

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

THE THREE LINES OF DEFENSE MODEL



work for enterprise risk management ensures that potential risk 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, among other bodies, by the European Confederation of Institutes of Internal Auditing (ECIIA). In line with this model the Volkswagen Group’s RMS/ICS has three lines of defense that are designed to protect the Company from significant risks occurring.

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, their effects assessed, and the information incorporated into the planning in a timely manner. 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 that have already been taken are incorporated into the monthly forecasts on further business development in a timely manner. 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 minimum requirements for the operational risk management and internal control system are set out for the entire Group in uniform guidelines. These also include a process for the timely reporting of material risks.

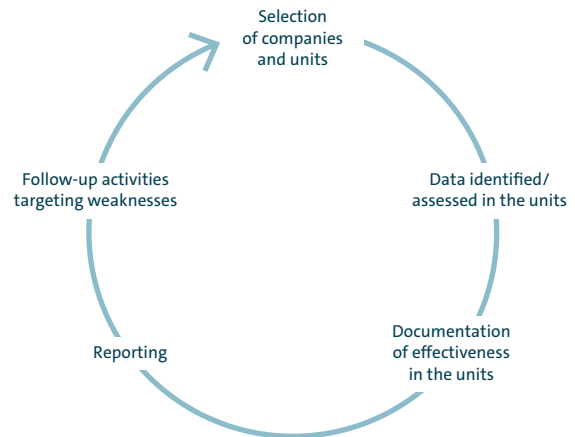
Operational risk management also includes compliance with the Golden Rules in the areas of control unit software development, emission classification and escalation management. These rules are the minimum requirements in the organization, processes and tools & systems categories. We continued to reinforce the internal control system in the area of product compliance in 2018.

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

In addition to the ongoing operational risk management, the Group Risk Management department each year sends standardized surveys 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). The feedback is used to update the overall picture of the potential risk situation and assess the effectiveness of the system.

Each systemic risk reported is assessed using the expected likelihood of occurrence and various risk criteria (financial and nonfinancial). In addition, the measures taken to manage and control risk are documented at management level. This means that risks are assessed in the context of any risk management measures initiated, i.e. in a net analysis. 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.

ANNUAL STANDARD GOVERNANCE, RISK AND COMPLIANCE PROCESS



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 2018.

In addition to the ad hoc and annual risk assessment, the Board of Management also receives quarterly risk reports. Similar to the annual standard GRC process, the assessment takes risk-minimizing control measures into account (net assessment). All Group brands are included in this process along with Porsche Holding Salzburg, Volkswagen Financial Services AG and Volkswagen Bank GmbH.

Information on relevant systemic and current risks is regularly reported to the Group Board of Management and the Audit Committee of the Supervisory Board of Volkswagen AG.

In addition, the Company set up the Group Board of Management Committee for Risk Management in 2017. This met quarterly in the reporting year. The committee has the following tasks, among others:

- > 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.

The Scania brand was incorporated into the standard GRC process in 2018. The brand has already been included in quarterly risk reporting since 2016.

Third line of defense: checks 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 that also involve 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, which is responsible for the leasing, insurance, services and mobility business and the lending business outside Europe, 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 relevant for 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 using 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 required to be prepared by the Group companies are also set out in detail there and requirements 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 reasonableness of the single-entity financial statements and specific significant issues at the subsidiaries. Alongside reasonableness reviews, 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 significant risks and opportunities that arise in the course of our business activities. We have grouped them into categories. Unless explicitly mentioned, there were no material changes to the specific risks and opportunities compared with the previous year. The increasing number of partnerships generates both opportunities as well as risks.

The diesel issue gives rise to its own risks for the Volkswagen Group and also has an impact on existing risks. These are described under the respective risk category.

We use competitive and environmental analyses and market studies to identify not only risks but also opportunities with 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 may result in a negative or positive deviation from our forecast.

Risks from the diesel issue

The Volkswagen Group has recognized provisions arising from the diesel issue, in particular for the service measures, recalls and customer-related measures as well as for legal risks.

Further significant financial liabilities may emerge due to existing estimation risks particularly from legal risks, such as criminal, administrative and civil proceedings, technical solutions, lower market prices, repurchase obligations, customer-related measures and possible official or statutory requirements for diesel vehicles.

Demand may decrease – possibly exacerbated by a loss of reputation 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 funding needed to cover the risks may lead to assets having to be sold due to the situation and equivalent proceeds for them not being achieved as a result.

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.

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

Additional information about the litigation can be found on pages 94 and 177 to 183 of this annual report.

Macroeconomic risks and opportunities

We believe that risks to continued global economic growth arise primarily from turbulence in the financial markets, increasingly protectionist tendencies and structural deficits, which pose a threat to the performance of individual advanced economies and emerging markets. The 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.

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 are a further major risk factor to the performance of individual economies and regions. As the global economy becomes increasingly interconnected, it is also vulnerable to local developments. 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 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 next year. Due to the risk factors mentioned, however, 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 and China are our main sales markets. A drop in demand in these regions due to the economic climate would have a particularly strong negative impact on the Company's earnings. 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 and are catering to requirements there.

Price pressure in established automotive markets 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.

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 will impose a so-called "new energy vehicle quota" from 2019 onwards, 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 bring a more marked recovery in these markets if the economic environment eases more quickly than expected.

Economic performance varied in individual regions in fiscal year 2018. 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,

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 two reasons in particular: firstly, because of the provisions of the block exemption regulations, which have applied to after-sales services since June 2010, and, secondly, because of the amendments included in EU Regulation 566/2011 as of June 8, 2011 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.

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

Below, we outline the greatest growth and market potential for the Volkswagen Group.

China

In China, the largest market in the Asia-Pacific region, there was a slight year-on-year decline in the passenger car market in the reporting year. Though demand for vehicles will rise in the coming years due to the need for individual mobility, the trade conflict with the USA means that this will be at a slower pace than in the past. Demand will also shift from the large coastal cities to the interior of the country. In order to leverage the considerable opportunities offered by the Chinese 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

The political and economic situation in India further stabilized in 2018. The vehicle markets continued their growth path. We expect this trend to continue. 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 2018 was in line with the previous year. For 2019, the market volume is expected to be slightly down on the reporting period. In the USA, Volkswagen Group of America is systematically pursuing our strategy of becoming a full-fledged volume supplier. The expansion of local production capacity – also 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 pressing forward with additional products tailored specifically to the US market.

Brazil

The economic environment eased somewhat in the reporting year, while Brazil's political path is uncertain after the presidential elections. The volume of demand in the vehicle market recovered markedly compared with the weak prior year. We anticipate a continued upturn in demand in 2019. 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

Russia has the potential to grow into one of the largest automotive markets in the world. The volume of the Russian vehicle market in 2018 was up markedly on the previous year and we are forecasting that the passenger car market will slightly exceed the reporting year in 2019. 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 are working intensively there.

The Middle East

Political and economic uncertainty is weighing on the region's main sales markets, particularly Turkey. Increased

tariffs along with the dramatic depreciation of the Turkish lira, which is accompanied by very high inflation and rising interest rates, are weakening demand in the country. Despite the instability, however, the Middle East region offers long-term growth potential. We are leveraging the potential for growth with a range of vehicles that has been specifically tailored to this market, but do not have our own production facilities.

Power Engineering

The underlying trends in the global economy, such as sustained growth and a greater international division of labor, are set to continue, despite increased geopolitical and macro-economic 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 relation to 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. Going forward, stricter requirements with respect to reliability, 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.

Research and development risk

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 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 the changing conditions. Due to the intensity of the competition and the speed of technological development, identifying relevant trends at an early stage and reacting accordingly is crucial.

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 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 communication 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 effective 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.

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 and manufacturing times. The toolkits also allow us to produce different models from different brands in various quantities, using the same system 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 are currently transferring 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 manufacturing worldwide from 2020 with the introduction of the first MEB-based vehicle.

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

Opportunities and risks from partnerships

As part of our future program TOGETHER – Strategy 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. By entering into partnerships at a local level, we aim to identify regional customer needs more precisely, establish competitive cost structures and 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.

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.

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 perform projects. Among other things, the procurement function considers the risk of insufficient competition if it concentrates on a few financially strong suppliers when awarding contracts.

The positive economic trend in Europe, North America and China weakened over the course of the year. Moreover, shifts in demand from our customers and restrictions in the availability of model variants as a result of the WLTP test procedure posed a challenge to suppliers. These changed circumstances restricted suppliers' financing opportunities, particularly in areas where alternative technologies are gaining importance. The procurement risk management

system continuously and globally monitors the financial situation of our suppliers and takes targeted measures to avoid supply bottlenecks.

The number of crises and insolvencies among suppliers worldwide fell in 2018 in line with the global economic situation. Specialists in restructuring and supply reliability are coordinating the measures to be taken on a Group-wide basis to safeguard production in a timely and sustainable manner.

The current trends in the automotive industry will also affect the availability of special raw materials, which are principally used in electrified vehicles. 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 in a timely manner in the event of potential bottlenecks.

New bilateral and multilateral trade agreements, including those for steel, for the expected shift in the product mix from diesel to petrol engines and for short-term demand fluctuations relating to the WLTP test procedure, present challenges that must be tackled together with suppliers. As a result of the new trade agreement between the USA, Mexico and Canada, there is a risk of additional costs due to more expensive deliveries.

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. Supply risks are identified without delay in the procurement function 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.

Antitrust investigations into suppliers on grounds of price-fixing agreements are being monitored by Risk Management. The effects on Volkswagen are being systematically reviewed.

Production risk

Volatile developments in the global automotive markets, accidents at suppliers and disruption in the supply chain caused production volumes of individual vehicle models to fluctuate at some plants. In specific markets, we also recorded

a change in incoming orders: the number of orders for diesel vehicles fell, while orders for petrol engines rose. 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 we identify bottlenecks in the supply of materials, 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.

The range of our models is growing, 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 that production 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 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, risks may arise that are often only identified in the course of the project. They may result in particular from contract drafting errors, miscosting, post-contract changes in economic and technical conditions, weaknesses in project management, or poor performance by subcontractors. In particular, 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.

Risks arising from changes in demand

As a result of the diesel issue, the Volkswagen Group may experience decreases in demand, possibly exacerbated by media reports.

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 the buyer reluctance with our attractive range of models and systematic 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 – as already exist 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 earnings 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, or from protectionist tendencies.

Commercial vehicles are capital goods: even minor changes in growth rates or growth forecasts can significantly affect transport requirements and thus demand. The production fluctuations arising 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 in fact significantly exceeds 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. In addition, customers are increasingly interested in additional services such as freight optimization and fleet utilization, which we offer in the commercial vehicle segment through the newly established digital brand RIO, for example.

MAN 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 technologies.

Dependence on fleet customer business

Viewed over an extended period, the fleet customer business is generally more stable than the business with retail customers; in 2018, 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 high market share in Europe shows that fleet customers still have confidence in the Group.

Quality risk

Right from the product development stage, we aim to identify and rectify quality problems at the earliest possible 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 and eliminate the malfunctions as quickly as possible. We further optimized the processes with which we can prevent these defects at our brands and improved our organizational processes during the reporting period so that we are able to counter the associated risks more effectively.

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. To ensure the continuity of production, it is also extremely important that our own plants and our suppliers deliver components on time. We ensure long-term quality and supply capability from the very start of the supply chain using a risk management system that we first tested internally and then introduced with suppliers. In this way, Group Quality Management contributes to fulfilling customer expectations and consequently to boosting our Company's reputation, sales figures and earnings.

Assuring quality is of fundamental importance especially in the Brazilian, Russian, Indian and Chinese markets, for which we develop dedicated vehicles 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 individually to them. 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. Several countries also have special – and in some cases new – rules aimed at protecting customers in their dealings with vehicle manufacturers. With our established and revised quality assurance processes, we 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.

Personnel risk

We counter economic risks as well as changes in the market and competitive situation with a range of instruments that

help the Volkswagen Group to remain flexible with a fluctuating order situation – whether orders decline or demand for our products increases. These include time accounts which are filled when overtime is necessary and reduced through time off in quiet periods, enabling our factories to adjust their capacity to the production volume with measures such as extra shifts, closure days and flexible shift models. The use of temporary workers also allows us to plan more flexibly. 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. Our strategically oriented and holistic human resource development gives all employees attractive training and development opportunities, with particular emphasis being placed on strengthening professional skills in the Company's different vocational groups. By boosting our training programs, particularly at our international locations, we are able to adequately address the challenges of technological change.

We are continuously expanding 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 ensure a pipeline of highly qualified and motivated employees. By systematically increasing our attractiveness as an employer, we gain talented people in the future-critical areas of IT, design and social media. With tools such as these, we ensure that we can cover our requirement for highly qualified new staff even amid a shortage of skilled labor.

We counter the risk that knowledge will be lost as a result of employee fluctuation and retirement with intensive, department-specific 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 of our collaboration with the monitor lies in the tension, in some regards, 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 against the backdrop of the existing scopes of assessment and interpretation regarding data-protection requirements. In the interest of precluding infringements of the law as best as possible – despite a partially unclear legal situation – Volkswagen is advised by external law firms on these issues.

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 it 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 services for our mobility services must be secured. 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 used 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 helps to identify risks at an early stage and reduce them effectively.

The focus of our IT security program is the ongoing enhancement of Group-wide security measures. This currently includes the setting up of an IT security command center. The center's role is to detect cyber-attacks quickly,

helping us to successfully defeat them using the latest tools. Volkswagen complements these technical measures by systematically raising awareness and providing training for employees.

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 new European passenger car fleets 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 to meet this limit. Regulation (EU) No 333/2014, which was adopted in 2014, states that the average emissions of European passenger car fleets may be no higher than just 95 g CO₂/km from 2021 onwards; 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 changed into a WLTP target value through a process defined by lawmakers; this change is not expected to lead to additional tightening of the target value.

The EU's CO₂ regulation for light commercial vehicles requires limits to be met from 2014 onwards, with targets being phased in over the period to 2017. Under this regulation, the average CO₂ emissions of new vehicle registrations in Europe may not exceed 175 g CO₂/km. From 2020 onwards, the limit under Regulation (EU) No 253/2014, which was adopted in 2014, is 147 g CO₂/km.

In the fourth quarter of 2017, the European Commission published a regulatory proposal for the CO₂ regime after 2020. In December 2018, the European Council, Parliament and Commission agreed on post-2020 fleet legislation, which has yet to be conclusively published in the Official Journal of the European Union. This legislation stipulates a reduction of 15% from 2025 and 37.5% from 2030 for the European new passenger car fleets and a reduction of 15% in 2025 and 31% in 2030 for the new light commercial vehicle fleets. In each case, the starting point is the fleet value in 2021. Policymakers are already discussing reduction targets for the transport sector for the period to 2050, such as the 60% reduction in greenhouse gas emissions compared to 1990 levels cited in the EU White Paper on transport published in March 2011. These long-term targets can only be achieved through a high proportion of electric vehicles.

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 for granting a tax advantage. To receive a 30% tax advantage, vehicle 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 consumption, China will impose a so-called “new energy vehicle quota” in the future. This means that from 2019 onwards, 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. Due to the extension of greenhouse gas legislation in the USA (the law was signed in 2012), uniform fuel consumption and greenhouse gas standards will continue to apply in all federal states in the period from 2017 to 2025.

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 contained 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, among other things, our drivetrain and fuel strategy.

In the EU, a new, more time-consuming test procedure – the Worldwide Harmonized Light-Duty Vehicles Test Procedure (WLTP), – for determining pollutant and CO₂ emissions as well as fuel consumption in passenger cars and light commercial vehicles has applied to new vehicle types since September 2017 and to all new vehicles 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. It leads to stricter requirements for exhaust gas aftertreatment in passenger cars and light commercial vehicles. There are challenges associated with stricter processes and requirements regarding RDE, such as from test criteria and from homologation (achievement of approval).

The other main EU regulations affecting the automotive industry include:

- › EU Directive 2007/46/EC establishing a framework for the 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,
- › 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 in this context 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 to decline further and to financial liabilities arising from customer-related measures and possible 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 corresponding example. With a view to the future, large urban areas such as Paris and London are discussing banning vehicles with combustion engines.

Heavy commercial vehicles first put into operation from 2014 onwards are already subject to the stricter emission requirements of the Euro 6 standard in accordance with Regulation (EU) No 582/2011. Alongside the CO₂ legislation for passenger cars and light commercial vehicles, the EU has prepared more comprehensive regulation of CO₂ emissions in heavy commercial vehicles. Simply setting an overarching limit for these vehicles – such as that in place for passenger cars and light commercial vehicles – would require an extremely complex set of rules because of the wide range of variants. For this reason, the European Commission has worked with independent scientific institutions and the European Automobile Manufacturers' Association (ACEA) to prepare a simulation-based method called the Vehicle Energy Consumption Calculation Tool (VECTO). This can be used to determine the CO₂ emissions of heavy commercial vehicles of over 7.5 tonnes based on their typical use (short-haul, regional, distribution and long-haul trips, service on construction sites and as municipal vehicles, city buses, intercity buses and coaches). A legislative proposal for the CO₂ certification of heavy commercial vehicles and regulations on the reporting and monitoring of CO₂ figures was presented in May 2017; the legislation for the declaration of CO₂ figures for heavy commercial vehicles came into effect in January 2018. A CO₂ declaration will be compulsory for selected vehicle categories from 2019 (initially long-haul and regional distribution vehicles, later also buses and other segments), with the captured data first being used to enable the customer to compare information and for certification and monitoring purposes. Further vehicle categories are likely to be included as time progresses. As part of its strategy to decarbonize transport, the European Commission has also

announced that it will be proposing CO₂ standards for heavy commercial vehicles in order to achieve the targets of the Paris climate agreement. During trilogue negotiations in February 2019, the European Parliament and EU member states agreed on a joint proposal regarding the CO₂ regulation for heavy trucks. Accordingly, truck manufacturers have to achieve the intermediate goal by 2025, namely a 15% reduction of CO₂ emissions for their new vehicle fleets within the EU. The goal of achieving a reduction provision of 30% shall apply by 2030. The reference year for all reduction goals is 2019. The current proposal also provides for fines if the limits are exceeded. Before these provisions can bindingly enter into force, the Council and the Parliament must approve the resolutions.

As part of its efforts to reduce the CO₂ emissions of heavy commercial vehicles, the European Commission has also amended the provisions regarding the maximum permissible dimensions and weights of trucks (Directive 1996/53/EC, the Weights and Dimensions Directive) and revised them through EU Directive 2015/719. According to these, cabs with a rounded shape and air conduction devices at the rear of the vehicle will make it possible to improve aerodynamics in future. In addition, the legislators increased the overall weight permitted for vehicles with alternative drive technologies by up to one tonne. The specific technical requirements for the development of aerodynamic cabs are currently being examined.

The European commercial vehicles industry supports the goals of reducing CO₂ emissions and improving transport safety. However, it is not just the vehicles themselves that affect future CO₂ emissions; individual components also play an important role, such as reduced rolling resistance tires or the aerodynamic trim of the trailer, as do driving behavior, alternative fuels including the required filling stations, transport infrastructure and transport conditions. As part of a field trial that took place up to the end of 2016, longer and heavier vehicles that can decrease fuel consumption and thus CO₂ emissions by up to 25% according to scientific studies by the German Federal Highway Research Institute, were also driving on German roads. Since the beginning of 2017, these longer vehicles have been used in regular operations on a certified road network.

Networking and digitalizing the transport system will also eliminate existing inefficiencies such as inadequate utilization of existing load capacities, empty trips or unnetworked route planning: vehicles that move in networked, intermodal transport systems in which flows of traffic are optimized through the use of artificial intelligence, save fuel and hence reduce CO₂ emissions. Automated driving also presents considerable potential for more sustainable organization of goods transport in road traffic, for example through

platooning, in which the driver of the first truck in a convoy of networked, partially self-driving trucks specifies the direction and speed. Driving in the slipstream of other trucks on motorways allows fuel consumption to be reduced and safety to be increased. However, platooning requires changes in the legal framework and establishment of the necessary infrastructure.

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 in 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. In addition, emission limits also apply, for example, under Regulation (EU) 2016/1628 and in accordance with the regulations of the U.S. Environmental Protection Agency (EPA). On specialist bodies and in public, we are emphatically championing a “maritime energy transition”. 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 long-term, 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 if individual countries have adopted no national requirements of their own, or ones that are less strict than those of the World Bank Group. These 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 the 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 are allocated free of charge on the basis of benchmarks applicable throughout the EU. The portion of certificates allocated free of charge 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 new 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 by 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, which do not affect the Volkswagen Group. The Chinese government officially implemented a national emissions trading system at the end of 2017. Initially, this will only impact the power generation sector; a gradual expansion is being planned.

Litigation

In the course of their operating activities, Volkswagen AG and the companies in which it is directly or indirectly invested are involved in a great number of legal disputes and govern-

mental proceedings in Germany and abroad. Such legal disputes and other proceedings occur in relation to employees, dealers, investors, customers, or suppliers, among others, or in relation to relevant public authorities. For the companies involved, these may result in payment or other obligations. 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 quantification 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 vagueness that may be interpreted differently by Volkswagen and the authorities responsible for the respective regulations. 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 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

In the USA Volkswagen AG and certain affiliates reached settlement agreements (including various consent decrees) with the US Department of Justice (DOJ), the US Environmental Protection Agency (EPA), the State of California, the California Air Resources Board (CARB), the California Attorney General, the US Federal Trade Commission, and private plaintiffs represented by a Plaintiffs' Steering Committee in a multi-district litigation in California. These settlement agreements resolved certain civil claims made in relation to affected diesel vehicles in the United States of America.

Volkswagen AG also entered into agreements to resolve US federal criminal liability and certain civil penalties and claims relating to the diesel issue. As part of its plea agreement, Volkswagen AG agreed to plead guilty to three felony counts under US law – including conspiracy to commit fraud, obstruction of justice and using false statements to import cars into the United States of America – and has been sentenced to three years' probation.

A description of the diesel issue can be found starting on page 92. 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. Coordination with the authorities on technical measures worldwide

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 German Federal Motor Transport Authority (Kraftfahrt-Bundesamt or KBA) 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 power, maximum torque, and noise emissions.

AUDI AG has worked intensively for many months to check all relevant diesel concepts for possible discrepancies and retrofit potentials. The measures proposed by AUDI AG have been adopted and mandated in various recall notices issued by the KBA for 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. The measures submitted by AUDI AG are being examined by the KBA and can only be made available to customers after corresponding approval by the KBA.

The Ministry of Environment in South Korea qualified certain emissions strategies in the engine control software of various diesel vehicles with V6 or V8-TDI engines meeting the Euro 6 emission standard as an unlawful defeat device and ordered a recall on April 4, 2018; the same applies to the Dynamic Shift Program (DSP) in the transmission control of a number of Audi models.

In the USA, in fiscal year 2018, the EPA and CARB issued the outstanding official approvals needed for the technical solutions for the affected vehicles with 2.0 l TDI and with V6 3.0 l TDI engines. In the case of 2.0 l Generation 2 diesel vehicles with manual transmissions, Volkswagen Group of America, Inc. elected to withdraw the approved emissions modification proposal, whereby owners were given the option of a buyback and lessees were given the option of early lease termination.

On October 31, 2018, after discussions with DOJ, EPA, and CARB, the parties agreed to modify the First and Second

Partial Consent Decrees to clarify that Volkswagen may repair certain technical issues with approved emissions modifications through an "AEM Correction" (Approved Emissions Modifications).

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

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

The Braunschweig Office of the Public Prosecutor is investigating approximately 40 (current and former) employees and a former member of the Board of Management for possible fraud, among other things. The investigations are ongoing. The defendants and Volkswagen AG were permitted to inspect the investigation files.

The regulatory offense proceeding that was opened against Volkswagen AG in this connection in April 2016 has been terminated by the administrative fine order issued against Volkswagen AG by the Braunschweig Office of the Public Prosecutor on June 13, 2018. The administrative fine order is based on a negligent breach in the Powertrain Development department of the obligation to supervise, relating to the period from mid-2007 to 2015 and a total of 10.7 million vehicles with diesel engines of types EA 189 worldwide and EA 288 (Generation 3) in the USA and Canada. The administrative order imposes a total fine of €1.0 billion, consisting of a penalty payment of €5 million and the forfeiture of economic benefits in the amount of €995 million. After thorough examination, the fine has been accepted and paid in full by Volkswagen AG, rendering the administrative fine order legally final. The administrative fine order terminates the regulatory offense proceeding against Volkswagen AG. Further sanctions against or forfeitures by Volkswagen AG and its Group companies are therefore not expected in Germany in connection with the unitary factual situation covered by the administrative order concerning diesel engines of types EA 189 worldwide and EA 288 (Generation 3) in the USA and Canada. As a result, Volkswagen expects that the conclusion of this proceeding will have a substantially positive impact on other governmental proceedings being conducted in Europe against Volkswagen AG and its Group companies.

The Braunschweig Office of the Public Prosecutor is conducting another proceeding against three (current or former) members of the Board of Management for alleged market

manipulation with respect to capital market disclosure obligations in connection with the diesel issue. In this context, the Office of the Public Prosecutor has been conducting a regulatory offense proceeding against Volkswagen AG under §30 OWiG (German Regulatory Offenses Act) since July 30, 2018. Volkswagen AG has since been permitted to inspect the public prosecutor's investigation files several times. The investigations are ongoing.

The Munich II Office of the Public Prosecutor is conducting investigations against 24 persons, including the former Chairman of the Board of Management of AUDI AG (who is also a former member of the Board of Management of Volkswagen AG) and another active member of the Board of Management of AUDI AG. The investigations are ongoing. AUDI AG has appointed two renowned major law firms to clarify the matters underlying the public prosecutor's accusations. The Board of Management and Supervisory Board of AUDI AG are being regularly updated on the current state of affairs.

The administrative fine order issued on October 16, 2018 by the Munich II Office of the Public Prosecutor terminates the regulatory offense proceeding conducted against AUDI AG in this connection. The administrative fine order is based on a negligent breach of the obligation to supervise occurring in the organizational unit "Emissions Service/Engine Type Approval". The administrative order imposes a total fine of €800 million, consisting of a penalty payment of €5 million and the forfeiture of economic benefits in the amount of €795 million. After thorough examination, the fine has been accepted and paid in full by AUDI AG, rendering the administrative fine order legally final. The administrative fine order terminates the regulatory offense proceeding against AUDI AG. Further sanctions against or forfeitures by AUDI AG are therefore not to be expected in Europe in connection with the unitary factual situation underlying the administrative fine order.

The Stuttgart Office of the Public Prosecutor has commenced a criminal investigation relating to the diesel issue against one board member, one employee, and one former employee of Dr. Ing. h.c. F. Porsche AG on suspicion of fraud and illegal advertising as well as an analogous regulatory offense proceeding against Dr. Ing. h.c. F. Porsche AG under §30 OWiG. Dr. Ing. h.c. F. Porsche AG has appointed two renowned major law firms to clarify the matter underlying the public prosecutor's accusations. The Board of Management and Supervisory Board of Dr. Ing. h.c. F. Porsche AG are being regularly updated on the current state of affairs.

On July 6, 2018, the Federal Constitutional Court rendered its decision on the constitutional complaints filed in connection with the search of the premises of the law firm Jones Day, holding that the lower court ruling affirming the provisional seizure of client engagement documents and data of

Volkswagen AG did not violate constitutional law. The companies of the Volkswagen Group will continue to cooperate with the German government authorities with due regard for the ruling of the German Federal Constitutional Court.

Whether the criminal and administrative proceedings will ultimately result in fines for the Company, and if so in what amount, is currently subject to estimation risks. According to Volkswagen's estimates so far, 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.

3. 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 associations are pending against Volkswagen AG and other companies of the Volkswagen Group in various countries including Argentina, Austria, Australia, Belgium, Brazil, Chile, China, the Czech Republic, Germany, Israel, Italy, Mexico, the Netherlands, Poland, Portugal, Spain, South Africa, South Korea, Switzerland, Taiwan, and the United Kingdom. Alleged rights to damages and other relief are asserted in these actions.

The actions pending in the aforementioned countries include in particular the following:

Various class action lawsuits with opt-out mechanism, one individual lawsuit, and two civil suits by the Australian Competition and Consumer Commission are currently pending in Australia against Volkswagen AG and other Group companies, including the Australian subsidiaries. These proceedings have been joined with each other. 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. An initial court hearing lasting several weeks was held in March 2018 on technical questions; further issues are to be argued in September 2019.

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. An initial hearing for oral argument has yet to take place in this matter. The court has extended the statutorily mandated negotiation phase until July 8, 2019.

In Brazil two class actions are pending. One of them pertains to approximately 17 thousand vehicles. In this proceeding, a judgment, which is not yet final, has been rendered holding Volkswagen do Brasil liable in an amount of €0.3 billion plus interest. The judgment has been appealed. In the second class action alleged 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 on November 1, 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 then would have to be enforced afterwards in subsequent separate proceedings.

In addition, various actions have been brought against companies of the Volkswagen Group in several German Regional Courts (Landgericht) by financialright GmbH, which is asserting rights assigned to it by a total of approximately 46 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). Roughly 117 thousand claimants joined the group litigation prior to expiration of the opt-in deadline on December 19, 2018; around 40 thousand additional plaintiffs not currently covered by the group litigation could still be added. 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. A judicial case management conference is scheduled for March 2019. No oral argument on the substantive merits of the claims has as yet taken place.

In Italy, two class action lawsuits have been filed with the Venice Regional Court by two consumer associations (Altroconsumo and Codacons) acting on behalf of Italian customers. Damage claims based on alleged breach of contract as well as claims based on purported violations of

Italian consumer protection law are being asserted in these proceedings. In the Codacons proceeding, the court dismissed the class action as inadmissible on December 18, 2018. In the Altroconsumo proceeding, the deadline for the filing of claims has passed and those filed are currently being tabulated by an appointed expert.

In the Netherlands, Stichting Volkswagen Car Claim has brought an opt-in class action seeking declaratory rulings. Any individual claims would then have to be reduced to judgment afterwards in a separate proceeding.

Several lawsuits filed by the Austrian consumer protection organization (VKI – Verein für Konsumentenschutz) and by the Cobin Claims platform are pending in Austria. In these actions, damage claims assigned for collection to VKI or to the Cobin Claims platform are being asserted on behalf of roughly 10 thousand customers.

A Portuguese consumer organization has filed a class action with opt-out mechanism in Portugal. There are approximately 126 thousand affected vehicles in the Portuguese market. The complaint seeks vehicle return and alleges damages as well.

Volkswagen estimates the likelihood that the plaintiffs will prevail to be 50% or less for the majority of the customer class actions and the complaints filed by consumer and/or environmental organizations. 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. Provisions were recognized to a small extent.

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 around 46 thousand such individual lawsuits. A total of approximately one thousand additional individual lawsuits are pending in other countries. According to Volkswagen's estimates, the likelihood that the plaintiffs will prevail is 50% or less in the vast majority of the individual lawsuits. Contingent liabilities are disclosed for these actions where the amount of such liabilities can be measured and the chance that the plaintiff will prevail was assessed as not implausible. 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 action for model declaratory judgment in Germany, among other things, and what their prospect of success will be.

4. 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. On August 5, 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 (Oberlandesgericht) in Braunschweig for binding declaratory rulings pursuant to the German Act on Model Case Proceedings in Disputes Regarding Capital Market Information (KapMuG – Kapitalanleger-Musterverfahrensgesetz). 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. In the model case action, hearing for oral argument before the Braunschweig Higher Regional Court began on September 10, 2018 and was continued in subsequent sessions. Tracking the objects of declaratory judgment, the Court gave indications as to its preliminary assessment. Oral argument is to continue in 2019.

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. On December 6, 2017, the Regional Court in Stuttgart issued an order for reference to the Higher Regional Court in Stuttgart in relation to procedural issues, particularly for clarification of jurisdiction. An action for model declaratory judgment concerning the diesel issue is also pending against Porsche SE before the Stuttgart Higher Regional Court; as the case currently stands, Volkswagen AG is model case defendant in this action as well.

Further investor lawsuits have been filed at various courts in Germany and the Netherlands. In Austria, the first-instances dismissal of the last investor complaint pending in connection with the diesel issue became binding in the reporting period.

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.

5. Proceedings in the USA/Canada

Following the publication of the EPA's "Notices of Violation," Volkswagen AG and other Volkswagen Group companies have been the subject of intense scrutiny, ongoing investigations (civil and criminal), and civil litigation. Volkswagen AG and other Volkswagen Group companies have received subpoenas and inquiries from state attorneys general and other governmental authorities.

Volkswagen AG and other Volkswagen Group companies are facing litigation in the USA/Canada on a number of different fronts relating to the matters described in the EPA's "Notices of Violation". In that respect, investigations by various US and Canadian regulatory and government authorities are ongoing, particularly in areas relating to securities, financing and tax. Additionally, in the USA and Canada, certain putative class actions by customers, investors, salespersons and dealers; individual customers' lawsuits and claims by state, provincial or municipal authorities have been filed in various courts, including state and provincial courts. A large number of these putative class action lawsuits have been filed in US federal courts and consolidated for pretrial coordination purposes in the federal multidistrict litigation proceeding in the State of California.

In the USA, Volkswagen has reached separate agreements with the attorneys general of 49 states, the District of Columbia and Puerto Rico to resolve their existing or potential consumer protection and unfair trade practices claims in connection with both 2.0 l TDI and 3.0 l TDI vehicles in the USA. New Mexico still has consumer protection claims outstanding. Volkswagen has also reached separate agreements with the attorneys general of thirteen US states (California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington) to resolve their existing or potential future claims for civil penalties and injunctive relief for alleged violations of environmental laws. The attorneys general of eight other US states (Alabama, Illinois, Montana, New Hampshire, New Mexico, Ohio, Tennessee, 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. The environmental claims of eight states – Alabama, Illinois, Missouri, Minnesota, Ohio, Tennessee, Texas, and Wyoming – as well as Hillsborough County (Florida), Salt Lake County (Utah), and two Texas counties, have been dismissed in full or in part by trial or appellate courts as preempted by federal law. Alabama, Illinois, Ohio, Tennessee, Hillsborough County, and Salt Lake County have appealed or may still appeal the dismissal of their claims.

The U.S. Securities and Exchange Commission (the “SEC”) has requested information from Volkswagen regarding potential violations of securities laws in connection with issuances of bonds and asset-backed securities, as a result of nondisclosure of certain Volkswagen diesel vehicles' noncompliance with US emission standards. The SEC informed Volkswagen that it had issued a formal order of investigation in January 2017; this investigation is ongoing. The SEC Staff subsequently informed Volkswagen that the SEC might bring an enforcement action against Volkswagen arising out of this investigation.

On August 28, 2018, Volkswagen AG and a putative class of purchasers of Volkswagen AG American Depositary Receipts agreed to settle the class' claims alleging a drop in price purportedly resulting from the matters described in the EPA's “Notices of Violation” in exchange for a cash payment of USD 48 million. The proposed settlement was granted preliminary approval by the court in November 2018.

On December 21, 2017, Volkswagen announced an agreement in principle on a proposed consumer settlement in Canada involving 3.0 l diesel vehicles that was approved by the courts in Ontario and Quebec in April 2018. Also in Canada, a criminal enforcement-related investigation related to 2.0 l and 3.0 l diesel vehicles by the federal environmental regulator is ongoing, and a quasi-criminal enforcement-related offense has been charged by the Ontario provincial environmental regulator related to 2.0 l diesel vehicles. Additionally, in Quebec, a certified environmental class action on behalf of residents is pending. This environmental class action was authorized on the sole issue of whether punitive damages could be recovered. Volkswagen is seeking leave to appeal this authorization ruling. Class action and joinder lawsuits have also been filed in Canada, including alleged consumer protection and securities claims asserting damages among other things.

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.

6. 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 German 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. The US funds then applied to the Regional Court of Hanover to appoint another special auditor. Volkswagen AG is of the opinion that replacing the court-appointed special auditor in this manner is impermissible and has requested that the application for the appointment of a new special auditor be denied. A decision by the Regional Court of Hanover is expected in the course of 2019.

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 suspended until the German Federal Constitutional Court renders its decision in the first special auditor litigation.

7. Risk assessment regarding the diesel issue

An amount of around €2.4 billion has been included in the provisions for litigation and legal risks as of December 31, 2018 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 €5.4 billion (previous year: €4.3 billion), whereby approximately €3.4 billion (previous year: €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 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 considerable financial charges.

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 on October 12, 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 June 2013, the Annual General Meeting of MAN SE approved the conclusion of a control and profit and loss transfer agreement between MAN SE and TRATON SE (at that time Truck & Bus GmbH), a subsidiary of Volkswagen AG. In July 2013, an award proceeding was instituted to review the appropriateness of the cash settlement set out in the agreement in accordance with §305 of the Aktiengesetz (AktG – German Stock Corporation Act) and the cash compen-

sation in accordance with §304 of the AktG. By ruling of June 26, 2018 (supplemented and amended by the rulings of July 30, 2018 and December 17, 2018), the Munich Higher Regional Court rendered a final decision increasing the annual compensation claim under §304 AktG to €5.47 gross per share (less any corporate income tax and any solidarity surcharge at the respective tax rate applicable to these taxes for the financial year in question). The cash settlement in the amount of €90.29 per share, increased in the first instance by the Munich I Regional Court, was affirmed. The decisions by the Munich Higher Regional Court are final and were published in the German Federal Gazette on August 6, 2018 and January 10, 2019.

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 from customers were received. 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.

As part of the cartel investigations in the automotive industry already known to the public, the European Commission took the procedural step of initiating formal proceedings against affected undertakings on September 18, 2018. The investigations have been ongoing for some time. As the European Commission's press statement indicates, the European Commission is now restricting the scope of the investigation to the subject of emissions. The formal initiation of proceedings is standard and is a purely procedural step in the process, which was expected by Volkswagen. The Volkswagen Group and the relevant Group brands have been cooperating fully with the European Commission and will continue to cooperate.

In addition, the Italian Competition Authority initiated proceedings to investigate potential competition law infringements (alleged exchange of competitively sensitive information) by a number of captive automotive finance companies, including Volkswagen Bank GmbH. The proceedings were later extended to the relevant parent companies, including Volkswagen AG. In October 2018, Volkswagen Bank GmbH and Volkswagen AG received a statement of objections summarizing the findings by the authority and describing the alleged infringement. Volkswagen AG and Volkswagen Bank GmbH transmitted their respective replies to the Italian Competition Authority in November 2018. In January 2019, the Italian Competition Authority imposed a fine of €163 million against Volkswagen AG and Volkswagen Bank GmbH. Provisions were recognized by Volkswagen Bank GmbH. Volkswagen AG and Volkswagen Bank GmbH intend to appeal this decision. Lawsuits seeking damages are possible in this proceeding as well.

In 2017, plaintiffs filed numerous complaints in various US jurisdictions on behalf of putative classes of purchasers of German luxury vehicles against several automobile manufacturers, including Volkswagen AG and other Group companies, that are now pending in two consolidated class actions in the multidistrict litigation in the State of California. The complaints allege that since the 1990s, defendants engaged in a conspiracy to unlawfully increase the prices of German luxury vehicles in violation of US antitrust and consumer protection law. 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 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.

For certain T6 models (M1 class) with Euro 6 diesel engines registered as passenger cars, the inspection regarding the conformity of the current production of new vehicles with the approved type (conformity of production) identified that certain technical data could not be fully confirmed. To ensure this conformity of production for new vehicles, Volkswagen AG developed a software measure, which was approved by the KBA at the end of February 2018 and was applied to newly produced vehicles as well as to new vehicles (approximately 30 thousand in all) that had not been delivered by then. Volkswagen AG also conducted in-use tests (tests to verify the conformity of vehicles in use to their type approval) to determine whether the roughly 200 thousand T6 used vehicles already on the market conform to the technical data. The tests carried out on the proposal of Volkswagen AG were taking place in close collaboration with the KBA, which included this process in a decision dated March 1, 2018. Following further tests in August 2018, at the proposal of Volkswagen AG and in accordance with this decision, there is also a software measure for used T6 vehicles to ensure conformity with the approved vehicle type.

Since November 2016, Volkswagen has been responding to information requests from the EPA and CARB related to automatic transmissions in certain vehicles with gasoline engines.

Additionally, putative class actions filed against Audi AG and certain affiliates have been transferred to the federal multidistrict litigation proceeding in the State of California and consolidated. The lawsuits allege that defendants concealed the existence of defeat devices in Audi brand vehicles with automatic transmissions. Other actions alleging similar claims are also pending in the Northern District of California and two provincial courts in Canada.

In the summer of 2017, plaintiffs filed a complaint, on behalf of a putative class of purchasers of Volkswagen AG's American Depositary Receipts, against Volkswagen AG and against

three former and one current member of Volkswagen AG's Board of Management, in the US District Court for the Eastern District of New York. On July 13, 2018, plaintiffs filed an amended complaint, which defendants moved to dismiss. Plaintiffs assert securities claims alleging that defendants made material misstatements and omissions concerning Volkswagen AG's compliance measures, in particular those relating to competition and antitrust law as well as allegations in an antitrust litigation against Volkswagen AG in the Northern District of California. Defendants believe that the alleged claims are without merit.

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

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 patent infringement actions, particularly in Germany and the USA. These actions seeking injunctive relief and damages pertain among other things to patents for semiconductor technology used in vehicles.

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.

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 financial and liquidity risks is the responsibility of the central Group Treasury department, which minimizes 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 include currency forwards, currency options and cross-currency interest rate swaps. 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 six years. We thus hedge our principal foreign currency risks, mostly against the euro and primarily in Argentine pesos, 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 purchasing of raw materials 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, copper, nickel, platinum, palladium and rhodium over a period of up to six years. We have entered into similar transactions in order to supplement and improve allocations of CO₂ emission certificates.

Pages 289 to 310 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 118. 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 289.

Liquidity risk

We ensure that the Company remains solvent at all times by holding liquidity reserves, through confirmed credit lines and through our money market and capital market programs. We cover the capital requirements of the financial services business mainly by raising funds at matching maturities in the national and international financial markets as well as through customer deposits from the direct banking business.

Projects are financed by, among other things, loans provided by supranational or international development banks such as the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD), or by national development banks such as Kreditanstalt für Wiederaufbau (KfW) and Banco Nacional de Desenvolvimento Econômico e Social (BNDES). Confirmed and unconfirmed lines of credit from banks supplement our broadly diversified refinancing structure.

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 113 of this report.

Residual value risk in the financial services business

In the financial services business, we agree to buy back selected vehicles at a residual value that is fixed at inception of the contract. Residual values are set at a realistic amount so that we are able to leverage market opportunities. We evaluate the underlying lease and financing contracts at regular intervals and recognize any necessary provisions if we identify any potential risks.

Management of the residual value risk is based on a defined feedback loop ensuring the full assessment, monitoring, management and communication of risks. This process design ensures not only professional management of residual risks but also that we systematically improve and enhance our handling of residual value risks.

As part of our risk management, we use residual value forecasts to regularly assess the appropriateness of the provisions for risks and the potential for residual value risk – also with a view to the public debate on further driving bans for diesel vehicles in major European cities. In the process, we compare the contractually agreed residual values with the fair values obtainable. These are determined utilizing data from external service providers and our own marketing data. We do not take account of the upside in residual market values when making provisions for risks.

More information on residual value risk and other risks in the financial services business can be found in the 2018 Annual Report of Volkswagen Financial Services AG and Volkswagen Bank GmbH.

Reputational risks

The reputation 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 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 reputation of the Volkswagen Group and its brands. This impact could be amplified through insufficient crisis communication.

Moreover, the above-described individual risks that may arise in the course of our operating activities may turn into a threat to the Volkswagen Group's reputation.

Other factors

Going beyond the risks already outlined, 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, violent conflicts and terrorist attacks.

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 Group may result from a negative trend in unit sales of, and markets for, vehicles and genuine parts, from the failure to develop and produce products in line with demand and regulations as well as from quality problems. Risks relating to the diesel issue still remain for the Volkswagen Group which, when aggregated, are among the most significant risks. 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.