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COMBINED MANAGEMENT REPORT

OVERVIEW OF THE BMW GROUP

ORGANISATIONAL STRUCTURE

The BMW Group successfully manufactures automobiles and motorcycles for the premium and luxury segments on a global basis. With BMW, MINI and Rolls-Royce, the BMW Group owns three of the best-known brands in the automotive industry worldwide. It also occupies a strong market position in the premium motorcycles segment. At 31 December 2021, the BMW Group employed a workforce of 118,909 people worldwide.

Bayerische Motoren Werke Aktiengesellschaft (BMWAG), based in Munich, Germany, is the parent company of the BMW Group, which comprises BMWAG itself and all subsidiaries over which BMWAG has either direct or indirect control. [↗ List of Investments](#). BMWAG is also responsible for managing performance throughout the Group, which is sub-divided into the [↗ Automotive, Motorcycles and Financial Services operating segments](#) [↗ Presentation of segments](#). The Group's Other Entities segment primarily comprises holding companies and Group financing companies. The structure of the BMW Group changed significantly at the beginning of the financial year 2022 due to the BMW Group's majority acquisition of the joint venture BMW Brilliance Automotive Ltd. (BBA).¹ Further information on the consolidation of BMW Brilliance Automotive is provided in the [↗ Notes to the Group Financial Statements](#).

¹ The change took place outside of the financial period under report.

² [↗ Consumption and carbon emissions data](#)

BUSINESS MODEL AND SEGMENTS

Business model

The BMW Group develops, manufactures and sells innovative premium automobiles and motorcycles on a worldwide basis. It also offers a broad range of financial and mobility services. The Group is structured into operating segments, namely the Automotive, the Motorcycles and the Financial Services segments.

Automotive segment

The BMW Group manufactures BMW, MINI and Rolls-Royce brand vehicles. The BMW brand caters to a broad variety of customer requirements. Its wide-ranging model portfolio



covers several automobile classes, ranging from the premium compact class, the premium mid-size class and through to the ultra-luxury class. Alongside its state-of-the-art plug-in hybrids and vehicles powered by highly efficient combustion engines, the BMW brand also includes all-electric models manufactured under the BMW i sub-brand, such as the BMW iX and the BMW i4 launched in 2021, as well as modern plug-in hybrid models and high-performance vehicles belonging to the BMW M sub-brand.

The MINI brand promises driving pleasure in the premium compact segment and, alongside models powered by efficient combustion engines, it also offers plug-in hybrid and all-electric models. The all-electric MINI Cooper SE¹ was the best-selling model in the MINI family in the year under report.

With a tradition stretching back well over a century, Rolls-Royce is the ultimate marque in the ultra-luxury class. Rolls-

Royce Motor Cars specialises in providing bespoke customer specifications and offers the utmost in terms of quality and service.

Its comprehensive range of products enables the BMW Group to meet the diverse expectations and needs of its customers worldwide. The global sales network of the BMW Group's automobile business currently comprises more than 3,500 BMW, 1,600 MINI and over 150 Rolls-Royce dealerships.

[➤ Automotive segment](#)

Motorcycles segment

As in all other areas, the BMW Group focuses rigorously on the premium segment with its Motorcycles segment and its model range of motorcycles and scooters in the Sport, Tour, Roadster, Heritage, Adventure and Urban Mobility categories. BMW Motorrad also offers a broad range of equipment options to enhance riding safety and comfort as well as personalised configurations. The Motorcycles segment's sales network is organised similarly to that of the Automotive segment. Currently, BMW motorcycles are sold by more than 1,200 dealerships and importers in over 90 countries worldwide. [➤ Motorcycles segment](#)

Financial Services segment

The BMW Group is a leading provider of financial services in the automotive sector. It offers these services in more than 50 countries worldwide via companies and cooperation arrangements with local financial service providers and importers. The Financial Services segment's main line of business comprises credit financing and the leasing of BMW Group brand automobiles and motorcycles to retail customers. Customers can also select from an attractive array of insurance and banking products.

Operating under the brand name Alphabet, the BMW Group's international multi-brand fleet business provides financing and comprehensive management services for corporate car fleets in more than 20 countries.² These services also in-



clude assisting customers to manage their fleets on a sustainable and climate-friendly basis.

Financing dealership vehicle fleets serves to support the dealership organisation and rounds off the segment's range of services. [➤ Financial Services segment](#)

LOCATIONS

Global overview

The BMW Group operates on a worldwide basis. The BMW Group's largest automobile and motorcycle markets are located in Europe, particularly in Germany and the United Kingdom (UK) as well as in China and the USA.



¹ [➤ Consumption and carbon emissions data](#)

² [Including cooperation partners](#)

LOCATIONS WORLDWIDE

● Sales subsidiaries and Financial Services

1 Headquarters

2 Canada

3 USA

4 Mexico

5 United Arab Emirates

6 Brazil

7 Argentina *

8 South Africa

9 Russia

10 India

11 China

12 South Korea

13 Japan

14 Thailand

15 Malaysia

16 Singapore

17 Indonesia *

18 Australia

19 New Zealand

* Sales locations

■ Production outside Europe

BMW Group plant Araquari, Brazil

BMW Group plant Chennai, India

BMW Group plant Manaus, Brazil

BMW Group plant Rayong, Thailand

BMW Group plant Rosslyn, South Africa

BMW Group plant San Luis Potosí, Mexico

BMW Group plant Spartanburg, USA

▣ BMW Brilliance Automotive, China (Joint venture – 3 plants)

□ Partner plants outside Europe

Partner plant, Chongqing, China

Partner plant, Hosur, India

Partner plant, Jakarta, Indonesia

Partner plant, Cairo, Egypt

Partner plant, Kulim, Malaysia

▲ Research and development network outside Europe

BMW Group Designworks, Newbury Park, USA

BMW Group Technology Office USA, Mountain View, USA

BMW Group Engineering and Emission Test Center, Oxnard, USA

BMW Group ConnectedDrive Lab China, Shanghai, China,

and BMW Group Designworks Studio Shanghai, China

BMW Group Technology Office, Shanghai, China

BMW Group Engineering China, Beijing, China

BMW Group Engineering Japan, Tokyo, Japan

BMW Group Engineering USA, Woodcliff Lake, USA

BMW Group IT Technology Office, Greenville, USA

BMW Group IT Technology Office, Singapore

BMW Group IT DevOps Hub, Rosslyn, South Africa

BMW do Brasil, Araquari, Brazil

BMW Group Technology Office Tel Aviv, Tel Aviv, Israel

BMW Group R&D Center Seoul, Seoul, South Korea

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Sales subsidiaries and Financial Services locations worldwide

31

Production and assembly plants

13

Countries with research and development locations

LOCATIONS IN EUROPE

● Sales subsidiaries and Financial Services

1 Germany

2 Norway

3 Denmark

4 Sweden

5 Finland

6 The Netherlands

7 UK

8 Ireland

9 Belgium / Luxembourg

10 France

11 Switzerland

12 Italy

13 Slovenia *

14 Spain

15 Portugal

16 Czech Republic

17 Poland

18 Austria

19 Slovakia

20 Hungary *

21 Romania *

22 Bulgaria *

23 Greece

■ Production in Europe

BMW Group plant Berlin

BMW Group plant Dingolfing

BMW Group plant Eisenach

BMW Group plant Landshut

BMW Group plant Leipzig

BMW Group plant Munich

BMW Group plant Regensburg

BMW Group plant Wackersdorf

BMW Group plant Steyr, Austria

BMW Group plant Hams Hall, UK

BMW Group plant Oxford, UK

BMW Group plant Swindon, UK

Rolls-Royce Manufacturing Plant, Goodwood, UK

□ Partner plants in Europe

Partner plant, Born, the Netherlands

Partner plant, Graz, Austria

Partner plant, Kaliningrad, Russia

▲ Research and development network in Europe

BMW Group Research and Innovation Centre (FIZ),
Munich, Germany

BMW Car IT, Munich, Germany

BMW Group Autonomous Driving Campus,
Unterschleißheim, Germany

BMW Group Designworks, Munich, Germany

BMW Group Lightweight Construction and
Technology Center, Landshut, Germany

BMW Group Diesel Competence Centre, Steyr, Austria

Critical TechWorks S.A., Porto, Portugal

BMW France, S. A. S., Montigny, France

Rolls-Royce Motor Cars Ltd., Goodwood, UK

* Sales locations only.

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BMW GROUP INTEGRATED STRATEGY

The BMW Group operates at the intersection of challenging, increasingly complex and differentiated conditions around the world. This includes:

- Global competition
- Megatrends such as electrification and connectivity
- A capital market focused on profitability and growth
- Sustainability
- Diverging social expectations in the face of climate change

We constantly refine our corporate strategy and align our strategic targets with these external factors and their dynamic rate of change as important input parameters.

The BMW Group's integrated strategy is based on fundamental elements, like the integrity of our actions.

➤ Compliance and Human rights.

The BMW Group strategy is developed from an analysis of the global megatrends that are crucial to the transformation of the automotive industry and essentially comprises the integrated and continuous strategy process, the target system and ➤ Corporate management.

ENVIRONMENTAL ANALYSIS AND MEGATRENDS

A company's success depends to a large extent on its ability to recognise changes in its environment early on, plan for different scenarios, effectively manage risks and take advantage of opportunities that may arise from such changes (➤ Risks and opportunities.) To this end, we continuously monitor the business environment in our key regions, using available data to analyse in detail the trends and developments that could affect our business in the future. Regular ➤ Dialogue with stakeholders within the framework of the BMW Group Xchange formats rounds out the picture from the analysis of external and environmental factors.

The most important megatrends with long-term implications for the BMW Group's business model are currently climate change and the reduction of carbon dioxide (CO₂) emissions, electromobility, digitalisation and connectivity – including automated and autonomous driving, as well as mobility patterns within society. ➤ GRI 102-46

Mobility patterns

Individual mobility appears likely to remain a fundamental human need for the foreseeable future, although vehicle ownership depends to a large extent on income, household size and location (urban/suburban). Mobility services, so-called on-demand mobility (ODM), will remain relevant,

especially in urban areas, but will mainly be used as a supplementary option [➤ Mobility concepts and services](#).

Around the world, the conditions for individual mobility in cities and their surrounding suburban areas are developing very differently in some cases and depend above all on the location of these conurbations, their population density and the focus of emissions policy in the respective urban regions. [➤ Mobility concepts and services](#).

Climate change and CO₂ reduction

We see the consequences of climate change as a major challenge for the future. As governments around the world work to translate the goals of the Paris Climate Agreement into national laws, investors are increasingly evaluating companies and their business models according to ESG criteria [➤ BMW Group and capital market](#).

The European Union (EU) sees itself as a global leader in achieving these climate goals. Within the EU, the Sustainable Finance Framework aims to classify a company's business activities according to sustainability criteria.

The US government has also proposed more ambitious climate-protection goals that aim to halve greenhouse gas emissions by 2030 from 2005 levels. China is relying on fleet limits and a growing percentage of zero-emissions vehicles.

Electromobility and drive technologies

In the transport sector, a swift transition to electromobility is an important prerequisite on the road to climate neutrality. By 2030, the BMW Group will be capable of offering a complete array of electric vehicles in terms of both product diversity and range. Growing demand is additionally strengthened by the benefits of lower running costs and framework conditions such as government subsidies [➤ Electromobility](#).

Digitalisation and connectivity

In addition to the topics already referred to, the combination of digitalisation and connectivity is another important megatrend for the BMW Group. The modern vehicle is already one of the most complex and software-intensive items owned by consumers. Vehicles are increasingly viewed as digital objects, with corresponding functions expected. Customers demand products that are seamlessly and perfectly integrated into their familiar living environment. It is therefore safe to assume that digital business models will generate a growing percentage of added value in the future. China, in particular, is setting new standards for digitalisation. Customer desires are increasingly influenced by the world of consumer electronics and are an important factor in purchasing decisions [➤ Innovation and customer orientation](#).

In addition to the new possibilities digitalisation can offer customers, further potential lies in networking mobile value creation. To create a virtual platform and meet future challenges, the BMW Group founded the Catena-X Automotive Network, together with other manufacturers, system suppliers and technology partners [➤ Production, purchasing and supplier network](#).

Automated / autonomous driving

Alongside digitalisation, development of automated/autonomous driving remains a key expectation for the future of mobility. Due to the importance of this topic for the automotive industry and the complexity of the technologies and expertise involved, extensive funding is being channelled into development in this area worldwide.

Concrete requirements and regulations for autonomous driving are likely to be in place in individual countries and regions by 2025. The aim of all regulators is assumably to authorise autonomous driving systems in the medium term [➤ Products and mobility solutions](#).



STRATEGY PROCESS

The BMW Group regards the strategy process as a continuous task. The assumptions underpinning our strategies are regularly reviewed, based on the findings from our analysis of environmental and external factors. The Board of Management sets the strategic direction for this process, regularly addressing strategic issues for the BMW Group and assessing the impact of external factors. The BMW Group's corporate strategy is the starting point for business departments to systematically align their own strategy with the Company's strategic goals and define the concrete measures that must be implemented in order to achieve them. This process takes place via a planning and management system with a built-in feedback loop.

* [➤ Consumption and carbon emissions data](#).

The strategy is integrated into annual longer-range corporate planning, with implementation monitored by a target system that is comprised of aspects finance, customers, processes, learning and development. [↗ Performance indicators.](#)

Corporate strategy

The BMW Group's corporate strategy, referred to as the "BMW Group strategy", forms the core of our integrated approach. It defines the framework for decision-making and lays the foundation for the Company to maintain a consistent focus on profitability, growth and sustainability, even in an increasingly dynamic environment.

The BMW Group strategy comprises four elements: position, direction, strategic approach and collaboration. These formulate the various aspects of our aspirations and are combined in a "strategy arrow" that serves as a symbol for our forward-looking approach. This strategic framework provides a fixed point of reference for all decisions of Company-wide significance.



Position – What does the BMW Group stand for?

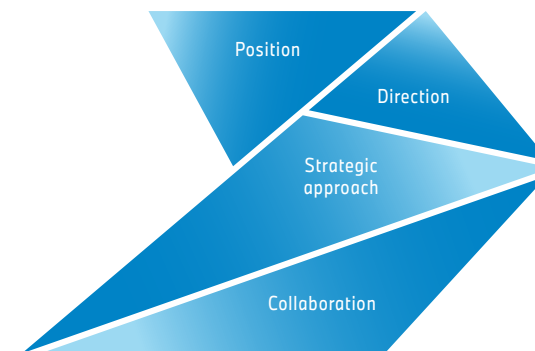
The BMW Group is committed to first-class individual mobility and contributes to sustainable development. It aims to find the right balance between business, the environment and society. The BMW Group combines driving pleasure and responsibility without compromise and, together with its partners, leads the industry in environmental, social and integrity standards. The Company is committed to the Paris Climate Agreement and providing a verifiable track record of continuous improvement. To achieve this and reduce the impact on the environment as a whole, the BMW Group is promoting as well the reduction of CO₂ emissions throughout the whole product life cycle as the principles of the circular economy – from the supply chain, to production, the use phase and the recycling of its products. For this reason, BMW has also laid out ambitious targets to reduce CO₂ emissions by 2030 (reference year 2019), understood as follows:

1. In the use phase of the vehicle, an average reduction of more than 50 % for every kilometre driven
2. In production, a reduction of 80 % for every vehicle produced
3. In the supply chain, a reduction of more than 20 %

Measurable science-based targets, initially up until 2030, have been firmly established across the Company, laying the foundation for the reduction of our CO₂ emissions. We have joined the Science-Based Targets Initiative (SBTi) for this purpose. This will enable us to guarantee transparency and comparability in the validation and measurement of our targets and, at the same time, ensure they are in line with the latest scientific findings [↗ CO₂ and emissions.](#)

Control parameters such as life cycle CO₂ emissions and secondary raw material quotas are already important performance indicators during the development phase of our vehicle projects [↗ Performance indicators.](#)

To leverage the potential for lowering CO₂ emissions during the use phase, in particular, the BMW Group is actively working on numerous projects and initiatives to improve the framework conditions for electromobility. However, while the ambitious goals of the Paris Climate Agreement are designed to tackle climate change in the transport sector, they can only be achieved through a combination of all modern drive technologies in addition to electromobility that are closely aligned with customer needs and different mobility requirements around the world. Modern combustion-engine technology continues to make a meaningful contribution to the effective reduction of CO₂ emissions worldwide. For this reason, the BMW Group offers those customers who choose not to buy an electrified vehicle – because of their mobility needs or because the prerequisites are not met – vehicles with modern, efficient internal combustion engines that rely on technology that is continuously further



developed. Plug-in hybrid (PHEV) concepts also provide a good alternative in these circumstances. [↗ Products and mobility solutions.](#)

Sustainability is built into individual market strategies across our global sales organisation. Centralised measures are combined with local activities in the markets to implement a holistic programme. Best practices in the fields of environmental protection, social sustainability, corporate citizenship and governance are also shared within an established international sustainability network.



Direction – What drives the BMW Group?

Direction is the second strategic element, after position. The BMW Group offers exciting products for current and future generations and secures its independence as a company by maintaining a high level of profitability. The BMW Group is shaping the future of sustainable mobility with its passion and strong capacity for innovation. Thanks to its exciting products, the Company is able to achieve maximum customer satisfaction and brand strength, and thus grow its market share.

The focus on profitability is a very important aspect of the BMW Group's corporate management system. All measures and initiatives are aimed at further developing the BMW Group's strong economic base, so it can continue to operate independently and invest in the future.

To underline the importance of the BMW Group's economic performance capabilities, our ambitious financial targets are tied to the following strategic key performance indicators: EBIT margin in the Automotive segment (between 8 and 10%), RoCE in the Automotive segment (at least 18%) and Group EBT margin (more than 10%) [↗ Performance indicators](#).

As part of our focus on efficiency, we regularly assess ways to utilise synergies and efficiencies across the Company in an effort to reduce the complexity that arises from increasingly strict and heterogeneous regulatory requirements. Faster, digitalised processes within lean structures are fundamental to systematically leveraging efficiencies. In vehicle development, for instance, we see considerable potential for reducing process time through digitalisation. In addition to this, distinguishing the BMW Group from its competitors, we are also taking advantage of the expanded possibilities of digitalisation for customer contact, with integrated product and service offerings, functional upgrades and customer support. The BMW Group is also bolstering its portfolio with attractive new models – especially in highly profitable segments.



Strategic approach – Where is the BMW Group heading?

The BMW Group is focused on its customers worldwide and on meeting their different requirements. It does so by understanding the needs of its current and future customers and exceeding their expectations. It combines ground breaking technologies, emotional products and individual customer care to create a unique overall experience. Creating the best customer experience, both physically and digitally, as well as personalised, reliable communication, is of primary importance to us.

The BMW Group is making customer experience the focus of all its marketing and sales activities. The aim is to offer the industry's best premium customer experience and to seamlessly integrate all customer touchpoints, online and offline.

The launch of the My BMW app in July 2020 has given BMW a direct channel to its customers and provided them with a direct link not only to their BMW dealership, but also to the BMW brand as a whole. Customers can use the app to make service appointments, request information on the condition of their vehicle, or receive the latest news on BMW brand products and services. The topic of battery charging has also been fully integrated in this digital ecosystem. The My BMW app can also be used to plan trips and display suitable charging points along the route. The same applies, of course, to the MINI brand with the MINI app.

We recognised the importance of electromobility early on and began our transformation in this direction accordingly. In the initial phase, the BMW Group introduced electrification into standard production with the launch of the fully electric BMW i3 in 2013. In 2014, the BMW Group launched the BMW i8, with ground breaking technology and a futuristic design.

The current, second phase of the transformation began in 2020 with our all-electric model offensive, led by the MINI Cooper SE* and the BMW iX3*, and followed in late 2021 with the BMW i4 and BMW iX. Since 2013, the BMW Group has delivered a total of more than 1 million electrified vehicles to customers. From 2022 onwards, alongside the BMW X3/iX3, additional models will be available with a choice of fully electric or plug-in hybrid drivetrain, or with a state-of-the-art internal combustion engine – for example, in the next generation of luxury BMW 7 Series and BMW 5 Series sedans and the BMW X1. Going forward, the BMW Group will continue to meet specific customer needs in individual markets and segments with a broad range of state-of-the-art drive systems. [↗ Innovations and customer orientation](#).

By 2023, in the middle of the second phase, we will already have at least one fully electric model on the roads in virtually all key model series – from the compact segment to the ultra-luxury class. In this context, we are investing additional funds and plan to increase electrified vehicles' share total deliveries to over 30% by 2025. The trend towards electromobility will also continue to progress dynamically beyond the year 2025. By 2030, the BMW Group plans to increase the share of fully electric automobiles in its total deliveries to more than 50%. [↗ Performance indicators](#).

To make this transformation possible, the BMW Group is pushing ahead, both by restructuring existing plants and by further developing employee competences ([↗ Employees and Society](#)). The restructuring of BMW Group Plant Munich provides a clear example of how the BMW Group can successfully and smoothly transform a full plant, including production of internal combustion engines, to 100% electromobility during ongoing production by 2026. [↗ Production, Purchasing and Supplier network](#).

* ↗ Consumption and carbon emissions data

In addition to delivering product substance, we also offer our customers a 360° approach to electrification, by creating an appropriate charging ecosystem – because charging is a trailblazer for electromobility. As well as offering charging options at home and at work, we also provide public charging through BMW Charging and MINI Charging [↗ Mobility concepts and services](#).

The BMW iX is the first BMW Group vehicle to offer automated driving and parking functions from a new technology kit that will enable continuous improvement and expansion of driver assistance functions and highly automated driving in the mid-term (Level 3). These functions will continue to be rolled out and used in the next-generation BMW 7 Series and BMW 5 Series, for instance. Moreover, with the launch of the BMW iX, the BMW Group became the first premium manufacturer to include the 5G mobile communications standard in a series production vehicle on a worldwide basis. In terms of mobility, this means comprehensive expansion of data-based services in the fields of entertainment and infotainment, automated and assisted driving and, above all, road safety.

The third phase of the transformation will begin in 2025 with our global fully electric product line-up, the Neue Klasse. Production of vehicles for the Neue Klasse will get underway at the newly constructed BMW Group Plant Debrecen and then expanded to BMW Group Plant Munich from 2026 onwards. The Neue Klasse sets the standard for digitalisation, electrification and sustainability. It will be characterised by a New Cluster Architecture (NCAR) geared exclusively towards battery electric vehicles (BEVs), a completely redefined tech stack autonomous driving and a newly developed high-performance electric drivetrain generation. The Neue Klasse also makes a significant contribution to sustainability, by relying on the concept of circularity [↗ Circular design](#).

BMW M is also currently working on various forms of electrification and already launched a performance car with a fully electrified drive train, the BMW i4 M50*, in 2021. At the same time, MINI's transition to an all-electric brand underlines its urban identity. Rolls-Royce, the world's leading luxury brand, will also focus on electromobility in the future [↗ Automotive segment](#).

BMW Motorrad is continuing to evolve in the direction of electromobility. The "Vision Amby" Vision Vehicle and the fully-electric Concept CE 02 provide a glimpse of the future of urban mobility. In the urban mobility segment, the CE 04 electric scooter is a trailblazer for BMW Motorrad's electromobility strategy [↗ Motorcycles segment](#).

In the Financial Services Segment, the strategic approach is geared towards making the product range available to all customer groups across all channels [↗ Financial Services segment](#).



How does the BMW Group ensure cooperation?

Our ambitious strategic objectives can only be achieved if all employees work together. Diversity is an important component of our competitiveness [↗ Employees and society](#). The diversity metric defines the share of women in management positions as a key performance indicator and a strategic target variable. The aim is to increase the share of women in management positions at the BMW Group to 22% by 2025 [↗ Performance indicators](#).

To anchor strategy within the Company, it is critical to keep employees and managers informed, to strengthen their creativity and to encourage them to actively participate in the implementation and achievement of goals. The results of the Employee Sur-

vey confirm high internal acceptance of the BMW Group's strategy and sustainability activities, as well as employees' willingness to play their part [↗ Employees and Society](#). BMW Group employees not only work closely together within the Company, but also with external partners. The stable relationships that have grown over time in our partner networks are based on the same values as those at the BMW Group. This has been especially evident during the pandemic years of 2020 and 2021. Even when confronted with the challenges of global lockdowns and the shortage of semiconductor components, our supply chains have held up well and our retail network showed its strength. This is the only way we can maximise our effectiveness and, together, lead the Company to success.

We are constantly expanding our collaborations to secure access to new technologies and increase value creation – setting cooperation goals and defining strategic fields of cooperation with our partners based on the strategic framework.

* ↗ Consumption and carbon emissions data

PERFORMANCE INDICATORS

Once strategic targets have been derived from the findings of the [environmental](#) analysis and the ongoing [strategy process](#) within the Company, the BMW Group target system translates the strategy into a clear system for measuring performance. The target system is therefore a key instrument for anchoring strategy throughout the Company. For corporate management purposes, the strategic targets are backed by effective performance indicators.

Long-range corporate planning for the Company as a whole and its segments is geared towards the structure of the BMW Group target system. In this way, the targets set out in the planning are regularly compared with the BMW Group's strategic goals. Department strategies are also aligned with the corporate strategy.

Once approved by the Board of Management and Supervisory Board, the target figures in the strategic target system form the planning basis for the current reporting year and the target agreements for BMW Group managers. [Remuneration report](#) [GRI-Index: 102-35](#). Companies subject to the provisions of German Accounting Standard No. 20 (DRS 20) must define the Company's most effective performance indicators for corporate management during the external reporting period (key performance indicators).

The following summarises the strategic targets and key performance indicators defined in DRS 20, which also form the basis for [Performance Management](#). [GRI-Index: 102-19](#)

Group

- Group profit before tax (Group EBT)
- Number of employees at the end of the year
- Share of women in management positions

Automotive segment

- Profit before financial result as a percentage of segment revenues (EBIT margin)
- Return on capital employed (RoCE) in %
- Deliveries (in units)
- Share of electrified cars in total deliveries (in %)
- CO₂ emissions EU new vehicle fleet (in g CO₂/km)
- CO₂ emissions per vehicle produced (in tons)

Motorcycles segment

- Profit before financial result as a percentage of segment revenues (EBIT margin)
- Return on capital employed (RoCE) in %
- Deliveries (in units)

Financial Services segment

- Return on equity (RoE) in %



* [Consumption and carbon emissions data](#)

PERFORMANCE MANAGEMENT

The BMW Group's performance management system follows a value-based approach that focuses on profitability, consistent growth, value enhancement for capital providers, sustainability, climate protection and job security. Capital is considered to be employed profitably when the amount of profit generated on a sustained basis exceeds the cost of equity and debt capital. This strategy also secures the desired degree of corporate autonomy in the long term.

The BMW Group's performance management system is based on a multi layered structure. Operational performance

is managed primarily at segment level. In order to manage long-term corporate performance and assess strategic issues, additional key performance figures are taken into account within the management system at Group level. In this context, the value added serves as one of several indicators to measure the contribution made to enterprise value during the financial year. This aspiration to add value is measured at both Group and segment level by means of the key financial and non-financial performance indicators (value drivers). The link between value added and the relevant value drivers is presented in a simplified form below.

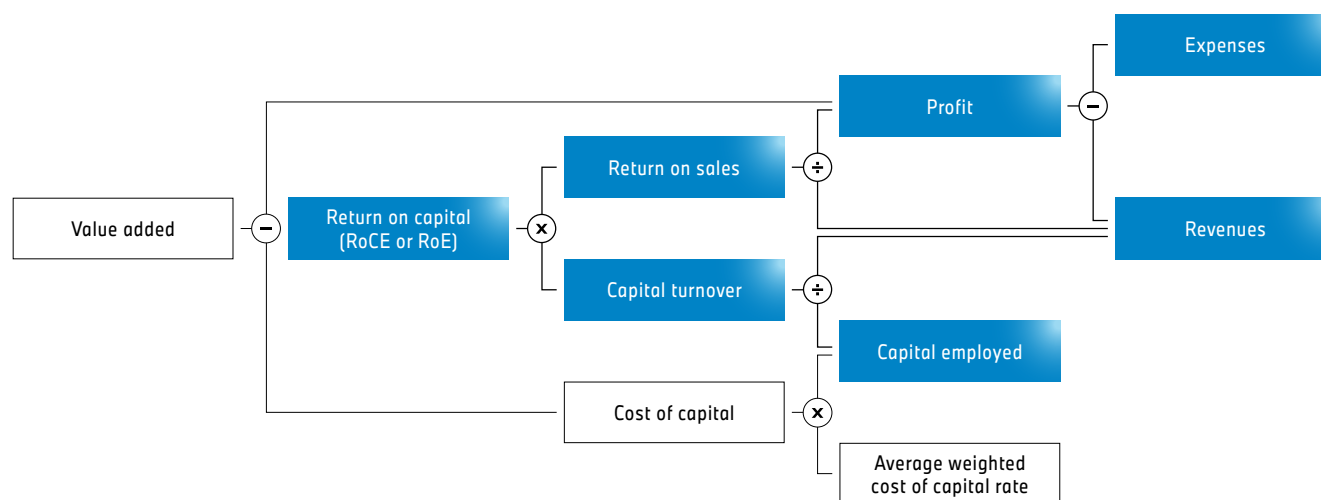
Managing sustainability

The BMW Group's long-term corporate strategies are determined by the Board of Management. Responsibility for implementing the Group's sustainability goals therefore lies

with the full Board. All topics submitted to the Board of Management for decision-making must also be evaluated from the point of view of sustainability, thereby ensuring that sustainability issues are systematically integrated in decision-making processes.

As part of the procedures for managing sustainability on an integrated basis at corporate level, a Group target system has been created, which has been implemented for each of the Board members' areas of responsibility. The BMW Group has set itself the target of decarbonising its vehicle fleet by an average of 40 % overall over the entire life cycle by 2030, based on the reference year 2019. In this context, specific targets have been set for the vehicle's use phase, production and the supply chain ([↗ Position](#)) including emissions reduction targets across the entire value chain ([↗ carbon emissions and pollutants](#)). Additionally, specific carbon targets have been set for each vehicle project.

BMW GROUP - VALUE DRIVERS



An integrated approach to target management ensures that the BMW Group's vehicle projects make a positive contribution towards achieving the sustainability targets that have been set. By 2030, the BMW Group intends to drastically broaden the scope of recycling, while further increasing the proportion of secondary raw materials used to manufacture its automobiles. With this point in mind, the BMW Group established the so-called "Secondary First" approach during the year under report. Non-financial performance indicators such as carbon emissions and secondary raw materials quotas are therefore key performance indicators for all new vehicle projects. The overall result is a cohesive management model across all aspects of the business. [↗ GRI-Index: 102-19](#)

Managing operational performance at segment level

At segment level, operational performance is managed using an aggregated approach based on returns on capital. Depending on the business model, the segments are measured on the basis of return on total capital or return on equity.

Return on capital employed (RoCE) is used for the Automotive and Motorcycles segments and return on equity (RoE) for the Financial Services segment. These indicators combine a wide range of relevant economic information, such as profitability (return on sales) and capital efficiency (capital turnover) to measure segment performance and the development of enterprise value.

Automotive segment

The most comprehensive key performance indicator used for the Automotive segment is RoCE, which is measured on the basis of segment profit/loss before financial result and the average capital employed in the segment. It provides information on the profitability of capital employed and business operations. Value driver analyses are used to interpret the causes of a change in RoCE and derive suitable measures to influence its development.

Up to and including the reporting year 2021, capital employed has been defined as the sum of all current and non-current operational assets less liabilities that were available to the operational business and generally did not incur interest (e.g. trade payables and other provisions).

With effect from the reporting year 2022, a simplified definition of capital employed will be applied to make the calculation of RoCE more comprehensible and transparent. Moreover, the capital employed figures reflect the focus of the operating segment management. In future, capital employed will be calculated as the sum of intangible assets, property, plant and equipment and net working capital, the latter comprising inventories and trade receivables less trade payables. The new definition results in a higher level of capital

employed than previously reported. We also expect the amount of capital employed to increase in light of the acquisition of further shares in BMW Brilliance Automotive Ltd. and the resulting full consolidation of that entity in the financial year 2022, whereby the increase will arise primarily due to the capitalisation of reacquired rights in conjunction with the purchase price allocation. The RoCE will be impacted temporarily by the higher capital base as well as the related amortisation expense expected to be recorded.

The new strategic target for RoCE is 18 % (target under the previous definition: 40 %). In substance, the new target is even more ambitious than that previously used to measure the return on capital employed. Value is enhanced for BMW AG shareholders when the RoCE exceeds the cost of capital.

$$\text{RoCE Automotive} = \frac{\text{Profit before financial result}}{\text{Average capital employed}}$$

Due to the special significance of RoCE for the BMW Group, the Automotive segment is also managed on the basis of a number of additional key performance indicators that have a significant impact on RoCE and hence on segment perfor-



mance. These value drivers are the number of vehicle deliveries and the operating return on sales (EBIT margin: segment profit before financial result as a percentage of segment revenues) as the key performance indicator for segment profitability.

Furthermore, the Automotive segment manages its compliance with fleet carbon emissions requirements in regulated markets. In this context, it also reports on the share of electrified vehicles in total deliveries [performance indicators](#). As compliance with regulatory requirements is a significant factor in the BMW Group's success, business decisions relating to vehicle projects also take targets for fleet carbon emissions into account. [Managing sustainability](#)

RETURN ON CAPITAL EMPLOYED (AUTOMOTIVE SEGMENT)

	Profit before financial result in € million		Average capital employed in € million		Return on capital employed in %	
	2021	2020	2021	2020	2021	2020
Automotive	9,870	2,162	16,486	17,026	59.9	12.7

Motorcycles segment

The Motorcycles segment is largely managed according to the same logic applied to the Automotive segment. The principal key performance indicator is the return on capital employed (RoCE). The new definition of capital employed adopted by the Automotive segment will also be applied by the Motorcycles segment, beginning with the 2022 reporting period. As in the Automotive segment, the new strategic RoCE target set for the Motorcycles segment is 18 %.

$$\text{RoCE Motorcycles} = \frac{\text{Profit before financial result}}{\text{Average capital employed}}$$

The main value drivers include the number of deliveries as well as the operating return on sales (corresponding to the EBIT margin: segment profit / loss before financial result as a percentage of segment revenues) as the key performance indicator for segment profitability.

Financial Services segment

The performance of the Financial Services segment is measured on the basis of the return on equity (RoE), a key performance indicator commonly used in the banking sector. Within the BMW Group, RoE is defined as segment profit / loss before tax, divided by the average amount of equity capital in the Financial Services segment. The target is a return on equity of at least 14 %.

$$\text{RoE Financial Services} = \frac{\text{Profit before tax}}{\text{Average equity capital}}$$

RETURN ON CAPITAL EMPLOYED (MOTORCYCLES SEGMENT)

	Profit before financial result in € million		Average capital employed in € million		Return on capital employed in %	
	2021	2020	2021	2020	2021	2020
Motorcycles	227	103	632	687	35.9	15.0

RETURN ON EQUITY (FINANCIAL SERVICES SEGMENT)

	Profit before tax in € million		Average equity capital in € million		Return on equity in %	
	2021	2020	2021	2020	2021	2020
Financial Services	3,753	1,725	16,586	15,343	22.6	11.2

Strategic management at Group level

Strategic management and the measurement of its financial impact are coordinated primarily at Group level in conjunction with the long-term corporate plan. One of the key performance indicators used in this context is Group profit/loss before tax, which provides a comprehensive measure of the Group's overall corporate performance after consolidation effects and enables a transparent comparison over time. Other key performance indicators at Group level are the size of the workforce at the year-end and the share of women in management functions. By 2025, the BMW Group aims to increase the share of women in management functions to 22 %.

The information provided by these key performance indicators at Group level is complemented by the two financial performance indicators of pre-tax return on sales and value added. Value added, as a highly aggregated performance indicator, also provides an insight into capital efficiency and the (opportunity) cost of capital required to generate Group profit. A positive value added means that a return on investment above the cost of capital has been achieved.

Capital employed comprises the amount of Group equity and pension provisions as well as the financial liabilities of the Automotive and Motorcycles segments employed on average at the end of each of the last five quarters. The earnings amount corresponds to Group profit/loss before tax, adjusted for interest expense incurred in conjunction with the pension provision and on the financial liabilities of the Automotive and Motorcycles segments (profit/loss before interest expense and tax). The cost of capital is the minimum rate of return expected by capital providers in return for the capital employed. Since capital employed comprises an equity capital (e.g. share capital) and a debt capital element (e.g. bonds), the overall cost of capital is determined on the basis of the weighted average rates for equity and debt capital, measured using standard market procedures. The pre-tax average weighted cost of capital for the BMW Group in 2021 was 12 %, unchanged from the previous year.

In order to determine the internal rate of return, risk-adjusted cost of capital rates are based on the average of actual rates in recent years. In light of the long-term nature of product and investment decisions, the following internal rates of return are used in conjunction with segment management:

Value-based management for project decisions

Operational business in the Automotive and Motorcycles segments is largely shaped by the life-cycle-dependent character of investment projects that have a substantial influence on future performance. Project-related decisions are therefore a crucial element of financial management in the BMW Group. Project decisions are based on calculations derived from the expected cash flows of each individual project. Calculations are made for the complete term of a project, incorporating future years in which the project is expected to generate cash flows. Project decisions are taken on the basis of net present value and the internal rate of return calculated for the project. The net present value indicates the extent to which the project will be able to generate future net cash inflows over and above the cost of capital. A project with a positive net present value enhances future value added and therefore results in an increase in enterprise value. The project's internal rate of return measures the average return on the capital employed in the project. For all project decisions, the project criteria and long-term impact on periodic results are measured and incorporated in the long-term Group plan. This approach enables an analysis of the impact of project decisions on periodic earnings and rates of return for each year during the term of the project.

$$\begin{aligned} \text{Value added Group} &= \text{earnings amount} - \text{cost of capital} \\ &= \text{earnings amount} - (\text{cost of capital rate} \times \text{capital employed}) \end{aligned}$$

in %	2021	2020
Automotive	12.0	12.0
Motorcycles	12.0	12.0
Financial Services	13.4	13.4

VALUE ADDED GROUP

	Earnings amount		Cost of capital (equity + debt capital)		Value added Group	
in € million	2021	2020	2021	2020	2021	2020
BMW Group	16,289	5,464	8,938	8,061	7,351	-2,597

Board of Management remuneration

Performance criteria for the short- and long-term variable remuneration of the Board of Management are also based on the main strategic financial and non-financial targets and key performance indicators and contribute towards the BMW Group's long-term development. Non-financial key performance indicators used in this context include the number of vehicles delivered, the share of women in management functions, carbon emissions and sales of electrified vehicles. Financial key performance indicators that have an impact on variable remuneration include the return on capital employed for the Automotive segment as well as other key financial performance indicators monitored at Group level. ↗ [Remuneration Report](#)

COMPLIANCE AND HUMAN RIGHTS

Compliance means much more to the BMW Group than just complying with applicable laws and Company rules: it is part of our identity and our living culture of integrity and creates a binding framework for all our business activities worldwide. As such, compliance lays the foundation for the long-term success of the Company, builds trust in our products and brands, and shapes the public image of the BMW Group.

Compliance as a corporate function

Compliance is the managerial responsibility of the Board of Management of BMW AG and is primarily executed by creating an appropriate regulatory and supervisory framework, as well as through regular and ad hoc compliance reporting, accompanied by clear and unambiguous compliance communications. This approach is based on the core belief that compliance with applicable laws and related internal regulations is the personal responsibility of each individual employee. As role models, BMW Group managers are also tasked with anchoring compliance culture in their respective area of responsibility and ensuring compliance requirements and processes are implemented accordingly. [➤ GRI-Index 102-16](#)

During the reporting period, the Board of Management of BMW AG significantly refined the compliance organisation and created a new Chief Compliance Officer role, which took effect on 1 January 2021 and which serves as head of the Group Compliance. In addition to being responsible for the Compliance Management System (CMS), the Chief Compliance Officer manages the Group Compliance division and briefs the Board of Management and Supervisory Board of BMW AG on development and implementation of the CMS at regular intervals. Furthermore, compliance has been an-

chored by the Board of Management in the Company's enhanced understanding of leadership.

Compliance Management System (CMS)

The BMW Group's Company-wide CMS is based on the Prevent, Detect, Respond Model, which defines specific prevention, monitoring, control and response measures, on the basis of clearly assigned roles and responsibilities.

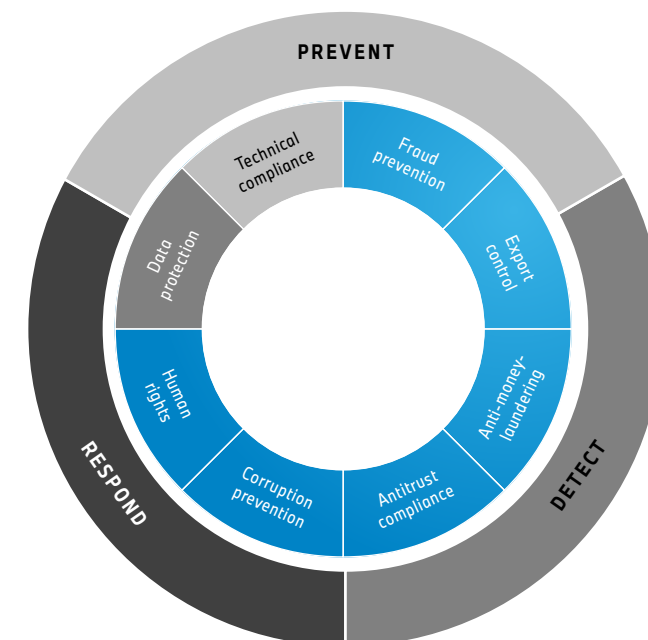
The CMS is tailored to the Company's specific risk situation. It addresses all relevant compliance topics, including fraud prevention, export control, anti-money laundering, antitrust compliance, corruption prevention and [➤ human rights](#) as well as [➤ data privacy and technical compliance](#). These last two topics are the responsibility of the respective specialist departments. An effective and efficient compliance organisation is fundamental to reducing sanction and liability risks, as well as risks arising from other (non-)financial disadvantages, such as reputational risks.

Further development of the CMS

During the reporting period, the organisation and content of the CMS were refined according to defined strategic focus topics. The objective is to further strengthen the culture of compliance and integrity at the Company, with the declared aim of avoiding Company-related violations of the law.

Further development of the CMS is also taking place against the backdrop of external factors, such as global legal developments and the evolution of compliance at other companies. To this end, the BMW Group is involved in various associations and interest groups and has been an active corporate member of the German Institute for Compliance (DICO) for many years, at the Board level and through its leadership of the working group "Human Rights / CSR".

THREE-STAGE APPROACH TO COMPLIANCE MANAGEMENT SYSTEM AND COMPLIANCE TOPICS



The Supply Chain Due Diligence Law will take effect on 1 January 2023 in Germany; the adjustments it requires for the human rights compliance programme have been a key focus for Group Compliance during the reporting period. It should be noted that the Board of Management decided in December 2021 to appoint a Human Rights Officer and assign this role to the head of Group Compliance. Concentrating relevant expertise in this new function will also contribute to the strategic alignment of the Company in the social dimension of sustainability. Other priorities arose in

the context of export controls from heightened trade relations between the US and China and in connection with efforts to prevent money laundering, due in part to the increase in legislative initiatives to tighten multinational anti-money-laundering requirements.

A further priority was developing and implementing more extensive preventive measures in response to the antitrust proceedings brought by the European Commission and concluded in July 2021, concerning restriction of competition in innovation in certain emissions control systems¹.

➤ [Note 10 to the Group Financial Statements](#) ➤ [GRI-Index: 205-3](#)

Increasingly strict national legislation to protect personal data, and the higher risks associated with this, shaped compliance measures regarding data privacy.

In response to the rapid pace of transformation in the automotive industry, activities in the field of technical compliance were also significantly expanded during the period under report.

Company-wide compliance network

Business departments at the BMW Group are responsible for lawful conduct during the performance of their assigned tasks. This means they are also responsible for identifying and evaluating any compliance risks that arise in the course of their daily business. Monitoring and reducing these risks also falls under their scope of duties. More than 230 managers group-wide perform these tasks. These Compliance Officers form part of the Compliance Organisation.

Specialist departments are supported in their work by the central Group Compliance function, as well as a Group-wide network of business unit and division compliance functions, supplemented by around 80 local Compliance Officers (heads of local compliance functions) at BMWAG's international subsidiaries. Local Compliance Officers are tasked with implementing the CMS and compliance programmes for

relevant topics within their area of responsibility. Business unit and division compliance functions also perform the task of identifying and implementing specific compliance measures in their area of activity.

Expanded training activities

The BMW Group continuously refines the Group Compliance training opportunities for specific target groups. For example, during the year under review, we redesigned our Group-wide mandatory Compliance Essentials online training to create a user-oriented approach with focused content and a high level of interactivity. This training formed part of the mandatory training programme and included human rights topics in the year under report. ➤ [GRI-Index: 412-2](#)

In addition to imparting knowledge, online and classroom training options, including practical case studies, play an important part in strengthening the compliance culture and understanding of compliant behaviour at the Company. Online training must be completed every two years by relevant target groups. The training modules include exercises and test questions relating to the BMW Group Legal Compliance Code and corruption prevention, as well as other topics. So far, more than 69,000 employees worldwide have completed the Compliance Essentials training, and over 36,000 employees completed online antitrust compliance training. Department-specific training modules supplement the extensive options – for instance, in the areas of antitrust law or ➤ [human rights](#). ➤ [GRI-Index: 205-1](#)

Digitalisation supports compliance

BMW Group employees have used IT-based systems for swift and efficient documentation, assessment and approval of compliance-relevant matters for years. Examples include IT-supported processes to monitor money laundering, sanction lists and exchange activities with competitors as well as to conduct background checks on the reliability of business partners and verify, approve and document the legal admissibility of benefits in kind. Measures are implemented to

avoid compliance risks on the basis of this evaluation.

Reporting system for detecting possible non-compliance with the law and compliance controls

Any employee with questions or concerns relating to compliance can discuss these matters with their managers and with the relevant departments within the BMW Group: specifically, with Group Compliance, Legal Affairs and Corporate Audit. The BMW Group Compliance Contact serves as a further point of contact and provides non-employees with a process for reporting compliance concerns. Our employees worldwide can also submit information relating to possible infringements of the law at the Company in several languages via the BMW Group SpeakUP Line. In 2021, an ombudsperson for suppliers was dedicated. ➤ [Verification of effectiveness](#)

The BMW Group protects information providers in two ways. If they prefer, individuals may provide information without disclosing their identity. Policy also stipulates that no one providing information should face retaliatory action. All compliance-related queries and concerns are documented and processed using an electronic Case Management System. If necessary, Corporate Audit, Corporate Security, the legal departments or the Works Council may be called upon to assist in processing the case. ➤ [GRI-Index: 102-34](#)

CMS monitoring / controls

Observance and implementation of compliance regulations and processes are subject to regular audits. The BMW Group CMS provides differentiated monitoring levels for this purpose. Compliance Officers are those primarily responsible for performing direct checks in their area of responsibility. Further measures integrated into business processes to help reduce risk generally form part of the ➤ [Internal Control System](#). The central Group Compliance function refined its audit approach in 2021, with the aim of increasing audit frequency by introducing risk-based compliance audits without cause. These compliance audits are currently focused on antitrust

law. So-called Compliance Spot Checks were also carried out in 2021, with a focus on possible corruption risks. Corporate Audit also conducts audits focused on compliance requirements.

All control checks are geared towards reducing compliance risks for the BMW Group. Any infringements are immediately remedied, with an emphasis on minimising the risk of repeat offenses and strengthening the understanding of compliance within the Company. Where incidences of non-compliance can be traced to an individual, such persons will be appropriately sanctioned, in accordance with the processes defined for this purpose.

Regular compliance reporting to the Board of Management and Supervisory Board

The Board of Management and Supervisory Board of BMW AG, the Audit Committee and other executive committees are informed on a regular basis and, if necessary, immediately by the Chief Compliance Officer. In 2021, the content reported to committees was focused and the frequency of reports increased – for example, at least twice a year for the Board of Management.

Global implementation of labour standards and human rights

Internationally recognised guidelines for environmental and social compliance set the benchmark for the BMW Group's entire value chain. This applies, in particular, to the Guidelines for Multinational Companies issued by the Organisation for Economic Cooperation and Development (OECD), the UN Guiding Principles on Business and Human Rights, the Ten Principles of the UN Global Compact, the content of the ICC Business Charter for Sustainable Development, and the United Nations Environment Programme's (UNEP) Declaration on Cleaner Production. The BMW Group concentrates on topics and action areas where it can exert its influence as a company. With the participation of employee representatives, these (supra)national requirements were incorporated into internal company rules and principles through the [Joint Declaration on Human Rights and Working Conditions in the BMW Group](#) of 2005 (updated in 2010), clarified in the [BMW Group Code on Human Rights and Working Conditions](#) of 2018 and integrated with the human rights compliance programme.

The automotive industry is heavily involved in global supply chains. In a collaborative global value creation process such as this, there is a risk that human rights may not be respected throughout the supply chain. Respect for human rights has been incorporated into the [BMW Group Supplier Sustainability Policy](#). To fulfil our [environmental and social responsibility](#), we implement a multistage due diligence process in our Purchasing and Supplier Network division.

In addition to the Company's international purchasing terms and conditions, BMW Group dealer and importer contracts include requirements relating to compliance and human rights. Human rights issues also play an important role in the Company's choice of locations and major investment decisions. [1\] \[GRI-Index: 412-3\]\(#\)](#)

Compliance management in the Financial Services segment

The financial services business entails specific risks, due to the nature of its products and processes. The focus of compliance management is therefore anti-money-laundering, compliance with financial sanctions, information and privacy protection, fraud prevention, legislative and regulatory monitoring, consumer protection and implementing the requirements of the Financial Supervisory Authorities. To manage risk in these areas, the Financial Services segment has established its own Compliance and Governance department, which works closely with the central Group Compliance function as a decentralised unit. Based on an annual trend analysis it identifies the possible need for adjustments and defines resulting measures. Implementation by the BMW Group's financial services companies worldwide is continuously reviewed and reported to the management of the Financial Services segment on a quarterly basis.

In the BMW Group's Financial Services segment, compliance is incorporated into the target management process. Integration of specific targets into strategic steering underlines the importance of this topic and helps to monitor the implementation. A management system also supports the process of identifying risks arising from non-compliance with internal and external regulations at an early stage.

PRODUCTS AND MOBILITY SOLUTIONS

51	Innovation and Customer Orientation
56	Carbon Emissions and Pollutants
59	Electric Mobility
62	Mobility Concepts and Services
65	Product Safety and Data Protection

AT A GLANCE

> 40 %

decrease in carbon emissions on average per vehicle over its entire life cycle compared with 2019 – that is our target by 2030.

➤ [Decarbonisation targets](#)

328,314

electrified vehicles delivered by the BMW Group in 2021 – more than twice as many as in 2019.

➤ [Broader offering](#)

[> 250,000

charging points available to customers in Europe with the BMW and MINI Charging Cards.

➤ [Range of reliable charging services \]\]](#)



PRODUCTS AND MOBILITY SOLUTIONS

INNOVATION AND CUSTOMER ORIENTATION

[t An innovation only differs from a mere idea or an invention when successfully applied to create new products, services or processes. In this particular sense, innovation within the BMW Group is inextricably linked with the concept of customer orientation. During the year under report, innovations again led to processes being optimised, products improved, and new technologies introduced that make everyday life easier for our customers. We see the future as electric, digital and circular.

Circular design – a topic shaping the future

The BMW Group and its brands are well-known for their emotive, forward-thinking design. In the course of the reporting year we also focused on another key facet of our work: circular design. At the IAA Mobility in September 2021, design geared to promoting sustainability and driven by the circular economy concept [Circularity as a Strategic priority](#) found its expression in the [BMW i Vision Circular](#). The design of this vision vehicle has been optimised for closed material loops and shows what a vehicle can look like that is not only made of 100 % recycled materials, but is, in fact, itself fully recyclable.

Efficient urban mobility is another strategic focus reflected in the vision and concept vehicles that the BMW Group presented in 2021. The Group also demonstrated its ability to develop innovative solutions with design studies such as the [BMW Motorrad Vision AMBY](#) and the [BMW i Vision AMBY](#) two-wheelers. Powered by smart speed and drive system controls, they can be used both on the road and on cycle paths. The [MINI Vision Urbanaut](#) shows a facet of the automobile that goes far beyond its core purpose as a means of mobility and can be used in a highly flexible manner.]]

➤ [SASB-Index](#)

[100 %

recycled and recyclable. This design study points to what is conceivable as we move forward.]]

📘 Digitalisation – an opportunity for innovation and customer orientation

We view digital technologies as an excellent opportunity to further improve our existing processes, come up with new solutions, and engage seamlessly with our customers. For example, in many markets vehicles can be demonstrated live on a screen shared with a customer or configured online together with a member of our sales team. A complete online sales process has already been successfully implemented in some of our markets, with others to follow in the foreseeable future.

Furthermore, digitalisation is a vital key to keeping our vehicles "fresh" throughout their entire life cycle. Since the launch of Operating System 7 in 2018, remote software upgrades have become a reality for BMW automobiles.

Remote software upgrades also provide BMW owners with the option to tap into new digital business models such as "functions on demand". Customers can either purchase additional functions or simply order them for a specific amount of time. The response to these offers has already been highly positive. [➤ Online Report](#)

In autumn 2021, with the launch of the new, all-electric BMW iX, the BMW Group simultaneously introduced its new BMW Operating System 8 as well as a new display and control system. The principal design focus was on clarity and straightforward, intuitive usability. The large BMW curved display enables drivers to customise the content of their display via a touchscreen. Buttons and switches have been reduced to a necessary minimum.

Digitalisation also enables innovations, simplifications and advances outside the vehicle. The My BMW app and the MINI app for smartphones have been available since 2020. They provide a connection from wherever the user is located to the vehicle – or to the service partner if required. Both apps were equipped with additional new features during the

period under report. For example, the My BMW app now also includes a digital tyre diagnosis feature that uses artificial intelligence to assess the condition of the vehicle's tyres. The MINI app now enables users to access a broader range of services, including booking appointments and paying for services contactlessly. In an optionally available service video, they can find out about the vehicle check or opt for a variety of services. Innovative digital solutions are also deployed in other areas of the BMW Group, such as in production or development scenarios. When it comes to maintaining production systems, we are switching to what is known as a predictive maintenance strategy. With the help of sensors, cloud-based data analysis and artificial intelligence, the system assesses when a particular piece of equipment needs to be serviced in order to prevent unnecessary production downtime. The technology allows maintenance to be planned and components to be replaced before they actually break down.

🚀 Drive technologies of the future

The BMW Group also focuses on the needs and wishes of its customers worldwide when developing its drive technologies. For this reason, we are constantly enhancing our existing drive technologies in the interests of efficiency, decarbonisation and resource conservation. At the same time, of course, the BMW Group is researching new drive technologies with the aim of preparing them for series production. [📘](#)

REMOTE SOFTWARE UPGRADES



Some 30 BMW models are currently upgradeable, which means that suitable vehicles can receive the latest software upgrades "over the air". These remote software upgrades provide BMW vehicles with improvements as well as new digital products and services and keep the software up to date.

The BMW Group has already offered automated remote software upgrades to more than four million of its vehicles, and customers have successfully installed them more than 2.3 million times. Read more in our online special. [➤ Online Report](#)

Electric-powered future with the Neue Klasse

The BMW Group sees the transformation to all-electric, connected, sustainable mobility as an opportunity and has developed a clear road map that consists of three phases. In the first phase, the Group began pioneering e-mobility as early as 2007 with project i, enhancing the technology and then developing electrified vehicles for series production. In the second phase, which is currently underway, we are introducing electrification to the product portfolio with a new model initiative [↗ Broader offering](#) based on smart vehicle architectures and our highly flexible [↗ production network](#), which is capable of manufacturing the full range of vehicles from all-electric to combustion engine drive systems on the same production line. By the peak of the second transformation phase at the end of 2025, the share of electrified cars in the BMW Group's total deliveries is scheduled to rise to at least 30 %.

From 2025, the third phase will begin with the Neue Klasse, which will be characterised by three key aspects: a completely redefined IT and software architecture, a new generation of electric drive systems and batteries, and a new level of sustainability across the entire vehicle life cycle. Contributing factors include:

- the all-electric drive system
- the use of carbon-free energy in ever larger parts of the supply chain
- the increasing use of secondary materials
- closed-loop systems for essential production materials

This high technological standard will be integrated in a complete vehicle architecture exclusively geared towards electric drive systems. [1\]](#)

Additionally bolstering battery expertise

Powerful, sustainable energy storage systems and the development of new, innovative battery cells are key elements for powering future generations of all-electric vehicles. For the Neue Klasse, we are working on significantly increasing the energy density of the cells, while at the same time cutting material and production costs. Battery recyclability is another key consideration that will impact the development of all our future generations of battery cells. Moreover, the BMW Group is already conducting intensive research into solid-state battery technology, which shows great promise for the future.

Hydrogen fuel cell technology

During the year under report we began testing the BMW iX5 Hydrogen with its hydrogen fuel cell drive in everyday driving scenarios in Europe. The aim is to test the interaction be-

tween the carbon-free drive system, the chassis technology and the electronic systems under realistic conditions. The BMW iX5 Hydrogen uses hydrogen as a fuel and converts it into electricity via a fuel cell, making the BMW iX5 Hydrogen a fully electrically powered vehicle. A pilot series of this model will be produced at the end of 2022 in order to gain further practical experience in a broadly based field trial.

Hydrogen fuel cell technology has the potential to become a sustainable alternative to battery electric drive systems. The technology really comes into its own when comprehensive electric charging infrastructure is not available and there are also a broad number of applications for this technology on long-distance journeys or in larger classes of vehicle. Depending on market requirements and other general conditions, the BMW Group intends to offer a production vehicle of this type in the second half of the decade. [1\]](#)



* [↗ Consumption and carbon emissions data](#)

🔗 The BMW iX5 Hydrogen is powered by fuel cells that stem from the Group's development cooperation with the Toyota Motor Corporation. However, the fuel cell stack and the overall drive system are being developed in-house by the BMW Group. The collaborative project, which began in 2013, aims to optimise the everyday suitability of fuel cell technology and its use in each company's own production vehicles.

In order to build up an efficient hydrogen-based economy and promote the production of green [Hydrogen](#), the BMW Group supports initiatives right across Europe.

Inspiration and cooperation

Good ideas often come into being when different partners decide to work together. Accordingly, we focus on cooperations in which the strengths of the BMW Group complement those of established partners and innovation drivers such as start-ups. Using this approach, we are constantly developing the innovative strength of the BMW Group.

Regional BMW Group Technology Offices are in search of promising business partners worldwide in fields of innovation such as sensor technology, artificial intelligence, battery technology, smart materials, natural user interfaces and smart logistics. To maintain this network, the BMW Group also holds an intensive dialogue with selected colleges and universities. For example, numerous Group employees also lecture at universities and higher education institutions and a great many students come to the BMW Group each year to complete an internship or write a scientific thesis, enabling us to ensure the transfer of knowledge between theory and practice and help train highly qualified junior staff. [1\]](#)

QUANTUM COMPUTING

The BMW Group clearly sees quantum computing as a groundbreaking technology of the future that has considerable potential for use in a broad range of applications, such as for researching materials, in the field of battery cell chemistry, or to power the future of automated driving with quantum machine learning. However, it is still a long way from achieving technological maturity and that's why it is particularly important for us to provide the best possible support for cutting-edge research and its transfer to industrial applications.

The BMW Group is one of ten German companies that formed the **Quantum Technology and Application Consortium (QUTAC)** in June 2021. The aim of the consortium is to continue developing the existing fundamentals of quantum computing to create truly usable industrial applications.

In June 2021, the BMW Group and the Technical University of Munich (TUM) jointly announced the establishment of the **endowed chair for Quantum Algorithms and Applications**. The move was followed in November 2021 by an agreement with RWTH Aachen University also aimed at supporting research into quantum computing. Both of these collaborations are intended to build a bridge between basic research and industrial application.

In July 2021, the BMW Group launched the **BMW Group Quantum Computing Challenge** crowd innovation initiative in collaboration with Amazon Web Services Inc. Researchers, start-ups and companies alike are called upon to develop innovative quantum algorithms that serve as solutions to one of four industrial challenges that were announced. The winners will be invited to implement the selected pilot projects together with the BMW Group as their customer.

Worldwide culture of innovation

The Munich Research and Innovation Centre (FIZ) is the main hub of the BMW Group's international network of research and development locations. After the initial construction phase, the extension was first occupied in autumn 2020, the new driving simulation centre was also put into operation during the year under report. In five of a total of 14 simulators and usability labs, LED walls are deployed to create a virtual environment for development purposes, to enable more realistic representations than previous projection systems.

The global dialogue with start-ups is another important means for us to bring new impulses into the Company. The dialogue is based on three key pillars: [BMW i Ventures](#) through which we invest in technology start-ups, the [Accelerator URBAN-X](#) start-up, which was initiated by the MINI brand and

focuses on life in the city, and the [BMW Startup Garage](#), which represents the third and final pillar. In May, the BMW Group opened a so-called "incubation site" in Shanghai in cooperation with Alibaba Cloud. This joint innovation base aims to help Chinese tech start-ups scale their innovations.

Cooperations and partnerships

In order to maintain its long-term success, the BMW Group enters into targeted cooperations and partnerships, not only with companies from the automotive industry, but with technology leaders from other sectors as well. The aim of cooperating with external partners is to pool our common expertise and implement innovations as swiftly as possible. Some of the BMW Group's major collaborations and investments are listed below:

BMW Brilliance Automotive Ltd. (BBA) is a joint venture founded in 2003 and owned equally by the BMW Group and Brilliance China Automotive Holdings Ltd. (CBA). BMW Brilliance Automotive manufactures BMW brand models at an engine plant and two automobile plants in Shenyang, China (Liaoning Province). In February 2022, the BMW Group acquired a further 25% of the shares in the BMW Brilliance joint venture. Further information on the consolidation of BMW Brilliance Automotive is available in the Notes to the Group [↗ Notes to the Financial Statement](#).

Spotlight Automotive Limited (Spotlight), a joint venture between the BMW Group and the Chinese manufacturer Great Wall Motors, will produce all-electric MINIs as well as electric vehicles for Great Wall Motors. Established in December 2019, the joint venture also includes the collaborative development of battery electric vehicles. The construction of a production plant in Zhangjiagang (Jiangsu Province) is meanwhile in the advanced stages. With this collaboration, the BMW Group is stepping up its commitment in China and significantly increasing its production capacities.

Since the BMW Group, Daimler and Audi acquired the HERE mapping service in 2015, the three partners have been working on developing high-precision digital maps that can be linked to real-time vehicle data. The maps form the basis for the next generation of location-related services, thereby marking another key step in the evolution of individual mobility as well as building a solid foundation for developing new assistance systems. HERE remains accessible as an independent platform for the automotive industry as well as for other partners. During the year under report, the location data and technology platform had nine direct and indirect shareholders, i.e. Audi, Bosch, the BMW Group, Continental, Intel, Mitsubishi, Daimler, Nippon Telegraph and Telephone, and Pioneer.

The BMW Group is a founding partner of the IONITY joint venture, the aim of which is to establish a high-performance, high-power charging network for electric vehicles right across Europe. The joint venture represents a vital step towards ensuring that electric mobility also becomes a convenient means of transport for long-distance travel, thus establishing it firmly on the market. The founding partners, i.e. the BMW Group, Daimler AG, the Ford Motor Company and the Volkswagen Group together with Audi and Porsche, all participated in equal measure. In 2019, the Hyundai Motor Group with its Hyundai and Kia brands joined as an additional partner. In the year under report, the existing partners signed the inclusion of Blackrock as a further investor (closing after approval through anti-trust authorities). The move will enable IONITY to further invest in consolidating and expanding the fast charging network. [↗ Expanding charging infrastructure and enabling faster charging](#)

Under the brand name YOUR NOW, the BMW Group and Daimler Mobility AG offer innovative, customer-friendly solutions for business partners, cities, towns and municipalities that are looking to make their mobility more efficient and sustainable. The cooperation includes the joint ventures FREE NOW (ride-sharing and multimodality), REACH NOW (on-demand mobility and multimodality), SHARE NOW (car sharing) and CHARGE NOW (charging). In 2021, the energy company bp also joined to become the third partner in Digital Charging Solutions GmbH (DCS), which operates the CHARGE NOW brand. [↗ Innovative mobility services on offer](#)

In 2021, the BMW Group, together with the Ford Motor Company, Volta Energy Technologies and other investors, invested in Solid Power, Inc., one of the industry's leading developers of solid-state battery cells with high energy density that can also be used to power electric vehicles. This investment and the subsequent IPO provided Solid Power, Inc. with the financial resources to secure its research and development activities for the years to come.

Moreover, the BMW Group and Solid Power, Inc. have extended the development agreement that has been in place since 2016; the BMW Group intends to purchase solid-state battery cells from Solid Power, Inc. for use in a prototype within the first half of the current decade.

Information on the overall scope of the BMW Group's research and development activities is provided in the section.

[↗ Earnings performance](#)

CARBON EMISSIONS AND POLLUTANTS

It Mitigating the impact of climate change is one of the greatest challenges of our time and requires a massive effort, not only on the part of society as a whole, but also from policy-makers and the business community. The BMW Group is also involved in these endeavours. By 2050, we intend to achieve the target of net zero in terms of our emissions across the entire value chain. With this aim in mind, in 2020 the BMW Group set itself ambitious, science-based targets for the year 2030, which have been validated by the Science Based Targets initiative (SBTi). We intend to achieve these targets by further reducing the carbon footprint and pollutant emissions of our vehicles, as we have done in the past.

Decarbonising across the entire life cycle

The BMW Group is pursuing a clear strategy of decarbonisation across the entire life cycle of its vehicles and has defined specific targets in order to do so. With this holistic approach, we are moving forward on a path in line with the climate protection targets designed to limit global warming enshrined in the Paris Climate Agreement.

Holistic management system

— The BMW Group intends to leverage its holistic management system to substantially improve its carbon footprint from one vehicle generation to the next across the entire life cycle. In view of the increasing electrification, it is particularly important to be aware that although the trend reduces carbon emissions during the [use phase](#). It increases them at the same time in the supply chain. The reason for this lies primarily in the carbon-intensive components needed to power electric mobility, such as high-voltage batteries in particular. With this point in mind, the BMW Group defines specific [decarbonisation targets](#) for all its vehicles right from the outset. The targets

encompass the supply chain, production and the subsequent use of the vehicle by the customer. Our system for [measuring performance](#) enables us to ensure that these targets are implemented both rigorously and consistently throughout the entire Group. The strategy allows us to take our decarbonisation targets into account right from the product development stage as well as market-related requirements for our vehicle fleet at the same time. We manage the implementation of our targets and the assessment of progress during the development process with the help of a carbon footprint based on ISO standards 14040 and 14044.

Decarbonisation targets across the value chain

Measurable, science-based targets that initially extend to 2030 form the basis for our decarbonisation strategy and for this reason we have joined the SBTi. The use of science-based targets makes the measurability of our targets transparent and at the same time ensures that they are in line with the latest scientific findings. [1\]](#)

We have set ourselves the following decarbonisation targets¹ to be achieved by 2030 (base year 2019). These targets were notified to the SBTi and validated in 2020.

- An average of 80 % carbon reduction at our own production sites and locations (Scope 1 and 2) per vehicle produced. [Decarbonisation at BMW Group locations](#) From 2021, carbon emissions in accordance with Scope 1 and 2 include not only production-specific emissions, but also those generated at locations not directly related to production.⁶
- An average of at least 20 %² carbon reduction in the supply chain (Scope 3 upstream³) per vehicle produced. This data also provides us with a scientifically tested and confirmed target for reducing carbon emissions in the supply chain. [Reducing carbon emissions in the supply chain](#)

— Carbon reduction during the use phase⁴ (Scope 3 downstream⁵) by an average of at least 50 % per kilometre driven. Thus we again significantly raised the original target of more than 40 % that we had set ourselves. The main reason for this is the dynamic growth in demand for our electrified vehicles. [Electric mobility](#), [Automotive segment](#) The adjusted target of 50 % has been submitted and successfully validated by SBTi in February 2022.

¹ Scope 3 emissions generated by the upstream value chain, logistics services and well-to-tank emissions are stated in carbon equivalents. When measuring Scope 1 and Scope 2 emissions and the further Scope 3 emissions, climate-impacting gases apart from carbon dioxide have been ignored.

² Figure rounded for simplification purposes. The target validated in conjunction with the SBTi is 22 %.

³ Categories included under Scope 3 upstream according to the Greenhouse Gas Protocol: 1. Bought-in goods and services and 4. Transport and distribution.

[Carbon footprint](#)

⁴ Based on the well-to-wheel method, which in addition to the tank-to-wheel approach also takes into account the generation and supply of fuel and thus the entire impact chain relating to the driving of vehicles.

⁵ Categories included under Scope 3 downstream: Use phase [Carbon footprint](#).

⁶ For comparison purposes, the figures for 2019 (base year) and 2020 have been adjusted accordingly.

With the even more ambitious target of reducing carbon emissions during the use phase by more than 50 %, the overall view over the complete life cycle¹ of a vehicle by 2030 results in an average carbon emissions reduction of at least 40 %. By 2050, we intend to achieve net zero in terms of our carbon emissions across the entire value chain. As of the year under report, we made the remaining carbon emissions generated at our own plants and locations completely carbon-neutral through the use of voluntary offsetting certificates. [↗ Compensation of site-related carbon emissions](#)

THE BMW GROUP'S CARBON FOOTPRINT (ABRIDGED VERSION)³

in t CO ₂ / CO ₂ e	2021	2020
TOTAL EMISSIONS	122,539,929	118,491,889
Scope 1	699,713	678,967
Scope 2	134,849	130,090
Scope 3 ²	121,705,368	117,682,832

For definition, [↗ Glossary: Carbon emissions Scope 1 to Scope 3](#)

For a detailed version, see [↗ Carbon footprint of the BMW Group in "Further GRI information" 1\]](#)



Following the overall drop in carbon emissions one year earlier due to the coronavirus pandemic, the figure rose again by around 3 % to approximately 123 million tonnes in the year under report, mainly driven by renewed growth in production volume. Nonetheless, carbon emissions are 8 % down overall compared to the base year 2019, mainly due to lower average fleet emissions worldwide. [1\]](#)

Decarbonisation during the use phase meets legal requirements

The carbon emissions generated during the use phase are the subject of numerous regulatory requirements and also a key parameter in our life cycle assessment. With the early serial introduction of [↗ electrified vehicles](#) since 2013 and the fleet-wide use of innovative [↗ Efficient Dynamics technologies](#) since 2007, we have continuously and permanently reduced both vehicle fuel consumption and emissions. These two parameters form the basis for us for again meeting mandatory carbon emissions and fuel consumption requirements in the year under report. [↗ SASB-Index](#)

EU carbon emissions targets achieved

As from 2021, average fleet CO₂ emissions in the EU⁴ must be reported according to the new WLTP⁵ type test cycle. In the year under report they totalled 115.9 g CO₂/km⁶, taking regulatory requirements into account. We have thus significantly reduced fleet carbon emissions compared with the previous year (2020: 135 g CO₂/km^{6,7}). We were significantly below the limit of 125.8 g CO₂/km applicable for the BMW Group by 9.9 g CO₂/km. The reduction is therefore in line with the trend seen in previous decades, driven by the increasing electrification of our vehicle fleet and continuous improvements in the efficiency of our internal combustion engines. On this basis, we continue to work unabated to further reduce greenhouse gas emissions going forward.

[↗ GRI-Index: 305-5](#)

JOINING THE INITIATIVE BUSINESS AMBITION FOR 1.5°C

In line with the targets set at the Paris Climate Agreement, the BMW Group wants to make its contribution to limiting global warming. We are demonstrating this commitment with our medium- and long-term plans for decarbonisation. To emphasise our intention, during the year under report we became the first German automotive manufacturer to join the [↗ Business Ambition for 1.5°C initiative](#) of the SBTi. The campaign brings together companies that have set themselves the target of net zero emissions in line with the SBTi and are thus following a long-term 1.5 degree pathway. By joining the initiative, the BMW Group is also part of the international [↗ Race to Zero campaign](#) organised by the United Nations. With this move, we also want to motivate other companies to take ambitious steps to protect the climate.

¹ Excluding carbon emissions relating to disposal.

² Scope 3 in this case includes emissions from logistics, business travel, employee commuting, upstream supply chain, use phase and waste disposal.

³ Due to the broader extent of reporting on Scope 1 and Scope 2 emissions at BMW Group locations and the changed method for calculating Scope 3 downstream emissions in the use phase, the previous year's figures have been adjusted to enable better comparison.

⁴ EU-27 countries including Norway and Iceland.

⁵ WLTP stands for the new Worldwide harmonized Light vehicles Test Procedure. Since 2021, the EU Commission has used this procedure as the basis for calculating fleet carbon emissions.

⁶ This is a preliminary internal calculation with a potential variation of +/- 0.5 g CO₂/km, as official registration figures have not been provided by the authorities of all EU states. The EU Commission is not expected to publish official figures until November 2022.

⁷ To improve comparability of the previous year's figures with those of the current year under report, the 2020 NEDC figures have been converted to WLTP after adjustment for the applicable flexibilities – specifically, from 99 g CO₂/km according to NEDC (incl. 5 g CO₂/km phase-in, 7.5 g CO₂/km supercredits and 2.4 g CO₂/km eco-innovations) to 135 g CO₂/km according to WLTP (excluding flexibilities). In 2020, a phase-in regulation was accepted, as was the recognition of supercredits. As of 2021, these two simplifications no longer apply for the BMW Group.

⁸ [↗ Consumption and carbon emissions data](#)

Fleet emissions in the USA, China and worldwide

In the USA, average fleet emissions¹ for model year (MY) 2021 were calculated at 134.0 g CO₂/km for passenger cars (MY 2020: 155.7 g CO₂/km) and 150.1 g CO₂/km for light trucks (MY 2020: 185.6 g CO₂/km). Volume-weighted fleet carbon emissions in the USA averaged 140.9 g CO₂/km (MY 2020: 166.8 g CO₂/km) (BMW internal calculation). In the 2021 reporting year, legally permissible imputation factors¹ were included for the first time. For this reason, direct comparability with the previous year is not possible. In China, average fleet carbon emissions² were 163.0 g CO₂/km according to the new WLTC test cycle introduced in the year under report (2020: 151.1 g CO₂/km NEDC). Due to the change of cycle, a direct comparison with the previous year is not possible.

The BMW Group's global carbon fleet emissions³ averaged 197.9 g CO₂/km³ in the year under report (2020: 212.4 g CO₂/km). The figure represents a reduction of 9.4% compared with the 2019 baseline. When calculating these emissions, the BMW Group takes into account the average fleet carbon emissions in the EU, the USA and China and standardises them according to WLTP. Accounting for more than 80% of BMW Group deliveries overall, these three core markets and regions are a reliable basis for calculating fleet carbon emissions worldwide. In line with the SBTi, we add 10% to the figures calculated to cover any possible differences between the figures according to WLTP and actual emissions. The figure also includes the upstream supply chain emissions generated by energy sources (fossil fuels and electricity) in accordance with the well-to-wheel approach.⁴

➤ GRI-Index: 305-5

Legal framework

The BMW Group has the clear ambition not only to comply with statutory carbon emissions limits worldwide, but also to significantly undercut them wherever possible. At the same time, we support the development of harmonised regulations – both nationally and internationally. Comparable regulations in major markets create reliable, predictable framework conditions that make a key contribution to combatting climate change and improving air quality. We address the opportunities and risks associated with increasingly strict carbon emissions regulations as part of our [climate-related risks](#). ➤ TCFD-Index

The BMW Group supports the proposal published by the EU Commission in the year under report for implementing the EU's 2030 climate protection target. The associated goals of Fit for 55 largely coincide with those of the BMW Group.

Moreover, we are closely monitoring regulatory developments in the USA. In 2020, the BMW Group entered into a voluntary agreement with the US state of California to reduce its fleet emissions. The bilateral agreement is applicable for all new BMW Group vehicle registrations in every state of the USA. In 2021, the US government announced plans to introduce tougher fleet fuel consumption targets at national level. The BMW Group also intends to comply with these future requirements. The US federal requirements regarding Greenhouse Gas Emissions (GHG) generated by vehicle fleets and the Corporate Average Fuel Economy (CAFE) regulations are applicable in this case.

Designing conventional drive systems for greater efficiency and lower emissions

The BMW Group expects state-of-the-art, highly efficient combustion engines to continue playing a vital role. As part of our Efficient Dynamics approach, we will therefore continue to work on further reducing the fuel consumption of conventional drive systems in the coming years, thereby increasing their efficiency. ➤ SASB-Index

Technological improvements

The BMW Group has been implementing its Efficient Dynamics package of technological measures across its entire fleet since 2007. The package comprises a range of coordinated measures designed to reduce fuel consumption. We will continue to pursue this strategy with innovative approaches to the use of internal combustion engines, aerodynamics and lightweight construction. The broader use of 48-volt technology is a key component in this regard. 48-volt recuperation systems gather the energy recovered during braking to supply the vehicle's electrical system and generate additional power, which reduces fuel consumption and therefore carbon emissions. In the EU, apart from our all-electric and plug-in hybrid models, we are also offering a wide range of new models featuring a 48-volt recuperation system. As from 2022, our modular motors will be fitted with the second, even more efficient generation of 48-volt technology. The continued further development of energy management technologies in our vehicles, supplemented by other measures such as switching to highly efficient tyres, should ensure even greater efficiency and optimise fuel consumption. [1\]](#)

¹ Average volume-weighted fleet emissions including regulatory credit factors (EV multipliers, credits advanced technologies) of 21.6 g CO₂/km according to USC (United States Combined).

² Average volume-weighted fleet emissions including regulatory credit factors of 8.83 g CO₂/km (off-cycle technologies, NEV multiplier, phase-in) according to WLTC (Worldwide Harmonized Test Cycle under China-specific test road conditions).

³ The figures are determined using a new calculation method, which was applied retroactively to the year 2019 (2019 prior to adjustment: 140 g/km; 2020 prior to adjustment: 133 g/km). For the definition see Glossary ➤ Carbon emissions of the new vehicle fleet worldwide incl. upstream emissions.

⁴ The well-to-wheel method takes into account the entire impact chain relating to the movement of vehicles. The method covers everything from the generation and provision of fuel to its conversion into energy and thus also takes into account the environmental impact of producing the required fuel. For example, the BMW Group takes the IEA Energy Report as the basis for calculating emissions in the upstream value chain (➤ Provision of electrical energy).

📌 Pollutant emissions

Since the early 1990s, the BMW Group has significantly reduced the level of regulated pollutant emissions generated by its vehicles, such as nitrogen oxides (NOx), carbon monoxide (CO) and particulate matter (PM), by deploying new technologies and continually improving existing ones. Between 1992 and 2021, in Europe alone we reduced the relevant exhaust emissions of our new fleet of diesel cars in line with Euro 1 to Euro 6d exhaust standards by more than 90 % compared to the level recorded prior to their introduction. Measures aimed at minimising air pollution have made a significant contribution to these achievements. All BMW Group vehicles offered for sale during the year under report meet the current Euro 6d emissions standard in the European Union as well as similar regulations in Switzerland, Norway, the United Kingdom and Iceland.

Nitrogen oxide levels are a crucial factor determining the quality of air in towns and cities. With this point in mind, since mid-2018 the BMW Group has been using a highly effective combination of a NOx storage catalytic converter (NSC) and a selective catalytic reduction (SCR) system with urea injection (AdBlue) in all diesel-powered BMW vehicles as well as in the larger MINI diesel models. The efficiency of exhaust gas after-treatment has been additionally boosted by the use of an improved oxidation catalytic converter combined with a two-stage SCR system. The new technology has been available since 2020 with the revised generation of six-cylinder diesel engines and is due to be rolled out across the entire product range during the coming years. There have already been noticeable reductions in NOx pollution levels in German cities over the past few years, partially driven by the ongoing renewal of the vehicle fleets of all automotive manufacturers. ^{1]}

➤ GRI-Index: 305-7

ELECTRIC MOBILITY

📌 Electric mobility is one of the key topics shaping the future of the BMW Group in terms of sustainable mobility. The increasing number of electrified models and continuously growing sales volume figures place the BMW Group firmly among the leading providers of premium electric mobility worldwide. We see electrification from a holistic point of view and consider it essential to promote electric mobility by putting in place the necessary charging infrastructure as well as customer-friendly charging solutions. Accordingly, we are continuously expanding our range of products and providing a comprehensive range of charging products and services.

Driving electric mobility forward

Our electrified vehicles are making an essential contribution to driving down fleet emissions and thus to meeting our ambitious strategic [➤] decarbonisation targets right across the value chain. For this reason, we are systematically continuing to electrify our model range as a vital ingredient of our product strategy.

Drive system diversity

The BMW Group has always focused its business on the needs of its customers, and our product portfolio amply reflects this enduring ambition. Leveraging the benefits of scalable, modular design and the Group's [➤] flexible production systems, customers can now choose between fully electric vehicles, plug-in hybrids and efficient conventionally powered models. A prime example of the freedom of choice our customers enjoy is the BMW X3, which is the first model series to be available as a plug-in hybrid*, a combustion engine version (both diesel and petrol), and as a BMW iX3* with an all-electric drive system.

By the year 2030, at least half of the BMW Group's vehicle deliveries worldwide are set to be fully electric models.

By offering parallel drive technologies, we are creating a smooth transition to the future of electric mobility, while simultaneously making the best possible use of our existing resources. At the same time, we are systematically continuing to electrify our product range, driven by the dual forces of growing customer demand and regulatory requirements. ^{1]} By 2025, the proportion of electrified automobiles in total Group deliveries is projected to rise to at least 30 %. By the year 2030, at least half of the BMW Group's vehicle deliveries worldwide are set to be fully electric models. Moreover, we intend to put some ten million fully electric vehicles on the road during the next ten years. ^{1]} By the early 2030s, the BMW Group plans to offer only all-electric vehicles to its MINI and Rolls-Royce customers. The fact that we are systematically electrifying both brands has to do with their typical user profiles, as MINIs are predominantly used for urban driving, while Rolls-Royce cars are mainly used for shorter distances. ^{1]}

* [➤] Consumption and carbon emissions data.

🔗 Broader offering

The BMW Group's range of electrified products consists of purely battery electric vehicles (BEV¹) and plug-in hybrid models (PHEV²).

Apart from the established all-electric BMW i3, MINI Cooper SE⁶ and BMW iX3⁶ models already available, two key innovation drivers were added during the year under report – the BMW iX⁶ and the BMW i4⁶. Over the next two years, the all-electric versions of the BMW 7 Series, the BMW X1, the high-volume 5 Series and the MINI Countryman are set to follow, as will the all-electric Rolls-Royce Spectre. From 2025, we will be rigorously taking the core BMW brand into a new all-electric dimension with the [🔗 Neue Klasse](#).

During the year under report, the BMW Group also added further engine variants to its PHEV model range with the BMW 320e⁶ and the BMW 520e⁶. Including these innovations, we are currently offering 17 plug-in hybrid basic models³ in a total of 83 markets worldwide. With innovations such as the [🔗 BMW eDrive Zone](#), extensive charging options and increased ranges, we are enabling drivers of plug-in hybrids to travel electrically as often and over as long a distance as possible. The BMW 2 Series Active Tourer⁶ compact plug-in hybrid model will be launched in 2022 and capable of travelling up to 80 kilometres (WLTP⁴) purely on its own battery power. ^{1]}

In 2021, the BMW Group delivered a total of 328,314 all-electric and plug-in hybrid vehicles (2020: 192,662⁵) to customers, around 104,000 of them with all-electric drive systems, thus surpassing our self-imposed target of more than doubling our sales of electrified vehicles compared with the 2019 figure (146,158 units). Therefore, at the end of 2021, more than one million BMW Group vehicles with fully electric or plug-in hybrid drive systems were on the road worldwide ([🔗 Automotive segment](#)). In the year under report, the percentage

share of electrified vehicles to total BMW Group deliveries reached 13.0 %.

🔗 Increasing range to suit customer needs

The BMW Group assesses the increase in electric vehicle ranges from various points of view. We are not aiming to provide the technically greatest possible range across all vehicle segments as a matter of pure principle. It is far more important to adapt the range to suit the intended use of each individual vehicle. At the same time, we also need to consider the ecological impact, as a longer range means larger and therefore heavier high-voltage batteries. This relationship has a direct effect on resource consumption, the environmental footprint of the respective supply chain, and vehicle weight, which in turn has a significant influence on the overall consumption of a given vehicle.

For these reasons, the MINI Cooper SE⁶ is designed for urban driving and has a range of more than 200 kilometres (WLTP⁴), in line with customer requirements. The new BMW iX and i4 models are designed for covering long distances of around 600 kilometres (WLTP⁴) on just one charge. In view of the customer and usage profiles of both vehicles, we consider these ranges to be optimal. Fully electric vehicles will be capable of achieving ranges of more than 600 kilometres (WLTP⁴), depending on vehicle size and type, as the use of electric mobility continues to become more widespread.

Hydrogen

Our customer-oriented technological diversity approach also includes the further development of fuel cell technology, for which we see considerable potential, depending on the segment. We see electric drive systems that use hydrogen as an energy storage system as a complementary addition to battery electric mobility and as an opportunity to reduce carbon emissions at an even faster rate. In this context, we presented the [🔗 BMW iX5 Hydrogen](#) at the IAA Mobility 2021.

We are also driving hydrogen fuel cell technology forward at a higher level. For example, we are involved in worldwide organisations and associations, such as the [🔗 Hydrogen Council](#). As an associated partner of [🔗 H2 Mobility Deutschland GmbH](#), the BMW Group supports the establishing of infrastructure required for hydrogen-powered vehicles. In this context, the BMW Group welcomes the call in the EU's Fit for 55 legislative package to establish a basic infrastructure of 700-bar hydrogen refuelling stations.

Expanding charging infrastructure and enabling faster charging

An expanded, customer-friendly charging infrastructure will pave the way for the rapid and widespread use of electric mobility. For this reason, the BMW Group is committed to creating standardised framework conditions and services that enable easy charging. ^{1]}

¹ Battery electric vehicle.

² Plug-in hybrid electric vehicle.

³ All performance and body variants are counted as basic models. Specifically, these are the following: BMW 225xe*, BMW 320e*, BMW 320e Touring*, BMW 330e*, BMW 330e Touring*, BMW 520e*, BMW 530e*, BMW 530e Touring*, BMW 545e*, BMW 545e Touring*, BMW X1 xDrive25e*, BMW X1 xDrive25Le* (China only), BMW X2 xDrive 25e*, BMW X3 xDrive30e*, BMW X5 xDrive45e*, BMW 745e / Le / Le xDrive* and MINI Cooper SE Countryman ALL4*.

⁴ Range calculated on the basis of the new WLTP test cycle (Worldwide Harmonized Light Vehicles Test Procedure). The actual range achievable depends on a variety of factors, including personal driving style, route characteristics, the outside temperature, heating, air conditioning, preheating and precooling. Provisional figure

⁵ Vehicle delivery figures presented for the year 2020 are not directly comparable with those of previous years. See sales figures for deliveries in the section "Comparison of Forecasts with Actual Outcomes" for further information.

⁶ [🔗 Consumption and carbon emissions data](#).

Range of reliable charging services

With BMW Charging and MINI Charging, the BMW Group offers a comprehensive range of charging solutions that make electrified vehicles more convenient to use in a variety of situations. These include charging products and services that benefit customers on the road, at home and at work.

Customers can use their BMW and MINI charging cards to take advantage of public charging services, providing them with straightforward, transparent access to one of the world's largest charging networks with over 250,000 charging points across Europe, of which 48,000 are located in Germany alone, and also include fast-charging stations with a capacity of over 150 kilowatts (kW). The IONITY European high-power charging service can also be accessed via BMW Charging and MINI Charging. In 2021, the BMW Group introduced a standardised tariff structure for public charging in 22 European countries. With the Connected Charging application, available both within the vehicle and as a smartphone app, we also enable MINI and BMW drivers to charge their vehicles in a predictive, convenient and cost-efficient manner. The service provides drivers with comprehensive information at any time, including the remaining range of their vehicle and the availability of charging points.

Apart from the public charging services they offer, BMW Charging and MINI Charging provide a standard charging solution in the form of the Flexible Fast Charger and other charging products designed for home use. BMW also offers charging solutions for corporate customers in collaboration with partners. The BMW Group itself operates one of the largest [company charging networks](#) in Germany. [Employee mobility](#)

In addition to the BMW Charging and MINI Charging services, we offer green electricity tariffs and attractive solar power services for the home in certain countries, and plans are being put in place to expand this offering to other markets.

Improving framework conditions

The BMW Group still sees a need for political action in order to better promote electric mobility in many countries and cities. EU market research data highlight the close correlation between the density of charging infrastructure and the sale of electrified vehicles – both at the level of member states and in a comparison of various regions.

We support political initiatives in favour of sector coupling, with the aim of forming smart connections between the mobility and the energy sectors. The BMW Group is also conducting its own targeted research and development work in this area. For example, as part of a pilot project in California, USA, customers can already use the [BMW ChargeForward](#) service to synchronise their charging behaviour with grid capacity utilisation and the use of renewable forms of energy ([Collaboration with cities](#)). The further expansion of this technology is planned.

Another project aimed at promoting sector coupling is so-called [Bidirectional Charging Management \(BDL\)](#), which is funded by Germany's Federal Ministry for Economic Affairs and Energy. BDL transforms electric vehicles into mobile energy storage devices and thus into a part of the energy system in that their batteries are not only able to store electricity, but also simultaneously feed it into the operator's power grid in the opposite direction.

Recording electric mobility over the entire life cycle

Electrified vehicles need to be as eco-friendly as possible, not only during their use phase, but also in terms of their overall footprint, including the supply chain. [Holistic management system](#). In the BMW Group's case, for instance, this was confirmed by the environmental report on the BMW iX3³: Over its life cycle, the all-electric vehicle emits around 40 % fewer carbon emissions¹ than the BMW X3 30i reference vehicle. If the battery is charged using renewable energy only, carbon emissions are even around 67 % lower.

IONITY EUROPEAN FAST-CHARGING NETWORK

[At European level](#), in collaboration with the joint venture [IONITY](#), the BMW Group is further expanding a comprehensive, high-performance, fast-charging network along major road routes. Depending on the vehicle, charging is particularly fast with capacities of up to 350 kW. All IONITY charging points are publicly accessible, regardless of vehicle brand, and designed in accordance with the European Combined Charging System (CCS) standard. A ubiquitous high-power charging network is key to achieving sufficient market penetration and ultimately the success of electric mobility. All 6,600 IONITY charging points are powered by 100 % green electricity.

[Cooperations and partnerships 1\]](#)

The environmental impact of a battery vehicle is predominantly caused in the upstream value chain, where the purchasing of raw materials to manufacture battery cells and the carbon-intensive production of the batteries themselves leave a significant footprint.

For this reason, the BMW Group sees it as particularly important to produce components such as the electric motor, high-voltage storage systems, and battery cells in a more sustainable manner. [Reducing carbon emissions in the supply chain](#). Other methods of mitigating the environmental impact include recycling and reusing the high-voltage storage units installed in our BEV and PHEV models. The BMW Group already offers all customers that use its battery-powered vehicles to take back their high-voltage batteries free of charge at the end of their life cycle. [1\]](#)

¹ Disclosure in CO₂ equivalents.

² The entire value chain was taken into account and standard consumption levels as well as the European electricity mix were used as a basis.

³ [Consumption and carbon emissions data](#).

MOBILITY CONCEPTS AND SERVICES

The BMW Group aims to make mobility more sustainable and cities more pleasant places to live in. With these aims in mind, we are cooperating with cities around the world and are involved in overarching platforms for mobility, thus making our contribution to reducing both traffic density and the associated negative impacts. Via BMW Group subsidiaries, we also offer a range of innovative urban mobility services, which include car sharing, driving and charging services, and a digital, multimodal platform that allows users to conveniently order, combine and use various modes of transport via their smartphones. To make these services more sustainable, the YOUR NOW companies FREE NOW and SHARE NOW are gradually electrifying their fleets of vehicles. In addition, the BMW Group is driving forward the connectivity and automation of its vehicles as key elements towards ensuring eco-friendly, safe and free-flowing traffic in cities.

Shaping the future of mobility

The BMW Group is currently working together with the three German cities of Munich, Berlin and Hamburg, and at international level with Rotterdam, Los Angeles and Beijing, on cooperative research and implementation projects.

In Munich, for example, the BMW Group is currently working with partners from the local business community to develop a new model of collaboration between policymakers, stakeholders and the private sector, building on 25 years of involvement in the so-called Inzell-Initiative. The focus is on creating strategic measures for developing sustainable transportation in the region.

In the German capital, the BMW Group is involved in the [New Mobility Berlin](#) project, which addresses people's changing mobility needs and the shortage of space in a growing city. Against this backdrop, the project aims to make public street space more flexible to use. The project is looking to create shared spaces to provide mobility stations for car sharing or rental bicycles, for example.

In the [National Platform for the Future of Mobility](#), which was set up by the previous federal government, the BMW Group chaired the working group on digitalisation for the mobility sector. The group developed measures to make mobility more climate-neutral, efficient, convenient and cost-effective for the future.

In October 2021, the BMW Group extended its [cooperation](#) with the City of Rotterdam, which has been ongoing since 2018, for a further six years. One successful example of this collaboration is the BMW eDrive Zone technology, which was launched in 2020. [BMW eDrive Zone technology](#)

The importance of cooperation between cities and energy suppliers was meaningfully demonstrated in the [BMW ChargeForward](#) project in California. The project enabled us to demonstrate that intelligently controlled charging coordinated to suit the availability of renewable energy is more environmentally friendly, more energy-efficient and more cost-effective for the customer.

Range of innovative mobility services

Together with Daimler Mobility AG, the BMW Group offers mobility services via the joint venture YOUR NOW, which was established in 2019. The YOUR NOW range of services includes car sharing and the use of e-scooters, e-bikes and e-kick scooters (multimodality) as well as driving and charging services and provides customers with access to the charging infrastructure as well as to alternative means of transportation apart from their own cars. At the same time, they are promoting the expansion of public charging points with their increasingly electrified range of vehicles. All YOUR NOW subsidiaries continued to consistently develop their activities throughout 2021 against a backdrop of pandemic-related restrictions.

As Europe's largest multimodal mobility platform, FREE NOW combines various forms of mobility in one single app. With this strategy, the service brings registered users in European and Latin American cities to their destination quickly and in line with their individual needs. Apart from taxi cabs and private ride services, e-scooters and e-kick scooters, SHARE NOW vehicles have also been bookable via the FREE NOW app since mid-2021. At the same time, FREE NOW is systematically promoting the electrification of the fleet it uses. FREE NOW intends to grow its share of electrically powered trips to 50 % by 2025 and go all-electric by 2030.

SHARE NOW is one of the pioneers in the field of car sharing and offers vehicles for on-demand rental. In 2021, the mobility brand launched its first connection between two metropolitan areas with the route between Rotterdam and Amsterdam. Furthermore, SHARE NOW systematically continued to electrify its vehicle fleet during the year under report and more than a quarter of its vehicles are meanwhile powered by electricity. [1\]](#)

The joint venture also includes Digital Charging Solutions (DCS) GmbH, one of the leading developers of digital charging services for car manufacturers and fleet operators in Europe. Under the CHARGE NOW brand, DCS offers comprehensive access to public charging points. As a so-called white-label solution, business customers can offer their end customers made-to-measure access to a network of more than 360,000 public charging points from a variety of operators in 30 countries. The BMW Group utilises the DCS offering by giving its customers access to the public charging services provided by [BMW Charging and MINI Charging](#) at competitive tariff rates in both Europe and Japan. The addition of the energy company bp as DCS's third partner will make a significant contribution towards further expanding the available charging network.

In 2021, the YOUR NOW holding company sold its digital parking services, which were offered under the PARK NOW brand, among others, to the Swedish company EasyPark. [1\]](#)

The DCS offering includes

360,000

public charging points in 30 countries. [1\]](#)

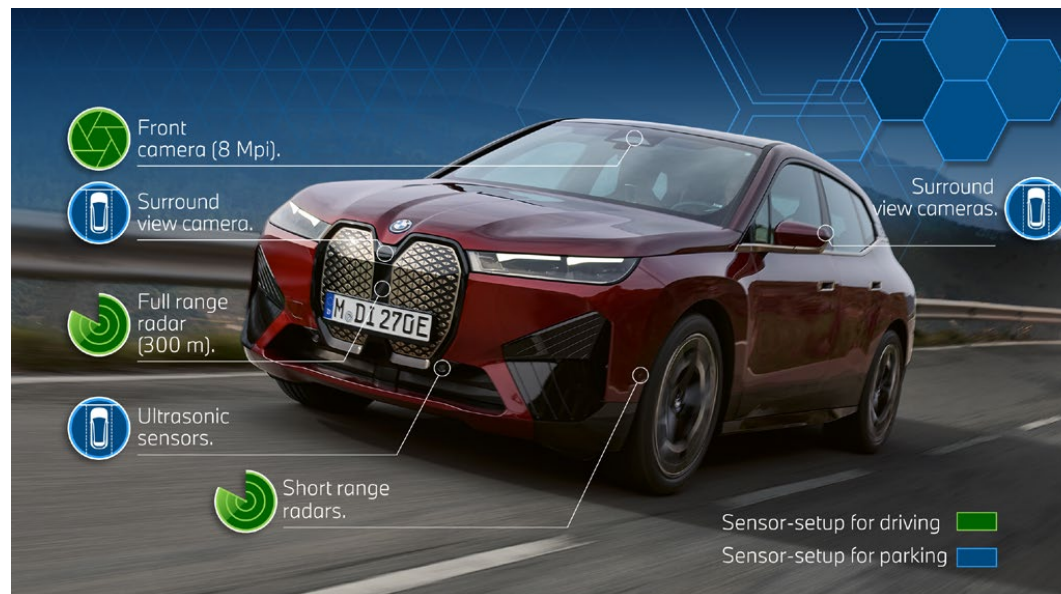
AUTOMATED AND AUTONOMOUS DRIVING

At the end of 2021, the all-electric BMW iX was the first BMW Group vehicle to offer automated driving and parking features from a new technology kit that will also be deployed in the upcoming BMW 7 Series. With the introduction of completely new software and state-of-the-art sensor technology – including the use of an 8-megapixel camera for the first time in the automotive sector – customers can now choose from around 40 driver assistance features designed to make their driving experience more pleasant, convenient and ultimately safer.

Around 1,200 engineers are working on developing and testing new, automated driver assistance functions to achieve these aims. Around half of these employees are highly qualified software developers. Artificial intelligence (AI) is a key technology for enabling automated

and autonomous driving. A large number of AI-based applications are currently in use and being tested under everyday conditions. Automated driver assistance functions are being rigorously developed at more than 12 locations worldwide (including test sites) in order to allow for local circumstances such as regulatory, road and climatic conditions. Regionally differing customer requirements also play a key role.

The recently opened [Driving Simulation Centre](#) in Munich is unique worldwide. Visitors can virtually test driver assistance systems and automated driving functions that realistically simulate the product requirements of the future.



It Digital connectivity and automation

Automated features and digitally connected vehicles can help reduce emissions, the risk of accidents and traffic congestion. Since 2017, the Group has been pooling the development of assistance and automation functions at the Autonomous Driving Campus, located just north of Munich. It also operates research facilities in both China and the USA, the BMW Group's two largest markets in terms of traffic-related as well as traffic law specifics, the very beginning. In order to develop new technologies to maturity for series production and expand our testing capacities, we are currently building a new test site in the Czech Republic.

Since 2021, the Munich-based research project TEMPUS*, in which the BMW Group is participating, has been following up questions relating to technical feasibility. The project also aims to assess the acceptance of automated traffic systems among the general public.

With the all-electric BMW iX, which was launched in 2021, we are also offering state-of-the-art driver assistance systems. The BMW iX is the first BMW Group vehicle to feature automated driving and parking functions from a new modular technology toolkit that will be deployed across the entire product portfolio from next year.

With its BMW eDrive Zone technology, the BMW Group is demonstrating how vehicle connectivity can help make urban mobility more sustainable. Plug-in hybrids equipped with the appropriate module can automatically switch to all-electric driving when entering a defined zone, making it easier for customers to drive emissions-free as often as possible, provided their vehicles are charged with green electricity. BMW eDrive Zone technology is already available in over 138 towns and cities across Europe.

Safety of automated and smart systems

The BMW Group gives the safety of its automated systems the highest priority. For that reason, we support the development of an industry-wide ISO standard for highly and fully automated driving functions. In 2019, the BMW Group, together with 11 leading companies in the field of automated driving, published the white paper Safety First for Automated Driving, which was translated into an [ISO Technical Report](#) in 2020. The work is currently being continued in a worldwide ISO working group and scheduled to be published as an ISO Technical Specification in 2023 with the aim of defining uniform technical standards for safe automated driving.

Artificial intelligence (AI) has been used in BMW driver assistance systems since 2018. It helps to detect dangerous situations, such as other vehicles swerving into traffic, at an early stage so that the driver can react accordingly. The AI's learning is controlled and safeguarded throughout the process. Here, too, the Group is working to achieve the international harmonisation of AI standards and helped initiate the development of the new ISO Safety and Artificial Intelligence standard in 2021. In this context, as a founding member of the European GAIA-X project, we are committed to establishing a protected, high-performance data infrastructure as the basis for safe, efficient traffic management. [1\]](#)

138

European towns and cities are compatible with BMW eDrive Zone technology. [1\]](#)

* Munich test site, pilot test of automated driving in urban traffic.

PRODUCT SAFETY AND DATA PROTECTION

¶ We aspire to deliver the highest standards of quality and safety for all BMW Group vehicles. In all measures, the safety of people is key. In its manufacturing processes, the BMW Group avoids the use of any substances that pose a health risk. The active and passive safety systems built into our vehicles ensure greater safety on the road. In our driving safety training courses, we instruct customers on all aspects of safety and show them how to recognise and react appropriately to dangerous situations. Responsibility towards our customers also includes the responsible handling of their data. In this respect we focus on transparency, informational self-determination, data sovereignty and data security.

Product safety as part of quality management

The BMW Group operates a comprehensive system of quality management, as we want to ensure that our products are of high quality, safe and compliant with the law. All BMW Group vehicles are therefore subject to stringent testing from the development stage right through to production. However, our quality management system goes further and also includes the use of our vehicles after they have been delivered to our customers; if any deviations from the quality standard are observed, they are rigorously followed up. The BMW Group also informs the relevant authorities without delay if required to do so by market-specific regulations. This is especially true for safety-related aspects. If a safety risk is detected, the BMW Group implements any technical measures required in close coordination with the responsible authorities. Corresponding committees, processes and organisations are in place for this purpose, which are controlled by the Product Support, Technical Actions and Warranty Costs department. In the reporting year 2021, safety- and compliance-related technical actions affected 1,920,977 vehicles.

These actions were all of a voluntary nature and carried out in coordination with the respective authorities. The main technical actions related to exhaust gas recirculation issues and Takata-airbags. [↗ GRI-Index: 416-1](#), [↗ SASB-Index](#)

Effective safety systems

State-of-the-art safety systems play a major role in reducing the risk of accidents and injuries (active safety) and largely mitigate the consequences of a possible accident (passive safety). Safety begins with key factors such as optimal chassis tuning, highly effective braking systems and stable passenger compartments, but also includes airbags as standard and digital driver assistance systems such as active cruise control, collision warning, lane guidance and emergency braking assistants. They also promote greater safety for all road users. The connectivity and automation of vehicles also provides a growing number of opportunities to improve safety. The BMW iX sets new standards in this regard, thanks in part to its advanced front collision warning system with braking intervention, which comes as standard.

We work continuously on improving vehicle safety. The [↗ European New Car Assessment Programme](#) (Euro NCAP), a vehicle crash safety assessment scheme, confirms the effectiveness of the safety measures installed in our vehicles. In the 2021 Euro-NCAP-Rating, the BMW iX received the highest rating, just like numerous models did in past years, such as the BMW 4 Series Coupé and BMW 4 Series Convertible, thus demonstrating the Group's premium-level standards in terms of vehicle safety. [↗ SASB-Index](#)

Pollutants management

The BMW Group endeavours to meet legal requirements regarding the use and handling of pollutants at every stage of the value chain. Right from the design stage, the BMW Group is careful to exclude any substances of concern from its vehicles to the greatest extent possible. In doing so, we use the [↗ Global Automotive Declarable Substance List](#) (GADSL) as a guide. At

¶ All BMW Group vehicles are subject to stringent quality, safety and legal compliance tests, right from the development stage through to production. ¶

the same time, we are working to reduce emissions in the vehicle interior to an absolute minimum. All BMW, MINI and Rolls-Royce vehicles are equipped with passenger compartment air filters as standard, reliably filtering out pollutants and particles such as dust or pollen from the outside air. In 2020, the BMW Group fitted passenger compartment air filters with [↗ nanofibre filter technology](#), which keeps certain microbial particles and allergens from entering the vehicle's interior. Since 2021, we have been gradually introducing this technology in a range of other BMW Group models.

Customer awareness and empowerment

The BMW Group provides its customers with extensive information on the correct use of its products and services. Information on safety, the proper use of its vehicles, and health protection is available in the integrated operating instructions in printed form, online, or via an app. The information is supplemented by notes and background tips on services, accessories and the vehicle's various components. ¶

With its [BMW and MINI Driving Experience](#), the BMW Group offers product experiences and safety training with BMW, MINI and BMW Motorrad brand vehicles in 25 countries. The Driving Experience teaches participants safe vehicle handling and prepares them for any dangerous situations that may occur on the road. In 2021, more than 100,000 customers worldwide took part in these training courses.

Data protection – an essential task

The BMW Group views data protection as one of the most important tasks in these times of increasing digitalisation. For this reason, the strictest data protection requirements are taken into account at an early stage when developing features and services. Via an individually configurable data protection menu, we provide our customers with transparency, informational self-determination and ultimately data sovereignty.

Customer data protection

At the BMW Group, data and information protection is based on the relevant laws and standards, particularly the EU General Data Protection Regulation and the ISO/IEC 27001 international security standard. The personal data of customers are only collected, processed or used to the extent legally permitted and with the consent of the data subject. However, should customers have any queries or complaints regarding the protection of their personal data, they are welcome to contact the Customer Interaction Centre or the data protection officer in their respective markets.

At the same time, we continuously strive to maintain our high level of data protection and regularly check all applications that process customer data to ensure that they comply with all current and appropriate IT security measures. In the course of this process, we specifically search for any possible weak points and eliminate them with teams of IT specialists. We implement any new insights into mandatory corporate standards as the need arises.

The BMW Group collaborates closely with the relevant data protection supervisory authorities – particularly regarding fundamental data protection issues, such as those relating to the increasing connectivity of our vehicles.

Securely connected

The BMW Group's responsibility for its products includes the secure transfer of vehicle data to third parties. For this reason, BMW Group vehicles are not directly connected to the Internet, but communicate directly and exclusively with the BMW ConnectedDrive back end via a highly secure connection in a virtual private network. This strategy enables us to minimise the risk of unauthorised third parties gaining access to either the vehicle or the driver's personal data. The point of access to the Internet is controlled via a gateway. We see this Extended Vehicle Approach in accordance with ISO 20078 as the best solution to ensure an outstanding level of data security and protection and to meet statutory cybersecurity requirements (e.g. UN R155).

The secure transmission of data to third parties was implemented with the introduction of BMW CarData in Germany and Europe (2017) and in the USA (2020). CarData provides BMW and MINI customers with complete transparency and sovereignty over any data transferred to authorised third parties, allowing them to decide independently at any time which data they release to service providers such as workshops, insurance companies or fleet managers in order to receive individual service offers. [▶](#)



[▶](#) BMW CarData provides BMW and MINI customers with transparency and sovereignty over any data transferred to authorised third parties. [▶](#)

[▶](#) In 2021, more than 100,000 customers worldwide took part in BMW and MINI Driving Experience training courses. [▶](#)

PRODUCTION, PURCHASING AND SUPPLIER NETWORK

67 Production Network

70 Circular Economy, Resource Efficiency and Renewable Energy

74 Purchasing and Supplier Network

AT A GLANCE

80 %

decrease in carbon emissions on average per vehicle produced compared with 2019 – that is our target by 2030.

➤ [Carbon emissions at BMW Group locations](#)

[Up to 30 %

share of secondary raw materials in our vehicles – and that figure is set to increase.

➤ [Preference for secondary raw materials \]](#)

[Catena-X

is a network-based system for exchanging information and data that creates greater transparency in the supply chain.

➤ [Highlight box \]](#)



PRODUCTION, PURCHASING AND SUPPLIER NETWORK

PRODUCTION NETWORK

Electrification, digitalisation, efficiency and sustainability are the key factors shaping the future of the BMW Group's production system and the main guiding principles in the restructuring of its global production network. As production of the all-electric BMW iX and BMW i4 models began in 2021, we rigorously attuned our vehicle assembly systems to suit the requirements of electric mobility. At the same time, we are benefiting from the high flexibility of our production system. During the year under report, this agility enabled us to respond both swiftly and specifically to major challenges such as the tense semiconductor supply situation and the ongoing coronavirus pandemic, despite which we still managed to significantly increase production volume year-on-year.

The BMW Group production network

The BMW Group production network comprises 31 locations in 15 countries. The same high standards of quality, safety and sustainability apply at all Group locations* worldwide. Our state-of-the-art production facilities enable us to manufacture all-electric, plug-in hybrids and conventionally powered automobiles all on one line. Electric mobility is playing an increasingly key role in this regard. For example, at the end of 2021, electrified vehicles already accounted for some 26 % of the total number produced at the [BMW Group plant in Munich](#).

TRANSFORMING THE MAIN PLANT IN MUNICH

The restructuring of its plant in Munich amply demonstrates how the BMW Group is transforming itself going forward. Since the launch of the all-electric BMW i4 in November 2021, the BMW Group's main plant has been manufacturing vehicles with all types of drive system on the same production line. From 2023, at least half of all vehicles produced at the Munich plant will be powered by an electrified drive system and the majority of these will be all-electric models.

* BMW Group production sites, including contract manufacturing at Magna Steyr Fahrzeugteile (Austria), VDL Nedcar (the Netherlands) and Inokom Kulim (Malaysia).

Production sites in key markets

The BMW Group aims to strike a good balance between production and deliveries in the various regions of the world where it operates. While 20 of its 31 locations are BMW Group plants, three belong to the BMW Brilliance Automotive Ltd. joint venture in Shenyang (China), which is currently being enlarged to create additional production capacity. Further information on the consolidation of BMW Brilliance Automotive Ltd. is provided in the [Notes to the Group Financial Statements](#). Eight production sites are operated by Group partners or contract manufacturers.

The BMW Group's automotive partner plants in Jakarta (Indonesia), Cairo (Egypt), Kaliningrad (Russia) and Kulim (Malaysia) mainly produce BMW and MINI brand models for their respective regional markets.

The BMW Group also awards contracts to external partners (contract manufacturers) to produce its automobiles and motorcycles in series. During the period under report, Magna Steyr Fahrzeugtechnik produced both the BMW 5 Series Sedan and the BMW Z4 in Graz (Austria). VDL Nedcar in Born (the Netherlands) manufactures the MINI Convertible, the MINI Countryman and the BMW X1. BMW motorcycles are also produced by the TVS Motor Company in Hosur (India) and by Loncin Motor Company in Chongqing (China).

BMW GROUP VEHICLE PLANTS

Location	Country	Production programme 2021	Electrification portfolio
Araquari	Brazil	BMW 3 Series, BMW X1, BMW X3, BMW X4, BMW X5	
Berlin	Germany	BMW motorcycles	BEV
Chennai	India	BMW 2 Series, BMW 3 Series, BMW 5 Series, BMW 6 Series, BMW 7 Series, BMW X1, BMW X3, BMW X4, BMW X5, BMW X7, MINI Countryman	
Dingolfing	Germany	BMW 3 Series, BMW 4 Series, BMW 5 Series, BMW 6 Series, BMW 7 Series, BMW 8 Series, BMW M; BMW iX	BEV, PHEV
Leipzig	Germany	BMW 1 Series, BMW 2 Series, BMW i3, BMW M	BEV, PHEV
Manaus	Brazil	BMW motorcycles	
Munich	Germany	BMW 3 Series, BMW 4 Series, BMW i4, BMW M	BEV, PHEV
Oxford	United Kingdom	MINI, MINI Clubman, MINI Cooper SE*	BEV
Rayong	Thailand	BMW 2 Series, BMW 3 Series, BMW 5 Series, BMW 7 Series, BMW X1, BMW X3, BMW X5, BMW X7 BMW motorcycles	PHEV
Regensburg	Germany	BMW 1 Series, BMW 2 Series, BMW X1, BMW X2	PHEV
Roslyn	South Africa	BMW X3	
San Luis Potosí	Mexico	BMW 2 Series, BMW 3 Series	PHEV
Spartanburg	USA	BMW X3, BMW X4, BMW X5, BMW X6, BMW X7, BMW M	PHEV
Rolls-Royce Manufacturing Plant, Goodwood	United Kingdom	Rolls-Royce Cullinan, Dawn, Ghost, Phantom, Wraith	BEV from 2023

BMW BRILLIANCE AUTOMOTIVE JOINT VENTURE (VEHICLE PLANTS)

Location	Country	Production programme 2021	Electrification
Dadong (Shenyang)	China	BMW 5 Series, BMW X3; BMW iX3*	BEV, PHEV
Tiexi (Shenyang)	China	BMW 1 Series, BMW 3 Series, BMW X1, BMW X2	PHEV

* ➤ Additional information on consumption and carbon emissions data.

The BMW Group's production network also includes engine plants in Hams Hall (UK), Munich (Germany), Steyr (Austria) and Shenyang (China), as well as component plants in Eisenach, Landshut and Wackersdorf (Germany) and Swindon (UK). By 2024, the BMW Group intends to concentrate its production in Europe of combustion engines at the Steyr and Hams Hall plants.

Significant growth in production volume

The coronavirus pandemic had a lower impact on BMW Group production volumes than one year earlier. However, the limited availability of semiconductor components led to adjustments in the production programme. Despite these challenges, the BMW Group achieved significant year-on-year growth during the reporting period with a production volume of 2,461,269¹ BMW, MINI and Rolls-Royce brand vehicles (2020: 2,255,637¹ units; +9.1%), comprising 2,166,644¹ BMW (2020: 1,980,740¹ units; +9.4 %), 288,713 MINI (2020: 271,121 units; +6.5 %) and a record number of 5,912 Rolls-Royce (2020: 3,776 units; +56.6 %) brand vehicles. In the reporting year 2021, the number of electrified vehicles produced grew by 51 % to 341,097 units (2020: 225,604 units). With 187,500 units produced (2020: 168,104 units), BMW Motorrad recorded growth of 11.5 % year-on-year.

BMW GROUP AUTOMOBILE PRODUCTION BY PLANT

in units	2021	2020	Change in %
Spartanburg	433,810	361,365	20.0
Dingolfing	244,734	231,970	5.5
Regensburg	183,485	199,991	- 8.3
Leipzig	191,604	200,968	- 4.7
Oxford	186,883	175,984	6.2
Munich	151,154	143,758	5.1
Rossllyn	61,580	50,760	21.3
Rayong	24,624	25,752	- 4.4
Chennai	8,472	6,228	36.0
Araquari	10,104	8,400	20.3
Goodwood	5,912	3,776	56.6
San Luis Potosí	69,149	56,081	23.3
Tiexi (BBA) ²	335,311	311,137	7.8
Dadong (BBA) ²	365,466	291,798	25.2
Born (VDL Nedcar) ³	105,214	125,666	- 16.3
Graz (Magna Steyr) ³	54,547	35,747	52.6
Partner plants	29,220	26,256	11.3
Total	2,461,269	2,255,637	9.1

¹ Includes vehicles produced by the BMW Brilliance Automotive Ltd., Shenyang joint venture (2021: 700,777 units; 2020: 602,935 units).

² BMW Brilliance Automotive Ltd., Shenyang joint venture.

³ Contract manufacturing.

Restructuring production for electric mobility

The BMW Group already manufactures automobiles with all-electric or plug-in hybrid drive systems at [13 locations](#)* across its worldwide production network. All-electric models are already part of the production programme in Dingolfing, Leipzig, Munich, Oxford and Shenyang, including the BMW iX produced in Dingolfing and the BMW i4, which has been manufactured at the Munich plant since the year under report.

By the end of 2022, every production plant in Germany shall have the capacity to manufacture at least one all-electric model. From the middle of the decade, the [Neue Klasse](#) will also feature a cluster architecture consistently geared to producing electric drive systems. The new architecture will be deployed for the first time at the Group's new plant in Debrecen, Hungary, as well as at the Munich plant, and will be gradually transferred to the BMW Group's global production network in the coming years.

Component production for electrified vehicles

The Dingolfing plant now plays a leading role as a competence centre for electric drive systems, producing battery modules, high-voltage batteries and fifth-generation electric motors, which are also produced at the Landshut plant. The BMW Group plants in Spartanburg (USA) and Shenyang (China) also make high-voltage batteries. The Leipzig plant began manufacturing battery modules and other battery components during the year under report. The Regensburg plant also began producing battery components during the same period. In Thailand, the BMW Group collaborates with a partner that makes high-voltage batteries for electrified vehicles that are produced locally.

Developing expertise for battery cell production

The approval process for the planned pilot plant in Parsdorf near Munich for near-series battery cell production came closer to completion during the year under report. The BMW Group intends to further optimise the production of battery cells at the Parsdorf plant in terms of quality, performance and costs. Since 2019, we have been pooling our knowledge at the Battery Cell Competence Centre in Munich. The entire value chain of battery cell technology is concentrated at the Centre, including research and development, the composition and design of the battery cell and industrial producibility.

Since 2019, we have been building up relevant knowledge in this field at the Battery Cell Competence Centre in Munich.

CIRCULAR ECONOMY, RESOURCE EFFICIENCY AND RENEWABLE ENERGY

[\[](#) Circularity is one of our key strategic priorities. The increased use of secondary raw materials is a cornerstone of the BMW Group's long-term decarbonisation strategy. We also see the circular economy concept as an important factor in our efforts to significantly mitigate the social and environmental impacts of mining and processing primary raw materials. The use of secondary materials also has economic benefits, as it conserves primary raw materials. Circularity calls for a holistic strategic approach, beginning at the product design stage and encouraging the increased use of secondary raw materials in our supply chain as well as the recycling of BMW Group vehicles at the end of their life cycle. At the same time, in our own production cycles we are systematically pursuing the strategy of conserving resources, improving energy efficiency and continuously cutting emissions.

Circularity as a strategic priority

The responsible and efficient use of resources is of great importance to the BMW Group, which takes a targeted approach to the circular economy concept based on the four principles Re:think, Re:duce, Re:use and Re:cycle.

We are working hard to further integrate the principle of circularity in all our processes. However, the availability of high-quality secondary raw materials is currently limited and in some cases insufficient to meet demand. Depending on material requirements, adequate amounts of secondary material are not yet available for every application. As part of its efforts to meet these challenges, the BMW Group is working together with its partners to form closed material loops in the automotive industry. In collaboration with BASF and the ALBA Group, we are currently testing improved methods of recycling automotive plastics as part of a pilot project.

[➤ Online-Report](#)

From product development to recycling

The efficient use of resources needs to be considered right from the outset, not only during the design process, but also later at the product development stage, and is therefore an essential requirement. The BMW Group aims to design its vehicles so that as many material cycles as possible are closed. We summarise this principle under the concept of circular design. With the BMW i Vision Circular, we have shown that we are taking a critical look at the trend towards increasingly complex composites of materials and analysing new approaches to using compounds of (mono)materials ([➤ Innovations](#)). [1\]](#)

* BMW Group production sites, including contract manufacturing at Magna Steyr Fahrzeugteile (Austria), VDL Nedcar (the Netherlands) and Inokom Kulim (Malaysia).

Re:think, Re:duce, Re:use, Re:cycle – our circular economy principles.

At the end of a product's life cycle, it needs to be possible to increasingly separate and recycle key groups of materials at a high degree of purity so that they can be reused in the automotive industry in so-called closed loops. The strategy reduces the need for primary materials and thus the necessity to source potentially critical raw materials.

Average distribution of materials in BMW Group vehicles

In this context, the BMW Group regards end-of-life vehicles as a source of secondary materials. We therefore promote the recovery of end-of-life vehicles, components and materials in order to reintegrate them in the raw materials cycle. Together with its national sales organisations, the BMW Group has already introduced take-back systems for end-of-life vehicles in 30 countries and offers eco-friendly vehicle recycling at more than 2,800 take-back points. All BMW Group vehicles sold since 2008 meet the currently applicable worldwide requirements for the recycling of end-of-life vehicles, components and materials. Vehicles are already currently required to be 95 % recyclable (based on vehicle weight). [↗ GRI-Index: 301-3](#) [↗ SASB-Index](#)

Preference for secondary materials

The BMW Group not only wants to create the basic conditions for recycling vehicles, it is also looking to reduce the use of primary raw materials in the automotive value chain. This means closing loops in the production chain, i.e. by returning production remnants to the material supplier or recovering materials at the end of a product's life cycle. In doing so, we take special care to avoid downcycling these materials into inferior secondary materials. By 2030, the BMW Group aims to take the recycling process to a new level, while at the same time further increasing the proportion of secondary materials it uses to manufacture its vehicles. To

achieve this aim, the BMW Group established the "Secondary First" approach during the year under report, which generally gives preference to the use of secondary materials when stipulating specifications for products, materials and suppliers. This principle can only be deviated from in justified exceptional cases.

Currently, an average of up to 30 %¹ of the components used in vehicle manufacture across Europe originate from recycled and reused materials. However, the percentage of material recycled differs considerably, depending on the group. While the recycled proportion of many plastics, for example, is in the single-digit percentage range, secondary cast aluminium is already used at a rate of over 50 % in certain components.

The use of secondary raw materials also significantly reduces carbon emissions compared with primary materials – for example around 80 % of aluminium and up to 70 % of steel² are recycled. At the same time, this strategy reduces the amount of natural resources and critical raw materials that need to be extracted. The circularity principle also helps to more effectively mitigate risks that can be associated with the extraction of primary raw materials – from market-related or even political availability risks to those relating to environmental and social standards.

In general, any secondary raw materials used have to meet the same strict requirements as primary materials in terms of quality, safety and reliability. Therefore, the market availability of these high-quality materials needs to increase significantly. In order to improve the structural framework conditions required to achieve this aim, both cross-industry approaches and political initiatives are necessary.

↗ SASB-Index

Investments in resource-friendly technologies

The BMW Group invests, partly through its [own venture capital fund](#), in key technologies that can make a decisive contribution to achieving carbon neutrality and conserving resources.



With this point in mind, through BMW i Ventures we have been investing in the US start-up Lilac Solutions since 2021. Lilac is pursuing the goal of extracting lithium from the brine of saltwater deposits using ion exchangers, deploying a far more eco-friendly method that conserves resources more effectively than conventional processes. Since the year under report, our investments through BMW i Ventures have additionally focused on an innovative process developed by the US start-up Boston Metal for producing steel without generating carbon emissions. We have also entered into an agreement with the Swedish start-up H2 Green Steel to purchase hydrogen steel produced using green electricity.

Resource management at every location

The BMW Group wants to lead the way by keeping resource consumption and carbon emissions in its production processes to an absolute minimum. Apart from [↗ carbon emissions](#), the other relevant variables are energy and water consumption, waste for disposal, the use of solvents and the [↗ reduction of solvent emissions \(VOC\)](#). [1\]](#)

¹ Based on vehicle weight, calculated on the basis of actual supplier feedback, studies and expert assessments.

² Based on the Gobi database.

Controlling resource consumption is an integral part of environmental management in the BMW Group's global production network and managed by a dedicated steering committee for the international environmental protection network. Each facility, area and building is assigned to an internal operator, who is responsible not only for the technical systems and the smooth running of processes and procedures, but also for their environmental impacts¹.

A certified environmental management system in accordance with ISO 14001 is implemented at every BMW Group production site. A total of five competence centres, i.e. Emissions, Water, Waste, Qualification and the Environmental Management System, coordinate environmental protection measures throughout the BMW Group worldwide. Accordingly, any ecological improvements that have proven to be effective at one location are implemented at other locations to the extent possible. Continuous training and the exchange of experiences among employees ensure the transfer of knowledge and the Group-wide application of the latest findings. In the year under report, our environmental management system again made a major contribution to ensuring that there were no significant environmental incidents involving the payment of fines throughout the production network.

Water

The BMW Group pursues the aim of continuously reducing the amount of water used in its production processes. Accordingly, its production plants optimise their circulation systems, for example by treating wastewater and putting water-saving processes in place. One example is the dry separation system used in the paint shop. Other closed-loop

systems are also currently being tested in the painting process and gradually introduced throughout the Group's production network. Specific [water consumption](#) in production was improved slightly to 2.15 m³ (2020: 2.25 m³) per vehicle produced during the year under report.

Waste

In its efforts to reduce the volume of waste it generates, the BMW Group deploys coordinated recycling and treatment concepts adapted to the waste streams in its various plants, to regionally applicable regulations and to locally existing waste disposal structures. In 2021, 99.2%² of the waste generated by production processes was either recycled or recovered. During the year under report, the [volume of waste for disposal per vehicle produced](#) decreased to 2.90 kg, 12.9% lower than the 2020 figure. We aim to maintain this high recycling and recovery rate within the BMW Group as we increasingly transition to electric mobility. We are therefore integrating the newly generated waste streams in our recycling and treatment systems. [SASB-Index](#)

Solvents

The BMW Group reduced its emissions of volatile organic compounds (VOC³) per vehicle produced by 13.6% to 0.70 kg during the period under report. The year-on-year improvement was mainly due to the use of solvent-free cleaning agents and the new thermal afterburners deployed in the paint shops at the Group's plants in Shenyang (China) ([Solvents per vehicle produced](#)). Due to the progress made in the use of solvent-free substances and the optimisation of our paint shops, we expect to see a further reduction in emissions levels going forward. [GRI-Index: 305-7.1](#)

Carbon emissions at BMW Group locations

Compared with the base year 2019, the BMW Group intends to reduce the average amount of carbon emissions per vehicle produced by a further 80% by 2030. [Production](#) accounts for biggest share of the [Scope 1 and Scope 2 emissions](#) generated by the BMW Group and this is where the greatest

An 80 % average reduction of carbon emissions per vehicle produced by 2030.

opportunities to further reduce these emissions lie. As in the past, we are focusing on additional energy efficiency measures, the increasing generation of our own electricity from renewable sources, the purchasing of green electricity from supply contracts, and the use of certificates of origin.

The remaining emissions are largely due to the use of natural gas. Here we face the challenge of replacing natural gas with non-fossil energy sources such as biogas, hydrogen or renewable electricity. The "heat transition" required to do so is made more complicated by the physical availability of alternative energy sources, the technical retrofitting of plants, and political framework conditions.

Energy management and efficiency

It is vitally important to use energy in an efficient, responsible manner in order to conserve resources. The BMW Group has processes in place throughout the organisation to plan and implement energy management measures with the aim of continuously optimising its use. Clear roles are assigned with corresponding responsibilities, targets and reporting obligations to the central strategy departments, the regional controlling bodies and the various production plants at local level. [1](#)

The BMW Group invests systematically in the energy efficiency of its global production network, enabling it to cut the energy consumption of machines to a minimum, such as those deployed to generate the required processing heat in its paint shops. The limited availability of semiconductor components compelled the BMW Group to make adjustments to its production programme during the year under

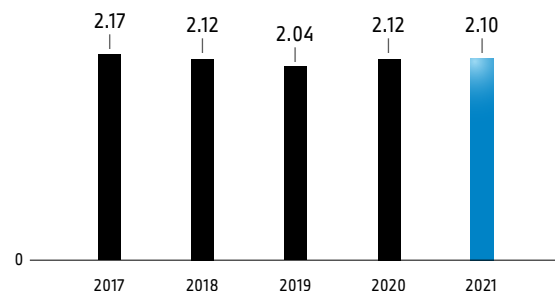
¹ In accordance with the BMW Group's environmental management system, each operator is required to describe the environmental impacts in the aspects register and identify measures for improvement (e.g. long-term targets).

² Related to the total weight of the waste.

³ VOC (volatile organic compounds) emissions are mostly generated during the painting process and can be reduced through the use of new painting technologies.

ENERGY CONSUMPTION PER VEHICLE PRODUCED^{1,2}

in MWh



report, which also negatively impacted energy consumption per vehicle at some of its plants. For this reason, absolute consumption³ within the BMW Group increased to 6,476,955 MWh during the year under report (2020: 6,040,824 MWh). However, at 2.10 MWh per vehicle produced, specific energy consumption in the BMW Group's vehicle production fell by 0.9% in 2021 compared to 2020. This fact is attributable to various energy efficiency measures as well as improved production capacity utilisation. ↗ [Energy consumption in detail](#)

↗ [GRI-Index: 302-1, 302-3, 302-4](#)

Renewable energy

The BMW Group is committed to the use of renewable energy at all its locations. Worldwide, all BMW Group production sites⁴ and the vast majority of its other locations procure their electricity from renewable self-generation plants, direct supply contracts for green electricity, and electricity of certified origin. We also made additional use of biogas certificates in the year under report. Moreover, we are increasing the amount of renewable energy generated at our own sites. Additions made during the reporting year included large-scale photovoltaic installations at our plant in Araquari, Brazil, which generate some of the electricity required for production at the site.

At present, however, the BMW Group is unable to entirely cover its electricity requirements by producing its own renewable energy, and therefore purchases additional power from renewable and predominantly local or regional sources. We cover an increasing proportion of our electricity requirements through so-called Power Purchase Agreements (PPAs), i.e. direct purchases from defined renewable energy generation plants, such as the regional green electricity bought in to manufacture the BMW iX and the BMW i4.

COMPENSATION OF SITE-RELATED CARBON EMISSIONS

ⓘ The carbon emissions generated within its own production network are already below the 1.5°C path calculated for the BMW Group. Since the year under report, the BMW Group has been making the remaining carbon footprint generated by its plants and other locations carbon-neutral on the energy balance sheet, including company cars and business trips, through the use of voluntary offsetting certificates. Via this method, we are demonstrably offsetting the associated carbon emissions by supporting external projects. In collaboration with experienced partners such as atmosfair and First Climate, we support climate protection projects that meet strict criteria. As part of the certifi-

cation process, projects are required to demonstrate, for example, the permanence of the decarbonisation impact they achieve. Another vital criterion is additionality, i.e. proof that the project in question would not have come about without financing via carbon offsetting certificates. Furthermore, for the post-Kyoto phase of the carbon offsetting market, we emphasise the importance of ensuring that there is no double counting of the emissions saved alongside the nationally determined contributions of the affected countries named in the Paris Climate Agreement. We also ensure that the projects additionally generate a social benefit. ↗ [GRI-Index: 305-5 1\]](#)

¹ Efficiency indicator calculated from the absolute energy consumption (adjusted for CHP losses) of automobile production (BMW Group plants incl. BMW Brilliance Automotive Ltd. joint venture, excluding partner plants and contract manufacturing) divided by the number of units produced in automobile production (BMW Group plants incl. BMW Brilliance Automotive Ltd. joint venture and partner plants, excluding contract manufacturing).

² Figures for 2017 and 2018 figures were subjected to a limited assurance review.

³ As of 2021, this figure also includes energy consumption at further BMW Group locations as well as energy consumption in production. For comparison purposes, the figure for 2020 has been adjusted accordingly (2020 prior to adjustment: 5,714,610 MWh).

⁴ Including BMW Brilliance Automotive Ltd., Shenyang.

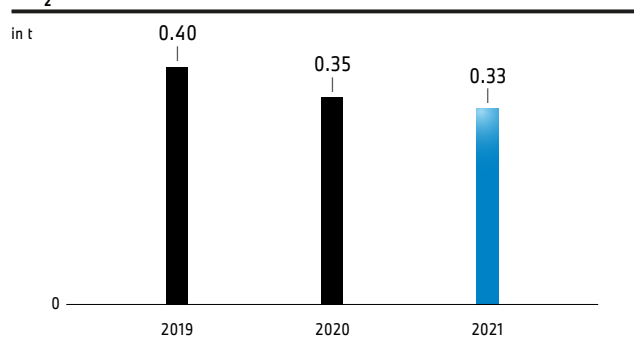
⁵ To the extent recordable in the carbon footprinting; market-based-method according to GHG-Protocol.

Carbon emissions at BMW Group locations

Year-on-year, the carbon emissions per vehicle^{1,2} generated at BMW Group locations fell by 5.7 % to 0.33 t of CO₂ (2020: 0.35 t of CO₂), i.e. a reduction of 17.5 % compared with the 2019 base year.

The main reason for the drop in relative carbon emissions per vehicle produced was improved energy efficiency on the back of higher production volumes following the pandemic-related restrictions. From mid-2021, however, supply bottlenecks for semiconductor components and the necessary adjustments to the production programme dampened the positive trend. As a result, **absolute carbon emissions**³ at BMW Group locations increased to 766,153 t of CO₂ (2020: 734,710 t of CO₂) due to the overall increase in energy consumption relating to higher production volumes. In the previous year, consumption and production volumes were significantly lower due to pandemic-related restrictions. In the first half of 2021, the cold weather in Germany also led to greater energy requirements for heating and thus to an increase in carbon emissions. **GRI-Index: 305-1, 305-2, 305-3, 305-5**

CO₂ EMISSIONS PER VEHICLE PRODUCED^{1,2}



Carbon emissions relating to transport logistics

As part of the Green Transport Logistics project, the BMW Group is aiming to make transport logistics climate-neutral, both within the production network and for vehicle deliveries. The carbon footprint and the use of carbon-efficient energy and modes of transport play a significant role in this regard. We are therefore making a major contribution to transforming the transport sector, pursuing a technologically open, innovative approach across all modes of transport. In order to ensure sufficient supplies between our plants, however, we were compelled to increase the year-on-year use of air freight during the reporting year due to issues relating to the supply of semiconductors.

Since the beginning of 2021, in cooperation with transport service providers, the BMW Group has been using low-carbon liquefied natural gas (LNG) on certain European transport routes to cover its production requirements. Depending on availability, we are gradually increasing the biogenic content of the LNG fuel we use. At the same time, we are increasing the volume of products transported by rail: around half of the vehicles produced leave our plants by rail.

PURCHASING AND SUPPLIER NETWORK

The BMW Group's supplier network comprises over 32,000 direct supplier locations worldwide, with whom we maintain direct supplier relationships. Our rigorous partner selection process is based on the criteria of quality, innovation, flexibility, cost and sustainability. To meet the respective due diligence requirements in terms of environmental and social standards, we rely on systematic risk analyses as well as prevention, empowerment and remediation measures. We also use standardised online assessments and audits that are integrated in our business processes. Moreover, the BMW Group enshrines its obligatory sustainability standards in all its supply contracts. **1]** We have set ourselves the goal of reducing carbon emissions in the supply chain by at least 20 %⁴ by 2030 (base year 2019), while simultaneously increasing the use of secondary materials.

Global network and local procurement

Global purchasing, the management of international supplier relationships, in-house component production and the efficient management of challenges within the supplier network are key factors in ensuring stable supplies to our production sites. At the same time, Purchasing ensures the future viability of the BMW Group by rigorously aligning the supplier network with strategic future topics such as digitalisation and electric mobility, while securing the required purchasing volume. **1]**

¹ Efficiency indicator calculated from the absolute energy consumption (adjusted for CHP losses) of automobile production (BMW Group plants incl. BMW Brilliance Automotive Ltd. joint venture, excluding partner plants and contract manufacturing) divided by the number of vehicles produced in automobile production (BMW Group plants incl. BMW Brilliance Automotive Ltd. joint venture and partner plants, excluding contract manufacturing).

² As of 2021, this figure also includes the carbon emissions of all other BMW Group locations in addition to those generated by production processes. For comparison purposes, the figure for 2020 has been adjusted accordingly (2019 before adjustment: 0.30 t; 2020 before adjustment: 0.23 t).

³ As of 2021, this figure also includes the carbon emissions of all other BMW Group locations in addition to those generated by production processes. For comparison purposes, the figure for 2020 has been adjusted accordingly (2020 before adjustment: 652,795).

⁴ Figure rounded for simplification purposes. The target percentage validated in conjunction with the SBTi is 22 %.

¶ The department Purchasing and Supplier Network is responsible for the worldwide procurement and quality assurance of production materials, raw materials, capital goods and services as well as the production of vehicle components manufactured in-house. The BMW Group follows the principle of sourcing vehicle components as closely as possible to its production sites. Efficient teams are in place in all major purchasing markets in order to identify risks swiftly and respond flexibly and at short notice to changing market situations. Close cooperation with our suppliers in a spirit of partnership was one of the factors that enabled us, for example, to cushion the effects of the global semiconductor shortage to a large extent. In order to secure long-term supplies in this area, the BMW Group concluded a direct agreement with semiconductor suppliers for the first time at the end of 2021. The agreement enables the BMW Group to secure the supply of several million semiconductors per year. Overall, however, the supply situation for semiconductor components will again remain tight in 2022.

Taking ecological and social responsibility

The BMW Group sees itself as a pioneer in terms of corporate due diligence in its supplier network. Back in 2008, we defined a comprehensive draft of preventive measures, including contractual obligations to comply with environmental and social standards, and stipulated them for the first time when selecting suppliers for the BMW i3. We have also defined and implemented raw-material-specific sustainability requirements for certain components.

In 2014, we extended our standards to include a multistage due diligence process. Since then, the process has included the procurement of production materials for vehicle models as well as risk-based, non-production-related goods and services. Every supplier who has a direct business relationship with the BMW Group is obliged to sign these requirements for its manufacturing and delivery locations and pass them on contractually to its respective sub-suppliers. Specific

requirements are set out in the [BMW Group Supplier Sustainability Policy](#), the order documents and the contract documents. These requirements must be implemented prior to the start of production or by the agreed target date.

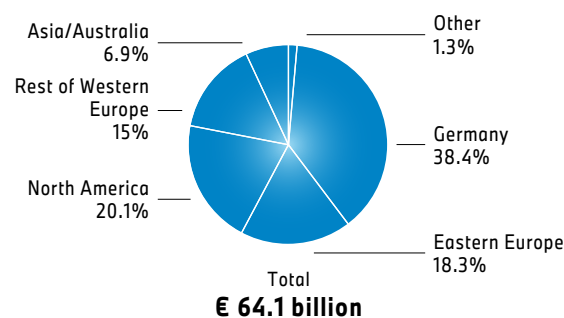
[Further GRI information](#) [GRI-Index: 308-1, 414-1](#) [SASB-Index](#)

Management system and mission statement

The BMW Group is committed to respecting internationally recognised human rights and is guided, among other things, by the UN Guiding Principles on Business and Human Rights, the OECD Due Diligence Guidance for Responsible Business, and the German government's National Action Plan as well as the Supply Chain Due Diligence Act derived from it [Worldwide Implementation of Labour Standards and Human Rights](#).

REGIONAL DISTRIBUTION OF BMW GROUP PURCHASE VOLUMES¹

in € billion



¹ Direct and indirect procurement; without BMW Brilliance Automotive Ltd., Shenyang joint venture.

² The audits conducted worldwide were in accordance with the standards of the Responsible Business Alliance (RBA) and the United States Environmental Protection Agency (EPA).

IMPLEMENTATION OF THE SUPPLY CHAIN DUE DILIGENCE ACT

¶ In 2021, the German Bundestag passed the Supply Chain Due Diligence Act, in which the BMW Group actively participated through its involvement in the National Action Plan "Business and Human Rights". We very much welcome the regulation that has now been adopted and are also advocating for Europe-wide directives that ensure fair competitive conditions.

Our sustainability programme has fulfilled key due diligence requirements since 2014. For example, as a preventive measure, the BMW Group requires its suppliers to draw up a guideline on working conditions and human rights. Since 2019, we only commission suppliers with more than 500 employees if they have a certified occupational health and safety management system in place in

accordance with ISO 45001. Our suppliers are also trained as part of the certification process. Moreover, if we identify high-risk suppliers, we conduct additional audits at the supplier's premises with the help of our own assessors and external auditors. In the year under report, we reviewed approximately 200 potential and active supplier locations via this method². Auditing, however, was hampered by pandemic-related travel restrictions and is thus below the level of the previous year (2020: 313). [1\]](#)

[Obligatory sustainability standards apply to all BMW Group suppliers and are incorporated in the supply contracts.]

The respective demands placed on us and our suppliers are integrated throughout the Group by means of the following internal standards:

- The [BMW Group Code of Conduct on Human Rights and Working Conditions](#) explains how we promote human rights and good working conditions and implement the core working standards of the International Labour Organisation (ILO).
- The [BMW Group Supplier Sustainability Policy](#) summarises the BMW Group's principles governing the global supplier network in accordance with internationally acknowledged standards and guidelines. We regularly update the risks we have identified in our supplier network.

Risk analyses on ecological and social responsibility

The BMW Group monitors and assesses human rights risks and impacts in its supplier network, both in its existing business relationships and whenever it enters a new market or field of business. The BMW Group Due Diligence Programme within the Purchasing and Supplier Network consists of various coordinated procedures, measures and standardised applications that are integrated in business processes such as procurement.

The BMW Group has been using a risk filter to identify human rights risks at the locations of direct and indirect suppliers* since 2012. In a dynamic, location-specific risk analysis, it draws on various country- and commodity-group-specific risk

databases and standardised risk maps, and includes all supplier locations that have already been awarded orders as well as all potential supplier locations. Since 2020, the risk filter has also included risk databases and standardised risk maps provided by the Responsible Business Alliance (RBA). This view of risks is supplemented by commodity-group-specific assessments provided by our internal purchasing experts.

Another component when assessing the potential negative impacts of business activities is the Drive Sustainability questionnaire, which is subject to continuous improvement. In this context, both direct and indirect suppliers are required to provide information on their sustainability performance and the preventive and remedial measures they have implemented. The information provided is checked for accuracy and completeness by an independent third party. The information is obtained from new suppliers as part of the contract awarding process. Existing business relationships are audited and updated on a continual basis. [Further GRI information](#). In order to minimise the risks, we pay close attention to implementing preventive measures. Further information is available [online](#).

Our aim is to check compliance with our sustainability standards in the intermediate stages of the value chain on an ad hoc basis. The audit is partially conducted via the supply chain mapping of suppliers for whom an indirect risk has been identified. Moreover, the BMW Group develops raw-material-specific sustainability strategies and derives so-called empowerment activities and pilot projects from them to both ensure and improve compliance with environmental and social standards.

[GRI-Index: 308-1, 412-1, 412-3, 414-1](#)

Preventive and remedial measures

In 2014, we agreed upon preventive measures with our direct suppliers concerning working conditions, occupational health and safety, human rights and the environment. The extent of these measures is based on the size of the supplier

and the potential risks. Direct suppliers with more than 50 employees are required to implement preventive measures such as guidelines regarding child labour, freedom of association, and collective bargaining as well as occupational safety and environmental protection. We require suppliers with more than 100 employees to communicate our sustainability standards to their suppliers and have a control mechanism in place in the form of externally audited and certified environmental management systems. If a supplier employs more than 500 people, we require, among other things, the publication of a sustainability report, a code of conduct, and externally audited and certified occupational safety and environmental protection management systems as additional control mechanisms.

During the year under report, the BMW Group identified sustainability deficits at 61% of its suppliers (2020: 64%) and agreed on corrective preventive measures. The measures related to subcontractor management, reporting, control mechanisms and mission statements. [1\]](#)

* Direct suppliers are tier-1 suppliers of the BMW Group. Indirect suppliers operate downstream in the value chain between tier-1 suppliers and raw materials suppliers.

[We require suppliers with more than 100 employees to have externally audited and certified environmental protection management systems in place.]

[By signing a contract with the BMW Group, the supplier undertakes to implement and apply the preventive measures prior to the start of production or by an agreed target date. The supplier undertakes to demand compliance with these agreements from his subcontractors and to follow them up. All BMW Group supplier contracts include resource efficiency requirements and demand compliance with the principles of the UN Global Compact and the International Labour Organisation (ILO). For this reason, the BMW Group has set itself the goal of ensuring compliance with these commitments.

➤ [GRI-Index: 308-2, 412-2, 414-2](#)

Checking effectiveness

In addition to the preventive measures mentioned above, the BMW Group conducts audits of environmental and social



standards at supplier locations in high-risk regions or for high-risk product groups. For this reason, we are members of the Responsible Business Alliance (RBA) and the German Association of the Automotive Industry (VDA). Together with other automotive manufacturers and suppliers in the VDA, we have developed the Responsible Supply Chain Initiative (RSCI), an assessment programme newly established for this purpose that we will implement as of 2022.

Since September 2021, we have supplemented our prevention and remediation review methods with the standardised use of RBA Voices, a grievance mechanism for employees of the companies we audit. RBA Voices will be applied to all high-risk suppliers that are part of the RBA's audit programme and do not yet have their own grievance mechanism.

Any information received regarding potential breaches of the BMW Group's sustainability standards in the supplier network is processed by the internal Human Rights Contact Supply Chain function, where tips can be submitted anonymously by telephone or email. In addition, suppliers and their employees have the option of reporting potential human rights or environmental violations to our Compliance Ombudsman for the supplier network. ➤ [Whistle-blower systems to uncover possible violations of the law and compliance controls](#). A human rights officer was appointed for the first time during the year under report. ➤ [Compliance and human rights](#)

Standardisation and cooperation

At the instigation of the BMW Group and with the support of other automotive manufacturers in the Drive Sustainability initiative, in 2017 an analysis of the 37 most important raw materials was conducted at the European business network CSR Europe. Since then, the resulting ➤ [Material Change Report](#) has served as the basis for potential improvements and the development of both BMW-Group-specific and common solutions for the automotive and electronics industries. In 2021, further improvements were made to the report on the

TRAINING FOR THE SUPPLY CHAIN

[Alongside the required prevention measures, the BMW Group has been offering training courses aimed at buyers, internal process partners and suppliers since 2012. To raise awareness of social and environmental standards in the supply chain, we explain interdependencies and clearly describe what we expect of the companies we work together with. Moreover, together with partner companies, in selected cases we are breaking new ground with the aim of taking action at the very beginning of the supply chain. ➤ [Further GRI information](#) ➤ [GRI-Index: 412-2 \]](#)

➤ [Raw Material Outlook Platform](#). The platform currently contains risk profiles for ten raw materials.

In the automotive supply chain, which is particularly complex by industry standards, traceability right back to the raw material extraction stage can be significantly improved with new digital tools. The BMW Group is committed to driving improvements within the framework of initiatives such as the Catena-X Automotive Network – and is working with partner companies to standardise data and information flows in the automotive value chain in order to comply with antitrust-related and legal requirements. Together with partners at Catena-X and the WBCSD, we are working on solutions to measure actual ➤ [carbon emissions data in the supply chain](#) and make it comparable, with the aim of effectively reducing carbon emissions in our supply chain.]

ⓘ Rigorous reduction and traceability of critical raw materials

Due to the complexity of multilayered, dynamic, globalised value chains and customer-supplier relationships, it is a major challenge to ensure sustainability standards right from the raw materials extraction stage. We have a clear aspiration to comply with environmental and human rights standards at every level of our supply chains. Sourcing the raw materials required to produce battery cells, such as lithium and cobalt, is generally a highly challenging task. In order to establish traceability and transparency across the supply chain for both of these raw materials and to minimise the identified risks, the BMW Group sources them directly from the producers, and

makes them available to its own suppliers in order to produce the current generation of battery cells. The strategy allows us to fully document both the origin and the path of the lithium and cobalt we use, while creating transparency regarding mining methods at the same time.

Further measures that serve to meet our due diligence requirements include reducing or eliminating the use of so-called high-risk primary raw materials. For example, we have reduced the use of cobalt in the cathodes of our current generation of battery cells to less than 10 %. Our latest generation of electric motors is made without the need for any rare earths.

The BMW Group also keeps a close eye on raw materials that are classified as so-called "conflict minerals". These include ores whose mining and trade are frequently associated with violations of environmental and social standards. By using standardised applications such as the Conflict Minerals Reporting Template (CMRT) of the Responsible Minerals Initiative (RMI), the BMW Group ensures the traceability of the raw materials it uses, right from the direct supplier to the certified smelter. ↗ [SASB-Index](#)

Mitigating risks through industry initiatives and partnerships

Apart from eliminating, substituting or reducing the use of risk-related primary raw materials, we rely on close cooperation with our partners in the supplier network. Our aim is to continue reducing the potential negative impacts of our business activities in our raw materials supply chains.

ⓘ Traceability of conflict minerals back to the certified mine. ⓘ

We also expect our direct suppliers to demand minimum standards in their chain of upstream suppliers, which has been done for all the 37 raw materials we analysed. The BMW Group even goes one step further in this regard because, as a precautionary measure, we are committed to not using minerals such as cobalt that are extracted from the deep sea. Together with other companies, we have declared this in a ↗ [moratorium](#). ⓘ

ALLIANCE FOR CROSS-COMPANY, DECENTRALISED DATA EXCHANGE

ⓘ As part of the Catena-X Automotive Network initiative, the BMW Group is working to establish an open, scalable, decentralised network for the secure exchange of information and data across companies in the automotive value chain. The network is based on an industry consortium funded by the Federal Ministry for Economic Affairs and Energy (BMWK)* consisting of national and international partners from the automotive value chain. Continuously connected data chains will make it possible to create completely digital images of automobiles and the core processes of automotive value creation, so-called digital twins. New business processes and services can be either made possible or collaboratively enhanced, based on these digital twins. By using the European GAIA-X and International Data Spaces Frameworks as the architectural basis for the Catena-X network, the companies involved have already agreed on the essential infrastructural principles for project implementation. ⓘ

CONFLICT MINERAL TUNGSTEN: CLOSING MATERIAL CYCLES

ⓘ The circular economy concept is a key method for ensuring the responsible use of raw materials and resources. For example, since the year under report, the BMW Group has been reducing the amount of the primary raw tungsten it requires by introducing a closed material cycle. To achieve this aim, we collect discarded drill and screw inserts in our German and Austrian plants, recycle them, and have new tools manufactured from the secondary raw material obtained. Apart from reducing our consumption of primary raw materials, the strategy also cuts carbon emissions. ↗ [SASB-Index](#) ⓘ

* Since the end of 2021: Federal Ministry for Economic Affairs and Climate Protection (BMWK).

¶ The BMW Group is actively involved in multi-stakeholder initiatives such as the [Initiative for Responsible Mining Assurance \(IRMA\)](#), the [Aluminium Stewardship Initiative \(ASI\)](#), the [Global Platform for Sustainable Natural Rubber \(GPSNR\)](#) and the [Responsible Mica Initiative \(RMI\)](#) with the aim of establishing and further developing certification systems for suppliers. We therefore require certification in accordance with these standards for prioritised raw materials in our supplier network. [Online](#)

Reducing carbon emissions in the supply chain

With the growing demand for electrified vehicles, the need for suitable components and parts in production is also increasing – and with it the volume of carbon emissions they generate. If no countermeasures are taken, the supply chain footprint of an all-electric vehicle could be nearly twice that of a conventional combustion engine model, practically eroding part of the benefit of electric driving during the use phase. ¶ The BMW Group is reversing this trend and also intends to reduce the volume of carbon emissions generated in the supply chain by at least 20 %¹ per vehicle by 2030 compared to the base year 2019. ¶ To achieve this aim, we have been establishing decarbonisation as well as other measures among our suppliers as an award criterion since 2020. Within this

framework, we bindingly agreed corresponding measures for 429 contracts awarded in the course of 2021.

One of the most effective ways of decarbonising the supply chain is the use of green electricity. For this reason, in 2020, we entered into contractual agreements with battery cell manufacturers to use only energy generated from renewable sources to produce the current generation of battery cells. In 2021, the BMW Group also introduced green electricity as a mandatory criterion for awarding new contracts in its supply chain – and has already concluded green electricity agreements in the awarding of 427 orders, particularly with upstream suppliers of energy-intensive products.

These measures have already enabled the Group to reach agreements that cut carbon emissions² by well over 20 million tonnes during the period from 2021 to 2030. For example, carbon emissions generated in the supply chain to produce battery cells for the BMW iX have been reduced by up to 1.5 t CO₂ per vehicle, simply by agreeing to use green electricity to manufacture them. The implementation of the strategic target was incorporated in the necessary areas across the Group in 2021 and will be measured and reported in future by using the key parameter of [carbon emissions per vehicle produced](#).

Carbon Disclosure Project (CDP) for supplier empowerment

Through its participation in the CDP Supply Chain Programme, the BMW Group has been motivating its suppliers to operate sustainably since 2014 and, for example, to use renewable energy in their production processes. The core of the programme is an annual report, which includes a variety of climate-related aspects such as decarbonisation and increasing the percentage of renewable energy used. The BMW Group strongly encourages its suppliers to set targets in line with the Paris Climate Agreement in their efforts to help limit global warming. Together with the BMW Group's specified target for decarbonising the supply chain, this led to a further significant increase in supplier commitment. For example, year-on-year, supplier participation in the CDP

We aim to reduce carbon emissions in the supply chain by at least 20 %¹ by 2030 (base year 2019).

Supply Chain Programme increased from 218 to 250 suppliers, which covers 80 % (2020: 79 %) of the BMW Group's production-relevant purchasing volume. Some 34 % of suppliers (2020: 29 %) had at least a 2-degree-compliant target system in place and 38 % (2020: 35 %) of suppliers received at least a B rating. As in previous years, in 2021 the average CDP rating among the BMW Group's participating suppliers was a score of C.

The BMW Group has integrated the assessments of the CDP Supply Chain Programme in its key purchasing processes. The results are used in supplier discussions, in strategic management discussions and in the overall supplier strategies to point out potential for improvement. They also form a basis for determining the group of bidders in purchasing strategies when awarding contracts. The BMW Group uses the CDP's assessment to support and further encourage its own suppliers to implement the Paris Climate Agreement. Suppliers who have participated for some time generally attain a significantly improved CDP rating.

[GRI-Index: 308-1, 308-2, 414-2 ¶](#)

TYRES MADE OF FSC-CERTIFIED NATURAL RUBBER

¶ In 2021, the BMW Group introduced the use of FSC-certified tyres on a first vehicle model – the BMW X5 xDrive45e plug-in hybrid² – [FSC-certified tyres](#) made of natural rubber, making the BMW Group the first automotive manufacturer in the world to equip its vehicles with tyres based on sustainable, certified natural rubber and rayon – a wood-based material used to reinforce tyres. ¶

¹ Average per vehicle produced; figure rounded for simplification purposes. The target validated in conjunction with the SBTi is 22 %.

² [Consumption and carbon emissions data](#).

EMPLOYEES AND SOCIETY

80	Employer Attractiveness and Employee Development
83	Health and Performance
86	Diversity
89	Corporate Citizenship

AT A GLANCE

€ 389 million

invested in vocational and further training of BMW Group employees in 2021.

[Direct link to section](#)

18.8 %

of management positions at BMW Group held by women at the end of 2021. By 2025, the share is expected to rise to 22%.

[Direct link to section](#)

€ 35 million

spent by the BMW Group in 2021 on social projects and other activities in conjunction with its corporate citizenship responsibilities.

[Direct link to section 1\]](#)



EMPLOYEES AND SOCIETY

EMPLOYER ATTRACTIVE- NESS AND EMPLOYEE DEVELOPMENT

[The personal commitment and technical expertise of our employees are crucial to the success of the BMW Group. With a broad range of interesting and future-oriented jobs at attractive conditions, we offer our employees secure prospects and the opportunity to develop personally as well as help shape the BMW Group's future. The objectives of our Human Resources (HR) strategy have been defined with a view to attracting skilled employees, optimising their deployment and providing them with opportunities to develop their potential, thereby ensuring that all their skills and expertise are available to meet the future needs of the BMW Group. The success of this approach is borne out by the results of employee satisfaction surveys and the outstanding positions consistently achieved in employer rankings. 1]

The BMW Group's attractiveness as an employer

At 31 December 2021, the BMW Group employed a total of 118,909 people worldwide*, slightly below the headcount at the end of the previous year (2020: 120,726; –1.5 %). [Further GRI information](#) This reduction was achieved through a combination of natural employee fluctuation and voluntary agreements in line with planned workforce restructuring measures. For this purpose, appropriate provisions were made which were taken into account in personnel expenses. [Notes](#)

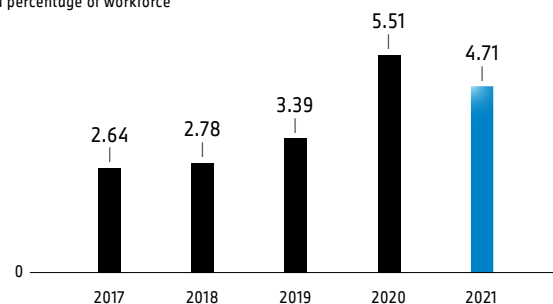
to the [Group Financial Statements](#), no. 15. At the same time, we stepped up our recruitment efforts in 2021 with a view to ensuring the continued availability of all the required expertise within the workforce to ensure the planned future growth of the BMW Group. [GRI-Index: 102-8](#)

Strategic personnel planning serves as a tool for identifying the need to readjust personnel and competence structures at an early stage. The BMW Group uses this information as the basis for making targeted improvements in the fields of vocational and further training, personnel development, HR marketing, recruiting and training programmes for future talents. [GRI-Index: Employee development, vocational and further training](#)

* With effect from the reporting year 2020, a new definition of the term "employee" is applied (see the [Glossary](#) for the definition). For the periods 2018 and older, the percentage of employees no longer reported was between 7.5 % and 8.0 %.

EMPLOYEE ATTRITION RATE¹

as a percentage of workforce



Attractive employment conditions

As a key factor for the BMW Group's attractiveness as an employer, we aim to ensure that, based on their overall remuneration package, our employees earn above average for the respective labour markets. To confirm this, we conduct remuneration studies each year on a worldwide basis. The total salary package consists of a monthly remuneration and a variable component dependent on the BMW Group's overall performance. We also offer additional benefits such as Company pension schemes and an attractive range of mobility benefits, which can differ from country to country.

➤ GRI-Index: 102-35, 102-38, 102-39, 401-2, ➤ SASB-Index

The BMW Group confirmed its position as the most popular automotive manufacturer in the latest ranking of the **World's Most Attractive Employers 2021**.

Employees have varying needs when it comes to organising their work and their working hours. For this reason, the BMW Group offers a great deal of individual personal scope in the form of working time arrangements, including flexible working hours, remote working, additional holidays in return for a corresponding reduction in salary, sabbaticals, and temporary or permanent part-time solutions. ➤ [Further GRI information](#) During the reporting year, under the title Connected-Works, we continued to develop a process that was started back in 2013 to implement a diverse range of options for employees to work within a spatially flexible, autonomous and needs-oriented environment.^{1]}

Employer rankings and awards

Highly regarded employer ratings once again ranked the BMW Group as one of the world's most attractive employers. In 2021, for instance, the BMW Group was again the world's top-ranked automotive manufacturer in the current ranking of the [World's Most Attractive Employers 2021](#) as rated by Universum, a well-known study provider. Among aspiring engineers, the BMW Group ranked third worldwide, directly after Google and Microsoft. For IT students, the BMW Group is the only automotive company among the world's top 10 employers, mostly in competition with prestigious technology enterprises. The BMW Group again achieved the top spot in the Trendence Professionals Barometer for Germany in 2021.

Results of the employee survey

The Group-wide survey of the workforce conducted every two years enables employees to assess the organisation's performance on a regular basis and from their own perspective. The assessment is performed with the aid of the High-Performance Index (HPOI).

[t The survey conducted in autumn 2021 showed a significant improvement in the HPO-I compared with two years earlier. At the same time, the participation rate rose to a record high, with some 100,000 employees or 79 % of the total workforce² taking part in the survey. Moreover, signifi-

cant progress was evident in all areas surveyed. For instance, the BMW Group's corporate strategy received a very high level of approval from the workforce. Particularly noteworthy was the fact that 84 % of participants were convinced by the strategy of integrating sustainability and setting ambitious targets in this respect. They also signalled a high level of willingness and motivation to play an active role in this process, with some 82 % of respondents concluding that they are optimistic about the future of the BMW Group. ^{1]}

EMPLOYEE MOBILITY

[t The BMW Group offers its employees a variety of eco-friendly mobility and commuting solutions. The creation of one of Germany's largest corporate charging networks marks a special milestone. The network of some 5,000 charging points at numerous locations in Germany is available to charge not only company and fleet vehicles, but employees' private electric vehicles, too. More than 1,000 e-roaming³ charging points are also available for use by the general public. All charging points are powered entirely by renewable electricity sources.

At the same time, we encourage our employees to use alternative means of transport such as bicycles, including BMW Lease-Rad arrangements. The Munich location is also served by a network of Group-owned shuttle buses – 30 % of which are already fully electric – that operate between the Group's various sites. The BMW Group also subsidises the use of public transport with the BMW JobTicket in Munich. ^{1]}

¹ BMW AG; departures of employees with permanent employment contracts.

² All BMW Group employees on fixed contracts at 1 August 2021.

³ E-roaming enables electric vehicles to be charged irrespective of the provider.

Despite the good progress, however, employees also identified a number of potential areas for optimising business processes. The results of the survey will form the basis for concrete measures that are scheduled for implementation by mid-2022. [↗ GRI-Index: 102-43](#)

Employee involvement

Our employees represent a crucial stakeholder group for the BMW Group. As such, we actively involve them in our corporate strategy development. The internal dialogues on the topic of sustainability, first introduced in 2020, have become one of the main platforms used to achieve this end. At the two dialogue events held in 2021, we provided information and findings on sustainability topics such as decarbonisation and the social dimension of sustainability. [↗ Dialogue with the stakeholders](#)

The BMW Group's ideas management system as a further opportunity for employee involvement encourages employees to contribute ideas on matters that do not fall within their normal remit. Employee ideas that generate a positive financial effect for the BMW Group are rewarded with the payment of a bonus. In 2021, 4,810 ideas were submitted (2020: 5,980), more than a quarter of which were directly related to sustainability – similar to one year earlier. A total of 1,318 ideas were implemented during the year under report (2020: 1,561), resulting in first-year benefits totalling € 30.4 million (2020: €18.2 million). [↗ GRI-Index: 102-42](#)

Developing expertise for the future

The transformation of the automotive industry entails numerous far-reaching changes. The BMW Group takes a forward-looking approach to the related challenges for the workforce structure, equally considering social, economic and technological developments. Against this backdrop, we strive continuously to ensure our employees have the necessary skill sets, for both the present and the future. The BMW Group is combining the transformation of expertise

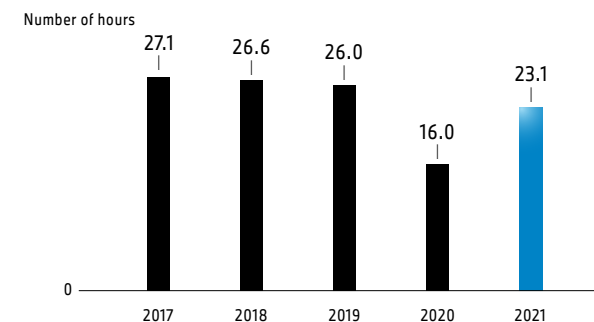
necessitated by electrification with substantial levels of investment at its various [↗ locations](#).

Largest training initiative in the BMW Group's history

In 2021, the BMW Group launched the largest training initiative in its history, aimed at promoting and maintaining the ability of its workforce to perform with the requisite expertise and ensuring the Group's long-term competitiveness. Apart from electric mobility and digitalisation, the BMW Group is also focusing on a number of future-oriented fields, such as electrics and electronics, data analytics, innovative production technologies and new working methods.

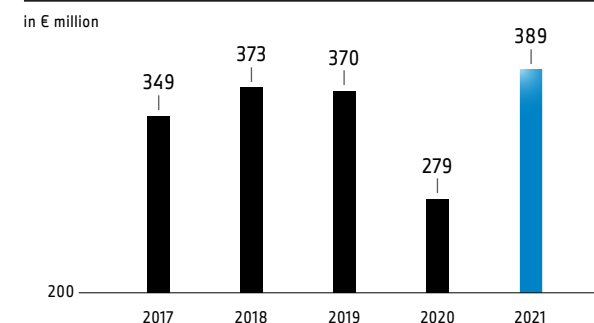
The scale of the training initiative is reflected in the significant increase in the number of participants compared with the previous year. Training measures undertaken across the BMW Group in 2021 involved a total of 1.1 million participants (2020: 770,000). Each member of the BMW Group workforce received an average of 23.1 hours of training during the year under report (2020: 16.0 hours). [↗ Further GRI Information. 1\]](#) In total, the BMW Group invested € 388.6 million (2020: € 279.0 million) in training and further education in the financial year 2021. The total expense for the years 2020 and 2021 therefore exceeds half a billion euros. [↗ GRI-Index: 404-2](#)

AVERAGE HOURS OF FURTHER TRAINING¹



1]

INVESTMENT IN TRAINING AND FURTHER EDUCATION²



¹ Further training of BMW Group employees in consolidated and non-consolidated 100 % subsidiaries worldwide. Data are collated on the basis of direct inputs of participants and, to a small extent, by extrapolation. Data also include e-learning formats.

² Vocational and further training comprises the in-house training of all BMW Group apprentices ([↗ Glossary \[Apprentices\]](#)) as well as the further training of BMW Group employees and temporary staff at consolidated companies worldwide.

Key role for managers in the transformation process

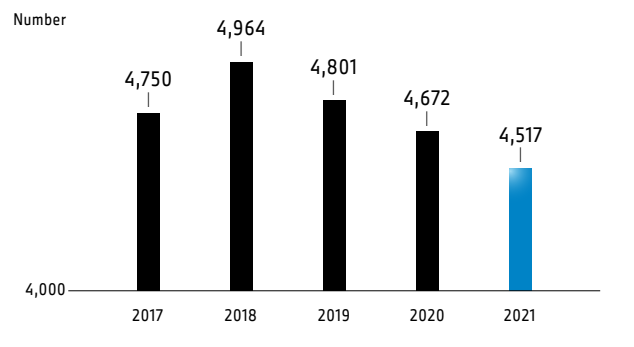
BMW Group managers have a key role to play in shaping the ongoing transformation process. For this reason, the BMW Group promotes personalities who have the right attitude and willingness to perform, joint leadership skills and a high degree of identification with the organisation. We encourage leadership skills by means of strategically aligned management training programmes based on a uniform understanding of leadership. Apart from careers in management, the BMW Group also offers the so-called "Expert Career", which does not generally involve disciplinary responsibility for other employees. It focuses instead on technical, project-related or corporate topics as well as other tasks driving the transformation process.

Recruiting and promoting new staff

Through its comprehensive range of apprenticeships, the BMW Group creates a broad range of attractive employment prospects for young people. Promoting future talents also plays a key role in building up expertise within the Group. [1\]](#)

[1\]](#) The recruitment and promotion of future talents is increasingly focused on the future-oriented topics of electrification, automation and artificial intelligence. [1\]](#)

APPRENTICES AND PARTICIPANTS IN YOUNG TALENT PROGRAMMES¹



Securing future talents

The BMW Group covers its recruiting requirements with the help of future talents programmes, either with an academic emphasis or through qualified vocational training. Trainees are currently preparing for their future occupations within the BMW Group in 30 skilled trades and 18 dual study programmes at 19 training locations around the world. The total number of apprentices, dual study students and participants in future talents programmes* remained at the high level of 4,517 in the year under report (2020: 4,672; – 3.3%). In Germany, some 1,200 young people began an apprenticeship or a dual study programme in 2021 (2020: 1,200). A similar number of apprenticeships and study places has been announced for the coming year. BMW AG continues to offer its apprentices and dual study students permanent employment at the BMW Group's plants and headquarters after they have completed their vocational training.

Focus on future-oriented fields

Electrification, automation and connectivity as well as artificial intelligence (AI) are shaping and influencing apprenticeship and future talents training programmes offered by the BMW Group. The relevant programme contents are therefore

updated annually to ensure that our expertise needs for the future are adequately covered. In the year under report, for instance, training for all vocational fields was expanded to include fundamental aspects of cloud computing, 3D printing and data analytics. At the same time, further vocational profiles were added in 2021, such as IT specialist for data and process analysis.

HEALTH AND PERFORMANCE

The health and performance of employees are key factors in the success of the BMW Group. We are therefore committed not only to maintaining the status quo, but also to consciously encouraging improvement. Despite the coronavirus pandemic and the challenges it has posed, we continued to make good progress in terms of the various health management and occupational safety measures in place throughout the BMW Group. Overall, for example, the accident frequency rate decreased.

Centralised health and occupational safety management

Health and occupational safety activities within the BMW Group are combined in the Work Environment, Health, Group Safety and Group Data Protection unit and allocated to the Board of Management's Human Resources and Social Affairs area of responsibility. The managers in the various specialist departments are responsible for all related processes, supported and advised by the centralised health management and occupational safety teams. [1\]](#)

¹ Includes SpeedUp (an undergraduate programme) and Fastlane (a master's programme).

Health management on a holistic basis

The BMW Group bundles all measures aimed at promoting the health and performance of its workforce within its Health Initiative programme. Current health-related topics such as nutrition, exercise and fitness as well as behavioural ergonomics, cancer prevention or mental resilience are addressed in action days, dialogue events and training courses, with the aim of raising employee awareness for these important issues.

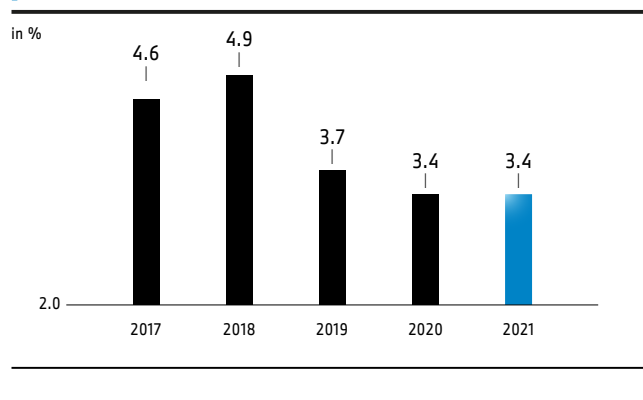
Global approach

The BMW Group places great emphasis of ensuring that all employees have access to its in-house health services. In Germany, these services focus on providing acute care for employees and temporary workers during working hours. In certain countries, however, the Group's health service also takes on primary care tasks, such as at the sites in Thailand, India or Mexico. The BMW Group's Company doctors also advise employees on individual preventive measures if requested to do so, and help them adapt their work environ-

MEASURES ADOPTED IN LIGHT OF THE CORONAVIRUS PANDEMIC

The SARS-CoV-2 occupational health and safety regulations applicable for Germany and the Works Agreement concluded in 2020 continued to apply in 2021. A Group-wide "Corona Manual", which is updated regularly, provides guidelines for implementing infection control measures. In addition to protection and hygiene concepts, the emphasis of the prevention efforts made during the year under report was on the vaccination of employees. The BMW Group's health service teams carried out Covid-19 vaccinations at numerous international plant locations. In Germany alone, the BMW Group carried out almost 50,000 vaccinations in 2021. ^{1]}

SICKNESS RATE¹



ment to ensure that their health and performance are maintained in the long term. ^{2]} [GRI-Index: 403-3, 403-6](#)

One of the parameters the BMW Group uses to quantify the success of its health management measures is the sickness rate. At 3.4 %, the sickness rate at BMW AG was at the same level to one year earlier (2020: 3.4 %). The Group continuously strives to improve this figure. ^{3]} [GRI-Index: 403-10](#)

Occupational safety and ergonomics at Group sites

Preventive measures such as safe and ergonomically favourable workplaces are well-established aspects of the BMW Group's approach to health protection. The right to health and safety in the workplace is also a key feature firmly embedded in the [BMW Group's Code on Human Rights and Working Conditions](#), which includes a commitment to comply with currently applicable occupational health and safety legislation worldwide. Furthermore, uniform standards applying to all sites are constantly improved, and help to ensure that health and safety requirements are consistent throughout the Group.

99.72 % of employees at BMW Group plants work at a site covered by an international occupational health and safety management system certified to either ISO 45001 or OHRIS level. ^{1]}

Certified occupational health and safety management system

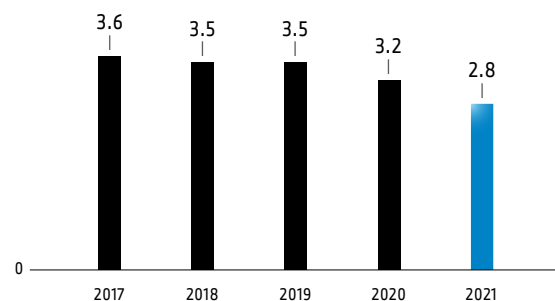
In addition to international cooperation arrangements, occupational health and safety activities throughout BMW Group are coordinated on a global basis in line with a corresponding management system that is certified to ISO 45001 or OHRIS² level at 28 out of 31 plants. This means that 70,459 (2020: 69,092) or 99.72 % (2020: 99.7 %) of permanent employees and 14,772 or 98.98 % of temporary employees³ at BMW Group plants work at a site covered by an international occupational health and safety management system. It is the stated aim of the BMW Group to obtain certification to one of these international standards for all of its plants by 2025. The only plants for which this remains to be done are the Manaus plant (Brazil), the partner plant in Kaliningrad (Russia) and the contract manufacturing facility in Born (the Netherlands). Employer and employee representatives work together at nearly all locations to bring about a continual improvement in health and safety standards. ^{3]} [GRI-Index: 403-1, 403-4](#)

¹ BMW AG; number of hours of absence due to paid sick leave divided by the contractually agreed number of working hours; up to 2018, absence due to unpaid was also taken into account. Figures up to 2018 are not comparable.

² Occupational Health and Risk Management System.

³ Figures excluding temporary employees included in the management system.

ACCIDENT FREQUENCY RATE¹



Accident frequency

The measures implemented by the BMW Group are also helping in accident prevention terms. The accident frequency rate dropped further to 2.8 accidents per million hours worked (2020: 3.2). There were no fatal accidents during the year under report (2020: one) [Further GRI information](#). The stated goal is to have occupational health and safety standards in place throughout the Group. The success of the plants of our joint venture BMW Brilliance Automotive Ltd., Shenyang, China, in this respect – with their very low accident frequency rate – is a good example. [GRI-Index: 403-9](#)

Recognising and avoiding risks

The BMW Group conducts comprehensive risk and stress analyses in order to identify potential work-related risks in both production and office workplaces. Pilot work continues on the so-called Digital Workplace Stress Management system which is used to assess ergonomic aspects of work-

places on a fully automated basis. With this project, the BMW Group is going beyond current legal requirements and setting the benchmark for the automotive industry. The range of risk assessments was expanded to include a mobile workplace analysis in view of the increased scale of working from home.

The BMW Group uses various management systems to assess the methods and tools deployed across the Group. The results of the assessments are subsequently used to enhance internal norms. As part of co-determination arrangements, the Works Council and, if necessary, the representatives of severely disabled employees and HR management are involved.

The BMW Group ensures the quality of its processes by means of annual internal audits. Audits and certifications of sites are conducted by external service providers. All necessary audits were again successfully performed in 2021, resulting, for example, in the elimination of defects identified in plant and equipment. [GRI-Index: 403-2](#)

Regular training for employees

An important prerequisite for ensuring that its occupational safety and health procedures work well at all locations is the provision of regular training to employees. Responsibility for the training measures implemented in this field lies with the Training Competence Centre, which comprises staff from the occupational safety, ergonomics, environmental protection and health management departments. The seminar curriculum is drawn up in collaboration with safety specialists, Company doctors and the BMW Group Academy. The specialised departments can also be called on to provide solutions to help meet short-term needs.

The BMW Group requires its suppliers to comply with internationally recognised occupational health and safety requirements. [J](#)

Occupational safety along the value chain

It is extremely important for the BMW Group that external partners and their employees also find a safe work environment at our locations and take advantage of the available safety measures. For this purpose, cooperation with contractual parties is regulated in a separate contractor declaration, enabling potential hazards to be identified and appropriate protective measures to be taken on this basis. On large-scale construction sites of the BMW Group, all employees of partner companies are given safety briefings by BMW Group experts. In the case of smaller contracts, the contractor is responsible for performing this duty. The department responsible for placing the order monitors compliance with the occupational health and safety regulations, supported by the relevant occupational health and safety unit as required.

In order to improve occupational safety at the upstream stages of the value chain, too, the BMW Group requires its suppliers – via the agreed purchasing terms and conditions – to comply with internationally recognised occupational health and safety requirements. [GRI-Index: 403-7](#) [J](#)

2.8 accidents per million hours worked. [J](#)

¹ Number of occupational accidents with at least one day of absence from work per one million hours worked.

² Management systems in accordance with ISO 45001 and derived from the International Labour Organization (ILO) or UNGC (United Nations Global Compact).

DIVERSITY

📌 The BMW Group sees diversity as a strength. A diverse workforce brings with it different perspectives, experiences and competencies – and can therefore make us more innovative and competitive as a company. For this reason, we encourage a working environment that actively incorporates different perspectives. We embrace diversity in all its facets on the basis of our diversity concept. Our guiding principle is to create “a sense of community” in which people can work together in a spirit characterised by appreciation, mutual understanding, openness and fairness.

Embedding diversity

The BMW Group places great emphasis on an unprejudiced, appreciative and inclusive working environment for all its employees. Key principles such as protection against discrimination, equal treatment of all employees and respect at all times are firmly embedded in the [BMW Legal Compliance Code](#) and the [BMW Group Code of Human Rights and Working Conditions](#). All employees can contact their line managers, the relevant

specialist departments, the HR department or the Works Council if they have any pertinent concerns. The BMW Group SpeakUP Line is a telephone service available in over 30 languages that gives employees worldwide the opportunity to report possible violations both anonymously and confidentially ([BMW Whistleblower Systems for Detecting Possible Legal Violations and Compliance Controls](#)). [GRI-Index: 406-1](#)

Using a variety of training events, presentations and dialogue formats, we endeavour to sensitize employees and managers to the positive contribution that diversity can make to the business. The BMW Group also promotes diversity and equal opportunity in its recruiting and personnel development strategies.

Diversity-promoting concepts have also been developed in relation to the composition of the Board of Management and Supervisory Board. Information on the stipulated diversity criteria and their implementation is provided in the [Corporate Governance Statement](#). [GRI-Index: Diversity and equal opportunity](#)

Group-wide initiatives

The BMW Group is committed to raising awareness for diversity throughout the organisation. In this context, for instance, we organise an annual Diversity Week, which in 2021 involved 170 activities aimed at motivating employees worldwide to address the issue of diversity. The international communication campaign Driven by Diversity was also launched at the same time. The aim of the internal campaign is to make the diverse identities, ways of thinking and experiences of our employees visible and to embed diversity even deeper in the corporate culture of the BMW Group and in the mindset of its employees.

Employee engagement

Employee initiatives play a key role in ensuring that diversity is actively practised. For example, two teams from the future talents programme took part in the Germany-wide [Diversity Challenge](#) of the [Diversity Charter](#) during the year under report. One of the teams was awarded first place for developing a diversity app.

Many other employees are involved in internal networks that have been set up, including a number of women's networks at various locations and the BMW Group PRIDE group, which campaigns across borders for the interests of the LGBT+* community. [Sexual Orientation and Identity](#) The dialogue generated by the aforementioned internal networks creates further momentum for the BMW Group's commitment to support diversity.

Promoting diversity

The BMW Group takes an holistic approach to the subject of diversity, focusing primarily on five key dimensions, namely cultural background; age and experience; sexual orientation and identity; physical and mental ability; and gender. The two departments, HR Policy and Strategy and HR Operations, working together with the relevant disciplinary line managers, are responsible for implementing the measures decided upon. [1\]](#)

📌 A diverse workforce brings with it different perspectives, experiences and competencies – making the BMW Group more innovative and competitive. [1\]](#)

* Abbreviation for all sexual orientations and forms of identity.

BMW AG EMPLOYEES ACCORDING TO AGE GROUP, DIVIDED INTO FUNCTIONS AND GENDER

in %	< 30 years old	30–50 years old	> 50 years old
2019 total	11.6	59.2	29.2
2020 total	10.4	59.9	29.7
2021 total	9.8	59.9	30.3
direct ¹	13.3	53.6	33.1
indirect ²	7.8	63.6	28.6
male	8.8	59.2	31.9
female	15.2	63.4	21.4

]]

Cultural background

People from over 110 countries work successfully together at the BMW Group. [Further GRI Information](#) A broad range of opportunities for personnel development, qualification and further training helps to promote intercultural understanding. For example, the BMW Group deliberately gears the Global Leader Development Programme towards international participants. As in the previous year, new employees from eight countries took part in the programme. Moreover, the BMW Group uses various dialogue formats to ensure an unprejudiced working environment in a spirit of mutual respect.

Age and experience

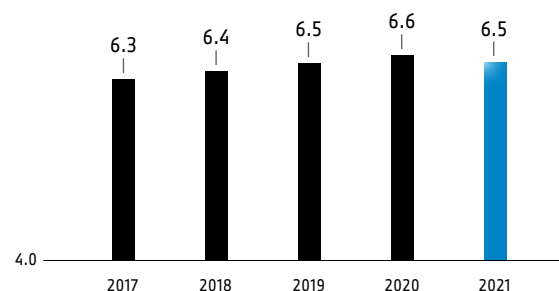
The BMW Group sees demographic change as both a challenge and an opportunity. Since 2019, as part of the Senior Expert Programme, retired employees have been passing on their knowledge and experience to their younger colleagues. Conversely, within the Reverse Mentoring Programme organised by the BMW Group, older employees benefit from the new knowledge of the younger generation. We train our managers to recognise and leverage the opportunities that mixed-age teams offer. [GRI-Index: 404-2](#)

Physical and mental abilities

In line with its core values, the BMW Group is convinced of the need to offer an inclusive and barrier-free working environment for employees with physical or mental disabilities. This begins with providing training opportunities for severely disabled young people and continues by designing workplaces that meet their needs. We have reaffirmed this aspiration in 2021 by joining the international initiative [The Valuable 500](#). Furthermore, in the year under report BMW AG awarded contracts amounting to around € 24.2 million (2020: € 25 million)⁴ to workshops staffed by people with severe restrictions.

SHARE OF EMPLOYEES WITH SEVERE DISABILITIES AT BMW AG³

in %



Sexual orientation and identity

The focus we place on sexual orientation and identity is a clear reflection of diversity in action within the BMW Group. An open-minded, unprejudiced and respectful working environment is a prerequisite for LGBT+ employees to be able to contribute their full potential. For this reason, the BMW Group uses a range of informational events and dialogue formats to raise awareness of LGBT+ issues among employees and managers. We are supported in the implementation of measures by the internal network BMW Group PRIDE. We also send a clear signal to the outside world: in 2021, for instance, we joined the PROUT EMPLOYER network of the [Proud at Work Foundation](#) and signed the UN Standards of Conduct for Business for Tackling Discrimination against LGBTI people.

Gender

In 2021, the BMW Group systematically implemented the measures decided upon in 2020 aimed at promoting women in the workforce. One focus was placed on future talents and executive management training programmes. [Increasing the share of women at all levels](#). In the Inspired Lead leadership programme, for example, gender diversity is taken into account in both the selection of participants and the learning content. The option of filling management functions in tandem (joint leadership) was also well received by employees in the first year after the programme was introduced. In 2021, our measures relating to the promotion of women were evaluated externally on the basis of the Women's Career Index. This assessment confirmed the effectiveness of the measures taken and the progress we have made.

People from over 110 countries work successfully together at the BMW Group.]]

¹ Clock-controlled and production employees.

² All employees without clock control.

³ The share of employees with severe disabilities is based on the statutory requirements in accordance with the German Social Code (SGB IX).

⁴ The figure for 2021 comprises all orders completed and billed by 31 December 2021.

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BMW AG regularly compares the monthly salary levels and variable remuneration of women and men employed by the Company. The respective degree of employment and functional level are also taken into account. The objective of the audit is to ensure that the remuneration structures result in fair pay. There were no significant differences in the overall remuneration package between the genders within BMW AG in the year under review. [↗ GRI-Index: 405-2 ¹](#)

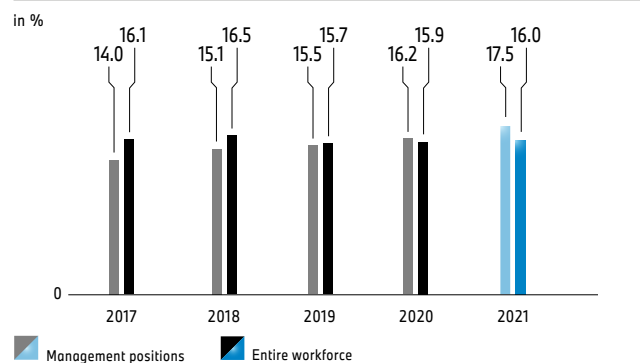
Increasing the share of women

The BMW Group is working continuously to increase the share of women in the workforce as a whole and in management functions in particular. This remains a challenging task in that it is still the case that more men go through the process of vocational training, particularly in technical fields, and are therefore in the majority on the labour market.

The BMW Group has set targets for the percentage share of women at all levels of the Company. We have raised our targets for the percentage of women in management functions

Share of women in management functions in the BMW Group at 18.8 %.

PERCENTAGE OF WOMEN IN MANAGEMENT POSITIONS AND IN THE TOTAL WORKFORCE AT BMW AG²



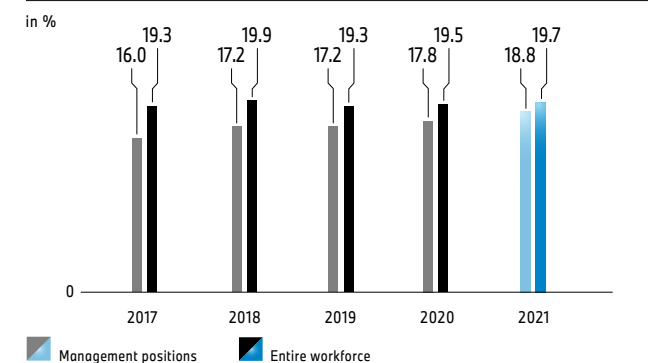
by 2025, namely to 22 % for the BMW Group and 20 % for BMW AG. By 2025, we aim to increase the share of women in the BMW Group workforce as a whole to between 20 and 22 % and to between 17 to 19 % for the BMW AG.

The share of women in management functions¹ within the BMW Group has been rising steadily for many years. Globally, the share of female managers in the BMW Group stood at 18.8 % at the end of 2021 (2020: 17.8 %). At BMW AG, the number of women in management functions has more than doubled between 2011 and the present day. Expressed as a percentage, the share of female managers at BMW AG was 17.5 % at the end of the period under report (2020: 16.2 %).

The share of women in the BMW Group workforce as a whole reached 19.7 % (2020: 19.5 %). At BMW AG, women accounted for 16.0 % of the total workforce (2020: 15.9 %)

[↗ Further GRI Information.](#)

PERCENTAGE OF WOMEN IN MANAGEMENT POSITIONS AND IN THE TOTAL WORKFORCE OF THE BMW GROUP²



[\[](#) The BMW Group is also aware of the need to achieve a high percentage of women in our future talents programmes. The aim is to ensure that the share of women in the total workforce and in management functions continues to rise in the future. The share of women participating in the trainee programme (Global Leader Development Programme) increased to around 47 % in 2021 (2020: 42 %). By contrast, the percentage in student proportion programmes (Fastlane, SpeedUp) fell slightly to around 32 % (2020: 33 %). [\]](#)

¹ Regarding the term "management function" please see the [↗ Glossary](#).

² The new definition of the term "employee" is provided in the [↗ Glossary](#).

CORPORATE CITIZENSHIP

As a corporation with a multinational workforce and locations on six continents, we are very much a part of society. For this reason, our ecological, economic and social responsibility extends beyond our core business. The main focus of our corporate citizen activities at our international locations is to make a contribution towards achieving better living conditions, educational opportunities and greater intercultural understanding. Through a broad range of activities, we also contribute towards the attainment of the UN's Sustainable Development Goals.

BUILDING BRIDGES BETWEEN CULTURES

As an enterprise with global operations and a highly diverse workforce, we have a keen interest in encouraging tolerance and understanding between various nations, cultures and religions. Together with the [United Nations Alliance of Civilisations](#) (UNAOC), since 2011 we have regularly presented the [Intercultural Innovation Award](#). The Award is given in recognition of projects that seek constructive solutions to intercultural tensions and conflict.

The BMW Group's target is to reach a total of six million people by 2025 with the award-winning projects. By the end of 2021, the award-winning projects will already have benefited around 5.7 million people (2020: 5.1 million people).¹ The BMW Group therefore considers it is well on the way to exceeding the target it has set itself. ^{1]}

Our aspiration

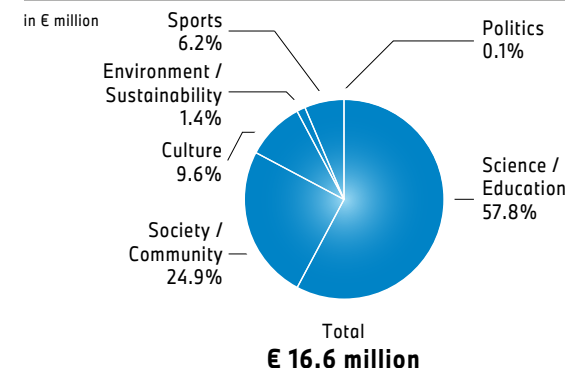
The BMW Group aspires to address concrete needs and achieve a long-term impact by means of its corporate citizenship activities. We therefore focus primarily on projects where our expertise can be best leveraged to make a purposeful contribution. In the event of a crisis, we also provide fast and unbureaucratic assistance. During the year under report, for instance, the BMW Group made € 1.5 million available for rescue services in connection with the flood disaster in Germany.²

The BMW Group's expenditure on corporate citizenship activities in 2021 totalled € 34.6 million (2020: € 33.6 million). These include social projects, communication activities, sponsorship of cultural and sporting events, and donations of various kinds.

Improving prospects for life with educational projects

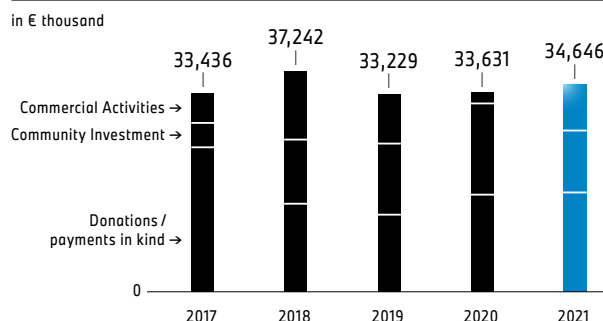
At its various locations, the BMW Group develops educational projects that facilitate young people's first steps into the labour market and, in this way, offer them better prospects for life. With its programmes from primary school level through to higher education, the BMW Group is making a

DONATIONS WORLDWIDE⁴



lasting contribution towards more equal opportunity. The BMW Group bases its funding approach on the specific needs and requirements at each location. During the year under report, the BMW Group supported a range of educational projects – for example in China, India, South Korea, Russia and the USA. Further information is provided and additional projects described on the website [BMW Group Corporate Citizenship](#). ^{1]}

TOTAL EXPENDITURE ON CORPORATE CITIZENSHIP BY TYPE OF ACTIVITY³



¹ The number of people supported by projects is provided by the award winners at the end of each year. It is calculated based on combined data from media and sources. The figure reported relates only to the people who benefit directly from the projects concerned.

² Of which approximately €900,000 was called upon in 2021.

³ The BMW Group's corporate citizenship activities are divided into three main areas: donations (comprising cash and non-cash contributions), community investments (including expenditure on our own project initiatives and partnerships as well as corporate volunteering) and commercial activities (covering activity and event sponsoring undertaken to promote culture, sports and sustainability). Commercial activities also include cause-related marketing.

⁴ In the form of cash and non-cash contributions.

🔗 Strengthening employee engagement

A great number of BMW Group employees around the world are committed to social and environmental issues in a variety of ways. This includes, above all, supporting educational projects and campaigns for the benefit of the communities at the locations where we have operations. In order to make it easier for employees to become involved in such activities, the BMW Group launched a so-called Social Week in 2021, comprising a lecture series as well as introductory events. In addition, the creation of a Social Marketplace provides employees with a digital platform on which they are able to obtain information about charitable projects and exchange ideas with like-minded people. Environment-related initiatives – such as collecting plastic waste, planting trees or growing vegetables – are also a recurring feature of the projects pursued by our employees.

Awards for social engagement

The BMW Group actively involves its employees in its social engagement activities. Over the past ten years, particularly dedicated charitable work has been recognised with the BMW Group Award for Social Engagement¹. In 2021, the BMW Group honoured four employees for their social engagement, in one case even with a special prize sponsored by the Doppelfeld Foundation. The BMW Group Awards for social engagement are each endowed with € 10,000 and directly benefit the projects concerned.

🔗 The BMW Group Award honours particularly dedicated social engagement on the part of our employees. 1]

Promoting innovation

We encourage young talented people within the BMW Group to use their know-how to set up their own projects to help solve the social and ecological challenges of our day. In the "Innovation for Impact" accelerator programme, we support young employees who are making a valuable contribution with innovative technologies.

Inspiring Responsible Leadership – the BMW Foundation Herbert Quandt

The [BMW Foundation Herbert Quandt](#)² is an independent corporate foundation and, as an important partner, contributes with its activities to the social responsibility aspirations of the BMW Group. At the same time, the Foundation encourages leaders worldwide to take action as "Responsible Leaders" and is committed to help shape a peaceful, just and sustainable future. The Foundation strives to promote the UN Sustainable Development Goals. These goals also play a key role in the Foundation's grants, collaborations and investments, with social and sustainability-related impacts taken into account in every investment decision. Detailed information on this process is provided in the latest [Impact Investing Report](#). Significant activities during the year under report included the [RESPOND Accelerator programme](#), the [Equity, Diversity, and Belonging Week](#) and a Responsible Leaders Lab on the topic of [Reshaping Mobility to Serve Citizens' Needs](#). 1]

CREATING A FORUM FOR YOUNG TALENT ACROSS THE WORLD

🔗 The mission statement of the [One Young World](#) network is to meet global challenges together, while creating lasting, global connections. This guiding principle brings together young people from all over the world who are committed to social responsibility. The BMW Group has been sending a delegation to the One Young World Summit since 2016. In 2021, around 60 young employees from the BMW Group took part in the event. 1]

🔗 With our accelerator programme, we support young employees who are making a valuable social or ecological contribution with innovative technologies. 1]

¹ Designation until 2020: BMW Group Award for Social Commitment.

² The BMW Foundation Herbert Quandt is a corporate foundation of BMW AG. The Foundation implements its programme with the income earned on endowment assets or received in the form of regular financial contributions from the benefactor. In accordance with its statutes, the independent foundation is advised by a board of trustees, on which the Chairman of the Supervisory Board and one member each of the Supervisory Board and the Board of Management of BMW AG are represented.

FINANCIAL PERFORMANCE

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AT A GLANCE

€ 16,060 million

Group profit before tax (up 207.5 % on the previous year)

[Direct link to section](#)

€ 9,870 million

Profit before financial result: Automotive segment
(up 356.5 % on the previous year)

[Direct link to section](#)

€ 3,753 million

Profit before tax: Financial Services segment
(up 117.6 % on the previous year)

[Direct link to section](#)



FINANCIAL PERFORMANCE

GENERAL AND SECTOR-SPECIFIC ENVIRONMENT

Following the pandemic-related slump in 2020, the global economy experienced an upswing in the year under report. According to the provisional calculations of the International Monetary Fund (IMF), global gross domestic product (GDP) grew by 5.9 % year-on-year in 2021. All three major regions – Europe, the USA and China – saw an economic recovery.

The coronavirus crisis hit countries in the eurozone harder than in other major regions. For this very reason, however, the subsequent recovery in the worst affected European countries was more pronounced. Overall, the economies of the eurozone countries grew by 5.1 % year-on-year. At 2.7 %, Germany's economy recorded a lower growth rate than other European countries, mainly reflecting the impact of supply shortfalls, particularly for semiconductor components. By contrast, the economies of France (+6.7 %), Italy (+6.3 %) and Spain (+5.0 %) all grew strongly, influenced in particular by good progress made on the vaccination front, the easing of pandemic restrictions and the catch-up effects driven by pent-up demand.

Despite its exit from the European Union (EU) and the impact of supply bottlenecks, the economy of the United Kingdom (UK), which had experienced a particularly severe slump in the previous year, recovered in 2021, with GDP up by 7.0 %.

The US economy grew by 5.7 % year-on-year. The US labour market also staged a recovery in 2021. Although the USA's employment figures have not yet returned to pre-crisis levels, some sectors are already seeing labour shortages.

China's economic growth rate rose to 8.1 % in 2021, well up on the previous year, boosted in particular by a renewed sharp rise in exports. However, the pace of growth slowed somewhat towards the end of the year due to weaker consumer demand.

After contracting significantly in 2020, Japan's economy recovered slightly during the first half of 2021. Despite extensive stimulus packages, however, the second half of the year saw a drop in economic output, with the year-on-year growth rate finishing at 1.8 %.

Currency markets and international interest rate environment

Supply chain bottlenecks, capacity constraints and higher energy prices caused inflation to rise in the world's major economies in 2021. Towards the end of the year, a number of central banks announced their intention to modify their previous highly expansionary monetary policies.

The bandwidth of fluctuation in the US dollar / euro exchange rate was slightly narrower in 2021 than in the previous year. The US currency fluctuated between 1.23 and 1.12 US dollars to the euro and weakened somewhat compared to the previous year with an average rate of 1.18 US dollars to the euro in 2021. Both the European Central Bank (ECB) and the US Federal Reserve (Fed) left their benchmark interest rates unchanged. Towards the end of the year, however, they announced that bond purchases would be curtailed.

Post-Brexit, the British pound remains fairly close to the lower value it fell to after the 2016 referendum. However, at an average rate of 0.86 pounds to the euro, the British currency was slightly stronger than in previous years. In response to the high inflation rate, the Bank of England (BoE) raised the official bank rate by 15 basis points to 25 basis points in December 2021.

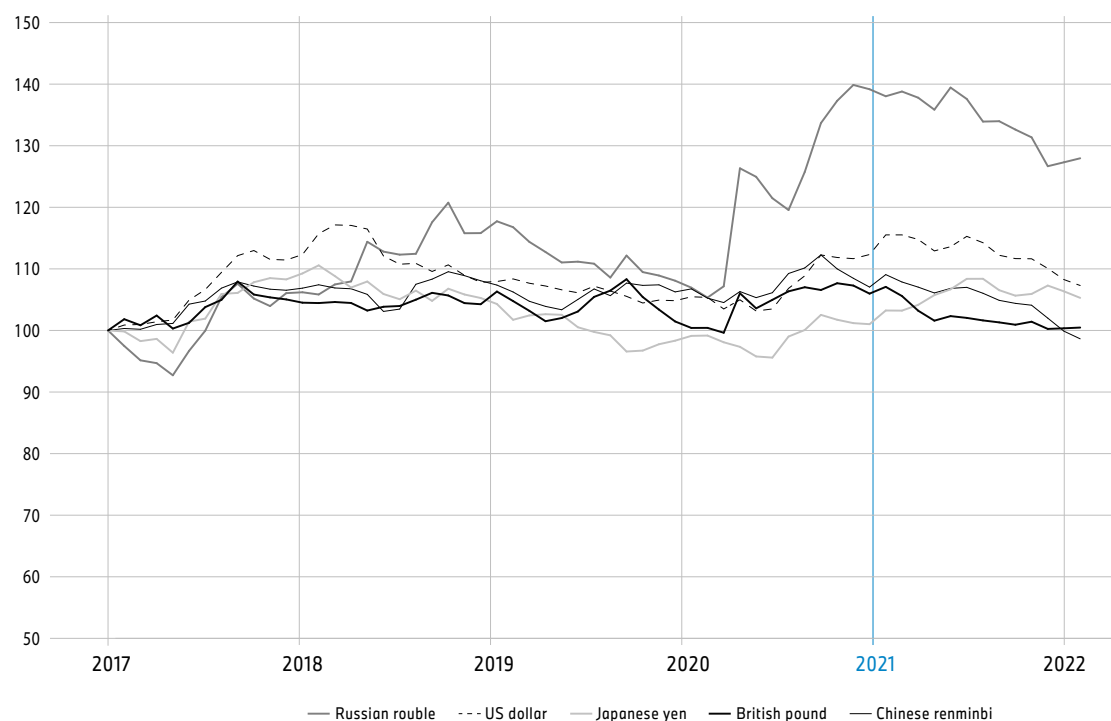
In China, the rapid recovery of the domestic economy and the sharp growth in exports in 2021 led to a continuous appreciation of the Chinese renminbi. On average over the year, the Chinese currency traded at 7.63 renminbi to the euro. Bucking the international trend, the Chinese central bank lowered the reserve requirement ratio for most banks by 50 basis points at the end of 2021, thereby easing its monetary policy in order to shore up the economy.

The average exchange rate of the Japanese yen was 130 to the euro during the year under report.

As in the previous year, the currencies of major emerging markets weakened again in 2021 due to the impact of the coronavirus pandemic. While the average value of the Indian rupee fell by around 3 % against the euro, the Russian rouble depreciated by 5 % and the Brazilian real by as much as 8 % on average against the euro.

EXCHANGE RATES COMPARED TO THE EURO

Index: December 2016 = 100



Source: Reuters

Energy and raw materials prices

The year 2021 was marked by a pronounced shortage of raw materials, with demand outstripping supply for nearly all commodities. Average prices for steel and aluminium roughly doubled year-on-year, but fell again slightly towards the end of the 12-month period.

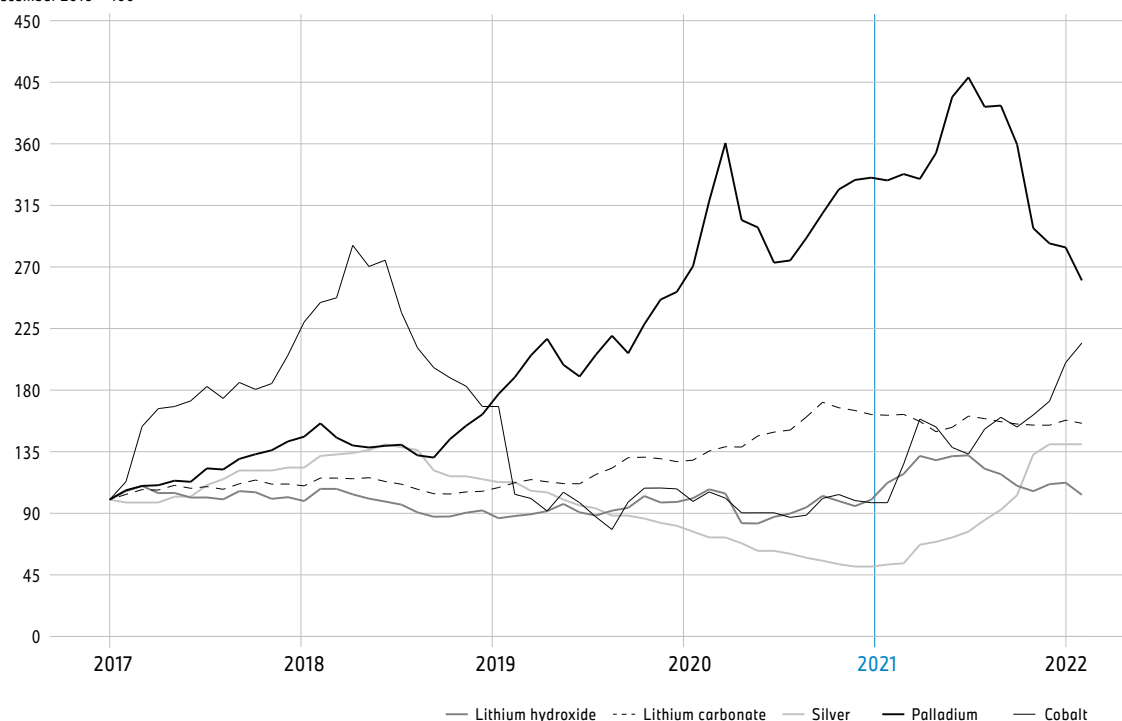
Prices for precious and non-ferrous metals also followed a similar trend. After rising sharply through to mid-2021, prices fell again during the second half of the year, particularly for

rhodium and palladium. Lower demand from the automotive industry also had a dampening effect on prices.

Prices of raw materials for batteries, however, rose significantly, mainly due to the growing demand for electric vehicles. Quoted prices for cobalt, for example, were up almost twofold compared to the low for the year recorded one year earlier. Similarly, the average price of lithium almost doubled year-on-year.

DEVELOPMENT OF METALS PRICES

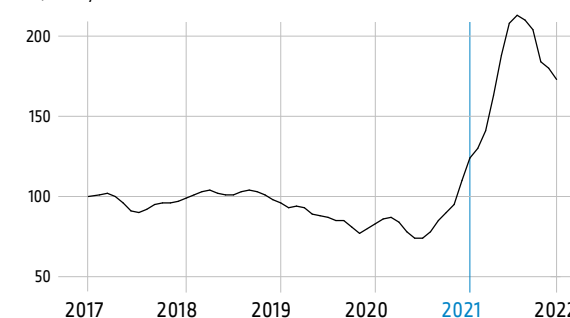
Index: December 2016 = 100



Source: Reuters

STEEL PRICE TREND

Index: January 2016 = 100

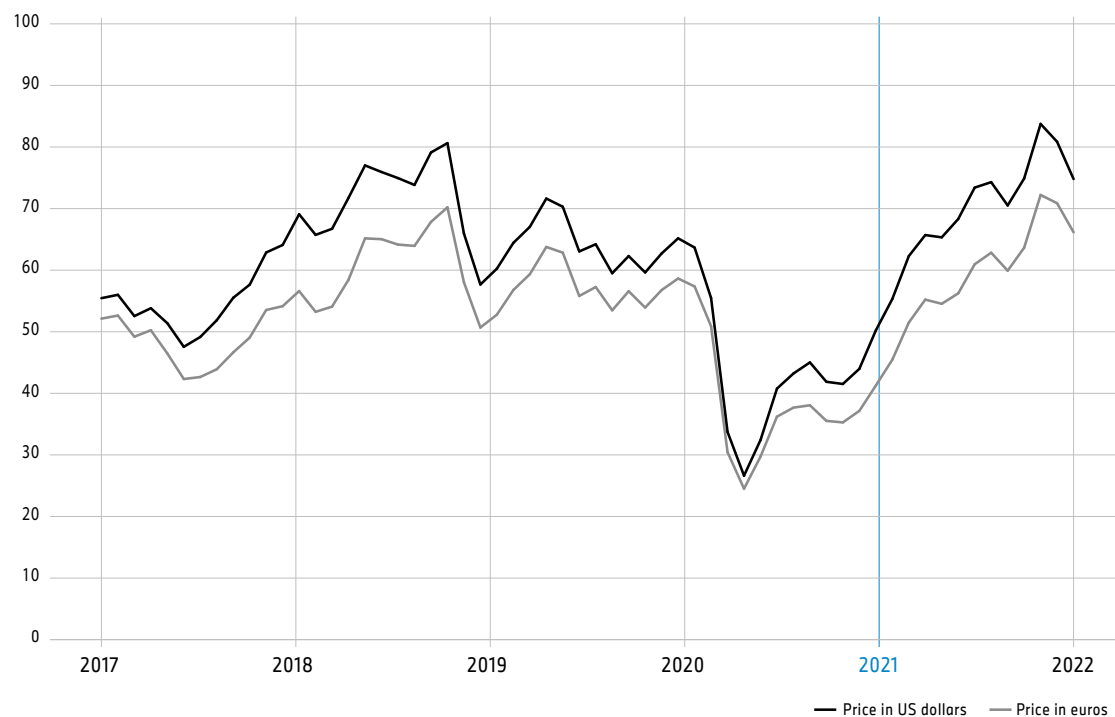


Source: Working Group for the Iron and Metal Processing Industry.

Whereas in the previous year, oil markets had seen negative prices for a brief period in the wake of the coronavirus pandemic, crude oil prices rose massively in 2021. WTI-grade oil was temporarily quoted at over 84 US dollars per barrel and Brent crude at over 86 US dollars per barrel, both reaching their highest level in seven years. Prices fell again slightly towards the end of 2021, but were still well above prior-year levels.

OIL PRICE TREND

Price per barrel of Brent Crude



Source: Reuters

International automobile markets

International automobile markets recovered slightly overall in 2021, despite the continuing supply bottlenecks reported in many markets. Registration figures for passenger cars and light commercial vehicles worldwide edged up by 1% to 73.4 million units.

INTERNATIONAL AUTOMOBILE MARKETS

	Change compared to previous year in %
Europe	- 2
thereof Germany	- 10
thereof France	+ 1
thereof Italy	+ 6
thereof Spain	+ 1
thereof United Kingdom (UK)	+ 1
USA	+ 3
China	+ 3
Japan	- 3
Total	+ 1

International motorcycle markets

The trend on international motorcycle markets in the 250 cc plus class was predominantly positive in 2021. Worldwide, motorcycle registrations were 14% up on one year earlier, when pandemic-related factors had caused the markets to contract. Markets in Europe also showed an upward trend, with registrations up by 7% year-on-year. Among the major motorcycle markets, positive contributions to the region's recovery came from Italy (+22%), Spain (+11%) and France (+10%). By contrast, registration figures in Germany fell sharply (-12%). Registrations in the USA rose by 15% year-on-year. The Brazilian market also performed extremely well, with registrations up by 32% after a decline one year earlier. China recorded the biggest increase with growth of 44%.

Registration figures on international motorcycle markets developed as follows in the year under report:

INTERNATIONAL MOTORCYCLE MARKETS

	Change compared to previous year in %
Europe	+ 7
thereof Germany	- 12
thereof France	+ 10
thereof Italy	+ 22
thereof Spain	+ 11
Americas	+ 19
thereof USA	+ 15
thereof Brazil	+ 32
Asia	+ 31
thereof China	+ 44
Total	+ 14



OVERALL ASSESSMENT BY MANAGEMENT OF THE FINANCIAL YEAR

Despite the global challenges driven by semiconductor component supply shortages and the impact of the coronavirus pandemic, the BMW Group can be satisfied with the course of business in the financial year 2021.

The BMW Group's results of operations, financial position and net assets are indicative of its solid financial condition. Business developed in line with management expectations. This assessment also takes into account events after the end of the reporting period.

COMPARISON OF FORECASTS WITH ACTUAL OUTCOMES

The following table shows the development of key performance indicators for the BMW Group as a whole as well as for the Automotive, Motorcycles and Financial Services segments in the financial year 2021 compared to the forecasts made in the BMW Group Report 2020. Favourable selling price trends for new and pre-owned vehicles as well as the partial reversal of the provision for the EU antitrust proceedings resulted in the EBIT margin forecast for the Automotive segment being adjusted during the year. Due to lower risk provisioning expense recognised for expected residual value and credit risks, higher profits on the resale of lease returns and the reversal of credit risk allowances, the BMW Group also adjusted its forecast for the return on equity (RoE) range. The changes are shown below.

Detailed information on the BMW Group's key performance indicators is provided below in conjunction with the analysis of the Group's results of operations, financial position and net assets. Changes in the key performance indicators used for the Automotive, Motorcycles and Financial Services segments are explained in the respective sections on the segments.

BMW GROUP: COMPARISON OF THE FORECASTS FOR 2021 WITH ACTUAL OUTCOMES IN 2021

	Forecast for 2021 in 2020 Group Report	Forecast revision during the year		Actual outcome in 2021
GROUP				
Profit before tax	significant increase		€ million	16,060 (+207.5 %) significant increase
Workforce at year-end	slight decrease			118,909 (– 1.5 %) slight decrease
Share of women in management positions in the BMW Group	slight increase		%	18.8 (+5.6 %) solid increase
AUTOMOTIVE SEGMENT				
Deliveries to customers ¹	solid increase		units	2,521,514 (+8.4 %) solid increase
Share of electrified vehicles in deliveries	significant increase		%	13.0 (+56.6 %) significant increase
Emissions new vehicle fleet ²	significant decrease		in g / km	115.9 (– 14.1 %) ⁴ significant decrease
CO ₂ emissions per vehicle produced ³	moderate decrease		in tons	0.33 (– 5.7 %) ⁵ moderate decrease
EBIT margin	between 6 and 8	Q2: between 7 and 9 Q3: between 9.5 and 10.5	%	10.3 (+7.6 %-points)
Return on capital employed (RoCE) ⁶	significant increase		%	59.9 (+47.2 %-points) significant increase
MOTORCYCLES SEGMENT				
Deliveries to customers	solid increase	Q2: significant increase	units	194,261 (+14.8 %) significant increase
EBIT margin	between 8 and 10		%	8.3 (+3.8 %-points)
Return on capital employed (RoCE) ⁶	significant increase		%	35.9 (+20.9 %-points) significant increase
FINANCIAL SERVICES SEGMENT				
Return on equity (RoE)	between 12 and 15	Q2: between 17 and 20 Q3: between 20 and 23	%	22.6 (+11.4 %-points)

¹ Including automobiles from the joint venture BMW Brilliance Automotive Ltd. Shenyang (2021: 651,236 units).

² EU-27 countries including Norway and Iceland; with effect from 2021, values are calculated on a converted basis in line with WLTP (Worldwide Harmonised Light Vehicles Test Procedure).

³ Efficiency indicator calculated on the basis of Scope 1 and Scope 2 emissions (i.e. a market-based method according to GHG Protocol Scope 2 guidance; mainly use of VDA emission factors as well as occasional use of local emissions factors). This excludes climate-changing gases (other than carbon dioxide) that are emitted in conjunction with vehicle production (BMW Group plants incl. BMW Brilliance Automotive Ltd. joint venture and Motorrad, excluding partner plant and contract manufacturing) as well as other BMW Group locations not assigned to manufacturing (e.g. research centres, sales centres, office buildings) divided by the number of vehicles generated in automobile production (BMW Group plants including the BMW Brilliance Automotive Ltd. joint venture and partner plants, excluding contract manufacturing).

⁴ For better comparability of the previous year's values with the current year under report, the 2020 NEDC figures were converted to WLTP, making adjustments for applicable flexibilities – specifically from 99 g CO₂ / km according to NEDC (including 5 g CO₂ / km phase-in, 7.5 g CO₂ / km supercredits and 2.4 g CO₂ / km eco-innovations) to 135 g CO₂ / km according to WLTP (excluding flexibilities). In 2020, a phase-in scheme and the awarding of supercredits were possible. In 2021, these two exemptions were no longer available for the BMW Group.

⁵ Due to the expansion of the reporting scope during the year under report, the comparative figure (in 2020 before the adjustment: 0.31 tonnes) was revised to 0.35 tonnes.

⁶ Unlike the other key performance indicators, the RoCE forecast for the Automotive and Motorcycles segments is based on the change in percentage points. [↗ Glossary](#)

Retail vehicle delivery data*

In 2020, BMW Group reviewed and revised its policies and procedures for the reporting of retail vehicle delivery data for automobiles in order to further improve the reliability and validity of its retail vehicle delivery data, in particular with respect to the timing of the recognition of retail vehicle deliveries (the Revised Reporting Process). BMW Group has applied the Revised Reporting Process to all markets with effect from the year 2020. While BMW Group revised retail vehicle delivery data for certain of its most significant markets for the years 2016 through 2019 presented in this report, such data were not revised for BMW Group's other markets. As a result, retail vehicle delivery data presented in this report for the years 2016 through 2019 is not directly comparable to such data presented for the years 2020 and 2021. Specifically, the retail vehicle delivery data for automobiles presented in this report have been revised as follows:

When presenting total retail vehicle delivery data for automobiles other than model-by-model data, data relating to the years 2016 through 2019 for BMW Group's 16 most significant markets were adjusted to reflect the Revised Reporting Process. In the years 2016 through 2019, these 16 markets represented on average approximately 87% of BMW Group's total retail deliveries of automobiles. For each of the years 2016 through 2019, these revisions amounted to less than 1% of BMW Group's total retail deliveries of automobiles.

The retail vehicle delivery data for automobiles for BMW Group's other markets have not been adjusted for any period prior to 2020, nor have any retail vehicle delivery data for motorcycles been adjusted for any period prior to 2020. BMW Group believes the impact on BMW Group's retail vehicle delivery data presented in this report of such data not having been adjusted to reflect the Revised Reporting Process to be immaterial.

The preparation of BMW Group's retail vehicle delivery data involves a variety of estimates and judgments, some of which are complex and all of which are inherently subjective, and is subject to other uncertainties. In addition, as BMW Group continues to enhance its policies and procedures regarding retail vehicle delivery data, it may not always be practicable for BMW Group to adjust prior-period data (and any such adjustments would be of a de minimis nature without any material impact on the comparability of periods). Examples of the foregoing include:

- The vast majority of deliveries of vehicles are carried out by independent dealerships or other third parties, and BMW Group is reliant on such third parties to correctly report relevant data to BMW Group.
- The definition of deliveries includes vehicles delivered in the United States and Canada if the relevant dealers designate such vehicles as service loaner vehicles or demonstrator vehicles.

- Retail vehicle delivery data for periods prior to 2020 include an immaterial number of pre-series vehicles that were never intended to be sold to end users (such as vehicles for use by government agencies in connection with safety evaluations (e.g., crash tests) or for other tests).

Retail vehicle deliveries during a given reporting period do not correlate directly to the revenue that BMW Group recognizes in respect of such reporting period.



* See [Glossary](#) for the definition of deliveries.

EARNINGS PERFORMANCE OF THE BMW GROUP

BMW GROUP CONDENSED INCOME STATEMENT

in € million	2021	2020	Change in %
Revenues	111,239	98,990	12.4
Cost of sales	- 89,253	- 85,408	- 4.5
Gross profit	21,986	13,582	61.9
Selling and administrative expenses	- 9,233	- 8,795	- 5.0
Other operating income and expenses	647	43	-
Profit before financial result	13,400	4,830	-
Financial result	2,660	392	-
Profit / loss before tax	16,060	5,222	-
Income taxes	- 3,597	- 1,365	-
Net profit	12,463	3,857	-
Earnings per share of common stock in €	18.77	5.73	-
Earnings per share of preferred stock in €	18.79	5.75	-

in %	2021	2020	Change in %-points
Gross profit margin ³	19.8	13.7	6.1
Pre-tax return on sales ¹	14.4	5.3	9.1
Post-tax return on sales ²	11.2	3.9	7.3
Effective tax rate ⁴	22.4	26.1	- 3.7

¹ Group profit before tax as a percentage of Group revenues.

² Group net profit as a percentage of Group revenues.

³ Gross profit as a percentage of Group revenues.

⁴ Income taxes as a percentage of Group revenues.

Group revenues by region were as follows:

BMW GROUP REVENUES BY REGION

in %	2021	2020
Europe	42.4	44.3
Asia	32.5	32.1
Americas	22.8	21.4
Other regions	2.3	2.2
Group	100.0	100.0

BMW GROUP COST OF SALES

in € million	2021	2020	Change in %
Manufacturing costs	51,361	46,878	9.6
Cost of sales relating to financial services business	26,409	27,114	- 2.6
thereof interest expense relating to financial services business	1,643	1,960	- 16.2
Research and development expenses	6,299	5,689	10.7
thereof amortisation of capitalised development costs	1,935	1,710	13.2
Service contracts, telematics and roadside assistance	1,591	1,411	12.8
Warranty expenses	2,192	2,971	- 26.2
Other cost of sales	1,401	1,345	4.2
Cost of sales	89,253	85,408	4.5

Antitrust investigation concluded

In the Half-Year Report to 30 June 2021, information was provided on the conclusion of the EU Commission's antitrust proceedings in connection with allegations of colluding to restrict competition for innovation with regard to certain exhaust treatment systems. In accordance with the updated Statement of Objections received on 20 May 2021, the EU Commission dropped most of the original charges. Remeasurement of the provision originally recognised in the financial year 2019 gave rise to a positive impact on earnings of around one billion euros in the second quarter 2021. The proceedings were concluded by settlement on 8 July 2021 and resulted in a fine of approximately € 373 million, which was paid in July 2021. Further information, in particular relating to further antitrust proceedings and civil lawsuits, is provided in note 38 to the Group Financial Statements 2021.

Increase in Group net profit in 2021

Group revenues were significantly higher in the financial year 2021, reflecting the impact of coronavirus-related dealership closures in the previous 12-month period (2021: € 111,239 million; 2020: € 98,990 million; + 12.4 %). Sales volume was

also higher in 2021, whereby the increase was held down by production shortfalls due to supply bottlenecks for semiconductor components. However, this unfavourable impact was more than offset by improved pricing, due to both the growing desire for individual mobility on the one hand and the reduced worldwide availability of products triggered by those same semiconductor component shortages on the other. In addition, revenues were also boosted by favourable product mix effects due to increased sales of high-revenue models. The semiconductor scarcity was also reflected in higher selling prices on pre-owned vehicle markets, which in turn gave rise to higher revenues from the sale of lease returns.

Group cost of sales rose to € 89,253 million (2020: € 85,408 million; + 4.5 %), mainly due to sales volume growth.

Other factors influencing the increase were volume-related cost of sales for lease returns, rising raw materials and energy prices, and the higher proportion of electrified vehicles sold. Furthermore, reversals of and lower additions to credit risk allowances as well as the remarketing result arising on the sale of lease returns had a positive impact on cost of sales.

In the previous year, warranty expenses were impacted by the recognition of provisions in connection with the exhaust gas recirculation cooler and other warranty-related items.

The reduced workforce size and changeover effects resulting from the modernisation of the pension plan model in Germany amounting to € 562 million¹ had a positive impact on cost of sales and selling and administrative expenses, while higher expenses for performance-related remuneration components had an offsetting effect. Depreciation and amortisation on property, plant and equipment and intangible assets recorded in cost of sales and in selling and administrative expenses totalled € 6,495 million (2020: € 6,143 million).

¹ Further information is provided in note 32 to the Group Financial Statements.

A substantial part of research and development expenditure in 2021 related to new vehicle models (including the all-electric BMW iX and BMW i4 models and the new BMW 2 Series Active Tourer) as well as the development of digital products, automated driving and new architectures. The year-on-year rise in research and development expenses clearly reflects the increase in vehicle and module production start-up activities as the BMW Group continues its electric offensive.

The net amount of other operating income and expenses improved significantly, primarily due to the income arising on the partial reversal of the provision relating to the antitrust proceedings of the EU Commission, which was recorded in the second quarter 2021.

As a result of the various factors described above, profit before financial result jumped to € 13,400 million (2020: € 4,830 million).

The financial result improved significantly to a net positive amount of € 2,660 million (2020: net positive amount of € 392 million), influenced in particular by improvements in the line items "Other financial result" and "Result from equity accounted investments".

Other financial result benefited in 2021 from the continued favourable fair value development of interest rate hedges resulting from the rise in yield curves in the USA, whereas in the previous year the downward trend in interest rates gave

rise to fair value measurement losses on interest rate hedges. Other financial result was additionally impacted by positive valuation effects, primarily arising on investments held by the BMW i Ventures fund and on the investment in SGL Carbon shares.

The increased at-equity result from the Chinese joint venture BMW Brilliance Automotive Ltd., Shenyang, amounting to € 1,727 million (2020: € 1,212 million) was another key driver of the improved financial result.

As forecast most recently in the Quarterly Statement to 30 September 2021, Group profit before tax of € 16,060 million was significantly higher than one year earlier (2020: € 5,222 million) and therefore in line with expectations.

Income tax expense for the year increased to € 3,597 million (2020: € 1,365 million), mainly due to the significant year-on-year improvement in Group profit before tax. The effective tax rate for the 12-month period was 22.4% (2020: 26.1%), reflecting the partial reversal in 2021 of the risk provision in connection with the antitrust proceedings of the EU Commission as well as the impact of fair value measurement gains within other financial result.

The size of the workforce decreased slightly to 118,909 employees year-on-year and was therefore in line with expectations (2020: 120,726 employees; –1.5%).

BMW GROUP RESEARCH AND DEVELOPMENT EXPENSES

in € million	2021	2020
Research and development expenditure	6,870	6,279
New expenditure for capitalised development costs	– 2,506	– 2,300
Amortisation	1,935	1,710
Research and development expenses	6,299	5,689

BMW GROUP PERFORMANCE INDICATORS RELATING TO RESEARCH AND DEVELOPMENT EXPENSES

in %	2021	2020	Change in %-pts.
Research and development expenditure ratio ¹	6.2	6.3	– 0.1
Capitalisation rate ²	36.5	36.6	– 0.1

¹ Research and development expenditure as a percentage of Group revenues.

² Capitalised development costs as a percentage of research and development expenditure.

FINANCIAL POSITION OF THE BMW GROUP

The consolidated cash flow statements for the Group and the Automotive and Financial Services segments show the sources and applications of cash flows for the financial years 2021 and 2020, classified according to operating, investing and financing activities. Cash and cash equivalents in the cash flow statements correspond to the amounts disclosed in the balance sheet.

Cash flows from operating activities are determined indirectly, starting with Group/segment profit before tax. By contrast, cash flows from investing and financing activities are based on actual payments and receipts.

The main factors driving the higher net cash inflow from operating activities were the Group's improved profit before tax on the one hand and the overall change in working capital on the other. Within working capital, the rise in trade payables due to higher production volumes had a favourable effect, while the increase in inventories in the Automotive segment – partially compensated by a decrease in inventories in the Financial Services segment – had an offsetting effect. Within receivables from sales financing, amounts due from retail customers went up on the back of higher business volumes. On the other hand, receivables from dealership financing fell in light of brisk demand and short standing times for vehicles, and therefore had an offsetting effect. The decrease in provisions mainly reflected the partial reversal in 2021 of the risk provision in connection with the antitrust proceedings of the EU Commission.

Substantial investments in property, plant and equipment and intangible assets, in particular for the launch of new vehicle models, resulted in a higher net cash outflow from investing activities. In the previous year, proceeds from the sale of marketable securities and the receipt of a dividend from BMW Brilliance Automotive Ltd., Shenyang, also had a positive effect on the net cash flow from investing activities.

The change in the net cash outflow from financing activities mainly reflected the higher level of financial liabilities payable to BMW Group companies in which an investment is held as well as the lower dividend paid out for the 2020 pandemic year.

BMW GROUP CASH FLOWS

in € million	2021	2020	Change
Cash inflow (+) / outflow (-) from operating activities	15,903	13,251	2,652
Cash inflow (+) / outflow (-) from investing activities	- 6,389	- 3,636	- 2,753
Cash inflow (+) / outflow (-) from financing activities	- 6,735	- 8,254	1,519
Effects of exchange rate and changes in composition of Group	- 307	140	- 447
Change in cash and cash equivalents	2,472	1,501	971

Free cash flow for the Automotive segment was as follows:

FREE CASH FLOW AUTOMOTIVE SEGMENT

in € million	2021	2020	Change
Cash inflow (+) / outflow (-) from operating activities	12,583	8,178	4,405
Cash inflow (+) / outflow (-) from investing activities	- 6,208	- 3,933	- 2,275
Adjustment for net investment in marketable securities and investment funds	- 21	- 850	829
Free cash flow Automotive segment	6,354	3,395	2,959

The Automotive segment generated free cash flow amounting to € 6,354 million in 2021. The main factor influencing the increase in the net cash inflow from operating activities was the year-on-year improvement in profit before tax. Within working capital, the positive impact of higher trade payables

was partially offset by the increase in inventories resulting from production adjustments caused by semiconductor supply bottlenecks. The increase in the net cash outflow from investing activities was mainly attributable to the changes described in the Group Cash Flow Statement.

In the Automotive segment, net financial assets comprised the following:

NET FINANCIAL ASSETS AUTOMOTIVE SEGMENT

in € million	31. 12. 2021	31. 12. 2020	Change
Cash and cash equivalents	12,009	9,522	2,487
Marketable securities and investment funds	3,767	3,759	8
Intragroup net financing	9,111	7,996	1,115
Financial assets	24,887	21,277	3,610
Less: external financial liabilities*	- 2,525	- 2,815	290
Net financial assets Automotive segment	22,362	18,462	3,900

*Excluding derivative financial instruments.

Cash and cash equivalents held by the Financial Services segment changed as follows:

CASH FLOWS FINANCIAL SERVICES SEGMENT

in € million	2021	2020	Change
Cash inflow (+) / outflow (-) from operating activities	3,259	2,762	497
Cash inflow (+) / outflow (-) from investing activities	74	424	- 350
Cash inflow (+) / outflow (-) from financing activities	- 2,629	- 2,508	- 121
Effects of exchange rate and changes in composition of segment	- 96	110	- 206
Change in cash and cash equivalents	608	788	- 180

The main factor driving up net cash inflow from operating activities was the increase in segment profit before tax. Furthermore, a reduction in dealership inventories and the associated reduction in receivables from sales financing, primarily dealership financing, had a positive effect, while the increase in retail customer financing had an offsetting impact. The decrease in inventories as a consequence of strong demand for lease returns also had a positive impact. The change in the net cash inflow from investing activities was attributable to the combined effect of higher outflows for investments in and lower inflows from sales of marketable securities.

REFINANCING

A broad range of instruments on international money and capital markets is used to refinance worldwide operations. Funds raised are used almost exclusively to refinance the BMW Group's Financial Services business. The overall objective of Group financing is to ensure the solvency of the BMW Group at all times, focusing on three areas:

1. The ability to act through permanent access to strategically important capital markets
2. Autonomy through the diversification of refinancing instruments and investors
3. Focus on value through the optimisation of financing costs

Financing measures undertaken at corporate level ensure access to liquidity for the Group's operating subsidiaries at standard market conditions and consistent credit terms. Funds are acquired in line with a target liability structure, comprising a balanced mix of financing instruments. The use of longer-term instruments to refinance the Group's Financial Services business and the maintenance of a sufficiently high liquidity reserve serves to rule out any imminent liquidity risk for the portfolio. This conservative financial approach also has a favourable effect on the Group's rating. Further information is provided in the section "Liquidity risks" within the chapter [Outlook, Risk and Opportunity Management](#).

Focused capital market management, good ratings and the high level of acceptance enjoyed by the BMW Group on those markets enabled it to refinance itself on the world's debt capital markets at favourable conditions during the period under report. In addition to bonds, the BMW Group also issued commercial paper in 2021. As in previous years, all issues were in high demand, not only from institutional investors, but also from private investors in selected transactions. Moreover, retail customer and dealership financing receivables as well as rights and obligations from leasing contracts are securitised in the form of asset-backed securities (ABS) financing arrangements. Specific banking instruments, such as the customer deposits used by the Group's own banks in Germany and the USA, are also deployed for financing purposes. In addition, loans are taken from international banks.

In 2021, the BMW Group issued bonds totalling approximately € 6.9 billion. The BMW Group refinanced itself by means of 144A transactions with a total volume of 4.5 billion US dollar on the US capital market and by means so-called Panda bonds with a volume of 9.5 billion Chinese renminbi on the Chinese capital market. Activities on international capital markets were rounded off by one euro benchmark

bond amounting to € 1.5 billion and a bond denominated in Canadian dollars with a total value of 0.5 billion Canadian dollar. ABS transactions with a total financing volume equivalent to € 15.1 billion were executed in 2021, including both new and rolled-over ABS transactions. During the year under report, the BMW Group was party to ABS transactions in the following markets: Australia, Canada, China, France, Germany, Japan, South Africa, South Korea, Switzerland, the USA and the UK.

The following table provides an overview of amounts utilised at 31 December 2021 in connection with the BMW Group's money and capital market programmes:

Programmes	Programme volume	Amount utilised*
in € billion		
Euro Medium Term Notes	50.0	30.7
Australian Medium Term Notes	1.6	–
Commercial Paper	13.0	1.4

* Measured at the exchange rate on the trade date of the respective transaction.

The BMW Group also has access to a syndicated credit line, which was renegotiated in July 2017. The syndicated credit line of € 8 billion has a term ending in July 2024 and is being made available by a consortium of 44 international banks.

The credit line was not being utilised at 31 December 2021. Further information with respect to financial liabilities is provided in notes 31, 35 and 39 to the Group Financial Statements.

The BMW Group continued to deploy robust liquidity-related measures throughout 2021 to ensure its ability to act flexibly and independently at all times. Thanks to the combination of financing measures taken and the high free cash flow generated during the year, liquidity on hand totalled € 20.2 billion at 31 December 2021 and was therefore significantly higher than the previous year's corresponding figure of € 17.8 billion.

NET ASSETS POSITION OF THE BMW GROUP

BMW GROUP CONDENSED BALANCE SHEET AT 31 DECEMBER

in € million	2021	2020	Change in %	Currency-adjusted change in % ¹	Proportion of balance sheet total in % 2021
ASSETS					
Intangible assets	12,980	12,342	5.2	4.9	5.7
Property, plant and equipment	22,390	21,850	2.5	0.7	9.8
Leased products	44,700	41,995	6.4	2.9	19.5
Investments accounted for using the equity method	5,112	3,585	42.6	42.6	2.2
Other investments	1,241	735	68.8	61.9	0.5
Receivables from sales financing	87,417	84,277	3.7	- 1.0	38.1
Financial assets	7,515	7,752	- 3.1	- 4.6	3.3
Deferred and current tax	3,731	3,065	21.7	16.6	1.6
Other assets	10,243	10,326	- 0.8	- 3.0	4.4
Inventories	15,928	14,896	6.9	4.0	6.9
Trade receivables	2,261	2,298	- 1.6	- 4.5	1.0
Cash and cash equivalents	16,009	13,537	18.3	16.2	7.0
Total assets	229,527	216,658	5.9	2.6	100.0
EQUITY AND LIABILITIES					
Equity	75,132	61,520	22.1	18.3	32.7
Pension provisions	1,247	3,693	- 66.2	- 66.5	0.5
Other provisions	13,954	13,982	- 0.2	- 2.5	6.1
Deferred and current tax	2,379	1,256	89.4	86.0	1.0
Financial liabilities	103,463	106,376	- 2.7	- 6.0	45.1
Trade payables	10,932	8,644	26.5	24.4	4.8
Other liabilities	22,420	21,187	5.8	1.3	9.8
Total equity and liabilities	229,527	216,658	5.9	2.6	100.0

¹ The adjustment for exchange rate factors is calculated by applying the relevant current exchange rates to the prior-year figures.

Adjusted for currency effects, the BMW Group's balance sheet total was slightly higher than at 31 December 2020. Including currency effects from the US dollar, the British pound and the Chinese Renminbi, amongst others, the balance sheet total grew solidly compared to the previous year².

Adjusted for currency effects, property, plant and equipment and intangible assets all went up year-on-year, driven by higher capital expenditure, particularly in connection with the electrification of the vehicle fleet as well as new model revisions.

Based on constant currencies, leased products were slightly higher than one year earlier. Although the contract portfolio under management was at a similar level compared to the previous year, leased products in the balance sheet grew as a consequence of volume growth as well as the higher average financing volume per vehicle, the latter brought about by an improved product mix.

Investments accounted for using the equity method (adjusted for currency effects) increased significantly over the 12-month period under report, mainly driven by the rise in the BMW Group's at-equity valuation of the Chinese joint venture BMW Brilliance Automotive Ltd., Shenyang, in light of that entity's higher earnings and the fact that it did not pay out a dividend during the financial year 2021.

Receivables from sales financing (adjusted for currency effects) went down slightly compared to 31 December 2020, primarily due to the decrease in dealership financing, mainly in the USA, Germany, the UK and France. The currency-adjusted decrease in dealership financing receivables was partially offset by rising retail customer financing. Overall, however, receivables from sales financing grew slightly. A total of 1,334,853 new credit financing contracts were concluded

² Further information is provided in note 4 to the Group Financial Statements.

with retail customers during the financial year 2021. The number of contracts in place with dealerships and retail customers fell by 2.6 % to 3,929,583 contracts.

The earnings-related higher cash holdings of Group companies contributed to the increase in cash and cash equivalents.

Group equity rose to € 75,132 million, driven primarily by the profit of € 12,382 million attributable to shareholders of BMW AG and reduced by the dividend payout of € 1,253 million.

Adjusted for currency effects, pension obligations decreased significantly to € 1,247 million, mainly due to actuarial gains and the positive effects arising from the modernisation of the pension model in Germany².

Financial liabilities decreased over the 12-month period due to the repayment of bonds (adjusted for currency effects).

Despite the volatile situation with respect to the further course of the coronavirus pandemic and the limited availability of semiconductor components, the BMW Group's results of operations, financial position and net assets all improved during the financial year 2021.

BMW GROUP EQUITY RATIO¹

in %	31. 12. 2021	31. 12. 2020	Change in %-points
Group	32.7	28.4	4.3
Automotive segment	41.5	37.0	4.5
Financial Services segment	11.3	10.5	0.8

¹ Equity capital as a percentage of the balance sheet total, respectively.

² Further information is provided in note 32 to the Group Financial Statements.

VALUE ADDED STATEMENT

The value added statement shows the value of work performed by the BMW Group during the financial year, less the value of work bought in. Depreciation and amortisation, cost of materials, and other expenses are treated as bought-in costs in the value added calculation. The allocation statement applies value added to each of the participants involved in the value added process. The bulk of the net value added benefits the employees. The remaining proportion in the Group is retained to finance future operations. The gross value added amount treats depreciation and amortisation as a component of value added which, in the allocation statement, would be treated as internal financing.

Net value added by the BMW Group rose sharply in 2021 due to the year-on-year improvement in earnings.

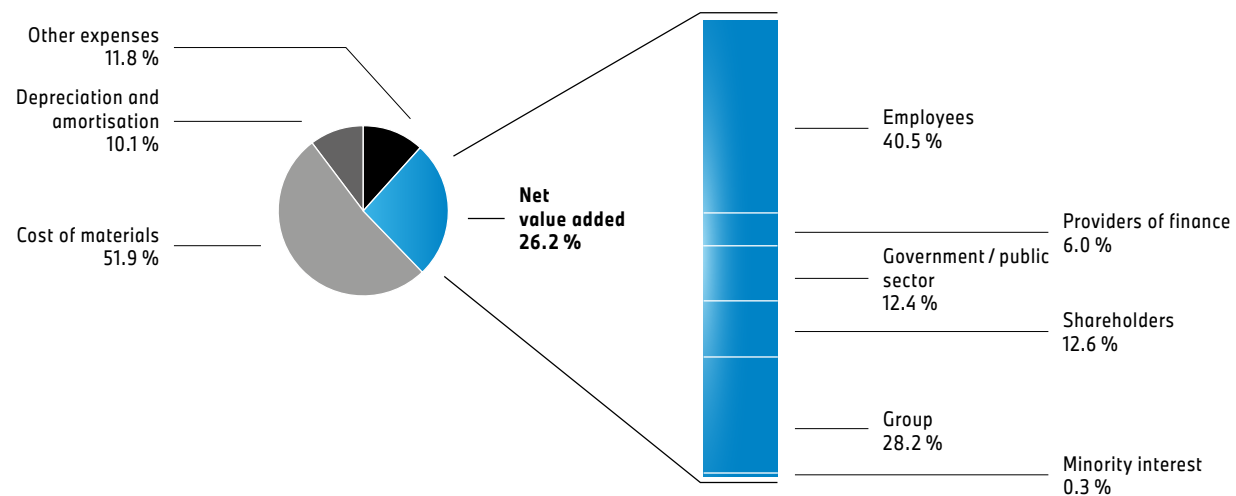
BMW GROUP VALUE ADDED STATEMENT

	2021 in € million	2021 in %	2020 in € million	2020 in %	Change in %
WORK PERFORMED					
Revenues	111,239	96.0	98,990	98.4	12.4
Financial income	2,904	2.5	650	0.6	-
Other income	1,702	1.5	916	0.9	85.8
Total output	115,845	100.0	100,556	100.0	15.2
Cost of materials*	60,173	51.9	52,355	52.1	14.9
Other expenses	13,599	11.8	16,766	16.7	- 18.9
Bought-in costs	73,772	63.7	69,121	68.8	6.7
Gross value added	42,073	36.3	31,435	31.3	33.8
Depreciation and amortisation of total tangible, intangible and investment assets	11,758	10.1	11,976	11.9	- 1.8
Net value added	30,315	26.2	19,459	19.3	55.8
ALLOCATION					
Employees	12,286	40.5	12,244	63.0	0.3
Providers of finance	1,808	6.0	2,129	10.9	- 15.1
Government / public sector	3,758	12.4	1,229	6.3	-
Shareholders	3,827	12.6	1,253	6.4	-
Group	8,555	28.2	2,522	13.0	-
Minority interest	81	0.3	82	0.4	- 1.2
Net value added	30,315	100.0	19,459	100.0	55.8

* Cost of materials comprises all primary material costs incurred for vehicle production plus ancillary material costs (such as customs duties, insurance premiums and freight).

BMW GROUP VALUE ADDED 2021

in %



COURSE OF BUSINESS

Automotive segment

BMW Group retains leadership in premium segment

Despite global challenges such as semiconductor component supply issues and the impact of the coronavirus pandemic, the BMW Group can be satisfied with the positive course of business in the financial year 2021. Driven by brisk demand and an attractive product range, automobile deliveries grew by a solid 8.4 % to a total of 2,521,514¹ BMW, MINI and Rolls-Royce brand vehicles (2020: 2,325,179¹ units), enabling the BMW Group to extend its lead in the premium segment.

Deliveries² of BMW brand vehicles grew by 9.1 % to 2,213,790¹ units (2020: 2,028,841¹ units). MINI also recorded an increase, with deliveries rising to 302,138 units (2020: 292,582 units; +3.3 %). Rolls-Royce Motor Cars delivered a total of 5,586 units (2020: 3,756 units; +48.7 %), the highest figure recorded for the luxury marque to date.

Deliveries of electrified vehicles at record level

Electric mobility continues to gain in significance for the entire sector and is a key driver of sales volume growth for the BMW Group. The trend is reflected in the sharp rise in the sale of electrified models offered by the BMW and MINI brands.

With a total of 328,314³ units, deliveries jumped sharply by 70.4 % in the year under report (2020: 192,662³ units). Demand was particularly strong for the Group's all-electric models and delivery figures more than doubled year-on-year to 103,854³ units (2020: 44,541³ units; +133.2 %). Their share of total deliveries was 4.1 % (2020: 1.9 %) in the year under report. Two additional all-electric models, the BMW iX⁴ and the BMW i4⁴, went on sale towards the end of 2021, both of which have been highly acclaimed in the trade press. By the end of the period under report, the BMW Group had a total of 14 electrified models on the roads. In 2022, the product range will be expanded to include the all-electric BMW i7 luxury sedan and the BMW iX1. The increased share of deliveries accounted for by electrified vehicles and the rigorous use of Efficient Dynamics technologies enabled further progress to be made in decarbonising fleet emissions. Further information is provided in the chapter [Carbon emissions and pollutants](#).

DELIVERIES OF ELECTRIFIED MODELS

in units	2021	2020	Change in %
BMW Group PHEV	224,460	148,121	51.5
BMW Group BEV	103,854	44,541	133.2
Total	328,314	192,662	70.4



4



¹ Including the joint venture BMW Brilliance Automotive Ltd., Shenyang (2021: 651,236 units; 2020: 602,247 units).

² See [Glossary](#) for definition of deliveries.

³ Includes the joint venture BMW Brilliance Automotive Ltd., Shenyang.

⁴ [Consumption and carbon emissions](#).

Sales volume situation in main markets: new record set in China

Deliveries of BMW, MINI and Rolls-Royce brand vehicles in Asia rose solidly to a new high of 1,067,914¹ units (2020: 986,464¹ units; +8.3 %). The sales figure for China grew by 8.9 %, also resulting in a new record level of 847,935¹ units (2020: 778,412¹ units).

Europe saw a slight increase in the number of deliveries to 949,124 units (2020: 913,642 units; +3.9 %). In Germany, however, the impact of the coronavirus pandemic became even more pronounced at the beginning of 2021, a fact reflected in weak sales figures during the early stages of the year. Over the year as a whole, a total of 266,818 units were delivered, well down on the previous year (2020: 285,019 units; – 6.4 %).

In the UK, sales of all three brands totalled 164,344 units (2020: 163,174 units; +0.7 %), marginally up on the previous year's figure. France and Italy, however, both recorded double-digit growth rates. Sales in France, for example, rose to 76,845 units (2020: 69,880 units; +10.0 %), while in Italy the BMW Group delivered a total of 70,224 units (2020: 62,538 units; +12.3 %).

Sales also recovered well in the Americas region during the year under report, with delivery numbers rising to 451,747 units (2020: 379,714 units; +19.0 %). A total of 368,032 units were delivered in the USA (2020: 307,876 units; +19.5 %).

BMW GROUP DELIVERIES OF VEHICLES BY REGION AND MARKET ²

in 1,000 units	2021	2020	2019	2018	2017
Europe	949.1	913.6	1,081.6	1,097.4	1,101.9
thereof Germany	266.8	285.0	330.5	310.6	296.5
thereof UK	164.3	163.2	233.8	236.8	242.4
Americas	451.7	379.7	472.9	457.1	456.1
thereof USA	368.0	307.9	375.7	355.4	358.8
Asia ¹	1,067.9	986.5	930.8	871.8	847.7
thereof China ¹	847.9	778.4	724.7	635.8	595.0
Other markets	52.8	45.4	52.2	59.9	59.3
Total¹	2,521.5	2,325.2	2,537.5	2,486.1	2,465.0

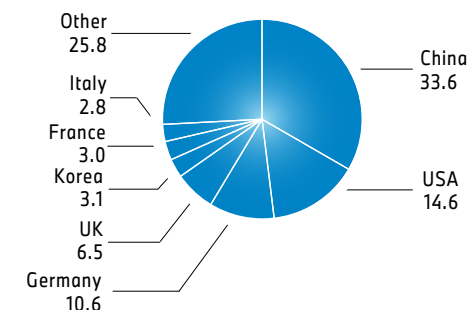
¹ Including the joint venture BMW Brilliance Automotive Ltd., Shenyang (2019: 538,612 units; 2018: 455,581 units; 2017: 385,705 units).

² Retail vehicle delivery data presented for 2020 and 2021 is not directly comparable to such data presented for previous years. For further information on retail vehicle delivery data, please see [Comparison of Forecasts with Actual Outcomes](#).

³ [Consumption and carbon emissions](#).

BMW GROUP — LARGEST AUTOMOBILE MARKETS 2021

as a percentage of sales volume



BMW brand sets new record

The BMW brand set a new record in 2021, delivering a total of 2,213,790¹ units (2020: 2,028,841¹ units; +9.1 %). The core brand's growth was mainly attributable to its youthful, attractive range of models. The BMW X family in particular remained extremely popular. The BMW X3 and BMW X4 model revisions launched in 2021 made a significant contribution to the brand's strong overall sales performance. The figure included 37,938 units of the new BMW iX³, which means approximately every tenth BMW X3 vehicle delivered worldwide was all-electric.

Numerous new BMW brand products

The BMW brand brought a variety of new vehicles to market in 2021. For example, at the beginning of the year, the all-electric BMW iX¹ was launched in Europe, followed in March 2021 by the BMW 320e¹ and BMW 520e¹. These two new entry-level models with plug-in hybrid drive systems are part of the BMW 3 Series and BMW 5 Series respectively. The BMW X3 and BMW X4 model revisions were launched during the summer. The second generation of the BMW 4 Series Gran Coupé celebrated its market début in the autumn. The all-new BMW iX and BMW i4 models were added to the all-electric vehicle product range in November 2021. The BMW 2 Series Coupé was launched on the North American market towards the end of the year under report, with other markets following in early 2022.

New milestone in BMW M success story

The BMW Group marked a new milestone in the success story of its BMW M brand in 2021, delivering a total of 163,541 units of its high-performance models (2020: 144,231 units), 13.4 % up on the previous year. The new BMW M3¹ and BMW M4¹ as well as the BMW X5 M¹ and BMW X6 M¹ Sports Activity Vehicles all contributed significantly to the sales growth recorded in 2021.



DELIVERIES OF BMW VEHICLES BY MODEL VARIANT ^{1,2}

in units	2021	2020	Change in %	Share of BMW deliveries 2021 in %
BMW 1 Series / BMW 2 Series	265,964	268,915	- 1.1	12.0
BMW 3 Series / BMW 4 Series	490,969	420,295	16.8	22.2
BMW 5 Series / BMW 6 Series	326,212	322,457	1.2	14.7
BMW 7 Series / BMW 8 Series	62,628	66,728	- 6.1	2.8
BMW Z4	14,778	14,982	- 1.4	0.7
BMW X1 / X2	311,928	304,270	2.5	14.1
BMW X3 / X4	414,671	347,565	19.3	18.7
BMW X5 / X6	240,504	206,774	16.3	10.9
BMW X7	54,957	48,693	12.9	2.5
BMW i (iX, i3 and i8)	31,179	28,162	10.7	1.4
BMW total	2,213,790	2,028,841	9.1	100.0

¹ ↗ Consumption and carbon emissions data

² Including the joint venture BMW Brilliance Automotive Ltd., Shenyang (2021: 651,236 units, 2020: 602,247 units).

To mark its 50th anniversary in 2022, the BMW M brand will continue its market offensive with the addition of new all-electric models, starting with the BMW iX M60¹, which celebrated its world première on the North American market at the beginning of 2022. Together with the BMW i4 M50¹, the BMW Group is also focusing on electric mobility in the high-performance class.



Sales growth for MINI

MINI also recorded higher sales volumes, with a total of 302,138 units delivered worldwide (2020: 292,582; +3.3 %). A key factor driving the growth was the number of electrified vehicles sold. The all-electric MINI Cooper SE* was the best-selling model in the MINI family, with sales almost doubling to 34,851 units year-on-year (2020: 17,580 units; +98.2 %). Together with the MINI Countryman Plug-in Hybrid*, it accounted for 18 % of the brand's total deliveries worldwide in 2021.



Revised models of the MINI 3-door, MINI 5-door and MINI Convertible were also launched during the year under report. Demand for the John Cooper Works Performance models remained high.

New record for Rolls-Royce

Rolls-Royce Motor Cars can also look back on a highly successful year, in which a record number of 5,586 ultra-luxury vehicles were delivered to customers (2020: 3,756 units; + 48.7 %). High demand for the marque worldwide was driven in particular by the popularity of the Ghost* and the Cullinan*. The Black Badge variants, with their exclusive features and more powerful engines, also remained extremely sought-after.

DELIVERIES OF ROLLS-ROYCE VEHICLES BY MODEL VARIANT *

in units	2021	2020	Change in %
Phantom	427	360	18.6
Ghost	1,909	324	-
Wraith / Dawn	828	873	- 5.2
Cullinan	2,422	2,199	10.1
Rolls-Royce total	5,586	3,756	48.7

DELIVERIES OF MINI VEHICLES BY MODEL VARIANT

in units	2021	2020	Change in %	Share of MINI deliveries 2021 in %
MINI Hatch (3- and 5-door)	164,270	157,040	4.6	54.4
MINI Convertible	25,120	24,875	1.0	8.3
MINI Clubman	30,385	32,958	- 7.8	10.0
MINI Countryman	82,363	77,709	6.0	27.3
MINI total	302,138	292,582	3.3	100.0

* ↗ Consumption and carbon emissions

Results of operations of the Automotive segment

Automotive segment revenues amounted to € 95,476 million (2020: € 80,853 million; +18.1%, currency-adjusted: +18.3%) and were therefore significantly higher than one year earlier.

Sales volume was also higher in 2021, whereby the increase was held down by production shortfalls due to supply bottlenecks for semiconductor components. However, this unfavourable impact was more than offset by improved pricing due to both the growing desire for individual mobility on the one hand and the reduced worldwide availability of products triggered by those same semiconductor component shortages on the other. Other factors with a positive impact on segment revenues were the increased volume of high-revenue vehicles sold, the exceptionally strong performance of pre-owned vehicle markets and hence better residual values and growth in spare parts and accessories business.

Segment cost of sales rose significantly to € 78,637 million (2020: € 71,456 million; +10.0%), whereby the year-on-year increase was primarily attributable to sales volume growth. Further negative factors included rises in raw materials and energy prices, higher expenses due to the increasing proportion of electrified vehicles, larger allocations to provisions for performance-related remuneration components and higher research and development expenses. In the previous year, warranty expenses were impacted by the recognition of provisions in connection with the exhaust gas recirculation cooler and other warranty-related items.

As described in the section above on the results of operations for the BMW Group as a whole, the changeover effects arising from the modernisation of the pension model in Germany had a total positive impact of € 542 million on Automotive segment cost of sales and selling and administrative expenses, while higher expenses for performance-related remuneration components had an offsetting effect.

The net amount of other operating income and expenses improved significantly, largely due to the partial reversal of the provision for EU antitrust proceedings in the second quarter 2021, as described above.

The Automotive segment EBIT margin (profit before financial result as a percentage of revenues) came in at 10.3% (2020: 2.7%; +7.6 percentage points). As forecast in the quarterly statement to 30 September 2021, the EBIT margin was within the target range of between 9.5 and 10.5% and therefore in line with revised expectations. In the 2020 Annual Report, a segment EBIT margin within a target range of between 6 and 8% was forecast.

At € 1,935 million, the Automotive segment's financial result was significantly up on the previous year (2020: € 560 million). As described above, the main driving factors in this respect were the improved result from the at-equity accounted Chinese joint venture BMW Brilliance Automotive Ltd., Shenyang, positive valuation effects recognised in other financial result arising on investments held by the BMW i Ventures fund and on the investment in SGL Carbon shares.

Profit before tax for the year amounted to € 11,805 million and was therefore significantly higher than one year earlier (2020: € 2,722 million).

In line with expectations, the Automotive segment's RoCE for 2021 rose sharply to 59.9% (2020: 12.7%; +47.2 percentage points), mainly due to the considerable year-on-year rise in EBIT on the one hand and the lower volume of capital employed on the other, the latter attributable primarily to lower average inventories during the financial year under report.

BMW GROUP MARGINS BY SEGMENT

in %	2021	2020	Change in %-points
AUTOMOTIVE			
Gross profit margin ¹	17.6	11.6	6.0
EBIT margin ²	10.3	2.7	7.6
MOTORCYCLES			
Gross profit margin ¹	17.8	15.0	2.8
EBIT margin ²	8.3	4.5	3.8

¹ Gross profit as a percentage of segment revenues.

² Profit before financial result as percentage of segment revenues.

Motorcycles segment

BMW Motorrad reports best sales performance to date

The Motorcycles segment had the most successful year in its history with a total of 194,261 units delivered during the year under report (2020: 169,272 units), 14.8 % up on the previous year. Despite the ongoing impact of semiconductor shortages and pandemic-related issues, the revised outlook for the full year, as communicated in the quarterly statement to 30 September 2021, was achieved within a generally favourable market environment.

Sales volume growth in nearly all markets

In Europe, sales volume grew solidly by 8.9 % to 111,126 units in 2021 (2020: 102,026 units). Excellent sales performances were recorded for France with 19,887 units (2020: 17,539 units; +13.4 %), Italy with 16,034 units (2020: 13,918 units; +15.2 %) and Spain with 12,616 units (2020: 11,030 units; +14.4 %). Within a generally contracting market, deliveries in Germany fell moderately to 25,972 units (2020: 27,516 units; -5.6 %).

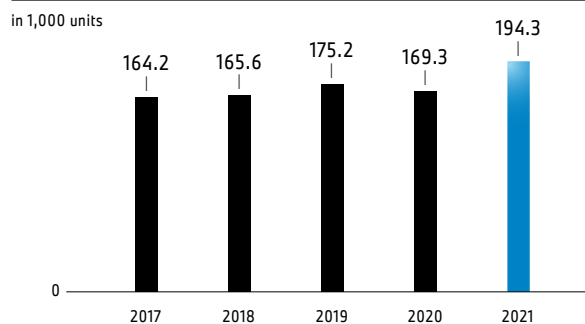
Figures for the USA were also significantly higher than in the previous year, with deliveries rising at a double-digit rate to 16,030 units (2020: 12,135 units; +32.1 %). The picture was similar in China, where deliveries climbed by 21.4 % to 14,309 units (2020: 11,788 units). Brazil also saw a slight increase, with deliveries rising to 11,150 units (2020: 10,707 units; +4.1 %).

New models launched in the year under report

The BMW Group brought five new motorcycle models and three model revisions onto the market in 2021. The first of these was the M 1000 RR – the first M model from BMW Motorrad to be powered by a high-performance in-line four-cylinder engine – which was launched in February 2021 in the Sports segment. The same month saw the launch of the R 18 Classic in the Heritage segment, based on the high-capacity 1,800 cc R18 boxer engine. The launch was followed in March 2021 by the model revisions of the G 310 R

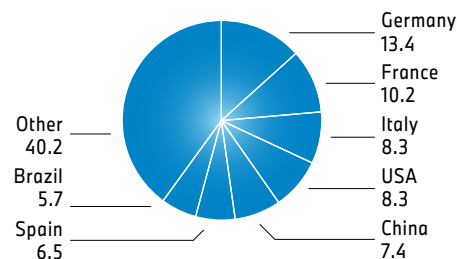
(Roadster segment), the G 310 GS (Adventure segment) and the R 1250 RT (Tour segment). The S 1000 R was also added to the model range in the Roadster segment in May. Last but not least, in September, BMW Motorrad launched the R 18 B and the R 18 Transcontinental models in the Heritage segment – two further derivatives of the 1,800 cc boxer family.

BMW GROUP DELIVERIES OF MOTORCYCLES



BMW GROUP – LARGEST MOTORCYCLE MARKETS 2021

as a percentage of sales volume



New products unveiled: systematically embracing electrification

The BMW Group unveiled the BMW Motorrad Vision Amby at the IAA Mobility in 2021. This completely new concept motorcycle has been designed as an electrified vehicle that combines the typical elements of a bicycle and a motorcycle. Together with the all-electric CE 02 concept vehicle, which was presented to the public online in September, these models provide a revealing glimpse of how the future of urban mobility could look.

BMW Motorrad systematically continued to pursue its electric mobility strategy throughout the year under report, including the unveiling of the CE 04 Electric Scooter (Urban Mobility segment) in July 2021. The launch of this new product is scheduled for the first half of 2022.

In addition, a number of series production models were presented to the public during the year under report, including the C 400 GT and C 400 X Scooter models in March and the K1600 GT, K1600 GTL and K1600 B Tourer models in October.



Results of operations of the Motorcycles segment

The Motorcycles segment EBIT margin (profit before financial result as a percentage of revenues) came in at 8.3 % (2020: 4.5 %; + 3.8 percentage points) and thus within the forecast target range of between 8 and 10 %.

Profit before tax for the year was significantly higher at € 228 million (2020: € 100 million), mostly driven by favourable product mix effects and year-on-year sales volume growth, the latter also partially reflecting the adverse impact of coronavirus-related dealership closures in the previous year.

The RoCE for the Motorcycles segment in 2021 was 35.9 % and therefore significantly higher than one year earlier (2020: 15.0 %; + 20.9 percentage points), mainly due to the improved EBIT performance, and was therefore in line with the revised outlook communicated in the quarterly statement to 30 September 2021.

Financial Services segment

Record segment profit before tax

The financial year 2021 was a successful one for the Financial Services segment, with profit before tax up by 117.6 % to € 3,753 million (2020: € 1,725 million). In the previous year, additional risk provisioning expenses for credit and residual value risks had had a negative impact on earnings. The year under report, however, was influenced by the exceptionally positive trend on pre-owned vehicle markets, particularly in the USA and the UK. The upturn on the pre-owned market caused the remarketing values of lease returns to increase sharply. Alongside this favourable development, segment earnings also benefited from the unchanged low level of allowances that needed to be recognised for credit risks. The credit loss ratio on the total credit portfolio fell to a historically low level of 0.18 % at 31 December 2021 (2020: 0.21 %), comprising 0.11 % (2020: 0.16 %) for leasing business and 0.28 % (2020: 0.31 %) for credit financing business with retail customers. Further information on risks and opportuni-

ties in the Financial Services segment is provided in the chapter [Risk and opportunity management](#).

In balance sheet terms, business volume grew slightly by 4.8 % to stand at € 139,530 million at the end of the reporting period (2020: € 133,093 million).

New business with retail customers moderately up on previous year

A total of 1,956,514 new credit financing and leasing contracts were signed with retail customers during 2021 (2020: 1,845,271 contracts; + 6.0 %). The improved performance in 2021 reflected growth in both new credit financing business (+ 7.8 %) and new leasing business (+ 2.4 %). The biggest increases were registered in China and the USA. Overall, leasing accounted for 31.8 % and credit financing for 68.2 % of new business.

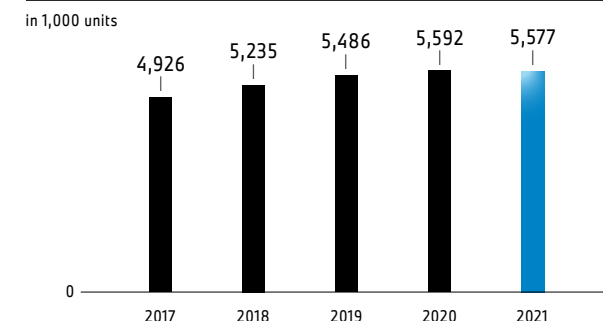
Business with pre-owned vehicles also developed positively, with the number of new contracts signed up by 1.4 %. In total, 411,520 new credit financing and leasing contracts for pre-owned BMW and MINI brand vehicles were signed during the year under report (2020: 405,713 contracts).

The total volume of new credit financing and leasing contracts concluded with retail customers during the 12-month period amounted to € 63,414 million, significantly up on the previous year (2020: € 57,200 million; + 10.9 %).

The share of new BMW Group vehicles either leased or financed by the Financial Services segment stood at 50.5 %¹ (2020: 49.8 %; + 0.7 percentage points).

At 31 December 2021, the contract portfolio with retail customers comprised 5,577,011 contracts and was therefore at a similar level to one year earlier (2020: 5,591,799 contracts; – 0.3 %). In regional terms, China grew at the fastest rate, registering a 9.0 % year-on-year increase. The Asia / Pacific region finished at a similar level to the previous year (+ 0.3 %). By contrast, the Americas (– 2.2 %), the EU Bank² (– 1.7 %) and the Europe / Middle East / Africa regions (– 1.7 %) all registered slight contract portfolio decreases.

CONTRACT PORTFOLIO OF FINANCIAL SERVICES SEGMENT WITH RETAIL CUSTOMERS

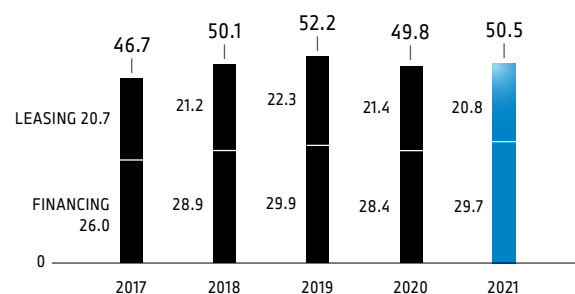


¹ The calculation only includes automobile markets in which the Financial Services segment is represented by a consolidated entity.

² EU Bank comprises BMW Bank GmbH with its branches in Italy, Spain and Portugal.

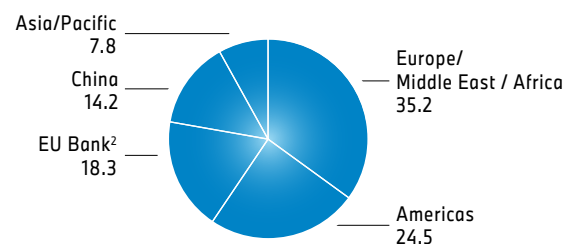
BMW GROUP NEW VEHICLES FINANCED OR LEASED BY FINANCIAL SERVICES SEGMENT¹

in %



CONTRACT PORTFOLIO RETAIL CUSTOMER FINANCING OF FINANCIAL SERVICES SEGMENT 2021

in % per region



¹ Due to adjustments in delivery figures, numbers have been adjusted retroactively, see Glossary.

² With effect from the fourth quarter 2019, the EU Bank comprises BMW Bank GmbH and its branches in Italy, Spain and Portugal. The former subsidiary in France was transferred for organisational purposes to the Europe / Middle East / Africa region in conjunction with strategic realignments.

Under the brand name Alphabet, the Financial Services segment's fleet management business primarily offers leasing and financing arrangements as well as specialist services to commercial customers. At 31 December 2021, the contract portfolio stood at 696,393 contracts (2020: 704,977 contracts; -1.2 %).

Dealership financing significantly lower

The dealership financing line of business was impacted by a significant reduction in vehicle inventories held by dealerships at the end of the year, mainly due to constraints on new vehicle production caused by semiconductor shortages on the one hand and the high demand for new and pre-owned vehicles on the other. As a result, the volume of dealership financing decreased significantly by 19.0 % to € 13,149 million at 31 December 2021 (2020: € 16,241 million).

Results of operations of the Financial Services segment

Financial Services segment revenues increased to € 32,867 million (2020: € 30,044 million; +9.4 %), driven in particular by the higher level of revenues generated with end-of-contract business on the back of ongoing favourable conditions on pre-owned vehicle markets. Segment cost of sales went up by € 791 million (2020: € 26,958 million; +2.9 %), mainly due to increased costs associated with the sale of returned lease vehicles.

At the same time, the remarketing values of those vehicles also surged, with a corresponding positive impact on earnings. Moreover, segment earnings benefited from the unchanged low level of allowances required to be recognised for credit risks. This contrasts with the situation one year earlier, when earnings were impacted by additional risk provisioning expenses for credit and residual value risks in light of the coronavirus pandemic.

The Financial Services segment's profit before tax rose significantly to € 3,753 million (2020: € 1,725 million).

Return on equity (RoE) finished at 22.6 %, significantly higher than the level recorded one year earlier (2020: 11.2 %; +11.4 percentage points). The main reason for the increase was the improved risk profile throughout the year – in particular thanks to better remarketing outcomes and lower expenses for credit risk allowances.

The RoE in 2021 was therefore in line with the revised forecast of between 20 and 23 %. Originally, an RoE within a range of 12 to 15 % was predicted for 2021 in the BMW Group Report 2020.

Other Entities segment / Eliminations

The Other Entities segment recorded a profit before tax of € 531 million in the financial year under report (2020: loss before tax of € 235 million). The turnaround was primarily attributable to the improvement in other financial result, which benefited from the recognition of fair value measurement gains on interest rate hedges entered into with matching maturities in conjunction with the refinancing of Financial Services business in a period of rising rather than falling interest rates.

Eliminations gave rise to a loss before tax of € 257 million (2020: profit before tax of € 910 million). The deterioration here reflected the higher volume of leasing-business-related eliminations required, primarily due to the year-on-year increase in new leasing business, both in terms of sales volume and contract values.

COMMENTS ON THE FINANCIAL STATEMENTS OF BMW AG

Bayerische Motoren Werke Aktiengesellschaft (BMW AG), based in Munich, Germany, is the parent company of the BMW Group. The comments on the BMW Group and the Automotive segment provided in earlier sections apply to BMW AG, unless presented differently in the following section. The Financial Statements of BMW AG are drawn up in accordance with the provisions of the German Commercial Code (HGB) and the relevant supplementary provisions contained in the German Stock Corporation Act (AktG).

The key financial performance indicator for BMW AG is the dividend payout ratio (unappropriated profit of BMW AG in accordance with HGB in relation to net profit for the year of the BMW Group in accordance with IFRS). The key non-financial performance indicators are essentially identical and concurrent with those of the BMW Group. These are described in detail in the [↗ Financial Performance](#) section of the Combined Management Report.

Differences in accounting treatments based on HGB (used for the Company Financial Statements) and IFRS (used for the Group Financial Statements) are mainly to be found in connection with the capitalisation of intangible assets, the creation of valuation units, the recognition and measurement of financial instruments and provisions as well as the recognition of deferred tax assets. Differences also arise in the presentation of assets and liabilities and of items in the income statement.

Business environment and review of operations

The general and sector-specific environment of BMW AG is essentially the same as that of the BMW Group and is described in the [↗ Financial Performance](#) section of the Combined Management Report.

BMW AG develops, manufactures and sells automobiles and motorcycles as well as spare parts and accessories manufactured in-house, by foreign subsidiaries and by external suppliers, and performs services related to these products. Sales activities are conducted primarily through branches, subsidiaries, independent dealerships and importers. Benefiting mainly from the diminishing impact of the coronavirus pandemic, automobile deliveries increased by 187,648 units to 2,437,591 units in the financial year 2021. This figure includes 674,995 units relating to series sets supplied to the joint venture BMW Brilliance Automotive Ltd., Shenyang, an increase of 76,142 units over the previous year.

At 31 December 2021, BMW AG employed a workforce of 83,308 people (31 December 2020: 84,668 people).

Despite the global challenges driven by semiconductor supply shortages and the impact of the coronavirus pandemic, BMW AG can be satisfied with the course of business in the financial year 2021.

The BMW Group's results of operations, financial position and net assets of the financial year 2021 are indicative of its solid financial condition. Business developed in line with management expectations. This assessment also takes into account events after the end of the reporting period.

Results of operations

BMW AG INCOME STATEMENT

in € million	2021	2020
Revenues	88,526	75,040
Cost of sales	- 72,283	- 63,726
Gross profit	16,243	11,314
Selling expenses	- 3,858	- 4,030
Administrative expenses	- 3,243	- 2,747
Research and development expenses	- 6,451	- 5,394
Other operating income	2,199	1,237
Other operating expenses	- 1,460	- 1,250
Result on investments	2,991	3,084
Financial result	- 426	- 280
Income taxes	- 1,068	- 214
Profit after income tax	4,927	1,720
Other taxes	- 17	- 18
Net profit	4,910	1,702
Transfer to revenue reserves	- 1,083	- 449
Unappropriated profit available for distribution	3,827	1,253

Revenues increased by € 13,486 million in 2021, primarily reflecting year-on-year sales volume growth. In geographical terms, the greater part of the increase was generated in the USA, China and Rest of Europe. Revenues totalled € 88,526 million (2020: € 75,040 million), of which Group internal revenues accounted for € 60,373 million (2020: € 49,348 million) or 68.2 % (2020: 65.8 %).

Cost of sales went up by 13.4 % to € 72,283 million, mostly due to sales volume growth.

Gross profit rose by € 4,929 million to € 16,243 million.

Overall, selling expenses decreased slightly and general administrative expenses increased significantly.

A large proportion of the research and development expenses incurred in 2021 are related to new vehicle models (including the all-electric BMW iX and BMW i4 models and the new BMW 2 Series Active Tourer) as well as to the development of digital products, automated driving and new ar-

chitectures. Research and development expenses rose by 19.6 % year-on-year, reflecting the increase in vehicle and module production start-up activities as the BMW Group continues its electric offensive.

Other operating income increased to € 2,199 million (2020: € 1,237 million), primarily due to income arising on the partial reversal of the provision relating to EU Commission antitrust proceedings.

Other operating expenses increased slightly to € 1,460 million (2020: € 1,250 million) and, as in the previous year, comprised mainly expenses from financing transactions and additions to other provisions.

Income from profit transfer agreements with Group companies, reported in the line item Result on investments, was similar to one year earlier.

The financial result deteriorated by € 146 million, mainly due to lower income from designated plan assets offset against pension obligations.

The expense for income taxes related primarily to current tax for the financial year 2021.

After deducting the expense for taxes, the Company reports a net profit of € 4,910 million, compared to € 1,702 million in the previous year.

Subject to the shareholders' approval of the appropriation of results at the Annual General Meeting, the unappropriated profit available for distribution amounts to € 3,827 million (2020: € 1,253 million). As a percentage of Group net profit, the dividend corresponds to a payout ratio of 30.7 % (2020: 32.5 %), which is therefore within the forecasted target range of 30 % to 40 %.

Financial and net assets position

BMW AG BALANCE SHEET AT 31 DECEMBER

in € million	2021	2020	in € million	2021	2020
ASSETS			EQUITY AND LIABILITIES		
Intangible assets	704	488	Subscribed capital	662	660
Property, plant and equipment	12,740	12,520	Capital reserves	2,342	2,239
Investments	5,067	3,826	Revenue reserves	12,096	11,013
Tangible, intangible and investment assets	18,511	16,834	Unappropriated profit available for distribution	3,827	1,253
Inventories	7,287	5,748	Equity	18,927	15,165
Trade receivables	758	778	Registered profit-sharing certificates	26	27
Receivables from subsidiaries	21,019	18,939	Pension provisions	422	229
Other receivables and other assets	4,071	3,849	Other provisions	9,995	10,093
Marketable securities	3,077	3,336	Provisions	10,417	10,322
Cash and cash equivalents	8,824	6,822	Liabilities to banks	1	101
Current assets	45,036	39,472	Trade payables	6,531	4,785
Prepaid expenses	72	73	Liabilities to subsidiaries	24,462	23,404
Surplus of pension and similar plan assets over liabilities	1,086	1,261	Other liabilities	462	221
Total assets	64,705	57,640	Liabilities	31,456	28,511
			Deferred income	3,879	3,615
			Total equity and liabilities	64,705	57,640

Capital expenditure on intangible assets and property, plant and equipment in the year under report totalled € 3,304 million (2020: € 2,790 million), up by 18.4% compared to the previous year. Depreciation and amortisation amounted to € 2,846 million (2020: € 2,646 million).

Investment assets increased to € 5,067 million (2020: € 3,826 million) mainly due to a non-cash contribution recorded in capital reserves in the amount of € 957 million at the level of BMW INTEC Beteiligungs GmbH, Munich.

Inventories rose to € 7,287 million (2020: € 5,748 million), primarily due to higher levels of bought-in goods for resale, work in progress and finished goods.

Receivables from subsidiaries increased to € 21,019 million (2020: € 18,939 million), mainly reflecting the higher level of intragroup trade receivables.

The increase in other receivables and other assets to € 4,071 million (2020: € 3,849 million) was mainly attributable to higher tax receivables. The decrease in financial market receivables had an offsetting effect.

Equity increased by € 3,762 million to € 18,927 million due to the higher level of unappropriated profit reported, which was, in turn, attributable to the combined effect of the previous year's lower dividend payout and the higher transfer to other revenue reserves as well as the issue of shares of preferred stock in conjunction with the Employee Share Programme in 2021. The equity ratio changed from 26.3 % to 29.3 %.

In order to secure pension obligations, cash funds totalling € 1,081 million were transferred to BMW Trust e.V., Munich, in conjunction with a Contractual Trust Arrangement (CTA), to be invested in plan assets. Plan assets are offset against the related guaranteed obligations. The resulting surplus of assets over liabilities is reported in the BMW AG balance sheet on the line item Surplus of pension and similar plan assets over liabilities.

Provisions for pensions increased from € 229 million to € 422 million, after offsetting of pension plan assets against pension obligations.

Other provisions decreased slightly from € 10,093 million to € 9,995 million due to the utilisation and partial reversal of the provision relating to EU Commission antitrust proceedings. This was mainly offset by additions to personnel-related provisions and provisions for statutory and non-statutory warranty and product guarantee obligations.

Liabilities to subsidiaries increased to € 24,462 million (2020: € 23,404 million), mainly in connection with intra-group refinancing.

Deferred income increased by € 264 million to € 3,879 million and included primarily amounts for services still to be performed relating to service and maintenance contracts.

Liquidity within the BMW Group is ensured by means of a liquidity concept applied uniformly across the Group. This involves concentrating a significant part of the Group's liquidity at the level of BMW AG. An important instrument in this context is the cash pool based at BMW AG. The liquidity position reported by BMW AG therefore reflects the global activities of BMW AG and other Group companies.

Cash and cash equivalents increased by € 2,002 million to € 8,824 million, mainly due to surpluses from operating activities. Cash outflows for investments in fixed assets had an offsetting effect.

Risks and opportunities

BMW AG's performance is essentially dependent on the same set of risks and opportunities that affect the BMW Group and which are described in detail in the [Outlook, Risk and Opportunity Management](#) chapter of the Combined Management Report. As a general rule, BMW AG participates in the risks entered into by Group companies in proportion to the respective shareholding percentage. At the same time, the result on investments has a significant impact on the earnings of BMW AG.

BMW AG is integrated in the Group-wide risk management system and internal control system of the BMW Group. Further information is provided in the [Internal Control System](#) chapter of the Combined Management Report.

Outlook

For the financial year 2022, BMW AG expects an unchanged dividend payout ratio (unappropriated profit of BMW AG in accordance with HGB in relation to the Group net profit attributable to shareholders of BMW AG in accordance with

IFRS) within a range of between 30 % and 40 %. Up to the financial year 2021, the payout ratio was defined as the unappropriated profit of BMW AG in accordance with HGB in relation to the Group net profit in accordance with IFRS (2021: 30.7 %).

Due to its significance in the Group and its close ties with Group companies, expectations for BMW AG with respect to its non-financial performance indicators correspond largely to the BMW Group's outlook. This is described in detail in the [Outlook, Risk and Opportunity Management](#) section of the Combined Management Report.

PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, Munich branch, has issued an unqualified audit opinion on the financial statements of BMW AG, of which the balance sheet and the income statement are presented here. The BMW AG financial statements for the financial year 2021 will be submitted to the operator of the electronic version of the German Federal Gazette and can be obtained via the Company Register website. These financial statements are available on the BMW Group's website at www.bmwgroup.com/ir.

EU TAXONOMY

Within the framework of the EU Green Deal and the Action Plan "Financing Sustainable Growth", the EU taxonomy is a cornerstone of the EU's aspiration to become climate-neutral by 2050. Its key objectives are to create transparency for capital market participants and to channel capital flows towards sustainable economic activities.

The EU taxonomy is a classification system that defines economic activities as environmentally sustainable based on predetermined criteria. Environmental sustainability is ascertained in three steps.

Essentially, an economic activity can only be classified as sustainable if it makes a substantial contribution to one of the following six environmental objectives:

- 1) Climate change mitigation
- 2) Climate change adaptation
- 3) The sustainable use and protection of water and marine resources
- 4) The transition to a circular economy
- 5) Pollution prevention and control
- 6) The protection and restoration of biodiversity and ecosystems

Substantial contribution depends on the extent to which the economic activity in question fulfils so-called technical screening criteria. No other environmental objective may be

significantly harmed, and minimum protection criteria for occupational safety and human rights must also be met.

The EU Taxonomy Regulation was published in July 2020. The Delegated Act on the first two environmental objectives, climate change mitigation and climate change adaptation, and the delegated regulation on reporting requirements (Article 8 of the EU Taxonomy Regulation) came into force at the end of December 2021*. In addition, the EU Commission published an initial FAQ document in December 2021 and a second FAQ document in early February 2022 to explain application issues relevant for the first year of reporting. On the basis of the phased introduction of the EU taxonomy in the Delegated Acts, in 2021 companies such as the BMW Group are required to report the taxonomy-eligible proportion of revenues, capital expenditures and operational expenditures for the first two environmental objectives. From the reporting years 2022 and 2023 onwards, the reporting requirements are to be successively expanded to include the taxonomy-aligned proportion of revenues, capital and operational expenditures and to all environmental objectives.

Our understanding of sustainability

The BMW Group supports the overarching aim of the EU Taxonomy Regulation to promote the private financing of sustainable economic activities in order to make Europe the world's first climate-neutral continent by 2050. As a company aspiring to establish a climate-neutral business model

across its entire value chain by 2050, we welcome initiatives that serve this objective. For this reason, we have set ourselves specific targets and report systematically each year on the actual levels achieved.

In the coming years, the significant growth in electric mobility will mean that – depending on the energy mix – the majority of carbon emissions will be generated in particular within the upstream value chain rather than in the use phase. Without the anticipated set of measures, emissions generated within the BMW Group supply chain would already exceed direct carbon emissions in the use phase prior to 2030. [↗ Strategy/Supplier network/Carbon emissions](#) Accordingly, the BMW Group is taking a holistic approach to achieving its sustainability-related targets and is committed to considering carbon emissions over the entire life cycle of the vehicles it produces. [↗ Carbon Emissions and Pollutants](#) Currently, however, for the purpose of assessing carbon emissions, the EU taxonomy focuses exclusively on reducing emissions in the use phase that are attributable to locally emissions-free drive systems, an approach which also ignores the emissions indirectly attributable to the supply of energy. Moreover, the taxonomy only reflects the impact of decarbonisation measures in production to the extent that they serve to manufacture taxonomy-aligned products. However, increasing the energy efficiency of paint shop processes also reduces carbon emissions when a conventionally powered vehicle is painted. [1\]](#)

* Commission Delegated Regulation (EU) 2021/2139 dated 4 June 2021 and Commission Delegated Regulation (EU) 2021/2178 dated 6 July 2021.

Explanatory comments on reporting procedures

For the reporting year 2021, the currently applicable simplification rules only require reporting on taxonomy eligibility in relation to the environmental objections of climate change mitigation and climate change adaptation. Taxonomy eligibility is an indicator of the environmental sustainability potential of an economic activity based on the selective requirements of the EU taxonomy. It does not, however, say anything about the actual sustainability of a company's economic activities at the present point in time. Our aspiration is to successively make all of the BMW Group's economic activities more sustainable.

An economic activity is taxonomy-eligible if it is described in the Delegated Acts relating to the six environmental objectives, regardless of whether that economic activity meets all of the technical screening criteria stipulated in those Delegated Acts. The BMW Group's business activities can currently be allocated to two economic activities that are described in the Delegated Act relating to the first two environmental objectives:

— Economic activity 3.3 Manufacture of low carbon technologies for transport including the production of passenger vehicles and motorcycles.

[➤ Overview of the BMW Group](#)

— Economic activity 6.5 Transport by motorbikes, passenger cars and light commercial vehicles including the purchase, financing, renting, leasing and operation of passenger cars and motorcycles.

[➤ Overview of the BMW Group](#)

Based on the descriptions of the two economic activities listed for Environmental Objective 1 (Climate change mitigation), a large part of the BMW Group's business model falls within the scope of the EU taxonomy*.

Only the sale of parts and components, such as aftersales business excluding the provision of repair services and the supply of production components to BMW Brilliance Automotive Ltd. (BBA) as well as other third parties, and non-automotive banking and insurance services performed by the

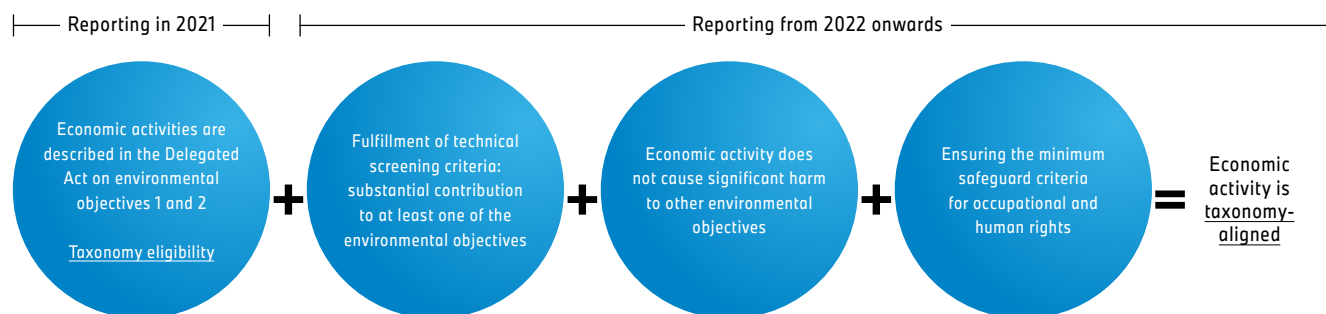
Financial Services segment, are not described as economic activities in the Delegated Regulation and are therefore not taxonomy-eligible.

Accordingly, for 2021, 82.9 % of revenues, 99.7 % of capital expenditure, and 100.0 % of operational expenditure are taxonomy-eligible.

The taxonomy-aligned proportions that will need to be reported in the coming years will initially be significantly lower than these values. They will subsequently increase due to the growing share of zero-emissions vehicles, the development and production methods used, and potentially contributions made to other environmental objectives as yet to be defined. Due to the high level of investment in the transformation of our business activities, for example in the electrification of our vehicles and research into alternative drive systems, these economic activities have the potential to become taxonomy-aligned over time. Overall, we anticipate that the proportion of taxonomy-aligned economic activities will steadily rise as a result of the increasing electrification of our product portfolio.

By 2025 the share of electrified automobiles in total Group deliveries is expected to rise to at least 30 %. Over the next decade, we expect that some ten million of our all-electric vehicles will be on the roads. Therefore, by 2030, at least every second automobile delivered by the BMW Group will be an all-electric model. ^{1]}

EXPLANATORY COMMENTS ON REPORTING PROCEDURES



^{1]}

* It should be noted that the relevant Delegated Regulation describes the economic activity "Manufacture of low-carbon technologies for transport" differently for Environmental Objective 1 (Climate change mitigation) and Environmental Objective 2 (Climate change adaptation). For the purposes of consistent reporting on the taxonomy-eligibility of vehicle production, the BMW Group follows the description given for Environmental Objective 1, given that taxonomy-eligible vehicle production as listed for Environmental Objective 2 is a subset of taxonomy-eligible vehicle production for Environmental Objective 1.

MANDATORY EU TAXONOMY DISCLOSURES

REVENUES	Total (in € million)	Proportion (in %)
Eligible activities	92,262	82.9
Non-eligible activities	18,977	17.1
CAPITAL EXPENDITURE	Total (in € million)	Proportion (in %)
Eligible activities	25,917	99.7
Non-eligible activities	67	0.3
OPERATIONAL EXPENDITURE	Total (in € million)	Proportion (in %)
Eligible activities	4,478	100.0
Non-eligible activities	0	0.0

parties or the delivery of parts to cooperation partners (including BBA) are not taken into account.

Operational expenditure comprises only non-capitalised development costs, maintenance and refurbishment costs for buildings, repairs to property, plant and equipment, relevant IT costs in the Financial Services segment, non-capitalised expenses relating to short-term lease contracts with expenditure for low value assets, and contracts with purely variable remuneration. The KPI figure calculated for taxonomy-purposes is not used by the BMW Group for financial reporting purposes. ^{1]}

Technical information

The proportion of total revenues, capital expenditure and operational expenditure relating to eligible and non-eligible activities are shown in each case as an aggregate percentage for the BMW Group. Only taxonomy-eligible revenues, capital expenditure, and operational expenditure as listed for Environmental Objective 1 ("Climate change mitigation") are disclosed, given that taxonomy-eligible revenues, capital expenditure and operational expenditure for Environmental Objective 2 ("Climate change adaptation") are a subset of the values for Environmental Objective 1 ("Climate change mitigation"). This approach avoids double counting of revenues, capital expenditure and operational expenditure when determining the KPI in the numerator across multiple economic activities.

Further information on **revenues** is provided in ^{2]} note 7 to the Group Financial Statements. Revenues are calculated in accordance with Article 2(5) of Directive 2013/34/EU. Revenues comprise revenue and income items recognised in accordance with IAS 1.82(a), as amended by Commission

Regulation (EC) No. 1126/2008. Revenues relating to the sale of parts and components (e.g. after-sales business excluding the provision of repair services) and the supply of production components to BBA and third parties, insurance premiums, and interest income on deposit-taking and credit business were not included, as these economic activities are not classified as taxonomy-eligible.

In the case of the disclosures for **capital expenditure**, reference is made to ^{2]} note 21 and ^{2]} note 22 to the Group Financial Statements. Capital expenditure is calculated in accordance with IAS 16.73 (e) (i) and (iii) (Property, Plant and Equipment), IAS 38.118 (e) (i) (Intangible Assets) and IFRS 16.53 (h) (Leases). In accordance with the definition of capital expenditure provided in Annex I of the Delegated Regulation (EU) 2021/2178, the KPI figure used for taxonomy purposes comprises additions to intangible assets, in particular capitalised development costs, additions to property, plant and equipment as well as right-of-use assets in accordance with IFRS 16, and leased-out products. Capital expenditure relating to the sale of parts to external third

OUTLOOK, RISK AND OPPORTUNITY MANAGEMENT

OUTLOOK

Both the Outlook and the [Risk and Opportunity Management](#) sections of this report present the expected development in 2022, including the main risks and opportunities from the perspective of the BMW Group's management. In line with the Group's performance management, the outlook covers a period of one year. Risks and opportunities are managed on the basis of a two-year assessment period. Disclosures relating to risk and opportunity management therefore address a period of two years.

The continuous forecasting process applied within the BMW Group ensures that it is constantly ready to take advantage of opportunities as they arise, but also to react appropriately to any unexpected risks. The principal risks and opportunities are described in detail in the Risk and Opportunity Management section. Actual outcomes may deviate from the outlook due to unexpected events.

It is not yet possible to accurately assess the full impact of the war in Ukraine, as the situation remains highly volatile, making it extremely difficult to forecast macroeconomic developments and the likely performance of international automobile markets in the financial year 2022 [Forecast assumptions](#).

Economic outlook

According to IMF projections in January, the global economy will continue to grow in 2022, less strongly than in the previous year, and reach a level of around 4.0 %. Risks definitely persist, however, first and foremost due to the further course of the war in Ukraine, the estimated impact of which has been taken into account in the current economic forecasts only rudimentarily. High inflation is likely to lead to interest rate increases in some countries and weaken demand to some extent. New virus variants, pandemic-related restrictions or prolonged supply bottlenecks could slow the pace of economic growth. Further information on political and global economic risks is also available in the section [Risk and Opportunity Management](#).

In the Eurozone, GDP growth is projected to be around 3.0 % in 2022. At 2.1%, the growth rate in Germany is expected to be slightly lower than one year earlier and similar figures are predicted for France (+2.8 %), Italy (+3.1%) and Spain (+4.6 %).

The UK economy is projected to grow by 3.5 % in 2022 despite labour shortages and continued supply bottlenecks.

A growth rate of 3.2% is projected for the USA in 2022, which is still positive, although not as strong as in the previous year. The stimulus and infrastructure packages adopted by the US Administration are likely to provide support for the economy.

After strong growth in the previous year, momentum in China is expected to drop slightly in 2022. A growth rate of 5.1% is therefore projected for the 12-month period.

After a slight recovery in the year under report, the pace of growth in Japan is projected to increase moderately in 2022 (+2.3 %).

Currency markets and international interest rate environment

Currencies of particular importance for the international operations of the BMW Group are the Chinese renminbi, the British pound, the US dollar and the Japanese yen.

Whereas the ECB is likely to keep persevering with its expansionary monetary policy in 2022, the US Federal Reserve has announced its intention to tighten its policy in light of high inflation and the USA's strong economic recovery and to raise interest rates during the first half of 2022. Compared with the previous year, the US dollar is therefore likely to appreciate against the euro.

Following the gain in value of the British pound against the euro in 2021 and the tighter monetary policy predicted in the UK over the 12-month period, combined with moderate interest rate hikes, a further slight appreciation of the currency is expected in 2022.

The central bank in Japan is unlikely to change its highly expansionary monetary policy in 2022. The yen is therefore likely to depreciate slightly against the euro.

After appreciating against the euro in 2021, the Chinese renminbi is expected to lose in value slightly in the course of 2022, due to the Chinese central bank's recent decision to ease monetary policy with a view to ensuring that the greater demand for financing can be met.

The Russian rouble has depreciated significantly, especially since the beginning of the military conflict with Ukraine. The currencies of emerging market countries such as Brazil and India are likely to remain under pressure against the US dollar and the euro in 2022, mainly due to the ongoing impact of the coronavirus pandemic.

International automobile markets

Supply bottlenecks are likely to continue having a dampening impact on automobile markets in 2022. The war in Ukraine will significantly exacerbate the current supply bottlenecks. The forecasts are generally based on the assumption that the supply bottlenecks will be overcome in the second half of 2022. Registration figures worldwide are expected to grow at a slightly faster rate than in the previous year (approximately 77 million units; +4%). However, due to the marked weakness of recent years, absolute registration figures remain well below normal levels.

Europe's automobile markets are expected to grow moderately in 2022 (12.5 million units; +6%).

The trend is similar in the USA, with the market expected to grow by 6% to 15.9 million units in 2022. However, this is still below the pre-coronavirus crisis level.

In China, on the other hand, the automobile market as a whole is expected to remain flat, reflecting the slowdown in

economic momentum. After the slight recovery in 2021, passenger vehicle registrations are therefore expected to be in the region of 21.2 million units in 2022, just 1% up on the previous year.

The Japanese automobile market is currently predicted to expand slightly in 2022 (4.4 million units; +2%).

Registration figures on international automobile markets are expected to develop as follows in 2022:

INTERNATIONAL AUTOMOBILE MARKETS

	Change in Registrations %
Europe	+ 6
thereof Germany	+ 6
thereof France	+ 4
thereof Italy	+ 4
thereof Spain	+ 6
thereof UK	+ 12
USA	+ 6
China	+ 1
Japan	+ 2
Total	+ 4

International motorcycle markets

The BMW Group expects, subject to the further development in Ukraine, the world's motorcycle markets in the 250 cc plus class to remain stable in 2022, with volumes generally remaining at the previous year's level.

The impact of the war in Ukraine, the limited availability of vehicle components, the further course of the coronavirus pandemic, and macroeconomic factors will continue to influence the performance of motorcycles markets in 2022.

Expected consequences for the BMW Group

Future developments on international automobile markets have a direct impact on the BMW Group. The challenging market environment, the supply situation for vehicle components, the coronavirus pandemic and further developments in the Ukraine conflict are currently the factors most likely to have a significant impact on business performance. Flexible coordination between the Group's sales and production networks will also help cushion the impact of unforeseeable developments in individual regions. [➤ Risk and Opportunity Management](#)

Assumptions used in the outlook

Both the Outlook and the Risk and Opportunity Management sections of this report contain forward-looking statements based on the BMW Group's expectations and assessments and may be influenced by unforeseeable events. As a result, actual outcomes can deviate either positively or negatively from the expectations described below, due to changes in the political and economic environment as well as other factors. [➤ Risk and Opportunity Management](#)

The following outlook covers a forecast period of one year and is based on the composition of the BMW Group during that time. For this reason, the outlook also includes the impact of fully consolidating BMW Brilliance Automotive Ltd., Shenyang, (BMW Brilliance). On 11 February 2022, the BMW Group increased its shareholding in the BMW Brilliance joint venture from 50% to 75%*. The full consolidation of BMW Brilliance with effect from that date has a significant impact on some of the BMW Group's key performance indicators.

* See [note \[3\]](#) to the Group Financial Statements

The outlook takes account of all information available at the time of reporting and which could have an impact on the overall course of business of the Group. The expectations contained in the outlook are based on the BMW Group's forecast for 2022 and reflect its most recent status. The basis for the preparation of and the principal assumptions used in the forecasts – which consider the consensual opinions of leading organisations, such as economic research institutes and banks – are set out below. The BMW Group's outlook takes account of these assumptions.

The coronavirus pandemic is no longer currently expected to have a significant impact on the results of operations, financial and net assets position of BMW AG and the Group as a whole.

However, international demand for semiconductors is still predicted to remain high, causing the supply situation to remain tight. As in the financial year 2021, the risk of supply bottlenecks affecting the availability of the semiconductor components required for production persists and the situation is not expected to ease before the second half of 2022.

The dual impact of an economic upturn and supply bottlenecks caused raw materials prices to rise sharply in 2021. The BMW Group expects the overall situation on raw materials and energy markets to remain tense in the foreseeable future and has already taken the initial impact of the prevailing situation into account in its outlook for the financial year 2022.

Moreover, the war in Ukraine is having a substantial effect on that country's automotive supply industry, with supply restrictions resulting in production schedule adjustments and/or interruptions at a number of BMW Group plants.

The outlook does not factor in the following:

- A significant tightening of sanctions against Russia or a change in the interpretation of existing sanctions
- An escalation of the conflict outside Ukraine
- Additional major price hikes for energy and raw materials, including rises triggered by the war in Ukraine and / or the related sanctions

Regardless of these uncertainties, however, the situation remains highly volatile, making it very difficult to accurately forecast outcomes for the financial year 2022. Other possible longer-term effects of the war in Ukraine cannot be estimated at the present time and are therefore not taken into account in the outlook.

Outlook for the BMW Group – key performance indicators

Prior to the outbreak of war in Ukraine, the BMW Group was set to forecast slight year-on-year growth in deliveries of BMW, MINI and Rolls-Royce brand vehicles for the Automotive segment¹. However, due to the production schedule adjustments and interruptions described above that have been triggered by the war in Ukraine, it now predicts deliveries to remain at previous year's level.

The BMW Group expects to achieve its target of slightly cutting the carbon emissions generated by its EU new vehicle fleet, driven in particular by the significantly growing share of electrified automobiles in total deliveries.

Without the impact of the war in Ukraine, carbon emissions per vehicle produced would have been predicted to decline moderately². However, in light of the likely adverse impact of production schedule adjustments and interruptions triggered by the war in Ukraine, the scale of reduction is now only expected to be slight.

Excluding the impact of the full consolidation of BMW Brilliance and the war in Ukraine, the Automotive segment EBIT margin had been expected to finish within a target range of between 8 and 10 %.

Although, as described above, the BMW Group had been set to forecast sales volume growth, the EBIT margin had nevertheless been expected to be lower year-on-year due to the absence of various positive effects that had benefited the financial year 2021, such as the partial reversal of the provision relating to the concluded antitrust proceedings, the remeasurement gains arising on the modernisation of the pension plan, and the highly favourable risk situation in the leasing line of business. The full consolidation of BMW Brilliance would have increased segment revenues and EBIT sharply, but due to consolidation effects, no significant impact on the EBIT margin in the Automotive segment was expected for the financial year 2022 and the figure would have been likely to remain between 8 and 10 %. However, in light of the probable adverse impact of production schedule adjustments and interruptions triggered by the war in Ukraine, an EBIT margin of between 7 and 9 % is now thought to be more realistic.

Based on the newly adopted methodology, RoCE for the Automotive segment would have been forecast at between 19 and 24 %, reflecting the lower level of earnings otherwise expected without the increase in the stake in BMW Brilliance and the impact of the war in Ukraine. However, the additional net assets identified in conjunction with the increased stake in BMW Brilliance plus fair value adjustments arising on the purchase price allocation have the twin effect of increasing capital employed. In combination with elimination effects on earnings in 2022, the targeted range for RoCE would therefore have been between 15 and 20 %. However, in light of the adverse impact of production schedule adjust-

¹ Delivery figures already include vehicles produced by BMW Brilliance.

² Carbon emissions per vehicle produced already take BMW Brilliance into account.

ments and interruptions triggered by the war in Ukraine, a RoCE in a range between 14 and 19 % is now considered more likely.

Motorcycles segment deliveries are forecast to increase slightly. The EBIT margin is predicted to finish within a range of between 8 and 10 % and, based on the revised methodology, the segment RoCE within a range of 19 and 24 %. Key performance indicators for the Motorcycles segment will only be marginally affected by the full consolidation of BMW Brilliance and are not currently expected to be substantially impacted by the war in Ukraine.

The RoE in the Financial Services segment is predicted to finish within a range of between 14 and 17 %. Compared with the financial year 2021, it has been assumed that the highly favourable results from remarketing lease returns, combined with an easing of the supply situation for semiconductors during the second half of the year, will return to a normal level. The full consolidation of BMW Brilliance will not impact the Financial Services segment, as the companies held jointly with BMW Brilliance that are attributable to this segment have already been reported on a fully consolidated basis due to the segment's majority shareholdings in the entities concerned. Likewise, no significant impact is currently expected from the war in Ukraine.

Excluding the impact of the full consolidation of BMW Brilliance, Group profit before tax would have decreased significantly. Without the impact of the war in Ukraine, sales volumes would have been expected to develop positively over the forecast period. However, this volume growth would not have been sufficient to compensate for the previous year's effects, such as the partial reversal of the provision relating to the concluded antitrust proceedings, the remeasurement gains arising on the modernisation of the pension plan, and the highly favourable risk situation within the credit and leasing lines of business. Nonetheless, including the impact of the full consolidation of BMW Brilliance, Group profit before

tax is set to increase significantly over the forecast period, mainly reflecting BMW Brilliance's additional contribution to the Automotive segment's operating profit as well as the remeasurement of the at-equity investment previously recorded, with a positive effect of approximately € 7 to € 8 billion to be recognised within the financial result. These effects would more than compensate for the elimination of the previous at-equity result of BMW Brilliance in the financial result and the negative impact of consolidated adjustments arising on full consolidation. Even taking into account the negative impact of production schedule adjustments and interruptions triggered by the war in Ukraine, Group profit is expected to increase significantly.

The share of women in management functions within the BMW Group is expected to rise slightly, irrespective of the Group's increased stake in BMW Brilliance.

Without taking the full consolidation of BMW Brilliance into account, the targets described above would have been achieved with only a slight rise in the overall number of employees. However, the increase in the stake in BMW Brilliance and the full consolidation of that entity will cause the number of employees to rise significantly.

The BMW Group's actual business performance may also deviate from current expectations due to the risks and opportunities discussed below in the section on [➤ Risk and Opportunity Management](#).

BMW GROUP KEY PERFORMANCE INDICATORS

		2021 reported	2021 adjusted	2022 Outlook
GROUP				
Profit before tax	€ million	16,060		Significant increase
Workforce at year-end		118,909		Significant increase
Share of women in management positions in the BMW Group	%	18.8		Slight increase
AUTOMOTIVE SEGMENT				
Deliveries to customers ¹	units	2,521,514		in line with last year's level
Share of electrified vehicles in deliveries	%	13.0		Significant increase
CO ₂ emissions EU New Vehicle Fleet ²	g/km	115.9		Slight decrease
CO ₂ emissions per vehicle produced ³	tons	0.33		Slight decrease
EBIT margin	%	10.3		between 7 and 9
Return on capital employed (RoCE) ⁴	%	59.9	24.0	between 14 and 19
MOTORCYCLES SEGMENT				
Deliveries to customers	units	194,261		Slight increase
EBIT margin	%	8.3		between 8 and 10
Return on capital employed (RoCE) ⁴	%	35.9	21.9	between 19 and 24
FINANCIAL SERVICES SEGMENT				
Return of Equity (RoE)	%	22.6		between 14 and 17

¹ Deliveries including the joint venture BMW Brilliance Automotive Ltd., Shenyang (2021: 651,236 units).

² EU-27 countries including Norway and Iceland; with effect from 2021, values are calculated on a converted basis in line with WLTP (Worldwide Harmonised Light Vehicles Test Procedure).

³ Efficiency ratio calculated on the basis of Scope 1 and Scope 2 CO₂ emissions (i.e. a market-based method according to GHG Protocol Scope 2 guidance; but excluding climate-changing gases other than carbon dioxide from vehicle production (BMW Group manufacturing sites incl. joint venture BMW Brilliance Automotive Ltd. and motorcycles, but excluding contract manufacturers), as well as BMW Group non-manufacturing sites, (e.g. Research centre, Sales centre, offices) divided by the number of vehicles (excluding motorcycles) produced (BMW Group manufacturing sites incl. joint venture BMW Brilliance Automotive Ltd., excluding contract manufacturers).

⁴ New method of calculation applied with effect from 2022. ↗ Performance Management

RISK AND OPPORTUNITY MANAGEMENT

The BMW Group's business is exposed to a variety of uncertainties and changes. Against this backdrop, it consciously takes well-calculated risks and makes full use of any opportunities that present themselves.

The management of risks and opportunities is essential in order to respond appropriately to any changes that occur in political, economic, ecological, social, technological or legal conditions. The BMW Group has put a comprehensive risk management system in place to effectively manage these risks as they arise.

The aim of the risk management system is to identify, assess and proactively manage any risks that could threaten the attainment of the Group's corporate targets. As part of that process, any individual or cumulative risks capable of posing a threat to the profitability of the business are both monitored and managed.

All opportunities and risks that are expected to materialise have already been addressed in the Outlook Report. The following sections focus on potential future developments or events that could result in a positive (opportunity) or a negative (risk) deviation from the outlook for the BMW Group.

As a general rule, the time horizon considered covers the current and the following financial year. Potential short-term effects of climate change are taken into account.

Medium- to long-term risks in connection with the climate change are described in the section [Climate-related opportunities and risks](#).

With effect from 11 February 2022, the BMW Brilliance Automotive Ltd. (BMW Brilliance) joint venture is fully consolidated in the Group Financial Statements. If the full consolidation of BMW Brilliance from that date is expected to result in a different classification of individual risk categories, such changes are indicated separately in this Risk Report.



Overall Risk and Opportunity Situation

The assessment of the overall risk situation is based on a consolidated view of all significant individual risks to which the BMW Group is exposed. The BMW Group's overall exposure to risk, including the impact of integrating BMW Brilliance, has increased moderately compared with the previous year. A prolonged military conflict between Russia and Ukraine and a worsening of the coronavirus pandemic could have a further negative impact on the global economy and hold down sales volume. At the same time, considerable uncertainties remain in the form of potential bottlenecks along the entire supply chain, particularly for semiconductors. However, if the effect of these issues were to prove less severe in 2022 than currently expected, opportunities could arise that could benefit both revenues and earnings.

The Management and the Supervisory Board do not see any threat to the BMW Group's status as a going concern. Similar to one year earlier, the current set of risks to the BMW Group are considered to be manageable. If these risks – or opportunities – were to materialise, they could have an impact on underlying key performance indicators, thus causing deviations from the outlook. Regardless of the full consolidation of BMW Brilliance, the BMW Group's financial resources are stable and liquidity requirements are currently covered by existing liquidity as well as the various financing instruments available.

In addition to the risks described below, unforeseen events could have a negative impact on business operations and hence on the BMW Group's results of operations, financial position and net assets as well as on its reputation.

Organisation of Risk Management

Risk management is organised as a decentralised, Group-wide network and steered by a centralised risk management function. The various BMW Group divisions are represented by Network Representatives. The responsibilities and tasks of the centralised risk management function and the Network Representatives are clearly documented and accepted. Risks pertaining to BMW Brilliance are incorporated in this Risk Report on the basis of the assessment made by the centralised risk management function. In future, BMW Brilliance will also be integrated in the risk management network. Significant risks reported from within the network are firstly presented for review to the Risk Management Steering Committee, which is chaired by Group Controlling. After they have been reviewed, any significant risks are reported to

both the Board of Management and the Supervisory Board's Audit Committee.

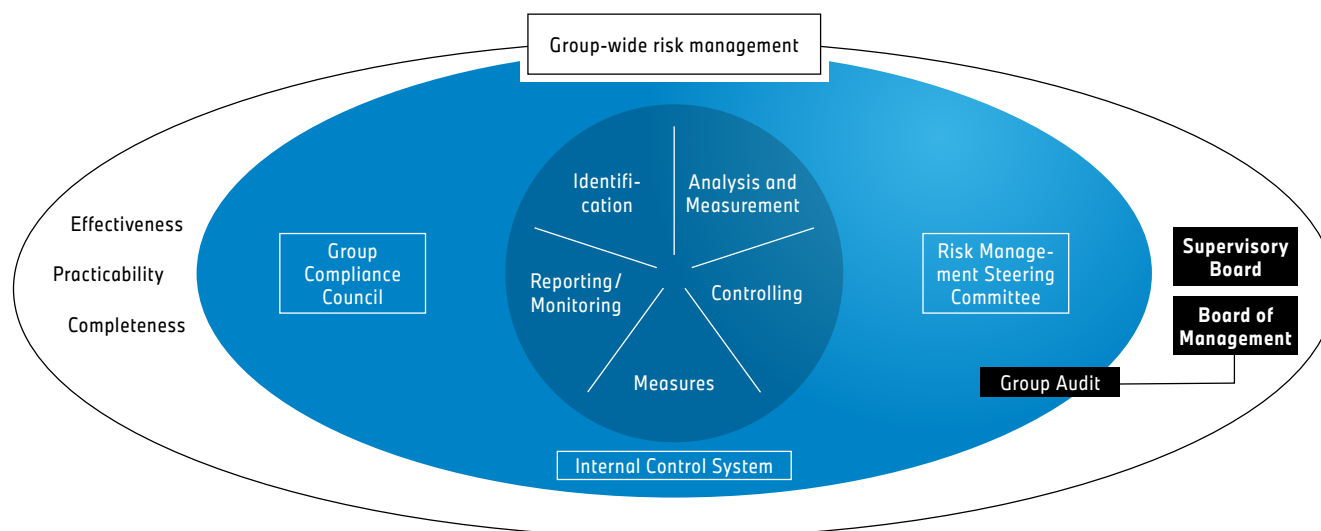
Other functions such as Compliance and Human Rights and the Internal Control System serve as key interfaces to the risk management system. In its capacity as an independent control body, Corporate Audit reviews the risk management system established by the Board of Management on an annual basis.

According to Group-wide guidelines, every employee and manager has a duty to report risks via the relevant reporting channels. The key elements of an appropriate risk culture are embedded in the BMW Group's core values, the BMW Group Risk Management Policy and the BMW Group Risk Manage-

ment Guidelines as well as in the Group's overall risk strategy. New information and requirements are continuously incorporated in the BMW Group's risk management system, thereby ensuring its ongoing development. Training programmes and informational events are regularly conducted throughout the BMW Group, particularly within the risk management network.

The risk management process is applicable across the entire Group and comprises the early identification, analysis and measurement of risks, the coordinated use of appropriate risk management tools and the monitoring and assessment of the measures taken.

RISK MANAGEMENT IN THE BMW GROUP



Risk Measurement

The BMW Group utilises standardised methods to assess risks. All significant risks are measured using value-at-risk models and assessed on the basis of uniform loss distribution metrics, thereby enabling better comparability of risks for both internal and external reporting purposes. The overall impact of the risks on the results of operations, financial and net assets position is referred to in the following sections uniformly as "earnings impact".

Risks are measured net of any risk mitigation measures that are already taking effect (net basis).

Risks are classified according to the risk amount (average earnings impact, taking into account the probability of occurrence). The earnings impact may be significantly higher if the risk actually materialises (worst-case scenario).

In light of the continued growth of the business and the associated risks, the value limits used in the Annual Report since 2013 have been revised.

The following ranges apply for the purpose of classifying the risk amount:

Class	Previous risk amount range	New risk amount range
Low	€ 0 – 50 million	€ 0 – 200 million
Medium	> € 50 – 400 million	> € 200 – 1,000 million
High	> € 400 million	> € 1,000 million

The impact of risks and opportunities is presented separately without offsetting. If no specific reference is made, opportunities and risks relate to the Automotive segment. The scope of entities consolidated for risk reporting purposes corresponds to the scope of consolidated entities included in the BMW Group Financial Statements.

Monitoring Risk-Bearing Capacity

Group-wide effects and trends can be identified by aggregating all significant risks at Group level using value-at-risk models. For this purpose, the potential earnings impact of the risks (confidence level: 99 %) is aggregated, taking correlation effects into account. In order to assess the risk-bearing capacity of the BMW Group, the aggregated amount of risks is compared with the risk cover amount (i. e. the equity capital of the BMW Group recognised for accounting purposes). A limit system for various risks helps monitor the risk-bearing capacity.

Managing Reputational Risks

Quite apart from the financial consequences, risks can also have an impact on the BMW Group's reputation. For these purposes, the BMW Group assesses all risks with regard to their impact on its reputation using a scoring model. Moreover, other overarching topics are monitored by means of regular media analysis. Any significant reputational repercussions are described in the following sections.

Managing Non-Financial Risks as Reported in the NFS

Alongside the maintenance of a comprehensive system of risk management, sustainability constitutes a core strategic principle of the BMW Group. Risks resulting from sustainability issues are generally identified via the Group-wide risk management network.

In accordance with § 289c of the German Commercial Code (HGB) risks that could have an impact on the non-financial aspects referred to in the relevant legislation are reviewed as part of the reporting process. Significant risks in this context are defined as those stemming from business activities, business relationships and products and services provided by the BMW Group that are highly likely to have a seriously adverse impact. No significant non-financial risks were identified during the year under report.

Opportunity Management

A dynamic market environment also gives rise to opportunities. Identifying these opportunities is an integral part of the BMW Group's strategic planning process. The Group's range of products and services is continually reviewed on the basis of these analyses.

The continuous monitoring of key business processes and strict cost controls are also essential factors for ensuring high levels of profitability and return on capital employed.

The importance of opportunities for the BMW Group is classified on a qualitative basis in the categories "significant" and "insignificant". Probable measures aimed at increasing profitability are already incorporated in the outlook.

Risks and Opportunities

The following table provides an overview of significant risks and opportunities for the years 2022 and 2023 and indicates their level of importance for the BMW Group. Overall, no risks capable of threatening the continued existence of the BMW Group were identified either at the balance sheet date or at the date on which the Group Financial Statements were drawn up.

Due to the particular features of the business model applied for Financial Services business, risks and opportunities relating to that segment are presented separately in the section Risk management system in the Financial Services segment.

Due to the medium- to long-term horizon involved, risks associated with climate change are presented in the section

➤ Climate-related opportunities and risks.

	Risks		Opportunities	
	Classification of the risk amount ¹	Change compared to prior year ²	Classification	Change compared to prior year
Macroeconomic risks and opportunities	Medium	Stable	Insignificant	Decreased
Strategic and sector-specific risks and opportunities				
Changes in legislation and regulatory requirements	High	Stable	Insignificant	Stable
Market developments	Medium	Decreased	Insignificant	Stable
Risks and opportunities relating to operations				
Production and technology	Medium	Stable	Insignificant	Stable
Purchasing	High	Stable	Insignificant	Stable
Sales network	Low	Stable	Insignificant	Stable
Information security, data protection and IT	High	Increased	Insignificant	Stable
Financial risks and opportunities				
Foreign currencies	Low	Decreased	Significant	Stable
Raw materials	High	Increased	Significant	Stable
Liquidity	Low	Stable	–	–
Other financial risks	Medium	Stable	Insignificant	Decreased
Pension obligations	Medium	Decreased	Significant	Stable
Legal risks	Medium	Stable	–	–

¹ The classified risk amount does not change as a result of the full consolidation of BMW Brilliance.

² As shown in the section "Risk measurement", the risk amount ranges used for risk classification purposes have been updated. The change shown here relates to the classification of prior-year risks using the updated risk amount ranges.

Macroeconomic Risks and Opportunities

Economic conditions have an impact on business performance and hence on the level of earnings generated by the BMW Group. Unforeseen disruptions in global economic relations can have highly unpredictable effects. The risk amount over the two-year assessment period is classified as medium.

The invasion of Ukraine by Russian troops has, among other factors, triggered supply restrictions affecting components from Ukraine which have already led to production schedule adjustments and interruptions at a number of BMW Group plants. If the military conflict continues for a prolonged period, it will also have a perceptible impact on sales.

There is a risk of a further escalation of the conflict and therefore of the sanctions imposed by Western countries on Russia as well as possible retaliatory measures by Russia. Any additional sanctions relating to the capital market and the import and export of goods and raw materials will have distinct consequences that are also likely to have a negative impact on economies outside Russia.

Global supply shortfalls – particularly for semiconductors – continue to dampen the prospects of economic growth. These bottlenecks could persist throughout the whole of 2022, with the resulting shortage of (upstream) products causing the hitherto strong recovery of the global economy to lose pace.

Mutation could result in the emergence of a highly contagious coronavirus variant that could, in turn, cause severe disease. In this case, strict containment measures could slow down the economic recovery. The BMW Group is monitoring the situation on a continuous basis and taking appropriate measures as required.

The conflict between the USA and China is also set to remain a major topic of discussion. The focus is currently shift-

ing from simple tariff increases to further import and export restrictions on specific technologies. This could also lead to less favourable import and export conditions for the BMW Group.

A further risk is seen in the very high rate of inflation currently being observed in many regions. If inflation were to remain high over an extended period, rising prices would curb demand. The expected interest rate hikes by central banks will also have a dampening effect on business.

Macroeconomic opportunities that could have a sustained positive impact on the BMW Group's results of operation are classified as insignificant.

Strategic and Sector-Specific Risks and Opportunities

Changes in legislation and regulatory requirements

The introduction of more stringent legislation and regulations, particularly regarding emissions, safety and consumer protection as well as regional vehicle-related purchase and usage taxes, poses a significant risk for the automobile industry. Country- and sector-specific trade barriers can also be subject to change at short notice. Any sudden tightening of regulations in these areas could necessitate significantly higher investments and ongoing expenses or exert influence on customer behaviour. The risk amount attached to the occurrence of the risk of disruption in product availability due to unforeseeable short-term changes in legislation and regulations is classified as high.

At present, the BMW Group is seeing a continuous trend towards increasingly stringent vehicle emissions regulations, particularly for conventional drive systems, with the aim of improving air quality, above all in conurbations. A legislative proposal for the new Euro 7 emissions standard is being discussed within the European Union. As the technical requirements and the implementation timetable for the new standard are still subject to consultation, a certain element of risk is involved. A discussion about fuel consumption and carbon

emissions could affect the Company's reputation.

Additional risks could result from the tightening of existing import and export regulations, which could, in turn, lead primarily to additional expenses, but also complicate the import and export of vehicles and parts.

Changes in trade policies could also have a positive impact on the BMW Group's earnings in the short to medium term. Any reduction in tariff barriers, import restrictions or direct excise duties could result in lower manufacturing costs or enable products and services to be offered to customers at more attractive prices. Additional opportunities potentially arising from changes in legislation and regulations are classified as insignificant.

Market developments

Increasingly fierce competition among established manufacturers and the emergence of new competitors can have repercussions that are difficult to predict. Unforeseen consumer preferences and changes in brand perceptions could also give rise to both opportunities and risks. The risk amount attached to the occurrence of market risks over the two-year assessment period is classified as medium.

Any toughening of market competition could ramp up pressure on sales volume and selling prices. For instance, the BMW Group could be confronted with short-term supply and demand distortions in the transition from conventionally powered vehicles to alternative drive concepts. Customer behaviour can also change, such as in the event of changing social values and norms or as a consequence of governmental policies relating to vehicle usage.

Sales markets are continuously monitored in order to optimally meet customer requirements and, at the same time, capitalise on opportunities in terms of sales growth and pricing. Opportunities arising over the assessment period are classified as insignificant.

Risks and Opportunities Relating to Operations

Risks and opportunities relating to production and technologies

Risks relating to production processes and fields of technology can lead to unplanned production interruptions or additional costs due to vehicle recall actions. The risk amount attached to the occurrence of such risks over the two-year assessment period is classified as medium.

Potential causes of production downtimes include fires, natural hazards and infrastructural damage as well as machine and tooling breakdowns. Equally significantly, however, production could also be impaired by bottlenecks in the supply of production materials or components, utility or media supply failures or disruptions to transportation, logistics or IT systems, all of which could be caused by cyberattacks, among other factors.

All production units have a variety of measures in place to deal with potential production interruptions and downtimes, some of which are already integrated in the planning process and also applied at operational level with a high degree of flexibility. These measures have an effect on both the amount of damage and the probability of the risks occurring.

Technical fire protection, transparency with regard to potential natural hazards relevant for site selection and ongoing operations, underpinned by other appropriate (e.g. structural) measures, a rapid response by on-site fire services and employee training are the key strategies for preventing or reducing any potential damage from fires and/or natural hazards. Furthermore, policies are in place with insurance companies of high credit standing to mitigate the impact of any property damage caused by fire and/or natural events that lead to significant business interruptions at either the Group's or suppliers' premises.

Appropriate measures have been put in place to counter the threat of targeted cyberattacks, reflecting the fact that any such attacks could cause damage to production facilities

and possibly result in long downtimes and substantial losses.

Vehicles could be damaged or destroyed by natural hazards or other threats during transport from the Group's production plants to its various sales regions. Premiums and deductibles for transport insurance policies currently remain at a persistently high level. Any further increase could make it economically unviable to take out insurance, as a result of which the BMW Group would be required to bear the losses itself.

The BMW Group recognises appropriate provisions for statutory and non-statutory warranty obligations. It cannot be ruled out, however, that additional costs could arise in conjunction with vehicle recalls that are either not covered or not fully covered by provisions. Despitely, deploying thorough quality assurance processes, such risks can always arise if the materials and/or processing procedures used prove insufficient, in some cases years after a product has been launched. A high number of recalls could also have a negative impact on the BMW Group's reputation. Further information on risks in conjunction with provisions for statutory and non-statutory warranty obligations is provided in [note 33](#) to the Group Financial Statements.

The development and testing of new technologies inherently give rise to a certain level of risk. An accident – for example involving a vehicle in automated driving mode – could have a negative impact on the Company's reputation, regardless of cause. Avoiding these risks is a top priority for the BMW Group.

The BMW Group sees opportunities relating to production processes and fields of technology primarily in the competitive edge gained from mastering new and complex technologies. Given the long lead times involved in developing new products and processes, additional opportunities are not expected to have a significant earnings impact on the BMW Group during the assessment period.

Risks and opportunities relating to purchasing

Purchasing risks relate primarily to supply risks caused by the failure of a supplier as well as to threats to BMW Group-relevant know-how within the supplier network. Production problems at supplier level could lead to consequences caused by increased expenditure for the BMW Group due to production interruptions and a corresponding reduction in vehicle sales. The BMW Group deploys an extensive set of checks and proactive management measures to tackle the challenges currently facing the automotive supply industry. The risk amount attached to purchasing risks over the two-year assessment period is classified as high.

Potential reasons for the failure of individual suppliers to deliver include IT-related risks, non-compliance with sustainability or quality standards, the lack of availability of raw materials and other input materials, and the occurrence of natural hazards and/or fires. Insufficient financial capacity on the part of individual suppliers can also jeopardise supplies to production plants. In this context, the BMW Group ensures financial support for suppliers that are of critical importance for maintaining production. Moreover, any major deterioration of a particular country's security situation is incorporated in the risk measurement process as a potential reason for the failure of a value or supply chain.

Among other challenges, the military conflict between Russia and Ukraine is causing disruptions in the supply of components produced in Ukraine. Any further escalation could potentially affect both direct suppliers and upstream sub-suppliers from neighbouring countries, thereby aggravating the supply situation still further and curtailing the availability of raw materials from Russia.

The growing complexity of the supplier network, particularly in the case of sub-suppliers whose operations can only be indirectly monitored by the BMW Group, is a further potential cause of downtimes at supplier locations. Due to the high level of demand on international semiconductor markets, the

BMW Group has already experienced temporary bottlenecks in the supply of electronic components.

The ongoing tight supply situation along the entire supply chain – particularly due to bottlenecks affecting the supply of semiconductors – could continue to result in adjustments to the production schedule. Reporting on such eventualities could also have a negative impact on the Company's reputation. The BMW Group is monitoring the situation very closely, assessing developments on a continual basis and ensuring that supply chains and production plants are working together as closely as possible.

The increased threat of cyberattacks along the entire value chain also affects supply security as well as the ability to protect know-how relevant to the BMW Group. In order to ensure a uniform level of IT security for all those involved along the value and supply chain, the BMW Group impresses on suppliers the importance of obtaining appropriate IT security certification.

When selecting its suppliers, the BMW Group not only takes into account external requirements, such as those contained in the German Supply Chain Due Diligence Act (Lieferkettensorgfaltspflichtengesetz), but also ensures that the sustainability standards set internally by the Group are met.

The risks associated with the supply of raw materials are mitigated either by reducing the use of the raw materials in question or substituting them with alternative products.

Within the Purchasing and Supplier Network, opportunities arise primarily in the context of global sourcing and associated efficiency improvements. Making optimal use of any innovations developed by suppliers is a key prerequisite for developing future-oriented mobility products and services. Similarly, favourable location-related cost factors, particularly those arising due to the close proximity of supplier struc-

tures to new and existing BMW Group production plants as well as the introduction of innovative production technologies, could lead to lower cost of materials for the BMW Group.

Opportunities arising over the assessment period are classified as insignificant.

Risks and opportunities relating to the sales network

In order to sell its products and services, the BMW Group operates a global sales network – mainly comprising independent dealerships, branches, subsidiaries and importers. Any threat to the continued activities of parts of the sales network, for example due to the impending insolvency of large-scale dealerships, would entail risks for the BMW Group. The risk amount attached to sales and marketing risks over the two-year assessment period is classified as low.

As in other areas, the BMW Group is shaping the future of its sales organisation with a clear focus on placing the customer experience at the centre of its activities. Our declared aim is to deliver the best premium brand and customer experience in the industry. A key building block in this endeavour is the digitalisation of the customer journey. In conjunction with the dealership organisation, new opportunities are arising in this context, which the BMW Group, however, classifies as insignificant.

Information security, data protection and IT

Digitalisation and automation across all areas of the business and all BMW Group products offer excellent opportunities that are helping move the organisation forward on its strategic path towards sustainability. At the same time, requirements regarding the confidentiality, integrity and availability of information are becoming increasingly strict, with a corresponding impact on the related use of information technology (IT). The level of threat has continuously risen in recent years and the impact of the military conflict between

Russia and Ukraine could lead to a further increase in the number of cyberattacks. Moreover, legal and regulatory requirements are becoming ever stricter worldwide. Examples include the Second Act to Increase the Security of Information Technology Systems (German IT Security Act 2.0) and new data protection laws in China.

In view of the higher incidence of observed attacks on BMW Group applications and systems, the risk amount – despite extensive security measures – is classified as high.

In addition to threats in the form of cyberattacks and physical interventions, information and data can also be compromised by a lack of risk awareness and inappropriate behaviour. The main direct consequences would be negative effects on revenues, disruption in the production of components and vehicles, or reputational damage.

The BMW Group places great emphasis on protecting business information, for instance against unauthorised access and/or misuse. Data security is an integral part of all Group business processes and practised in accordance with the ISO/IEC 27001 international standard. In conjunction with risk management requirements, risks relating to information security, data protection and IT are systematically documented, allocated appropriate measures by the departments concerned and continuously monitored with regard to threat level and risk mitigation. Regular analyses and controls as well as tight security management policies ensure an appropriate level of security.

However, despite continuous testing and preventive security measures, it is impossible to completely eliminate risks in this area. All authorised persons are required to treat information such as confidential business, customer and employee data with great care, use information systems securely and handle risks in a transparent manner. Uniform requirements that apply throughout the Group are

documented in a comprehensive set of rules and guidelines. A consistently applied policy of updating such rules and regulations to current situations, coupled with regular communication, awareness-raising and training measures, form the basis for a high level of security and risk awareness in general.

With regard to cooperations and business partnerships, the BMW Group protects its intellectual property as well as its customer and employee data by issuing clearly defined instructions on information security and data protection. Trade secrets and sensitive personal data are subject to particularly stringent security measures.

The loss or theft of sensitive business information could also have a negative impact on the Company's reputation.

Financial Risks and Risks relating to the use of Financial Instruments

Currency risks and opportunities

As an internationally operating enterprise, the BMW Group conducts business in a variety of currencies, thus giving rise to currency risks and opportunities. A substantial portion of Group revenues, production, other purchases and funding occur outside the eurozone, particularly in China and the USA. Regularly updated cash-flow-at-risk models and scenario analyses are used to measure currency risks and opportunities. The risk amount associated with currency risks is classified as low. The risk situation is more favourable than in the previous year, as exchange rates have developed positively compared with those assumed in earlier forecasts.

Operational currency management is based on the results of currency risk analyses. The BMW Group manages currency risks at both strategic (medium to long term) and operational level (short to medium term). Medium- to long-term measures include increasing production and purchase volumes in

foreign currency regions, i. e. natural hedging. Currency risks are managed in the short to medium term and for operational purposes by means of hedging on financial markets. The principal objective is to increase planning reliability for the BMW Group. Hedging transactions are entered into only with financial partners of good credit standing. Depending on exchange rate developments, significant opportunities may arise.

Risks and opportunities relating to raw materials prices

As a manufacturing company, the BMW Group is exposed to purchase price risks, particularly in relation to the raw materials used in vehicle production. Changes in prices are monitored via a well-defined management process, the primary objective of which is to improve planning reliability for the BMW Group as a whole.

The analysis of raw materials price risks is based on planned purchases of raw materials and components containing those products. Cash-flow-at-risk models and scenario analyses are deployed to measure risks and opportunities relating to raw materials prices. Price fluctuations for precious metals (platinum, palladium, rhodium), non-ferrous metals (aluminium, copper), raw materials for batteries (lead, nickel, cobalt) and, to some extent, for steel and its basic ingredients (iron ore, coking coal) as well as energy (gas, electricity) are hedged using financial derivatives and supply contracts with fixed pricing arrangements.

Due to high demand, the prices of many raw materials have been, and continue to be, subject to a high degree of fluctuations on commodity markets. Accordingly, the risk amount associated with raw materials prices is classified as high. Significant opportunities could arise if raw materials prices, contrary to current expectations, develop favourably for the BMW Group.



Liquidity risks

The major part of the Financial Services segment's credit financing and leasing business is refinanced on capital markets. Liquidity risks can arise in the form of rising refinancing costs or from restricted access to funds due to the general market situation. The risk amount associated with liquidity risks is classified as low.

Based on the experience gained during the global financial crisis, a liquidity concept has been drawn up, which is rigorously adhered to and continuously developed. In the Financial Services segment, the use of the "matched funding principle" ensures that liquidity risks are generally avoided.

Solvency is assured at all times throughout the BMW Group by adhering to liquidity ratios and using a broadly diversified range of refinancing sources. Regular measurement and monitoring ensure that cash inflows and outflows for the various maturities and currencies offset one another. This approach is an integral part of the BMW Group's liquidity concept.

The liquidity position is monitored continuously and managed through the Group-wide planning of financial requirements and funding. At present, opportunities relating to liquidity are not expected to have any significant earnings impact. Further information on risks in conjunction with financial instruments is provided in [note 39](#) to the Group Financial Statements.

Other financial risks

Other financial risks worth mentioning include counterparty risks as well as those arising in connection with investments in other entities.

The BMW Group works together with banks to ensure that the available liquidity is optimally invested in order to hedge against financial market risks (particularly currency, commodity and interest rate risks) using derivative financial in-

struments and to protect payments made in advance. Counterparty risk denotes the risk that the BMW Group will not receive, or not receive in full, the payments due to it in connection with the investment and hedging transactions referred to above. An enhanced value-at-risk model is employed to measure counterparty risk, taking into account the creditworthiness (rating) of the banks and the business volumes involved. Risk is managed using a limit system, which includes daily monitoring of the extent to which limits are being utilised at the level of the individual counterparties.

The BMW Group holds equity investments of varying amounts in numerous entities, which could give rise to risks requiring the recognition of impairment losses.

The risk amount associated with other financial risks is classified as medium. Generally speaking revaluations of investments could give rise to opportunities with a significant earnings impact.

Risks and opportunities relating to pension obligations

Future pension obligations are financed largely via external pension funds or trust constructs that are legally separate from the BMW Group. Externally managed funds are invested on capital markets in a broadly diversified portfolio with a view to enabling future pension payments to be disbursed out of pension assets. These arrangements greatly reduce the need to fund pension payments out of ongoing operations.

Risks can arise from fluctuations in pension obligations on the one hand and the related pension assets on the other. Opportunities can arise if the value of pension assets on capital markets develops favourably or if pension obligations decrease at a more pronounced rate than the related assets.

Pension obligations are primarily measured using a discount rate based on market yields from high-quality corporate bonds. These yields are subject to market fluctuations and

therefore influence the level of pension obligations. Changes in other parameters, such as rising inflation rates and longer life expectancy, also impact the amount as well as the duration of future pension payments. Regulatory requirements or changes may also affect the amount of pension obligations.

The fluctuation of pension assets reflects the volatility of individual asset classes on capital markets. The broadly diversified portfolio comprises investments in interest-bearing securities, equities, real estate and other asset classes.

The risk relating to pension obligations was substantially reduced by the restructuring of pension commitments in Germany in 2021. Under the new arrangements, employees were given the option to switch to the Company's defined contribution pension plan. While the latter entails the risk associated with guaranteeing a minimum rate of return, the overall risk is lower than that arising in connection with the defined benefit pension plan.

The risk amount attached to pension obligations is classified as medium.

Remeasurements on the liabilities and assets sides are recognised net of deferred taxes through other comprehensive income and hence directly in equity of the BMW Group (within revenue reserves). Further information on risks in conjunction with pension provisions is provided in [note 32](#) to the Group Financial Statements.

Legal Risks

Due to the global nature of its operations, the BMW Group is exposed to various legal risks. Legal risks may result from non-compliance with laws or other legal requirements, or from legal disputes with business partners or other market participants. If legal risks were to materialise, they could have a high earnings impact over the two-year assessment period. The risk amounts attached to significant identified legal risks are classified as medium.

The growing globalisation of the BMW Group's operations as well as of business interdependencies in general, combined with the variety and complexity of legal provisions – increasingly including import and export regulations – give rise to a greater risk of non-compliance with applicable legislation. A Compliance Management System is in place across the BMW Group to ensure that its representative bodies, executives and staff members worldwide consistently act in a lawful manner. Further information on compliance within the BMW Group as well as on the Compliance Management System is provided in the chapter [Compliance and human rights](#).

Like all entities with international operations, the BMW Group is confronted with legal disputes and alleged claims relating in particular to warranty and product liability, infringements of protected rights and proceedings initiated by government agencies. Any of these could, amongst other consequences, have an adverse impact on the Group's reputation. Proceedings of this nature are essentially typical for the sector, may result as a consequence of realigning product or purchasing strategies to changed market conditions, or are antitrust-related. Particularly in the US market, class action lawsuits and product liability risks can have substantial financial consequences and cause damage to the BMW Group's reputation. More rigorous application, interpretation of, or changes to, existing regulations could result in a greater number of recalls.

For several years, lawsuits have been filed against BMW Bank GmbH (BMW Bank) in which consumers claim the withdrawal of their loan and leasing contracts on the basis of allegedly incorrect and insufficient pre-contractual information. The focus is on loan contracts. Since 2017, BMW Bank has won the vast majority of these lawsuits. In November 2019, the Federal Court of Justice (BGH) adopted a decision of principle in favour of BMW Bank, confirming the accuracy of consumer-relevant information in loan contracts. In addition, in October 2020 the BGH decided in a case in which BMW Bank was not involved that consumers are generally obliged to pay a compensation after a successful withdrawal. Since the beginning of 2020, several references for a preliminary ruling on the scope of information obligations have been filed with the European Court of Justice (ECJ). On September 9, 2021, the ECJ decided on the requests for preliminary ruling concerning the requirements on the terms and conditions in consumer credit agreements in particular with regard to default interest and prepayment penalty. Based on this ruling the BGH requests the ECJ for another preliminary ruling whether the concept of abuse of rights in connection with consumer credit agreements is still applicable under certain circumstances. Although this is technically not a final decision, the BGH mentioned in the reasoning part of its decision that it does not consider BMW Bank's terms and conditions in consumer credit agreements to completely fulfill the requirements as set by the ECJ ruling. Therefore, there is a legal risk that borrowers might withdraw consumer credit agreements of BMW Bank with reference to the proceeding submitted to the ECJ and the ECJ decision as of September 9, 2021. However, the right to compensation of BMW Bank due to the car use period of the borrower is still applicable. The possible financial impact cannot be definitively assessed at this stage.

International movements of goods require compliance with extensive export control regulations. In addition to

goods-related restrictions, international trading may also involve personal, country-specific and end-use-related restrictions. In particular, non-compliance with applicable EU and US export control regulations could result in significant legal consequences for the BMW Group. In light of its strong presence in the USA and China, any intensification of the trade dispute between the two countries could be a potential source of additional risk exposure.

The BMW Group is subject to tax and customs audits in every country in which it operates, potentially resulting in back taxes, retrospective customs duties, interest, penalties and similar payments. Payments of this nature may, for instance, result from the full or the partial non-recognition of intercompany transfer prices in the countries concerned. Further substantive legal risks may also arise as a result of changes in tax or customs legislation or due to the way that legislation is interpreted by tax and customs authorities or courts. In many cases, such changes can also have a retrospective impact on calendar years that were not yet subject to definitive audits. In order to minimise procedural tax and customs risks, the BMW Group recently set up a comprehensive Tax and Customs Control Framework that is already being applied in Germany and will be rolled out successively in other countries.

The BMW Group recognises appropriate levels of provision for lawsuits and risks. In addition, a part of these risks is insured to an economically reasonable extent. Nevertheless, it cannot be ruled out that damages may occur in excess of the insured amounts. In accordance with International Financial Reporting Standards (IFRS), the required information is not provided if the BMW Group concludes that disclosure of the information could seriously prejudice the outcome of the relevant legal proceedings. Further information on contingent liabilities is provided in [note 38](#) to the Group Financial Statements.

Alleged or actual non-compliance with the law could also have a negative impact on the BMW Group's reputation.

Risk Management System in the Financial Services Segment

Risk management within the Financial Services business is built on the prevailing risk culture, the defined risk strategy, the internal capital adequacy assessment process framework and a set of rules comprising principles and guidelines. The main tool used to manage risk within the Financial Services segment is to ensure its risk-bearing capacity.

All risks – in the sense of unexpected losses – must be covered at all times. Based on the segment's risk appetite, this is achieved by ensuring specified levels of risk-covering assets (asset cushions) in the form of equity capital. Unexpected losses are measured using various value-at-risk models, which are validated at regular intervals. Risks are aggregated after taking account of correlation effects. In addition to assessing the Group's ability to bear risk, stress scenarios are also examined. The segment's risk-bearing capacity is regularly controlled by means of an integrated limit system for the various risk categories.

Due to the close interrelationships within the Group, developments that affect the BMW Group's industrial business in the first step are also relevant for the Financial Services segment in the second step. In addition, banking supervisory agencies around the world require sustainability risks to be adequately addressed. Sustainability risks, such as natural events or a change in carbon pricing, affect existing risk categories and can also have an impact in the short term.

The following overview provides a summary of the main risks and opportunities in the Financial Services segment:

Risks and opportunities relating to the Financial Services segment

The main categories of risk relevant for financial services business are credit and counterparty risk, residual value risk, interest rate risk, operational risk and liquidity risk. The evaluation of liquidity risk for the Financial Services segment is included in the liquidity risk category for the Group as a whole.

Credit and counterparty risks and opportunities relating to the Financial Services segment

Credit and counterparty default risk arises within the Financial Services segment if a contractual partner (e.g. a customer or dealership) becomes either unable or only partially able to fulfil its contractual obligations, so that less income is generated or losses are incurred. Among other consequences, the military conflict between Russia and Ukraine could also result in credit losses. The risk amount attached to the occurrence of unexpected credit or counterparty default risks over the two-year assessment period is classified as medium. The BMW Group classifies potential opportunities in this area as insignificant.

In the financial year 2021, the Financial Services segment benefited among other things from a favourable risk situation and the resulting lower level of impairment allowances required. Credit losses were at an historically low level.

Initial and continuous creditworthiness testing is an important aspect of the BMW Group's credit risk management system. For this reason, every borrower's creditworthiness is tested for all credit financing and leasing contracts entered into by the BMW Group. Opportunities may arise if the managed portfolio performs better over time than estimated when the credits were granted. Changes in the creditworthiness of customers arising during the credit term are covered by risk provisioning procedures. The credit risk of individual customers is quantified on a monthly basis and, depending on the outcome, taken into account within the risk provisioning system. Macroeconomic developments are currently subject to a higher degree of volatility. If developments are more favourable than assumed in the outlook, credit losses may be lower than expected, leading to a positive earnings impact.

	Risks		Opportunities	
	Classification of the risk amount ¹	Change compared to prior year ²	Classification	Change compared to prior year
Credit risk	Medium	Stable	Insignificant	Stable
Residual value	High	Stable	Significant	Stable
Interest rate changes	Low	Stable	Significant	Stable
Operational risks	Medium	Increased	–	–

¹ The classified risk amount does not change as a result of the full consolidation of BMW Brilliance.

² As shown in the section "Risk measurement", the risk amount ranges used for risk classification purposes have been revised. The change shown here relates to the classification of prior-year risks using the revised risk amount ranges.

Residual value risks and opportunities relating to the Financial Services segment

Risks and opportunities arise in conjunction with leasing contracts if the market value of a leased vehicle at the end of the contractual term of a lease differs from the residual value estimated at the commencement date of the lease. A residual value risk exists if the expected market value of the vehicle at the end of the contractual term is lower than its estimated residual value at the date the contract was entered into. The risk amount attached to the occurrence of unexpected residual value risks over the two-year assessment period is classified as high. Opportunities can arise out of a positive deviation between the actual market value and the original residual value forecast. The BMW Group classifies potential residual value opportunities as significant.

Each vehicle's estimated residual value is calculated at the beginning of the contract on the basis of historical external and internal data. Developments on pre-owned car markets are an important factor for the BMW Group. The BMW Group has developed and implemented specialised methods and processes that enable the sustainability aspects of residual value risks to be appropriately assessed and managed.

Market developments are observed throughout the contractual period and the risk assessment updated accordingly. Residual value risk management essentially follows the same established process, regardless of the drive system variant.

The exceptional upturn in the pre-owned vehicle market, particularly in the USA and the UK, combined with high levels of revenue generated on lease returns sold, had a correspondingly positive effect on the residual value situation across the Financial Services segment during the financial year 2021. This development was reflected in the lower level of residual value risk provisioning required.

Interest rate risks and opportunities relating to the Financial Services segment

Interest rate risks in the Financial Services segment relate to potential losses caused by changes in market interest rates. These can arise when fixed interest rate periods do not match for assets and liabilities recognised in the balance sheet. The risk amount attached to interest rate risks is classified as low. Favourable interest rate developments compared to the outlook represent opportunities that the BMW Group classifies as significant. Interest rate risks in the Financial Services business are managed by ensuring that fixed interest rate periods match to a large extent and through the use of interest-rate derivatives. If the relevant recognition criteria are fulfilled, derivatives used by the BMW Group are accounted for as hedging relationships. Further information on risks in conjunction with financial instruments is provided in [note 39](#) to the Group Financial Statements.

Operational risks relating to the Financial Services segment

In the Financial Services segment, operational risks are defined as the risk of losses arising due to the unsuitability or failure of internal procedures (process risks), people (personnel-related risks), systems (infrastructure and IT risks) and external events (external risks). The recording and measurement of risk scenarios, loss events and countermeasures in the operational risk management system provide the basis for the systematic analysis and management of potential or materialised operational risks. Annual self-assessments are also carried out.

Due to closer interconnection with other risk categories, such as outsourcing risks or information security risks, the level of the risk amount has been raised slightly from low to medium compared to the previous year. The classification of the risk amount has changed to medium as the pertinent threshold of €200 million was exceeded for the first time.

Climate-Related Opportunities and Risks

ⓘ Numerous developments of relevance for the BMW Group are either directly or indirectly linked to climate-related issues. The BMW Group is taking action to mitigate the impact of climate change and to adapt to changing climatic conditions. It is therefore imperative to identify climate-related risks and opportunities and to take appropriate account of them in determining the strategic direction to be followed, managing the business and organising a Group-wide risk management system. Since 2019, the BMW Group has been acting on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and is continuously developing its reporting on the management of climate-related risks and opportunities.

When considering climate-related risks, the BMW Group distinguishes between physical and transitory risks. Physical risks refer to the actual impact of climate change. Physical risks attributable to fundamental changes in climatic conditions, such as rising temperatures or changing precipitation patterns, are referred to as chronic and generally have a longer-term effect. We therefore monitor these risks over a period of up to 30 years. However, extreme weather events such as storms, floods and heatwaves are already becoming more frequent.

Transitory risks, on the other hand, arise from the transition to a low-carbon economy. This category of risks includes for example new and additional legal requirements relating to climate protection. We also see the changes resulting from the transition to a low-carbon future as an opportunity. Innovative products and services enable us to develop new fields of business, help decarbonise the mobility sector and thus boost our competitiveness at the same time.

Organisation and processes for managing climate-related risks

Within the BMW Group, the Board of Management is directly responsible for all matters relating to climate change including dealing with the consequences of climate change. Ac-

cordingly, the individual members of the Board of Management are each charged with the task of ensuring that their portfolios are strategically aligned with the stated objectives. Moreover, each proposal presented to the Board of Management is required to be assessed from a sustainability perspective and thus also with regard to climate-related aspects. ➤ [Internal management within strategy](#)

As part of the environmental analysis as part of the strategy process, the BMW Group analyses and takes account of transitory risks from a regulatory perspective on a continuous basis. During the financial year under report, the BMW Group successfully completed its "Adaptation to Climate Change" project with the involvement of top management. The physical climate risks were analysed and assessed using an external assessment tool.

Scenario analyses for identifying climate-related opportunities and risks

The BMW Group focuses on both mitigating and adapting to the consequences of climate change.

In the Adaptation to Climate Change project, we identified and assessed physical risks comprehensively for the first time on the basis of two different time horizons (2030 and 2050) as well as various climate change scenarios. Three warming pathways developed by the Intergovernmental Panel on Climate Change (IPCC) were applied and, in accordance with the TCFD recommendation, the impact of physical risks on the various stages of the value chain (including real estate, logistics and suppliers) was examined.

The so-called RCP* scenarios range from a low-emissions scenario in line with the 2°C target (RCP 2.6), a medium scenario with global warming of 2.4–2.7°C by the year 2100 (RCP 4.5) through to a 5°C scenario (RCP 8.5). On the one

hand, the RCP 2.6 scenario entails high transitory risks for the BMW Group due to stricter regulatory requirements governing carbon emissions. On the other hand, fewer physical risks would be likely to arise given the more ambitious climate protection measures. In the RCP 8.5 scenario, however, the physical risks dominate due to insufficient climate protection measures. Based on the BMW Group's assessment, the RCP 4.5 scenario is currently seen as the most likely and roughly corresponds to the contributions currently committed to by each country at national level.

Physical climate risks

- Climate change is likely to cause natural disasters to occur more frequently at our locations, for example heavy rains and heat waves, with the risk of damage to both inventories and products. To avoid production stoppages, we have already taken preventive measures at our production sites and other premises, such as the installation of sluice gates at the plant in Chennai, India.
- Extreme weather events at suppliers' locations worldwide can impact component deliveries and consequently supplies to production plants. Under these circumstances, key transport routes could be blocked – with implications for both the supply of components and the distribution of new vehicles.
- Physical climate risks could have a negative impact on economic growth in the regions affected, with noticeable unfavourable macroeconomic consequences, including a loss of income and the threat of unemployment for consumers. These factors, in turn, could reduce purchasing power in certain regions and have a negative impact on the BMW Group's sales volumes and operating result.

Transitory climate risks

- A significant tightening of laws and regulations in the BMW Group's main markets (the EU, the USA and China), particularly in terms of carbon emissions regulations which may also result from possible legal proceedings or court decisions and regional vehicle purchase and usage taxes, could have an impact on the BMW Group's range of products and services and result in higher costs and/or lower sales volumes. ➤ [Changes in legislation and regulatory requirements 1](#)
- [1](#) Any serious failure to comply with sustainability or quality standards could cause disruptions in the supply chain or the inability of individual suppliers to deliver.
- The aim is to reduce carbon emissions across all relevant supply chains on the basis of constructive cooperation with suppliers. It is important to point out, however, that the BMW Group depends on receiving accurate information from suppliers in this regard.
- However, if the carbon price were to rise to unexpected levels without sufficient time to plan accordingly, production costs will be driven up, with a correspondingly negative impact on the BMW Group's sales volumes and profitability. Furthermore, setting a price for carbon emissions could result in reduced purchasing power and thus hold down economic growth in the regions concerned.
- The global spread of electric mobility may give rise to bottlenecks in the availability of raw materials, particularly those needed to manufacture battery cells. As a result, higher raw materials prices could also have an impact on the BMW Group's earnings situation.

* Representative Concentration Pathways.

- Stricter requirements for carbon emitters due to regulatory tightening could affect the reputation of the BMW Group and make it less attractive as a sustainable investment.
- The transformation to a lower-emissions economy is fundamentally changing certain industries. Due to the potential macroeconomic consequences, the related sustainability risks are seen as a threat to the stability of financial markets. They could also have a negative impact on job security as well as the financial position of selected industries and their employees.

Climate-related opportunities

- With its flexible vehicle architectures and production systems, the BMW Group strives to take account of fluctuating customer demand as well as regulatory and infrastructural differences in its markets in a swift and adaptable manner. [↗ Production network](#)
- The BMW Group sees the growing demand for electrified vehicles as a major opportunity. We are leveraging this opportunity by continuously expanding our range of electrified products, while at the same time pressing ahead with the in-house development and production of electric drive systems, batteries and battery cell prototypes. This approach enables us to secure key know-how in new technologies at an early stage, gain crucial systems expertise and exploit cost advantages, which could also provide a decisive competitive edge. [↗ Production network](#)
- The BMW Group's strategic planning assumptions will endeavour to anticipate the consequences of rising carbon prices in the form of taxes and levies as well as potential shortfalls in emissions credits under emissions trading schemes, taking into account the assumptions applied in its own decision-making process and its cooperation with suppliers. [↗ Circular economy, resource efficiency and renewable efficiency](#)

- The BMW Group can exert its influence across its global supplier network to cut carbon emissions and work towards implementing decarbonisation measures. For instance, it has already entered into a contractual agreement with its cell manufacturers that only green electricity will be used to produce the fifth generation of battery cells. [↗ Supplier network and purchases](#) and [↗ Decarbonisation](#)
- By switching to lower-carbon processes and technologies at its own production plants, the BMW Group is not only boosting efficiency, but also cutting its costs. For example, generating its own electricity from renewable energy sources reduces the carbon footprint and minimises dependence on external electricity sources as well as its exposure to price fluctuations on the energy market. [↗ Renewable energy](#)
- In the best interest of a circular economy, the BMW Group intends to gradually increase its use of secondary materials and hence reduce carbon emissions at the same time. With this strategy, we are not only contributing towards achieving our decarbonisation target in the supply chain, but also reducing our dependence on primary materials in terms of their availability and cost. [↗ Circular economy and resource efficiency](#)
- By reporting comprehensively and transparently in a manner that meets potential legal requirements at an early stage, we are better able to ensure our access to capital markets and obtain attractive financing conditions on a long-term basis. [↗ BMW Group and Capital Markets](#)

By rigorously aligning its corporate strategy to meet specific sustainability targets, the BMW Group takes appropriate account of risks and opportunities in all its investments, innovations and corporate decisions. [1\]](#)

INTERNAL CONTROL SYSTEM

The Internal Control System* (ICS) is part of the BMW Group's overall system of internal governance, and is based on a set of measures and control activities that are integrated in processes and organisational structures with a view to ensuring the accuracy of external financial and non-financial reporting. The requirements for the design and structure of ICS procedures incorporated in accounting and financial reporting processes as well as those used to generate selected non-financial information included in the BMW Group Report are defined on a Group-wide basis.

The ICS for financial reporting has the task of ensuring that the BMW Group's accounting and financial reporting processes are both accurate and reliable. The ICS for non-financial reporting focuses primarily on the further development of the processes used to gather data as the basis for reporting non-financial performance indicators within the BMW Group Report.

The BMW Group's ICS is based on the "Three Lines of Defence" model, including a clear definition of how the various functions are required to interact with one another to manage risks. As an essential component of the second line of defence, the ICS serves as a link between the operating units (first line), internal audit (third line) and the external auditor.

Internationally acknowledged standards for internal control systems were taken into account when designing the various elements of the ICS deployed by the BMW Group. The system comprises:

- Group-wide mandatory accounting guidelines
- Controls integrated in processes and IT systems
- Organisational measures incorporating the principles of the risk-oriented segregation of duties
- Process-independent monitoring measures

Basically, the aim of any internal control system is to prevent, or reduce the probability of, potential risks from occurring. Both the system itself and the methods applied are subject to continuous improvement, with system effectiveness assessed regularly on the basis of centralised and decentralised process analyses, data analyses within the various financial systems, and audit-related procedures.

The principal features of the BMW Group's ICS are described below.

Guidelines for recognising, measuring and allocating items to accounts, along with the definitions of non-financial performance indicators are available to all employees via the BMW Group's intranet system. New financial reporting standards are assessed at an early stage for their impact on the BMW Group's accounting and financial reporting systems. Pertinent requirements are reviewed continuously and revised at least once a year, or more frequently if required.

Preventive controls serve to identify and eliminate weaknesses and omissions in processes. Detective controls on the other hand are deployed to detect and correct any errors in the results of those processes and are generally based on the principle of the segregation of duties. All key relevant IT systems incorporate controls that are designed, among other

things, to prevent business transactions from being recorded incorrectly, ensure the complete recognition and accurate of business transactions in accordance with the applicable requirements, and provide the basis for checking the accuracy of consolidation procedures.

Whenever changes are made to IT systems relating to accounting and financial reporting processes, the aforementioned controls are adapted to take account of new requirements and/or any opportunities that have arisen due to technical advances in information technology. Moreover, the BMW Group deploys data analysis tools to identify and subsequently eliminate weaknesses in its processes and/or control systems.

Responsibilities for ensuring the effectiveness of ICS procedures for accounting and financial reporting processes as well as the further development of the reporting of non-financial performance indicators are clearly defined in a role-based model and allocated to the relevant line and process managers. Once a year, the managers responsible report on their assessment of the ICS in place for accounting and financial reporting processes, based on the results of both internal and external audits as well as continual monitoring. The results of the assessment are gathered and documented in a centralised IT system. Any weaknesses found in the ICS are eliminated, taking into account their potential impact. Both the Board of Management and the Audit Committee are informed about the effectiveness of the ICS on an annual basis. The Board of Management and, where appropriate, the Supervisory Board, are promptly informed in the event of any significant changes to the ICS.

* Disclosures pursuant to § 289 and § 315 HGB.

DISCLOSURES RELEVANT FOR TAKEOVERS* AND EXPLANATORY COMMENTS

Composition of subscribed capital

The subscribed capital (share capital) of BMWAG amounted to € 661,399,500 at 31 December 2021 (2020: € 659,684,500) and, in accordance with Article 4 no. 1 of the Articles of Incorporation is sub-divided into 601,995,196 shares of common stock (91.02 %) (2020: 601,995,196; 91.26 %) and 59,404,304 shares of non-voting preferred stock (8.98 %) (2020: 57,689,304; 8.74 %), each with a par value of € 1. The Company's shares are issued to bearer.

The rights and duties of shareholders derive from the German Stock Corporation Act (AktG) in conjunction with the Company's Articles of Incorporation, the full text of which is available at www.bmwgroup.com. The right of shareholders to have their shares evidenced is excluded in accordance with the Articles of Incorporation. The voting power attached to each share corresponds to its par value. Each €1 of par value of share capital represented in a vote entitles the holder to one vote (Article 18 no. 1 of the Articles of Incorporation).

The Company's shares of preferred stock are shares as defined in §§ 139 et seqq. AktG, which carry a cumulative preferential right in terms of the allocation of profit and for which voting rights are excluded. These shares confer voting rights only in exceptional cases stipulated by law, in particular if the preference amount has either not been paid or not been paid

in full within one year and the arrears are not paid in the subsequent year alongside the full preference amount due for that year. With the exception of voting rights, holders of shares of preferred stock are entitled to the same rights as holders of shares of common stock. In addition, Article 24 of the Articles of Incorporation confers preferential treatment to the non-voting shares of preferred stock with regard to the appropriation of the Company's unappropriated profit. Accordingly, the unappropriated profit is required to be appropriated in the following order:

- (a) Subsequent payment of any arrears on dividends on non-voting shares of preferred stock in the order of accrument
- (b) Payment of an advance dividend of € 0.02 per € 1 par value on non-voting shares of preferred stock
- (c) Uniform payment of any other dividends on shares of common and preferred stock, provided the shareholders do not resolve otherwise at the Annual General Meeting

Restrictions affecting voting rights or the transfer of shares

In addition to shares of common stock, the Company has also issued non-voting shares of preferred stock. Further information can be found in the section "Composition of subscribed capital".

When the Company issues non-voting shares of preferred stock to employees in conjunction with its Employee Share Programme, these shares are generally subject to a Company-imposed blocking period of four years, calculated from the beginning of the calendar year in which the shares were issued.

Contractual holding period arrangements also apply to shares of common stock acquired by Board of Management members and certain senior department heads in conjunction with share-based remuneration programmes. [➔ Remuneration Report](#)

* Disclosures pursuant to § 289 a, § 315 a HGB.

Direct or indirect investments in capital exceeding 10 % of voting rights

Based on the information available to the Company, the following direct or indirect holdings exceeding 10 % of the voting rights at the end of the reporting period were held at the stated reporting date:¹

The voting percentages disclosed above may have changed subsequent to the stated date if these changes were not required to be reported to the Company. As the Company's shares are issued to bearer, the Company is generally only aware of changes in shareholdings if such changes are subject to mandatory notification rules.

in %	Direct share of voting rights	Indirect share of voting rights
Stefan Quandt, Germany	0.2	25.6 ²
AQTON SE, Bad Homburg v. d. Höhe, Germany	9.0	16.6 ³
AQTON Verwaltung GmbH, Bad Homburg v. d. Höhe, Germany		16.6 ⁴
AQTON GmbH & Co. KG für Automobilwerte, Bad Homburg v. d. Höhe, Germany	16.6	
Susanne Klatten, Germany	0.2	20.7 ⁵
Susanne Klatten Beteiligungs GmbH, Bad Homburg v. d. Höhe, Germany	20.7	

¹ Based on voluntary notifications provided by the listed shareholders as at 31 December 2021.

² Controlled entities, of which 3 % or more are attributed: AQTON SE, AQTON Verwaltung GmbH, AQTON GmbH & Co. KG für Automobilwerte.

³ Controlled entities, of which 3 % or more are attributed: AQTON Verwaltung GmbH, AQTON GmbH & Co. KG für Automobilwerte.

⁴ Controlled entities, of which 3 % or more are attributed: AQTON GmbH & Co. KG für Automobilwerte.

⁵ Controlled entities, of which 3 % or more are attributed: Susanne Klatten Beteiligungs GmbH.

Shares with special rights that confer control rights

There are no shares with special rights that confer control rights.

Control of voting rights when employees participate in capital and do not directly exercise their control rights

Like all other shareholders, employees exercise their control rights pertaining to shares they have acquired in conjunction with the Employee Share Programme and/or the share-based remuneration programme directly on the basis of relevant legal provisions and the Company's Articles of Incorporation.

Statutory regulations and provisions contained in the Articles of Incorporation governing the appointment and removal of members of the Board of Management and changes to the Articles of Incorporation

The appointment or removal of members of the Board of Management is based on the rules contained in §§ 84 et seq. AktG in conjunction with § 31 of the German Co-Determination Act (MitbestG).

Amendments to the Articles of Incorporation must comply with §§ 179 et seqq. AktG. Amendments must be decided upon by the shareholders at the Annual General Meeting (§ 119 (1) no. 6, § 179 (1) AktG). The Supervisory Board is authorised to approve amendments to the Articles of Incorporation that only affect its wording (Article 14 no. 3 of the Articles of Incorporation). Resolutions are passed at the Annual General Meeting by a simple majority of votes cast unless otherwise explicitly required by binding provisions of law or, if a majority of share capital is required, by a simple majority of share capital represented in the vote (Article 20 no. 1 of the Articles of Incorporation).

Authorisations of the Board of Management, in particular with respect to the issuing or buying back of shares

The Board of Management is authorised to buy back shares and sell repurchased shares in situations specified in § 71 AktG, for example to avert serious and imminent damage to the Company and/or to offer shares to persons either currently or previously employed by BMW AG or one of its affiliated companies.

In accordance with Article 4 no. 5 of the Articles of Incorporation, the Board of Management is authorised, with the approval of the Supervisory Board, to increase by means of cash contributions BMW AG's share capital during the period up to and including 15 May 2024 by up to € 1,722,600 for the purposes of an Employee Share Programme by issuing new non-voting shares of preferred stock, which carry the same rights as existing non-voting shares of preferred stock (Authorised Capital 2019). The subscription rights of existing shareholders are excluded. No conditional capital was in place at the reporting date.

Significant agreements of the Company taking effect in the event of a change in control following a takeover bid

BMW AG is party to the following major agreements, which contain provisions that would apply in the event of a change in control or the acquisition of control as a result of a takeover bid:

- An agreement concluded with an international consortium of banks relating to a syndicated credit line, which was not being utilised at the balance sheet date, entitles the lending banks to give extraordinary notice to terminate the credit line, such that all outstanding amounts, including interest, would fall due with immediate effect if

one or more parties jointly acquire direct or indirect control of BMW AG. The term "control" is defined as the acquisition of more than 50 % of the share capital of BMW AG, the right to receive more than 50 % of the dividend, or the right to direct the affairs of the Company or appoint the majority of members of the Supervisory Board.

- A cooperation agreement concluded with Peugeot SA relating to small (1- to 1.6-litre) petrol engines entitles each of the cooperation partners to give extraordinary notification of termination in the event of a competitor acquiring control over the other contractual party and if any concerns of the other contractual party regarding the impact of the change of control on the cooperation arrangements are not resolved during the subsequent discussion process.
- BMW AG acts as guarantor for all obligations arising from the joint venture agreement relating to BMW Brilliance Automotive Ltd. in China. This agreement grants an extraordinary right of termination to either joint venture partner in the event of a change in control at either one of the parties, or if more than 25 % of the shares of the other party are acquired by a third party – either directly or indirectly – or if the other party is merged with another legal entity. Termination of the joint venture agreement may lead to the dissolution of the joint venture, with an optional purchase right for BMW (or the partner) to acquire the shares of the other partner or to the liquidation of the joint venture company.
- Framework agreements are in place with financial institutions and banks (ISDA Master Agreements) with respect to trading activities with derivative financial instruments. These agreements include an extraordinary right of termination that triggers actions in the event that the creditworthiness of the party involved is materially weaker following a direct or indirect acquisition of beneficially

owned equity capital which confers the power to elect a majority of the Supervisory Board of a contractual party or any other ownership interest that enables the acquirer to exercise control over a contractual party or which constitutes a merger or a transfer of net assets.

- BMW AG and Mercedes-Benz Group AG have entered into a Joint Venture Agreement relating to mobility services, which includes the areas of car sharing, ride hailing and charging, and entitles both Mercedes-Benz Group AG and BMW AG (hereafter referred to as "principals") to initiate a bidding procedure in the event that (i) the other principal receives notice in accordance with § 33 of the German Securities Trading Act (WpHG) that – including shares attributed pursuant to § 34 WpHG – a shareholding of more than 50 % has been attained or, in accordance with § 20 AktG of the German Stock Corporation Act (AktG) that a shareholding of more than 50 % has been attained or (ii) a shareholder or a third party – including shares attributed pursuant to § 30 WpHG – holds more than 50 % of the voting rights or shares in the other principal, or (iii) the other principal has concluded a control agreement as a dependent company. The outcome of such a bidding procedure is that the joint venture will go to the principal making the highest bid.
- Several supply and development contracts between BMW AG and various industrial customers, all relating to the sale of components for drivetrain systems, grant an extraordinary right of termination to the relevant industrial customer in specified cases of a change in control at BMW AG (for example BMW AG merges with a third party or is taken over by a third party; an automobile manufacturer acquires more than 50 % of the voting rights or share capital of BMW AG).

- BMW AG is party to the shareholder agreement relating to There Holding B.V., which is the majority shareholder of the HERE Group. In accordance with the shareholder agreement, each contractual party is required to offer its directly or indirectly held shares in There Holding B.V. for sale to the other shareholders in the event of a change in control. A change in control of BMW AG arises if a person takes over or loses control of BMW AG, with control defined as (i) holding or having control over more than 50 % of the voting rights, (ii) the possibility to control more than 50 % of voting rights exercisable at Annual General Meetings on all or nearly all matters, or (iii) the right to determine the majority of members of the Board of Management or the Supervisory Board. Furthermore, a change in control occurs if competitors of the HERE Group, or certain potential competitors of the HERE Group from the technology sector, acquire at least 25 % of BMW AG. If none of the other shareholders acquire these shares, the other shareholders are entitled to resolve that There Holding B.V. be dissolved.
- The development collaboration agreement between BMW AG, Intel Corporation and Mobileye Vision Technologies Ltd., relating to the development of technologies used in automated vehicles, may be terminated by any of the contractual parties if a competitor of one of the parties acquires and subsequently holds at least 30 % of the voting shares of one of the contractual parties.
- The development collaboration agreement between BMW AG, FCA US LLC and FCA Italy S.p.A. relating to the development of technologies used in conjunction with automated vehicles, may be terminated by any of the contractual parties if certain competitors in the technology sector acquire and subsequently hold at least 30 % of the voting shares of one of the other contractual parties.
- BMW AG has entered into an agreement with Great Wall Motor Company Limited to establish the joint venture Spotlight Automotive Ltd. in China. The agreement grants an extraordinary right of termination to either joint venture partner in the event that – either directly or indirectly – more than 25 % of the shares of the other party are acquired by a third party or the other party is merged with another legal entity. The termination of the joint venture agreement may result in the sale of the shares to the other joint venture partner or in the liquidation of the joint venture entity.

Compensation agreements with members of the Board of Management or with employees in the event of a takeover bid

The BMW Group has not concluded any compensation agreements with members of the Board of Management or with employees for situations involving a takeover offer.