the failure to develop products in line with demand and regulations, especially in view of e-mobility and digitalization.

Research and development risks

The automotive industry is undergoing a radical transformation process. Multinational corporations like Volkswagen are facing major challenges in the areas of customer/market, technological advances and legislation. Key aspects are the implementation of increasingly stringent emission and fuel consumption regulations, taking new test procedures and test cycles (e.g. WLTP) into account, as well as compliance with approval processes (homologation), which are becoming increasingly more complex and time-consuming and may vary by country. On a national and international level there are numerous legal requirements regarding the use, handling and storage of substances and mixtures (including restrictions concerning chemicals, heavy metals, biocides, persistent organic pollutants), which apply to both the manufacturing of automobiles and the automobile itself.

The economic success and competitiveness of the Volkswagen Group depend on how successful we are in promptly tailoring our portfolio of products and services to changing conditions. Given the intensity of competition and the speed of technological development, for example in the fields of digitalization and automated driving, it is crucial to identify relevant trends at an early stage and respond accordingly.

Among other things, we therefore conduct trend analyses and customer surveys and examine the relevance of the results for our customers. We counter the risk that it may not be possible to develop modules, vehicles, or services – especially in relation to e-mobility and digitalization – within the specified timeframe, to the required quality standards, or in line with cost specifications, by continuously and systematically monitoring the progress of all projects. To avoid patent infringements, we intensively analyze third-party industrial property rights, increasingly in relation to com-

munication technologies. We regularly compare the results of all the analyses with the respective project's targets; in the event of variances, we introduce appropriate countermeasures in good time. Our end-to-end project organization supports cooperation among all areas involved in the process, ensuring that specific requirements are incorporated into the development process as early as possible and that their implementation is planned in good time.

Risks and opportunities from the modular toolkit strategy

We are continuously expanding our modular toolkits, focusing on future customer requirements, legal requirements and infrastructural requirements.

Higher volumes will, however, increase the risk that quality problems will affect an increasing number of vehicles.

The Modular Transverse Toolkit (MQB) has created an extremely flexible vehicle architecture that permits dimensions determined by the concept – such as the wheelbase, track width, wheel size and seat position – to be harmonized throughout the Group and utilized flexibly. Other dimensions, for example the distance between the pedals and the middle of the front wheels, are always the same, ensuring a uniform system in the front of the car. Based on the synergy effects thereby achieved, we are able to cut both development costs and the necessary one-time expenses as well as manufacturing times. The toolkits also allow us to produce different models from different brands in various quantities, using the same equipment in a single plant. This means that our capacities can be used with greater flexibility throughout the entire Group, enabling us to achieve efficiency gains.

We transferred this principle of standardization with maximum flexibility to the Modular Electric Drive Toolkit (MEB), a concept developed for all-electric drives. The synergy effects and efficiency gains achieved from the modular toolkit strategy will give us the opportunity to bring e-mobility into mass production worldwide with the introduction of the first MEB-based vehicle.

Operational risks and opportunities

The most significant risks from the regular GRC process and QRP lie particularly in the area of cyber security and new regulatory requirements for IT, in quality problems as well as in volatile commodity markets.

Procurement risks and opportunities

Current trends in the automotive industry such as e-mobility and automated driving are resulting in an increased need for financing among suppliers. The Volkswagen Group's procurement risk management system assesses suppliers before they

are commissioned to carry out projects. Among other things, Procurement takes into consideration the risk of insufficient competition if it concentrates on a few financially strong suppliers when awarding contracts.

Weakening growth in the global economy, the ongoing trade disputes and shifts in customer demand – especially the technological shift toward e-mobility – along with the resulting changes in call-offs from suppliers are posing challenges for us.

The changed circumstances have restricted suppliers' financing opportunities and increased general uncertainty, particularly in areas where existing technologies are becoming obsolete and alternative technologies are gaining in importance. The number of crises and insolvencies among suppliers worldwide increased in 2019. Specialists in restructuring and supply reliability in procurement continuously monitor the financial situation of our suppliers all over the world and take targeted measures to avoid supply bottlenecks. Potential resource shortages, possible speculations on the market as well as current trends in the automotive industry, such as the growing share of electrified vehicles, may also affect the availability and prices of certain raw materials. The raw material and demand trend was continuously analyzed and assessed on an interdisciplinary basis over the reporting year to enable steps to be taken at an early stage in the event of potential bottlenecks.

Quality problems may necessitate technical intervention involving a considerable financial outlay where costs cannot be passed on to the supplier or can only be passed on to a limited extent. It is not possible at present to rule out the possibility of a further increase in recalls of various models produced by different manufacturers in which certain airbags manufactured by Takata were installed. This could also affect Volkswagen Group models.

In addition to financial difficulties, supply risks may arise, for example, as a result of fires or accidents at suppliers. Epidemics such as the current spread of the coronavirus may also cause bottlenecks. Supply risks are identified without delay in procurement through early warning systems and mitigated immediately by applying derived measures. Additional measures were taken to safeguard supply and avert future assembly line stoppages caused by suspensions of deliveries.

Specialists in procurement systematically investigate risks resulting from antitrust violations by suppliers and file claims for any damages that arise.

Production risks

Volatile developments in the global automotive markets, accidents at suppliers and disruption in the supply chain

caused production volumes of some vehicle models to fluctuate at some plants. In specific markets, we also continued to record a trend away from orders for diesel vehicles and toward increased orders for vehicles with petrol engines. We address such fluctuations using tried-and-tested tools, such as flexible working time models. The design of the production network enables us to respond dynamically to varying changes in demand at the sites. “Turntable concepts” even out capacity utilization between production facilities. At multibrand sites, volatile demand can also be smoothed across brands.

Legal changes, for instance in the context of the change-over to the WLTP test procedure, may impact production. For one thing, a temporary reduction in the range causes demand to focus on the available variants. Moreover, gaps in production can occur if model variants have not been approved. These fluctuations necessitate measures to stabilize production, such as the temporary storage of vehicles until official approval.

Short-term changes in customer demand for specific equipment features in our products, and the decreasing predictability of demand, may lead to supply bottlenecks. We minimize this risk, for example, by continuously comparing our available resources against future demand scenarios. If bottlenecks in the supply of materials are indicated, we can introduce countermeasures far enough in advance.

Production capacity is planned several years in advance for each vehicle project on the basis of expected sales trends. These are subject to market changes and generally entail a degree of uncertainty. If forecasts are too optimistic, there is a risk that capacity will not be fully utilized. However, forecasts that are too pessimistic pose a risk of undercapacity, as a result of which, it may not be possible to meet customer demand. Volkswagen or its major suppliers may be unable to sufficiently adjust production capacity in the event of increased fluctuation in demand that goes beyond the available technical flexibility.

The range of our models is growing, particularly with the upcoming electrification offensive, while at the same time, product life cycles are becoming shorter; the number of new vehicle start-ups at our sites worldwide is therefore increasing. The processes and technical systems we use for this are complex and there is thus a risk that vehicle deliveries may be delayed. We address this risk by drawing on experience of past start-ups and identifying weaknesses at an early stage so as to ensure – to the highest degree possible – that produc-

tion volumes and quality standards are met during our new vehicle start-ups throughout the Group.

In order to prevent downtime, lost output, rejects and reworking in general, we use the TPM (Total Productive Maintenance) method at our production facilities. TPM is a continuous process that involves the entire workforce. Round-the-clock maintenance of the technical facilities means that they are always operational and guaranteed to function reliably.

Particular events beyond our control such as natural disasters, epidemics – currently the spread of the coronavirus – or other events such as fires, explosions, or the leakage of substances hazardous to health and/or the environment, may adversely affect production to a significant extent. As a consequence, bottlenecks or even outages may occur, thus preventing the planned volume of production from being achieved. We address such risks with, among other things, fire protection measures and hazardous goods management, and, where financially viable, ensure that they are covered by insurance policies.

Risks arising from long-term production

In the case of large projects within the Power Engineering Business Area, risks may arise that are often only identified over the course of the project. They may result in particular from contract drafting errors, inaccurate or incomplete information used in costing, post-contract changes in economic and technical conditions, weaknesses in project management, or poor performance by subcontractors. Most notably, omissions or errors made at the start of a project are usually difficult to compensate for or correct, and often entail substantial additional expenses.

We endeavor to identify these risks at an even earlier stage and to take appropriate measures to eliminate or minimize them before they occur by constantly optimizing the project control process across all project phases and by using a lessons-learned process and regular project reviews. We can thus further reduce risk, particularly during the bidding and planning phase, for large upcoming projects.

Quality risks

Right from the product development stage, we aim to identify and rectify quality problems at the earliest point, so as to avoid delays to the start of production. As we are using an increasing number of modular components as part of our modular toolkit strategy, it is particularly important when malfunctions do occur to identify the cause quickly and

eliminate the malfunctions. Nonconformity of internally or externally sourced parts or components may necessitate time-consuming and cost-intensive measures and lead to recalls and therefore to damage to the Volkswagen Group's image. In addition, the resulting financial impacts may exceed provisions. To meet our customers' expectations and minimize warranty and ex gratia repair costs, we continuously optimize the processes at our brands with which we can prevent these defects.

Increasing technical complexity and the use of the toolkit system in the Group mean that the need for high-grade supplier components and software of impeccable quality is rising. For the future management of cyber security, which is becoming an increasingly important area, we are establishing an Automotive Cyber Security Management System (ACSMS) in all brands and integrating it into the existing quality management system. This will allow us to fulfill the legal requirements that will apply from 2021.

Assuring quality is of fundamental importance especially in the US, Brazilian, Russian, Indian and Chinese markets, for which we develop vehicles specific to the countries and where local manufacturers and suppliers have been established, particularly as it may be very difficult to predict the impact of regulations or official measures. We continuously analyze the conditions specific to each market and adapt quality requirements to their individual needs. We counter the local risks we identify by continuously developing measures and implementing them locally, thereby effectively preventing quality defects from arising.

Vehicle registration and operation criteria are defined and monitored by national and, in some cases, international authorities. Furthermore, several countries have special – and in some cases new – rules aimed at protecting customers in their dealings with vehicle manufacturers. We have established quality processes to ensure that the Volkswagen Group brands and their products fulfill all respective applicable requirements and that local authorities receive timely notification of all issues requiring reporting. By doing so, we reduce the risk of customer complaints or other negative consequences.

IT risks

At Volkswagen, a global company geared towards further growth, the information technology (IT) used in all divisions Group-wide is assuming an increasingly important role. IT risks exist in relation to the three protection goals of confidentiality, integrity and availability, and comprise in particular unauthorized access to, modification of and extraction of sensitive electronic corporate or customer data as well as limited systems availability as a consequence of downtime and disasters. Handling data with integrity ensures that data is correct and uncorrupted, and that systems function without error.

The high standards we set for the quality of our products also apply to the way in which we handle our customers' and employees' data. In particular, the digital technology used for our mobility services must be protected against cyber attacks. New legal regulations including the future UNECE (United Nations Economic Commission for Europe) cyber security regulation (WP.29) are creating new requirements for our vehicle and software development. These have an equally large impact on our IT systems. We therefore work on an interdisciplinary basis to protect our connected vehicles and mobility services. Our guiding principles are data security, transparency and informational self-determination.

We address the risk of unauthorized access to, modification of, or extraction of corporate and customer data with the use of IT security technologies (e.g. firewall and intrusion prevention systems) and a multiple-authentication procedure. Additionally, we increase protection by restricting the allocation of access rights to systems and information and by keeping backup copies of critical data resources. Redundant IT infrastructures protect us against risks that occur in the event of a systems failure or natural or other disasters.

We use commercially available technologies to protect our IT landscape, adhering to standards applicable throughout the Company. We future-proof our IT through continual standardization and updates. Continuously increasing automation enhances process reliability and the quality of processing.

The further development and Group-wide use of IT governance processes, particularly the further standardization of the IT risk management process, also help to identify weaknesses at an early stage and to reduce or avoid risks effectively.

Another focus is the continuous enhancement of Group-wide security measures with modern technologies and tools, such as the further expansion of the IT security command center for the early detection of and defense against cyber attacks.

Volkswagen complements these technical measures by systematically raising awareness and providing training for employees.

Risks from media impact

The image of the Volkswagen Group and its brands is one of the most important assets and forms the basis for long-term business success. Our policy and strategic orientation on issues such as integrity, ethics and sustainability is in the public focus. One of the basic principles of running our business is therefore to pay particular attention to compliance with legal requirements and ethical principles. However, we are aware that misconduct or criminal acts by individuals and the resulting reputational damage can never be fully prevented. In addition, media reactions can have a negative

effect on the image of the Volkswagen Group and its brands. This impact could be amplified through insufficient crisis communication.

Environmental and social risks

The most significant risks from the regular GRC process and QRP arise from not meeting CO₂-related regulations.

Personnel risks

We counter economic risks as well as changes in the market and the competitive situation with a range of instruments that help the Volkswagen Group to remain flexible in terms of staff deployment when faced with a fluctuating order situation – whether orders are in decline, or there is an increase in demand for our products. These instruments include time accounts to which hours are added when overtime is necessary and from which hours are deducted in quiet periods, enabling our factories to adjust their capacity to production volume with measures such as extra shifts, closure days and flexible shift models. The use of temporary workers also allows us to be more flexible in our planning. All of these measures help the Volkswagen Group to generally maintain a stable permanent workforce, even when orders fluctuate.

The technical expertise and individual commitment of employees are indispensable prerequisites for the success of the Volkswagen Group. We counter the risk of not being able to develop sufficient expertise in the Company's different vocational groups with our strategically oriented and holistic human resource development, which gives all employees attractive training and development opportunities. By boosting our training programs, particularly at our international locations, we are able to adequately address the challenges of technological change.

To counter the potential risk of a shortage of skilled specialists – especially in the areas of digitalization and IT – we continuously expand our recruitment tools. Our systematic talent relationship management, for example, enables us to make contact with talented candidates from strategically relevant target groups at an early stage and to build a long-term relationship between them and the Group. In addition to the standard dual vocational training, programs such as our StIP integrated degree and traineeship scheme and our Faculty 73 ensure a pipeline of highly qualified and motivated employees. By systematically increasing our attractiveness as an employer, we are able to gain talented people in the areas of IT, design and social media, which are crucial for the future. With tools such as these, we want to

ensure that our demand for qualified new staff is covered, even amid a shortage of skilled labor.

We counter the risks associated with employee fluctuation and loss of knowledge as a result of retirement with intensive, department-specific succession planning and training. We have also established a base of senior experts in the Group. With this instrument, we use the valuable knowledge of our experienced specialists who have retired from Volkswagen.

The advancing digitalization of our human resources processes entails risks arising from the processing of personal data. Volkswagen is aware of its responsibility in the processing of this data. We address these risks as part of our data protection management system by implementing a wide range of measures.

One challenge posed by our collaboration with the Monitor lies in the tension that sometimes arises from the conflict between the Monitor's requests for information on the one hand, and both German and international data protection requirements on the other. This is true particularly in view of the fact that these data protection requirements are open to a certain degree of interpretation and assessment. In the interest of precluding infringements of the law as far as possible, despite a partially unclear legal situation, Volkswagen is advised by external law firms on these issues.

Environmental protection regulations

The specific emission limits for all new passenger car and light commercial vehicle fleets for brands and groups in the EU for the period up to 2019 are set out in Regulation (EC) No 443/2009 on CO₂ emissions from passenger cars and Regulation (EU) No 510/2011 on light commercial vehicles of up to 3.5 tonnes, which came into effect in April 2009 and June 2011, respectively. These regulations are important components of the European climate protection policy and therefore form the key regulatory framework for product design and marketing by all vehicle manufacturers selling in the European market.

The average CO₂ emissions of the new European passenger car fleet have not been allowed to exceed 130 g CO₂/km since 2012. Compliance with this requirement was introduced in phases; since 2015 the entire fleet has had to meet this limit.

The EU's CO₂ regulation for light commercial vehicles sets limits to be met from 2014 onwards, with targets having been phased in over the period to 2017. Under this regulation, the average CO₂ emissions from newly registered vehicles in Europe must not exceed 175 g CO₂/km.

On April 17, 2019, the EU adopted new rules for the CO₂ regime from 2020 onward. It published these in EU Regu-

lation 2019/631 for passenger cars and light commercial vehicles on April 25, 2019. This regulation states that, from 2021 onward, the average emissions from the European passenger car fleet must be no higher than 95 g CO₂/km; in 2020, this emissions limit will already apply to 95% of the fleet. Up to and including 2020, European fleet legislation will be complied with on the basis of the New European Driving Cycle (NEDC). After 2021, the NEDC target value will be replaced by a WLTP target value through a process defined by lawmakers; this change shall not lead to additional tightening of the target value. A similar approach will apply to light commercial vehicles, where a target of 147 g CO₂/km will apply to the entire fleet in 2020.

The targets will be further tightened as from 2025: for new European passenger car fleets, a reduction of 15% will be required from 2025 and a reduction of 37.5% from 2030. For new light commercial vehicle fleets, the required reductions will be 15% from 2025 and 31% from 2030. In each case, the starting point is the fleet value in 2021. These targets can only be achieved through a high proportion of electric vehicles. Non-fulfillment of the fleet-wide targets will incur penalties of €95 per exceeded gram of CO₂ per vehicle sold.

At the same time, regulations governing fleet fuel consumption are also being developed or introduced outside the EU28, for example in Brazil, Canada, China, India, Japan, Mexico, Saudi Arabia, South Korea, Switzerland, Taiwan and the USA. Brazil has introduced a fleet efficiency target as part of a voluntary program which grants tax advantages. To receive a 30% tax advantage, manufacturers must, among other things, achieve a specified fleet efficiency. The fuel consumption regulations in China, which set an average fleet target of 6.9 liters/100 km for the period 2012–2015, were continued into the period 2016–2020 with a target of 5.0 liters/100 km. Preparations for legislation up to 2025 have begun. In addition to this legislation on fleet fuel consumption, a so-called “new energy vehicle quota” applies in China. This requires every manufacturer to increase the share of electric vehicles – which are included with different weightings – in its total sales. The quota for 2020 is 12%, to be fulfilled through battery-electric vehicles, plug-in hybrids, or fuel cell vehicles. Due to the extension of greenhouse gas legislation in the USA (the law was signed in 2012), uniform fuel consumption and greenhouse gas standards apply in all US states in the period from 2017 to 2025. Here, too, lawmakers are debating amending the rules from 2021 onward.

The increased regulation of fleet-based CO₂ emissions and fuel consumption makes it necessary to use the latest mobility technologies in all key markets worldwide. At the same time, electrified and also purely electric drives will become

increasingly common. 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 severe financial penalties. Volkswagen continues to regard diesel technology as an important element in the fulfillment of CO₂ emissions targets.

EU legislation allows excess emissions and emission shortfalls to be offset between vehicle models within a fleet of new vehicles. Furthermore, the EU permits some flexibility in fulfilling the emissions targets, for example:

- > Emission pools may be formed,
- > Relief opportunities may be provided for additional innovative technologies in the vehicle that apply outside the test cycle (eco-innovations),
- > Special rules are in place for small-series producers and niche manufacturers,
- > Particularly efficient vehicles qualify for super-credits.

Whether the Group meets its fleet targets depends crucially on its technological and financial capabilities, which are reflected in, for example, our drivetrain and fuel strategy.

In the EU, a new, more time-consuming test procedure has applied to all new vehicles with WLTP since September 2018. Other challenges arise in connection with stricter processes and requirements regarding WLTP, such as from test criteria and from homologation (achievement of approval).

The Real Driving Emissions (RDE) regulation for passenger cars and light commercial vehicles is also one of the main European regulations. New, uniform limits for nitrogen oxide and particulate emissions in real road traffic have applied to new vehicle types across the EU since September 2017. This makes the RDE test procedure fundamentally different from the Euro 6 standard still in force, which stipulates that the limits on the chassis dynamometer are authoritative. The RDE regulation is intended primarily to improve air quality in urban areas and areas close to traffic, leading to stricter requirements for exhaust gas aftertreatment in passenger cars and light commercial vehicles. Stricter RDE processes and requirements have resulted in certain challenges, for example relating to test criteria and homologation.

The other main EU regulations affecting the automotive industry include:

- > EU Directive 2007/46/EC establishing a framework for the type approval of motor vehicles,
- > EU Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles (Green Procurement Directive),
- > EU Directive 2006/40/EC relating to emissions from air-conditioning systems in motor vehicles,
- > The Car Labeling Directive 1999/94/EC,

- > The Fuel Quality Directive (FQD) 2009/30/EC updating the fuel quality specifications and introducing energy efficiency specifications for fuel production,
- > The Renewable Energy Directive (RED) (2009/28/EC) introducing sustainability criteria; the follow-up regulation (RED2) contains higher quotas for advanced biofuels,
- > The revised Energy Taxation Directive 2003/96/EC updating the minimum tax rates for all energy products and power.

The implementation of the above-mentioned directives by the EU member states serves to support the CO₂ regulations in Europe. These are aimed not only at vehicle manufacturers, but also at other sectors such as the mineral oil industry. Vehicle taxes based on CO₂ emissions are having a similar steering effect; many EU member states have already incorporated CO₂ elements into their rules on vehicle taxation.

There is particular momentum in the debate on driving bans for diesel vehicles in Germany. This was triggered by the failure of some municipalities and cities to comply with the limits for nitrogen dioxide (NO₂) immissions. In many places, lawsuits have been filed and judgments issued. It is argued that only driving bans for diesel vehicles can bring about the necessary short-term reduction in NO₂ immissions. The discussion may result in sales volumes of diesel vehicles declining further and financial liabilities arising from customer-related measures and potential official or statutory requirements.

Local driving bans are already in place in a number of countries, though these mainly affect older vehicles. Regulations in Belgium that successively bar older vehicles from larger cities are one example. With a view to the future, large urban areas such as Paris and London are discussing banning vehicles with combustion engines.

Commercial vehicles are increasingly subject to ever stricter environmental regulations all around the world, particularly to regulations relating to climate change and vehicle emissions. With Regulation (EU) 2019/1242 of June 20, 2019, which specifies CO₂ emission standards for new heavy trucks with a permitted gross weight of over 16 tonnes, the EU has set heavy commercial vehicle manufacturers very ambitious targets for reducing CO₂ emissions within the next decade. The CO₂ emissions from such vehicles must be reduced by 15% by 2025 and 30% by 2030 compared to a reference value for a monitoring period from July 2019 to June 2020. If they fail to meet these targets, vehicle manufacturers will be liable to substantial penalties for the excess emissions, amounting to €4,250 per excess gram of CO₂/tonne-kilometer (tkm) per vehicle for the period from 2025 to 2029 and €6,800 per excess gram of CO₂/tkm per vehicle for the period from 2030 onward.

Compliance with regulations relating to climate change and vehicle emissions requires considerable investment in

new technologies, including alternative drive systems and vehicles powered by alternative fuels. Increasing connectivity within transport networks can help to reduce inefficiencies such as unused transport capacity, empty runs and inefficient routes in existing transport networks. In conjunction with connected traffic management systems, this can result in optimized goods transport and therefore a reduction in CO₂ emissions.

In the Power Engineering segment, the International Maritime Organization (IMO) has introduced the International Convention for the Prevention of Pollution from Ships (MARine POLLution – MARPOL), with which limits on emissions from marine engines will be lowered in phases. A reduction of the sulfur content in marine fuel has been confirmed with effect from January 1, 2020. In addition, the IMO has decided on a number of emission control areas in Europe and the USA/Canada that will be subject to special environmental regulations. Expansion to further regions such as the Mediterranean or Japan is already being planned; other regions such as the Black Sea, Alaska, Australia or South Korea are also in discussion. Moreover, emission limits are in force under Regulation (EU) 2016/1628 and in accordance with the regulations of the US Environmental Protection Agency (EPA), for example. We are pushing for a maritime energy transition in specialist bodies and also promote this to the general public. In a first step, we are supporting the switch to liquefied natural gas (LNG) as a fuel for maritime applications and also offer dual fuel and gas-powered engines for new and retrofitted vessels. For the long-term and climate-neutral operation of seagoing vessels, we advocate power-to-X technology, in which excess sustainably generated electricity is converted into carbon-neutral gas or liquid fuel.

As regards stationary equipment, there are a number of national rules in place worldwide that limit permitted emissions. On December 18, 2008, the World Bank Group set limits for gas and diesel engines in its “Environmental, Health, and Safety Guidelines for Thermal Power Plants”, which are required to be applied in countries that have adopted no national requirements of their own, or requirements that are less strict than those of the World Bank Group. These guidelines are currently being revised. In addition, the United Nations adopted the Convention on Long-range Transboundary Air Pollution back in 1979, setting limits on total emissions as well as nitrogen oxide for the signatory states (including all EU states, other countries in Eastern Europe, the USA and Canada). Enhancements to the product portfolio in the Power Engineering segment focus on improving the efficiency of equipment and systems.

The allocation method for emissions certificates changed fundamentally when the third emissions trading period

(2013–2020) began. As a general rule, all emission allowances for power generators have been sold at auction since 2013. For the manufacturing industry and certain power generation installations (e.g. combined heat and power installations), a portion of the certificates is allocated free of charge on the basis of benchmarks applicable throughout the EU. This portion of free certificates will gradually decrease as the trading period progresses; the remaining quantities required will have to be bought at auction. Furthermore, installation operators can partly fulfill their obligation to hold emission allowances using certificates from climate change projects (Joint Implementation and Clean Development Mechanism projects). In certain (sub-)sectors of industry, there is a risk that production will be transferred to countries outside Europe due to the amended provisions governing emissions trading, a phenomenon referred to as carbon leakage. A consistent quantity of certificates will be allocated to these sectors free of charge for the period from 2013 to 2020 on the basis of the pan-EU benchmarks. The automotive industry was included in the carbon leakage list that came into effect in 2015. As a result, individual facilities at Volkswagen Group locations in Europe will receive additional certificates free of charge up to the end of the third trading period. Already back in 2013 the European Commission decided to initially withhold a portion of the certificates to be auctioned and not to release them for auction until a later date during the third trading period (backloading). The certificates will be directed into a market stability reserve that was established in 2018. The reserve will serve to offset any imbalance between the supply of and demand for certificates in emissions trading in the fourth trading period. Furthermore, the European Commission is planning further modifications in emissions trading when the fourth trading period begins (from 2021) that may lead to a tightening of the system and thus to price increases for the certificates.

In addition to the EU member states, other countries in which the Volkswagen Group has production sites are also considering introducing an emissions trading system. In China, for example, seven corresponding pilot projects are underway. These do not affect the Volkswagen Group. The Chinese government officially implemented a national emissions trading system at the end of 2017. Initially, this affects only the power generation sector; a gradual expansion is being planned.

LEGAL RISKS

The most significant risks from the regular GRC process and QRP are associated with the diesel issue.

Litigation

Volkswagen AG and the companies in which it is directly or indirectly invested are involved in a substantial number of

legal disputes and governmental proceedings in Germany and abroad. Such legal disputes and other proceedings occur, among other things, in relation to or in connection with employees, public authorities, services, dealers, investors, customers, suppliers, products, or other contracting parties. For the companies in question, these disputes and proceedings may result in payments such as fines or in other obligations or consequences. In particular, substantial compensatory or punitive damages may have to be paid and cost-intensive measures may have to be implemented. In this context, specific estimation of the objectively likely consequences is often possible only to a very limited extent, if at all.

Risks may also emerge in connection with the adherence to regulatory requirements. This particularly applies in the case of regulatory gray areas where Volkswagen and the authorities responsible for the respective regulations may interpret the regulations differently. In addition, legal risks can arise from the criminal activities of individual persons, which even the best compliance management system can never completely prevent.

Where transparent and economically viable, adequate insurance coverage was taken out for these risks. For the identifiable and measurable risks, provisions considered appropriate based on existing information were recognized and information about contingent liabilities disclosed. As some risks cannot be assessed or can only be assessed to a limited extent, the possibility of material loss or damage not covered by the insured amounts and provisions cannot be ruled out. This applies particularly to legal risk assessment regarding the diesel issue.

Diesel issue

On September 18, 2015, the US Environmental Protection Agency (EPA) publicly announced in a “Notice of Violation” that irregularities in relation to nitrogen oxide (NO_x) emissions had been discovered in emissions tests on certain Volkswagen Group vehicles with type 2.0 l diesel engines in the USA. In this context, Volkswagen AG announced that noticeable discrepancies between the figures achieved in testing and in actual road use had been identified in around eleven million vehicles worldwide with type EA 189 diesel engines. On November 2, 2015, the EPA issued a “Notice of Violation” alleging that irregularities had also been discovered in the software installed in US vehicles with type V6 3.0 l diesel engines.

Numerous court and governmental proceedings were subsequently initiated in various countries. We have since succeeded in making substantial progress and ending many of these proceedings.

In the USA, Volkswagen AG and certain affiliates reached settlement agreements with various government authorities and private plaintiffs, the latter represented by a Plaintiffs' Steering Committee in a multidistrict litigation in the US state of California. These agreements resolved certain civil claims as well as criminal charges under US federal law and the laws of certain US states in connection with the diesel issue. As part of the agreements entered into with the US Department of Justice and the State of California (Plea Agreement and Third Partial Consent Decrees), a Compliance Monitor and Compliance Auditor was appointed for Volkswagen in 2017 for a term of three years. Although Volkswagen AG and its subsidiaries and affiliates are firmly committed to fulfilling the obligations arising from these agreements, a breach of these obligations cannot be completely ruled out. In the event of a violation, significant penalties could be imposed as stipulated in the agreements, in addition to the possibility of further monetary fines, criminal sanctions and injunctive relief.

The diesel issue is rooted in a modification of parts of the software of the relevant engine control units – which, according to Volkswagen AG's legal position, is only unlawful under US law – for the type EA 189 diesel engines that Volkswagen AG was developing at that time. The decision to develop and install this software function was taken in late 2006 below Board of Management level. None of the members of the Board of Management had, at that time and for several years to follow, knowledge of the development and implementation of this software function.

In the months following publication of a study by the International Council on Clean Transportation in May 2014, Volkswagen AG's Powertrain Development department checked the test set-ups on which the study was based for plausibility, confirming the unusually high NO_x emissions from certain US vehicles with type EA 189 2.0 l diesel engines. The California Air Resources Board (CARB) – a part of the environmental authority of California – was informed of this result, and, at the same time, an offer was made to recalibrate the engine control unit software of type EA 189 diesel engines in the USA as part of a service measure that was already planned in the USA. This measure was evaluated and adopted by the Ausschuss für Produktsicherheit (APS – Product Safety Committee), which initiates necessary and appropriate measures to ensure the safety and conformity of Volkswagen AG products that have been placed in the market. There are no findings that an unlawful "defeat device" under US law was disclosed to the APS as the cause of the discrepancies or to the persons responsible for preparing the 2014 annual and consolidated financial statements. Instead, at the time the 2014 annual and consolidated financial

statements were being prepared, the persons responsible for preparing the 2014 annual and consolidated financial statements remained under the impression that the issue could be solved with comparatively little effort.

In the course of the summer of 2015, however, it became successively apparent to individual members of Volkswagen AG's Board of Management that the cause of the discrepancies in the USA was a modification of parts of the software of the engine control unit, which was later identified as an unlawful "defeat device" as defined by US law. This culminated in the disclosure of a "defeat device" to EPA and CARB on September 3, 2015. According to the assessment at that time of the responsible persons dealing with the matter, the scope of the costs expected by the Volkswagen Group (recall costs, retrofitting costs and financial penalties) was not fundamentally dissimilar to that in previous cases involving other vehicle manufacturers, and, therefore, appeared to be controllable overall with a view to the business activities of the Volkswagen Group. This assessment by the Volkswagen Group was based, among other things, on the advice of a law firm engaged in the USA for approval issues, according to which similar cases in the past were resolved amicably with the US authorities. The EPA's publication of the "Notice of Violation" on September 18, 2015, which the Board of Management had not expected, especially at that time, then presented the situation in an entirely different light.

The AUDI AG Board of Management members in office at the time in question have likewise stated that they had no knowledge of the use of "defeat device" software that was prohibited by US law in the type V6 3.0 l TDI engines until the EPA issued its November 2015 "Notice of Violation."

Within the Volkswagen Group, Volkswagen AG has development responsibility for the four-cylinder diesel engines such as the type EA 189, and AUDI AG has development responsibility for the six- and eight-cylinder diesel engines such as the type V6 3.0 l and V8 4.2 l diesel engines.

In agreement with the respective responsible authorities, the Volkswagen Group is making technical measures available worldwide for virtually all diesel vehicles with type EA 189 engines. Within its area of responsibility, the Kraftfahrt-Bundesamt (KBA – German Federal Motor Transport Authority) ascertained for all clusters (groups of vehicles) that implementation of the technical measures would not bring about any adverse changes in fuel consumption figures, CO₂ emission figures, engine output, maximum torque, and noise emissions.

Following the studies carried out by AUDI AG to check all relevant diesel concepts for possible irregularities and retrofit potentials, measures proposed by AUDI AG have been

adopted and mandated by the KBA in various recall orders pertaining to vehicle models with V6 and V8 TDI engines. Currently, AUDI AG assumes that the total cost, including the amount based on recalls, of the ongoing largely software-based retrofit program that began in July 2017 will be manageable and has recognized corresponding balance-sheet risk provisions. AUDI AG has in the meantime developed software updates for many of the affected powertrains and, after approval by the KBA, already installed these in the vehicles of a large number of affected customers. The approvals that are still outstanding are expected in the course of 2020.

In connection with the diesel issue, potential consequences for Volkswagen's results of operations, financial position and net assets could emerge primarily in the following legal areas:

1. Criminal and administrative proceedings worldwide (excluding the USA/Canada)

Criminal investigations, regulatory offense proceedings, and/or administrative proceedings have been opened in some countries (in Germany for example by the Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin – Federal Financial Supervisory Authority). The public prosecutor's offices in Braunschweig and Munich are investigating the core issues of the criminal investigations.

In April 2019, the Braunschweig Office of the Public Prosecutor issued indictments, including one against a former Chairman of the Board of Management of Volkswagen AG, charging, among other things, fraud relating to Type EA 189 engines in connection with the diesel issue.

In September 2019, the Braunschweig Office of the Public Prosecutor furthermore indicted the current and a former Chairman of the Board of Management of Volkswagen AG as well as a former member of its Board of Management (currently Chairman of the Supervisory Board) on charges of market manipulation relating to capital market disclosure obligations in connection with the diesel issue. The Public Prosecutor's Office also requested that the court name Volkswagen AG as a collateral participant in the proceedings.

In July 2019, the Munich II Office of the Public Prosecutor issued indictments, including one against the former Chairman of the Board of Management of AUDI AG, charging, among other things, fraud relating to 3.0 TDI engines in connection with the diesel issue.

Based on the information available at the present time, no change in the risk situation of the Volkswagen Group results from these indictments.

The Stuttgart Office of the Public Prosecutor is conducting a criminal investigation relating to the diesel issue on suspicion of fraud and illegal advertising that also involves a member of the Board of Management of Dr. Ing. h.c. F. Porsche AG.

The respective Group companies appointed renowned law firms to clarify the matters underlying the public prosecutor's accusations. The Board of Management and Supervisory Board receive regular updates on the current status.

In an administrative fine order issued on May 7, 2019, the Stuttgart Office of the Public Prosecutor terminated the regulatory offense proceeding conducted against Dr. Ing. h.c. F. Porsche AG in connection with the diesel issue by finding a negligent breach of the obligation to supervise occurring in the organizational unit "Prüffeld Entwicklung Gesamtfahrzeug/Qualität" (Overall Vehicle Development/Quality - Testing Facility). The administrative order imposes a total fine of €535 million, consisting of a penalty payment of €4 million and the forfeiture of economic benefits in the amount of €531 million. After thorough examination, Dr. Ing. h.c. F. Porsche AG has accepted the fine and paid it in full, rendering the administrative fine order legally final. Further sanctions against or forfeitures by Dr. Ing. h.c. F. Porsche AG are therefore not to be expected in Europe in connection with the unitary factual situation underlying the administrative fine order.

As the type approval authority of proper jurisdiction, the KBA moreover continuously tests Audi, VW, and Porsche brand vehicles for problematic functions. If certain functions are deemed impermissible by the KBA, the affected vehicles are recalled pursuant to a recall order or they are brought back into compliance by means of a voluntary service measure.

Furthermore, additional administrative actions relating to the diesel issue are ongoing in other jurisdictions.

The companies of the Volkswagen Group continue to cooperate with the government authorities.

Whether the criminal and administrative proceedings will ultimately result in fines or other consequences for the Company, and if so what amounts these may entail, is currently subject to estimation risks. According to Volkswagen's estimates, the likelihood that a sanction will be imposed is 50% or less in the majority of these proceedings. Contingent liabilities have therefore been disclosed where the amount of such liabilities could be measured and the likelihood of a sanction being imposed was assessed at not lower than 10%. Provisions were recognized to a small extent.

2. Product-related lawsuits worldwide (excluding the USA/Canada)

In principle, it is possible that customers in the affected markets will file civil lawsuits or that importers and dealers will assert recourse claims against Volkswagen AG and other Volkswagen Group companies. Besides individual lawsuits, various forms of collective actions (i.e. assertion of individual claims by plaintiffs acting jointly or as representatives of a class) are available in various jurisdictions. Furthermore, in a

number of markets it is possible for consumer and/or environmental organizations to bring suit to enforce alleged rights to injunctive relief, declaratory judgment, or damages.

Customer class action lawsuits and actions brought by consumer and/or environmental organizations are pending against Volkswagen AG and other Volkswagen Group companies in a number of countries including Australia, Belgium, Brazil, Germany, Italy, the Netherlands, Portugal, South Africa, and the United Kingdom. Alleged rights to damages and other relief are asserted in these actions. The pending actions include in particular the following:

In Australia, various class action lawsuits with opt-out provisions are currently pending against Volkswagen AG and other Volkswagen Group companies, including the Australian subsidiaries. Given the opt-out rule, the class actions have the potential to automatically cover all vehicles with type EA 189 engines unless the right to opt out is actively exercised. In all, approximately 100 thousand vehicles in the Australian market with type EA 189 engines are affected. In December 2019 Volkswagen AG reached agreements with the Australian class action plaintiffs that would terminate the litigation. The court must still approve the settlement. Depending on the number of claims filed under the class action settlement, Volkswagen AG anticipates payment of an amount of up to AUD 127.1 million plus litigation costs to settle the class action lawsuits. Two civil suits filed against Volkswagen AG and other Group companies by the Australian Competition and Consumer Commission (ACCC) were settled in the second half of 2019. The settlement is not yet legally final, however, as an appellate court has yet to rule on the amount of the fine. Depending on the appellate court decision, Volkswagen AG anticipates payment of a fine of up to AUD 125 million plus litigation costs.

In Belgium, the Belgian consumer organization Test Aankoop VZW has filed a class action to which an opt-out mechanism has been held to apply. The class action pertains to vehicles purchased by consumers on the Belgian market after September 1, 2014. The asserted claims are based on purported violations of unfair competition and consumer protection law as well as on alleged breach of contract.

In Brazil two class actions are pending. One of these pertains to approximately 17 thousand vehicles. In this litigation, an appeals judgment was rendered in May 2019 that only partially upheld the lower court's decision. This judgment initially reduced the damage liability of Volkswagen do Brasil considerably to around BRL 172 million plus interest. This amount can increase as a result of the adjudicated inflation rate and the assertion of individual claims alleging declines in the value of affected Amarok vehicles. The judgment remains non-final. In the second class action,

compensation claims are made based on purported breaches of environmental regulations.

In Germany, the Verbraucherzentrale Bundesverband e.V. (Federation of Consumer Organizations) filed an action in November 2018 with the Braunschweig Higher Regional Court for model declaratory judgment against Volkswagen AG. The complaint is seeking a ruling that certain preconditions for potential consumer claims against Volkswagen AG are met; however, no specific payment obligations would result from any determinations the court may make. Individual claims would have to be established afterwards in subsequent separate proceedings. Oral argument in the consumer action for model declaratory judgment began in September 2019. Volkswagen AG intends to offer individual settlements to consumers who registered claims under the action for model declaratory judgment and meet the settlement criteria. The volume of such settlements amounts to approximately €830 million.

In addition, various actions have been brought against companies of the Volkswagen Group in several German regional courts by financialright GmbH, which is asserting rights assigned to it by a total of approximately 45 thousand customers in Germany, Slovenia, and Switzerland.

In England and Wales, suits filed in court by various law firms have been joined in a single collective action (group litigation). Because of the opt-in mechanism, not all vehicles with type EA 189 engines are automatically covered by the group litigation; potential claimants must instead take action in order to join. To date, some 90 thousand plaintiffs have registered claims under the group litigation. The group litigation opt-in period has expired.

In Italy, a class action lawsuit filed by the consumer association Altroconsumo on behalf of Italian customers is pending before the Venice Regional Court. This litigation involves damage claims based on alleged breach of contract as well as claims based on purported violations of Italian consumer protection law. Some 82 thousand customers have registered for the class action, whereby the validity of roughly half of the registrations is still unclear. In Italy, the court decision dismissing the class action filed by the consumer association Codacons as inadmissible also became legally final in the reporting year.

In the Netherlands, Stichting Volkswagen Car Claim has brought an opt-out class action seeking declaratory rulings. Any individual claims would then have to be established afterwards in separate proceedings. In November 2019, the Regional Court in Amsterdam held the requests for relief to be inadmissible in part. Oral argument on the merits of the class action will take place in 2020.

A Portuguese consumer organization has filed a class action with opt-out mechanism in Portugal. There are poten-

tially up to approximately 139 thousand vehicles affected in the Portuguese market. The complaint seeks vehicle return and alleges damages as well.

In South Africa, an opt-out class action seeking damages is pending that pertains to some 8 thousand vehicles with V6 and V8 TDI engines in addition to approximately 72 thousand vehicles with type EA 189 engines.

Furthermore, individual lawsuits and similar proceedings are pending against Volkswagen AG and other Volkswagen Group companies in various countries, most of which are seeking damages or rescission of the purchase contract. In Germany, there are over 70 thousand such individual lawsuits.

Volkswagen estimates the likelihood that the plaintiffs will prevail to be 50% or less in the great majority of customer class actions, complaints filed by consumer and/or environmental organizations, and individual lawsuits. Contingent liabilities are disclosed for these proceedings where the amount of such liabilities can be measured and the chance that the plaintiff will prevail was assessed as not implausible. Since most of these proceedings are still in an early stage, it is in many cases not yet possible to quantify the realistic risk exposure. In addition, provisions were recognized to the extent necessary based on the current assessment.

At this time it cannot be estimated how many customers will choose to file lawsuits in the future in addition to those already pending, given the consumer action for model declaratory judgment in Germany, among other things, and what their prospect of success will be.

3. Lawsuits filed by investors worldwide (excluding the USA/Canada)

Investors from Germany and abroad have filed claims for damages against Volkswagen AG – in some cases along with Porsche Automobil Holding SE (Porsche SE) as joint and several debtors – based on purported losses due to alleged misconduct in capital market communications in connection with the diesel issue.

The vast majority of these investor lawsuits are currently pending at the Regional Court in Braunschweig. In August 2016, the Regional Court in Braunschweig ordered that common questions of law and fact relevant to the lawsuits pending at the Regional Court in Braunschweig be referred to the Higher Regional Court in Braunschweig for binding declaratory rulings pursuant to the Kapitalanleger-Musterverfahrensgesetz (KapMuG – German Act on Model Case Proceedings in Disputes Regarding Capital Market Information). In this proceeding, common questions of law and fact relevant to these actions are to be adjudicated in a consolidated manner by the Higher Regional Court in Braunschweig (model case proceedings). All lawsuits at the

Regional Court in Braunschweig will be stayed pending resolution of the common issues, unless the cases can be dismissed for reasons independent of the common issues that are to be adjudicated in the model case proceedings. The resolution in the model case proceedings of the common questions of law and fact will be binding for all pending cases that have been stayed in the described manner. Oral argument in the model case proceedings before the Braunschweig Higher Regional Court began in September 2018 and will be continued at subsequent hearings.

At the Regional Court in Stuttgart, further investor lawsuits have been filed against Volkswagen AG, in some cases along with Porsche SE as joint and several debtor.

Holding that the factual situation at issue is by and large already covered by the model case proceedings being heard by the Braunschweig Higher Regional Court and that these proceedings, being paramount in this regard, preclude further such actions, the Stuttgart Higher Regional Court in March 2019 refused to proceed with further capital investor model case proceedings (which include Porsche SE) that had been referred to it by the Stuttgart Regional Court. The plaintiff side has appealed one of these decisions to the Federal Court of Justice.

Further investor lawsuits have been filed at various courts in Germany and the Netherlands. Worldwide (excluding USA and Canada), investor lawsuits, judicial applications for dunning procedures and conciliation proceedings, and claims under the KapMuG are currently pending against Volkswagen AG in connection with the diesel issue, with the claims totaling roughly €9.6 billion. Volkswagen AG remains of the opinion that it duly complied with its capital market obligations. Therefore, no provisions have been recognized for these investor lawsuits. Insofar as the chance of success was estimated at not lower than 10%, contingent liabilities have been disclosed.

4. Proceedings in the USA/Canada

In the USA and Canada, the matters described in the EPA's "Notices of Violation" are the subject of various types of lawsuits and requests for information that have been filed in particular by customers, investors, salespersons, and various government agencies in Canada and the United States, including the attorneys general of several US states, against Volkswagen AG and other Volkswagen Group companies.

In the fiscal year, Volkswagen AG and certain affiliates settled the consumer protection claims asserted by the Attorney General of the US state of New Mexico, the last remaining state asserting consumer protection claims.

The attorneys general of five US states (Illinois, Montana, New Hampshire, Ohio, and Texas) and some municipalities have suits pending in state and federal courts against Volkswagen AG, Volkswagen Group of America, Inc. and

certain affiliates, alleging violations of environmental laws. In the fiscal year, the environmental claims of two US states – Alabama and Tennessee – were dismissed in full by trial or appellate courts as preempted by federal law with no possibility of further appeal, and the New Mexico Attorney General voluntarily dismissed its environmental claims. The claims asserted by Illinois, Hillsborough County (Florida), and Salt Lake County (Utah) have been dismissed in full, but the dismissals have been appealed. Certain claims asserted by Ohio, Texas, and two Texas counties have also been dismissed, but these suits are currently proceeding as to other claims.

In March 2019, the US Securities and Exchange Commission filed a lawsuit against Volkswagen AG, Volkswagen Group of America Finance, LLC, VW Credit, Inc. and a former Chairman of the Board of Management of Volkswagen AG, asserting claims under US federal securities law based among other things on alleged misstatements and omissions in connection with the offer and sale of certain bonds and asset-backed securities.

Furthermore, in December 2019, the Canadian federal environmental regulator filed charges against Volkswagen AG in respect of 2.0 l and 3.0 l Volkswagen and Audi diesel vehicles at the conclusion of its criminal enforcement-related investigation into the diesel emissions issue. Volkswagen AG cooperated with the investigation and agreed to a plea resolution addressing all of the charges. In January 2020, Volkswagen AG pleaded guilty to the charges and agreed to pay a penalty of CAD 196.5 million, which was approved by the court. Following this approval, the Ontario provincial environmental regulator withdrew its action against Volkswagen AG as to a quasi-criminal enforcement-related offense with respect to certain Volkswagen and Audi 2.0 l diesel vehicles. Additionally, a certified environmental class action is pending on behalf of residents in Quebec. This action was authorized on the sole issue of whether punitive damages could be recovered. The appeals filed by Volkswagen were denied. The case remains in the early stages.

To the extent a matter is not separately described above, an assessment is not yet possible at the current stage of the proceedings or has, in accordance with IAS 37.92, not been presented so as not to compromise the results of the proceedings and the interests of the Company.

5. Additional proceedings

With its ruling of November 8, 2017, the Higher Regional Court of Celle ordered, upon the request of three US funds, the appointment of a special auditor for Volkswagen AG. The special auditor is to examine whether there was a breach of duties on the part of the members of the Board of Management and Supervisory Board of Volkswagen AG in connection with the diesel issue on or after June 22, 2006 and, if so, whether this resulted in damages for Volkswagen AG. The ruling by the Higher Regional Court of Celle is formally unappealable. However, Volkswagen AG has filed a constitutional complaint with the German Federal Constitutional Court alleging infringement of its constitutionally guaranteed rights. It is currently unclear when the Federal Constitutional Court will reach a decision on this matter. Following the formally unappealable ruling from the Higher Regional Court of Celle, the special auditor appointed by the court indicated that he was not available to conduct the special audit on grounds of age. In June 2019, the Hanover Regional Court denied the motion filed by the US funds to replace the special auditor. The opposing side has appealed this denial to the Celle Higher Regional Court; this appeal is still pending.

In addition, a second motion seeking appointment of a special auditor for Volkswagen AG to examine matters relating to the diesel issue has been filed with the Regional Court of Hanover. This proceeding has been stayed pending a decision by the Federal Constitutional Court in the initial special auditor litigation.

6. Risk assessment regarding the diesel issue

An amount of around €2.9 (2.4) billion has been included in the provisions for litigation and legal risks as of December 31, 2019 to protect against the currently known legal risks related to the diesel issue based on existing information and current assessments. Insofar as these can be adequately measured at this stage, contingent liabilities relating to the diesel issue were disclosed in the notes in an aggregate amount of €3.7 (5.4) billion, whereby €3.4 (3.4) billion of this amount results from lawsuits filed by investors in Germany. The provisions recognized and the contingent liabilities disclosed as well as the other latent legal risks in the context of the diesel issue are in part subject to substantial estimation risks given that the fact-finding efforts have not yet been concluded, the complexity of the individual relevant factors and the ongoing coordination with the authorities. Should these legal or estimation risks materialize, this could result in further substantial financial charges. In particular, the possibility cannot be ruled out that the provisions recognized may have to be adjusted in light of knowledge acquired or future events.

Based on the information as it exists and has been established, there continue to be no conclusive findings or assessments available to the Board of Management of Volkswagen AG regarding the described facts that would suggest that a different assessment of the associated risks should have been made.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or about uncertainty regarding the amount or maturity of provisions and contingent liabilities in relation to the diesel issue. This is so as to not compromise the results of the proceedings or the interests of the Company.

Additional important legal cases

In 2011, ARFB Anlegerschutz UG (haftungsbeschränkt) brought an action against Volkswagen AG and Porsche SE for claims for damages for allegedly violating disclosure requirements under capital market law in connection with the acquisition of ordinary shares in Volkswagen AG by Porsche SE in 2008. The damages currently being sought based on allegedly assigned rights amounted to approximately €2.26 billion plus interest. In April 2016, the Regional Court in Hanover had formulated numerous objects of declaratory judgment that the cartel senate of the Higher Regional Court in Celle will decide on in model case proceedings under the KapMuG. In the first hearing in October 2017, the court already indicated that it currently does not see claims against Volkswagen AG as justified, both for want of sufficiently specific pleadings and for reasons of law. Volkswagen AG sees the statements of the court's senate as confirmation that the claims made against the Company have absolutely no basis.

At the time in question (2010/2011), other investors had also asserted claims – including claims against Volkswagen AG – arising out of the same circumstances in an approximate total amount of €4.6 billion and initiated conciliation proceedings. Volkswagen AG always refused to participate in these conciliation proceedings; since then, these claims have not been pursued further.

In Brazil, the Brazilian tax authorities commenced tax proceedings against MAN Latin America; at issue in these proceedings are the tax consequences of the acquisition structure chosen for MAN Latin America in 2009. In December 2017, a second instance judgment that was negative for MAN Latin America was rendered in administrative court proceedings. MAN Latin America initiated proceedings against this judgment before the regular court in 2018. Due to the difference in the penalties plus interest which could potentially apply under Brazilian law, the estimated size of the risk in the event that the tax authorities are able to prevail

overall with their view is laden with uncertainty. However, a positive outcome continues to be expected for MAN Latin America. Should the opposite occur, this could result in a risk of about €0.7 billion for the contested period from 2009 onwards, which has been stated within the contingent liabilities in the notes.

In 2011, the European Commission conducted searches at European truck manufacturers on suspicion of an unlawful exchange of information during the period 1997–2011 and issued a statement of objections to MAN, Scania and the other truck manufacturers concerned in November 2014. With its settlement decision in July 2016, the European Commission fined five European truck manufacturers. MAN's fine was waived in full as the company had informed the European Commission about the irregularities as a key witness.

In September 2017, the European Commission fined Scania €0.88 billion. Scania has appealed to the European Court of Justice in Luxembourg and will use all means at its disposal to defend itself. Scania had already recognized a provision of €0.4 billion in 2016.

Furthermore, antitrust lawsuits for damages were received from customers. As is the case in any antitrust proceedings, this may result in further lawsuits for damages. Neither provisions nor contingent liabilities were stated because the early stage of proceedings makes an assessment currently impossible.

In April 2019 the European Commission issued a statement of objections to Volkswagen AG, AUDI AG, and Dr. Ing. h.c.F. Porsche AG in connection with the Commission's antitrust investigation of the automobile industry. These objections state the European Commission's preliminary evaluation of the matter and afford the opportunity to comment. The subject matter of the proceedings is limited to the cooperation of German automobile manufacturers on technical questions in connection with the development and introduction of SCR systems and gasoline particulate filters for passenger cars that were sold in the European Economic Area. The manufacturers are not charged with any other misconduct such as price fixing or allocating markets and customers. After receiving access to the investigation files starting in July 2019, Volkswagen in December 2019 filed its reply to the European Commission's statement of objections. In the same matter, the Chinese Competition Authority has also issued information requests to Volkswagen AG, AUDI AG, and Dr. Ing. h.c.F. Porsche AG, and commenced an administrative action.

In the proceedings against a number of captive automobile finance companies regarding potential competition law

infringements (alleged exchange of competitively sensitive information), the Italian Competition Authority assessed a fine of €163 million against Volkswagen AG and Volkswagen Bank GmbH in January 2019. Provisions were recognized by Volkswagen Bank GmbH. Volkswagen AG and Volkswagen Bank GmbH filed an appeal against this decision in March 2019. In the same context, an antitrust class action lawsuit has furthermore been filed by customers in Italy against Volkswagen Bank GmbH, among others.

In June 2019, the US District Court for the Northern District of California dismissed two putative class action complaints brought by purchasers of German luxury vehicles alleging that, since the 1990s, several automobile manufacturers, including Volkswagen AG and other Group companies, conspired to unlawfully increase the prices of German luxury vehicles in violation of US antitrust and consumer protection law. The court held that the plaintiffs have not stated a claim for relief because the allegations in the complaints do not plausibly support the alleged anticompetitive agreements. Plaintiffs filed amended complaints, which Volkswagen moved to dismiss. Plaintiffs in Canada filed claims with similar allegations on behalf of putative classes of purchasers of German luxury vehicles against several automobile manufacturers, including Volkswagen Group Canada Inc., Audi Canada Inc., and other Group companies. Neither provisions nor contingent liabilities were stated because the early stage of proceedings makes an assessment currently impossible.

In addition, a few national and international authorities have initiated antitrust investigations. Volkswagen is cooperating closely with the responsible authorities in these investigations. An assessment of the underlying situation is not possible at this early stage.

Volkswagen has been responding to information requests from the US Environmental Protection Agency (EPA) and CARB related to automatic transmissions in certain vehicles with gasoline engines. In August 2019, Volkswagen agreed with the EPA to forfeit approximately 220 thousand Greenhouse Gas Emission Credits in response to the EPA's inquiry. Also in August 2019, Volkswagen and the Plaintiffs' Steering Committee announced the settlement of civil claims relating to approximately 98 thousand Volkswagen, Audi, Porsche and Bentley vehicles. Volkswagen's testing of these vehicles in connection with the information requests resulted in a 1 mile per gallon change, when rounded according to EPA rules, in

the fuel economy disclosed on the "Monroney label" required by US regulations. In October 2019, the Court granted preliminary approval of the settlement.

Provisions were recognized by Volkswagen Bank GmbH and Volkswagen Leasing GmbH for possible claims in connection with financial services provided to consumers.

In February 2020, Volkswagen AG and another defendant were served with a lawsuit filed by GT Gettaxi Ltd. The lawsuit in particular alleges large damage claims. Volkswagen will evaluate the alleged claims and defend itself against them.

In addition, various proceedings are pending worldwide, particularly in the USA, in which customers are asserting purported claims either individually or in class actions. These claims are as a rule based on alleged vehicle defects, including defects alleged in vehicle parts supplied to the Volkswagen Group (for instance, in the Takata case).

Risks may also result from actions for infringement of intellectual property, including infringement of patents, trademarks or other third-party rights, particularly in Germany and the USA. These actions pertain among other things to patents for semiconductor technology used in vehicles, but may also extend to control, regulation or power-units, and communications technology as well. If Volkswagen is alleged or determined to have violated third-party intellectual property rights, it may have to pay damages, modify manufacturing processes, or redesign products and may be barred from selling certain products. Volkswagen could also face costly litigation. These risks could lead to delivery and production restrictions or interruptions.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or about uncertainty regarding the amount or maturity of provisions and contingent liabilities in relation to additional important legal cases. This is so as to not compromise the results of the proceedings or the interests of the Company.

Tax risks

Volkswagen AG and its subsidiaries have operations worldwide and are audited by local tax authorities on an ongoing basis. Amendments to tax laws as well as changes in their

application by the courts and their interpretation by the tax authorities in the respective countries may lead to tax payments that differ from the estimates made in the financial statements.

Risks arise particularly from tax assessment of the cross-border supply of intragroup goods and services. Through organizational measures, such as the implementation of an advance pricing agreement as well as the monitoring of transfer prices, Volkswagen is constantly monitoring the development of tax risks as well as the impact thereof on the consolidated financial statements.

Tax provisions were recognized for potential future retrospective tax payments, while other provisions were recognized for ancillary tax payments arising in this connection.

Financial risks

The most significant risks from the regular GRC process and QRP result from volatile foreign exchange markets.

Strategies for hedging financial risks

In the course of our business activities, financial risks may arise from changes in interest rates, exchange rates, raw material prices, or share and fund prices. Management of these financial and liquidity risks is the central responsibility of the Group Treasury department, which reduces these risks using nonderivative and derivative financial instruments. The Board of Management is informed of the current risk situation at regular intervals.

We hedge interest rate risk – where appropriate in combination with currency risk – and risks arising from fluctuations in the value of financial instruments by means of interest rate swaps, cross-currency interest rate swaps and other interest rate contracts with generally matching amounts and maturities. This also applies to financing arrangements within the Volkswagen Group.

Foreign currency risk is reduced in particular through natural hedging, i.e. by flexibly adapting our production capacity at our locations around the world, establishing new production facilities in the most important currency regions and also procuring a large percentage of components locally. We hedge the residual foreign currency risk using hedging instruments. These mainly comprise currency forwards and currency options. We use these transactions to limit the currency risk associated with forecasted cash flows from operating activities, intragroup financing and liquidity positions in currencies other than the respective functional currency, for example as a result of restrictions on capital movements. The currency forwards and currency options can

have a term of up to ten years. We thus hedge our principal foreign currency risks, mostly against the euro and primarily in Australian dollars, Brazilian real, British pound sterling, Canadian dollars, Chinese renminbi, Czech koruna, Hong Kong dollars, Hungarian forints, Indian rupees, Japanese yen, Mexican pesos, Norwegian kroner, Polish zloty, Russian rubles, Singapore dollars, South African rand, South Korean won, Swedish kronor, Swiss francs, Taiwan dollars and US dollars.

The hedging of commodity prices entails risks relating to the availability of raw materials and price trends. We continuously analyze potential risks arising from changes in commodity and energy prices in the market so that immediate action can be taken whenever these arise. We limit these risks mainly by entering into forward transactions and swaps. We have used appropriate contracts to hedge some of our requirements for commodities such as aluminum, lead, coal and copper over a period of up to six years, in the case of nickel for up to nine years. The precious metals platinum, palladium and rhodium have shorter hedging periods, generally amounting to a maximum of up to three years. We have entered into similar transactions in order to supplement and improve allocations of CO₂ emission certificates.

Pages 293 to 314 of the notes to the consolidated financial statements explain our hedging policy, the hedging rules and the default and liquidity risks, and quantify the hedging transactions mentioned. Additionally, we disclose information on market risk within the meaning of IFRS 7.

Risks arising from financial instruments

Channeling excess liquidity into investments and entering into derivatives contracts gives rise to counterparty risk. Partial or complete failure by a counterparty to perform its obligation to pay interest and repay principal, for example, would have a negative impact on the Volkswagen Group's earnings and liquidity. We counter this risk through our counterparty risk management, which we describe in more detail in the section entitled "Principles and Goals of Financial Management" starting on page 117. The financial instruments held for hedging purposes give rise to both counterparty risks and balance sheet risks, which we limit using hedge accounting.

By diversifying when selecting business partners, we ensure that the impact of a default is limited and the Volkswagen Group remains solvent at all times, even in the event of a default by individual counterparties.

Risks arising from trade receivables and from financial services are explained in more detail in the notes to the consolidated financial statements, starting on page 293.

Liquidity risk

Volkswagen is reliant on its ability to ensure that there is adequate coverage for its financing needs. A liquidity risk consists of potentially being unable to ensure existing capital requirements by raising funds or being unable to finance the Group on reasonable terms, which in turn can have substantially negative impact on Volkswagen's business position, assets, financial position and earnings.

In principle, the Automotive Division and Financial Services Division refinance themselves independently of one another. However, they are subject to very similar refinancing risks. In the Automotive Division, the company's solvency is ensured at all times mostly through retained, non-distributed earnings, by drawing down on credit lines and by issuing financial instruments on the money and capital markets. The capital requirements of the financial services business are covered mainly by raising funds in the national and international financial markets, as well as through customer deposits from the direct banking business.

Volkswagen finances projects with, for example, loans provided by national development banks such as Kreditanstalt für Wiederaufbau (KfW) or Banco Nacional de Desenvolvimento Econômico e Social (BNDES) or by supranational development banks such as the European Investment Bank (EIB).

In addition to confirmed credit lines, unconfirmed lines of credit from commercial banks supplement our broadly diversified refinancing structure.

Financing opportunities can be hindered by worsening financial and general market conditions, a worsening credit profile and outlook or a downgrade or withdrawal of the credit rating. In such cases, there may be a fall in demand from market participants for securities issued by Volkswagen, which may additionally have a detrimental effect on the interest rates payable and restrict access to the capital market.

As a result of the diesel issue, the ability to use refinancing instruments may possibly be restricted or precluded for the Volkswagen Group. A downgrade of the Company's rating could adversely affect the terms associated with the Volkswagen Group's borrowings.

Information on the ratings of Volkswagen AG, Volkswagen Financial Services AG and Volkswagen Bank GmbH can be found on page 112 of this report.

Risks in the financial services business

In the course of our financial services activities, we are exposed primarily to residual value risks and credit risks.

A residual value risk arises when the expected fair value for the disposal of the lease or finance asset may be lower than the residual value set at contract conclusion. However, there is an opportunity that disposal of the asset will generate more income than calculated for the residual value.

Referring to the bearer of residual value risk, a distinction is made between direct and indirect residual value risks. A direct residual value risk means that our financial services companies directly bear this risk (as outlined in the contract). An indirect residual value risk occurs when, based on a residual value guarantee, the residual value risk has passed to a third party, such as a dealer. In such cases, an initial counterparty default risk associated with this third party exists (the residual value guarantor). If the guarantor defaults, the residual value risk passes to our financial services companies.

Management of the residual value risk is based on a defined control cycle, which ensures that risks are fully assessed, monitored, responded to and communicated. This process structure enables us to manage residual risks professionally and also to systematically improve and enhance the way we handle residual value risks.

In the course of our risk management, the appropriateness of the risk provision is assessed regularly, as in the residual value risk potential. In the process, we compare the contractually agreed residual values with the obtainable fair values. These are determined utilizing data from external service providers and our own marketing data. We do not take account of the possible gains on residual market values when recognizing loss allowances.

Resulting from potential of residual value risks, a variety of measures are initiated in order to limit these risks. Current market circumstances and future influencing factors must be considered when making a residual value recommendation related to new business.

Credit risk describes the risk of losses due to defaults in customer transactions, specifically by the borrower or lessee. Default occurs when the borrower or lessee is unable or unwilling to make the payments due. This includes late or partial payment of interest and principal on the part of the contracting party.

Credit checks on borrowers are the primary basis for lending decisions. Rating and scoring systems are used to provide an objective decision-making basis for granting loans and leases.

Risks are managed and monitored within the framework of corresponding processes relating to economic circum-

stances and collateral, adherence to limits, contractual obligations and conditions stipulated both by outside parties and the company itself. As such, commitments are managed according to the degree of risk involved (standard, intensified and problem loan management).

More information on risks in the financial services business can be found in the 2019 annual reports of Volkswagen Financial Services AG and Volkswagen Bank GmbH.

Opportunities and risks from mergers & acquisitions and/or other strategic partnerships/investments

The most significant risks from the regular GRC process and QRP are linked to the cooperation with other partners.

Opportunities and risks from partnerships

As part of our future program TOGETHER 2025⁺, we are stepping up our efforts to forge collaborations, both for the transformation of our core business and for the establishment of the new mobility solutions business.

In the area of battery cells, possible risks could arise from potential disagreement with our partners, possible delays in battery cell development, or delayed battery cell production.

With the marketing of the Modular Electric Drive Toolkit to third parties, as is conceivable as part of the strategic alliance with Ford, for example, damage claims could arise in the event of problems with procurement, production and quality.

By entering into partnerships at a local level, we aim to identify regional customer needs more precisely, establish competitive cost structures and thus develop and offer market-driven products. Going forward, we will concentrate to a greater extent than previously on partnerships, acquisitions and venture capital investments. This will enable us to generate maximum value for the Group and its brands and to expand our expertise, particularly in new areas of business. At the same time, there is a risk that the interests of business partners differ from our own. Volkswagen owns a large number of patents and other industrial property rights and copyrights. Partnerships can lead to patent and licensing

infringements and thus to the unauthorized disclosure of company-specific expertise. Volkswagen monitors the sales markets and also protects its expertise with legal action.

Risks arising from the recoverability of goodwill or brand names

Volkswagen tests at least once a year on the basis of underlying cash-generating units, if the value of the goodwill or the brand names has been impaired. If there are objective indications that the recoverable amount of the asset concerned is lower than the carrying amount, then Volkswagen recognizes this as a non-cash impairment. An impairment can be caused, among other things, by an increase in interest rates or deteriorating business prospects.

Risks from the disposal of equity investments

An unexpected need for funding, for example in connection with the diesel issue, may lead to assets having to be sold for an amount not equivalent to their value.

OVERALL ASSESSMENT OF THE RISK AND OPPORTUNITY POSITION

The Volkswagen Group's overall risk and opportunity position results from the specific risks and opportunities shown above. We have put in place a comprehensive risk management system to ensure that these risks are controlled. The most significant risks to the Volkswagen Group across all risk categories result from a negative trend in markets and unit sales, quality problems, and the failure to develop products in line with demand and regulations, especially in view of e-mobility and digitalization. We have added cyber security and failure to meet CO₂-related regulations to this list given their growing importance. The Volkswagen Group is still exposed to risks from the diesel issue. Depending on the course of events, the spread of the coronavirus could have a negative impact on 2020. Taking into account all the information known to us at present, no risks exist which could pose a threat to the continued existence of significant Group companies or the Volkswagen Group.

This annual report contains forward-looking statements on the business development of the Volkswagen Group. These statements are based on assumptions relating to the development of the economic and legal environment in individual countries and economic regions, and in particular for the automotive industry, which we have made on the basis of the information available to us and which we consider to be realistic at the time of going to press. The estimates given entail a degree of risk, and actual developments may differ from those forecast. Any changes in significant parameters relating to our key sales

markets, or any significant shifts in exchange rates relevant to the Volkswagen Group, will have a corresponding effect on the development of our business. In addition, there may be departures from our expected business development if the assessments of the factors influencing sustainable value enhancement, as well as risks and opportunities, presented in this annual report develop in a way other than we are currently expecting, or if additional risks and opportunities or other factors emerge that affect the development of our business.