Annual report 2024

Ambitions

BOSCH

Ambitions

If we want to set things in motion, change them for the better, whether globally or locally, we have to set goals that motivate, inspire, and create purpose. Goals that benefit the individual and society as a whole.

In this context, “Invented for life” provides the focus for Bosch. It is our passion and our motivation. To achieve it, we develop products and technology, embrace partnerships and acquisitions, continuously improve our competitiveness.

We aim to play a leading role in the growing HVAC market, to enter the electrolysis business for the sake of a climate-friendly power supply, to invest billions in the chips that keep the world turning. And we are stepping up our operations in software solutions and services for more safety, security, and convenience.

In all this, Bosch deliberately preserves its diversification: the biggest automotive supplier, a leading supplier of equipment for manufacturers and tradespeople, the first choice for solutions for buildings and homes. We don’t just want to hold this position, but to extend it: it’s our ambition to be among the three leading companies in all our fields of business, to create an even better regional and economic balance in our operations, and in this way to unlock our full potential as a diversified technology group. We can do even better.

“Ambitions,” the title of this year’s annual report, illustrates our aspiration and determination, even in a difficult economic environment. Ambitions formulated by people, for people. Ambitions for people and the environment. So that technology “Invented for life” can flourish. Technology made by Bosch.

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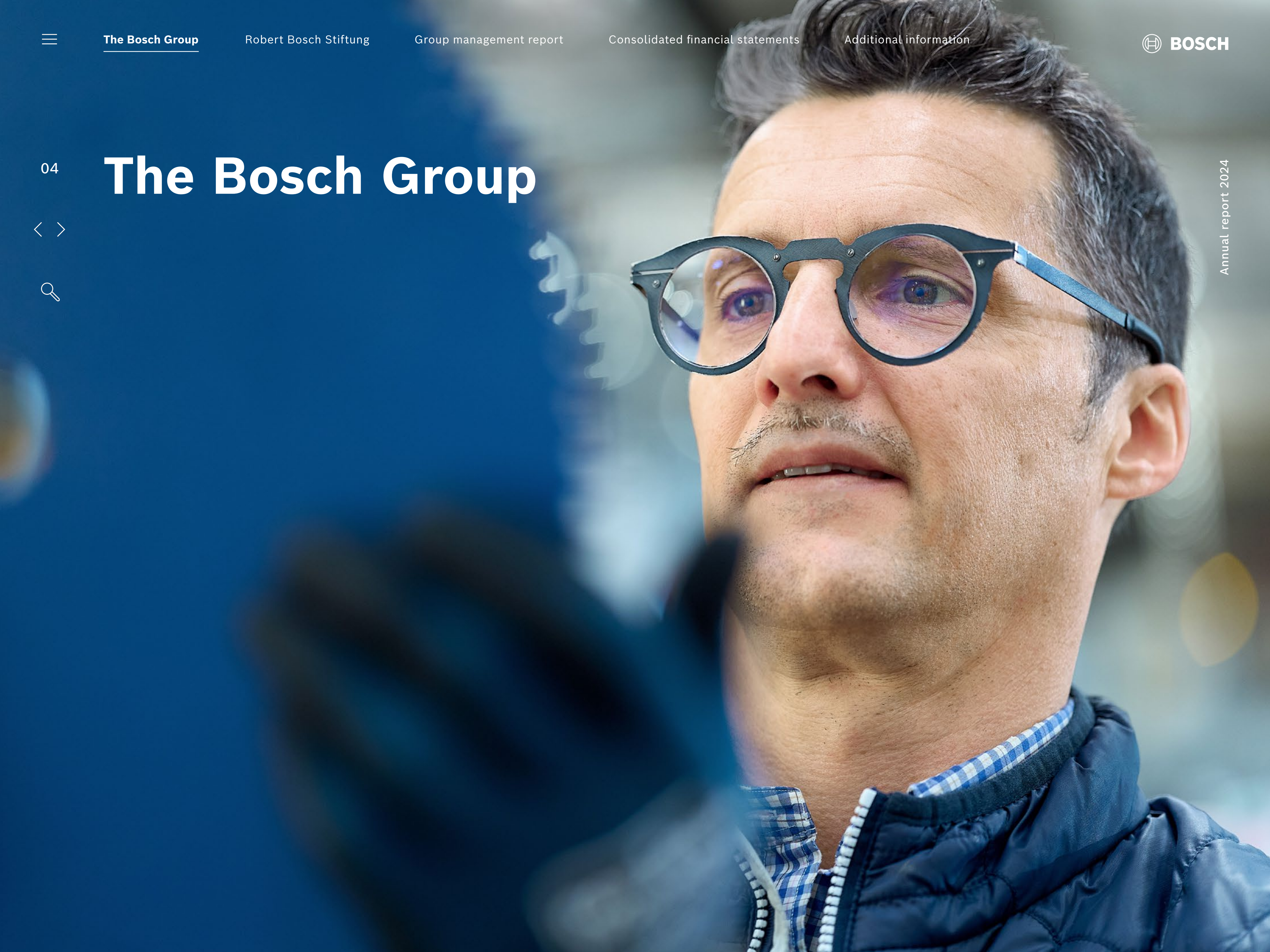
The Bosch Group



Key data

in millions of euros

	2024	2023
Sales revenue	**90,345**	**91,596**
percentage change from previous year	–1.4	3.8
Research and development cost	**7,807**	**7,331**
as a percentage of sales revenue	8.6	8.0
EBIT	**2,796**	**4,503**
as a percentage of sales revenue	3.1	4.9
EBIT from operations	**3,121**	**4,824**
as a percentage of sales revenue	3.5	5.3
Profit after tax	**1,332**	**2,640**
Capital expenditure	**5,122**	**5,499**
as a percentage of depreciation	137	161
Balance-sheet total	**112,766**	**108,330**
Equity	**49,993**	**47,894**
as a percentage of total assets	44	44
Dividend of Robert Bosch GmbH	**186**	**170**
Headcount at Dec. 31, 2024	**417,859**	**429,416**

Bosch at a glance

The Bosch Group is a leading global supplier of technology and services. It employs roughly 417,900 associates worldwide (as of December 31, 2024). The company generated sales of 90.3 billion euros in 2024. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. Universal trends such as automation, electrification, digitalization, and connectivity, as well as an orientation to sustainability, are increasingly determining the group's business operations. In this context, Bosch's broad footprint as a global and diversified technology company strengthens its innovativeness and robustness.

Bosch uses its proven expertise in sensor technology, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture user-friendly, sustainable products. With technology that is "Invented for life," Bosch wants to help improve quality of life and conserve natural resources.

The Bosch Group comprises Robert Bosch GmbH and its roughly 490 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch's innovative strength is key to the company's further development. At 136 locations across the globe, Bosch employs some 86,800 associates in research and development, of which nearly 48,000 are software engineers.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861–1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-four percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a limited liability company with a charitable purpose. The remaining shares are held by Robert Bosch GmbH and by a corporation owned by the Bosch family. The majority of voting rights are held by Robert Bosch Industrietreuhand KG.

Foreword

DR. STEFAN HARTUNG

Ladies and gentlemen,

“Ambitions,” the title of our annual report, is intended as a strong message. Even in times of global economic weakness, difficult market conditions, and business and political uncertainty, we have the future in our sights. We are pursuing our long-term growth strategy, even if sales revenue and result did not make headway in the 2024 fiscal year. We are determined to press ahead with the technologies that will be decisive in tomorrow’s world. But we also have to adjust if the technological trends we are pushing are not so fast to arrive, or if regional priorities shift. Fundamentally, however, we believe we are on the right track with our business focus on mobility, industrial technology, consumer goods, and energy and building technology. As before, there are considerable opportunities for growth here.

Digitalization, electrification, electronification, automation, sustainability, and emerging markets are still the main forces driving developments. They are subjects that have been on our radar for quite some time now. In addition, we want to continue to extend our global presence, which even now creates significant local value. Europe is our home base. But we are also strengthening the Bosch Group’s operations in regions such as North America and Asia. Not least, this is our response to the imminent changes in global trade relations, as well as to the differing speeds at which regions are currently adopting technologies of the future such as electromobility and automated driving. A better regional balance was also one of the reasons behind a major strategic move in 2024 – the acquisition we plan in the heating, ventilation, and air-conditioning segment.

BOSCH

"Even in times of business and political uncertainty, we are pursuing our ambition of helping to shape markets as a major technology company."

To be able to seize our opportunities, we are working intensively on our costs and structures. Our aim is to make the Bosch Group robust in the face of longer-term challenges. We are doing so in the knowledge that the measures this requires will initially burden our earnings. That also applies to the year ahead. To strengthen our profitability, putting these measures into practice is a top priority. High profitability and sound finances will give us the entrepreneurial freedom we need to secure a strong and meaningful development for our company over the long term, as our company founder Robert Bosch would have wanted. The adjustments this calls for will mean sacrifices for the associates affected. We want to find ways of shaping the necessary transformation responsibly. This also applies to the divestment of parts of the company. Especially a diversified company like Bosch has to regularly examine its portfolio and, where necessary, adjust it. Only if it does so can we reap the benefits of diversification, and thus make the company more robust. In 2025, for example, we want to sell off major parts of the Building Technologies division's product business. Under their new owner, they will have additional opportunities for development.

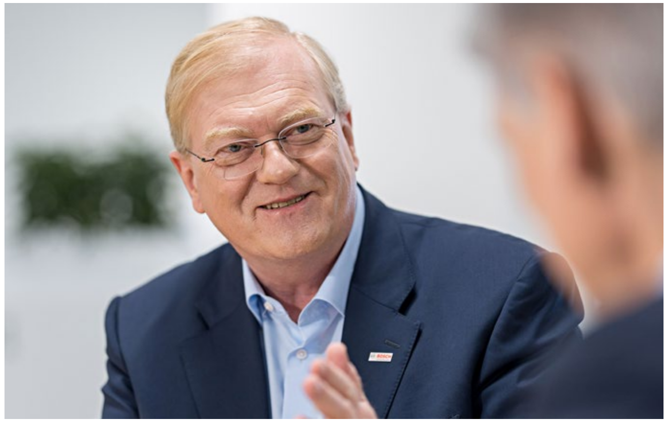
Our task, then, is a demanding one. We have to push forward with our strategy and, as a major technology company, help shape markets – on the basis of robust and competitive structures. This also includes taking even greater advantage of the potential offered by artificial intelligence, whether in our products or in our processes.

We are well aware that we will have to overcome some considerable obstacles. We will tackle them with great determination. We owe our more than 400,000 associates, as well as our business partners and customers, our thanks. In publishing our annual report, we want not only to present our business figures, but also to convey an idea of why we are so sure of our ambitions, and of how we want to tackle the challenges that come with them.

With best regards,

Dr. Stefan Hartung
Chairman of the board of management

The Bosch board of management



Dr. Stefan Hartung
Chairman of the board of management

Dr. Christian Fischer
Deputy chairman of the board of management

Dr. Markus Forschner
Member of the board of management

Stefan Grosch
Member of the board of management

The Bosch board of management

Dr. Markus Heyn
Member of the board of management

Dr. Frank Meyer
Member of the board of management

Katja von Raven
Member of the board of management

Dr. Tanja Rückert
Member of the board of management

Board of management

Dr. Stefan Hartung

Chairman of the board of management

Technology, Innovation, and Quality

Functions and services

- Communications and Governmental Affairs
- Corporate Affairs
- Field Quality Board
- Human Resources Senior Management Personnel
- Intellectual Property
- Quality Management
- Research and Advance Engineering
- Strategy, Organization, and Business Development
- Technology Manufacturing

Business areas

- Health Care Solutions
- Bosch Business Innovations SINCE JANUARY 1, 2025

Region

China

Dr. Christian Fischer

Deputy chairman of the board of management

Consumer Goods business sector
Energy and Building Technology business sector UNTIL JANUARY 31, 2024

Functions and services

- Growth Acceleration 2030 SINCE FEBRUARY 1, 2024
- Inhouse Consulting SINCE FEBRUARY 1, 2024

Business areas

- BSH – Home Appliances
- Building Technologies UNTIL JANUARY 31, 2024
- Home Comfort UNTIL JANUARY 31, 2024
- Power Tools UNTIL SEPTEMBER 30, 2024
- Smart Home UNTIL JANUARY 31, 2024

Regions

Africa, Southeast Asia UNTIL JANUARY 31, 2024

Dr. Markus Forschner

Finance and Performance
Industrial Technology business sector UNTIL JANUARY 31, 2024

Functions and services

- Finance, Reporting, and Treasury
- Global Real Estate
- Internal Auditing UNTIL JANUARY 31, 2024
- Performance Controlling, Risk Management, Mergers and Acquisitions
- Performance Management UNTIL FEBRUARY 29, 2024
- Real Estate and Facilities
- Supply Chain Management
- Tax and Customs Duties UNTIL JANUARY 31, 2024
- Transformation and Performance Consulting UNTIL JANUARY 31, 2024

Business areas

- Bosch Manufacturing Solutions UNTIL JANUARY 31, 2024
- Drive and Control Technology UNTIL JANUARY 31, 2024

Regions

Europe 1, Türkiye

Stefan Grosch

Human Resources, Legal, Compliance, and Sustainability

Functions and services

- Bosch Management Support
- Compliance Management
- Human Resources
- Human Resources Transformation UNTIL DECEMBER 31, 2024
- Internal Auditing SINCE FEBRUARY 1, 2024
- Legal
- Sustainability, Environment, Health and Safety
- Taxes, Export Control, and Customs SINCE FEBRUARY 1, 2024

Regions

India, Southeast Asia SINCE FEBRUARY 1, 2024

Dr. Markus Heyn

Mobility business sector
Chairman of the Mobility sector board

Functions and services

- Mobility sector board
  Commercial Affairs
  Operations
  Sales and Customers
  Technology
- Mobility sector functions
  Communications and Governmental Affairs
  Human Resources, People, and Culture
  Purchasing Direct Materials
  Strategy, Go-to-Market, and Business Excellence
- Mobility regional board
  Americas
  China
  India
  South and East Asia
- Software Development Services

Business areas

- BEG – Automotive Engineering Solutions
- Bosch eBike Systems
- Cross-Domain Computing Solutions
- Electrified Motion
- ETAS
- Mobility Aftermarket
- Mobility Electronics
- Mobility Platform and Services
- Power Solutions
- Two-Wheeler and Powersports
- Vehicle Motion

Dr. Frank Meyer SINCE FEBRUARY 1, 2024

Energy and Building Technology business sector SINCE FEBRUARY 1, 2024

Business areas

- Building Technologies SINCE FEBRUARY 1, 2024
- Home Comfort SINCE FEBRUARY 1, 2024
- Smart Home SINCE FEBRUARY 1, 2024

Katja von Raven SINCE OCTOBER 1, 2024

Business areas

- Power Tools SINCE OCTOBER 1, 2024
- Bosch Global Service Solutions SINCE OCTOBER 1, 2024

Dr. Tanja Rückert

Digital Business and Services
Industrial Technology business sector SINCE FEBRUARY 1, 2024

Functions and services

- Bosch Digital
- Cybersecurity
- Global Business Services
- Information Technology and Digitalization
- Software and Digital Solutions
- Software Next

Business areas

- Bosch Manufacturing Solutions SINCE FEBRUARY 1, 2024
- Bosch Connected Industry
- Drive and Control Technology SINCE FEBRUARY 1, 2024
- Bosch Global Service Solutions UNTIL SEPTEMBER 30, 2024

Regions

- Europe 2, Japan, Korea, North America, Oceania UNTIL JANUARY 31, 2025, South America

Mobility sector board

Dr. Markus Heyn
Chairman

Volker Schilling
Commercial

Klaus Mäder
Operations

Andreas Dempf
Sales and Customers

Dr. Mathias Pillin
Technology

Presidents of the divisions

Claus Fleischer
Bosch eBike Systems

Henning von Boxberg
Bosch Global Service Solutions

Thomas Quante
Building Technologies

Christoph Hartung
Cross-Domain Computing Solutions

Steffen Haack
Drive and Control Technology

Marco Zehe
Electrified Motion

Jan Brockmann
Home Comfort

Rupert Hoellbacher
Mobility Aftermarket

Michael Budde
Mobility Electronics

Dr. Thomas Pauer
Power Solutions

Thomas Donato
Power Tools

Dr. Gerta Marliani
Vehicle Motion

Supervisory board report

Ladies and gentlemen,

In 2024, despite a difficult business environment, the Bosch Group continued to rigorously orient its strategy to changing technologies, markets, and competitive environments. One significant strategic move was the announcement of a major acquisition in the heating, ventilation, and air-conditioning segment. At the same time, the focus was on strengthening competitiveness. Across the globe, however, major areas of future importance, such as electromobility and automated driving, are developing more slowly and with different regional intensity than the industry expected.

This is creating additional challenges. These called for adjustments in our setup, and thus for additional structural adjustments. Initially, these present a burden for result. The lower-than-expected 2024 figures for sales revenue and earnings reflect this challenging situation. The supervisory board monitored these developments closely. It devoted particularly close attention to the macroeconomic and business situation, as well as to the measures designed to improve competitiveness. From 2026, these measures are expected to lead to a considerably improved result. In addition, it kept a very close eye on major strategic decisions. The supervisory board would like to thank the board of management and associates of the Bosch Group for their great efforts in a very challenging environment.

PROF. STEFAN ASENKERSCHBAUMER

The supervisory board once again fulfilled its legal and regulatory obligations with great care in 2024. In additional meetings, the supervisory board discussed the announced acquisition of the worldwide heating, ventilation, and air-conditioning business for residential and light commercial buildings from the U.S. company Johnson Controls International plc and

"On the supervisory board, we keep a very close eye on major strategic decisions as well as on the measures needed to strengthen competitiveness."

gave its approval to the intended purchase. Other focal points of its work were the growing demands made of cybersecurity and the Bosch Group's future personnel strategy. In addition, the board informed itself in detail about developments in the mobility market and the prospects for the Mobility business sector.

The board of management reported regularly on its growth strategy with respect to potential in existing, adjacent, and new fields of business, as well as on necessary adjustment measures. In summer 2024, the supervisory board traveled to China, where it gained an impression of the Bosch Group's operations there. The supervisory board also obtained information about the measures taken with respect to compliance, to the risk management system, and to the findings of risk and sustainability reporting, which were discussed in depth in its audit committee. The main items on its agenda also included financial and investment planning, as well as the 2025 business plan. Outside of board meetings, the chairman of the supervisory board was regularly informed by the chairman of the board of management about current developments and significant events in the company.

EY GmbH & Co. KG Wirtschaftsprüfungsgesellschaft audited the Robert Bosch GmbH annual financial statements and consolidated financial statements, as well as the accompanying management reports, as of and for the year ended December 31, 2024. It furnished all these reports with an unqualified audit opinion. The audit committee and the supervisory board discussed these documents at length and subjected them to their own examination; all members of both bodies had access to the auditor's reports. Moreover, the auditor met with the audit committee and the supervisory board to report on the main findings of the audit. The supervisory board raised no objections, concurred with the results of the audit, and approved the Robert Bosch GmbH annual financial statements and the Bosch Group consolidated financial statements. Following its own review, the supervisory board endorsed the board of management's proposal for the appropriation of net profit.

Stuttgart, March 2025
For the supervisory board

Prof. Stefan Asenkerschbaumer
Chairman

Supervisory board

Prof. Stefan Asenkerschbaumer
Stuttgart
Chairman
Managing partner of Robert Bosch Industrietreuhand KG, formerly deputy chairman of the board of management of Robert Bosch GmbH

Frank Sell
Pleidelsheim
Deputy chairman
Deputy chairman of the works council of the Feuerbach plant, and chairman of the central works council of the Mobility business sector as well as deputy chairman of the combined works council of Robert Bosch GmbH

Nadine Boguslawski
Hattersheim am Main
Chief treasurer of Industriegewerkschaft Metall, Frankfurt am Main

Dr. Christof Bosch
Königsdorf
Spokesperson for the Bosch family

Dr. Arne Fischer
Gemmrigheim
Director of strategic projects, Power Solutions division, and chairman of the combined executives committee of the Bosch Group in Germany

Prof. Elgar Fleisch
St. Gallen
Professor of information and technology management at the University of St. Gallen (HSG) and ETH Zürich

Klaus Friedrich
Würzburg
Chairman of the works council of Bosch Rexroth AG, Lohr am Main, and chairman of the central works council of Bosch Rexroth AG and member of the combined works council of Robert Bosch GmbH

Mario Gutmann
Bamberg
Chairman of the works council of the Bamberg plant, and member of the central works council of the Mobility business sector as well as chairman of the economic committee of the Mobility business sector

Adrian Hermes
Hattersheim am Main
Representative of the chairman of Industriegewerkschaft Metall

Prof. Michael Kaschke
Oberkochen
Chairman of the supervisory board of Karlsruhe Institute of Technology and President of Stifterverband

Prof. Renate Köcher
Konstanz
Managing director, Allensbach Institute for Public Opinion Research

Martina Koederitz
Stuttgart
Member of the supervisory board

Matthias Georg Madelung
Munich
Member of the board of trustees of Robert Bosch Stiftung GmbH

Kerstin Mai
Hildesheim
Chairwoman of the works council of the Cross-Domain Computing Solutions division, Hildesheim, and chairwoman of the combined works council of Robert Bosch GmbH

Dr. Raphael Menez
Stuttgart
Secretary of the regional directorate of the Industriegewerkschaft Metall trade union, Baden-Württemberg

Oliver Simon
Dunzweiler
Chairman of the works council of the Homburg plant, and member of the central works council of the Mobility business sector

Karin Solda
Filderstadt
Chairwoman of the works council at the Leinfelden-Echterdingen location and of the central works council of Robert Bosch Power Tools GmbH

Peter Spuhler
Weiningen
Majority shareholder and president of the supervisory board of Stadler Rail AG

Dr. Eberhard Veit
Göppingen
Managing partner of Robert Bosch Industrietreuhand KG

Prof. Beatrice Weder di Mauro
Blonay
Professor of international economics at the Geneva Graduate Institute, president of the Centre for Economic Policy Research (CEPR), and research professor at INSEAD

HONORARY CHAIRMAN OF THE BOSCH GROUP

Prof. Hermann Scholl
Stuttgart
Formerly chairman of the supervisory board of Robert Bosch GmbH
Formerly managing partner of Robert Bosch Industrietreuhand KG
Formerly chairman of the board of management of Robert Bosch GmbH

Industrial Trust and International Advisory Committee

Robert Bosch Industrietreuhand KG

GENERAL PARTNERS

Prof. Stefan Asenkerschbaumer
Stuttgart
Chairman of the shareholders' meeting

Dr. Eberhard Veit
Göppingen

LIMITED PARTNERS

Dr. Christof Bosch
Königsdorf

Dr. Christian Fischer
Stuttgart

Prof. Elgar Fleisch
St. Gallen

Prof. Lino Guzzella
Uster

Dr. Stefan Hartung
Ludwigsburg

Prof. Michael Kaschke
Oberkochen

Prof. Renate Köcher
Konstanz

Peter Spuhler
Weiningen

Robert Bosch International Advisory Committee

Prof. Stefan Asenkerschbaumer
Stuttgart
Chairman

Natarajan Chandrasekaran SINCE JAN. 1, 2024
Mumbai

Prof. Sigmar Gabriel
Goslar

Dr. Christoph Heusgen
Berlin

Baba N. Kalyani UNTIL DEC. 31, 2024
Pune

Yumiko Murakami
Tokyo

HRH Prince Mired Raad Zeid SINCE MAR. 1, 2024
Amman

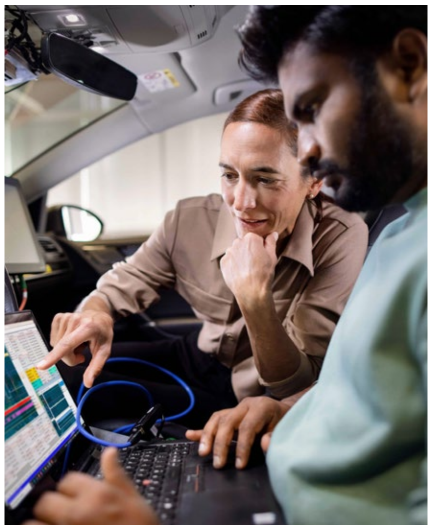
Paul Ryan
Janesville

Prof. Marcos Troyjo SINCE FEB. 1, 2024
São Paulo

Jing Ulrich
New York

Prof. Igor Yurgens UNTIL DEC. 31, 2024
Moscow

Business sectors



Mobility

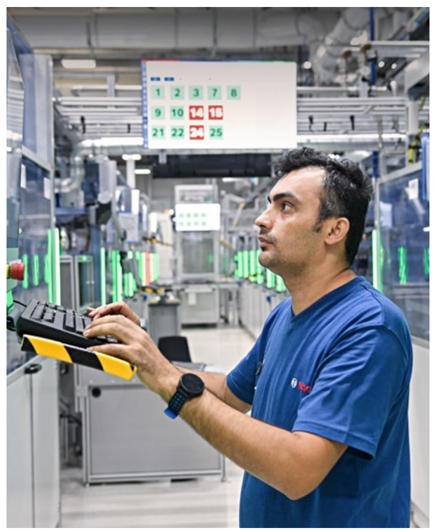
- **Bosch eBike Systems**
- **Cross-Domain Computing Solutions**
- **Electrified Motion**
- **Mobility Aftermarket**
- **Mobility Electronics**
- **Power Solutions**
- **Vehicle Motion**

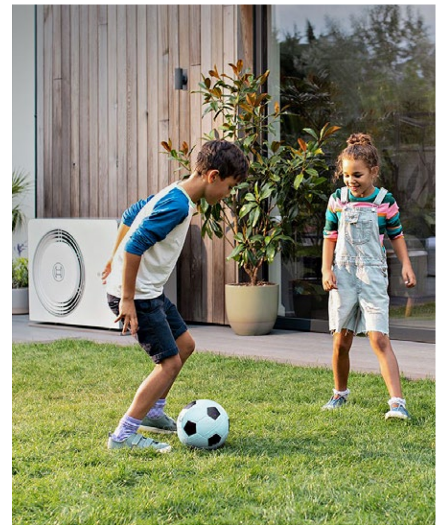
- Bosch Engineering GmbH
- ETAS GmbH
- ITK Engineering GmbH
- Mobility Platform and Services
- Two-Wheeler and Powersports

Industrial Technology

- **Drive and Control Technology**[1]

- Bosch Connected Industry
- Robert Bosch Manufacturing Solutions GmbH





Energy and Building Technology

- **Building Technologies**
- **Home Comfort**
- **Bosch Global Service Solutions**

- Robert Bosch Smart Home GmbH

Consumer Goods

- **Power Tools**
- **BSH Hausgeräte GmbH**

Other activities

- Bosch Healthcare Solutions GmbH
- Bosch Business Innovations GmbH (until Dec. 31, 2024: grow platform GmbH)
- Robert Bosch Venture Capital GmbH

1. Bosch Rexroth AG (100 % Bosch-owned)

Highlights 2024

January

United States: Bosch develops heat pump for extreme conditions

At the CES, Bosch presents a cold-climate heat pump designed for extreme weather conditions, such as those found in North America. At an outdoor temperature of minus 15 degrees Celsius, the heat pump delivers 100 percent heating capacity, and still works even when temperatures hit minus 25 degrees. With this energy-efficient cold-climate heat pump, homes can now be heated and cooled in nearly every region of the United States.

February

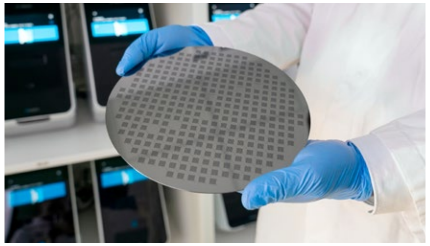
Power tools: Bosch opts for new battery technology

Bosch is the world's first supplier to exploit the advantages of "tabless" design in rechargeable battery cells. This design now features in its 18-volt cordless power tools. The new technology reduces bottlenecks in cell design, and allows batteries to run up to 71 percent longer than conventional lithium-ion ones. The new rechargeable batteries are not only more powerful, but also last longer.

April

Medical technology: novel Bosch BioMEMS technology

Bosch debuts a powerful BioMEMS chip for use in Vivalytic, its fully automatic, molecular-diagnostic analysis platform. The chip adds a further innovative analysis method to the Vivalytic test cartridge, enabling it to test simultaneously for up to 250 genetic characteristics. In this way, pathogens such as bacteria, viruses, and fungi can be identified fully automatically in less than 15 minutes. Point-of-care molecular diagnostics is expected to become a market worth billions. Bosch aims to achieve a leading position in this market.



Hydrogen: Bosch Rexroth supplies technology for hydrogen filling stations

Together with partners in the hydrogen business, Bosch Rexroth is developing a scalable portfolio of servohydraulic drives for compressors. One example is a new cryopump that compresses liquid hydrogen to 875 bar, making it possible to directly refuel heavy trucks within just a few minutes. Starting in 2025, the first filling stations are to be equipped with these cryopumps. Its engineering partner is FirstElement Fuel, the market leader for hydrogen filling stations in the United States.

May

Investor: Bosch supports battery-recycling startups

Bosch Ventures, the company’s corporate venture capital unit, is investing in the German startup cylib. In an investment round to which several investors contribute, cylib is granted 55 million euros in order to scale up its resource-conserving and climate-friendly process for recycling raw materials from battery packs. In addition, Bosch is supporting the U.S. battery-recycling company Li Industries. In a financing round led by Bosch Ventures, the company is provided with funds worth some 33 million euros.

June

Vehicle Motion management: braking softly with software

At the Bosch TechDay, the company presents its eBrake to Zero software. This function prevents the irksome jolt that occurs shortly after a vehicle comes to a stop. As a result, braking in situations such as stop-and-go traffic is a much more pleasant experience, and travel sickness can be avoided. The function also noticeably improves vehicle noise during braking.

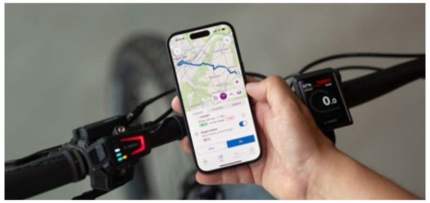
July

BSH: first refrigerator plant in Mexico goes into operation

BSH Hausgeräte GmbH is expanding its global manufacturing network. In the future, it will be manufacturing in Mexico as well. In Monterrey, Nuevo León province, French door bottom-mount fridges will now start rolling off the production lines. BSH is investing some 240 million euros there, and expects that the plant will create roughly 1,500 skilled jobs in the region.

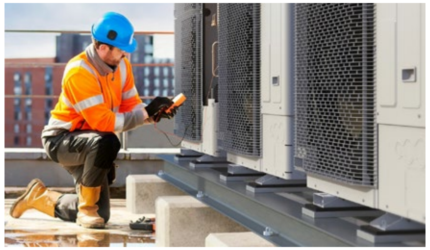
Mobility: artificial intelligence for e-bikes

With the digital Range Control function, Bosch is adding to its smart system for e-bikes. With the help of AI, battery range is computed. This allows riders to choose how much battery charge they want to be left with when they arrive at their destination. Then, during the ride, assistance from the motor is adapted to ensure that the desired residual range remains when the destination is reached. In this process, the AI learns from real-time data, so that its estimates become ever more precise.



Acquisition: Bosch expands its HVAC business

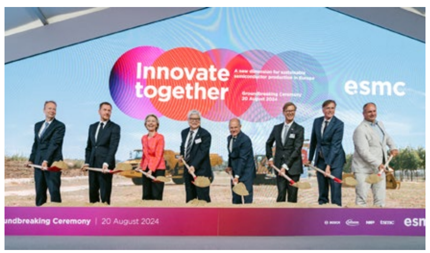
The company plans to acquire the residential and light commercial HVAC business from Johnson Controls. The acquisition is subject to approvals from the antitrust authorities. For the acquired businesses, the purchase price is 8 billion dollars (7.4 billion euros). The transaction is the biggest acquisition in Bosch history.



August

ESMC: groundbreaking ceremony for new wafer fab

In Dresden, Germany, the TSMC, Bosch, Infineon, and NXP joint venture lays the foundation stone for a shared plant. The new ESMC fab is planned to have a monthly production capacity of 40,000 300-millimeter wafers. Start of production is planned for the end of 2027. The new plant will create roughly 2,000 high-tech jobs.



September

IAA Commercial Vehicles: Bosch rolls out safety technology for trucks

The Bosch Road Hazard service gives drivers early warning of possible hazards on the road ahead, such as cloudbursts, ice, poor visibility, accidents, breakdowns, and construction zones. After debuting this service for passenger cars, Bosch is now also providing it for trucks. This real-time service has been available in Mercedes-Benz trucks since December 2024.

Japan: new national headquarters opened

The new building in Yokohama covers just under 53,000 square meters. In the future, some 2,000 associates from eight locations in the Tokyo and Yokohama metropolitan areas will work together in the new headquarters. The focus of engineering activities in the new building is on driver assistance systems and automated driving. Bosch is investing 270 million euros in the new location – the biggest single investment in the history of Bosch in Japan.

Road safety: new assistance systems for motorbikes

At EICMA, the leading trade fair for motorcycles, Bosch presents six new radar-based assistance systems, five of them world premieres. Bosch accident research suggests that one in six accidents on German roads alone can be prevented by the new assistance systems, instead of one in seven up to now. With its research and technology, Bosch is pursuing the aim of accident-free mobility.

October

Joint venture: Bosch partners with Jiangling Motors

The two companies plan to set up a joint venture to develop and market e-axles for light trucks. To this venture, Bosch will contribute its core competencies in the development of solutions for electromobility, and Jiangling Motors its expertise in the vehicle sector and knowledge of the local market. Bosch intends to hold 60 percent of the shares in the joint venture, Jiangling Motors 40 percent.

China: Bosch opens new R&D center

On an area of roughly 300,000 square meters, associates at the new Bosch location in Suzhou will focus on the research into and development of core components for passenger cars and trucks. Construction work on the campus began in March 2023. In the years ahead, it is planned to invest some 950 million euros in the new location.

November

AI research: Federal President Steinmeier visits Bosch

As part of his “Workshop of Change” tour, Federal German President Frank-Walter Steinmeier visits the Bosch research campus in Renningen, Germany. The federal president’s aim is to draw attention to places where transformation has been successful. On the research campus, he gains insights into the rapidly changing way AI is used in engineering and manufacturing, as well as in Bosch products.

December

Semiconductors: Bosch to refurbish its first wafer fab in the U.S.

Under the CHIPS and Science Act, Bosch and the U.S. Department of Commerce have signed a preliminary memorandum of terms. This proposes up to 225 million dollars in direct funding to help finance the refurbishment of the Bosch plant in Roseville, California. Bosch plans to invest as much as 1.9 billion dollars to transform the Roseville plant into a manufacturing facility for silicon-carbide semiconductors. Start of production is planned for 2026.

Divestment: Bosch sells product business with security systems

Bosch signs agreements to sell its Video, Access and Intrusion, and Communication business units to the European private equity company Triton. The business units’ 4,300 associates at more than 90 locations worldwide will be taken over. The transaction is subject to approval by the authorities. In the future, the Bosch Building Technologies division will focus on its regional integrator business, with solutions and services for building security, energy efficiency, and building automation.

Stories

Improving road safety

Thailand's roads are a hazardous challenge: dense traffic, unusual driving habits, high accident rates. Scarcely any other country records so many road fatalities each year. And of these victims, 80 percent are two-wheeler riders. The problem of traffic accidents is well known, as are their consequences. But their causes are varied, and by no means clear-cut. A team of Bosch accident researchers is currently working with the Central Institute of Forensic Science to establish an accident database for Thailand. From this, the aim is to define measures for improving road safety in the country. In this work, Bosch can draw on its decades-long experience in accident research, as well as in the development of safety and assistance systems for drivers. A road trip through Thailand with the Bosch accident researcher Thomas Lich.

Click here for the full story

Reinventing braking

Brakes are among the most vital components for vehicle safety. Bosch has been developing braking technology for nearly 100 years. In 1927, the company revolutionizes braking when it premieres the power-assisted brake, which significantly reduces braking distances. In 1978, Bosch takes its ABS antilock braking system into volume production, and in 1995 it launches the ESP® electronic stability program. Now, with the development of brake-by-wire, Bosch is opening a new chapter. Comprising a by-wire brake actuator and ESP®, this system does away with the mechanical connection between brake pedal and braking system. This opens up new possibilities for the interior design of vehicles, as well as permitting highly dynamic braking in all conditions. Really in all conditions? Prior to market launch, Bosch engineers put it through its paces in Arjeplog, northern Sweden.

Click here for the full story

The nucleus of hydrogen production

Without green hydrogen, there can be no climate-neutral economy. Such green hydrogen is produced by electrolysis, using green electricity. With its PEM electrolysis stack, Bosch is developing the core element of an electrolyzer. This stack comprises more than 100 electrolysis cells that use green electricity to split water into oxygen and hydrogen. Bosch will be launching the stack in 2025. Bosch is "H2-ready." It will become a household name not only for hydrogen engines, but also for hydrogen production. From the construction of the first stack, to installation in the electrolyzer, to the debut of the technology at the Hannover trade fair – for the Bosch project manager Christina Krick-Calderon, this means a lot of work, as well as quite a few premieres. Project stages on the path to ramp-up.

Click here for the full story

Making new out of old

Smartphones, tablets, laptops: more and more devices are being refurbished. But it's not only here that new is being made out of old. This approach is also used for machinery and industrial plant. Over the past 15 years, Bosch Rexroth has overhauled several hundred thousand controls, servo drives, and electronic parts for drives, generating sales revenue running into hundreds of millions. Thanks to remanufacturing, roughly 75 percent of parts can be reused, reducing the carbon footprint of products by more than 50 percent. Costs are also halved. Customers using remanufactured parts can save up to 50 percent compared with new products. The mechanical engineering company JYGA and the major animal-feed producer Normandise, both based in France, rely on this service from Bosch Rexroth.

Click here for the full story

Innovation, production, biker nation

Visitors to Japan, the world's fourth-largest economy, are struck by its meticulousness, thirst for progress, and high tech. This island state is a trendsetter. It is the world's biggest robot manufacturer, and is home to the world's biggest automaker and biggest motorcycle producer. Modern production methods were invented here and copied the world over. Japan is a byword for innovation. Bosch and Japan go back a long way: Bosch has been present in the country since 1911. There, it develops solutions for mobility, industry, energy and buildings, and the home. In September 2024, Bosch opened a new national headquarters in Japan, which also serves as a research center. At 270 million euros, this is the biggest single investment in the 114-year history of Bosch in Japan. A visit to a country that combines tradition and modernity.

Click here for the full story

The raw materials cycle

At Bosch, carefully using scarce resources and reusing them wherever possible is a central aim of product development. The Power Tools division has set up a network in which recyclable materials are collected from plants and recycled in order to make new products. Carbide left over from its own manufacturing operations, for example, is used as a raw material for new power-tool accessories, such as drill bits and saw blades. In this way, the division reduces products' carbon footprint, decreases its dependence on critical metals, and cuts waste from plants. Economically and ecologically, the project is worthwhile. Some 20 Bosch plants have now joined the initiative, which began ten years ago at the Bosch Power Tools plant in Udine, Italy.

Click here for the full story

Robert Bosch Stiftung

Since it was established in 1964, Robert Bosch Stiftung GmbH, a limited liability company with a charitable purpose, has been carrying on the company founder's public welfare endeavors. For 60 years, it has been making a contribution to a just and sustainable future with the funding it provides. It is non-profit, independent, and non-partisan. Its origins go back to the legacy of Robert Bosch. The entrepreneur and philanthropist formulated a dual mission of securing the company's future and continuing his social commitment. The Stiftung funds projects relating to global issues, health, and education, acting both locally and globally.

Global Issues

Promoting peace locally

In 2024, more people died in armed conflicts than in any year since 1994. In an age of increasing violence across the globe, the Stiftung considers how lasting peace can be built. "We have to involve the local populace," Dylan Matthews says. Matthews is CEO of the peacebuilding organization Peace Direct, which has received funding from Robert Bosch Stiftung since 2021. It calls its approach "local peacebuilding." The idea behind this is that conflicts are best solved by the people most affected by them. The organization works together with partners in 14 countries that are severely affected by conflicts, including Pakistan, Sudan, and Myanmar. Peace Direct works to give the local populace more political influence and access to important resources. It also provides opportunities for interaction with other groups. In all this, the aim is to empower local people to build peace themselves. Despite the growing number of global conflicts, Dylan Matthews is optimistic for the future. Even though he also finds the never-ending tide of negative posts on social media depressing, he firmly believes peace is possible – with the right mindset, pinpointed investment, and the necessary staying power. Robert Bosch Stiftung shares this conviction, which is why it supports many local peace initiatives such as this one.

Joint commitment to Ukraine

In 2024, Ukraine is one of the war zones that is again especially in the public eye, as well as a focus of our funding. The war there is also an attack on European values such as peace and stability – values that were central for the entrepreneur and philanthropist Robert Bosch. In mid-June, many heads of government, international organizations, and finance institutions gather for the Ukraine Recovery Conference in Berlin, Germany. Even on the eve of the conference, the atmosphere is electric. At the invitation of Robert Bosch Stiftung, 80 representatives of civic organizations have come together – united in their desire to strengthen Ukraine's civic society in order to shape the country's recovery. But they have serious concerns. "There is no money for humanitarian aid in 2025," the spokesperson of a Ukrainian NGO warns. International commitments are lacking, and uncertainty is growing. This prompts

Robert Bosch Stiftung to continue its support in the years ahead, and to focus more on strong networks and collaboration – as in the case of the "Foundations for Ukraine" initiative, which is initiated in 2024 together with the Charles Stewart Mott Foundation, one of the major U.S. foundations. Its aim is to bring together philanthropic organizations from around the world in order to better coordinate aid for Ukraine and make more purposeful use of funding.

Sparking global debate and injecting ideas

For the Robert Bosch Academy, or RBA, 2024 is a special year: its tenth anniversary. Since it was set up, the academy has admitted 118 fellows from 49 countries. It provides a forum for constructive exchange and interdisciplinary work on issues of global significance. In this way, the academy coalesces perspectives from all around the world in the German capital, and brings the world a little closer to Berlin. "Over the course of my political and academic career, I've attended many forums, but the Bosch Academy's work is truly unique," says Carlos Alvarado Quesada, an academy fellow and former president of Costa Rica. The academy brings together voices from different sectors and countries. Only through shared dialogue can the great challenges of our age be addressed. To mark its anniversary, the academy invites some 70 current and former fellows, as well as high-caliber guests from science, politics, and society to the 10th Richard von Weizsäcker Forum in Berlin.

Speaking at the ceremony, the former fellow and ex-president of the UN General Assembly, Maria Fernanda Espinosa, says: "The world needs more formats like this – more room for reflection and dialogue." The RBA has initiated numerous discussions, study trips, and op-eds in the press this year.

Welcoming the world to Berlin: at the 10th Richard von Weizsäcker Forum, the Robert Bosch Academy brings together fellows and high-caliber guests from science, politics, and society.

Their focus has been on the changing global order, the issues arising from multipolarity, and the role of non-governmental players.

Making parliaments more diverse

"In politics, people with a migrant background frequently have to overcome a burden of doubt," says Iftikhar Malik, a lawyer and member of the Hamburg parliament. Malik was born in Germany, and his parents come from Pakistan. Again and again, he has the irksome task of allaying misgivings: accusations of misogyny, for example, or of being undemocratic. He is not alone in this. The RepChance study commissioned by Robert Bosch Stiftung shows that people from a migrant background are still underrepresented in

German parliaments, and frequently encounter discrimination there. While more than one-quarter of the German population has a migrant background, they only make up 11.4 percent of the federal parliament, and just 7.3 percent of state parliaments. In the east German state parliaments, their share is just 1.5 percent. The authors of the study found that there is a lack of detailed knowledge about political processes, as well as of access to informal networks.

For the Bundestag representative Dr. Karamba Diaby, networks are an especially important way of opening doors and sparking enthusiasm for a career in politics among people with a migrant background.

It is precisely this that Malik wants to change, so that people with a migrant background can enter politics more easily. Since entering the Hamburg parliament, he has already offered nearly 60 internships to young people. “Many of them tell me that I have opened doors for them,” Malik says. For the Stiftung, participation such as this is an important signal. There is clear evidence that the feeling of not being represented politically leads to mistrust and dissatisfaction with democracy.

Apart from Germany, the RepChance study analyzes the situation in the Netherlands, Switzerland, Spain, and the United Kingdom. The findings of this comparative study are to be published in early 2025.

Migrant workers’ rights

Europe attracts migrant workers like no other region. Nearly one-quarter of the working population in northern, southern, and western Europe comes from outside Europe. They are the backbone of many industries: nursing, agriculture, meat-processing. But their living and working conditions are often appalling. Overdependence on employers, poor pay, unpaid overtime, inhuman working conditions – many migrant workers are barely able to defend themselves against exploitation. Irene Jagoba has experienced these precarious working conditions for herself. For many years, she had no residence permit, working hard but without security. But then she joined a high-profile campaign of the Migrant Rights Centre Ireland (MRCI), which works to protect the rights of workers with and without documentation. The campaign is a success. Looking back, she says that the campaign was a rollercoaster for her. There were ups and downs, but it was worthwhile: “It got 9,200 people a permanent residence permit,” she proudly says. Jagoba is finally also granted documented status, and can be joined by her family.

The MRCI has been fighting for the rights of migrant workers for 15 years now, drawing public attention to grievances and giving people a voice. But this work doesn’t stop at national borders. Through the PICUM network supported by the Stiftung, the center has also brought its concerns to the attention of EU policymakers – for a future in which fair working conditions are a matter of course for all.

Health

The future of nursing

In certain industries and countries, a new career in a foreign country can mean not only an uncertain legal status but also other unexpected problems. Shibina Jose has experienced this for herself. Full of expectations, the 37-year-old nurse came from India to Germany in August 2023. Since then, she has been working in the St. Ludwig nursing home in Schwäbisch Gmünd. But starting out a new life isn't easy. The German language is an obstacle, and German culture and daily life are foreign.

She finds help with Sigrid Hegele. Now a pensioner, Hegele works as a mentor in the Bosch Health Campus's StaF (social inclusion of foreign nursing personnel) project. With her patience and experience, she helps Shibina Jose find her bearings in her new home – whether when learning German or filling out official forms. Sigrid Hegele is there to help Shibina Jose with any problems she encounters in daily life: How does public transport work? How do I use a library? How can I get involved in society, or find new personal interests? At ten locations in Germany, staff receive support through civic engagement and personal assistance during the integration process.

Bosch Health Campus as a driver of innovation

Apart from cutting-edge research and patient-centered healthcare, pilot projects such as StaF are typical of the Bosch Health Campus. Through this campus, which includes the Robert Bosch Hospital, several research institutes, a training center, and the Robert Bosch Center for Innovative Health, the Stiftung aims to promote solutions that benefit people directly. What such solutions may look like is shown by the "Ideas for Impact Award,"

Through the StaF mentoring program, Sigrid Hegele and Shibina Jose became firm friends. They now meet up regularly.

which is conferred for the first time in 2024. The winner is the "Stay@Home – Treat@Home" project, which uses innovative telehealth applications to monitor and treat people in need of care in their own homes. This frees up hospital beds and eases the burden on the health system.

Digitalization, technological innovation, and the breaking down of sectoral barriers open up completely new possibilities in treatment and care. To actively play a part in shaping this change, the Stiftung will be investing more than half a billion euros in the Bosch Health Campus over the next five years, with the aim of creating healthcare that is fit for the future.

Education

Artificial intelligence in the classroom

Whether in medicine, GPS, or fridges, artificial intelligence (AI) is regarded as the new industrial revolution, and has already made inroads into many areas of our lives. But what about schools? “In the case of past technological developments, teachers could still choose whether to integrate them into their classrooms,” says Christine Bywater, associate director of the Stanford Graduate School of Education’s Center to Support Excellence in Teaching (CSET). But with AI, she says, the situation is different. It is already a part of children’s and adolescents’ daily lives.

Digitalization in the classroom: teachers learn how they can help their students use AI safely and confidently.

Bywater heads up the “M.E.T.A. – Maximizing Effective Teaching AI” program. Since September 2024, this train-the-trainer program involving Robert Bosch Stiftung and Stanford University has been instructing teacher-trainers how to deal with AI. The Stanford researchers’ focus is on AI maturity: What do students need to know and understand in order to deal maturely with AI? What do teachers need to learn in order to pass on the necessary skills to their students? And what does this mean for teacher-trainers and school principals?

For a year, the Stanford experts will train the participants before they themselves train teachers in the use of AI. In this way, the Stiftung is helping to initiate meaningful changes in the education system and to improve the quality of teaching.

Teaching democracy in schools

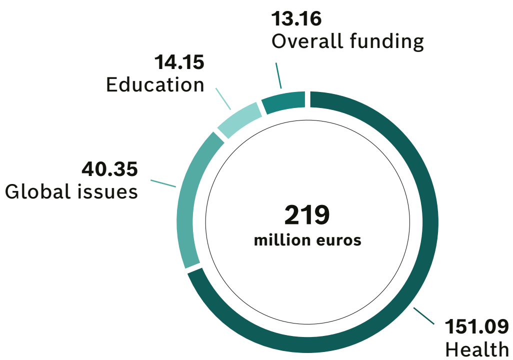
It is not only structural challenges that schools have to react to. The increasing polarization of society also presents teachers with new challenges. And the classroom door is no barrier against fake news, hate, and exclusion. Susanne Gehlen is the principal of the Genoveva high school in Cologne, Germany. The days following the Hamas attack on Israel in October 2023 are still fresh in her memory. Her colleagues were unsure how these events should be dealt with at a school attended by many children and adolescents from a Muslim background. “There was a fear of conflicts that we, as teachers, might not be able to handle,” Gehlen says.

With its *#IchStehAuf – Schulen für Demokratie und Vielfalt* (I stand up – schools for democracy and diversity) initiative, Robert Bosch Stiftung wants to allay this fear. Together with ARD, Germany’s biggest public-service broadcaster, and the prestigious ZEIT publishing group, the Stiftung is helping teachers make democracy a subject in their lessons. More than 100 organizations are supporting this initiative, whose patron is the German Federal President Frank-Walter Steinmeier.

The initiative culminates in a nationwide day of action in June 2024, where more than 1,700 schools with over 300,000 students take a stand for democracy and diversity. In the years ahead, the Stiftung will further extend its funding to promote democracy education for students and teachers.

G 01

Total funding 2024
in millions of euros



Summer 2024: under the **#IchStehAuf** motto, students from the Waldpark school in Heidelberg take a stand for democracy and diversity – together with more than 1,700 schools across Germany.

Group management report
of Robert Bosch GmbH as of December 31, 2024

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The Bosch Group continued to pursue its ambitious strategy of strengthening its global market position, even though conditions in 2024 slowed business developments and were even tougher than expected. One significant strategic step is the acquisition announced in the heating, ventilation, and air-conditioning technology business, which is intended to significantly expand our global presence and product portfolio in this segment. Global economic growth was again subdued. Above all, the Bosch Group's core markets failed to provide any stimuli. It was not only global vehicle production that fell. In addition, important technologies in which considerable upfront investments have been made, particularly in the mobility domain, have either yet to take off or are developing differently from region to region, and this is causing additional burdens. The situation was also especially challenging in the mechanical engineering market and the construction industry. Against this backdrop, it was not possible to realize our sales revenue and earnings expectations for 2024, which cannot be satisfactory for us. Sales revenue of the Bosch Group declined by 1.4 percent to 90.3 billion euros in nominal terms and by 0.5 percent after adjusting for exchange-rate effects. EBIT margin from operations comes to 3.5 percent, compared with 5.3 percent in the previous year. This decline was driven not only by market developments but also by additional structural measures. These measures, taken in light of the difficult business environment over the course of 2024, initially have a negative impact on result. The business sectors were affected to varying degrees. With the exception of Consumer Goods, all business sectors had to cope with declining sales revenue. However, all business sectors disclose a positive result for 2024.

The 2025 fiscal year will also be challenging, partly due to the uncertainties in global trade and economic relations. The aim is to grow Bosch Group sales revenue in the range of at least 1 to 3 percent and to improve the margin from operations. Our forecasts do not yet include the effects of the portfolio changes resulting from the planned acquisition in the heating, ventilation, and air-conditioning business and from the divestment of major parts of the Building Technologies division's product business. These transactions are expected to be completed in the course of 2025, subject to the necessary regulatory approvals. Extensive measures will also help increase competitiveness in 2025. Some of the planned structural adjustments will not have an impact on result until the 2026 fiscal year. Despite these burdens, we are committed to continuing our ambitious long-term growth strategy.

Fundamental information about the group

The group and organization

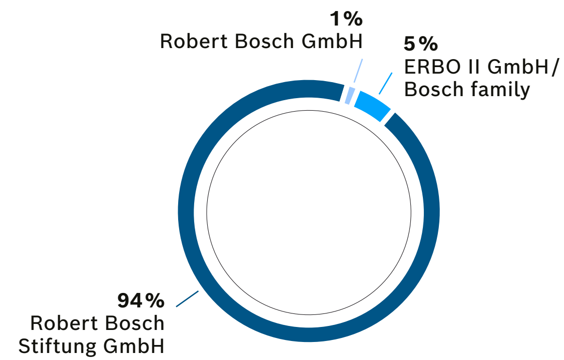
The Bosch Group is a global supplier of technology and services. It generates just under half its sales revenue outside Europe. The group encompasses around 490 fully consolidated subsidiaries and regional companies in more than 60 countries. The parent company is Robert Bosch GmbH, which is domiciled in Stuttgart, Germany. It started out as “Workshop for Precision Mechanics and Electrical Engineering,” founded in Stuttgart in 1886 by Robert Bosch (1861–1942). Robert Bosch Stiftung GmbH has been the majority shareholder in Robert Bosch GmbH since 1964.

Despite holding roughly 94 percent of the share capital, this limited liability company with a charitable purpose has no influence on the strategic or business orientation of the Bosch Group. A further roughly 5 percent of the share capital is held by the not-for-profit ERBO II GmbH, established by the founder’s descendants, and some 1 percent by Robert Bosch GmbH itself. Of the voting rights, some 93 percent are held by Robert Bosch Industrietreuhand KG, which itself holds a capital share of 0.01 percent. The approximately 7 percent of voting rights remaining are held by the founder’s descendants. This ownership structure guarantees the Bosch Group’s entrepreneurial independence.

With a workforce of more than 417,850 associates worldwide at year-end 2024, the Bosch Group is divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. Reporting is segmented in the same way.

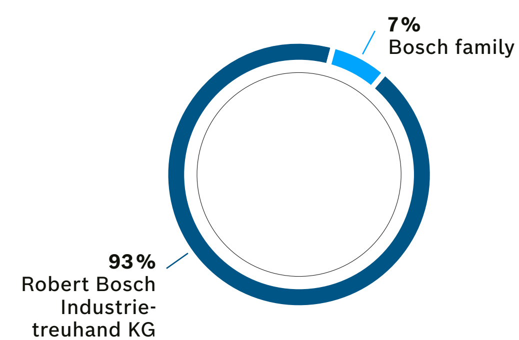
G 02

Shareholders of Robert Bosch GmbH
Shareholding
Percentage figures



G 03

Shareholders of Robert Bosch GmbH
Voting rights
Percentage figures



Corporate governance

The members of the board of management of Robert Bosch GmbH define the strategy for the entire company and lead the company as a whole. In the 2024 fiscal year, the board of management comprised eight members. Effective February 1, 2024, Frank Meyer became the seventh member of the board of management. He assumed responsibility for the Energy and Building Technology business sector's Building Technologies and Home Comfort divisions. Katja von Raven was appointed the eighth member of the board of management effective October 1, 2024. She is responsible for the Power Tools division in the Consumer Goods business sector and the Bosch Global Service Solutions division in the Energy and Building Technology business sector.

The Robert Bosch GmbH supervisory board appoints, monitors, and advises the board of management. In making appointments to the supervisory board, Robert Bosch GmbH is subject to the German "Mitbestimmungsgesetz" (Codetermination Act). In view of the company's size, the supervisory board has 20 members. Ten members are appointed by the shareholders with voting rights; the other ten members are elected by the employee representatives. Robert Bosch Industrietreuhand KG acts as a shareholder. In line with the mission handed down in the will of the company's founder, Robert Bosch, it is responsible for safeguarding the company's long-term existence and in particular its financial independence. The latter is intended to guarantee that the company remains entrepreneurially independent and able to act at all times.

Under German law, the supervisory board of a company subject to codetermination must set targets for the proportion of women in management positions. In December 2021, the supervisory board of Robert Bosch GmbH set such targets for Robert Bosch GmbH. These targets, which are to be met by the end of 2025, are 30.0 percent on the supervisory board and 16.67 percent on the board of management of Robert Bosch GmbH. As of December 31, 2024, the proportion of women on the supervisory board was 30.0 percent. On the board of management of Robert Bosch GmbH, the proportion of women was 25 percent as of December 31, 2024. This means both boards met their respective targets in 2024.

In December 2021, the board of management of Robert Bosch GmbH adopted specific targets for the proportion of women on the two management levels below the board of management. These targets apply to Robert Bosch GmbH in Germany. They are 10.0 percent for the proportion of women on the first management level and 17.0 percent on the second management level. The deadline for achieving both targets was set for December 31, 2025. At the end of 2024, the proportion had reached 12.8 percent on the first management level (previous year: 10.4 percent) and 15.7 percent on the second management level (previous year: 15.4 percent).

In addition, subsidiaries in Germany that are subject to statutory codetermination set their own targets for the proportion of women on their respective supervisory boards, management bodies, and first two management levels, as well as deadlines for achieving them. Globally, the share of women executives across all management levels within the group rose to 20.4 percent in 2024 (previous year: 20.0 percent). We intend to continue to increase this percentage. At present, our aim is 25.0 percent, which we intend to reach by 2030.

Description of business sectors

G 04

Business sectors and divisions, other businesses

Mobility	Industrial Technology	Consumer Goods	Energy and Building Technology
Bosch eBike Systems	Drive and Control Technology (Bosch Rexroth)	Power Tools	Building Technologies
Electrified Motion		BSH Hausgeräte	Home Comfort
Mobility Aftermarket			Bosch Global Service Solutions
Mobility Electronics			
Power Solutions			
Vehicle Motion			
Cross-Domain Computing Solutions			

Other businesses in the Mobility business sector
Bosch Engineering GmbH
ETAS GmbH
Two-Wheeler and Powersports

Mobility business sector

Following the reorganization that took effect on January 1, 2024, the Mobility business sector focuses on collaboration across the company's divisions that is adapted to market requirements, with the aim of being a preferred partner for vehicle systems, software, and hardware.

Bosch eBike Systems

Bosch eBike Systems offers a comprehensive portfolio for manufacturers, specialist dealers, and riders of e-bikes. This portfolio comprises drives, batteries, and on-board computers. The coordinated product range also includes various versions of the Bosch e-bike ABS antilock braking system. To connect e-bikes with the online world, the division integrates AI-based solutions for improved navigation, route planning, and anti-theft protection. It provides specialist dealers and riders with customized services such as training, diagnostic tools, and software updates.

Electrified Motion

Electrified Motion offers electrical powertrain solutions for passenger cars and commercial vehicles. The product portfolio includes power electronics and electric motors, and, as a combination of these two components with the transmission in a compact system housing, complete e-axles. In addition, the division offers electromechanical components and drives for e-bikes and e-scooters, for thermal management, and for wiper and steering/braking systems. The product range also includes drive systems for convenience features such as window lifters, seat adjustment mechanisms, and sunroofs.

Mobility Aftermarket

The automotive spare parts market is Mobility Aftermarket's main area of business, where it serves the aftermarket and workshops. The range of spare parts includes components for diesel, gasoline, and electrical powertrains, brake pads and discs, batteries, as well as wiper blades, filters, and spark plugs. In addition to wiper blades, Mobility Aftermarket also supplies automakers with wiper systems for the original equipment business. The division offers workshops assistance with vehicle repairs and maintenance, including diagnostic equipment and software as well as test benches and special tools. The range of services includes training, remote diagnostics, and digital catalogs. In addition, Mobility Aftermarket is responsible for the concept behind two independent workshop franchises: Bosch Car Service and AutoCrew.

Mobility Electronics

Mobility Electronics comprises the business with electronic control units as well as semiconductors and sensors. The division develops, commercializes, and manufactures these for in-house partners. It is also a semiconductor supplier for third parties in the mobility and consumer goods industries. Bosch-manufactured semiconductor components include application-specific integrated circuits (ASICs), microelectromechanical systems (MEMS sensors), and power semiconductors (silicon-carbide power semiconductors and low-voltage switches). Bosch Sensortec GmbH, Kusterdingen, Germany, develops and sells a broad portfolio of MEMS sensors and solutions in the field of consumer electronics.

Power Solutions

The Power Solutions division's portfolio focuses on combustion engines, the hydrogen economy, and thermal systems, as well as on software, services, and control units. Depending on the type of fuel, it manufactures components such as injectors, pumps, ignition systems, and injection systems, as well as transmissions, sensors, exhaust-gas treatment systems, and 48-volt batteries. For the hydrogen economy, Power Solutions offers components, systems, and services for mobile and stationary applications such as fuel cells and electrolysis stacks. For thermal systems in passenger cars and light commercial vehicles with different types of powertrain, the core business is the production of components for water-, coolant-, and air-based thermal circuits. The division's portfolio also includes control units, software, and services for all powertrain types as well as for hydrogen and thermal systems. Power Solutions also develops engine control units and exhaust-gas treatment solutions.

Vehicle Motion

The Vehicle Motion division develops and produces steering and braking systems, sensors, software-based and cross-domain vehicle dynamics control systems, service solutions, and occupant protection systems. In the steering business, Vehicle Motion offers various electric steering systems for passenger cars as well as hydraulic and electrohydraulic steering systems for heavy trucks. The braking systems portfolio includes braking control systems such as the ABS antilock braking system and the ESP® electronic stability program. ESP® can be combined with vacuum-based and electromechanical brake boosters and – depending on the braking system – integrated into a single piece of hardware. In the case of act-by-wire technology, electrical signal lines replace mechanical connections in the steering and braking system. In addition, a software systems solution integrating the brakes, steering, powertrain, and chassis helps make software-defined vehicles possible. The portfolio also includes occupant protection systems such as airbag control units and sensors for impact detection as well as vehicle dynamics sensors.

Cross-Domain Computing Solutions

Cross-Domain Computing Solutions brings together the cross-application development of control units and network components (Compute business) with driver assistance systems and automated driving (ADAS (advanced driver assistance systems) business). The Compute portfolio includes solutions for the integration of entertainment, navigation, telematics, and driver assistance functions. There are also solutions for cross-domain and centralized electric/electronic architectures. The ADAS portfolio includes functions for visualizing the vehicle's surroundings as well as assistance systems. In addition, it develops sensors with an integrated control unit and embedded software as well as pure hardware sensors for indoor and outdoor use such as camera, radar, and ultrasonic sensors.

Other businesses

The **Bosch Engineering GmbH** subsidiary in Abstatt, Germany, offers customized software development and engineering services for a wide range of customers, also from outside the automotive sector. Its tailored solutions are essentially based on Bosch platforms and products. Bosch's motor racing activities are also based at Bosch Engineering.

ETAS GmbH, based in Stuttgart, Germany, develops and distributes products and solutions for the development and operation of software platforms for the software-defined vehicle. In addition to basic software, this includes solutions for measurement and calibration, as well as middleware and solutions for diagnostics and cybersecurity.

The **Two-Wheeler and Powersports** business unit's portfolio includes safety and assistance systems, displays, connectivity functions, control units, and components for both combustion engines and electric motors for two-wheelers, three-wheelers, and powersports vehicles.

Industrial Technology business sector

The Industrial Technology business sector comprises the Drive and Control Technology division (Bosch Rexroth), other activities in the field of special-purpose mechanical engineering, and Industry 4.0 software solutions and services.

Drive and Control Technology

Bosch Rexroth AG specializes in drive and control technologies for machines and systems of any type and size. Its application expertise covers various market segments worldwide. The division's portfolio includes mobile and stationary hydraulics, electric drive and control technology, and linear motion and assembly technology for factory automation. With intelligent components, customized systems solutions, and services, Bosch Rexroth creates the environment that applications need for full connectivity.

Consumer Goods business sector

The Consumer Goods business sector comprises the Power Tools and BSH Hausgeräte divisions.

Power Tools

This division's extensive product range serves both professional users in trade and industry and do-it-yourselfers. It offers power tools (such as hammer drills, cordless screwdrivers, jigsaws), garden tools (such as lawn mowers, hedge trimmers, high-pressure cleaners), measuring technology (such as measuring, leveling, locating, and thermal devices), and power tool accessories (such as abrasive systems, drill bits, and saw blades). These are marketed not only under the Bosch brand but also under the Diablo, sia abrasives, and Freud brands. Precision rotary tools for DIY applications are also sold under the Dremel brand.

BSH Hausgeräte

The BSH Hausgeräte product portfolio ranges from washing machines and tumble dryers through refrigerators and freezers, stoves and ovens, and dishwashers, to small appliances such as vacuum cleaners, automatic coffee makers, and food processors. The division brings together the global Bosch, Siemens (under license), and Gaggenau brands. BSH also uses regional and local brands such as Balay, Neff, Profilo, and Thermador. There is also the Home Connect ecosystem brand and service brands including WeWash and BlueMovement.

Energy and Building Technology business sector

The Energy and Building Technology business sector comprises the Building Technologies, Home Comfort, and Bosch Global Service Solutions divisions.

Building Technologies

The Building Technologies division specializes in the regional systems integration business, offering solutions and customized services for building security, energy efficiency, and building automation in selected countries. The focus is on commercial buildings and infrastructure projects. The portfolio also includes fire-alarm systems. Agreements for the divestment of the division's remaining product business, which had already been planned in 2023, were signed at the end of 2024.

Home Comfort

Home Comfort offers its customers a wide range of solutions for heating, cooling, and well-being in buildings. The portfolio includes electric heat pumps and heat pump-hybrid solutions, condensing boiler technology, water heaters, air-conditioning systems, and ventilation technology for residential and commercial buildings, as well as systems for process heat. Within a partner network of installers, architects, planners, and wholesalers, Home Comfort markets its solutions under international and regional brands such as Bosch, Buderus, IVT, Vulcano, and Worcester. We are also preparing for the integration of the acquisition announced in the heating, ventilation, and air-conditioning business.

Bosch Global Service Solutions

The Bosch Global Service Solutions division focuses on technology-based services for customers in the areas of mobility (such as emergency call services for cars), fleet management (such as allocating parking spaces for trucks), logistics (such as cold-chain monitoring), and building management (such as emergency call services for lifts). The division also offers customer experience solutions (such as customer support) and business services (such as IT service desks) across all industries, as well as within the Bosch Group.

Prospects for the Bosch Group

Group-wide topics

Fundamental strategic orientation

The group's fundamental orientation, objectives, and strategy remain valid despite major challenges and the adjustments resulting from them. For a broadly diversified technology company like Bosch, considerable opportunities are emerging from universal trends such as electrification, electronification, automation, digitalization, and sustainability, as well as from the further expansion of its international footprint. We have therefore aligned our overall strategy with these circumstances. The starting point for our goals and strategy is the objective of securing the company's future, as enshrined in the will of the company's founder Robert Bosch. In other words, the objective is to ensure the company's strong and meaningful development and secure its financial independence. One further important point is sustainability. Our long-term ambition is to continue offering products that are "Invented for life" – products that fascinate, that improve quality of life, and that help conserve natural resources. In this respect, "products" are not only physical products and services, but also software-based solutions and services. By digitalizing our products, we are giving them additional qualities in order to enhance customer benefit. Through connectivity, we also want to generate additional software and service sales and increase the efficiency of our processes.

We aim to position the Bosch Group as a leading technology company. We want this aspiration to be reflected in our financial targets as well. With regard to sales, our aim is average annual growth of 6 to 8 percent between now and 2030, given normal inflation rates of 2 to 3 percent. In this context, we take our lead from the European Central Bank's medium-term inflation target of 2 percent. A further strategic goal is to achieve stronger growth in markets such as China, India, ASEAN, and Africa, but especially also in North America. In Europe, we want to develop our market position further. Especially in light of geopolitical changes, a broad regional presence is intended to contribute to the group's robustness and secure market opportunities. In some cases, our regional orientation is to be strengthened.

We intend to grow primarily by innovating and by opening up these new markets, as well as by acquiring companies and entering into partnerships. In our existing businesses, we aim to achieve an overall EBIT margin from operations of at least 7 to 7.5 percent. The opening-up of high-margin areas of business, both adjacent and new, is intended to further increase this margin.

As a rule, we are committed to our broad diversification. However, we are stepping up our efforts to strengthen our profitability and our company's overall competitiveness. The focus is on improving cost efficiency and on extensive measures to adapt structures to changing requirements, on intensifying portfolio management, on increasing productivity in research and development, and on strengthening business in selected regions. In 2024, we announced a raft of additional structural adjustments that we want to implement in the years ahead. These will affect all business sectors and regions. One key example of portfolio streamlining is the intended sale of the Building Technologies division's product business for security and communication technology (Energy and Building Technology business sector) to funds advised by Triton Investments Advisers LLP, United Kingdom.

Ample opportunities

For the Bosch Group, there are considerable growth opportunities in both existing areas of business as well as adjacent and new ones. Our strategy is oriented to this. The fundamental condition for entering new fields of business is that the activities in question be compatible with our own skills and expertise. Specifically, these are commercialization and high-quality volume production, broad domain and industry knowledge, as well as technological expertise, also in complex and intelligent systems such as electronic and electromechanical systems with embedded software. Future developments will continue to be driven by the trends of digitalization, connectivity, electrification and electronification, automation, emerging markets, and sustainability, which we address with our “Invented for life” ethos. We expect technological developments in the field of generative AI (GenAI) to have an impact on our divisions’ activities. Our focus here is twofold: productivity and growth. We believe artificial intelligence has the potential to improve productivity and achieve cost savings, and thus to increase competitiveness. Other aspects include additional customer benefit and sustainability. The newly established GenAI Center of Excellence will act as a catalyst to support the organization in the systematic use of this new technology.

We are prepared to make considerable upfront financial investments in order to participate in and help shape these trends. Apart from these general trends, the business sectors’ markets and competitive environments vary, in some cases considerably so. In all areas, however, we face intense competition.

Electrification is of particular importance for Mobility, our biggest business sector. Despite regional differences in the speed of developments, emissions standards aimed at complying with climate targets and improving urban air quality will reinforce the trend toward electromobility over the medium to long term. In our Industrial Technology business sector, the new solutions arising from the convergence of electrical and hydraulic systems are presenting us with opportunities. In building technology, especially in heating and air-conditioning, the use of heat pumps and renewables is becoming increasingly prominent, and this is leading to market opportunities.

In addition to its significance for the Industrial Technology and Energy and Building Technology business sectors, automation – in the shape of partially and highly automated driving – especially affects the Mobility business sector. Especially in partially automated driving, we expect continued strong market growth. Where industrial technology is concerned, ample opportunities are arising from the increasing flexibility and connectivity of manufacturing operations. This offers new ways of enhancing product quality and productivity, adding functionality, and improving energy efficiency. In the Consumer Goods and Energy and Building Technology business sectors as well, new services arising from connectivity and increasingly smart products, such as app-based control, are creating additional potential for growth.

In view of our expertise in many product segments and our know-how in software and sensor technology, we see huge potential for the development of Bosch's business operations over the long term, also attuned to differing customer needs in different regions. We are also relying on our proficiency in the areas of connectivity and artificial intelligence, which we view as fundamental for the design of intelligent and user-friendly products, services, and processes. In general, we believe that sustainably manufactured products offer prospects for future market success. We want to further expand our presence in sales and manufacturing operations in the emerging markets of Asia, South America, central and eastern Europe, and Africa.

A key example of the opportunities – and hence of our growth ambitions – in our existing and adjacent businesses is the announced acquisition of the U.S. company Johnson Controls' worldwide heating, ventilation, and air-conditioning business for residential and light commercial buildings. In taking this strategic step, we want not only to significantly expand our position in the North American and Asian markets, but also to strengthen our technological position in the field of air-conditioning. The practical implementation of our strategy continues to be based on our high level of innovativeness – also in relation to our research and development expenditure – on quality, on our broad diversification and regional footprint, and on the Bosch corporate culture.

Further growth areas include semiconductors and the hydrogen economy, whether in mobile fuel cells or electrolysis. To make the upfront investments here manageable, we are also seeking partnerships in these areas. Partnerships in the area of medical technology are intended to enable further innovations and make access to new markets easier for Bosch Healthcare Solutions GmbH, based in Waiblingen, Germany, which supplies the medical technology market with sensors, software, and services. Robert Bosch Venture Capital GmbH, based in Gerlingen, Germany, invests in startups outside the company, while Bosch Business Innovations GmbH (formerly grow platform GmbH), based in Ludwigsburg, Germany, fosters in-house startups.

Sustainability

Sustainability is an important part of the Bosch values, which form the basis of our actions. To give you some examples, measures include: (1) Future and result focus, (2) Initiative and determination, (3) Openness and trust, (4) Reliability, credibility, legality, (5) Fairness and respect, (6) Diversity, equity, inclusion, and (7) Responsibility and sustainability.

For Bosch, sustainability is the balance between the economic, ecological, and social elements of our business activities as part of responsible corporate governance. The highest specialist body for sustainability at Bosch is the corporate sustainability board, which is headed up by the chairman of the board of management and the member of the board of management responsible for sustainability. The board's main task is to define the Bosch Group's sustainability goals and strategy.

Bosch's overall objective for sustainability covers six strategic themes: Climate action, water, circular economy, people, human rights, and health. In the programs based on them, we are increasingly going beyond our direct sphere of influence to include supply chains and use of products sold. With its more than 450 locations worldwide, the Bosch Group has been carbon-neutral overall since 2020 – both in scope 1 (direct emissions) and scope 2 (indirect emissions from procured power). We achieve carbon neutrality by applying four levers: increasing energy efficiency, generating our own energy from renewable sources (new clean power), purchasing electricity from renewable sources (green electricity), and – as a last resort – offsetting the remaining CO_2 emissions. In 2024, residual emissions of roughly 531,300 metric tons of CO_2 were offset through carbon credits. The terms "scope 1, 2, 3" (scope 3: upstream and downstream emissions in the value chain) are used in accordance with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard. Our goal is to continuously improve the above-mentioned mix of measures so as to further reduce our impact on the climate. In 2024, we achieved this primarily by further decarbonizing our energy supply and increasing energy efficiency at our locations.

We want to shape climate action beyond our immediate sphere of influence (scopes 1 and 2) and systematically reduce upstream and downstream emissions (scope 3) as well. In 2024, we decided to raise our scope 3 reduction target to 30 percent in absolute terms (compared to the baseline year of 2018). This target was set independently of 2030 sales revenue. As the company grows in the future, in other words, the reduction amount will increase in absolute terms. Upstream emissions in the Bosch value chain relate mainly to purchased goods and services as well as logistics, while downstream emissions arise mostly from the use of our products.

Bosch takes its lead from the United Nations Guiding Principles on Business and Human Rights. It also implements the requirements of the German Supply Chain Act ("Lieferkettensorgfaltspflichtengesetz"), which came into effect in 2023. The risk management system that we have set up to ensure that our human rights and environmental due diligence obligations are upheld applies both to our own actions and to those of our suppliers. Bosch also places great importance on occupational safety. We regard preventing accidents and ensuring workplace safety as part of our responsibility. By 2025, we want to reduce the number of workplace accidents to 1.45 per 1 million hours worked. Bosch is also preparing for the EU taxonomy for classifying products and services according to their sustainability, as well as for the increased scope of sustainability reporting obligations (EU Corporate Sustainability Reporting Directive).

Competitive environment and strategy

Mobility

Fundamental positioning

Our vision is to shape a new era of mobility – mobility that is sustainable, safe, and exciting. We aim to maintain our role as automakers' go-to partner for automotive systems and the associated hardware and software, and to become a leading provider of technology for the business of developing components, software, and systems – from operation through to the end of service life. We operate around the world. As a result of divergent customer requirements and regional differences in regulations and infrastructure, it is becoming clear that new technologies are becoming established at different speeds, particularly in the areas of electromobility, hydrogen, software-defined vehicles, and automated driving. With regard to our regional positioning, our strategic considerations also take account of political developments and economic trends toward greater emphasis of regional interests, which may require operations to become more localized.

Our ambitions are based on our expertise relating to the interaction between software and hardware, as well as to vehicle-specific subjects such as powertrain technology, vehicle dynamics, and safety. They are also based on our generally high level of electronics expertise. Our activities in software and services also play an important role. Customer needs are changing ever more quickly, and sometimes differ; our aim is to serve those needs with customized technologies and solutions from a single source. This is why one of our strategic focal points for 2024 was the realignment of the Mobility business sector as an integrated business sector with its own management team and P&L responsibility across its business areas. The business sector is organized along horizontal and vertical domains in order to simplify collaboration in areas such as electrification, vehicle dynamics, driver assistance systems, vehicle computers, and software. At the beginning of 2025, in order to be able to address all customers' requirements, we also brought together our commercial-vehicle and off-highway applications business in the Power Solutions division. The products we offer here are developed together with the other Mobility divisions.

Our goals and our strategy have to be seen in the context of market developments and future market prospects. Global vehicle production, including heavy commercial vehicles, is significantly below its 2017 peak of around 99 million units. The result is overcapacity in the global automotive industry. It remains our assumption that 2017 production levels will not be regained before the end of the present decade at the earliest. The Chinese market is becoming an important driver of growth and innovation in technologies of the future, such as electromobility, software-defined vehicles, and automated driving, as well as hydrogen. In this context, Chinese manufacturers and suppliers are growing in prominence. In contrast, these technologies are taking longer than previously expected to become established in the European and North American markets. The sluggish development of electromobility is also acting as a brake on the market launch of platforms featuring new electric/electronic architectures, and this in turn is affecting areas such as driver assistance systems and automated driving. In areas of future importance for the automotive sector, we are also encountering new providers and competitors from other industries, such as software and semiconductors.

In the Mobility business sector, our target is to achieve average annual sales revenue growth of 5 percent by 2030. In other words, we have lowered our growth target by around 1 percentage point due to the growth expectations for global vehicle production. We have also taken into account the expected shifts in future technologies. Nonetheless, we believe our international presence offers our company attractive prospects. We are aiming for a higher share of vehicle-related value creation, given the greater role that features such as electronics will play. We see growth opportunities in the areas of battery-electric vehicles and mobile fuel cells, software-defined vehicles, driver assistance systems, vehicle dynamics, and semiconductors. However, other important activities such as the aftermarket and e-bike businesses also offer long-term opportunities. Our aim is also to improve EBIT margin from operations while maintaining a high level of upfront investments and taking the necessary adjustment measures.

To achieve these targets, we are working on a range of measures. These are intended to strengthen our competitiveness through cost and capital efficiency, and to systematically align our portfolio with future changes in the market and competitive environment. Our far-reaching measures relate to areas such as purchasing, our global manufacturing network, administration, and sales. They are also concerned with improving productivity and efficiency in research, development, and product management. We also expect artificial intelligence methods to become increasingly important along the entire value chain and to play a part in increasing effectiveness and efficiency, also in development, production, and customer services. Examples include AI-assisted software development through the use of AI-based programming tools and the use of AI-assisted engineering and scaling for automatic optical inspection in production-related quality assurance.

With a view to competitiveness, the phasing out of combustion engine technology in key markets, the necessary restructuring of steering systems, and adjusted market expectations for technologies of the future such as electromobility and automated driving, we announced a series of structural adjustments in 2024, primarily at European locations. We are also continuing to focus our product portfolio, for example by discontinuing our automated valet parking activities and charging services. Moreover, in 2024 we sold our shareholdings in Buderus Guss GmbH and Robert Bosch Lollar Guss GmbH. They were part of our brake disc activities and were acquired by the AEQUITA SE & Co. KGaA private equity fund, Munich, Germany.

Outlook for powertrain technology

As a company, we are committed to the ambitious Paris climate targets. In line with these targets, we continue to pursue all technology paths and offer our customers a broad portfolio. With the overall aim of contributing to low-carbon mobility, we are continuously working to improve our existing technologies and develop new ones. Our innovations are aimed at further reducing emissions from combustion engines. We are also working intensively to develop components and systems for battery-electric vehicles, hybrid vehicles, and mobile fuel cells. For passenger cars and light trucks, our fundamental expectation is that the long-term trend toward battery-electric vehicles will continue. However, this trend is faltering in Europe and North America; the leading market is China. At the same time, there is an increasing trend toward hybrid vehicles. Range-extender hybrids are now playing a growing role in China. These are battery-electric vehicles whose battery is also recharged by an alternator that is driven by a combustion engine.

It is not only in battery-electric vehicles that electric machines and inverters can be used. They are also fundamentally suitable for vehicles powered by fuel cells. Moreover, for the fuel-cell powertrain, which we believe will primarily be used in commercial vehicles, we also offer a comprehensive portfolio ranging from individual components to stacks (combinations of fuel cells that are connected with each other electrically) and entire fuel-cell systems. The ramp-up of fuel-cell technology therefore depends heavily on the expansion of hydrogen infrastructure, and thus also on government policy. In the case of fuel cells as well, the Chinese market is playing a leading role, so we are initially focusing on this market and pooling activities in China and Germany. We also see opportunities in components and systems for the pure hydrogen engine, and we are preparing these for market entry.

In addition, we are looking into polymer electrolyte membrane (PEM) electrolysis and investing in the development of the associated components. Electrolysis uses electricity to split water into hydrogen and oxygen, thereby producing hydrogen. We are preparing to enter the market here. However, market developments are heavily dependent on the policy framework. In February 2025, we decided to discontinue our operations relating to the industrialization and preparation for production of decentralized power supply systems based on solid-oxide fuel cells (SOFC).

Software-defined vehicles

Software-defined vehicles, in which the software can be updated and optimized within the limits of the hardware during the vehicle's life cycle, require a new centralized software and electric/electronic architecture. Even today's compact-class vehicles feature 30 to 50 individual control units, and premium vehicles may feature more than 100. In the future, it will be possible to reduce the number of control units by replacing them with powerful central vehicle computers for the various vehicle domains, such as powertrain, cockpit, and infotainment functions. Until the end of the decade, the initial focus is likely to be on domain-centered architectures and not, as was once expected, on vehicle-centered architectures. We see this as a growth market for us. We are developing a universal software and electric/electronic architecture for the entire vehicle and increasingly offering hardware-agnostic software that runs on chips from different manufacturers. For future vehicle software architectures, moreover, we must adapt to automakers' different approaches and position ourselves flexibly. European and North American manufacturers in particular have also postponed new platforms in light of the slower take-up of electromobility.

Driver assistance and automated driving

We are systematically improving our driver assistance systems for SAE Levels 0 (such as lane-departure warning systems) to 2 (such as a combination of lane-keeping support systems and automatic cruise control). For example, we are working on automated driving functions that significantly relieve drivers of their tasks on freeways and in congested traffic. In addition, we are developing automated driving in stages in line with SAE Levels 3 and 4. Initially, we expect to see a trend to expand Level 2 functions and a delay in the introduction of Levels 3 and 4 functions. We are adjusting our structures accordingly. We also use partnerships in our development work, such as the engineering alliance with the Volkswagen Group subsidiary Cariad. The aim of this partnership is to make automated driving suitable for volume production. More specifically, these functions are Level 2 hands-free systems for urban, extra-urban, and freeway driving, as well as a Level 3 function for freeway driving. In China, we have been working in a strategic partnership with WeRide since 2022. Together with our partner, we started production of a Level 2++ function at the end of 2023. In the course of the Chinese company's recent IPO in the U.S., Bosch increased its stake in WeRide Inc., Cayman Islands, to just under 4 percent.

Vehicle dynamics

As we believe that the combination of steering, braking, and safety systems with sensors offers additional opportunities, we brought these vehicle dynamics components and systems together under the umbrella of the Vehicle Motion division in 2024. We are working to systematically adapt current products to the requirements of the software-defined vehicle and cross-application systems to create integrated and connected vehicle dynamics control. Thanks to a new control concept, this software can intervene not only in the braking system, but also in the electrical powertrain, electric steering system, and suspension. This allows the vehicle's driving stability and agility to be enhanced and significantly accelerates development times.

Semiconductor activities

We are continuing to systematically expand our semiconductor activities and carry out projects in this field. This includes the expansion of the clean-room space in Reutlingen, Germany, which will increase our processing capacity for 200-millimeter wafers. The further expansion of the Reutlingen plant will primarily serve the growing demand for MEMS sensors in the automotive and consumer goods segments, as well as for silicon-carbide power semiconductors, which play a key role in electromobility. We are also upgrading the Roseville plant in California, USA, which we acquired in 2023, for the manufacture of silicon-carbide power semiconductors. We have been promised funding for this under the U.S. CHIPS and Science Act. The capacity of our semiconductor location in Dresden, Germany, is being systematically expanded. There, we manufacture ASICs and low-voltage switches, and plan to start manufacturing MEMS over the medium term. In addition, construction has started on a new 300-millimeter wafer fab for semiconductor production for European Semiconductor Manufacturing Company (ESMC) GmbH in Dresden. We have invested in this together with TSMC, Infineon, and NXP, and hold a 10 percent stake. The project is receiving funding under the European Chip Act. In view of worldwide geopolitical challenges, local semiconductor production is becoming increasingly important and is a focal point of industrial policy worldwide.

Growth opportunities in additional areas

In the Mobility Aftermarket business, we see the greatest opportunities for growth in diagnostic software, services, spare parts for the electrical powertrain, and powertrain-agnostic spare parts, as well as in the further expansion of our workshop concepts. The e-bike market has still not recovered from the slump following the end of the coronavirus pandemic. Market consolidation continues. Over the longer term, however, we expect that changes in mobility in many regions, as well as in leisure behavior, will cause the market to grow. Mid-priced segments are likely to become increasingly important. Overall, we are expanding our portfolio in areas such as drives and digital products for e-bikes – such as new anti-theft and range functions – as well as our services for specialist bicycle dealers. The focal point of our activities is our core European market. There is additional growth potential in North America and in certain countries in Asia Pacific, where we are already represented by our own sales organizations.

Industrial Technology

Drive and Control Technology

The Drive and Control Technology division (Bosch Rexroth), which supplies hydraulics and factory-automation components and systems, operates in markets with many competitors and customers. The nature of these competitors and customers is changing as a result of trends such as mobile machinery electrification, of the inroads being made by digital solutions, and of increased price pressure due to the growing significance of Asian suppliers, including emerging Chinese companies.

Against this backdrop, and despite today's challenging economic environment, our Drive and Control Technology division is continuing to expand its activities as a provider of solutions for mobile and industrial hydraulics and of factory automation. The main pillars of these efforts are the further development of existing products, innovations in software-based services, and the broadening of our international presence, also through sales partners.

The markets for the division's two segments, hydraulics and factory automation, differ markedly. In the hydraulics segment, Bosch Rexroth has a strong position in a market that will grow moderately over the long term. In factory automation, by contrast, the division is a niche provider in a large, dynamic growth market. In both segments, we want to grow faster than our respective markets. Cost and structural competitiveness, a strong product portfolio, and a balanced regional footprint are important factors here. We are systematically expanding our global footprint with growth initiatives in countries such as the U.S., India, and China. At the same time, adjustments are required in Europe. The weak construction and mechanical engineering segments in key sales markets mean that additional measures are required.

In the area of innovation, Bosch Rexroth's focus includes new technologies, such as the electrification of mobile hydraulics, and solutions for hydrogen infrastructure. Industrial Hydraulics, for example, offers solutions for the compression of liquid or gaseous hydrogen for the direct refueling of vehicles. The business unit works together with partners in this area. We also continue to develop software-based solutions for all segments, making connectivity possible. To simplify engineering tasks, for example, more than one million digital twins have already been created. Bosch Rexroth uses artificial intelligence methods in products such as industrial hydraulic valves, mobile hydraulics control systems, and factory automation to make them better and more efficient. Better energy efficiency will also continue to play an important role in the development of products and services. In the 2024 fiscal year, further important partners were acquired for a hardware-agnostic operating system developed by Bosch Rexroth which includes digital services. In 2024, moreover, we launched an initiative to grow our e-commerce business.

Apart from innovation, Bosch Rexroth's strategy also focuses on its international footprint. The local-for-local strategy (local value creation and supplier base) and improvements to competitiveness require both investment and the optimization of structures. The aim is to further increase the share of value creation in China, India, and North America. In Europe, our regional footprint will be improved by moving further operations to more cost-effective locations where necessary.

In China, a strong local presence and a customized product portfolio are crucial. To increase the independence, speed, and market proximity of operations in China, the organizational structure of our China business will be gradually adjusted. Parts of the business will be driven forward under the brands of the Le-HydrauliX BoWei (Shanghai) Co., Ltd. and Le-ElectriX (Shanghai) Co., Ltd. joint ventures, China. To take advantage of growth opportunities in India, it is planned to further expand the manufacturing capacity of our plant in Ahmedabad. We are also continuing our growth strategy in North America. The integration of the hydraulics specialist HydraForce Inc., Lincolnshire, Illinois, USA, acquired in 2023, continues.

Consumer Goods

Power Tools

Following the end of the pandemic-related boom, the weak global demand for consumer goods continued in 2024. Power Tools was confronted with a difficult market situation, particularly in Europe. This was exacerbated by weakness in the construction industry. In addition, demand is increasingly shifting toward price-sensitive segments, in which the division is in intense competition with global and regional suppliers.

Power Tools is strategically adapting to changing market and customer requirements. The aim is to become a full-line supplier for tradespeople, construction, and garden design and maintenance. Regionally, Power Tools is continuing to expand its business in North America, also with the Bosch and Diablo brands, and is part of a cross-consumer goods marketing campaign for the Bosch brand that was launched at the start of 2025. The division is also optimizing its processes and structures so as to adapt its organization to the challenges it faces and thus to strengthen its competitiveness. The focus here is on continuously reducing costs by increasing efficiency, as well as on ensuring customer satisfaction.

The drivers for long-term growth are solutions that are tailored to the needs of user groups, as well as innovations that open up new business areas and set Power Tools apart from the competition. The expansion of the cordless range continues to play a central role. In 2024, the number of product launches in this area increased considerably. The range of manufacturer-independent cordless platforms in the 18-volt class is being systematically expanded. Here, the division has come up with innovations that prolong these batteries' runtime by as much as 70 percent.

To increase efficiency and further optimize its range of services, Power Tools is testing the use of artificial intelligence at the customer interface, as well as for content generation. Pilot projects were launched in 2024, including a chatbot for customers, retailers, and service technicians that uses artificial intelligence to answer questions about the products and their use.

With its circular economy strategy, the division aims to achieve a level of sustainability along the entire product life cycle that is as high as possible. To this end, an initiative has been launched to produce new accessories for power tools – such as drill bits and saw blades – from industrial waste such as carbide residues, sludge, and powder. The focus is also on health and user protection, as in hammer-drill control functions that are designed to prevent unexpected kickbacks and thus reduce the risk of injury.

BSH Hausgeräte

The focus of the BSH Hausgeräte division is on addressing the changing needs and wishes of consumers and trading partners in its markets and offering them appropriate products and solutions. The division competes with global and regional providers. Market conditions are characterized by economic challenges worldwide and real-estate markets that remain very difficult. These developments are having a considerable impact on the home appliance market. Moreover, demand is increasingly shifting toward more price-sensitive segments, which is primarily benefiting Asian competitors and online retailers. In Europe, it is mainly the fitted-kitchen business that is affected.

BSH Hausgeräte's 2030 growth and value-creation strategy remains its strategic response to current and future challenges in the market and competitive environment. The aim is to gain market share in order to consolidate and expand its position in the home appliance industry worldwide, as well as to improve its cost structure and competitiveness in Europe. This also includes a stronger focus on regional growth opportunities. To address customer needs and trends at an early stage, BSH focuses on regional presence with a local-for-local approach. In addition, it will further strengthen its manufacturing network for large home appliances in North America, including additional production capacity for the large refrigerators this market demands. At the beginning of 2025, moreover, an extensive brand campaign was launched in North America to increase awareness of the Bosch brand.

Innovations focus on consumer demands for quality, convenience, performance, and sustainability. Technologies such as sensors, automation, and artificial intelligence make this possible. For example, the Matter connection standard paves the way for manufacturer-independent connectivity and integration into existing smart home ecosystems. In the future, Matter will enable appliances from a new refrigerator series to be controlled using various apps, as well as to be connected with other compatible appliances. A second example is an oven series that uses artificial intelligence and integrated sensor technology to set the optimum preparation method.

When it comes to sustainability as well, BSH Hausgeräte relies on innovative solutions. Such solutions include retrofittable, easy-to-maintain washing machine filters that remove microplastic particles from wastewater. In addition, the Home Connect app can be used to call up comprehensive statistics about power consumption and to start appliances automatically.

Energy and Building Technology

Building Technologies

The Building Technologies division offers systems, solutions, and services in the areas of building security, energy efficiency, and building automation. The competition it faces is characterized by a small number of international suppliers and many regional ones.

The division is continuing to strategically expand its systems integration business and aiming for a leading position in selected markets. This is also intended to strengthen the services business with its annually recurring revenue, and this in turn should improve the division's cyclical robustness. The product business with fire-alarm systems, which is to be part of the systems integration business in the future, is operating in a growing market. Integrated solutions are increasingly making Building Technologies a software-agnostic and manufacturer-independent provider.

To achieve further growth, Building Technologies is taking advantage of ongoing digitalization and increasing demand for integrated and cross-domain solutions. The focus is on the European and North American markets. Building Technologies is also expanding its portfolio through acquisitions. In the 2024 fiscal year, for example, it acquired DMS Digitale Mess- und Steuerungssysteme AG, headquartered in Ettlingen, Germany, and the business operations of Engineered Control Solutions, Inc., Fuquay-Varina, North Carolina, USA.

In addition to these strategic acquisitions, Building Technologies is driving innovation through new connected services. In 2024, it started offering a control center-based drone service for emergency services. This can provide crucial information on situations such as natural disasters, and thus save valuable time.

In October 2023, as part of its portfolio strategy, the division announced its intention to sell its product business, comprising the three business units Video, Access and Intrusion, and Communication. An agreement to this effect was signed with the funds advised by Triton Investments Advisers LLP, United Kingdom, at the end of 2024. The transaction is subject to approval by the authorities and further closing conditions. It is planned to close the transaction in mid-2025.

Home Comfort

The Home Comfort division is in competition with a small number of international suppliers and many regional ones. We are currently seeing trends toward consolidation, especially in the heating and air-conditioning market. Despite a declining market in 2024, particularly in Europe due to the uncertainties surrounding government subsidies, heating technology is moving away from fossil fuels such as oil and gas toward electric heat pumps and heat pump-hybrid solutions. As heat pumps will be a key technology in Europe's long-term efforts to meet the Paris climate targets, we expect to see a gradual market recovery starting in 2026. At the same time, air-conditioning technology is growing in importance both in Europe and worldwide.

To expand its presence in the North American and Asian markets, the Bosch Group plans to take over the global HVAC business for residential and light commercial buildings from Johnson Controls International plc, Ireland. As part of this transaction, Bosch also intends to acquire 100 percent of the joint venture between Johnson Controls and Hitachi Global Life Solutions, Inc., Japan. With this transaction, Bosch intends to expand its position in the cooling segment and create added impetus for its global heat pump business. The acquisition is scheduled for completion in the course of 2025.

While heat pumps are used in new buildings and in existing buildings that have been insulated, heat pump-hybrid systems comprising a heat pump and a condensing boiler are an alternative when improving the energy consumption of poorly insulated structures. To expand our heat pump business, we are investing in our European development and manufacturing network. In parallel with the planned expansion of our production lines, the speed of ramp-up is guided by the current market situation.

Adjustments are also being made to the product portfolio for fossil-fuel-based heating technology. In the future, the business unit concerned will focus in particular on hybrid solutions and sustainable fuels, such as hydrogen for residential and commercial buildings. In the course of these realignments, adjustments will be made in administrative areas and at research and development locations. Moreover, internal processes are to be simplified and duplicated tasks at locations reduced. This will also lead to personnel adjustments.

Our Home Comfort division is also pursuing a systematic digitalization strategy. A Bosch energy manager makes it possible to link up the heat pumps and photovoltaic systems in the home. It controls the heat pump according to the photovoltaic power available, thus increasing the amount of locally produced electricity used for heating, cooling, and hot-water generation.

Home Comfort is also using partnerships with new market players to broaden its customer base in the heat pump business. Moreover, it is helping heating companies build up expertise in these new technologies and offering additional services. Specialist heating companies are provided with comprehensive packages for more efficiency in their day-to-day work, from digital tools to training and education. In its online business, Home Comfort products such as air purifiers and mobile air-conditioning units help improve well-being.

Bosch Global Service Solutions

The Bosch Global Service Solutions division offers technology-based services in a market environment featuring major international competitors and more minor local providers. The major players are driving market consolidation. Bosch Global Service Solutions is continuing to develop its portfolio in the direction of “Connected Services for Life” within the four segments Mobility, Fleets, Logistics, and Buildings. This technology-based service focuses on linking sensor data, data platforms, customer interfaces, and intervention services. An important strategic focus here is the integration of artificial intelligence. Numerous AI-assisted applications are already in use, and are being continuously added to. Examples include AI-assisted language processing, which makes emergency calls more efficient, as well as live translation of foreign languages in elevator emergency calls.

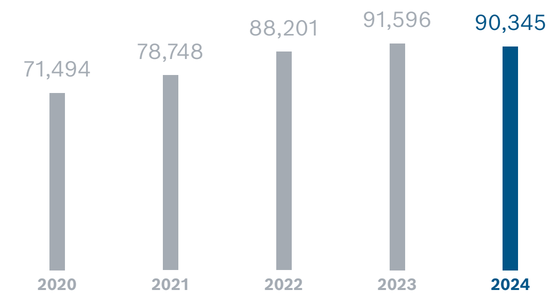
This focus on technology-based services has helped the division to grow faster than its competitors, and to successfully develop from a niche provider into a recognized market player. In addition to Europe, the division is looking to expand its regional presence in the Americas in particular. Moreover, it is seeking to generate growth in collaboration with partners and through acquisitions.

Report on economic position

For the Bosch Group, it proved impossible to sidestep the difficult market situation in its main areas of business and the weak global economy. The year 2024 was an outlier, with all our core markets underperforming at the same time. This particularly affected business in Europe. Against this backdrop, Bosch Group sales revenue and result are down on the previous year. We cannot be satisfied with this. Our expectations for 2024 were therefore not fulfilled. Sales revenue declined by 1.4 percent to 90.3 billion euros in nominal terms and by 0.5 percent after adjusting for exchange-rate effects. Market developments affected all our business sectors. With the exception of the Consumer Goods business sector, sales revenue is down year on year, and below expectations in all business sectors. The Industrial Technology business sector was hit particularly hard by market developments. For 2024, the Bosch Group discloses an EBIT margin from operations of 3.5 percent. This contrasts with our forecast of roughly 5 percent, more or less on a par with the previous year. In addition to lower sales revenue and the idle capacity that goes with it, this is also due to necessary additional structural adjustments. Despite some considerable declines in sales revenue, all business sectors disclose positive EBIT from operations, but EBIT margin is below both expectations and the previous year. At 0.9 billion euros, Bosch Group free cash flow is positive despite the decline in EBIT, and meets the expectation formulated in the previous year. For the internal KPI of average NWC, only Consumer Goods and Energy and Building Technology met our expectations of a significant decline across all business sectors.

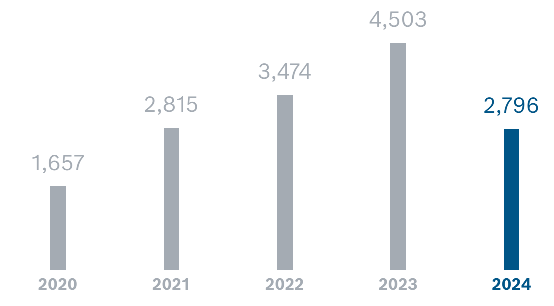
G 05

Sales revenue, 2020–2024
in millions of euros



G 06

EBIT, 2020–2024
in millions of euros



Key performance indicators

For an unlisted company such as the Bosch Group, profitability and efficient use of capital resources are crucial for financing future growth. Accordingly, we use the key performance indicators EBIT margin (earnings before interest and taxes as a percentage of sales revenue; essentially corresponds to the EBIT margin from operations disclosed in the group management report), free cash flow (FCF) at the Bosch Group level as a percentage of sales revenue, the internal indicator of average net working capital (NWC) as a percentage of sales revenue at the business-sector level (as an internal performance indicator), and sales revenue growth.

Unlike EBIT as per income statement, the calculation of EBIT from operations disregards the earnings impact of higher depreciation and amortization from the remeasurement of assets at the former Automotive Steering division and BSH Hausgeräte following the complete acquisition of these former joint ventures in 2015. We therefore distinguish between EBIT and EBIT from operations on the level of the Bosch Group and of the Mobility and Consumer Goods business sectors. In the Industrial Technology and Energy and Building Technology business sectors, the two EBIT indicators are identical.

FCF is determined essentially from the development of EBIT, NWC, and investments in property, plant, and equipment and intangible assets. NWC is calculated from inventories, trade receivables, and contract assets, in each case before valuation allowances, plus capitalized deferred consideration to customers and contract performance costs, and minus trade payables and contract liabilities.

The main basis for monitoring this is our internal reporting, which takes its lead from the International Financial Reporting Standards (IFRSs). A monthly business report, which contains an up-to-date overview of the operating units' performance indicators, serves as the central reporting tool. It provides a year-on-year comparison and a plan-versus-actual comparison of selected performance indicators. The report is based on the business plan, which is embedded into longer-term strategic corporate planning. The planning method used is strongly geared toward targets and measures. The focus is on developing and carrying out measures designed to achieve the planning targets.

Competitor-oriented benchmark values are used to define targets for the relevant performance indicators. They form the basis for the Bosch performance bonus – the short-term variable portion of specialists' and executives' remuneration, from section-manager level to the board of management. In 2024, the bonus was determined on the basis of EBIT margin (weighted at 60 percent), year-on-year organic sales revenue growth (weighted at 10 percent), and either FCF at the Bosch Group level or the relevant NWC at the business-sector or divisional level (both weighted at 30 percent). The Bosch performance bonus is complemented by VALUE, a variable bonus program for long-term corporate success at senior executive and board of management level. It is calculated from the average Bosch performance bonus factor of the preceding three years.

Macroeconomic and sector-specific environment

In 2024, the global economy proved to be somewhat more robust than originally expected, although the situation in the Bosch focus markets of automotive production, mechanical engineering, the construction industry, and consumer goods was difficult. Nonetheless, at 2.8 percent, growth of global economic output was again lower than the long-term trend. This persistent economic weakness is a result of a reluctance to invest in many industries as well as of consumer restraint in the face of stubbornly high interest rates and economic uncertainty. Central banks cautiously lowered their key interest rates over the course of the year. Inflation rates have fallen, primarily due to significantly lower energy prices. However, the widespread wage increases suggest that inflationary pressure will remain high. We had assumed a global inflation rate of 3½ to 4 percent for 2024. At 4.3 percent, this expectation was slightly exceeded. This means that the inflation rate was higher than the ten-year average.

Even though the growth in global economic output was only modest compared to the long-term trend, it was slightly above our forecast range of 2 to 2½ percent. Developments in Europe were again weak, even though economic growth of 1.2 percent slightly exceeded our expectation of 1.0 percent. In Germany, our fears of continued stagnation have been borne out, with value creation falling again by 0.2 percent. At 2.6 percent, GDP growth in North America significantly exceeded our forecast range of 1½ to 2 percent. This is due in particular to the U.S., where GDP grew by 2.8 percent. This was mainly due to a robust labor market and significantly lower inflation, together with a continuation of expansionary fiscal policies such as the subsidies under the Inflation Reduction Act. Growth in Asia Pacific reached 4.0 percent, compared with our forecast of 3.5 percent. Although this means the region once again recorded the highest growth, it did not achieve the growth rates of previous years. China reports a 5.0 percent increase in GDP, which is stronger than the originally forecast growth of 4.0 percent. Nonetheless, growth fell short of the previous year. The stronger than expected GDP growth is due to fiscal policy, including purchase stimuli for consumer goods. At least temporarily, this offset the negative impact of ongoing weakness in the construction and real-estate markets. With an increase of 6.6 percent according to figures available to date, India recorded the strongest growth in the region. However, growth slowed here as well. The data for economic output is taken from Macrobond and the International Monetary Fund. Due to subsequent revisions, some of the abovementioned previous-year figures differ slightly from the figures in the 2023 group management report.

The situation in our focus markets was significantly more difficult. Global vehicle production (including heavy trucks) declined. In our forecasts for 2024, we had expected it to remain on the same level as 2023. In 2024, however, global vehicle production reached only 93 million units, following 94 million in the previous year. The previous-year figure has been revised since the 2023 group management report as a result of automobile associations filing late reports in the course of 2024. Regionally, the picture is a mixed one. While production in China rose 2.6 percent year on year to 31.3 million units, it fell 6.7 percent to 14.9 million units in the European Union and the United Kingdom. Production in North America fell 0.8 percent to 16.2 million units. The sources of the data for global automotive production are the third-party forecasts of S&P Global Mobility and of Bosch in-house marketing analyses in the regions and at headquarters.

Among newly registered passenger cars and light trucks, the shift toward electromobility in powertrain technology continued. The driving force behind this shift is the Chinese market, where government subsidies are reinforcing the trend. In contrast, registrations of electric vehicles in Europe and North America were sluggish. In China, the share of battery-electric vehicles came to 25.5 percent in 2024, compared with 21.6 percent the previous year. Models with range extenders were particularly popular; unit sales of plug-in hybrids also increased. In the European Union and the United Kingdom, however, battery-electric vehicles as a proportion of new registrations fell 0.3 percentage points to 13.1 percent, and plug-in hybrids fell 0.2 percentage points to 3.9 percent. While the share of battery-electric vehicles in North America rose 0.7 percentage points to 7.9 percent, this is significantly lower than in China and Europe. In the European Union and the United Kingdom, the share of newly registered vehicles powered solely by diesel fell overall to around 15 percent, down from roughly 16 percent the previous year. In the equally important Indian market, the proportion of newly registered diesel vehicles was 18 percent, unchanged from the previous year.

Global production in the machinery sector fell significantly more steeply than expected in 2024. The weakening of the market had already become apparent in 2023 due to a decline in order intake. In 2024, we again experienced weak order intake. This began to recover slightly in the second half of the year. The effects were most pronounced in countries and regions of particular importance to our operations: Europe, North America, and China. Moreover, the situation in the construction industry, which influences developments in the Industrial Technology, Consumer Goods, and Energy and Building Technology business sectors, remained difficult in countries important for us in 2024. This is evidenced by the trend in construction investment. In China, the ongoing financing problems at construction companies and the reluctance of potential real-estate buyers are having an impact, which is also reflected in the low level of apartment sales. In Europe, weakness was driven by interest rates and high construction costs. In contrast, an increase was recorded in the United States. In addition, the global weakness in construction activity once again impacted demand for home appliances. However, as the pickup in retail sales over the course of 2024 shows, the downturn in this demand following the extraordinary boom during the peak phase of the coronavirus pandemic appears to be coming to an end.

Business developments

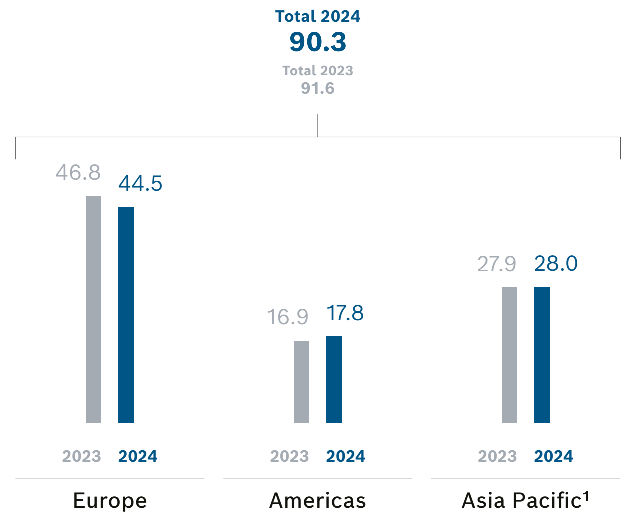
Development of sales

Bosch Group sales revenue

In the Bosch Group, we achieved sales revenue of 90.3 billion euros in 2024, compared with 91.6 billion euros in the previous year. Year on year, sales revenue fell a nominal 1.4 percent, or 0.5 percent after adjusting for exchange-rate effects. The development of sales revenue thus fell significantly short of the 5 to 7 percent growth forecast for 2024. Here, the pivotal factor was the weakness of our core markets, which developed more weakly than global economic output as a whole. The total negative impact of exchange-rate effects on sales revenue is some 0.8 billion euros. These effects were primarily due to the movement of the euro against the Chinese renminbi, the Turkish lira, and the Japanese yen. To determine the exchange-rate-adjusted development of sales revenue, the percentage allocation of sales revenue to individual currencies is calculated in the first quarter of each year, on the basis of a foreign exchange balance plan drawn up at that time. To calculate the annual exchange-rate effect, the individual items of sales revenue

G 07

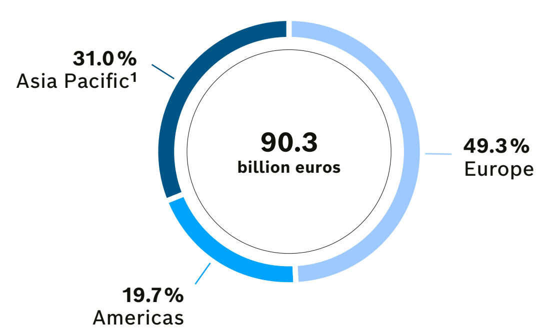
Sales revenue by region
in billions of euros



1. Including other countries and Africa.

G 08

Sales revenue by region, 2024
percentage figures



1. Including other countries and Africa.

for each currency are valued at the average rates of the previous year. In the case of sales revenue in hyperinflationary economies – i.e., Turkey and Argentina – valuation is done at year-end rates, pursuant to IAS 29. For the 2024 fiscal year, there are no material effects from changes in the consolidated group.

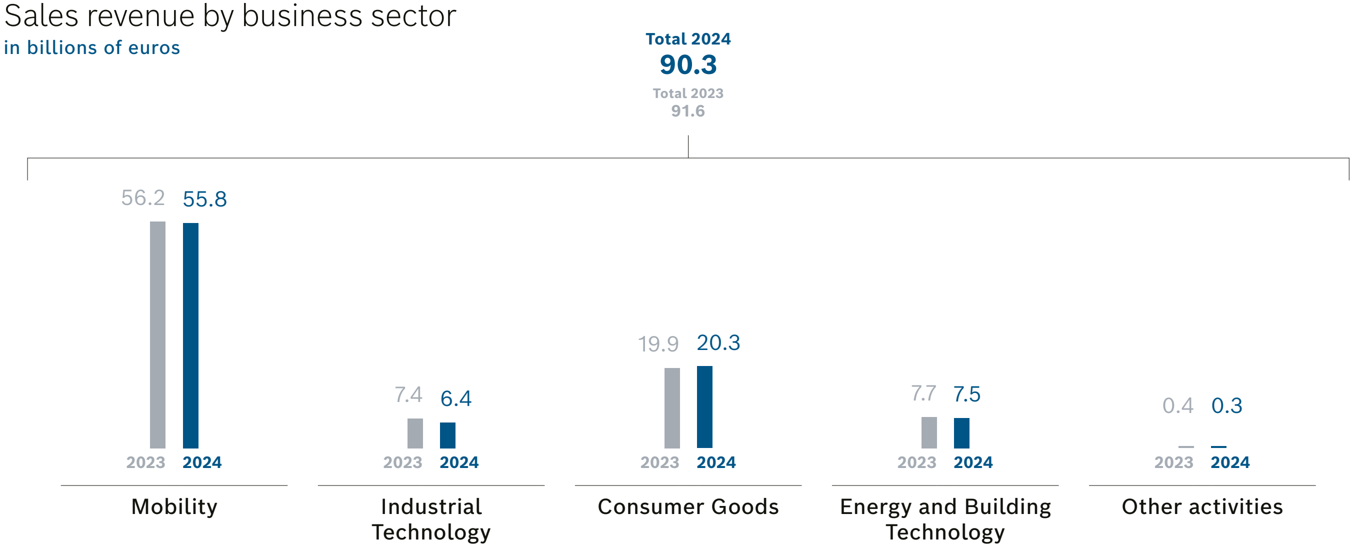
Sales revenue by region

The weakness in our core markets hit our operations in Europe hardest. While sales revenue in Europe declined, we recorded growth in the other regions of the world. We generated sales revenue of 44.5 billion euros in Europe, following 46.8 billion euros the previous year. This is a nominal drop in sales revenue of 4.9 percent. The exchange-rate-adjusted figure is 4.6 percent. Germany was affected to a greater degree than other countries. In contrast, sales revenue in the Americas rose by a nominal 4.8 percent to 17.8 billion euros, up from the previous-year figure of 16.9 billion euros. Adjusted for exchange-rate effects, the increase was 5.7 percent. Sales revenue in Asia Pacific (including other countries and Africa) rose only slightly. At 28.0 billion euros, sales revenue was a nominal 0.7 percent above the previous year's level of 27.9 billion euros. After adjusting for exchange-rate effects, sales revenue grew by 2.8 percent. While we were able to increase sales revenue in China and India, sales revenue fell in both South Korea and Japan.

From a regional perspective, the share of sales revenue generated in Europe decreased to 49.3 percent, from 51.1 percent the previous year. The share attributable to the Americas rose to 19.7 percent, up from 18.5 percent the previous year. The share generated by Asia Pacific (including other countries and Africa) increased to 31.0 percent, following the previous year's 30.4 percent.

G 09

Sales revenue by business sector
in billions of euros



Sales revenue by business sector

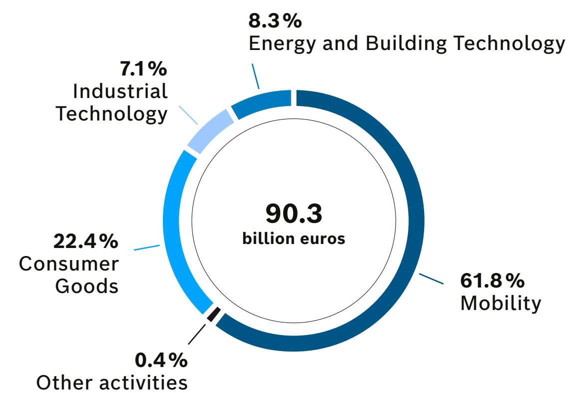
All business sectors felt the effects of weak developments in their core markets, albeit to varying degrees. The business sectors did not reach the forecasts for sales revenue growth.

In light of the global decline in vehicle production, sales revenue in the Mobility business sector was 55.8 billion euros, and thus a nominal 0.7 percent below the previous year's 56.2 billion euros. Adjusted for exchange-rate effects, sales revenue grew 0.2 percent. The business sector thus fell significantly short of its forecast growth corridor of 7 to 9 percent. One main reason for this was weak market developments, especially in Europe. This region accounts for 42 percent of our sales revenue. In addition, sales revenue growth in areas of future importance such as electromobility and automated driving fell significantly short of our own plans. This also applies in particular to the European market, where demand for these technologies is developing more slowly than expected. Moreover, our forecasts for the Americas were not met, also in the market for trucks. The e-bike business felt the effects of persistent weakness in the consumer goods markets.

At 6.4 billion euros, sales revenue in the Industrial Technology business sector was significantly below the previous year's figure of EUR 7.4 billion. This corresponds to a nominal decline of 13.0 percent, or 12.5 percent after adjusting for exchange-rate effects. A key role in this was played by the steeper than expected decline in the construction and machinery sectors in the main markets of Europe, North America, and China. This affected the mobile hydraulics unit in particular. All in all, we had expected slight growth of up to 1 percent.

G 10

Sales revenue by business sector, 2024
percentage figures



In the Consumer Goods business sector, demand appears to be stabilizing after the sharp slump that followed the coronavirus pandemic-related boom. For example, retail sales picked up again over the course of 2024. However, the situation in the construction industry remains unsatisfactory across the globe. Against this backdrop, the business sector was able to increase its overall sales revenue by a nominal 1.6 percent to 20.3 billion euros, from the previous year's figure of 19.9 billion euros. Adjusted for exchange-rate effects, sales revenue increased by 2.9 percent and was thus only slightly below the forecast range of 3 to 5 percent. Looked at by division, sales revenue at BSH Hausgeräte developed better than at Power Tools.

T01

Most important items of the income statement

in millions of euros

	2024	2023
Sales revenue	90,345	91,596
Cost of sales	−62,591	−62,976
Gross profit	**27,754**	**28,620**
Distribution cost and administrative expenses	−18,531	−18,233
Research and development cost	−7,807	−7,331
Other operating income and expenses	1,377	1,441
Result from companies included at equity	3	6
Earnings before interest and taxes (EBIT)	**2,796**	**4,503**
Financial result	−68	−527
Profit before tax	**2,728**	**3,976**
Income tax expenses	−1,396	−1,336
Profit after tax	**1,332**	**2,640**

The Energy and Building Technology business sector reported a nominal decrease in sales revenue of 2.7 percent to 7.5 billion euros, compared with the previous-year figure of 7.7 billion euros. Adjusted for exchange-rate effects, sales revenue fell 2.6 percent. The expected 2 to 4 percent growth in sales revenue was not achieved, therefore. The decline in sales revenue is the result of the market slump in the European heating business, which was felt by the Home Comfort division. By contrast, the Building Technologies division was able to increase its sales revenue.

When determining sales revenue by business sector, “Other sales revenue” is reported separately for the first time, and no longer included under Consumer Goods. The differences in our business sectors’ fortunes mean that our sales revenue structure has changed. The share of sales revenue attributable to the Mobility business sector rose to 61.8 percent, and was thus higher than the previous year’s 61.3 percent. The share of Industrial Technology fell to 7.1 percent, following the previous-year figure of 8.1 percent. The Consumer Goods business sector’s share rose to 22.4 percent. The comparable previous-year share, without other activities, was 21.8 percent. The share contributed by the Energy and Building Technology business sector was 8.3 percent, following 8.4 percent in the previous year.

Results of operations

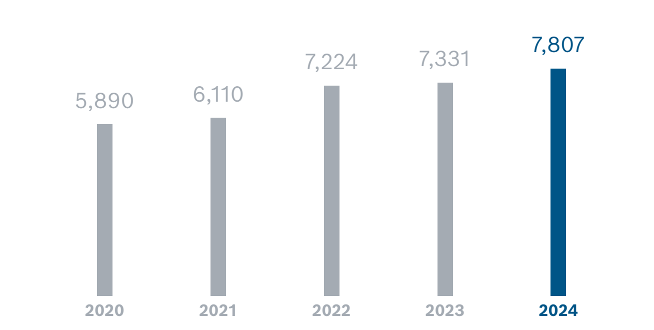
Bosch Group result

In the Bosch Group, we report EBIT of 2.8 billion euros in 2024, compared with 4.5 billion euros the previous year. EBIT from operations comes to 3.1 billion euros, following the previous-year figure of 4.8 billion euros. Unlike the EBIT

G 11

Research and development cost, 2020–2024

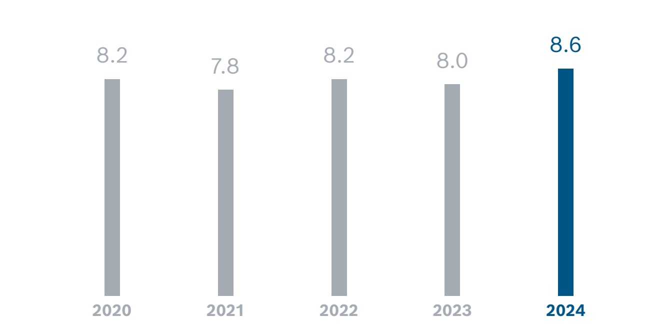
in millions of euros



G 12

Research and development cost, 2020–2024

as a percentage of sales revenue



disclosed in the income statement, and as in previous years, the calculation of the result from operations disregards the earnings impact resulting from the complete acquisition of the former joint ventures Automotive Steering and BSH Hausgeräte in 2015. This comes to 325 million euros, compared with the previous year's figure of 321 million euros. A distinction therefore has to be made between EBIT and EBIT from operations – which is also an internal performance indicator – on the level of the Bosch Group and of the Mobility and Consumer Goods business sectors. At 3.5 percent, the EBIT margin from operations is significantly below our expectation of a figure roughly on a par with the previous year, at approximately 5 percent. The actual previous-year figure for EBIT margin from operations was 5.3 percent.

Two burdening factors above all played a role in this deviation from forecast. Due to volumes that were considerably lower than expected and shifts in the product mix, the contribution margin needed to cover structural costs is insufficient. Instead of a 1.4 percent drop in sales, we had assumed sales revenue growth of 5 to 7 percent for the Bosch Group. The unsatisfactory developments in our markets also require additional structural adjustments, which will not ease the burden on result until they are put into practice. These also include additional provisions for personnel measures. Despite considerable additional countermeasures in business operations, such as cost reductions, and despite improvements with respect to raw materials and energy, these burdens could only be offset to a limited extent.

When comparing this with the previous year, the lack of volumes, a changed product mix, and additional adjustment measures are also decisive for the considerable drop in result. The fiscal year was also burdened by higher personnel expenses and price increases, even if the cost of raw materials fell. A greater number of measures on both the cost and price side were not able to offset these burdening factors. Year on year, moreover, a number of special effects had negative repercussions. As in the previous year, there are similarly positive effects on result resulting from the reversal of provisions.

The effects that play a major role in the picture for result – volume of sales revenue, changes in the product mix, and additional structural measures – have negative repercussions for the functional cost items in the income statement. Personnel expenses rose 9.8 percent to 29.5 billion euros. The ratio of personnel expenses to sales revenue thus increased to 32.6 percent, from 29.3 percent the previous year. Depreciation of property, plant, and equipment rose 9.2 percent to 3.7 billion euros. These factors mean that EBIT (earnings before interest and taxes) disclosed in the income statement fell significantly to 2.8 billion euros, from the previous-year figure of 4.5 billion euros. It was not possible to offset them through the additional measures on the cost and price side.

While sales revenue fell 1.4 percent to 90.3 billion euros, the cost of sales fell by just 0.6 percent to 62.6 billion euros. As a result, gross margin fell to 30.7 percent, from the previous year's level of 31.2 percent. Despite the fall in sales revenue, personnel expenses rose as a result of both higher wage costs and additional personnel provisions. Higher depreciation of property, plant, and equipment is also an important factor for the cost of sales. Running counter to this, the cost of materials fell at a faster rate than sales revenue. Cost of materials decreased 2.1 percent to 42.9 billion euros. The ratio of cost of sales to sales revenue thus fell to 47.5 percent, compared with 47.9 percent the previous year. Despite many measures to improve competitiveness, including lower raw materials costs, the gross margin fell 0.5 points.

At 18.5 billion euros, distribution cost and administrative expenses were 1.6 percent higher than in the previous year. Research and development cost rose 6.5 percent to 7.8 billion euros. In the case of both items, this increase is especially due to greater burdens from structural adjustments that it was not possible to offset. In the research and development cost, there were no appreciable changes in the share of capitalized development cost. The ratio of distribution cost and administrative expenses to sales revenue is thus 20.5 percent, compared with the previous year's 19.9 percent, and the research and development cost ratio 8.6 percent, compared with the previous year's figure of 8.0 percent. There were no major changes in other operating income and expenses. As in the previous year, the positive balance results especially from earnings from the reversal of provisions.

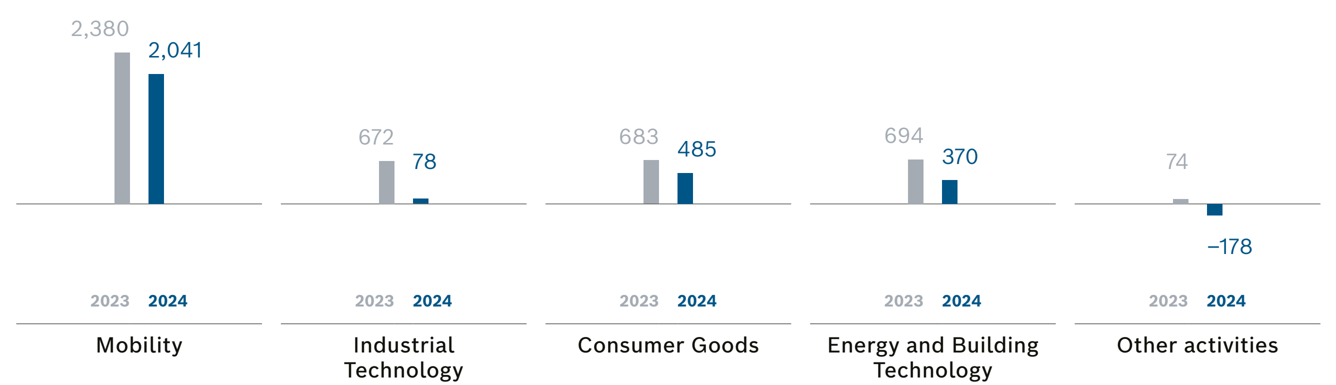
The Mobility business sector again accounted for the largest share of research and development cost in 2024, at 74 percent (previous year: 72 percent). The main focus of these upfront investments continues to be electrification, fuel cells, and driver assistance systems – also with a view to automated driving – as well as automotive electronics, semiconductors, and sensors. The percentage attributable to the Industrial Technology business sector came to 6 percent, compared with 7 percent in the previous year. At 15 percent, Consumer Goods is on a par with the previous year. The percentage attributable to the Energy and Building Technology business sector was 5 percent, following 6 percent in the previous year.

On balance, we disclose a negative financial result of 68 million euros in 2024, which is a significant improvement from the previous year's negative balance of 527 million euros. The main factors here are the increase in the value of securities and gains from derivatives in foreign-currency hedging

G 13

EBIT by business sector

in millions of euros



transactions. This also includes the U.S. dollar options in connection with hedging the purchase price of the acquisition in the heating, ventilation, and air-conditioning business announced by Home Comfort. Profit before tax fell to 2.7 billion euros, compared with 4.0 billion euros in the previous year. Pre-tax profit decreased to 3.0 percent, compared with the previous-year figure of 4.3 percent. The result after tax amounts to 1.3 billion euros, compared with 2.6 billion euros the previous year.

Result situation by business sector

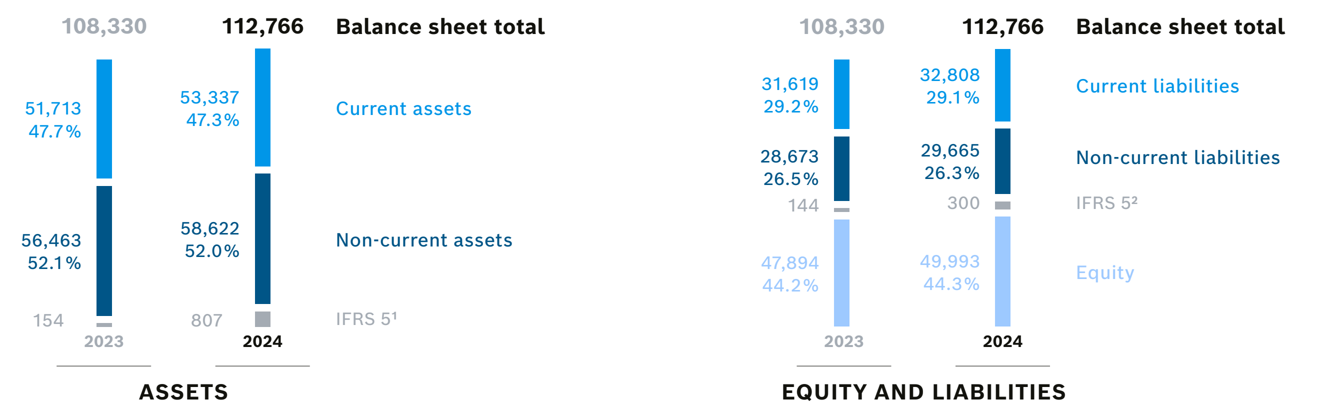
All business sectors achieved a positive result in terms of both EBIT and EBIT from operations, despite a sometimes very difficult market environment, some considerable decreases in sales revenue, and additional structural measures. In all business sectors, however, the figures for result are down on the previous year and, with the exception of the Energy and Building Technology business sector, also below the forecast range. We had expected to see a significant improvement in margin from operations in the Mobility and Consumer Goods business sectors. The decline in Industrial Technology was even greater than expected. In the case of Energy and Building Technology, we had already forecast a considerable decline.

In the Mobility business sector, we disclose EBIT of 2.0 billion euros for 2024, compared with EBIT of 2.4 billion euros in the previous year. EBIT from operations comes to 2.1 billion euros, compared with the previous year's figure of 2.5 billion euros. This results in an EBIT margin from operations of 3.8 percent, compared with 4.4 percent the previous year. Due to considerable progress on costs, the business sector managed to more than offset the effects of the worse than expected development of sales revenue. This development was the result of the decline in global automotive production and of consumer restraint in electromobility and

G 14

Consolidated statement of financial position

in millions of euros and as a percentage of balance sheet total



1. Assets held for sale
2. Liabilities directly associated with assets held for sale

automated driving, which are areas of importance for the future of mobility. There were also considerable burdens as a result of additional structural measures that were announced over the course of the year and that were not included in our expectations.

The Industrial Technology business sector discloses EBIT of 78 billion euros and a margin of 1.2 percent. In our forecast, we had already assumed a significant drop in result. Especially in mobile hydraulics, market developments were even more difficult than expected. The steep drop in sales revenue is also the main reason for the decline in result from the previous-year figures of 672 million euros and an EBIT margin of 9.1 percent. To a lesser extent, additional structural measures decided over the course of the year were a burden.

EBIT in the Consumer Goods business sector comes to 485 million euros (previous year: 683 million euros). At 704 million euros, EBIT from operations was therefore also less than the previous year's 896 million euros. EBIT margin from operations fell to 3.5 percent, compared with 4.5 percent in the previous year. In our forecasts, we had assumed a significant improvement. The determining factor here is additional structural adjustments. There were also burdens from weak market developments and increased demand for more affordable products. Improvements on the cost side were only partly able to offset these two effects.

In the Energy and Building Technology business sector, EBIT fell considerably from its previous-year level, as forecast. Compared with 694 million euros in 2023, it came to 370 million euros. EBIT margin is 4.9 percent, following 9.0 percent the previous year. This was mainly due to the difficult situation in the heating market, and the resulting steep drop in sales in Home Comfort. Compared with this, additional restructuring costs play a subordinate role. There are also project costs in connection with the announced sale of significant parts of the Building Technologies product business and in preparation for the acquisition in the heating, ventilation, and air-conditioning business announced by Home Comfort.

With respect to the internal key performance indicator of the ratio of average NWC to sales revenue, the target for all business sectors for 2024 was to achieve a significant improvement. While the Consumer Goods and Energy and Building Technology business sectors achieved this target, Mobility and Industrial Technology were unable to improve this key performance indicator. Mobility reports an NWC of 27.8 percent, compared with the previous year's figure of 27.3 percent, while Industrial Technology reports 33.9 percent, compared with 33.5 percent. The reason for falling short of forecast is inventories and receivables that were not adapted to the level of sales revenue. In the Consumer Goods business sector, NWC for 2024 improved to 27.0 percent, from the previous year's figure of 29.4 percent. In Energy and Building Technology, it improved to 20.1 percent, compared with 21.5 percent.

Net assets and financial position

Equity ratio and financial statement

The Bosch Group balance sheet total as of the December 31, 2024, reporting date stood at 112.8 billion euros, exceeding the previous year's level of 108.3 billion euros. Year on year, the equity ratio rose 0.1 percentage points to 44.3 percent. The main reasons for the rise in balance sheet total are the increase in current assets and property, plant, and equipment on the assets side and, on the equity and liabilities side, increased trade payables and personnel provisions.

On the assets side, our liquidity as reported in the statement of financial position was 26.9 billion euros as of the reporting date. Apart from cash and cash equivalents, liquidity as per statement of financial position includes marketable securities and bank balances with a term of more than 90 days. The financing structure is sound. The net financial position (defined as balance sheet liquidity minus financial liabilities and provisions for pensions and similar obligations) is significantly positive, having risen year on year by 0.9 billion euros to 6.2 billion euros. With a long-term rating of A (with a "stable" outlook) from the credit rating agencies Standard & Poor's and Fitch, Robert Bosch GmbH has good ratings.

In equity and liabilities, the financial liabilities of the Bosch Group include bonds with a nominal value of 5.75 billion euros that bear between 2.625 percent and 4.375 percent interest. A maturing 750-million-euro bond was repaid from available liquidity in 2024. There are also schuldschein loans and registered bonds with a nominal value of 3.2 billion euros that bear between 1.028 percent and 4.893 percent interest, and U.S. private placements with a nominal value of 1.2 billion U.S. dollars that bear between 6.19 percent and 6.42 percent interest.

The average interest rate for the bonds, schuldschein loans, and registered bonds is 3.35 percent. For the U.S. private placements, it is 6.31 percent. The average residual term to maturity of the schuldschein loans and registered bonds is 4.00 years; for the bonds, it is 9.77 years. The average residual term to maturity of the U.S. private placements is 7.38 years.

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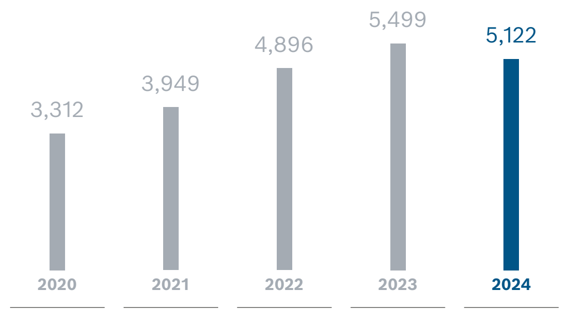
Capital expenditure, 2020–2024

in millions of euros



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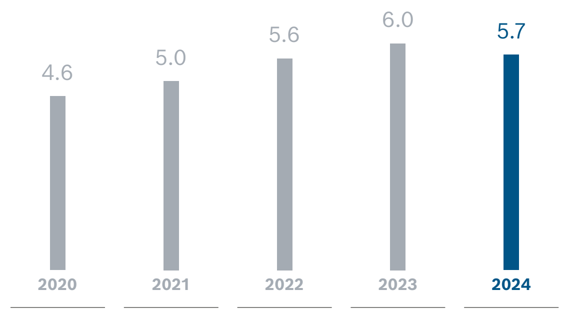
Capital expenditure, 2020–2024

as a percentage of sales revenue



Under our revolving 2.0 billion U.S. dollar commercial paper program, short-term issuances of roughly 500 million U.S. dollars are outstanding as of the reporting date. To further boost our financial reserves, the existing bilateral U.S. credit lines were increased by 300 million euros to 1.25 billion U.S. dollars during the reporting period. There is also a syndicated credit line of 5 billion euros that is valid until 2026. These credit lines have not been used.

Capital expenditure

In 2024, notwithstanding many projects of future importance, capital expenditure on property, plant, and equipment fell to 5.1 billion euros from 5.5 billion euros the previous year. The capex ratio is 5.7 percent, compared with 6.0 percent in the previous year. Capital expenditure thus reached 137 percent of depreciation, compared with 161 percent in the previous year. As of the reporting date, existing investment commitments resulting from orders already placed total 0.9 billion euros, following a previous-year figure of 1.5 billion euros. Thanks to our comfortable liquidity position, we have ample financial resources at our disposal. We invested 631 million euros in intangible assets, compared with 620 million euros the previous year.

By business sector, the lion’s share of capital expenditure – 3.7 billion euros, following 3.8 billion euros the previous year – once again went to Mobility. Among other things, the focus of investment is on areas of future importance: electromobility, fuel cells, and power electronics. In addition, there are investments in growth areas such as braking control systems, semiconductors and sensors, and driver assistance systems, as well as in our long-established business activities. In our semiconductor operations, investments are being made to expand semiconductor manufacturing at the sites in Reutlingen, Germany, and Roseville, California, USA.

T02

Consolidated statement of cash flows

in millions of euros

	2024	2023
Liquidity at the beginning of the year (Jan. 1)	**7,443**	**6,459**
Cash flow from operating activities	6,975	8,430
Cash flow from investing activities	–4,547	–11,211
Cash flow from financing activities	–1,867	3,961
Other	219	–196
Liquidity at the end of the year (Dec. 31)	**8,223**	**7,443**

Capital expenditure in Industrial Technology fell to 292 million euros, compared with 410 million euros the previous year. The focus of investment at Bosch Rexroth was on the construction of a new mobile hydraulics plant in Querétaro, Mexico, and of a new assembly technology plant in Charlotte, North Carolina, USA, as well as the equipping of the new plant in Brnik, Slovenia, and a logistics building in Lohr, Germany.

In the Consumer Goods business sector, capital expenditure was 736 million euros, compared with 839 million euros in the previous year. Major projects at BSH Hausgeräte are new factories: one in Monterrey, Mexico, for refrigerators and one in Madinat al-Aschir min Ramadan, near Cairo, Egypt, for stoves to support growth in emerging markets. Further investments relate to the location in Dillingen, Germany, where dishwashers are made. In addition, factories in Nazarje, Slovenia, and La Cartuja, Spain, were rebuilt following flooding in summer 2023. Capital expenditure in Power Tools focused on the expansion of manufacturing in the Accessories business unit at locations in the U.S., Italy, and Poland, as well as on battery production in Miskolc, Hungary.

In Energy and Building Technology, capital expenditure came to 173 million euros, compared with 180 million euros the previous year. In Home Comfort, the focus was on expanding the heat pump business. In addition, there are other investments that are not allocated to the business sectors, such as the reorganization of the Paris location in France and the renovation of group headquarters in Gerlingen, Germany.

From a regional viewpoint, we invested 3.0 billion euros in our European locations, compared with 3.5 billion euros the previous year. Germany accounted for 1.7 billion euros of this, compared with 2.1 billion euros in the 2023 fiscal year. We invested 1.2 billion euros in Asia Pacific, compared with 1.3 billion euros the previous year. For example, several engineering locations were brought together under one roof in Yokohama, Japan, and a new building was constructed there for our Japan headquarters. In the Americas, we invested 975 million euros, compared with 767 million euros the previous year.

Liquidity

The Bosch Group is financially strong. Liquidity at year-end as per the consolidated statement of cash flows (cash and cash equivalents) stood at 8.2 billion euros, compared with 7.4 billion euros the previous year. Cash flows from operating activities fell to 7.0 billion euros or 7.7 percent of sales revenue in 2024; the previous-year figure was 9.2 percent. In the reporting year, it was again possible to reduce the amount of capital tied up in current assets. However, this improvement was not as great as in the previous year.

Cash flows from investing activities amounted to 4.5 billion euros, compared to the previous-year figure of 11.2 billion euros. The main reasons for the sharp decline are cash flows from the sale of securities as well as a lower level of bank deposits with a term of more than 90 days. There was also a significant year-on-year reduction in cash flows relating to the acquisition of subsidiaries.

Cash flows from financing activities, including repayments of lease liabilities, led to an outflow of 1.9 billion euros in 2024; this includes the repayment of maturing bonds from existing equity. In the previous year, we reported a cash inflow of 4.0 billion euros as a result of the issue of bonds and U.S. private placements.

For 2024, we disclose a positive free cash flow of 0.9 billion euros, compared with 2.2 billion euros in the previous year. Despite the reduction in EBIT, we met the expectations formulated in the previous year. FCF is calculated as the sum of cash flows from operating activities, cash flows from investing activities (without participating interests and other financial investments), and the repayment of lease liabilities.

Non-financial indicators

CO_2 emissions

Once again in 2024, the Bosch Group with its more than 450 locations worldwide was carbon-neutral overall (scopes 1 and 2). In 2024, residual emissions of roughly 531,300 metric tons of CO_2 were offset through carbon credits to achieve this. Compared with the previous year's level, this is a decrease of some 49,600 metric tons of CO_2, or 8.5 percent. We achieved this decrease primarily by further decarbonizing our energy supply and increasing energy efficiency at our locations. The calculation of emissions is based on the standards of the International Energy Agency (IEA, Emission Factors 2022) and the Intergovernmental Panel on Climate Change (IPCC).

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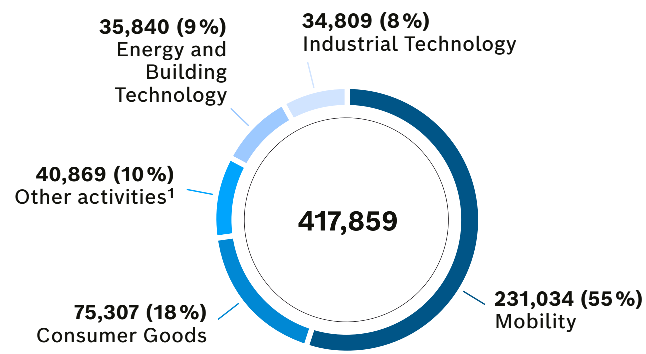
Headcount by business sector
As of Dec. 31, 2024



1. Corporate functions and services as well as research

In total, the Bosch Group's locations consumed 7,517 gigawatt-hours (GWh) of energy in 2024 (previous year: 7,537 GWh). Bosch requires energy primarily in the form of power for manufacturing plant and machinery, in the form of thermal energy to heat and air-condition buildings, and to operate facilities such as foundry furnaces.

Occupational safety

In 2024, the accident rate was 1.46 accidents per million hours worked. Regrettably, a worker from a third-party company suffered a fatal accident in 2024. The total number of workplace accidents in 2024 was 1,077, compared with 1,073 in 2023.

Headcount

The total number of Bosch Group associates fell to 417,859 at the end of 2024, compared with 429,416 at the end of 2023. The number of Bosch associates thus decreased worldwide by 11,557. Changes in the consolidated group play no appreciable role.

The workforce in the Mobility business sector fell to 231,034, compared with 237,104 at the end of 2023. The number of associates in the Industrial Technology business sector decreased to 34,809, compared with 35,735 at the end of 2023. In the Consumer Goods business sector, the number of associates fell to 75,307, compared with 79,376 at the end of 2023. The Energy and Building Technology business sector employed 35,840 people at the end of the year, compared with 36,402 at the end of the previous year. A total of 40,869 associates are employed in corporate functions and services as well as research and development, compared with 40,799 in the previous year.

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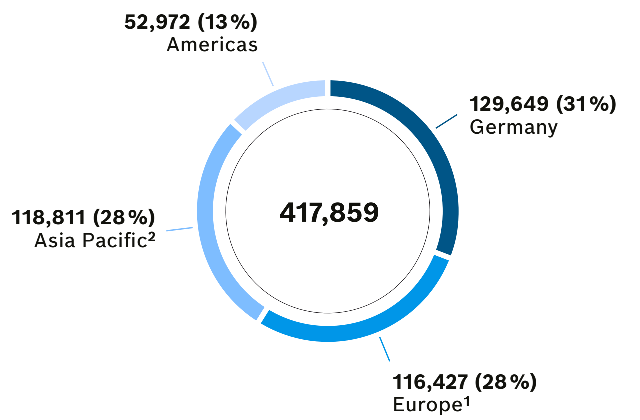
Headcount by region
As of Dec. 31, 2024



1 Excluding Germany
2 Including other countries and Africa

The number of associates in research and development across all units worldwide fell worldwide to 86,840 at the end of the year, compared with 90,084 in the previous year. Regions outside Germany account for 63 percent of associates in research and development, with Asia Pacific accounting for 43 percent. The number of associates worldwide in the corporate sector for research and advance engineering ("Other activities") at year-end was 1,600, compared with the previous-year figure of 1,627. Headcount decreased in all regions. The percentage distribution of Bosch Group associates by region is unchanged.

Outlook

The outlook for the 2025 fiscal year is marked by great uncertainty with respect to the further development of global trade. In our forecasts, this uncertainty can only be taken into account to a limited extent. The considerable volatility arising from the global debate about tariffs also plays a role here. On top of this, there is uncertainty as a result of severe geopolitical tension, also in the Middle East. In addition, the war in Ukraine continues. For 2025 as well, we expect economic developments to be subdued, and forecast that growth will be in the range of 2¼ to 2¾ percent. Once again, moreover, stimuli cannot be expected to come from important core markets. Against this background, our planning is cautious. In light of the difficult environment, we forecast sales revenue growth of between 1 and 3 percent for the Bosch Group. Despite further burdens as a result of adjustment measures and of continued heavy upfront investments in areas of future importance, we want to achieve a significantly better EBIT margin from operations than in 2024. The aim is to achieve an FCF on the same level as the previous year. We will continue to work intensively to reduce our costs in order to strengthen competitiveness. In addition, we will press ahead with the implementation of our growth strategy, which is based on organic growth as a result of innovation and improved competitiveness as well as on acquisitions.

The planned acquisition in the heating, ventilation, and air-conditioning segment in Home Comfort and the announced sale of large parts of the Building Technologies product business, which are to be consummated in the course of 2025, have not yet been considered in our forecasts.

Macroeconomic and sector-specific environment

Our plans are based on the assumption that the global economy will not pick up pace significantly in 2025. Given the trade policy risks, our forecasts are marked by considerable uncertainty. On the basis of this, we forecast that global economic output will grow in the region of 2¼ to 2¾ percent in 2025. This also takes account of the initial possible effects of additional trade barriers. On its own, the debate about additional tariff barriers is likely to be a burden on the economic outlook. For Europe, we expect developments to be comparatively weak. Apart from structural factors such as aging and excessive red tape, increasing uncertainty about future U.S. trade policy is likely to be a burden on business mood. We see a more favorable outlook in the Americas. With fiscal policy remaining expansive and with cheaper energy prices, the U.S. economy is likely to develop more robustly. Asia is once again expected to disclose the strongest growth. In China, we expect growth of 4½ to 5 percent. A more expansive economic policy in China will have to contend with the braking effects of the situation in the real-estate market, which remains difficult.

If additional trade barriers are imposed, they could result in price increases across the globe. For 2025, we assume that the global rate of inflation will be between 3 and 3½ percent, following 4.3 percent in 2024. This means that we once again expect inflation to be higher than the average for the decade before the outbreak of the pandemic. For this reason, central banks will keep a very close eye on inflation figures, with a view to further action on interest rates. Interest rates will likely once again be higher than the average in the decade before the outbreak of the pandemic, and thus inhibit consumption and construction investment.

For the Americas, we expect that GDP will rise by 2 to 2½ percent year on year in 2025. On the basis of current data, our forecast for Europe is a slight rise in economic output of between ¾ and 1¼ percent. In this context, we expect the European Union to grow by between ½ and 1 percent year on year. All we expect for Germany is stagnation, following the decline in growth in the previous two years. At between 3¾ and 4¼ percent year on year, growth rates in Asia Pacific (including other countries) are unlikely to change appreciably. As their point of reference, our forecasts are based on the data sources of Macrobond and the International Monetary Fund, as well as on our own assessments.

For the automotive sector, our most important market, we so far expect to see a similar level of production in 2025 as in 2024 (including heavy trucks), at around 93 million vehicles. Our forecast process is based on the third-party forecasts of S&P Global Mobility and on Bosch in-house marketing analyses in the regions and at headquarters.

Bosch Group and business sectors

Forecast for sales revenue in 2025

In light of the changing international trade relations, the forecasts for the 2025 fiscal year are marked by considerable uncertainty. For the Bosch Group, we expect sales revenue growth in the range of 1 to 3 percent. As in previous years, we do not disclose exchange-rate effects separately in our forecast. We expect all business sectors to grow, albeit at different speeds.

For the Mobility business sector, our expectations lie between 1 and 4 percent. Following the steep drop in sales revenue in 2024, the Industrial Technology business sector expects a recovery to a certain extent, and forecasts growth of between 2 and 5 percent. The forecast range for sales revenue growth in Consumer Goods is 1 to 3 percent. In the case of Energy and Building Technology, any effects from the planned acquisition in the HVAC business by the Home Comfort division and from the announced sale of major parts of the Building Technologies division's product business have been ignored. When calculated on a comparable basis, we expect a year-on-year increase in sales revenue in the range of 2 to 4 percent.

Result forecast for 2025

Our expectations for result are also subject to considerable uncertainty. On the level of the Bosch Group and of the Energy and Building Technology business sector, moreover, any effects from the planned acquisition in the HVAC business by the Home Comfort division and from the announced sale of major parts of the Building Technologies division's product business have been ignored. Despite a business environment in our markets that remains challenging, and despite the chronic weakness of the global economy, we want to significantly increase the Bosch Group's EBIT margin from operations. With the exception of Energy and Building Technology, all business sectors make a positive contribution to this forecast, albeit to differing degrees.

In this context, we expect the Mobility business sector to slightly improve its EBIT margin from operations. In the Industrial Technology business sector, we expect EBIT margin to be considerably higher than in the previous year, and EBIT margin from operations to be significantly higher in Consumer Goods. By contrast, the forecast EBIT margin in the Energy and Building Technology business sector will remain significantly below its 2024 level, as it will account for the integration and transaction costs already incurred in advance of the acquisition in the HVAC business planned by Home Comfort. The same applies to the costs arising in the course of carving out major parts of the Building Technologies division's product business in the course of the planned sale.

Expectation for NWC and FCF in 2025

Disregarding the announced transactions in the Energy and Building Technology business sector, our aim is to achieve an FCF-to-sales ratio on a par with the previous year.

For all business sectors, apart from Energy and Building Technology, we want to achieve an improvement in the internal indicator of the ratio of average NWC to sales revenue, albeit to differing degrees. In the Mobility business sector, we are assuming a slight improvement. Both the Industrial Technology and Consumer Goods business sectors are aiming for a significant improvement. For Energy and Building Technology, we expect a slight deterioration.

Report on opportunities and risks

Opportunities

On the whole, we see good growth opportunities for the Bosch Group. For us as a supplier of technology, additional sales opportunities are opening up through changes in markets and technology – especially as a result of electrification, electronification, automation, and digitalization. There is also the growing economic and social focus on sustainability, and the growth potential of emerging regions such as China, India, ASEAN, and Africa. For the sake of greater clarity, the "Prospects for the Bosch Group" section describes in detail the opportunities and specific strategies we derive from them for the company as a whole and the business sectors.

Risk report

Risk management system

In the Bosch Group, risk management encompasses the entire company, including all essential operations, functional areas, divisions, and business sectors. It is thus a core responsibility for all managers on every level of the Bosch Group. As far as possible, risks are identified and managed where they arise: in other words, above all in the divisions and their regional subsidiaries. The latter organizational units are also primarily responsible for introducing measures to reduce or control risks.

While the corporate departments for compliance, risk management, and internal control system exercise a governance function for their respective systems, specialist departments such as the legal services and tax departments support, govern, and monitor directives and focal points. The internal audit department also helps assess the appropriateness and effectiveness of these tasks, and where necessary submits proposals for the introduction of appropriate improvements to the board of management and the heads of the specialist departments.

The Bosch Group risk management system takes its lead from the ISO 31000, COSO III (ERM), and IDW PS 340 standards. It includes the systematic recording and follow-up of relevant risks and, where necessary, the identification and follow-up of measures to deal with those risks. In this context, the corporate coordinating office for the risk management system is responsible for continuously improving the system.

A corporate risk management directive sets out principles and responsibilities. Reporting to the supervisory board's audit committee is a fixed component of this directive. In addition, it features a "disruption radar" for the early detection of risks that lie partly outside the planning period. "Disruption" refers to groundbreaking developments that profoundly change customer expectations and markets through new functions, technological innovations, and new business models, and in this way may significantly affect the Bosch Group's business. In addition, a cross-functional risk committee is tasked with identifying significant risk areas across the operating units and pinpointing potentially disruptive risks.

Overall risk assessment

We are not currently aware of any risks, beyond those listed in this report, which could materially affect the net assets, financial position, and results of operations of the Bosch Group in 2025. From a current perspective, there are no risk exposures that could jeopardize the Bosch Group's continued existence as a going concern.

Risk assessment on the basis of the risk management system

Fundamental remarks

Risk assessment on the basis of the risk management system considers a time horizon up to 2028. The number of reported risks (at year-end 2024) has fallen further compared with the previous year. The financial risk ("monetary risk") is calculated from a risk matrix of probability of occurrence and potential loss. It thus gives an indication of how high any likely losses are. This risk has grown 21 percent year on year. While the likelihood of occurrence has remained the same, the potential loss has risen.

Here, the potential scale of loss is based on a three-point estimate for the worst-case, realistic, and best-case scenarios, in a ratio of 1:4:1. Risk reporting uses the residual method. Risks with a probability of occurrence of at least 50 percent are still considered in our annual or interim sales revenue and income forecasts as a matter of principle.

As in the previous year, we have determined a number of thematic focal points under which individual risks are clustered. These focal points take their lead from the size of the aggregate financial risk.

The most important focal point is hybrid globalization. In connection with this, mention should be made of the special risks of a global proliferation of tariff barriers, with its effect on free trade, and the risks arising from geopolitical tensions between the U.S. and China. Changes in the market and competitive environment are a further risk category. As a result of the greater volatility resulting from this, it is becoming increasingly challenging to work existing markets, as well as to access new ones. This development is also being driven by price competition with Asian market players. The risks resulting from protracted market weakness are clustered in the "macroeconomic developments" category. In addition, there are risks from exchange-rate fluctuations, which are described in the section "Hedging policy and financial risks." The "IT infrastructure and cybersecurity" risk cluster addresses risks with respect to core IT processes and connected products, and the danger of business processes being interrupted. One of the risks considered in the "projects and customers" cluster looks at the implications of projects for individual customers being delayed. There is also the focal point of risks arising from legislation and regulations, including those relating to product safety, climate, and data privacy. The most important risk categories also include the Bosch Group's global supply chains. This includes factors such as the bankruptcy of critical suppliers and interruptions in supply.

Four risks exceeded the 250-million-euro threshold for individual financial risks: an increase in nation-state protectionism and the concomitant need to adapt the manufacturing network, increasing risks to sales operations as a result of higher trade barriers, the cybersecurity risk of interrupted business processes, and exchange-rate fluctuations in our business operations.

With respect to the thematic focal points and major individual risks, we are keeping a close eye on developments and are designing scenario-based measures. With respect to the risks related to hybrid globalization, it is part of our strategy to balance our business internationally, and to grow more strongly in markets that have so far been underrepresented. As concerns the changes in the market and competitive environment, we are using our growth strategy to strengthen our position in existing areas, to open up new areas of business, and to extend our global market footprint. When it comes to macroeconomic developments, we pursue a conservative financial policy that includes regular analyses of deviance and, if necessary, the prompt introduction of corrective measures. One of the ways we minimize the risk of business-process interruptions as a result of cyberattacks is through security audits to identify and remedy vulnerabilities. Our response to risks relating to projects and customers is the close monitoring of milestones and greater consideration of superordinate levels. To reduce the risks arising from legislation and regulations, we carefully analyze political developments in order to be able to adapt to changed framework conditions at an early stage. On the subject of global supply chains, we analyze the structure of our procurement sources and track the development of critical suppliers and of logistical challenges in the supply chain.

We also take sweeping measures to address individual risks. As concerns the increase in nation-state protectionism and a possible additional need to adapt, we elaborate scenarios and analyze the effects resulting from them, such as additional customs duties and a reduction in sales revenue. To reduce risks and be able to respond quickly to changed framework conditions, developments are tracked closely and preparations made to make supply chains more flexible. These measures are described in the “foreign-trade risks” section. The Bosch cybersecurity organization identifies and evaluates potential risks arising from malware (such as ransomware), identifies vulnerabilities through regular audits and checks, and develops appropriate measures to minimize risks. To ensure that security considerations are an integral part of product and IT service development, this is done in close collaboration with other departments in the company. In addition, our cybersecurity organization collaborates with third-party partners and authorities in order to exchange information about current threats and to adopt best practices. The measures taken to reduce the risk of unfavorable exchange-rate movements affecting unhedged currency items in our business operations are explained separately in the “Hedging policy and financial risks” section.

Risks by business sector

Of the business sectors, Mobility has the highest financial risk. Increasing nation-state protectionism and the concomitant need for additional adjustment are the most prominent risks. We are taking measures to spread value creation more evenly across the various global regions. Apart from the Mobility business sector, this also relates especially to Industrial Technology. The Consumer Goods business sector continues to be faced above all with risks resulting from changes in its competitive environment. The measures it takes include strengthening competitiveness by improving cost efficiency and modifying its product strategy. In the Energy and Building Technology business sector, the highest risks are a lack of product components and delays in the introduction of products. Our strategy here is to supply technologies that are appropriate to the market and that satisfy requirements.

Hedging policy and financial risks

Hedging policy principles and financial derivatives

The business operations of the Bosch Group are impacted in particular by fluctuations in exchange and interest rates and additionally, on the procurement side, by commodity price risks. Business policy aims to limit these risks by means of hedging. Hedging transactions are managed at corporate level. Internal regulations and guidelines set down a mandatory framework and define the responsibilities related to investment and hedging transactions. According to these regulations, derivatives may only be used in connection with business operations, financial investments, or financing transactions; speculative transactions are not allowed. Trader limits are an important component of the guidelines. Hedges are generally concluded via banks with good credit ratings from leading agencies and taking into account current risk assessments in financial markets. The creditworthiness of the Bosch Group's banking partners is closely monitored, and the risk mitigated by counterparty limits.

To reduce the credit risk of the bank, fixed-term deposits are in some cases also entered into as secured deposits in triparty repo transactions. In such cases, the bank provides predefined securities as collateral. The transaction settlement, as well as the management and valuation of the securities, are managed by a clearing center. The decision-making bodies are committees for commodities, foreign exchange, and investments that meet at regular intervals. There is a functional segregation of trading, settlement, and control functions. Key tasks of the control function above all include determining risks and continuously checking compliance with instructions and guidelines.

Each month, the risk of financial investments is calculated using the value-at-risk concept. Risks relating to financial assets are monitored using ad hoc asset-allocation studies and limited by diversifying investment. The board of management member responsible attends the monthly foreign exchange and investment committee meetings, and is informed about risk analyses and the results of investments and hedges.

Currency risks

Currency risks from cash flows in business operations are mitigated by the central management of invoicing and purchasing currencies. The currency risk is determined on the basis of the worldwide consolidated cash flows in the respective currencies. Based on annual forecasts, estimated inflows and outflows in the various currencies for the reporting period are aggregated in a foreign exchange balance plan. The resulting net position is then used for the central management of currency exposures. The biggest net currency positions of the planned cash flow are in Chinese renminbi, U.S. dollar, British pound, and Mexican peso.

Hedging of the currency risks for business operations largely takes the form of forward exchange contracts, currency options, and currency swaps. These transactions, which are only entered into with banks, are subject to minimum requirements with respect to nature and scope. The risk attaching to material foreign exchange items from operations is determined using the cash-flow-at-risk concept. These risk analyses and the hedge result are determined monthly and also presented to the member of the board of management responsible in the foreign exchange and investment committee meetings.

A sensitivity analysis in the notes to the financial statements shows the effect of a 10 percent change in the euro exchange rate on the profit before tax. The analysis includes the major currencies. In the case of the Chinese renminbi, the Hungarian forint, the Japanese yen, the Romanian leu, and the Mexican peso, the effect of such a change on profit before tax would in each case run into a low eight-figure sum. These effects with respect to the Czech crown and British pound would be a mid-range eight-figure sum. The U.S. dollar would be the only currency where the effect would be in the nine-figure range. For the most part, the effects on the reported profit or loss result from foreign exchange positions relating to operations as well as from loans within the Bosch Group if, by way of an exception, the loan was granted in a currency other than the local currency of the borrower – for example, because it can be repaid from expected cash flows in this currency. The currency risk as per the statement of financial position deviates from the purely economic currency risk, as the latter is determined solely on the basis of the planned cash flow from operating activities.

The currency risk attached to the purchase price for the planned acquisition of the heating, ventilation, and air-conditioning business of Johnson Controls International plc, Ireland, being denominated in U.S. dollars has been completely hedged through currency options.

Interest-rate risks

Risks from changes in interest rates on investments and borrowings can be limited by select use of derivative financial instruments. These are mainly interest-rate swaps and interest-rate futures. In a sensitivity analysis, the assets and liabilities subject to floating interest rates, fixed-rate securities, pension and money-market funds, and interest derivatives were considered. The effect of a 100-basis-point change in the market interest rate (based on the interest rate on the reporting date) on the profit before tax would be a mid-range eight-figure sum.

Share-price risks

The Bosch Group holds stock as a part of its financial investments used to cover non-current pension obligations. It also holds investments in quoted companies. The analysis of the share price took account of share portfolios, quoted investments, equity funds, and share derivatives. In the 2024 financial statements, these had a carrying amount of 4,769 million euros. A change in the share price of 10 percent (taking the share price on the reporting date as the baseline) would have an effect on the profit before tax of 140 million euros. To reduce share-price risks, a broadly diversified investment strategy is pursued across various regions and sectors.

Other price risks

Derivatives are used to limit the risks of fluctuating commodity prices. The analysis of the commodity price risk took into account commodity price derivatives measured as of the reporting date. The effect on the profit before tax of a change in the forward-rate level of 10 percent (starting from forward rate on the reporting date) would be a high eight-figure sum. As of the reporting date, the Bosch Group is not aware that it is exposed to any significant other price risks.

Credit risks

The credit risk from customer receivables is recorded and monitored on an ongoing basis. Responsibilities and duties relating to credit risks are governed by an internal directive. This mainly concerns the stipulation of payment terms, fixing of credit limits, release of deliveries, and receivables monitoring.

The credit risk for trade receivables is reduced by processing invoices with the corresponding credit notes in a single work step; the net amount is reported in the statement of financial position. This procedure is only performed if there is a legal right to offset and the customer intends to settle the receivable on a net basis or to settle the receivable by offsetting against the corresponding liability. Moreover, trade receivables are partly secured by retention of title. For some trade receivables, collateral has been additionally provided in the form of guarantees, property liens, and mortgages. Due to the measures that have been taken, we do not see any material credit risk.

Liquidity risks

Changes in financial assets and liabilities are monitored on an ongoing basis. Internal directives regulate the duties and responsibilities of liquidity management and planning. The liquidity risk is reduced by processing invoices for trade payables with the corresponding credit notes received in a single work step. This procedure is only performed if there is a legal right to offset and there is an intention to settle the liability based on the net amount or to settle the liability by offsetting against the corresponding receivable. Moreover, collateral is provided in the form of guarantees.

Thanks to our comfortable liquidity position, presented above in the section on net assets and financial position, we have ample financial resources at our disposal. We therefore evaluate the liquidity risk as low.

Risks pursuant to the compliance management system

In 2024, we did not register any unusual corruption-related risks. As before, the general corruption-related risks concern the dealings with business partners whose risk profile is high. Also as before, there are even more and even tighter national and international laws and official requirements with respect to effective compliance, data protection, and information security management systems. They relate above all to current technological developments such as artificial intelligence and cybersecurity. Above all, the focus is on data protection, whistleblower protection, and more stringent prosecution of companies and natural persons.

In the course of further improving the Bosch compliance management system, we have revised our “Code of Business Conduct” and published it as a “Code of Conduct.” We have also fundamentally revised our anticorruption regulations. Worldwide, risk analyses relating to “anticorruption,” “antitrust law,” and “money laundering” were carried out. We are also systematically continuing the digitalization of our core processes, and adhering closely to the cybersecurity management system in order to efficiently dovetail subjects such as cybersecurity and artificial intelligence. In the area of training and communication, we have above all revised our training concept for the “Code of Conduct” and developed role-specific training for all Robert Bosch GmbH associates. We have taken on European and local regulations relating to whistleblower systems and protection and modified our data analysis tools to give more weight to whistleblower reports when they are evaluated.

Foreign-trade risks

Geopolitical developments such as the war in Ukraine and increasing tension in global trade relations are leading internationally to new and tighter rules that restrict free trade. This can also have a negative effect on the reliability of legal frameworks. For globally operating companies such as Bosch, with intermeshed supply-chain structures and complex production processes, this increases the risk of greater tariff burdens. The number of export controls and sanctions regulations is also increasing in many countries. The growing number of foreign-trade challenges also means a greater risk of civil- and criminal-law sanctions, as well as greater reputation risks. For Bosch, there is also the risk that business opportunities will be restricted.

To address the risks of sanctions, we are continuously improving our compliance management in this area, and extending it to include business processes and products. Other important aspects are the rapid implementation of changes in the law and the systematic monitoring of market developments and logistical processes. In addition, in order to do justice to the high number of daily transactions that are potentially subject to sanctions, processes for identifying, evaluating, and documenting risks have been put into practice, along with appropriate strategies and controls for IT-assisted risk minimization. For executives, extensive training courses on sanctions-related risks are being carried out.

Legal risks

In 2024, Bosch was again able to successfully conclude many proceedings relating to emissions from diesel vehicles. Only individual civil-law proceedings are still open. In the view of the board of management, the provisions for legal risks are a sufficient precautionary measure. In all these proceedings, Bosch is asserting its rights. In none of the proceedings concluded does Bosch acknowledge the validity of the claims brought forward, nor does it concede any liability. Bosch is also engaged in compensation discussions with customers in respect of potential civil-law risks associated with closed antitrust proceedings. In the antitrust proceedings against BSH Hausgeräte in France, the French antitrust authority fined the French subsidiary of BSH Hausgeräte 54 million euros on December 19, 2024. This decision is final.

On the basis of the facts relating to antitrust law and engine control units that were available when the financial statements were prepared and that the board of management has assessed, the board of management believes that sufficient precautions have been taken in the form of provisions for legal risks. For the various legal risks outlined above, provisions throughout the group amount to 107 million euros. From the 2024 fiscal year, the board of management is not aware of any further legal risks that could, from a present perspective, materially impair the company's net assets, financial position, or results of operations.

Stuttgart, March 10, 2025

Robert Bosch Gesellschaft mit beschränkter Haftung
The board of management

Dr. Stefan Hartung
Dr. Christian Fischer
Dr. Markus Forschner
Stefan Grosch
Dr. Markus Heyn
Dr. Frank Meyer
Katja von Raven
Dr. Tanja Rückert

Consolidated financial statements of Robert Bosch GmbH as of December 31, 2024

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Consolidated income statement

for the period from January 1 to December 31, 2024

T03

in millions of euros

	Note	2024	2023
Sales revenue	7	**90,345**	**91,596**
Cost of sales	8	−62,591	−62,976
Gross profit		**27,754**	**28,620**
Distribution and administrative cost	8	−18,531	−18,233
Research and development cost	8	−7,807	−7,331
Other operating income	9	3,378	3,470
Other operating expenses	10	−2,001	−2,029
Result from entities included at equity	6	3	6
Earnings before financial result and taxes (EBIT)		**2,796**	**4,503**
Financial income	11	3,547	3,980
Financial expenses	11	−3,615	−4,507
Financial result		**−68**	**−527**
Profit before tax		**2,728**	**3,976**
Income taxes	12	−1,396	−1,336
Profit after tax		**1,332**	**2,640**
of which attributable to non-controlling interests		546	539
of which attributable to shareholders of the parent company		786	2,101

Consolidated statement of comprehensive income

for the period from January 1 to December 31, 2024

T04

in millions of euros

	2024	2023
Profit after tax	**1,332**	**2,640**
Change in debt instruments, measured at fair value	16	384
reclassified to profit or loss	31	189
Currency translation of subsidiaries outside the euro zone	1,019	–919
reclassified to profit or loss	4	26
Items that may be reclassified to profit or loss	**1,035**	**–535**
Change in equity instruments, measured at fair value	208	37
Remeasurement of pension provisions	–59	–237
Items that will not be reclassified to profit or loss	**149**	**–200**
Other comprehensive income after tax	**1,184**	**–735**
Comprehensive income	**2,516**	**1,905**
of which attributable to non-controlling interests	629	396
of which attributable to shareholders of the parent company	1,887	1,509

Consolidated statement of financial position

for the year ended December 31, 2024

T05

Assets

in millions of euros

	Note	12/31/2024	12/31/2023
Current assets			
Cash and cash equivalents	14	8,223	7,443
Trade receivables	15	17,536	17,081
Other financial assets	16	7,777	7,822
Contract assets	17	1,167	1,176
Income tax receivables		350	379
Other assets	18	2,610	2,628
Inventories	19	15,674	15,184
		53,337	**51,713**
Non-current assets			
Financial assets	16	14,899	14,538
Contract assets	17	811	695
Income tax receivables		258	205
Property, plant, and equipment	20	25,939	24,616
Right-of-use assets	32	2,710	2,276
Intangible assets	21	10,552	11,055
Investments measured at equity	6	76	53
Other assets	18	1,188	1,008
Deferred taxes	12	2,189	2,017
		58,622	**56,463**
Assets held for sale	6	**807**	**154**
Total assets		**112,766**	**108,330**

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Equity and liabilities

in millions of euros

	Note	12/31/2024	12/31/2023
Current liabilities			
Trade payables	22	13,198	12,205
Lease liabilities	32	656	553
Other financial liabilities	23	2,477	2,772
Contract liabilities	24	2,260	1,820
Income tax liabilities	12	697	675
Other liabilities	25	8,573	8,418
Other provisions	25	4,947	5,176
		32,808	**31,619**
Non-current liabilities			
Financial liabilities	23	10,043	10,399
Lease liabilities	32	2,128	1,798
Contract liabilities	24	994	836
Other liabilities	25	51	51
Provisions for pensions and similar obligations	26	9,685	9,666
Other provisions	25	6,152	5,324
Deferred taxes	12	612	599
		29,665	**28,673**
Liabilities directly associated with assets held for sale	6	**300**	**144**
Equity	27		
Issued capital		1,200	1,200
Capital reserve		4,557	4,557
Retained earnings		41,512	39,776
Equity attributable to shareholders of the parent company		**47,269**	**45,533**
Non-controlling interests		2,724	2,361
		49,993	**47,894**
Total equity and liabilities		**112,766**	**108,330**

Consolidated statement of changes in equity

T06

in millions of euros

Note 27			Retained earnings								
					Other comprehensive income						
	Issued capital	Capital reserve	Earned profit	Treasury stock	Currency translation	Financial instruments	Pensions	Total	Equity parent company	Equity non-controlling interests	Group equity
1/1/2023	**1,200**	**4,557**	**41,592**	**−62**	**−983**	**374**	**−2,438**	**−3,047**	**44,240**	**2,487**	**46,727**
Profit after tax			2,101						2,101	539	2,640
Other comprehensive income after tax					−772	418	−238	−592	−592	−143	−735
Comprehensive income			**2,101**		**−772**	**418**	**−238**	**−592**	**1,509**	**396**	**1,905**
Dividends			−162						−162	−542	−704
Changes in ownership interests in subsidiaries									0		0
Other changes			111			−165		−165	−54	20	−34
12/31/2023	**1,200**	**4,557**	**43,642**	**−62**	**−1,755**	**627**	**−2,676**	**−3,804**	**45,533**	**2,361**	**47,894**
Profit after tax			786						786	546	1,332
Other comprehensive income after tax					934	226	−59	1,101	1,101	83	1,184
Comprehensive income			**786**		**934**	**226**	**−59**	**1,101**	**1,887**	**629**	**2,516**
Dividends			−170					0	−170	−282	−452
Changes in ownership interests in subsidiaries									0	16	16
Other changes			288			−274	5	−269	19		19
12/31/2024	**1,200**	**4,557**	**44,546**	**−62**	**−821**	**579**	**−2,730**	**−2,972**	**47,269**	**2,724**	**49,993**

Consolidated statement of cash flows

T 07

in millions of euros

	Note 28	2024	2023
Earnings before financial result and taxes (EBIT)		2,796	4,503
Depreciation and amortization[1]		5,459	4,961
Gains/losses on disposal of non-current assets		50	–125
Result from investments measured at equity		–3	–6
Other expenses and income, not cash-effective		–169	11
Change in inventories		–202	1,050
Change in receivables and other assets		–204	–855
Change in liabilities		690	1,326
Change in pension provisions and other provisions		221	–1,215
Interest paid		–692	–411
Interest and dividends received		727	701
Other financial expenses and income, cash-effective		–162	4
Income taxes paid		–1,536	–1,514
Cash flows from operating activities (A)		**6,975**	**8,430**
Acquisition of subsidiaries, net of cash acquired		–102	–1,426
Disposal of subsidiaries, net of cash disposed of		–107	14
Payments for hedges associated with future investments		–175	
Additions to non-current assets		–6,030	–6,596
Disposal of non-current assets		487	506
Change in securities and time deposits (term of more than 90 days)		1,380	–3,709
Cash flows from investing activities (B)		**–4,547**	**–11,211**

1. After offsetting write-ups of EUR 0 million (previous year: EUR 63 million).

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T07

in millions of euros

	Note 28	2024	2023
Acquisition of non-controlling interests		16	–1
Borrowing		782	7,141
Repayment of financial liabilities		–1,538	–1,887
Repayment of lease liabilities		–675	–588
Dividends paid		–452	–704
Cash flows from financing activities (C)		**–1,867**	**3,961**
Change in liquidity (A+B+C)		**561**	**1,180**
Liquidity at the beginning of the period (January 1)		**7,443**	**6,459**
Exchange-rate related change in liquidity		182	–208
Change in liquidity due to changes in the consolidated group		26	10
Change in liquidity held for sale		11	2
Liquidity at the end of the period (December 31)		**8,223**	**7,443**

Notes to the consolidated financial statements

Principles and methods

1 — General information

Robert Bosch Gesellschaft mit beschränkter Haftung (Stuttgart Local Court, HRB 14000; referred to in the following as Robert Bosch GmbH) is headquartered in Stuttgart, Germany. Its business address is Robert-Bosch-Platz 1, 70839 Gerlingen, Germany. The shareholders of Robert Bosch GmbH are Robert Bosch Stiftung Gesellschaft mit beschränkter Haftung, Stuttgart (93.99 percent of the shares), ERBO II Gesellschaft mit beschränkter Haftung, Stuttgart (5.36 percent of the shares), and Robert Bosch Industrietreuhand KG, Stuttgart (0.01 percent of the shares), which performs the entrepreneurial ownership functions. Robert Bosch GmbH holds treasury stock equivalent to 0.64 percent of capital. For further information on the Bosch Group's business activities, please refer to note 29 "Segment reporting" and to the group management report.

The consolidated financial statements of Robert Bosch GmbH as of December 31, 2024, have been prepared in accordance with the International Financial Reporting Standards (IFRSs) as adopted by the EU at the end of the reporting period in accordance with Regulation (EC) No. 1606/2002 of the European Parliament and of the Council on the application of international accounting standards. In addition, the provisions of Sec. 315e (3) HGB [*Handelsgesetzbuch*: German Commercial Code] have been observed. The previous-year figures have been determined using the same principles.

To enhance the clarity and transparency of the consolidated financial statements, individual line items of the consolidated income statement and the consolidated statement of financial position have been combined. These items are explained separately in the notes to the consolidated financial statements. The income statement has been prepared using the function of expense method.

The group currency is the euro (EUR). Unless otherwise stated, all figures are in millions of euros (EUR million).

The consolidated financial statements prepared as of December 31, 2024, were authorized for publication by the board of management on March 10, 2025. The consolidated financial statements and group management report are filed with the Company Register [*Unternehmensregister*] and published there.

2 — Changes in financial reporting

Accounting standards applied for the first time in the fiscal year 2024

The following new or revised standards became effective for the first time in the reporting year:

- Amendments to IAS 1 *Presentation of Financial Statements* (Classification of Liabilities as Current or Non-current and Non-current Liabilities with Covenants),
- Amendments to IAS 7 *Statement of Cash Flows* and IFRS 7 *Financial Instruments: Disclosures* (Supplier Finance Arrangements), and
- Amendments to IFRS 16 *Leases* (Lease Liability in a Sale and Leaseback).

The above amendments are not expected to have any material effects on the consolidated financial statements of Robert Bosch GmbH.

Accounting standards not adopted early

In the reporting year, the EU endorsed amendments to IAS 21 *The Effects of Changes in Foreign Exchange Rates* (Lack of Exchangeability), which will become effective for fiscal years beginning on or after January 1, 2025.

The IASB published the following new standards and amendments in the reporting year:

- IFRS 18 *Presentation and Disclosure in Financial Statements*, which will become effective for fiscal years beginning on or after January 1, 2027,
- IFRS 19 *Subsidiaries without Public Accountability: Disclosures*, which will become effective for fiscal years beginning on or after January 1, 2027,
- Amendments to IFRS 9 *Financial Instruments* and IFRS 7 *Financial Instruments: Disclosures* (Contracts Referencing Nature-dependent Electricity), which will become effective for fiscal years beginning on or after January 1, 2026,
- Amendments to IFRS 9 *Financial Instruments* and IFRS 7 *Financial Instruments: Disclosures* (Amendments to the Classification and Measurement of Financial Instruments), which will become effective for fiscal years beginning on or after January 1, 2026, and
- *Annual Improvements to IFRS Accounting Standards* (Volume 11), which will become effective for fiscal years beginning on or after January 1, 2026.

These standards and amendments have yet to be endorsed by the EU.

The Bosch Group has not adopted the above standards and amendments early. The potential effects of first-time adoption on the Bosch Group's consolidated financial statements are currently being reviewed.

3 — Currency translation

In the separate financial statements of the group companies, monetary assets and liabilities denominated in currencies other than the euro are measured at the closing rate, regardless of whether they are hedged or not. Exchange-rate gains and losses from revaluations are recorded in profit or loss.

Financial statements prepared in foreign currency are translated into euros in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates*. Assets and liabilities are translated at the closing rate, while equity is translated at historical rates. The line items of the income statement are translated into euros at the annual average exchange rates. Any resulting exchange-rate differences are recorded directly in equity as a separate line item until the disposal of the subsidiaries.

For the most important non-euro currencies of the Bosch Group, the following exchange rates apply:

T08

		Closing rate		Average rate	
	EUR 1 =	12/31/2024	12/31/2023	2024	2023
Australia	AUD	1.68	1.63	1.64	1.63
Brazil	BRL	6.43	5.36	5.82	5.40
Canada	CAD	1.49	1.46	1.48	1.46
China	CNY	7.58	7.85	7.79	7.66
Czech Republic	CZK	25.19	24.72	25.12	24.00
Hungary	HUF	411.35	382.80	395.30	381.76
India	INR	88.93	91.90	90.54	89.33
Japan	JPY	163.06	156.33	163.84	151.90
Korea	KRW	1,532.15	1,433.66	1,475.23	1,413.29
Mexico	MXN	21.55	18.72	19.81	19.19
Poland	PLN	4.28	4.34	4.31	4.54
Romania	RON	4.97	4.98	4.97	4.95
Switzerland	CHF	0.94	0.93	0.95	0.97
Türkiye	TRY	36.74	32.65	35.56	25.73
United Kingdom	GBP	0.83	0.87	0.85	0.87
United States	USD	1.04	1.11	1.08	1.08

The financial statements of consolidated entities in hyperinflationary economies are prepared in accordance with IAS 29 *Financial Reporting in Hyperinflationary Economies*. In the reporting year, this relates to the subsidiaries in Argentina and Türkiye; their income statements and statements of cash flows are translated at closing rates. To identify economies as hyperinflationary, reference is made to the pronouncements issued by the Center for Audit Quality's International Practices Task Force (IPTF). In accordance with IAS 29, non-monetary assets and liabilities, equity, and all line items of the income statement and statement of comprehensive income are indexed to the respective country's general price index. In Türkiye, the consumer price index issued by the Turkish Statistical Institute TURKSTAT is used. On December 31, 2024, this stood at 2,684.55 (previous year: 1,859.38). Argentina uses the consumer price index set by the FACPCE, which stood at 7,694.01 on December 31, 2024 (previous year: 3,533.19). Monetary items of the statement of financial position are not restated. The loss of EUR 88 million (previous year: EUR 59 million) on the net monetary position is recognized in the financial result under expenses or income from exchange-rate fluctuations.

4 — Accounting policies

The accounting policies used in the preparation of the consolidated financial statements of Robert Bosch GmbH are presented in the notes to the individual line items of the income statement and the statement of financial position. The accounting policies applicable to financial instruments are presented together in note 30 “Additional disclosures on financial instruments.”

In general, the accounting policies applied are unchanged from the previous year, with the exceptions outlined in note 2.

5 — Assumptions and estimates

The preparation of consolidated financial statements in accordance with IFRSs requires that assumptions and estimates be made for some line items. These assumptions and estimates have an effect on the amount and presentation of the assets and liabilities, income and expenses, and on the contingent liabilities disclosed in the reporting period. Uncertainty involved in these assumptions and estimates could result in actual outcomes that require a restatement to the carrying amount of assets or liabilities concerned in future periods. Assumptions and estimates mainly concern the following:

The determination of loss allowances on receivables and contract assets is based on estimates and assumptions with respect to the credit standing of individual customers. The measurement of inventories requires assumptions and estimates to be made, including for determining the net realizable value. The discounted future cash flows used as a basis for testing goodwill, other intangible assets, and property, plant, and equipment for impairment are based on estimates. Assumptions are also made in the determination of the discount rates and growth rates used. Determining lease terms requires assumptions and estimates with respect to the likelihood of options to terminate or extend the lease being exercised. The recognition of deferred tax assets is premised on their future recoverability being probable. Consequently, assumptions have to be made regarding future taxable income and the expected timing of the reversal of temporary differences. Further assumptions are required to determine the useful lives of items subject to wear and tear within property, plant, and equipment, as well as of intangible assets. The determination of carrying amounts of investments also involves making assumptions and estimates. Provisions for pensions and similar obligations are measured using actuarial methods. This requires various assumptions, including with respect to life expectancy, salary trends, the pension growth rate, and the discount factor. The recognition and measurement of other provisions is based on estimates of amounts and the probability of future events. To the extent possible, such estimates are based on past experience, and are regularly reviewed and adjusted as necessary. Assumptions and estimates are involved to a high degree in measuring provisions for legal risks and for possible compensation claims by customers. Uncertainties exist in particular with regard to the production volumes affected, the amount of claims, and the course of negotiations.

Macroeconomic trends in the reporting year, such as the development of inflation and interest rates, were appropriately taken into account in impairment testing of goodwill and other non-current assets, but also when calculating provisions. In the reporting year, there were no effects on the recognition and measurement of assets and only immaterial effects on the measurement of provisions.

With respect to the consideration of climate-related matters in the preparation of the consolidated financial statements, the relevant legislation is continuously monitored. The effects of legal requirements relating to internal combustion engines, as well as structural changes such as the transition to electromobility and increasing electrification in many fields, have to be assessed in terms of their impact on financial reporting. In the reporting year, this concerns in particular the unfavorable development of all relevant core markets and, related to this, the likely delay in the process of technological transformation. The effects of weaker demand for electromobility and changes in the market situation in some sectors also need to be reflected in the assumptions underlying the measurement of assets and liabilities. This applies especially in impairment testing for assets, but also in the regular review of the useful lives assumed for non-current assets. In the reporting year, climate-related matters had no effect on the recognition and measurement of assets and liabilities. Impairment losses were recognized on the carrying amount of assets due to a change in the market situation in the Power Solutions division.

6 — Consolidation

Basis of consolidation

Besides Robert Bosch GmbH, the consolidated financial statements include all subsidiaries over which Robert Bosch GmbH has control pursuant to the criteria set out in IFRS 10 *Consolidated Financial Statements*. These entities are included in the consolidated financial statements from the date on which the Bosch Group obtains control. Conversely, subsidiaries are no longer fully consolidated when control of the entity is lost.

The capital of the entities consolidated for the first time in the reporting year is accounted for pursuant to IFRS 3 *Business Combinations*, using the acquisition method of accounting. The acquisition-date cost of the investment is offset against the proportionate share of revalued equity. As a matter of principle, assets, liabilities, and contingent liabilities are carried at fair value. Remaining positive differences are accounted for as goodwill. Negative differences are recognized in profit or loss after reassessment. Any difference resulting from the purchase and disposal of non-controlling interests without loss of control is offset against equity.

All intercompany profits and losses, sales revenue, expenses, and other income, as well as receivables and liabilities or provisions, are eliminated. In the case of consolidation measures with an effect on profit or loss, income tax effects are considered and deferred taxes recognized.

Consolidated group

Besides Robert Bosch GmbH, the consolidated group comprises a further 490 (previous year: 468) fully consolidated entities. The group developed as follows:

T09

	Germany	Outside Germany	Total
Included in consolidation at January 1, 2023	**78**	**391**	**469**
Additions/formations in the fiscal year 2023	3	20	23
Disposals/mergers in the fiscal year 2023	−4	−19	−23
Included in consolidation at December 31, 2023	**77**	**392**	**469**
Additions/formations in the fiscal year 2024	3	34	37
Disposals/mergers in the fiscal year 2024	−7	−8	−15
Included in consolidation at December 31, 2024	**73**	**418**	**491**

The consolidated group includes four special funds, as well as other investments.

Due to changes to the consolidated group, sales revenue decreased by EUR 138 million in the reporting year and total assets as of December 31, 2024, decreased by EUR 149 million.

Condensed financial information on fully consolidated subsidiaries with material non-controlling interests

T10

in millions of euros

	Bosch Powertrain Systems Co., Ltd., Wuxi, China		United Automotive Electronic Systems Co., Ltd., Shanghai, China	
	2024	2023	2024	2023
Current assets	1,719	1,679	3,660	2,846
Non-current assets	431	419	1,524	1,506
Current liabilities	957	1,063	2,415	2,032
Non-current liabilities	2	3	380	236
Sales revenue	1,516	1,829	5,268	4,780
Profit after tax	320	366	575	520
Comprehensive income	360	286	661	374
Cash flows from operating activities	249	312	842	563
Cash flows from investing activities	–67	–50	–368	–219
Cash flows from financing activities	–178	–262	–457	–398
Share of capital attributable to non-controlling interests	34.0%	34.0%	49.0%	49.0%
Profit/loss after tax attributable to non-controlling interests	109	124	282	255
Equity attributable to non-controlling interests	405	351	1,171	1,021
Dividends paid to non-controlling interests	68	218	171	184

T11

in millions of euros

	Bosch HUAYU Steering Systems Group, Shanghai, China		Bosch Ltd., Bengaluru, India	
	2024	2023	2024	2023
Current assets	1,280	1,192	1,194	1,108
Non-current assets	597	595	1,134	922
Current liabilities	991	1,051	633	540
Non-current liabilities	95	52	104	50
Sales revenue	1,891	1,866	1,880	1,834
Profit after tax	203	208	226	177
Comprehensive income	223	161	269	129
Cash flows from operating activities	278	275	349	187
Cash flows from investing activities	–83	–93	–272	–8
Cash flows from financing activities	–96	–121	–105	–214
Share of capital attributable to non-controlling interests	49.0%	49.0%	29.5%	29.5%
Profit/loss after tax attributable to non-controlling interests	99	102	67	52
Equity attributable to non-controlling interests	388	335	469	425
Dividends paid to non-controlling interests	0	85	36	47

The condensed financial information of the respective entities corresponds to the figures before consolidation entries.

Joint ventures and joint operations

The accounting for joint arrangements in accordance with IFRS 11 *Joint Arrangements* is based on whether they are classified as a joint operation or a joint venture, which in turn depends on the contractually agreed rights and obligations of the parties to the arrangement. With regard to joint operations, the Bosch Group recognizes, in relation to its interest, its rights to the assets, liabilities, expenses, and revenue in the related line items in the consolidated financial statements. Investments in joint ventures within the meaning of IFRS 11 are accounted for using the equity method in accordance with IAS 28 *Investments in Associates and Joint Ventures*. The carrying amount of these interests is subsequently measured in accordance with the change in equity of the jointly controlled entity attributable to the Bosch Group, less any impairment, where appropriate.

The following joint ventures are subject to joint control in accordance with IFRS 11 and were recognized in the consolidated financial statements as of December 31, 2024, using the equity method in accordance with IAS 28:

- Bosch BASF Smart Farming GmbH, Cologne, Germany (50 percent),
- BS Systems GmbH & Co. KG, Zusmarshausen, Germany (50 percent),
- MAGURA Bosch Parts & Services GmbH & Co. KG, Nürtingen, Germany (50 percent),
- North America Fuel Systems Remanufacturing LLC, Kentwood, MI, United States (50 percent).

The share of capital indicated corresponds to the share of voting rights. The carrying amounts of the investments in the latter three entities were determined on the basis of the most recent available financial statements as of December 31, 2023.

Condensed financial information on individually immaterial joint ventures

T12

in millions of euros

	2024	2023
Carrying amount of the investments	38	33
Group share of profit after tax	16	10
Group share of other comprehensive income after tax	0	–1
Group share of comprehensive income	16	9

The carrying amount of the investments in the above-mentioned joint ventures corresponds to the proportionate share in these entities' equity.

Since 2022, a cooperation arrangement has been in place between Robert Bosch GmbH and the Volkswagen group entity CARIAD SE, Wolfsburg, Germany, for the development of a software platform for partially and highly automated driving. The principal place of business of the joint operation is Ingolstadt, Germany. The development costs incurred are shared equally between the parties. Each party is granted rights to use and market the jointly developed results; the results of engineering work are not marketed jointly.

Associated entities

Pursuant to IAS 28, investments are also included in the consolidated financial statements using the equity method if significant influence can be exercised.

The following associated entities are accounted for using the equity method in accordance with IAS 28 as of December 31, 2024:

- FerRobotics Compliant Robot Technology GmbH, Linz, Austria (49 percent),
- plc2 Design GmbH, Endingen am Kaiserstuhl, Germany (25 percent).

To determine the carrying amount of FerRobotics Compliant Robot Technology GmbH, the most recent available financial statements as of December 31, 2023, were used.

Condensed financial information on individually immaterial associated entities

T13

in millions of euros

	2024	2023
Carrying amount of the investments	38	20
Group share of profit after tax	–13	–4
Group share of other comprehensive income after tax	0	0
Group share of comprehensive income	–13	–4

The carrying amount of the investments in the abovementioned associated entities corresponds to the proportionate share in these entities' equity.

Business combinations

Business combinations in the reporting year

The following individually immaterial acquisitions were closed in the reporting year:

On January 2, the Bosch Group acquired 100 percent of the shares in MIIT Mechatronics Industries GmbH, Vienna, Austria. The entity is allocated to the Power Tools division (Consumer Goods business sector) and holds shares in FerRobotics Compliant Robot Technology GmbH, Linz, Austria, which, as an associated entity, is accounted for using the equity method in Robert Bosch GmbH's consolidated financial statements.

As part of the restructuring of the sales organization of the Home Comfort division (Energy and Building Technology business sector) in Spain, the Bosch Group acquired 100 percent of the shares in Servicio Tecnico Arnaiz, S.L.U., Bilbao, on April 30 and 100 percent of the shares in Servimat Asistencia Tecnica, S.L., Madrid, both Spain, on September 30. In addition, the assets of Paulo Azkue, S.L., San Sebastian, Spain, were acquired on July 30.

Having previously held a 20 percent interest in Nederlandse Veiligheidsdienst Groep Meldkamer B.V., Goes, Netherlands, the Bosch Group acquired the entity in full on June 3. The acquisition expands the Building Technologies division's services portfolio (Energy and Building Technology business sector) in building security in the Netherlands.

On August 6, the Bosch Group acquired the assets and liabilities of Engineered Control Systems, Inc., based in Fuquay-Varina, NC, United States. The acquired business with building automation solutions for the efficient control, regulation and monitoring of technical building equipment is allocated to the Building Technologies division (Energy and Building Technology business sector).

On September 2, the Bosch Group acquired 100 percent of the shares in DMS Digitale Mess- und Steuersysteme AG, Ettlingen, Germany, including a subsidiary based in Suzhou, China. The acquisition is allocated to the Building Technologies division (Energy and Building Technology business sector). The acquisition is intended to strengthen the division's building automation activities.

In connection with the above business combinations, current assets of EUR 32 million (including cash of EUR 19 million and trade receivables of EUR 8 million) and non-current assets of EUR 41 million were acquired. Current liabilities assumed amounted to EUR 52 million and non-current liabilities to EUR 4 million. The aggregate purchase prices for the above acquisitions amounted to EUR 104 million, and goodwill totaling EUR 85 million was recognized. Goodwill essentially represents part of the synergy potential and is largely non-deductible for tax purposes. On aggregate, as of the acquisition date the above individually immaterial business combinations contributed EUR 20 million to the group's sales revenue and incurred a loss after tax of EUR 1 million.

If the business combinations had already taken place as of January 1, 2024, the Bosch Group's sales revenue would have amounted to EUR 90,393 million and its profit after tax to EUR 1,329 million.

Business combinations recognized provisionally in the previous year

Effective August 31, 2023, 100 percent of the shares in Paladin Technologies Inc., Vancouver, BC, Canada, and Pal-American Technologies Inc., Tumwater, WA, United States, were acquired. The acquisition also included a subsidiary in Canada and two subsidiaries in the United States. The acquisition of Paladin Technologies, a leading provider of security solutions and services in the field of systems integration, is intended to expand the building services business in North America. The final purchase price for the shares came to EUR 338 million and was mainly settled by transferring cash.

The purchase price includes contingent consideration that will fall due over the next two years. Allocated to the Energy and Building Technology business sector, the acquired entities have been included in Robert Bosch GmbH's consolidated financial statements as of September 1, 2023.

Provisional amounts had been recognized for the business combination when the consolidated financial statements for the previous year were approved. The final amounts of the acquired assets and liabilities as of the date of first-time inclusion in the consolidated financial statements are presented in the table below:

T14

in millions of euros

	Paladin Technologies
Current assets	**140**
of which cash	1
of which trade receivables	93
Non-current assets	**328**
Property, plant, and equipment	22
Intangible assets	294
of which goodwill	205
Other assets including deferred taxes	12
Current liabilities	**73**
Non-current liabilities	**57**
Liabilities including deferred taxes	57

The acquisition gave rise to goodwill of EUR 205 million, which is not tax deductible and mainly represents part of the synergy potential and the value of the workforce. The goodwill is allocated to the Building Technologies division.

No adjustments were made in relation to the carrying amounts recognized in the previous year.

Non-current assets held for sale and disposal groups

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction. The corresponding assets and disposal groups are available for immediate sale and the sale is highly probable. In accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*, they are measured at the lower of carrying amount or fair value less costs to sell, unless another standard prescribes a different measurement method. Any impairment loss in excess of the balance of non-current assets is recognized by recording current provisions.

As of December 31, 2024, the following operations meet the criteria for classification as a disposal group within the meaning of IFRS 5:

It was announced back in October 2023 that most of the Building Technologies division's product business (Energy and Building Technology business sector) would be sold. This concerns the Video, Access and Intrusion, and Communication business units. The sale will be effected by transferring shares in separate legal entities. The related contracts were signed on December 12, 2024, and the transaction is expected to be closed in the second quarter of 2025. The reason for the arranged sale is the realignment of the Building Technologies division, which is to focus in the future on its regional integrator business with solutions and services for building security, energy efficiency, and building automation.

In the reporting year, the planned sale of the plant in Pollenfeld, Germany, belonging to the legal entity Bosch Automotive Service Solutions GmbH, was announced to secure the site's future. The sale comprises the assets associated with the production of special tools for the automotive industry, which are allocated to the Mobility Aftermarket division (Mobility business sector). The transaction is expected to be closed in the second quarter of 2025.

As part of the classification of the above operations as a disposal group, an expense of EUR 18 million was recognized in sundry other operating expenses in the reporting year. Of that amount, EUR 2 million is attributable to the impairment of non-current assets and EUR 16 million to the recognition of current sundry other provisions.

As of December 31, 2024, the main groups of assets held for sale and the directly associated liabilities are as follows:

T15

in millions of euros

	2024
Cash and cash equivalents	9
Trade receivables	73
Inventories	205
Property, plant, and equipment and intangible assets	455
Other financial and non-financial assets	65
Assets held for sale	**807**
Trade payables	112
Provisions for pensions and similar obligations	25
Other provisions	49
Other financial and non-financial liabilities	114
Liabilities directly associated with assets held for sale	**300**

The cumulative decrease in equity through other comprehensive income related to disposal groups amounts to EUR 0 million, with a EUR 7 million reduction in the revaluation reserve from pensions and a EUR 7 million increase in the revaluation reserve from currency translation.

As of December 31, 2024, the following operations no longer met the criteria for classification as a disposal group in accordance with IFRS 5:

It proved impossible to transact the sale of the shares in the Russian subsidiary OOO BSH Bytowije Pribory, St. Petersburg, that was planned in the previous year. This was due to the entity being placed under Russian state administrative receivership in April of the reporting year. Because of the associated loss of control in accordance with IFRS 10, the entity was deconsolidated. The entity, which is part of the Consumer Goods business sector, sold household appliances and provided the associated customer services.

In the fiscal year, it was decided not to go ahead with the planned sale of the manufacturing activities of Robert Bosch (France) S.A.S, Saint-Ouen, France, relating to electronic and mechatronic components for the automotive and consumer goods sectors (Mobility business sector), as the sale process scheduled to be transacted by mid-2024 was unsuccessful.

The effects of no longer classifying the activities as a disposal group were reflected in the consolidated financial statements.

Divestments completed in the reporting year

Announced back in the fiscal year 2021, the planned divestment of the passenger car brake disc business, allocated to the Mobility Solutions business sector, was completed on April 30, 2024. The reasons for the sale are that brake disc production within the Bosch Group has hardly any synergies with existing business areas and that the sale is expected to allow better use of the potential inherent in the business to be made. The sale concerned shares held in the entities Buderus Guss GmbH, Breidenbach, and Robert Bosch Lollar Guss GmbH, Lollar, both in Germany.

On September 10, the Bosch Group completed the sale of shares in the Russian subsidiary OOO Bosch Thermotechnik, Moscow. The entity was active in the sale of heating appliances and allocated to the Energy and Building Technology business sector. The sale took place because it was not possible to continue doing business due to the sanctions regime.

In total, current assets of EUR 275 million (including cash of EUR 81 million) and non-current assets of EUR 9 million were sold, and current liabilities of EUR 44 million and non-current liabilities of EUR 68 million transferred.

The transactions had no effect on earnings in the reporting year, as the corresponding expenses of EUR 183 million had already been accounted for in previous years through the recognition of sundry other current provisions. The expenses include the reclassification of EUR 11 million from the currency translation reserve as of the date of disposal. The reclassification from the reserve from pensions through equity reduces retained earnings by EUR 4 million.

Notes to the income statement

7 — Sales revenue

In accordance with IFRS 15 *Revenue from Contracts with Customers*, sales revenue is recognized when the customer obtains control of the goods or services and is thus able to direct the use of, and obtain substantially all the remaining benefits from, the goods or services. This is based on the assumption that there is a contract that creates enforceable rights and obligations; in addition, it must be probable that the Bosch Group will collect the consideration for the goods and services transferred. Revenue is recognized at the amount of the transaction price, i.e. the amount of consideration that the Bosch Group is expected to collect in exchange for the transfer of goods and services arranged. IFRS 15 sets forth a consistent, five-step model for determining the amount of revenue to be reported, which is generally applicable for all customer contracts.

In the sale of goods, control is typically transferred to the customer on delivery. Invoicing usually takes place at the same time. Revenue from services is mostly recognized once the service has been rendered in its entirety and invoiced. In the case of development work, milestone payments or downstream separate remuneration are also agreed. When invoicing the sale of goods, services, and development work, country- and industry-specific payment terms are granted; these are 48 days (previous year: 46 days) on average. For customer-specific products that are allocable to the Mobility (formerly: Mobility Solutions) business sector and do not create an asset with an alternative use for the group, revenue is recognized over time; the same applies to plant engineering contracts in the Energy and Building Technology business sector. Revenue is recognized according to the percentage of completion, which can be determined using input or output methods. Output methods recognize revenue on the basis of the value to the customer of the goods or services transferred relative to the remaining goods or services promised under the contract. Input methods recognize revenue on the basis of costs incurred relative to the estimated total costs. Depending on the underlying business model, the Bosch Group uses input methods as well as output methods in determining the percentage of completion.

Sales revenue comes to EUR 90,345 million (previous year: EUR 91,596 million). Of this amount, EUR 55,795 million (previous year: EUR 56,182 million) is attributable to the Mobility business sector, EUR 6,450 million (previous year: EUR 7,418 million) to the Industrial Technology business sector, EUR 20,263 million (previous year: EUR 19,943 million) to the Consumer Goods business sector, EUR 7,486 million (previous year: EUR 7,693 million) to the Energy and Building Technology business sector, and EUR 351 million (previous year: EUR 360 million) to other activities.

Sales revenue includes an amount of EUR 1,708 million (previous year: EUR 1,542 million) that had been included in the balance of current contract liabilities at the beginning of the reporting year.

In relation to performance obligations not satisfied in full or in part as of the reporting date, an amount of EUR 368 million (previous year: EUR 118 million) is expected to be realized as sales revenue within the next two years and an amount of EUR 115 million (previous year: EUR 29 million) thereafter. These amounts relate to long-term construction contracts.

Sales revenue recognized over time amounts to EUR 54,427 million (previous year: EUR 55,581 million) in the Mobility business sector and to EUR 1,244 million (previous year: EUR 944 million) in the Energy and Building Technology business sector.

A breakdown of sales revenue by region is provided in note 29 “Segment reporting.”

8 — Functional costs

Cost of sales contains the cost of internally manufactured goods sold and the cost price of resold merchandise. The cost of internally manufactured goods sold contains materials and production cost that can be allocated directly, the allocable parts of indirect production overheads, including depreciation of production equipment and amortization of other intangible assets, and write-downs of inventories. Cost of sales also includes development work charged directly to customers and amortization of capitalized development work.

The **distribution and administrative cost** breaks down as follows:

T16

in millions of euros

	2024	2023
Distribution cost	13,397	13,409
Administrative cost	5,134	4,824
	18,531	**18,233**

The distribution cost includes personnel and non-personnel costs, depreciation charged in the distribution function, customer service, logistics, market research, sales promotion, shipping, advertising, and warranty costs.

Research and development cost contains both research cost and development cost that cannot be capitalized.

T17

in millions of euros

	2024	2023
Total research and development cost	7,954	7,564
Development cost capitalized in the reporting period	–212	–234
Impairment losses on capitalized development cost	65	1
	7,807	**7,331**

Cost of materials amounted to EUR 42,898 million in the reporting year (previous year: EUR 43,839 million).

9 — Other operating income

T18

in millions of euros

	2024	2023
Income from exchange-rate fluctuations	865	934
Income from derivatives	168	281
Income from the reversal of loss allowances on trade receivables and other financial assets	79	105
Income from the disposal of non-current assets	122	271
Income from rent and leases	8	9
Income from the reversal of provisions	882	958
Sundry other operating income	1,254	912
	3,378	**3,470**

The income from exchange-rate fluctuations is offset by expenses that are disclosed in other operating expenses. Income from derivatives includes income from foreign exchange and commodity derivatives allocated to operating activities.

Income from the reversal of provisions mainly concerns the sundry other provisions.

Sundry other operating income in the reporting year includes income from compensation payments of EUR 201 million and a gain of EUR 132 million on the initial measurement at fair value of an investment previously accounted for using the equity method.

Government grants are recognized pursuant to IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance* only if it is sufficiently certain that the assistance will be granted and the conditions attached to the assistance are satisfied. Grants related to income are presented as part of profit or loss in the period in which the related expenses are incurred. They are offset against the respective expenses. If there are no such expenses, the grants are disclosed in sundry other operating income. In the reporting year, grants related to income totaled EUR 553 million (previous year: EUR 395 million).

10 — Other operating expenses

T19

in millions of euros

	2024	2023
Expenses from exchange-rate fluctuations	860	1,045
Expenses from derivatives	197	161
Loss allowances on trade receivables and other financial assets	125	128
Expenses from the disposal of non-current assets	163	157
Other taxes	27	30
Expenses from the recognition of provisions	146	89
Sundry other operating expenses	483	419
	2,001	**2,029**

“Expenses from derivatives” includes expenses from foreign exchange and commodity derivatives allocated to operating activities.

11 — Financial result

T20

in millions of euros

	2024	2023
Interest and similar income	785	762
Interest and similar expenses	–1,234	–1,188
Interest result	**–449**	**–426**
Profit/loss from investments	44	–1
Income from securities	534	518
Expenses from securities	–133	–279
Income from exchange-rate fluctuations	1,029	1,670
Expenses from exchange-rate fluctuations	–1,095	–1,694
Income from derivatives	1,146	1,019
Expenses from derivatives	–1,114	–1,305
Other income	9	11
Other expenses	–39	–40
Other financial result	**381**	**–101**
Financial result, total	**–68**	**–527**
of which financial income	3,547	3,980
of which financial expenses	–3,615	–4,507

The line item “interest and similar income” contains dividend income from shares of EUR 54 million (previous year: EUR 73 million) and income from investment funds of EUR 35 million (previous year: EUR 26 million).

The profit/loss from investments comprises dividend income as well as changes in the fair value of investments measured at fair value through profit or loss.

Income and expenses from securities include the changes in the fair value of securities measured at fair value through profit or loss, gains and losses on the disposal of securities measured at fair value through other comprehensive income, as well as impairment losses and income from the reversal of impairment losses on such securities.

The line items “income from derivatives” and “expenses from derivatives” contain transactions to hedge financial assets, mainly from foreign-currency derivatives. In the reporting year, these include currency options to hedge the currency risk from the purchase price agreed in USD for the acquisition of the heating, ventilation, and air-conditioning business of Johnson Controls and Hitachi. In total, the measurement gain on these currency options amounted to EUR 260 million as of the end of the year.

Interest income and expenses are attributable to financial instruments not measured at fair value through profit or loss as follows:

T21

in millions of euros

	2024		2023	
	Interest income	Interest expenses	Interest income	Interest expenses
Financial assets measured at amortized cost (AC)	388		324	
Financial assets measured at fair value through other comprehensive income (FVOCI wR)	222		202	
Financial liabilities measured at amortized cost (AC)		591		426
	610	**591**	**526**	**426**

12 — Income taxes

Income tax obligations comprise certain and uncertain income tax liabilities.

In accordance with IAS 12 *Income Taxes*, deferred tax assets and liabilities are recorded for temporary differences between the tax carrying amounts and the carrying amounts in the consolidated statement of financial position. This does not apply when a deferred tax liability arises from the initial recognition of goodwill or when deferred taxes arise from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither earnings before tax nor taxable profit or loss. Deferred taxes from transactions that give rise to taxable and deductible temporary differences of the same amount on initial recognition are an exception to this rule. Deferred tax assets arising from unused tax losses and tax credits are recognized only if it is sufficiently certain that they can be utilized. The deferred tax item equals the estimated tax expense or relief in later periods. The tax rate applicable at the time of realization is taken as a basis. If it is uncertain whether recognized deferred tax assets can be realized, they are adjusted accordingly.

Income tax expenses are classified according to their origin as follows:

T22

in millions of euros

	2024	2023
Current taxes	1,545	1,401
Deferred taxes	–149	–65
	1,396	**1,336**

Current taxes contain tax expenses not related to the reporting period totaling EUR 32 million (previous year: tax income of EUR 11 million).

Deferred taxes break down as follows:

T23

in millions of euros

	2024	2023
Temporary differences	–207	–80
Tax losses and tax credits	58	15
	–149	**–65**

Deferred taxes are calculated on the basis of the tax rates that apply or are expected to apply given the current legislation in the individual countries at the expected time of realization. The corporate income tax rate for German companies is 15 percent. Taking into account the solidarity surcharge of 5.5 percent and the trade tax levied on profits recorded in Germany, the total tax rate is 30 percent (previous year: 30 percent). As in the previous year, the tax rates outside Germany range between 6 percent and 35 percent.

As of December 31, the deferred tax assets and liabilities presented in the statement of financial position are attributable to the following items:

T24

in millions of euros

	2024		2023	
	Assets	**Liabilities**	**Assets**	**Liabilities**
Receivables, other assets, and inventories	1,007	848	1,143	738
Securities and investments	130	148	119	107
Property, plant, and equipment	218	658	250	747
Right-of-use assets		592		462
Intangible assets	314	861	293	919
Other asset items	552	56	420	63
Liabilities	1,205	151	1,119	152
Lease liabilities	594		491	
Provisions	1,195	87	1,068	95
Other liabilities	0	343	7	373
Tax losses and tax credits	106		164	
Total	**5,321**	**3,744**	**5,074**	**3,656**
Netting	−3,132	−3,132	−3,057	−3,057
	2,189	**612**	**2,017**	**599**

Of the reported deferred tax assets, EUR 76 million (previous year: EUR 88 million) relates to entities that incurred losses in the reporting year or in the previous year. It is assumed that sufficient taxable income or taxable temporary differences will be available in subsequent years to permit the deferred tax assets to be realized.

No deferred tax assets were recognized in the statement of financial position for the items presented in the table below as it is not probable that sufficient taxable profit will be available in the future:

T25

in millions of euros

	2024	2023
Temporary differences	2,958	2,715
Tax losses	13,341	11,846
Tax credits	7	3
	16,306	**14,564**

The utilization of unused tax losses and tax credits for which no deferred tax assets have been recognized to date resulted in a reduction of the current tax expense in the reporting year of EUR 2 million (previous year: EUR 4 million).

The unused tax losses for which no deferred taxes were recognized expire as follows:

T26

in millions of euros

	2024	2023
Within one year	70	46
Later than one year and no later than two years	79	62
Later than two years and no later than three years	53	58
Later than three years	530	191
Without expiry date	12,609	11,489
	13,341	**11,846**

Deferred tax liabilities are recognized on temporary differences relating to investments in subsidiaries if these are expected to reverse in the following year due to planned dividend distributions or the planned sale of shares. No further deferred tax liabilities were recognized on temporary differences in this connection as it is not probable that the temporary differences will reverse in the foreseeable future. As of the reporting date, retained profits of subsidiaries amount to EUR 7,850 million (previous year: EUR 8,051 million). If these profits are distributed, this could lead to an income tax or withholding tax expense at Robert Bosch GmbH or at the level of intermediate holding entities.

Deferred taxes recognized in other comprehensive income in the fiscal year are presented in the following table:

T27

in millions of euros

	2024	2023
Change in equity instruments	−6	−5
Change in debt instruments	−8	−3
Remeasurement of pension provisions	0	−3
	−14	**−11**

Deferred tax income of EUR 0 million (previous year: EUR 0 million) is attributable to the change in debt instruments measured at fair value through other comprehensive income, which was reclassified to profit or loss in the reporting year.

The basis for the expected income tax expense is the German tax rate of 30 percent (previous year: 30 percent). The difference between expected and disclosed income tax expense is attributable to the following factors:

T28

in millions of euros

	2024	2023
Profit before tax	2,728	3,976
Expected income tax expense	818	1,193
Variances due to tax rate	–173	–274
Non-deductible expenses	400	182
Zero-rated income	–254	–308
Tax credits	–109	–123
Recognition/measurement of deferred tax assets	509	407
Withholding taxes	290	238
Tax effects not related to the reporting year	–2	23
Other differences	–83	–2
Income tax expense disclosed	**1,396**	**1,336**
Effective tax rate	51%	34%

“Variances due to tax rate” includes effects resulting from changed tax rates. In the reporting year, these resulted in a deferred tax expense of EUR 2 million (previous year: tax income of EUR 4 million).

“Other differences” mainly includes effects from temporary differences in connection with shares in subsidiaries and effects from changes in permanent differences.

International Tax Reform – Pillar Two Model Rules

In Germany, the country of domicile of Robert Bosch GmbH as the ultimate parent company of the Bosch Group, the act on ensuring a global minimum level of taxation for corporate groups (*Mindeststeuergesetz*: German Minimum Tax Act) came into force on December 28, 2023. This is based on the OECD’s model rules on global minimum taxation (Pillar Two). The provisions of the law are effective for the first time for fiscal years beginning after December 30, 2023. In addition, laws were passed in some other countries to introduce a qualified domestic minimum tax. For the Bosch Group, the relevant German and foreign rules are to be applied for the first time for the fiscal year 2024.

In accordance with the rules on global minimum taxation, a corporate group must pay a top-up tax for those countries in which its operating units/entities based there achieve an aggregate effective tax rate of less than 15 percent calculated in accordance with the rules of the German Minimum Tax Act. The levying of a top-up tax is intended to ensure that the minimum tax rate of 15 percent is reached in each country. In most countries in which the Bosch Group operates, either the effective tax rate exceeds the minimum tax rate of 15 percent or temporary transitional rules (safe harbor rules) can be used. For those countries where this is not the case, an expense of EUR 2 million was recognized for expected top-up tax payments.

With regard to the recognition of deferred taxes, use is made of the exemption in IAS 12, which does not require deferred taxes to be recognized in connection with the global minimum taxation rules.

13 — Personnel expenses and headcount

Disclosures on personnel expenses

Personnel expenses break down as follows:

T29

in millions of euros

	2024	2023
Remuneration	24,514	21,980
Social security costs	3,937	3,821
Post-employment benefit costs	1,001	1,020
	29,452	**26,821**

Headcount

T30

	Annual average 2024	Annual average 2023
EU countries	217,992	221,376
Rest of Europe	33,217	33,536
Americas	53,072	53,606
Asia, Africa, Australia	120,384	120,849
	424,665	**429,367**

Notes to the statement of financial position

14 — Cash and cash equivalents

T31

in millions of euros

	2024	2023
Bank balances (term up to 90 days)	8,222	7,443
Cash	1	0
	8,223	**7,443**

Disclosures on restricted cash and cash equivalents are provided in note 28 “Statement of cash flows.”

15 — Trade receivables

The accounting policies applicable to trade receivables are explained in note 30 “Additional disclosures on financial instruments.”

In the reporting year, trade receivables came to EUR 17,536 million (previous year: EUR 17,081 million). Trade receivables due in more than one year amounted to EUR 10 million (previous year: EUR 14 million).

Information about loss allowances on trade receivables is contained in the credit risk section of note 31 “Capital and risk management.”

16 — Other current and non-current financial assets

T32

in millions of euros

	2024		2023	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Securities	4,251	11,979	3,859	11,991
Investments		2,354		2,123
Bank balances (term of more than 90 days)	2,417	29	3,301	65
Loan receivables	84	19	104	14
Derivatives	569	32	132	41
Receivables from finance leases	36	150	37	146
Sundry other financial assets	420	336	389	158
	7,777	**14,899**	**7,822**	**14,538**

The securities classified as current assets are listed securities with a residual term of less than one year as well as securities which are intended for sale within a year.

Non-current securities consist of interest-bearing and other securities, investment funds, and shares. In the reporting year, shares and investments in corporations with a fair value of EUR 1,546 million (previous year: EUR 1,423 million) were sold. Related to this, an amount of EUR 274 million (previous year: EUR 165 million) was reclassified from the reserve from financial instruments to earned profit. Disposals of investments in corporations are carried out on the basis of business-policy decisions.

The pledged securities have a carrying amount of EUR 1,754 million (previous year: EUR 1,609 million). The pledged securities satisfy the legal requirement to secure obligations to members of the workforce and bank guarantees. Fund units equivalent to at least the value of the claims were pledged as collateral.

The bank balances are partly invested as secured deposits in tri-party repo transactions. As of the reporting date, the secured deposits have a carrying amount of EUR 1,450 million (previous year: EUR 1,100 million). The bank provides collateral of the same amount in the form of securities.

Disclosures on loss allowances on loan receivables, sundry other financial assets, and finance lease receivables are contained in the section on credit risks in note 31 “Capital and risk management.”

Note 32 “Leases” contains additional disclosures on receivables from finance leases.

17 — Contract assets

In accordance with IFRS 15, any performance surpluses at contract level are presented as contract assets. The asset constitutes the Bosch Group's right to consideration in exchange for goods or services it has transferred to the customer.

The contract assets from revenue recognition over time present the excess of the Bosch Group's performance, presented as sales revenue, over consideration already received from the customer. At the point in time when control is transferred to the customer, contract assets from development work are disclosed for all separate consideration that is to be subsequently paid by the customer for separately commissioned research and development work.

T33

in millions of euros

	2024		2023	
	up to 1 year	**more than 1 year**	**up to 1 year**	**more than 1 year**
From revenue recognition over time	659	25	676	41
From development work	508	786	500	654
	1,167	**811**	**1,176**	**695**

18 — Other current and non-current assets

T34

in millions of euros

	2024		2023	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Prepaid expenses	266	95	279	101
Receivables from tax authorities (without income tax receivables)	1,849	65	1,788	64
Deferred consideration to customers	112	282	108	331
Sundry other assets	383	746	453	512
	2,610	**1,188**	**2,628**	**1,008**

The item "sundry other assets" contains costs to fulfill a contract totaling EUR 413 million (previous year: EUR 232 million). No amortization or impairment losses were recognized on capitalized costs to fulfill a contract either in the reporting year or in the previous year.

19 — Inventories

Inventories include raw materials, consumables, and supplies; work in process, finished goods, and merchandise; and prepayments. Inventories are stated at purchase cost or cost of conversion using the average cost method, or at net realizable value if lower. In addition to direct cost, cost of conversion includes an allocable portion of materials and production overheads as well as production-related depreciation that can be directly allocated to the production process. Appropriate allowance is made for risks of slow-moving goods or obsolescence associated with holding and selling inventories.

In the Mobility business sector, development cost incurred for research and development work separately commissioned and separately charged is recognized as work in process under inventories until the date when control is transferred (revenue recognition at a point in time), and not as research and development cost through profit or loss. This development work in process is generally measured on the same basis as all other work in process, except that no allowances for slow-moving goods or obsolescence are applied.

Inventories break down as follows:

T35

in millions of euros

	2024	2023
Raw materials, consumables, and supplies	6,028	5,879
Work in process	3,727	3,377
Finished goods and merchandise	5,833	5,842
Prepayments	86	86
	15,674	**15,184**

In the reporting year, the change in impairment losses of EUR 120 million was recognized as income in profit or loss (previous year: expense of EUR 31 million). No inventories were pledged as collateral.

20 — Property, plant, and equipment

Property, plant, and equipment are measured at cost less depreciation and, if necessary, impairment losses. Depreciation is charged on a straight-line basis over the economic useful life.

Depreciation is based on the following ranges of useful lives:

T36

	Useful life
Buildings	10 – 50 years
Plant and equipment	8 – 11 years
Other equipment, fixtures, and furniture	3 – 25 years

In accordance with IAS 36 *Impairment of Assets*, impairment losses are recorded on property, plant, and equipment if their recoverable amount has fallen below their carrying amount. Impairment losses are reversed if the reasons for the impairment loss from previous years no longer apply. Repair costs are recognized in the income statement.

In accordance with IAS 23 *Borrowing Costs*, **borrowing costs** are capitalized if they are directly attributable to the acquisition, construction, or production of a qualifying asset. All other borrowing costs are expensed in the period in which they are incurred. Write-downs on capitalized borrowing costs are reported in cost of sales. In the reporting year, borrowing costs of EUR 17 million (previous year: EUR 15 million) were capitalized. The underlying borrowing rate is 3.5 percent (previous year: 3.0 percent).

Government grants are recognized pursuant to IAS 20 only if it is sufficiently certain that the assistance will be granted and the conditions attached to the assistance are satisfied. Grants related to assets are deducted in order to calculate the carrying amount of the asset.

T 37

in millions of euros

	Land, buildings belonging to operating assets	Investment property	Plant and equipment	Other equipment, fixtures, and furniture, leased assets	Prepayments and assets under construction	Total
Gross values 1/1/2023	13,403	29	30,434	13,842	3,306	61,014
Changes in consolidated group	86		167	37	14	304
Additions	213		1,193	854	3,239	5,499
Reclassifications	184	8	1,419	497	–2,108	
Disposals	–134	–1	–1,316	–704	–48	–2,203
Exchange-rate differences	–198		–545	–199	–51	–993
Assets held for sale	–89		–65	–27	–1	–182
Gross values 12/31/2023	13,465	36	31,287	14,300	4,351	63,439
Depreciation 1/1/2023	5,733	11	21,563	10,677	16	38,000
Changes in consolidated group	10		66	25	4	105
Additions	368		1,886	1,158	9	3,421
Reclassifications	–10	4	13	–5	–2	
Disposals	–91		–1,097	–667		–1,855
Write-ups	–39		–19	–4	–1	–63
Exchange-rate differences	–90		–365	–169		–624
Assets held for sale	–68		–65	–27	–1	–161
Depreciation 12/31/2023	5,813	15	21,982	10,988	25	38,823
Carrying amounts 12/31/2023	7,652	21	9,305	3,312	4,326	24,616

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T37

in millions of euros

	Land, buildings belonging to operating assets	Investment property	Plant and equipment	Other equipment, fixtures, and furniture, leased assets	Prepayments and assets under construction	Total
Gross values 1/1/2024	**13,465**	**36**	**31,287**	**14,300**	**4,351**	**63,439**
Changes in consolidated group	52		0	−10	6	48
Additions	349		1,113	810	2,850	5,122
Reclassifications	708	−1	1,482	547	−2,736	
Disposals	−93		−1,137	−760	−142	−2,132
Exchange-rate differences	127	1	826	170	70	1,194
Assets held for sale	−75		−88	−87	−14	−264
Gross values 12/31/2024	**14,533**	**36**	**33,483**	**14,970**	**4,385**	**67,407**
Depreciation 1/1/2024	**5,813**	**15**	**21,982**	**10,988**	**25**	**38,823**
Changes in consolidated group	51		7	−21	8	45
Additions	429		2,023	1,250	33	3,735
Reclassifications	2		3	5	−10	
Disposals	−46		−957	−710		−1,713
Exchange-rate differences	57		572	117		746
Assets held for sale	−38		−55	−75		−168
Depreciation 12/31/2024	**6,268**	**15**	**23,575**	**11,554**	**56**	**41,468**
Carrying amounts 12/31/2024	**8,265**	**21**	**9,908**	**3,416**	**4,329**	**25,939**

The depreciation charge for the reporting year contains the following impairment losses:

- Land and buildings: EUR 37 million (previous year: EUR 3 million),
- Plant and equipment: EUR 34 million (previous year: EUR 1 million),
- Other equipment, furniture, and fixtures, assets under construction: EUR 75 million (previous year: EUR 2 million).

The impairment losses of the reporting year contain an amount of EUR 94 million attributable to plant and equipment, to other equipment, fixtures, and furniture, as well as to assets under construction of the Power Solutions division (Mobility business sector). The impairment losses were necessary due to fundamental changes in the market.

The corresponding expenses are recognized in functional costs.

Purchase commitments for items of property, plant, and equipment amounted to EUR 903 million (previous year: EUR 1,489 million); there were no restrictions on title in either the reporting year or the previous year. Government grants for assets of EUR 31 million (previous year: EUR 58 million) were deducted from the additions in the reporting year.

Investment property comprises rented land and buildings which were measured at depreciated cost in accordance with IAS 40 *Investment Property*. Measured at fair value, the portfolio comes to EUR 30 million (previous year: EUR 29 million). The fair values were calculated at corporate headquarters by the competent specialist department. The residential property in Germany and Asia allocated to level 3 of the fair-value hierarchy pursuant to IFRS 13 *Fair Value Measurement* is measured using the discounted earnings or comparative method based on the ImmoWertV [*Verordnung über die Grundsätze für die Ermittlung der Verkehrswerte von Grundstücken*: Ordinance on principles to assess the market value of land] and taking the current fabric and market values of the individual properties into account. Rental income from investment property came to EUR 5 million (previous year: EUR 5 million), maintenance expenses totaled EUR 2 million (previous year: EUR 2 million).

21 — Intangible assets

Acquired and internally generated intangible assets are recognized pursuant to IAS 38 *Intangible Assets* if a future economic benefit will flow to the entity from the use of the asset and the cost of the asset can be reliably determined. These assets are generally carried at cost and amortized using the straight-line method over their economic useful life. The useful life of acquired and internally generated intangible assets is generally four years. The useful life of intangible assets recognized in the context of business combinations is generally between ten and twenty years, in exceptional cases up to fifty years.

Goodwill is tested annually for impairment. Intangible assets subject to wear and tear are only tested for impairment if there is an indication that they may be impaired. Impairment losses are recorded in accordance with IAS 36 if the recoverable amount of the asset concerned has fallen below its carrying amount. Impairment losses are reversed if the reasons for the impairment loss from previous years no longer apply.

T38

in millions of euros

	Acquired intangible assets (without goodwill)	Acquired goodwill	Internally generated intangible assets	Total
Gross values 1/1/2023	9,684	6,759	1,747	18,190
Changes in consolidated group	501	721	5	1,227
Additions	335		285	620
Disposals	–138	–3	–401	–542
Exchange-rate differences	–138	–54	1	–191
Assets held for sale				
Gross values 12/31/2023	**10,244**	**7,423**	**1,637**	**19,304**
Amortization 1/1/2023	**6,158**	**807**	**971**	**7,936**
Changes in consolidated group	7		1	8
Additions	710		239	949
Disposals	–144		–401	–545
Exchange-rate differences	–99	–1	1	–99
Assets held for sale				
Amortization 12/31/2023	**6,632**	**806**	**811**	**8,249**
Carrying amounts 12/31/2023	**3,612**	**6,617**	**826**	**11,055**

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T38

in millions of euros

	Acquired intangible assets (without goodwill)	Acquired goodwill	Internally generated intangible assets	Total
Gross values 1/1/2024	**10,244**	**7,423**	**1,637**	**19,304**
Changes in consolidated group	–6	85	–2	77
Additions	373		258	631
Disposals	–357	–13	–284	–654
Exchange-rate differences	161	114		275
Assets held for sale	–105	–316	–57	–478
Gross values 12/31/2024	**10,310**	**7,293**	**1,552**	**19,155**
Amortization 1/1/2024	**6,632**	**806**	**811**	**8,249**
Changes in consolidated group	–8		–2	–10
Additions	685		337	1,022
Disposals	–338	–13	–281	–632
Exchange-rate differences	92	1		93
Assets held for sale	–99		–20	–119
Amortization 12/31/2024	**6,964**	**794**	**845**	**8,603**
Carrying amounts 12/31/2024	**3,346**	**6,499**	**707**	**10,552**

Amortization of internally generated and acquired intangible assets is recognized in functional costs.

The amortization charge for the reporting year contains the following impairment losses:

- Acquired intangible assets (without goodwill): EUR 18 million (previous year: EUR 0 million),
- Internally generated intangible assets: EUR 65 million (previous year: EUR 1 million).

The impairment losses recognized on internally generated intangible assets relate to capitalized development projects and are attributable to the Mobility business sector. They are recognized in research and development cost. The impairment losses were charged because an economic benefit was no longer expected.

Goodwill from business combinations represents the difference between the purchase price on the one hand and the proportionate share of equity at acquisition-date fair value on the other. Goodwill is allocated to the divisions (cash-generating units) that are expected to benefit from the synergies of the business combination and is subjected to an annual impairment test. In accordance with the requirements of IAS 36, an impairment loss is recorded when the recoverable amount is below the carrying amount of the net assets of a cash-generating unit (including the goodwill allocated to it). An asset's recoverable amount is the higher of its fair value less costs of disposal and its value in use. The recoverable amount for all cash-generating units is determined based on fair value less costs to sell, which is derived from the future cash flows. Fair value is largely determined by the present value of the perpetual annuity, which in turn is influenced above all by the applicable discount rate and the growth rate assumed. This is based above all on a risk-free interest rate, a market-risk premium, as well as business sector-specific beta factors and leverage ratios. Fair value less costs to sell is assigned to level 3 of the fair value hierarchy in accordance with IFRS 13. The cash flows are determined by reference to business plans with a planning period of five years in most cases and based on the medium-term planning approved by management. Planning reflects expectations concerning future market shares, growth in the respective markets, technological change, and the profitability of products and services. It is based on past experience and the group's internal assessments as well as market studies, if available. In some cases, the planning horizon was extended to ten years in order to take account of a slower uptake of technologies of future importance relating to areas such as electromobility, automated driving, and new electrical and electronic architectures. The business plans are used to derive the factors relevant for determining future cash flows, such as EBIT, change in net working capital, and planned capital expenditure. Cash flows after the detailed planning period are determined by reference to an expected long-term growth rate.

An annual rate of sales growth of 5 percent has been set as a target in the Mobility business sector for the period until 2030. The growth target was reduced by one percentage point year on year to account for both the adjusted expectations regarding global vehicle production and the expected delay in the onset of technologies of future importance relating in particular to electromobility, automated driving, new electrical and electronic architectures, and hydrogen. These technologies are taking longer than previously expected to become established in the European and North American markets. The changes resulting from the expected delays have been taken into account in the business plans.

The economic effects, including particularly the steeper than expected decline in the construction and machinery sectors in the main markets of Europe, North America, and China, have been taken into account in the business plans in the Industrial Technology business sector. No adjustments have been made to the medium-term expectations, despite the economic downturn in the reporting year.

The growth rate in particular also remained unchanged compared with the previous year for all business sectors in light of the circumstances described above.

The parameters used in impairment testing are presented in the following table:

T39

Percentage figures

	Mobility		Industrial Technology		Consumer Goods		Energy and Building Technology	
	2024	2023	2024	2023	2024	2023	2024	2023
Growth rate	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
After-tax discount rate	9.9	10.7	9.4	10.4	8.7	9.6	9.4	10.0

A risk-free interest rate of 2.5 percent (previous year: 2.8 percent) and a market-risk premium of 6.5 percent (previous year: 6.5 percent) are assumed. The standard tax rate used is 30 percent (previous year: 30 percent).

In both the reporting year and the previous year, the annual impairment test did not give rise to any need to recognize an impairment loss on goodwill.

The sensitivity analysis of the cash-generating units to which goodwill is allocated considered the following assumed changes: an increase in the after-tax discount rate of 1 percentage point, a decrease in EBIT of 10 percent, and a reduction in the growth rate of 0.5 percentage points. The change in the discount rate or EBIT would have the effects shown in the table below on the goodwill allocated to the divisions:

T40

in millions of euros

Division	Reportable segment	10 percent decrease in EBIT	1 percentage-point increase in the after-tax discount rate
Electrified Motion	Mobility	–72	–72
Mobility Electronics	Mobility	–136	–136
Drive and Control Technology	Industrial Technology	–226	–299
Building Technologies	Energy and Building Technology	–7	–30

A reduction in the growth rate of 0.5 percentage points would not have resulted in an impairment loss.

Goodwill of EUR 6,499 million (previous year: EUR 6,617 million) is attributable to the divisions (cash-generating units) as follows:

T41

in millions of euros

Division	Reportable segment	2024	2023
Electrified Motion (formerly Electrical Drives)	Mobility	72	74
Mobility Aftermarket (formerly Automotive Aftermarket)	Mobility	378	363
Mobility Electronics (formerly Automotive Electronics)	Mobility	136	122
Power Solutions (formerly Powertrain Solutions)	Mobility	364	355
Cross-Domain Computing Solutions	Mobility	131	126
Drive and Control Technology	Industrial Technology	2,557	2,504
Power Tools	Consumer Goods	437	431
BSH Hausgeräte GmbH	Consumer Goods	548	548
Building Technologies	Energy and Building Technology	633	883
Home Comfort	Energy and Building Technology	1,021	993
Bosch Global Service Solutions	Energy and Building Technology	143	145
Other		79	73
		6,499	**6,617**

On January 1, 2024, a reorganization took effect in the Mobility (until December 31, 2023: Mobility Solutions) business sector. As part of this reorganization, the divisions assigned to the business sector were renamed and, in some cases, restructured. The previous year's figures in the table have been adjusted to reflect the new structure. The reorganization resulted in only immaterial changes in the allocation of goodwill to the divisions.

The changes in goodwill are attributable to business combinations, to currency effects, and to the separate disclosure in accordance with IFRS 5 in the reporting year. Further information about entities acquired is contained in the section on business combinations in note 6 "Consolidation."

22 — Trade payables

T42

in millions of euros

	2024	2023
Trade payables	13,129	12,190
Notes payable	69	15
	13,198	**12,205**

With two partner banks, Bosch offers a worldwide reverse factoring program that is open to all Bosch suppliers. Under this program, the banks handle payment processing for Bosch and settle trade payables to participating suppliers. When a supplier declares its participation in the reverse factoring program, the bank concludes a bilateral agreement with the supplier in question and acquires the supplier's trade receivables due from Bosch. As consideration, the bank pays the supplier the invoice amount, reduced by a discount, before the original due date. As a result, Bosch's supply chain is strengthened. The companies of the Bosch Group settle the invoice amount with the bank on the originally agreed due date. The contracts between the bank and the suppliers are independent of the agreements between Bosch and the banks. Bosch has not issued any guarantees or similar commitments to the banks in connection with the reverse factoring program. Participation in the reverse factoring program that the banks offer to suppliers is not linked to specific payment terms or purchase volumes being agreed between Bosch and its suppliers. Due to the connection with the operating business, the corresponding payables are not reclassified to financial liabilities.

Trade payables include payables of EUR 815 million (previous year: EUR 647 million) for which suppliers of the Bosch Group have concluded reverse factoring agreements. Of this total amount, suppliers have already received payments of EUR 526 million.

The term to maturity of the payables for which reverse factoring agreements have been concluded ranges between 0 and 120 days. The term to maturity for comparable trade payables ranges between 0 and 180 days.

Trade payables due in more than one year came to EUR 102 million (previous year: EUR 56 million).

Further disclosures on trade payables are contained in the section on liquidity risks in note 31 "Capital and risk management."

23 — Other current and non-current financial liabilities

T43

in millions of euros

	2024		2023	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Bonds		6,870	749	6,797
Schuldschein loans, registered bonds	551	2,649		3,199
Liabilities to banks	233	207	194	118
Commercial papers	480		588	
Loans	96	28	76	33
Derivatives	308	49	304	30
Sundry other financial liabilities	809	240	861	222
	2,477	**10,043**	**2,772**	**10,399**

The line item “bonds” contains bonds with a nominal value of EUR 5.75 billion that bear interest between 2.625 percent and 4.375 percent as well as U.S. private placements with a nominal value of USD 1.2 billion that bear interest between 6.19 percent and 6.42 percent. The bonds’ average residual term to maturity is 9.77 years, compared with 9.59 years the previous year. The average residual term to maturity of the U.S. private placements is 7.38 years (previous year: 8.38 years).

The Bosch Group’s financial liabilities additionally include schuldschein loans and registered bonds with a nominal value of EUR 3.2 billion that bear interest between 1.028 percent and 4.893 percent. The average residual term to maturity of the schuldschein loans and registered bonds is 4.00 years, compared with 5.00 years the previous year.

The average interest rate for the bonds, schuldschein loans, and registered bonds is 3.35 percent after 3.36 percent in the previous year. The average interest rate for the U.S. private placements is 6.31 percent as in the previous year.

Sundry other financial liabilities also include financial liabilities to members of the workforce.

Further disclosures on other financial liabilities are contained in the section on liquidity risks in note 31 “Capital and risk management.”

24 — Contract liabilities

In accordance with IFRS 15, existing performance obligations to customers at contract level for which consideration has been or will be received must be recognized as contract liabilities.

Contract liabilities break down as follows:

T44

in millions of euros

	2024		2023	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
From revenue recognition over time	81	81	70	60
From development work	1,361	565	1,132	453
From other items	818	348	618	323
	2,260	**994**	**1,820**	**836**

Contract liabilities from development work include advance payments from customers for separately contracted research and development work. Contract liabilities from other items mainly include advance payments from customers for deliveries of goods and other outstanding performance obligations.

25 — Other liabilities, other provisions, contingent liabilities, and other obligations

Other liabilities

T45

in millions of euros

	2024		2023	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Accruals in the personnel area	2,978		3,143	
Accruals in the sales and marketing area	2,757		2,654	
Other accruals	1,373		1,280	
Tax liabilities (without income taxes)	928		927	
Deferred income	116	24	66	19
Sundry other liabilities	421	27	348	32
	8,573	**51**	**8,418**	**51**

The accruals in the personnel area mainly relate to vacation and salary entitlements as well as accrued special payments, while those in the sales and marketing area mainly pertain to bonus and commission payments.

Other provisions

Pursuant to IAS 37 *Provisions, Contingent Liabilities, and Contingent Assets*, other provisions are recognized if there is a current obligation from a past event which will probably lead to an outflow of resources embodying economic benefits in the future. In addition, it must be possible to reliably estimate the amount of this outflow. Other provisions are measured at full cost. Provisions due in more than one year are stated at their discounted settlement amount if the effect is material. Discounting is based on a current pre-tax market interest rate with matching maturities. Individual provisions in the personnel area are recognized and measured in accordance with IAS 19 *Employee Benefits*.

A breakdown of other provisions is presented in the following table:

T46

in millions of euros

	2024		2023	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Tax provisions (without income taxes)	35	30	22	21
Provisions in the personnel area	1,721	3,495	990	2,658
Provisions in the sales and marketing area	2,314	1,528	2,281	1,555
Sundry other provisions	877	1,099	1,883	1,090
	4,947	**6,152**	**5,176**	**5,324**

Provisions in the personnel area relate to obligations from personnel adjustment measures, long-service bonuses, early phased retirement, and other special benefits. Provisions in the sales and marketing area mainly take account of losses from delivery and warranty obligations, including risks from recall, exchange, and product-liability cases. Sundry other provisions are recognized, among other things, for risks from purchase commitments, environmental protection obligations, litigation risks, and legal risks.

Other provisions developed as follows:

T 47

in millions of euros

	Tax provisions (without income taxes)	Provisions in the personnel area	Provisions in the sales and marketing area	Sundry other provisions	Total
1/1/2024	43	3,648	3,836	2,973	10,500
Changes in consolidated group	1	18	5	4	28
Amounts used	–10	–799	–1,209	–531	–2,549
Amounts reversed	–2	–141	–595	–1,095	–1,833
Amounts added	37	2,395	1,717	656	4,805
Reversal of discount	0	96	46	9	151
Other changes	–4	–1	42	–40	–3
12/31/2024	65	5,216	3,842	1,976	11,099

The additions to provisions in the personnel area are mainly related to structural adjustment measures.

Other changes include effects from currency translation and reclassification to liabilities directly associated with assets held for sale.

In 2024, Bosch was again able to successfully conclude many proceedings relating to emissions from diesel vehicles. Only individual civil-law proceedings are still open. In the view of the board of management, the provisions for legal risks are a sufficient precautionary measure. In all these proceedings, Bosch is asserting its rights. In none of the proceedings concluded does Bosch acknowledge the validity of the claims brought forward, nor does it concede any liability.

Bosch is also engaged in compensation discussions with customers in respect of potential civil-law risks associated with closed antitrust proceedings. In the antitrust proceedings against BSH Hausgeräte in France, the French antitrust authority fined the French subsidiary of BSH Hausgeräte EUR 54 million on December 19, 2024. This decision is final.

On the basis of the facts relating to antitrust law and engine control units that were available when the consolidated financial statements were prepared and that the board of management has assessed, the board of management believes that sufficient precautions have been taken in the form of provisions for legal risks. For the various legal risks outlined above, provisions throughout the group amount to EUR 107 million (previous year: EUR 386 million).

The increased demand from the automotive industry and the high demand for semiconductors from the consumer electronics, IT, and communications sectors have in recent years caused bottlenecks in the global supply of semiconductors, which were exacerbated by disruptions of production at certain semiconductor manufacturers. The semiconductor bottlenecks had already been largely overcome in the course of 2023. The remaining commercial risk as of the reporting date is estimated to be declining and has been reflected accordingly in the consolidated financial statements. The commercial risk from further delivery obligations that may lead to compensation claims by customers has also been reflected in the consolidated financial statements. Applying IAS 37.92, no further disclosures are made.

Contingent liabilities

No provisions were recognized for the following contingent liabilities, as it is more likely than not that they will not occur:

T48

in millions of euros

	2024	2023
Contingent liabilities from guarantees	9	26
Contingent liabilities to tax authorities	76	48
Other contingent liabilities	11	14
	96	**88**

Other financial obligations

On July 23, 2024, the Bosch Group signed binding agreements to acquire the residential and light commercial heating, ventilation, and air-conditioning business from Johnson Controls and Hitachi. A purchase price of USD 8 billion was agreed. The closing of the transaction is subject to regulatory approvals and is planned for the third quarter of 2025. The business associated with the planned acquisition is allocated to the Home Comfort division (Energy and Building Technology business sector).

26 — Provisions for pensions and similar obligations

Pursuant to IAS 19 *Employee Benefits*, pension provisions are recognized using the projected unit credit method, taking estimated future increases in pensions and salaries into account, among other things. The expense from unwinding the discount on pension provisions is reported in the financial result under interest expenses.

The workforce of the companies included in the consolidated financial statements have certain rights in connection with the company pension scheme, depending on the conditions existing in the various countries. The benefit obligations include both currently claimed benefits and future benefit obligations of active associates or associates that have left the company.

The group's post-employment benefits include both defined contribution plans and defined benefit plans. In the case of defined contribution plans, the company pays contributions to state or private pension or insurance funds, either based on legal or contractual provisions or on a voluntary basis. The payment of these contributions does not give rise to any further payment obligations for the company. The defined benefit plans are funded or unfunded pension systems, as well as systems financed by insurance premiums.

Plan assets are invested based on the underlying defined benefits granted. Asset-liability studies are performed regularly for this purpose. The funding status is an important controlling variable in this context. Bosch continuously monitors it with the involvement of external experts. The investment strategy is derived from the corresponding governance guidelines. External asset managers are tasked with investing the assets.

The major defined benefit plans and post-employment medical-care plans operated by the Bosch Group are described below. These plans are subject to actuarial risks such as longevity risks, interest fluctuation risks, and capital market risks.

Germany

The company pension scheme ("Bosch pension plan"), introduced on January 1, 2006, is a defined contribution plan with salary-based contributions for accumulating retirement benefits. The Bosch pension plan is partly funded via an external pension fund, Bosch Pensionsfonds AG. The value of the assets of Bosch Pensionsfonds AG is offset against the pension obligation calculated using the projected unit credit method.

During the vesting period, employer and employee contributions are added to the assets of Bosch Pensionsfonds AG up to the tax-allowed ceiling in accordance with Sec. 3 No. 63 EStG [*Einkommensteuergesetz*: German Income Tax Act]. Contributions that exceed the tax-allowed ceiling are allocated to the unfunded obligation. Irrespective of whether contributions are allocated to Bosch Pensionsfonds AG or to direct commitments, the amount of the total entitlement develops in line with the performance of the Bosch pension fund. Entitlements to retirement benefits from commitments predating the introduction of the Bosch pension plan were transferred to the Bosch pension plan. For a constantly decreasing number of associates in the vesting period, a transitional arrangement guarantees a fixed rate of return on the defined benefit obligation.

On reaching retirement, or in the event of death, the earned benefits are paid out in the form of a lump-sum payment, in installments, or as a lifelong annuity, depending on the beneficiary's choice. For benefits triggered from January 1, 2016, onward, a fund-based retirement pension payment is made through Bosch Pensionsfonds AG. Owing to the low likelihood of claims being made against Bosch, the Bosch pension plan is treated as a defined contribution plan from the beginning of the pension phase.

Japan

The majority of the pension obligations are corporate pension plans (CPPs) in the form of funded career average pension plans. The benefits are based on salary-dependent contributions that are subject to interest. The rate of return depends on the structure of the pension plan.

There are also pension obligations from unfunded retirement allowance plans, the benefits of which are based on years of service and final salary.

All benefits are paid out as lump-sum payments on termination, death, or reaching retirement age. In some CPPs, associates can draw pension payments after a certain period of service.

Switzerland

Bosch has a funded pension plan. The Bosch pension plan is organized as a foundation. All the demographic and financial risks are borne by the foundation and regularly assessed by the foundation's board of trustees. In the case of a deficit, adjustments can be made such as a change in the pension factors or an increase in future contributions.

Pension plans are governed by the BVG [*Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge*: Swiss Pension Fund Law]. All benefits are defined by law, and the BVG stipulates the minimum benefits to be paid. The Bosch pension plan meets all legal requirements.

Both employer and employees make contributions to the Bosch pension plan. The benefits are paid out either as a lump sum or a lifelong annuity.

United Kingdom

Bosch finances a closed final-salary-based defined benefit plan. The pension obligation is funded via a trust association which is legally independent of Bosch, and which is operated in accordance with the law. The trustees are required to comply with the legal requirements.

The benefits earned are paid out on reaching retirement age, or in the event of occupational disability or death.

United States

Bosch operates the Bosch pension plan as well as other smaller defined benefit and funded pension plans. These were merged into one plan, the Bosch pension plan, at the end of 2023; at the same time, the termination of the Bosch pension plan was resolved and the corresponding process initiated. The termination is subject to approval by the U.S. Pension Benefit Guaranty Corporation. The termination process is expected to take between 18 and 24 months.

This does not affect unfunded pension plans that provide benefits for certain members of management or for members of the Bosch pension plan whose income lies above the statutory contribution assessment basis. The benefits depend on age, years of service, and salary, and are paid out on reaching retirement age or in the event of death. The pension plans are closed to new entrants.

In addition, Bosch finances unfunded plans for post-employment medical care. The level of benefits and the contributions for pensioners vary depending on location, age, and years of service. The benefits include healthcare benefits and life assurance contributions for pensioners and their spouses. The plans are also closed to new entrants.

Actuarial calculations and estimates are made for all defined benefit plans. Besides assumptions about life expectancy, and taking index-linked developments into account, the calculations are based on the following parameters, which vary from one country to another depending on local economic circumstances:

T49

Percentage figures

	Germany		Japan		Switzerland		United Kingdom		United States		Total	
	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023
Discount factor	3.6	3.6	1.8	1.3	1.0	1.4	5.5	4.5	5.4	4.7	3.8	3.7
Projected salaries	3.0	3.0	2.5	2.9	1.8	1.9	3.1	3.0	3.5	3.5	3.1	3.1
Projected pensions	2.0	2.2	n.a.	n.a.	0.0	0.0	2.9	2.8	n.a.	n.a.	1.9	2.0

n.a. Not applicable

To determine the discount factor in the euro zone, reference was made to corporate bonds rated AA by at least one leading rating agency as of the reporting date.

Projected salaries are future salary increases estimated on the basis of the economic situation and inflation, among other factors.

The pension trend (projected pensions) for inflation-linked pension payments is based on the development of country-specific, recognized indices.

The pension plans are measured using the current mortality tables as of December 31 of the fiscal year concerned. As of December 31, 2024, the following mortality tables are used:

T50

Germany	Heubeck 2018G mortality tables
Japan	2020 MHLW Standard Table
Switzerland	BVG 2020 with CMI_2016 improvement factors, LTR of 1.5 percent
United Kingdom	114 percent for males, 109 percent for females of S3PXA tables with 2023 CMI projections and 1.25 percent long-term improvement
United States	Pri-2012, projected by MP2021; aggregate for some plans, collar adjustments for others

As of December 31, 2023, the following mortality tables were used in the key countries:

T51

Germany	Heubeck 2018G mortality tables
Japan	2020 MHLW Standard Table
Switzerland	BVG 2020 with CMI_2016 improvement factors, LTR of 1.5 percent
United Kingdom	116 percent for males, 108 percent for females of S3PXA tables with 2019 CMI projections and 1.5 percent long-term improvement
United States	Pri-2012, projected by MP2021; aggregate for some plans, collar adjustments for others

For the key regions, the present value of the defined benefit obligation can be reconciled to the provision as follows:

T52

in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
12/31/2024					
Germany	15,286	–6,204	0	0	9,082
Japan	146	–236	0	114	24
Switzerland	990	–1,144	27	130	3
United Kingdom	224	–278	54	0	0
United States	1,461	–1,419	141	0	183
Other	649	–260	3	1	393
	18,756	**–9,541**	**225**	**245**	**9,685**
12/31/2023					
Germany	14,565	–5,523	0	0	9,042
Japan	165	–237	2	96	26
Switzerland	918	–1,111	27	169	3
United Kingdom	233	–289	56	0	0
United States	1,500	–1,415	106	0	191
Other	645	–249	7	1	404
	18,026	**–8,824**	**198**	**266**	**9,666**

The development of the net liability of the defined benefit obligation is presented in the following table:

T53

in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
1/1/2024	**18,026**	**–8,824**	**198**	**266**	**9,666**
Pension cost charged to profit or loss					
Current service cost	699				699
Past service cost	–19				–19
Gains/losses from plan settlements not related to past service cost	3				3
Net interest income/expense	656	–315		4	345
Other	0	8			8
	1,339	**–307**	**0**	**4**	**1,036**
Remeasurement					
Return on plan assets (excluding amounts included in net interest)		–237			–237
Gains/losses arising from changes in demographic assumptions	–4				–4
Gains/losses arising from changes in financial assumptions	–134				–134
Experience gains/losses	441				441
Other adjustments		0		–18	–18
	303	**–237**	**0**	**–18**	**48**

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T53

in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
Contributions					
Employer		−461			−461
Beneficiaries	18	−18			0
	18	**−479**	**0**	**0**	**−461**
Benefits paid[1]	−949	361			−588
Special events (plan settlement)	0	0			0
Transfers	−1	0			−1
Currency translation	58	−76		−7	−25
Changes in consolidated group	1	−2			−1
Changes in other assets			27		27
Disposal groups	−39	23			−16
12/31/2024	**18,756**	**−9,541**	**225**	**245**	**9,685**

1. Including EUR 87 million for transfer payments to Bosch Pensionsfonds at the beginning of the pension phase for payment of a fund-based retirement pension.

T54

in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
1/1/2023	**16,981**	**−8,026**	**177**	**252**	**9,384**
Pension cost charged to profit or loss					
Current service cost	694				694
Past service cost	0				0
Gains/losses from plan settlements not related to past service cost	−1				−1
Net interest income/expense	693	−322		5	376
Other	0	5			5
	1,386	**−317**	**0**	**5**	**1,074**
Remeasurement					
Return on plan assets (excluding amounts included in net interest)		−365			−365
Gains/losses arising from changes in demographic assumptions	1				1
Gains/losses arising from changes in financial assumptions	374				374
Experience gains/losses	269				269
Other adjustments		0		8	8
	644	**−365**	**0**	**8**	**287**

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T54

in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
Contributions					
Employer		−448			−448
Beneficiaries	17	−17			0
	17	**−465**	**0**	**0**	**−448**
Benefits paid[1]	−941	341			−600
Special events (plan settlement)	0	0			0
Transfers	0	0			0
Currency translation	−56	10		1	−45
Changes in consolidated group	4	−2			2
Changes in other assets			21		21
Disposal groups	−9	0			−9
12/31/2023	**18,026**	**−8,824**	**198**	**266**	**9,666**

1. Including EUR 97 million for transfer payments to Bosch Pensionsfonds at the beginning of the pension phase for payment of a fund-based retirement pension.

The plan assets comprise the following components:

T55

Percentage figures

	Germany		Japan		Switzerland		United Kingdom		United States	
	2024	2023	**2024**	2023	**2024**	2023	**2024**	2023	**2024**	2023
Cash and cash equivalents	**2**	2	**1**	0	**1**	1	**6**	5	**19**	2
Equity instruments	**56**	50	**28**	30	**29**	27	**0**	0	**0**	0
of which Europe	62	63	8	10	41	43	0	0	0	0
of which North America	18	17	42	39	52	38	0	0	0	0
of which Asia Pacific	12	12	50	51	7	6	0	0	0	0
of which emerging markets	7	7	0	0	0	12	0	0	0	0
of which other	1	1	0	0	0	1	0	0	0	0
Debt instruments	**38**	44	**64**	65	**27**	28	**91**	92	**81**	98
of which government bonds	27	26	74	75	11	21	53	46	56	28
of which corporate bonds	72	73	22	22	89	77	47	54	44	71
of which other debt instruments	1	1	4	3	0	2	0	0	0	1
Property	**4**	3	**0**	0	**33**	34	**0**	0	**0**	0
of which owner-occupied	97	85	0	0	0	0	0	0	0	0
of which non-owner-occupied	3	15	0	0	100	100	0	0	0	0
Insurance	**0**	0	**0**	5	**0**	0	**3**	3	**0**	0
Other	**0**	1	**7**	0	**10**	10	**0**	0	**0**	0

Quoted prices in an active market are available for equity instruments. For the other classes of assets, there are in most cases no quoted prices in an active market. The “other” line item mainly contains investments in infrastructure facilities.

Duration of the pension obligation

The weighted duration of the pension obligation as of December 31, 2024, is 10.4 years (previous year: 10.4 years).

Estimated maturities of the undiscounted estimated pension payments

T 56

in millions of euros

	2024	2023
Less than one year	1,001	923
Between one and two years	1,060	970
Between two and three years	1,107	1,046
	3,168	**2,939**

The estimated contributions to plan assets in the fiscal year 2025 amount to EUR 466 million (previous year: EUR 473 million).

The estimated benefits to be paid directly in the fiscal year 2025 amount to EUR 621 million (previous year: EUR 575 million).

Sensitivity of the defined benefit obligation in relation to actuarial parameters

T 57

Percentage figures

	Germany		Japan		Switzerland		United Kingdom		United States	
	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023
Discount factor										
Increase of 0.25 percentage points	–1.1	–1.2	–1.7	–1.8	–2.9	–2.7	–2.6	–3.2	–2.2	–2.4
Decrease of 0.25 percentage points	1.2	1.2	1.7	1.9	3.0	2.9	2.7	3.3	2.3	2.5
Projected salaries										
Increase of 0.25 percentage points	n. a.	n. a.	0.8	0.8	0.2	0.2	0.2	0.2	0.0	0.0
Decrease of 0.25 percentage points	n. a.	n. a.	–0.7	–0.7	–0.2	–0.2	–0.2	–0.2	0.0	0.0
Projected pensions										
Increase of 0.25 percentage points	0.6	0.6	n. a.	n. a.	2.6	2.6	1.9	1.9	n. a.	n. a.
Decrease of 0.25 percentage points	–0.6	–0.6	n. a.	n. a.	–2.5	–2.5	–1.7	–1.7	n. a.	n. a.
Life expectancy										
Increase by one year	1.9	1.9	n. a.	n. a.	3.1	3.1	4.9	4.9	3.1	3.1

n. a. Not applicable

The sensitivity analyses of the defined benefit obligation for the main actuarial assumptions are based on the same methods as those used for the post-employment benefit obligations presented in the consolidated statement of financial position (projected unit credit method). In each case, one assumption was changed and the other assumptions were left unchanged. This means that possible correlation effects were not considered.

Defined contribution plans

Defined contribution plans mainly include employee contributions to statutory pension schemes and employer contributions for the company's defined contribution plans. Expenses for defined contribution plans amounted to EUR 1,875 million (previous year: EUR 1,718 million).

27 — Equity

The issued capital of EUR 1,200 million and capital reserve of EUR 4,557 million correspond with the items of the statement of financial position disclosed by Robert Bosch GmbH. The issued capital is divided between the shareholders as follows:

Shareholders of Robert Bosch GmbH

T58

Percentage figures

	Share-holding	Voting rights
Robert Bosch Stiftung GmbH	93.99	
Robert Bosch Industrietreuhand KG	0.01	93.17
ERBO II GmbH	5.36	
Robert Bosch Familientreuhand KG	0.00	6.83
Robert Bosch GmbH (treasury stock)	0.64	

Retained earnings contain undistributed profits generated in the past by the entities included in the consolidated financial statements, as well as accumulated other comprehensive income. The amount recognized outside profit or loss in the reporting year under financial instruments increases the revaluation reserve from equity instruments by EUR 209 million (previous year: increase of EUR 34 million) and the revaluation reserve from debt instruments by EUR 17 million (previous year: increase of EUR 384 million). As in the previous year, the other changes reported in the consolidated statement of changes in equity in the reporting year mainly comprise effects from the disposal of equity instruments.

Retained earnings also include treasury stock of EUR 62 million (previous year: EUR 62 million).

The board of management proposes to distribute a dividend of EUR 186 million.

Non-controlling interests

The non-controlling interests in the equity of the consolidated subsidiaries mainly comprise the non-controlling interests in United Automotive Electronic Systems Co., Ltd., Shanghai, Bosch Powertrain Systems Co., Ltd., Wuxi, Bosch HUAYU Steering Systems Group, Shanghai, all China, and Bosch Ltd., Bengaluru, India. Condensed financial information on the above entities is included in note 6 "Consolidation."

Other notes

28 — Statement of cash flows

The statement of cash flows presents cash inflows and outflows from operating activities, investing activities, and financing activities.

Cash flows are derived indirectly, starting from EBIT. EBIT is earnings before the financial result and before tax. Cash flows from operating activities are adjusted for non-cash expenses and income (mainly depreciation and amortization of non-current assets) and take into account changes in working capital as well as cash-effective financial expenses, financial income, and taxes.

Investing activities mainly comprise additions to non-current assets including leased products, the acquisition and disposal of subsidiaries, and changes in securities and time deposits with a term to maturity of more than 90 days. Within the changes in securities and time deposits, cash inflows and outflows are netted, as these are essentially revolving asset reallocations. In the previous year, the investment of financial liabilities taken out as time deposits with a term of more than 90 days and in money market funds in particular had led to a cash outflow from investing activities.

Financing activities combine the cash inflows and outflows from borrowing and repayment of financial liabilities, from the repayment of lease liabilities, and from dividends.

Changes in items of the statement of financial position contained in the statement of cash flows cannot be directly derived from the statement of financial position, as they have been adjusted for exchange-rate effects and changes in the consolidated group.

Interest and dividends received contains interest received of EUR 674 million (previous year: EUR 677 million) and income received from equity investments of EUR 53 million (previous year: EUR 24 million).

The liquidity reported in the statement of cash flows includes cash and cash equivalents of EUR 8,223 million (previous year: EUR 7,443 million). In the reporting year, cash and cash equivalents of EUR 95 million (previous year: EUR 103 million) were subject to restrictions, including EUR 70 million (previous year: EUR 86 million) in Russia and in Ukraine as a result of restrictions on capital movements in the two countries.

Changes in liabilities from financing activities during the reporting year and the previous year are presented in the following table:

T59

in millions of euros

		Cash-effective changes		Non-cash changes			
	1/1/2024	Borrowing	Repayment	Changes in consolidated group	Exchange rate-related changes	Other changes	12/31/2024
Bonds	7,546		–750		69	5	6,870
Schuldschein loans, registered bonds	3,199					1	3,200
Other financial liabilities	900	782	–788	5	53	–21	931
Lease liabilities	2,351		–675	–14	30	1,092	2,784
	13,996	**782**	**–2,213**	**–9**	**152**	**1,077**	**13,785**

T60

in millions of euros

		Cash-effective changes		Non-cash changes			
	1/1/2023	Borrowing	Repayment	Changes in consolidated group	Exchange rate-related changes	Other changes	12/31/2023
Bonds	1,992	5,576			–24	2	7,546
Schuldschein loans, registered bonds	3,698		–500			1	3,199
Other financial liabilities	732	1,565	–1,387	88	–27	–71	900
Lease liabilities	2,167		–588	32	–27	767	2,351
	8,589	**7,141**	**–2,475**	**120**	**–78**	**699**	**13,996**

The other changes in lease liabilities mainly comprise the effects of new or amended lease agreements.

29 — Segment reporting

Disclosures on operating segments

T61

in millions of euros

	Mobility		Industrial Technology		Consumer Goods	
	2024	2023	2024	2023	2024	2023
External sales revenue	55,793	56,171	6,450	7,467	20,264	19,943
Intersegment sales revenue	245	205	875	806	314	468
Total sales revenue	**56,038**	**56,376**	**7,325**	**8,273**	**20,578**	**20,411**
EBIT from operations	2,147	2,518	78	679	704	896
of which: result from entities included at equity	9	10				
Amortization and depreciation of intangible assets, right-of-use assets, and property, plant, and equipment	3,593	3,408	274	297	1,017	1,023
Impairment losses on intangible assets, right-of-use assets, and property, plant, and equipment	183				10	6
Non-cash expenses (without depreciation and amortization)	3,970	3,089	357	225	1,017	766
Non-cash income	1,643	1,725	54	80	168	275
Additions to property, plant, and equipment	3,740	3,799	292	410	736	839
Net working capital	15,596	15,567	2,482	2,795	5,548	6,040

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T61

in millions of euros

	Energy and Building Technology		Other		Consolidation		Group	
	2024	2023	**2024**	2023	**2024**	2023	**2024**	2023
External sales revenue	7,478	7,563	325	335			90,310	91,479
Intersegment sales revenue	414	489	127	201	–1,975	–2,169		
Total sales revenue	**7,892**	**8,052**	**452**	**536**	**–1,975**	**–2,169**	**90,310**	**91,479**
EBIT from operations	370	696	–178	76			3,121	4,865
of which: result from entities included at equity	–11	–4	5				3	6
Amortization and depreciation of intangible assets, right-of-use assets, and property, plant, and equipment	283	216	58	63			5,225	5,007
Impairment losses on intangible assets, right-of-use assets, and property, plant, and equipment	3	2	34				230	8
Non-cash expenses (without depreciation and amortization)	324	381	77	53			5,745	4,514
Non-cash income	88	134	22	36			1,975	2,250
Additions to property, plant, and equipment	173	180	181	271			5,122	5,499
Net working capital	1,586	1,730	–98	–196			25,114	25,936

Based on the internal management and reporting structure, the Bosch Group is divided into four business sectors. These are the reportable segments and result from the combination of divisions in accordance with the criteria set forth in IFRS 8 *Operating Segments*. Business operations within the business sectors are the responsibility of the divisions.

The Mobility business sector mainly comprises the following areas of business: powertrain products and solutions as well as systems for active and passive driving safety, assistance and convenience functions, technology for user-friendly infotainment and vehicle-to-vehicle and vehicle-to-infrastructure communication, concepts, technology, and services for the automotive aftermarket, steering systems for passenger cars and commercial vehicles, connected mobility services, as well as activities in electromobility, control devices, sensor technology, and semiconductors, and a wide-ranging portfolio for e-bikes.

The Industrial Technology business sector combines the following activities:

- Automation technology (technologies for drives, controls, and motion)
- Industry 4.0 software activities and projects

The operations of the Consumer Goods business sector comprise the production and distribution of:

- Power tools (tools for professionals, industry, and DIY, accessories, garden tools, as well as industrial tools and measuring equipment)
- Household appliances (appliances for cooking, washing-up, laundry, drying, cooling, freezing, floor care, etc.)

The Energy and Building Technology business sector comprises the following activities:

- Security systems (video surveillance, public address systems, evacuation systems, and access control)
- Solutions and services for building security, energy efficiency, and building automation
- Home comfort (heating, cooling, and well-being in buildings)
- Service solutions (business solutions for internal and external customers, shared services for the Bosch Group)

Operating segments which are not reportable are combined and presented in the category “Other.” This mainly relates to financial, holding, and other service companies as well as operations that are not allocated to a business sector.

The divisions allocated to a business sector are aggregated into a single reportable segment, as they have similar economic characteristics. Above all, the economic performance of all the divisions aggregated in one segment depends to a similar extent on the same core markets (automotive production, capital goods, consumer goods, and energy and building technology).

Line items allocable to financing activities are not included in segment reporting as they are not part of the reported earnings.

The main controlling variables reported to the board of management are sales-revenue growth, EBIT from operations as a percentage of sales revenue (EBIT adjusted for negative effects on earnings from purchase price allocations in the fiscal year 2015), and, as an indicator of the capital that is generally tied up in the short term, net working capital as a percentage of sales revenue. EBIT is earnings before the financial result and before tax. Net working capital is an average of inventories, trade receivables, and contract assets, in each case before valuation allowances, plus capitalized deferred consideration to customers and costs to fulfill a contract, less trade payables and contract liabilities.

Transfer prices between the operating segments are determined at arm's length.

The main items included in non-cash expenses are bad debt allowances, additions to provisions, as well as losses on the disposal of items of property, plant, and equipment, and of intangible assets.

The main items included in non-cash income are income from the reversal of provisions.

Reconciliation statements

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in millions of euros

	2024	2023
Sales revenue		
Sales revenue of reportable segments	91,833	93,112
Sales revenue of "Other"	452	536
Consolidation	−1,975	−2,169
Differences in the consolidated group	35	117
Group sales revenue	**90,345**	**91,596**
Earnings		
EBIT from operations of reportable segments	3,299	4,789
EBIT from operations of "Other"	−178	76
Adjustments from purchase price allocations	−325	−321
Differences in the consolidated group		−41
Financial income	3,547	3,980
Financial expenses	−3,615	−4,507
Profit before tax	**2,728**	**3,976**
Net working capital		
Net working capital of reportable segments	25,212	26,132
Net working capital of "Other"	−98	−196
Reconciliation of average values to carrying amounts as of 12/31	−3,179	−3,616
Valuation allowances on segment assets	−2,231	−2,308
Net working capital attributable to disposal groups	−164	−69
Group net working capital	**19,540**	**19,943**

In the reconciliation to the group's net working capital, individual figures for the previous year were adjusted to the presentation in the reporting year.

Disclosures by key countries

T 63

in millions of euros

	Sales revenue by registered office of the customer		Non-current assets[1]	
	2024	2023	2024	2023
Europe	**44,497**	**46,769**	**24,446**	**23,902**
of which Germany	17,566	18,854	14,860	14,447
of which United Kingdom	3,729	3,868	735	740
of which France	2,831	3,087	403	397
of which Italy	2,389	2,643	556	567
Americas	**17,774**	**16,952**	**6,049**	**5,756**
of which United States	12,850	12,402	4,693	4,448
Asia	**26,718**	**26,622**	**8,506**	**8,103**
of which China	17,275	17,201	5,441	5,243
of which Japan	2,621	2,789	588	565
Other regions	**1,356**	**1,253**	**200**	**186**
	90,345	**91,596**	**39,201**	**37,947**

1. Non-current assets consist of intangible assets, right-of-use assets, and property, plant, and equipment.

The customer structure of the Bosch Group in the reporting year and in the previous year does not reveal any concentration on individual customers.

30 — Additional disclosures on financial instruments

In accordance with IAS 32 *Financial Instruments: Presentation*, a financial instrument is any contract that gives rise to a financial asset of one entity and to a financial liability or equity instrument of another entity.

Financial assets and financial liabilities are recognized in the statement of financial position when the Bosch Group becomes party to the contractual provisions of the financial instrument. For regular-way purchases or sales, however, the settlement date is the relevant date for initial recognition and for derecognition from the statement of financial position. On initial recognition, financial assets and financial liabilities are measured at fair value and classified in accordance with IFRS 9 *Financial Instruments*. Unless subsequent measurement is at fair value through profit or loss, directly attributable transaction costs are taken into account on initial recognition. The fair-value option pursuant to IFRS 9 is not exercised. Hedge accounting is not used in the Bosch Group.

On initial recognition, financial assets are classified either as at amortized cost (AC), at fair value through profit or loss (FVPL), or at fair value through other comprehensive income (FVOCI). The classification depends on the business model underlying the financial assets as well as the contractual cash flow characteristics of the asset. Classification is determined by

- whether the financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows (“hold” business model), whether the objective is achieved by both collecting contractual cash flows and selling financial assets (“hold and sell” business model), or solely by selling financial assets (“sell” business model), and
- whether the contractual cash flows are “solely payments of principal and interest” (SPPI).

The business model is determined on the basis of the Bosch Group’s business management. For this purpose, the financial instruments are grouped together by their underlying business model. The contractual cash flow characteristics are reviewed at the level of the individual financial instrument.

Financial assets whose cash flows are solely payments of principal and interest on the principal amount outstanding and held within the “hold” business model are measured at amortized cost (AC). These are trade receivables, cash and cash equivalents, bank balances, loan receivables, and sundry other financial assets. These assets are subsequently measured using the effective interest method; impairment gains and losses, or gains or losses from the derecognition of assets, are recognized in profit or loss.

If the group also intends to collect cash flows from selling financial assets (“hold and sell” business model), the financial assets are measured at fair value through other comprehensive income (with recycling, FVOCI wR). Gains and losses are recorded in other comprehensive income in this case. Cumulative changes in fair value are reclassified to profit or loss when the instruments are sold. Impairment losses are likewise reclassified from other comprehensive income to profit or loss. Interest income is recognized in profit or loss using the effective interest method. Most of the Bosch Group's interest-bearing securities are measured in this category.

Financial assets that do not satisfy the cash flow criterion owing to there not being solely payments of principal and interest on the principal amount outstanding are measured at fair value through profit or loss (FVPL). Changes in fair value and income from these assets are recognized immediately in profit or loss. This category mainly comprises interests in partnerships, shares in investment funds, certain interest-bearing securities, and derivatives with a positive fair value which are mainly used to limit currency, interest, and commodity risks in accordance with internal risk management.

The group may, at initial recognition, irrevocably designate equity instruments that are not held for trading as measured at fair value through other comprehensive income (no recycling, FVOCI nR) rather than as measured at fair value through profit or loss. In that case, all changes in value are recognized in other comprehensive income. Cumulative changes in value are not reclassified to profit or loss even when the financial asset is sold. Dividend income, however, is recognized in profit or loss. As this measurement method appropriately presents the net assets and results of operations, the Bosch Group has decided to apply this option to investments in corporations and to shares reported under securities.

With regard to financial assets (not including equity instruments) that are not measured at fair value through profit or loss, IFRS 9 requires loss allowances to be recognized for any expected credit losses. The extent to which expected losses are recognized is determined based on three stages that differ in terms of the extent to which the credit risk on financial assets has significantly increased since initial recognition. Stage 1 includes all financial assets whose credit risk has not increased significantly and whose outstanding payments are up to 30 days past due. For such assets, credit losses are recognized in relation to the probability of a default occurring over the next 12 months. If the borrower's credit risk has increased significantly, the financial instrument is allocated to stage 2, and loss allowances are recognized at an amount equal to the expected losses over the lifetime of the financial asset. A significant increase in credit risk is assumed when either agreed payments are more than 30 days past due or information is available about a deterioration in the borrower's financial situation. If there is additional evidence that the financial asset is credit-impaired, it is allocated to stage 3. Such evidence includes payments more than 90 days past due, observable data about significant financial difficulty of the borrower, a high probability that the borrower will enter bankruptcy, and significant changes in the issuer's technological, economic, regulatory, or market environment.

The simplified approach to impairment is used for trade receivables, contract assets, and lease receivables. Accordingly, a loss allowance is always recognized at the lifetime-expected credit losses irrespective of any changes in the credit risk since initial recognition of the financial asset. As a practical expedient, a loss allowance table is used in the Bosch Group for receivables that are not credit-impaired, which determines the expected losses over the remaining term as a flat-rate percentage in relation to the number of days past due. Historical probabilities of default are used as a basis, supplemented by forward-looking parameters of relevance for the credit risk. If there is any information available about financial difficulty of the borrower, the assets are analyzed individually and a loss allowance for credit-impaired receivables is recognized. According to internal group guidelines, the carrying amounts of receivables are generally adjusted via a loss allowance account. Loss allowances are not recognized if receivables are collateralized or credit insurance exists.

Financial liabilities are generally subsequently measured at amortized cost using the effective interest method. In the Bosch Group, this applies to trade payables, bonds, schuldschein loans, registered bonds, liabilities to banks, commercial papers, loan liabilities, and other financial liabilities. The main exception to this rule concerns financial liabilities held for trading, which are measured at fair value through profit or loss. In the Bosch Group, these are derivatives with a negative fair value.

When determining the fair value of financial assets and financial liabilities, the input factors of the valuation techniques pursuant to IFRS 13 are categorized as follows:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the accounting entity can access at the measurement date
- Level 2: Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly
- Level 3: Inputs that are not based on observable market data

The fair value of current financial assets and liabilities is assumed to correspond to their carrying amount.

Financial assets are derecognized when the rights to cash flows have expired, e.g. after completion of bankruptcy proceedings or after a court ruling. They are also derecognized when the Bosch Group transfers substantially all risks and rewards from a financial asset. Financial liabilities are derecognized when the obligations specified in the contract have been discharged or canceled, or when they have expired.

Financial assets and financial liabilities are offset and presented as a net amount in the statement of financial position when there is a legal right to offset and the group either intends to settle on a net basis, or when the asset and the liability are to be settled at the same time.

Net gain/loss by category

The table below presents the net gains and losses from financial instruments recognized in the income statement, classified by the categories defined in IFRS 9:

T64

in millions of euros

	2024	2023
Financial assets measured at amortized cost (AC)	467	382
Financial assets measured at fair value through other comprehensive income (FVOCI wR)	363	–79
Financial assets and financial liabilities measured at fair value through profit or loss (FVPL)	561	285
Equity instruments measured at fair value through other comprehensive income (FVOCI nR)	96	95
Financial liabilities measured at amortized cost (AC)	–894	–478

The net gain/loss from equity instruments measured at fair value through other comprehensive income includes dividend income. In all other categories, foreign-currency gains and losses as well as interest income and expenses are disclosed. The net gain/loss from financial assets and financial liabilities measured at fair value through profit or loss additionally includes the result from changes in the fair values of investments, securities, and derivatives. Moreover, the net gain/loss from financial assets measured at amortized cost discloses the gains/losses from the measurement of receivables and loans. The gain/loss from financial assets measured at fair value through other comprehensive income also includes the gains/losses from the release of the reserve from financial instruments in equity.

The dividend income of EUR 96 million (previous year: EUR 95 million) reported in net gains/losses from investments in equity instruments includes dividend income amounting to EUR 4 million (previous year: EUR 8 million) from equity instruments derecognized in the reporting year.

The measurement gains and losses from securities and equity investments recognized in other comprehensive income are presented in the statement of comprehensive income.

Carrying amounts and fair values by category

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Assets
in millions of euros

		2024		2023	
	Category pursuant to IFRS 9	Carrying amount	Fair value	Carrying amount	Fair value
Cash and cash equivalents	**AC**	**8,223**		**7,443**	
Trade receivables	**AC**	**17,536**		**17,081**	
Current other financial assets		**7,777**		**7,822**	
Securities	FVPL	3,932	3,932	3,606	3,606
	FVOCI wR	319	319	253	253
Bank balances	AC	2,417		3,301	
Loan receivables	AC	84		104	
Derivatives	FVPL	569	569	132	132
Receivables from finance leases	n.a.	36		37	
Sundry other financial assets	AC	420		389	
Non-current financial assets		**14,899**		**14,538**	
Securities	FVOCI nR	2,179	2,179	2,808	2,808
	FVOCI wR	4,715	4,715	4,529	4,529
	FVPL	5,085	5,085	4,654	4,654
Investments	FVPL	159	159	145	145
	FVOCI nR	2,073	2,073	1,848	1,848
	n.a.	122		130	
Bank balances	AC	29	29	65	65
Loan receivables	AC	19	19	14	14
Derivatives	FVPL	32	32	41	41
Receivables from finance leases	n.a.	150	150	146	146
Sundry other financial assets	AC	336	338	158	158

AC At amortized cost
FVPL At fair value through profit or loss
FVOCI wR At fair value through other comprehensive income, with recycling
FVOCI nR At fair value through other comprehensive income, no recycling
n.a. Not applicable

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Equity and liabilities
in millions of euros

		2024		2023	
	Category pursuant to IFRS 9	Carrying amount	Fair value	Carrying amount	Fair value
Trade payables	**AC**	**13,198**		**12,205**	
Current other financial liabilities		**2,477**		**2,772**	
Bonds	AC			749	
Schuldschein loans, registered bonds	AC	551			
Liabilities to banks	AC	233		194	
Commercial papers	AC	480		588	
Loans	AC	96		76	
Derivatives	FVPL	308	308	304	304
Sundry other financial liabilities	AC	809		861	
Non-current financial liabilities		**10,043**		**10,399**	
Bonds	AC	6,870	7,227	6,797	7,291
Schuldschein loans, registered bonds	AC	2,649	2,596	3,199	3,124
Liabilities to banks	AC	207	207	118	118
Loans	AC	28	29	33	33
Derivatives	FVPL	49	49	30	30
Sundry other financial liabilities	AC	240	240	222	222

AC At amortized cost
FVPL At fair value through profit or loss
FVOCI wR At fair value through other comprehensive income, with recycling
FVOCI nR At fair value through other comprehensive income, no recycling
n.a. Not applicable

The fair value of financial assets and liabilities measured at amortized cost is determined on the basis of prices provided by agencies offering pricing services or is determined by calculating present value using the applicable interest curves (level 2).

The carrying amounts of the financial assets and liabilities, classified by IFRS 9 measurement categories, are as follows:

T66

in millions of euros

	2024	2023
Financial assets measured at amortized cost (AC)	29,064	28,555
Financial assets measured at fair value through other comprehensive income (FVOCI wR)	5,034	4,782
Equity instruments measured at fair value through other comprehensive income (FVOCI nR)	4,252	4,656
Financial assets measured at fair value through profit or loss (FVPL)	9,777	8,578
Financial liabilities measured at fair value through profit or loss (FVPL)	357	334
Financial liabilities measured at amortized cost (AC)	25,361	25,042

The tables presented below show the fair values of financial assets and financial liabilities measured at fair value determined by using the fair value hierarchy in accordance with IFRS 13:

T 67

in millions of euros

		2024			
	Category pursuant to IFRS 9	**Level 1**[1]	**Level 2**[2]	**Level 3**[3]	**Total**
Financial assets					
Securities	FVPL	49	8,264	704	9,017
	FVOCI wR	3	5,031		5,034
	FVOCI nR	2,170	9		2,179
Investments	FVPL			159	159
	FVOCI nR	1,215		858	2,073
Derivatives	FVPL	4	597		601
Financial liabilities					
Derivatives	FVPL	4	353		357

1. Fair value is measured on the basis of quoted, unadjusted market prices in active markets.
2. Fair value is measured on the basis of market data such as share prices, exchange rates, or interest curves using market-based valuation techniques.
3. Fair value is measured on the basis of unobservable market data.

T68

in millions of euros

		2023			
	Category pursuant to IFRS 9	Level 1[1]	Level 2[2]	Level 3[3]	Total
Financial assets					
Securities	FVPL	42	7,656	562	8,260
	FVOCI wR	157	4,625		4,782
	FVOCI nR	2,806	2		2,808
Investments	FVPL			145	145
	FVOCI nR	972		876	1,848
Derivatives	FVPL	8	165		173
Financial liabilities					
Derivatives	FVPL	5	329		334

1. Fair value is measured on the basis of quoted, unadjusted market prices in active markets.
2. Fair value is measured on the basis of market data such as share prices, exchange rates, or interest curves using market-based valuation techniques.
3. Fair value is measured on the basis of unobservable market data.

Investments measured at fair value through other comprehensive income include the equity investments in ads-tec Energy Public Limited Company (fair value of EUR 156 million), in Hesai Group LLC (EUR 102 million; previous year: EUR 62 million), in Husqvarna AB (EUR 349 million; previous year: EUR 518 million), in Weifu High Technology Group Co., Ltd. (EUR 337 million; previous year: EUR 250 million), and in WeRide Inc. (EUR 141 million; previous year: EUR 48 million).

At the end of the fiscal year, items are reviewed to determine whether they need to be reclassified between individual levels of the fair-value hierarchy. In the reporting year, a small volume of securities measured at fair value through other comprehensive income were reclassified from level 1 to level 2, as they were no longer measured at their stock market price. There were no reclassifications in the previous year. The table presenting the changes in financial assets allocated to level 3 includes reclassifications relating to this level.

Equity investments measured at fair value through profit or loss and those measured at fair value through other comprehensive income are allocated to level 3. Various methods are used to determine the fair values, mainly based on price information from third parties and financing rounds carried out in the reporting year. In addition, in certain cases, cost is used as the best estimate of fair value.

Units in a closed fund are also allocated to level 3 (reported under securities). The fair value of the fund units is notified by the asset management firm; it is measured based on the fund's net asset value. The fair value is dependent on changes in the market value of the respective investments within the fund.

Changes during the reporting year and the previous year in financial assets allocated to level 3 are presented in the tables below:

T69

in millions of euros

	1/1/2024	Additions	Disposals	Reclassi-fications	Changes recognized in other comprehen-sive income	Changes recognized in profit or loss	Other changes	12/31/2024
Investments FVOCI nR	876	131	−57	−48	−49		5	858
Investments FVPL	145	12	−1			2	1	159
Securities FVPL	562	88				54		704

T70

in millions of euros

	1/1/2023	Additions	Disposals	Reclassi-fications	Changes recognized in other comprehen-sive income	Changes recognized in profit or loss	Other changes	12/31/2023
Investments FVOCI nR	987	82	−16	−11	−159		−7	876
Investments FVPL	164	9	−1			−25	−2	145
Securities FVPL	462	67				33		562

Changes recognized in profit or loss are presented in the financial result, while changes recognized in other comprehensive income are reported in the gains/losses on financial instruments within equity.

Due to the IPO of an entity, the Bosch Group's corresponding equity investment in the entity was reclassified from level 3 to level 1. In the previous year, an equity investment was reclassified from level 3 to level 1 due to that entity's IPO. Neither in the reporting year nor in the previous year were there any reclassifications of securities allocated to level 3.

31 — Capital and risk management

Capital management

The Bosch Group's goal is to achieve sustainable growth through innovation while maintaining its financial independence. To achieve this goal, it is necessary to maintain a high level of internal financing capability, along with unrestricted access to capital markets, which is ensured by a solid A rating at a minimum. Capital structure and other financial performance indicators, such as free cash flow, are tracked as part of financial planning. As of December 31, 2024, the Bosch Group's equity as a percentage of total assets was 44 percent (previous year: 44 percent). Depending on market circumstances, the volume required, and the preferred currency, the Bosch Group generally raises debt capital on capital markets in the form of bonds, schuldschein loans, registered bonds, and commercial paper programs. Bilateral and syndicated loan facilities with banks are also in place.

Hedging policy and financial derivatives

The business operations of the Bosch Group are impacted in particular by fluctuations in exchange and interest rates and additionally, on the procurement side, by commodity-price risks. Business policy aims to limit these risks by means of hedging. Hedging transactions are managed at corporate level.

Internal regulations and guidelines set down a mandatory framework and define the responsibilities relating to investment and hedging transactions. According to these regulations, derivatives may only be used in connection with business operations, financial investments, or financing transactions; speculative transactions are not allowed. Trader limits are an important component of the guidelines. Hedges are generally concluded via banks with good credit ratings from leading agencies and taking into account current risk assessments in financial markets. The creditworthiness of the Bosch Group's banking partners is closely monitored, and the risk mitigated by counterparty limits.

To reduce the credit risk of the bank, fixed-term deposits are in some cases also entered into as secured deposits in triparty repo transactions. In such cases, the bank provides predefined securities as collateral. The transaction settlement, as well as the management and valuation of the securities, are managed by a clearing center. Further information is provided in note 16 "Other current and non-current financial assets."

The decision-making bodies are committees for commodities, foreign currencies, and investments that meet at regular intervals. There is a functional segregation of trading, settlement, and control functions. Key tasks of the control function above all include determining risks and continuously checking compliance with instructions and guidelines.

Each month, the risk of financial investments is calculated using the value-at-risk concept. Risks relating to financial assets are monitored using ad hoc asset-allocation studies and limited by diversifying investment. The board of management member responsible attends the monthly foreign-exchange and investment committee meetings, and is informed about risk analyses and the results of investments and hedges.

Currency risks

Currency risks from cash flows in business operations are mitigated by the central management of invoicing and purchasing currencies. The currency risk is determined on the basis of the worldwide consolidated cash flows in the respective currencies. Based on annual forecasts, estimated inflows and outflows in the various currencies for the reporting period are aggregated in a foreign exchange balance plan. The resulting net position is then used for the central management of currency exposures.

The biggest net currency positions of the planned cash flows are in CNY, USD, GBP, and MXN.

Hedging largely takes the form of forward exchange contracts, currency options, and currency swaps. These transactions, which are only entered into with banks, are subject to minimum requirements with respect to nature and scope.

The risk attaching to material foreign currency items from operations is determined using the cash-flow-at-risk concept. These risk analyses and the hedge result are determined monthly and also presented to the member of the board of management responsible in the foreign-exchange and investment committee meetings.

To present the currency risks for the most important foreign currencies of the Bosch Group in accordance with IFRS 7 *Financial Instruments: Disclosures*, all monetary assets and monetary liabilities denominated in foreign currency for all consolidated companies were analyzed as of the reporting date and sensitivity analyses carried out for the respective currency pairs, in terms of the net risk.

A change in the EUR of 10 percent (taking the closing rate as the baseline) against the foreign currencies listed in the table would have the following effects on the profit before tax:

T71

in millions of euros

	10% increase in EUR		10% decrease in EUR	
	2024	2023	2024	2023
AUD	−3	2	3	−2
BRL	4	−4	−4	4
CAD	7	9	−7	−9
CHF	15	2	−15	−2
CNY	−24	27	24	−27
CZK	−49	−54	49	54
GBP	37	39	−37	−39
HUF	−20	−22	20	22
INR	−12	−7	12	7
JPY	−34	−33	34	33
KRW	1	−2	−1	2
MXN	−25	−26	25	26
PLN	−5	−19	5	19
RON	−21	−38	21	38
TRY	5	−15	−5	15
USD	−368	−89	719	89

The currency risk attached to the purchase price for the planned acquisition of the heating, ventilation, and air-conditioning business of Johnson Controls and Hitachi being denominated in USD has been completely hedged through currency options.

A change in the USD of 10 percent (taking the closing rate as the baseline) against the foreign currencies listed in the table would have the following effects on the profit before tax:

T72

in millions of euros

	10% increase in USD		10% decrease in USD	
	2024	2023	2024	2023
CNY	–19	–19	19	19

For the most part, the effects on the reported profit or loss result from foreign currency positions relating to operations as well as from loans within the Bosch Group if, by way of an exception, the loan was granted in a currency other than the local currency of the borrower – for example, because it can be repaid from expected cash flows in this currency. The currency risk as per the statement of financial position deviates from the purely economic currency risk, as the latter is determined solely on the basis of the planned cash flows from operating activities.

Interest-rate risks

Risks from changes in interest rates on investments and borrowings can be limited by select use of derivative financial instruments. These are mainly interest-rate swaps and interest-rate futures.

An analysis of the interest-rate risk was carried out in accordance with IFRS 7. In a sensitivity analysis, the assets and liabilities subject to floating interest rates, fixed-rate securities, pension and money market funds, and interest derivatives were considered.

A change in the market interest rate by 100 basis points (taking the interest rate on the reporting date as the baseline) would have the following effect on the gains/losses on financial instruments recognized in equity and the profit before tax:

T73

in millions of euros

	Increase in market interest level by 100 basis points		Decrease in market interest level by 100 basis points	
	2024	2023	**2024**	2023
Reserve from financial instruments	–231	–223	231	223
Profit before tax	–46	–60	46	60

Share-price risks

The Bosch Group holds stock as part of its financial investments used to cover non-current pension obligations. It also holds investments in publicly quoted companies. The analysis of the share-price risk in accordance with IFRS 7 took into account share portfolios, quoted investments, equity funds, and share derivatives with a total carrying amount of EUR 4,769 million (previous year: EUR 5,028 million).

A change in the share price of 10 percent (taking the share price on the reporting date as the baseline) would have the following effect on the gains/losses on financial instruments recognized in equity and the profit before tax:

T74

in millions of euros

	10% increase in share price		10% decrease in share price	
	2024	2023	2024	2023
Reserve from financial instruments	339	378	–339	–378
Profit before tax	140	130	–140	–130

To reduce share-price risks, a broadly diversified investment strategy is pursued across various regions and sectors.

Other price risks

Derivatives are used to limit the risks of fluctuating commodity prices. The analysis of the commodity-price risk in accordance with IFRS 7 took into account commodity derivatives measured as of the reporting date.

A change in the forward-rate level of 10 percent (taking the forward rate on the reporting date as the baseline) would have the following effect on the profit before tax:

T75

in millions of euros

	10% increase in forward rates		10% decrease in forward rates	
	2024	2023	2024	2023
Profit before tax	86	62	–86	–62

As of the reporting date, the Bosch Group is not aware that it is exposed to any further significant other price risks as defined by IFRS 7.

The Bosch Group holds several physical power purchase agreements (PPAs) with terms of up to 16 years, under which electricity is purchased at a fixed price for its own use, as well as the associated green electricity certificates. The physical PPAs are therefore subject to the own-use exception and are for the most part not accounted for as derivatives in accordance with IFRS 9. The physical PPAs contain additional clauses to an immaterial extent. In these cases, the PPA is accounted for as a derivative in accordance with IFRS 9.

Credit risks

The maximum credit risk for each category of financial instruments is the carrying amount of the financial assets recognized in the statement of financial position.

The credit risk from customer receivables is recorded and monitored on an ongoing basis. Responsibilities and duties relating to credit risks are governed by an internal directive. This mainly concerns the stipulation of payment terms, fixing of credit limits, release of deliveries, and receivables monitoring.

The credit risk for trade receivables is reduced by processing invoices with the corresponding credit notes in a single work step; the net amount is reported in the statement of financial position. This procedure is only performed if there is a legal right to offset and the customer intends to settle the receivable on a net basis or to settle the receivable by offsetting against the corresponding liability. Moreover, trade receivables are partly secured by retention of title. For some trade receivables, collateral has been additionally provided in the form of guarantees, property liens, and mortgages.

The table below shows the remaining credit risk for trade receivables:

T76

in millions of euros

	2024	2023
Trade receivables (before offsetting of credit notes)	18,346	17,865
Offsetting of credit notes	–810	–784
Trade receivables (carrying amount)	17,536	17,081
Financial guarantee contracts (received)	–2,592	–2,203
Remaining credit risk	**14,944**	**14,878**

The following table presents the development of loss allowances on trade receivables (credit-impaired and not credit-impaired) as well as on loan receivables and sundry other financial assets (according to the three-stage approach to impairment) for the reporting year and the previous year:

T77

in millions of euros

	Trade receivables	Loan receivables and sundry other financial assets	
		Stage 1	Stage 2/3
1/1/2023	**290**	**5**	**112**
Changes in consolidated group	–4	0	0
Amounts added	94	1	13
Amounts utilized	–25	0	0
Amounts reversed	–76	–2	–1
Exchange-rate differences	–19	0	0
12/31/2023	**260**	**4**	**124**
Changes in consolidated group	–1	0	0
Amounts added	109	2	4
Amounts utilized	–26	0	–38
Amounts reversed	–37	–1	–29
Exchange-rate differences	–1	0	0
12/31/2024	**304**	**5**	**61**

As of December 31 of the reporting year, loss allowances on contract assets amount to EUR 10 million (previous year: EUR 11 million) and loss allowances on finance lease receivables amount to EUR 2 million (previous year: EUR 2 million).

The table below shows the gross carrying amounts of trade receivables:

T78

in millions of euros

	2024	2023
Trade receivables	17,840	17,341
of which not exposed to default risk	5,884	5,520
of which credit-impaired	355	317
of which not credit-impaired	11,601	11,504
not due	10,514	10,411
up to 30 days past due	677	668
31–90 days past due	200	214
91–180 days past due	89	98
more than 180 days past due	121	113

The development of loss allowances on securities measured at fair value through other comprehensive income is presented in the following table:

T79

in millions of euros

	Stage 1	Stage 2/3
1/1/2023	**12**	**49**
Changes in consolidated group	0	0
Additions	11	40
Amounts utilized	0	0
Amounts reversed	–14	–46
Reclassifications	2	–2
Exchange-rate differences	0	0
12/31/2023	**11**	**41**
Changes in consolidated group	0	0
Additions	15	43
Amounts utilized	0	0
Amounts reversed	–16	–36
Reclassifications	5	–5
Exchange-rate differences	0	0
12/31/2024	**15**	**43**

Derivative transactions are entered into in accordance with either the German master agreement for financial forward transactions or the ISDA (International Swaps and Derivatives Association). These do not satisfy the set-off criteria of IAS 32 as netting is only enforceable in the case of insolvency.

The credit risk for derivatives with a positive fair value that do not currently satisfy the set-off criteria of IAS 32 (offsetting only enforceable in the case of insolvency of the contracting party) is presented in the following table:

T80

in millions of euros

	2024	2023
Derivatives with a positive fair value	601	173
Amounts not offset in the statement of financial position		
Derivatives	–200	–106
Cash collateral received		–54
Remaining credit risk	**401**	**13**

Liquidity risks

Changes in financial assets and liabilities are monitored on an ongoing basis. Internal directives regulate the duties and responsibilities of liquidity management and planning. The company has liquidity reserves in the form of highly liquid assets totaling EUR 12,474 million (previous year: EUR 11,302 million). These include a syndicated credit line with an ESG component totaling EUR 5 billion with a term until 2026. The existing bilateral U.S. loan facilities were increased to a volume of USD 1,250 million in the reporting year. These facilities have not been drawn. In the reporting year, a bond of EUR 750 million that had fallen due was repaid using available cash funds. Under our revolving USD 2.0 billion commercial paper program, short-term issuances of USD 499 million are outstanding as of the reporting date.

The liquidity risk is reduced by processing invoices for trade payables with the corresponding credit notes received in a single work step. This procedure is only performed if there is a legal right to offset and there is an intention to settle the liability on a net basis or to settle the liability by offsetting against the corresponding receivable. Moreover, collateral is provided in the form of guarantees.

The table below shows the remaining liquidity risk for trade payables:

T81

in millions of euros

	2024	2023
Trade payables (before offsetting of credit notes)	14,008	12,989
Offsetting of credit notes	–810	–784
Trade payables (carrying amount)	13,198	12,205
Financial guarantee contracts (granted)	–2	–6
Remaining liquidity risk	**13,196**	**12,199**

The liquidity risk for derivatives that do not currently satisfy the set-off criteria of IAS 32 (offsetting only enforceable in the case of insolvency) is presented in the following table:

T 82

in millions of euros

	2024	2023
Derivatives with a negative fair value	357	334
Amounts not offset in the statement of financial position		
Derivatives	–200	–106
Cash collateral provided	–39	
Remaining liquidity risk	**118**	**228**

The undiscounted cash outflows of the non-derivative and derivative financial liabilities are presented in the tables below:

T83

in millions of euros

	Carrying amount	Undiscounted cash flows					
	2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2030 et seq.**
Non-derivative financial liabilities							
Trade payables	13,198	13,096	2		113		
Bonds	6,870	286	286	1,036	997	575	6,599
Schuldschein loans, registered bonds	3,200	638	868	704	37	299	1,042
Liabilities to banks	440	252	31	151	5	4	30
Commercial papers	480	481					
Lease liabilities	2,784	757	642	495	360	309	671
Loans	124	98	16	6	3	2	4
Sundry other financial liabilities	1,049	827	76	29	2	2	133
Derivatives							
Gross settlement	276						
Cash outflows		11,746	183	10			
Cash inflows		11,470	182	10			
Net settlement	81						
Cash outflows		33	16	11	5	3	13

T84

in millions of euros

	Carrying amount	Undiscounted cash flows					
	2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029 et seq.**
Non-derivative financial liabilities							
Trade payables	12,205	12,149				64	
Bonds	7,546	1,045	282	282	1,032	1,005	7,100
Schuldschein loans, registered bonds	3,199	100	651	877	713	40	1,348
Liabilities to banks	312	198	92	26	0	0	3
Commercial papers	588	588					
Lease liabilities	2,351	632	536	397	307	212	670
Loans	109	77	16	8	4	3	5
Sundry other financial liabilities	1,083	863	25	64	24	1	110
Derivatives							
Gross settlement	269						
Cash outflows		10,375	604	48	37		
Cash inflows		10,114	596	47	37		
Net settlement	65						
Cash outflows		43	7	1	1	2	11

The undiscounted cash outflows contain interest and principal payments. All on-call financial liabilities are allocated to the earliest possible period. Variable interest payments were calculated using the most recent interest rate determined before the respective reporting date.

32 — Leases

Contracts that convey the right to control the use of an identifiable asset for a period of time in exchange for consideration are accounted for as leases in accordance with IFRS 16.

Bosch as lessee

The lessee generally recognizes leases based on the right-of-use approach. With certain exceptions, this requires recognizing right-of-use assets and liabilities for the payment obligations under the lease in the statement of financial position. These accounting requirements are not applied to short-term leases and leases of low-value assets; lease payments under such leases are recognized in functional costs on a straight-line basis over the lease term. In addition, the requirements of IFRS 16 are not applied to leases of intangible assets.

Lease liabilities are measured at the present value of the lease payments over the lease term. Lease payments include fixed payments for lease components and non-lease components as well as variable lease payments based on an index or an interest rate. The payments are generally discounted using the incremental borrowing rate for the appropriate currency and lease term. In determining the lease term, termination and extension options are considered if it is reasonably certain that they will be exercised.

At the commencement date, right-of-use assets are recognized at the amount of the lease liability, plus initial direct costs and less any lease incentives received. Right-of-use assets are typically depreciated over the lease term, with depreciation recognized in functional costs.

As lessees, entities of the Bosch Group have entered into leases mainly for land and buildings and, to a lesser extent, vehicles, plant and equipment, and other equipment, fixtures, and furniture.

The right-of-use assets recognized in the statement of financial position and the corresponding depreciation charge are as follows:

T85

in millions of euros

	2024		2023	
	Carrying amount	Depreciation	Carrying amount	Depreciation
Land and building	1,999	449	1,821	436
Plant, fixtures, and furniture	386	75	186	60
Vehicles	325	174	269	149
	2,710	**698**	**2,276**	**645**

Additions to right-of-use assets came to EUR 1,180 million in the reporting year (previous year: EUR 882 million).

The following amounts were additionally recognized in the income statement:

T86

in millions of euros

	2024	2023
Interest expenses relating to lease liabilities	109	89
Expenses relating to short-term leases	183	175
Expenses relating to leases of low-value assets	115	87
Expenses for variable lease payments	20	25

Cash outflows from leases totaled EUR 1,102 million in the reporting year (previous year: EUR 964 million). The maturity analysis of future lease payments is contained in the section on liquidity risks in note 31 “Capital and risk management.”

Bosch as lessor

Lessors are required to classify a lease as either a finance lease or an operating lease.

Finance leases transfer substantially all the risks and rewards incidental to ownership to the lessee. For such leases, a receivable is recognized at the amount of the net investment in the lease and disclosed under financial assets.

The receivables from finance lease agreements mainly stem from products leased by the Building Technologies division. As a rule, the agreed lease term is ten years. The receivables are due as follows:

T 87

in millions of euros

	2024	2023
Gross investment in finance leases, not discounted		
due no later than one year	41	42
due later than one year and no later than two years	36	36
due later than two years and no later than three years	32	30
due later than three years and no later than four years	26	26
due later than four years and no later than five years	21	22
due later than five years	48	46
	204	**202**
Present value of outstanding minimum lease payments		
due no later than one year	36	37
due later than one year and no later than two years	33	33
due later than two years and no later than three years	29	27
due later than three years and no later than four years	24	24
due later than four years and no later than five years	20	20
due later than five years	46	44
	188	**185**
Unearned finance income	**16**	**17**

In relation to finance leases, finance income in the reporting year came to EUR 5 million (previous year: EUR 6 million) and losses on disposal amounted to EUR 2 million (previous year: EUR 3 million). There were no unguaranteed residual values.

Under operating leases, the lessor retains substantially all the risks and rewards incidental to ownership. The assets concerned are recognized in property, plant, and equipment and, unless recognized as sales revenue, the lease payments received are recorded in other operating income.

The outstanding undiscounted minimum lease payments from operating lease agreements with entities of the Bosch Group as lessors stem mainly from activities of the Building Technologies and BSH Hausgeräte GmbH divisions. They are due as follows in the reporting year:

T88

in millions of euros

	2024	2023
Within one year	61	51
Later than one year and no later than two years	4	9
Later than two years and no later than three years	3	3
Later than three years and no later than four years	3	2
Later than four years and no later than five years	2	2
Later than five years	1	2
	74	**69**

In the reporting year, income from operating leases came to EUR 65 million (previous year: EUR 57 million).

33 — Related party disclosures

As shareholder, Robert Bosch Industrietreuhand KG exercises the majority of voting rights at Robert Bosch GmbH. In addition, Robert Bosch Industrietreuhand KG is responsible for the internal audit of the Bosch Group. The related costs incurred of EUR 21 million (previous year: EUR 21 million) were borne by Robert Bosch GmbH. As in the previous year, there were only immaterial other transactions and outstanding balances as of the reporting date.

A part of the pension obligations and funds has been outsourced to Bosch Pensionsfonds AG. Robert Bosch GmbH is the sole shareholder of Bosch Pensionsfonds AG. In the fiscal year, contributions were made to the plan assets of Bosch Pensionsfonds AG to finance pension obligations. For further details, see note 26 “Provisions for pensions and similar obligations.”

Robert Bosch Stiftung GmbH, Stuttgart, is the lessee of several properties belonging to Robert Bosch GmbH, Stuttgart. As of the reporting date, furthermore, Robert Bosch GmbH has a liability of EUR 36 million (previous year: EUR 47 million) to Robert Bosch Stiftung GmbH.

Business transactions with related entities

Related entities of the Bosch Group include the joint ventures, associated entities, and the entities in which non-controlling interests are held (investees) as well as entities not consolidated on materiality grounds. Transactions with these entities are presented in the following table:

T89

in millions of euros

	Goods and services sold		Goods and services purchased		Receivables		Liabilities	
	2024	2023	2024	2023	2024	2023	2024	2023
Joint ventures	87	83	27	24	14	10	19	19
Associated entities and investees	17	55	29	20	13	25	18	102
Entities not consolidated on materiality grounds	213	113	125	207	152	209	55	86

All transactions with related parties were at arm's length.

Total remuneration of key management personnel

The key management personnel are the general partners of Robert Bosch Industrietreuhand KG and any limited partners who are concurrently members of the board of management of Robert Bosch GmbH, as well as the members of the supervisory board and the members of the board of management of Robert Bosch GmbH.

Total remuneration of key management personnel breaks down as follows:

T90

in millions of euros

	2024	2023
Short-term benefits	24	24
Post-employment benefits	6	13
Other long-term benefits	5	6
Termination benefits	0	2

For obligations from pensions and deferred compensation, provisions totaling EUR 81 million (previous year: EUR 77 million) have been recognized.

Share-based payments are not made.

Beyond this, the companies of the Bosch Group have not conducted any reportable transactions with key management personnel.

34 — Remuneration of members of the board of management and supervisory board

The total remuneration of the members of the board of management comes to EUR 23 million in the fiscal year 2024 (previous year: EUR 27 million), and that of the former members of the board of management and their dependants to EUR 21 million (previous year: EUR 22 million). An amount of EUR 268 million (previous year: EUR 275 million) has been accrued for pension obligations to former members of the board of management and their surviving dependants.

The remuneration of the members of the supervisory board comes to approximately EUR 2 million.

35 — Auditor's fees

The fees of the group auditor for audit and advisory services in Germany amount to:

T91

in millions of euros

	2024	2023
Fees for		
Audit services	9	8
Other assurance services	1	1
Tax advisory services	1	1
Other services	2	6

36 — Events after the reporting date

The global tariff discussions, in particular the announcements made by the U.S. government in this regard, are expected to have an impact on the Bosch Group, the extent of which cannot be reliably estimated at present.

It was announced in February 2025 that operations in the Power Solutions division (Mobility business sector) relating to the industrialization and preparation for production of decentralized power-supply systems based on solid-oxide fuel cells (SOFC) will be discontinued.

List of shareholdings of the Bosch Group

as of December 31, 2024

A. Subsidiaries

1. Fully consolidated entities

Region/country	Company name	Registered office	Percentage share of capital
Germany	AS Abwicklung Dritte Produktion GmbH	Stuttgart	**100.0**
	AS Abwicklung und Solar-Service GmbH	Stuttgart	**100.0** [1]
	AS Guss Beteiligungsgesellschaft mbH	Stuttgart	**100.0**
	Bosch Access Systems GmbH	Aachen	**100.0**
	Bosch Automotive Service Solutions GmbH	Pollenfeld-Preith	**100.0** [1]
	Bosch Building Automation GmbH	Verl	**100.0** [1]
	Bosch Charging Solutions GmbH	Stuttgart	**100.0** [1]
	Bosch Energy and Building Solutions GmbH	Ditzingen	**100.0** [1]
	Bosch Engineering GmbH	Abstatt	**100.0** [1]
	Bosch Global Software Technologies GmbH	Stuttgart	**100.0** [1]
	Bosch Healthcare Solutions GmbH	Waiblingen	**100.0** [1]
	Bosch Hilfe GmbH	Stuttgart	**100.0**
	Bosch Industriekessel GmbH	Gunzenhausen	**100.0** [1]
	Bosch KWK Systeme GmbH	Lollar	**100.0** [1]
	Bosch Mobility Platform & Solutions GmbH	Gerlingen	**100.0** [1]
	Bosch Pensionsgesellschaft mbH	Stuttgart	**100.0** [1]
	Bosch Rexroth Aktiengesellschaft	Stuttgart	**100.0** [1,2]
	Bosch Secure Authentication GmbH	Stuttgart	**100.0** [1]
	Bosch Sensortec GmbH	Kusterdingen	**100.0** [1]
	Bosch Service Solutions GmbH	Stuttgart	**100.0** [1]
	Bosch Service Solutions Leipzig GmbH	Leipzig	**100.0** [1]
	Bosch Service Solutions Magdeburg GmbH	Magdeburg	**100.0** [1]

Region / country	Company name	Registered office	Percentage share of capital
	Bosch Sicherheitssysteme Engineering GmbH	Nuremberg	**100.0**
	Bosch Sicherheitssysteme GmbH	Stuttgart	**100.0**[1,2]
	Bosch Sicherheitssysteme Montage und Service GmbH	Amt Wachsenburg	**100.0**[1]
	Bosch Solar Services GmbH	Arnstadt	**100.0**[1,2]
	Bosch Solar Thin Film GmbH	Arnstadt	**100.0**[1]
	Bosch Solarthermie GmbH	Wettringen	**100.0**[1]
	Bosch Technology Licensing Administration GmbH	Gerlingen	**100.0**[1]
	Bosch Telecom Holding GmbH	Stuttgart	**100.0**[1,2]
	Bosch Thermotechnik GmbH	Wetzlar	**100.0**[1,2]
	Bosch Wohnungsverwaltungsgesellschaft mbH & Co. KG	Stuttgart	**100.0**[3]
	BSH Hausgeräte GmbH	Munich	**100.0**[1,2]
	BSH Hausgeräte Service GmbH	Munich	**100.0**[1]
	BSH Hausgeräte Service Nauen GmbH	Nauen	**100.0**[1]
	BSH Hausgerätewerk Nauen GmbH	Nauen	**100.0**[1]
	BSH Vermögensverwaltungs-GmbH	Munich	**100.0**[1]
	Constructa-Neff Vertriebs-GmbH	Munich	**100.0**[1]
	DAA GmbH	Hamburg	**100.0**[1]
	DMS Digitale Mess- und Steuersysteme Aktiengesellschaft	Hamburg	**100.0**
	ELPRO Meßtechnik GmbH	Schorndorf	**100.0**
	ETAS GmbH	Stuttgart	**100.0**[1,2]
	EVI Audio GmbH.	Straubing	**100.0**
	Gaggenau Hausgeräte GmbH	Munich	**100.0**[1]
	grow platform GmbH	Stuttgart	**100.0**[1]
	Holger Christiansen Deutschland GmbH	Wilnsdorf	**100.0**[1]
	Hörburger GmbH	Waltenhofen	**100.0**[1]
	ITK Engineering GmbH	Rülzheim	**100.0**[1]
	ITK Holding GmbH	Rülzheim	**100.0**[1]
	Keenfinity GmbH	Munich	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
	Moehwald GmbH	Homburg	**100.0**[1]
	Neff GmbH	Munich	**100.0**[1]
	Pollux Solar-Service GmbH	Arnstadt	**100.0**
	Robert Bosch Automotive Steering GmbH	Schwäbisch Gmünd	**100.0**[1, 2]
	Robert Bosch Elektronik GmbH	Salzgitter	**100.0**[1]
	Robert Bosch Fahrzeugelektrik Eisenach GmbH	Eisenach	**100.0**[1]
	Robert Bosch Hausgeräte Gesellschaft mit beschränkter Haftung	Munich	**100.0**[1]
	Robert Bosch Manufacturing Solutions GmbH	Stuttgart	**100.0**[1, 2]
	Robert Bosch Power Tools GmbH	Leinfelden-Echterdingen	**100.0**[1]
	Robert Bosch Risk and Insurance Management GmbH	Stuttgart	**100.0**[1]
	Robert Bosch Sechste Vermögensverwaltungsgesellschaft mbH	Gerlingen	**100.0**[1]
	Robert Bosch Semiconductor Manufacturing Dresden GmbH	Dresden	**100.0**[1]
	Robert Bosch Smart Home GmbH	Stuttgart	**100.0**[1]
	Robert Bosch Steering Columns GmbH	Stuttgart	**100.0**[1]
	Robert Bosch Venture Capital GmbH	Gerlingen	**100.0**[1]
	Robert Bosch Wohnungsgesellschaft mbH	Stuttgart	**100.0**[1]
	Bosch Digital Commerce GmbH	Munich	**100.0**
	SEG Hausgeräte GmbH	Munich	**100.0**[1]
	Siliconally GmbH	Dresden	**85.4**
	susteco solutions GmbH	Berlin	**100.0**
	WeWash GmbH	Munich	**100.0**[1]
	WOGE Service- und Regiebetrieb GmbH	Stuttgart	**100.0**[1]

1. These companies make use of the exemption provided for in Sec. 264 (3) HGB.
2. These companies make use of the exemption provided for in Sec. 291 (2) HGB.
3. This company makes use of the exemption provided for in Sec. 264b HGB.

Region / country	Company name	Registered office	Percentage share of capital
Europe			
Austria	Bosch General Aviation Technology GmbH	Vienna	**100.0**
	Bosch Industriekessel Austria GmbH	Bischofshofen	**100.0**
	Bosch Rexroth GmbH	Pasching	**100.0**
	BSH Finance and Holding GmbH	Vienna	**100.0**
	BSH Hausgeräte Gesellschaft mbH	Vienna	**100.0**
	MIIT Mechatronics Industries GmbH	Vienna	**100.0**
	Robert Bosch AG	Vienna	**100.0**
	Robert Bosch Holding Austria GmbH	Vienna	**100.0**
Belgium	Bosch Rexroth N.V.	Anderlecht	**100.0**
	Bosch Thermotechnology N.V. / S.A.	Mechelen	**100.0**
	BSH Home Appliances S.A.	Brussels	**100.0**
	Robert Bosch Produktie N.V.	Tienen	**100.0**
	Robert Bosch S.A.	Anderlecht	**100.0**
	sia Abrasives Belgium N.V. / S.A.	Mollem	**100.0**
Bulgaria	Bosch Digital EOOD	Sofia	**100.0**
	BSH Domakinski Uredi Bulgaria EOOD	Sofia	**100.0**
Croatia	BSH kućanski uređaji d.o.o.	Zagreb	**100.0**
Czech Republic	Bosch Powertrain s.r.o.	Jihlava	**100.0**
	Bosch Rexroth spol. s.r.o.	Brno	**100.0**
	Bosch Thermotechnika s.r.o.	Prague	**100.0**
	BSH domácí spotřebiče s.r.o.	Prague	**100.0**
	Keenfinity s.r.o.	Prague	**100.0**
	Robert Bosch odbytova s.r.o.	Prague	**100.0**
	Robert Bosch, spol. s.r.o.	České Budějovice	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Denmark	Bosch Rexroth A/S	Hvidovre	**100.0**
	BSH Hvidevarer A/S	Ballerup	**100.0**
	ELPRO NORDIC ApS	Roskilde	**100.0**
	Holger Christiansen A/S	Esbjerg	**100.0**
	Kassow Robots ApS	Copenhagen	**100.0**
	Robert Bosch A/S	Ballerup	**100.0**
Finland	Bosch Rexroth Oy	Vantaa	**100.0**
	BSH Kodinkoneet Oy	Helsinki	**100.0**
	Robert Bosch Oy	Vantaa	**100.0**
France	Bosch Automotive Service Solutions S.A.S.	Saint-Ouen	**100.0**
	Bosch Rexroth DSI S.A.S.	Vénissieux	**100.0**
	Bosch Rexroth S.A.S.	Vénissieux	**100.0**
	Bosch Security Systems France S.A.S.	Drancy	**100.0**
	BSH Electroménager S.A.S.	Saint-Ouen	**100.0**
	e.l.m. leblanc S.A.S.	Drancy	**100.0**
	ETAS S.A.S.	Saint-Ouen	**100.0**
	Gaggenau Industrie S.A.S.	Lipsheim	**100.0**
	Holger Christiansen France S.A.S.	Olivet	**100.0**
	Robert Bosch (France) S.A.S.	Saint-Ouen	**100.0**
	Robert Bosch Automotive Steering Marignier S.A.S.	Marignier	**100.0**
	Robert Bosch Automotive Steering Vendôme S.A.S.	Vendôme	**100.0**
Greece	BSH Ikiakes Syskeves A.B.E.	Athens	**100.0**
	Robert Bosch S.A.	Koropi (Athens)	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Hungary	Automotive Steering Column Kft.	Eger	**100.0**
	Bosch Rexroth Kft.	Budapest	**100.0**
	BSH Háztartási Készülék Kereskedelmi Kft.	Budapest	**100.0**
	ELPRO Systems Kft.	Maklár	**100.0**
	Robert Bosch Automotive Steering Kft.	Maklár	**100.0**
	Robert Bosch Elektronika Gyártó Kft.	Hatvan	**100.0**
	Robert Bosch Energy and Body Systems Kft.	Miskolc	**100.0**
	Robert Bosch Kft.	Budapest	**100.0**
	Robert Bosch Power Tool Elektromos Szerszámgyártó Kft.	Miskolc	**100.0**
Ireland	Robert Bosch Ireland Ltd.	Dublin	**100.0**
Italy	ARESI S.p.A.	Brembate	**100.0**
	Bosch Automotive Service Solutions S.r.l.	Parma	**100.0**
	Bosch Rexroth Oil Control S.p.A.	Milan	**100.0**
	Bosch Rexroth S.p.A.	Cernusco	**100.0**
	Bosch Security Systems S.p.A.	Milan	**100.0**
	BSH Elettrodomestici S.p.A.	Milan	**100.0**
	Centro Studi Componenti per Veicoli S.p.A.	Modugno (Bari)	**100.0**
	EDiM S.p.A.	Villasanta	**100.0**
	Freud S.p.A.	Milan	**100.0**
	Holger Christiansen Italia S.r.l.	San Lazzaro di Savena	**100.0**
	ROBERT BOSCH S.p.A. Società Unipersonale	Milan	**100.0**
	Tecnologie Diesel S.p.A. Società Unipersonale	Modugno (Bari)	**100.0**
Kazakhstan	BSH Home Appliances LLP	Almaty	**100.0**
	TOO Robert Bosch	Almaty	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Latvia	Robert Bosch SIA	Riga	**100.0**
Luxembourg	BSH électroménagers S.A.	Senningerberg	**100.0**
	Ferroknepper Buderus S.A.	Esch-sur-Alzette	**100.0**
Netherlands	Bosch Energy and Building Solutions B.V.	Nieuwegein	**100.0**
	Bosch Power Tools B.V.	Breda	**100.0**
	Bosch Rexroth B.V.	Boxtel	**100.0**
	Bosch Security Systems B.V.	Eindhoven	**100.0**
	Bosch Thermotechniek B.V.	Deventer	**100.0**
	Bosch Transmission Technology B.V.	Tilburg	**100.0**
	BSH Huishoudapparaten B.V.	Amsterdam	**100.0**
	Digicontrol Benelux B.V.	Apeldoorn	**100.0**
	ELPRO Benelux B. V.	s'-Hertogenbosch	**100.0**
	Hacousto Holland B.V.	Berkel en Rodenrijs	**100.0**
	Nederlandse Veiligheidsdienst Groep Meldkamer B.V.	Goes	**80.0**
	Nefit Vastgoed B.V.	Deventer	**100.0**
	Robert Bosch Asset Managing C.V.	Boxtel	**100.0**
	Robert Bosch B.V.	Boxtel	**100.0**
	Robert Bosch Finance Nederland B.V.	Boxtel	**100.0**
	Robert Bosch Holding Nederland B.V.	Boxtel	**100.0**
	Robert Bosch Investment Nederland B.V.	Boxtel	**100.0**
Norway	Bosch Rexroth AS	Ski	**100.0**
	BSH Husholdningsapparater AS	Oslo	**100.0**
	Robert Bosch AS	Trollåsen	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
Poland	Bosch Rexroth Sp. z o.o.	Warsaw	**100.0**
	BSH Sprzet Gospodarstwa Domowego Sp. z o.o.	Warsaw	**100.0**
	Keenfinity Sp. z o.o.	Warsaw	**100.0**
	ROBERT BOSCH Sp. z o.o.	Warsaw	**100.0**
	SIA Abrasives Polska Sp. z o.o.	Goleniów	**100.0**
Portugal	Bosch Car Multimedia Portugal, S.A.	Braga	**100.0**
	Bosch Security Systems, S.A.	Ovar	**100.0**
	Bosch Service Solutions, S.A.	Lisbon	**100.0**
	Bosch Termotecnologia S.A.	Lisbon	**100.0**
	BSHP Electrodomésticos, S.U., Lda.	Carnaxide	**100.0**
	Robert Bosch, S.A.	Lisbon	**100.0**
Romania	Bosch Automotive S.R.L.	Blaj	**100.0**
	Bosch Global Business Services S.R.L.	Timişoara	**100.0**
	Bosch Rexroth S.R.L.	Blaj	**100.0**
	Bosch Service Solutions S.R.L.	Timişoara	**100.0**
	BSH Electrocasnice S.R.L.	Bucharest	**100.0**
	ROBERT BOSCH S.R.L.	Bucharest	**100.0**
	S. C. Hörburger s.r.l.	Sibiu	**100.0**
Russian Federation	OOO “Construction & Investments”	Khimki	**100.0**
	OOO Bosch Rexroth	Moscow	**100.0**
	OOO Robert Bosch	Moscow	**100.0**
Serbia	BSH Kućni Aparati d.o.o. Beograd	Belgrade	**100.0**
	Robert Bosch doo Beograd	Belgrade	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Slovakia	Bosch Electrical Drives SK s.r.o.	Bratislava	**100.0**
	BSH Drives and Pumps s.r.o.	Michalovce	**100.0**
	Robert Bosch spol. s.r.o.	Bratislava	**100.0**
	Robert Bosch Production Slovakia, s.r.o.	Bernolákovo	**100.0**
Slovenia	Bosch Rexroth d.o.o.	Brnik – Aerodrom	**100.0**
	BSH Hišni Aparati d.o.o. Nazarje	Nazarje	**100.0**
Spain	BOSCH HOME COMFORT GROUP SERVICE ESPANA, S.L.	Madrid	**100.0**
	Bosch Rexroth, S.L.U.	Madrid	**100.0**
	Bosch Service Solutions, S.A.U.	Madrid	**100.0**
	BOSCH SISTEMAS DE FRENADO, S.L.U.	Madrid	**100.0**
	BSH Electrodomésticos España, S.A.	Zaragoza	**100.0**
	Keenfinity S.L.	Aranjuez	**100.0**
	ROBERT BOSCH ESPAÑA FÁBRICA ARANJUEZ S.A.U.	Aranjuez	**100.0**
	ROBERT BOSCH ESPAÑA FÁBRICA CASTELLET S.A.U.	Castellet	**100.0**
	ROBERT BOSCH ESPAÑA FÁBRICA MADRID S.A.U.	Madrid	**100.0**
	ROBERT BOSCH ESPAÑA, S.L.U.	Madrid	**100.0**
	Servicio Tecnico Arnaiz, S.L.U.	Bilbao	**100.0**
	Servimat Asistencia Tecnica, S.L.	Madrid	**100.0**
Sweden	AB Bosch	Stockholm	**100.0**
	Bosch Rexroth AB	Stockholm	**100.0**
	Bosch Thermoteknik AB	Tranås	**100.0**
	BSH Home Appliances AB	Stockholm	**100.0**
	HB Bosch	Linköping	**100.0**
	Keenfinity Sweden AB	Kista	**100.0**
	Robert Bosch AB	Kista	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Switzerland	Bosch Rexroth Schweiz AG	Buttikon	**100.0**
	BSH Hausgeräte AG	Geroldswil	**100.0**
	Bosch Thermotechnik AG	Pratteln	**100.0**
	ELPRO-BUCHS AG	Buchs	**100.0**
	Elpro Group AG	Buchs	**100.0**
	Robert Bosch AG	Zuchwil	**100.0**
	Robert Bosch Internationale Beteiligungen AG	Oberdorf	**100.0**
	Scintilla AG	Zuchwil	**100.0**
	sia Abrasives Industries AG	Frauenfeld	**100.0**
Türkiye	Bosch Fren Sistemleri Sanayi ve Ticaret A.S.	Bursa	**84.5**
	Bosch Rexroth Otomasyon Sanayi ve Ticaret A.S.	Bursa	**100.0**
	Bosch Sanayi ve Ticaret A.S.	Bursa	**100.0**
	Bosch Termoteknik Isitma ve Klima Sanayi Ticaret A.S.	Manisa	**100.0**
	BSH Ev Aletleri Sanayi ve Ticaret A.S.	Istanbul	**100.0**
	Keenfinity Güvenlik ve İletişim Sistemleri Limited Şirketi	Istanbul	**100.0**
Ukraine	MBT Trade T.B.O.	Kyiv	**100.0**
	SC “Robert Bosch Production Ukraine”	Krakovets	**100.0**
	Robert Bosch Ltd.	Kyiv	**100.0**
	TOV BSH Pobutova Technika	Kyiv	**100.0**
	Zelmer Ukraine T.B.O.	Kyiv	**100.0**
United Kingdom	Bosch Automotive Service Solutions Ltd.	Brixworth	**100.0**
	Bosch Lawn and Garden Ltd.	Stowmarket	**100.0**
	Bosch Rexroth Ltd.	St. Neots	**100.0**
	Bosch Service Solutions Ltd.	Denham	**100.0**
	Bosch Thermotechnology Ltd.	Worcester	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
	BSH Home Appliances Ltd.	Milton Keynes	**100.0**
	ELPRO UK Ltd.	Worthing	**100.0**
	ETAS Ltd.	York	**100.0**
	Five AI Limited	Cambridge	**100.0**
	Gas Alarm Systems Limited	Nelson	**100.0**
	HydraForce Hydraulics, Ltd.	Birmingham	**100.0**
	Keenfinity Limited	Denham	**100.0**
	Lynteck Limited	Nelson	**100.0**
	MoTeC (Europe) Limited	Oxford	**100.0**
	Protec Camerfield Limited	Nelson	**100.0**
	Protec Fire and Security Group Limited	Nelson	**100.0**
	Protec Fire Detection Plc	Nelson	**100.0**
	Protec Fire Detection (Export) Limited	Nelson	**100.0**
	Robert Bosch Investment Ltd.	Worcester	**100.0**
	Robert Bosch Ltd.	Denham	**100.0**
	Robert Bosch UK Holdings Limited	Denham	**100.0**
	sia Abrafoam Ltd.	Alfreton	**100.0**
	sia Abrasives (G.B.) Ltd.	Greetland	**100.0**
	sia Abrasives Holding Ltd.	Greetland	**100.0**
	sia Fibral Ltd.	Greetland	**100.0**
	Worcester Group Ltd.	Worcester	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
Americas			
Argentina	Bosch Rexroth S.A.I.C.	Buenos Aires	**100.0**
	Robert Bosch Argentina Industrial S.A.	Buenos Aires	**100.0**
Brazil	Bosch Rexroth Ltda.	Itatiba	**100.0**
	Bosch Soluções Integradas Brasil Ltda.	Campinas	**100.0**
	Bosch Telecom Ltda.	São Paulo	**100.0**
	HydraForce Hydraulics, Ltda.	Taboao da Serra	**100.0**
	Keenfinity Security and Communications Ltda.	Campinas	**100.0**
	Robert Bosch Direção Automotiva Ltda.	Sorocaba	**100.0**
	Robert Bosch Ltda.	Campinas	**100.0**
Canada	Action Electric Ltd.	Vancouver, BC	**100.0**
	Bosch Rexroth Canada Corporation	Welland, ON	**100.0**
	BSH Home Appliances Ltd./ Électroménagers BSH Ltée	Mississauga, ON	**100.0**
	Freud Canada Inc.	Mississauga, ON	**100.0**
	Keenfinity Inc.	Mississauga, ON	**100.0**
	Paladin Technologies Inc.	Vancouver, BC	**100.0**
	ROBERT BOSCH INC.	Mississauga, ON	**100.0**
Chile	Bosch Rexroth Chile S.p.A.	Santiago de Chile	**100.0**
	Robert Bosch S. A.	Santiago de Chile	**100.0**
Colombia	Keenfinity S.A.S.	Bogotá	**100.0**
	Robert Bosch Ltda.	Bogotá	**100.0**
Costa Rica	Robert Bosch Service Solutions – Costa Rica Sociedad Anonima	Heredia	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Mexico	Bosch Rexroth, S.A. de C.V.	Mexico City	**100.0**
	BSH Home Appliances S.A. de C.V.	Mexico City	**100.0**
	Frenados Mexicanos, S.A. de C.V.	Aguascalientes	**100.0**
	Keenfinity Mexico, S. de R.L. de C.V.	Mexico City	**100.0**
	Robert Bosch México Sistemas Automotrices, S.A. de C.V.	San Luis Potosí	**100.0**
	Robert Bosch México Sistemas de Frenos, S. de R.L. de C.V.	Juárez	**100.0**
	Robert Bosch México Sistemas de Seguridad, S.A. de C.V.	Hermosillo	**100.0**
	Robert Bosch México, S.A. de C.V.	Mexico City	**100.0**
	Robert Bosch Sistemas Automotrices, S.A. de C.V.	Juárez	**100.0**
	Robert Bosch Tool de México, S.A. de C.V.	Mexicali	**100.0**
	Robert Bosch, S. de R.L. de C.V.	Toluca	**100.0**
	SPLT MÉXICO, S.A. DE C.V.	Mexico City	**100.0**
Panama	Robert Bosch Panama Colón, S.A.	Panama City	**100.0**
Peru	BSH Electrodomésticos S.A.C.	Callao/Lima	**100.0**
	Robert Bosch S.A.C.	Lima	**100.0**
United States	Automotive Steering Column LLC	Florence, KY	**100.0**
	Bosch Automotive Service Solutions LLC	Wilmington, DE	**100.0**
	Bosch Automotive Workshop Services LLC	Wilmington, DE	**100.0**
	Bosch Aviation Technology LLC	Novi, MI	**100.0**
	Bosch Brake Components LLC	Oakbrook Terrace, IL	**100.0**
	Bosch grow platform LLC	Wilmington, DE	**100.0**
	Bosch Mobility Platform & Solutions LLC	Wilmington, DE	**100.0**
	Bosch Rexroth Corporation	Lehigh Valley, PA	**100.0**
	Bosch Security Systems LLC	Burnsville, MN	**100.0**
	Bosch Service Solutions North America LLC	Wilmington, DE	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
	Bosch Thermotechnology Corp.	Londonderry, NH	**100.0**
	BSH Home Appliances Corporation	Irvine, CA	**100.0**
	Climatec, LLC	Phoenix, AZ	**100.0**
	Elmo Motion Control Inc.	Nashua, NH	**100.0**
	ELPRO Services, Inc.	Marietta, OH	**100.0**
	ETAS Inc.	Wilmington, DE	**100.0**
	FHP Manufacturing Company	Fort Lauderdale, FL	**57.0**
	Freud America Inc.	High Point, NC	**100.0**
	HydraForce, Inc.	Lincolnshire, IL	**100.0**
	HydraForce China LLC	Lincolnshire, IL	**100.0**
	Nimbus Holdings LLC	Wilmington, DE	**100.0**
	Paladin Technologies (USA) Inc.	Dover, DE	**100.0**
	PalAmerican Technologies Inc.	Tumwater, WA	**100.0**
	Robert Bosch Automotive Steering LLC	Florence, KY	**100.0**
	Robert Bosch Finance LLC	Mt. Prospect, IL	**100.0**
	ROBERT BOSCH FUEL SYSTEMS LLC	Kentwood, MI	**100.0**
	Robert Bosch LLC	Farmington Hills, MI	**100.0**
	Robert Bosch North America Corporation	Oakbrook Terrace, IL	**100.0**
	Robert Bosch Semiconductor LLC	Wilmington, DE	**100.0**
	Robert Bosch Tool Corporation	Mt. Prospect, IL	**100.0**
	Service Maintenance Installation, Inc.	Burnsville, MN	**100.0**
	sia Abrasives, Inc. USA	Raleigh, NC	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Asia Pacific (including other countries)			
Australia	Bosch Automotive Service Solutions Pty. Ltd.	Clayton	**100.0**
	Bosch Rexroth Pty. Ltd.	Kings Park	**100.0**
	Bosch Security Systems Pty. Ltd.	Sydney	**100.0**
	BSH Home Appliances Pty. Ltd.	Heatherton	**100.0**
	MoTeC PTY LTD	Croydon South	**100.0**
	MoTeC Holdings PTY LTD	Docklands	**100.0**
	Protec Fire Detection Pty Ltd	Sydney	**100.0**
	Robert Bosch (Australia) Pty. Ltd.	Clayton	**100.0**
Botswana	Bosch Rexroth Botswana (Pty) Ltd.	Gaborone	**100.0**
China	Bosch (Chengdu) Information Technology Service Co., Ltd.	Chengdu	**100.0**
	Bosch (China) Investment Ltd.	Shanghai	**100.0**
	Bosch (Donghai) Automotive Test & Technology Center Co., Ltd.	Donghai	**100.0**
	Bosch (Hulunbeier) Automotive Test and Technology Centre Co., Ltd.	Yakeshi	**100.0**
	Bosch (Ningbo) e-scooter Motor Co., Ltd.	Ningbo	**100.0**
	Bosch (Shanghai) Digital Technology Ltd.	Shanghai	**100.0**
	Bosch (Shanghai) Information Technology Service Co., Ltd.	Shanghai	**100.0**
	Bosch (Shanghai) Investment Consulting Co., Ltd.	Shanghai	**100.0**
	Bosch (Shanghai) Security Systems Ltd.	Shanghai	**100.0**
	Bosch (Shanghai) Smart Life Technology Ltd.	Shanghai	**100.0**
	Bosch (Shanghai) Venture Capital Investment Co., Ltd.	Shanghai	**100.0**
	Bosch (Zhuhai) Security Systems Co., Ltd.	Zhuhai	**100.0**
	Bosch Automotive Aftermarket (China) Co., Ltd.	Nanjing	**100.0**
	Bosch Automotive Components (Changchun) Co., Ltd.	Changchun	**55.0**
	Bosch Automotive Products (Changsha) Co., Ltd.	Changsha	**100.0**
	Bosch Automotive Products (Chengdu) Co., Ltd.	Chengdu	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
	Bosch Automotive Products (Suzhou) Co., Ltd.	Suzhou	**100.0**
	Bosch Automotive Service Solutions (Suzhou) Co., Ltd.	Suzhou	**100.0**
	Bosch Automotive Steering (Jinan) Co., Ltd.	Jinan	**100.0**
	Bosch Automotive Systems (Wuxi) Co., Ltd.	Wuxi	**100.0**
	Bosch Automotive Technical Service (Beijing) Co., Ltd.	Beijing	**100.0**
	Bosch Connected Mobility Solutions Ltd.	Wuxi	**100.0**
	Bosch Electronics Trading (Suzhou) Co., Ltd.	Suzhou	**100.0**
	Bosch HUAYU Steering Systems (Wuhan) Co., Ltd.	Wuhan	**100.0**
	Bosch HUAYU Steering Systems (Yantai) Co., Ltd.	Yantai	**100.0**
	Bosch HUAYU Steering Systems Co., Ltd.	Shanghai	**51.0**
	Bosch Hydrogen Powertrain Systems (Chongqing) Co., Ltd.	Chongqing	**60.0**
	Bosch Innovation and Software Development (Wuxi) Co., Ltd.	Wuxi	**100.0**
	Bosch Laser Equipment (Dongguan) Limited	Dongguan	**100.0**
	Bosch Power Tools (Chengdu) Co., Ltd.	Chengdu	**100.0**
	Bosch Power Tools (China) Co., Ltd.	Hangzhou	**100.0**
	Bosch Powertrain Systems Co., Ltd.	Wuxi	**66.0**
	Bosch Rexroth (Beijing) Hydraulic Co., Ltd.	Beijing	**100.0**
	Bosch Rexroth (Changzhou) Co., Ltd.	Changzhou	**100.0**
	Bosch Rexroth (China) Ltd.	Hong Kong	**100.0**
	Bosch Rexroth (Xi’an) Electric Drives and Controls Co., Ltd.	Xi’an	**100.0**
	Bosch Security Systems Ltd.	Hong Kong	**100.0**
	Bosch Thermotechnology (Beijing) Co., Ltd.	Beijing	**100.0**
	Bosch Thermotechnology (Shanghai) Co., Ltd.	Shanghai	**100.0**
	Bosch Trading (Shanghai) Co., Ltd.	Shanghai	**100.0**
	BSH Electrical Appliances (Jiangsu) Co., Ltd.	Nanjing	**100.0**
	BSH Home Appliances (China) Co., Ltd.	Nanjing	**100.0**
	BSH Home Appliances Co., Ltd.	Chuzhou	**100.0**
	BSH Home Appliances Holding (China) Co., Ltd.	Nanjing	**100.0**
	BSH Home Appliances Ltd.	Hong Kong	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
	BSH Home Appliances Service Jiangsu Co., Ltd.	Nanjing	**100.0**
	BSW Household Appliances Co., Ltd.	Wuxi	**100.0**
	ETAS Automotive Technology (Shanghai) Co., Ltd.	Shanghai	**100.0**
	Gaggenau Home Appliances (Shanghai) Co., Ltd.	Shanghai	**100.0**
	Guangzhou sia Abrasives Company Ltd.	Guangzhou	**100.0**
	HydraForce Hydraulics Systems (Changzhou) Co., Ltd.	Guangzhou	**100.0**
	Le-AutomatiX (Shanghai) Co., Ltd.	Shanghai	**100.0**
	Le-ElectriX (Shanghai) Co., Ltd.	Shanghai	**50.0**
	Le-HydrauliX (Suzhou) Co., Ltd.	Suzhou	**100.0**
	Le-HydrauliX BoWei (Shanghai) Co., Ltd.	Shanghai	**50.0**
	Robert Bosch Company Ltd.	Hong Kong	**100.0**
	Shanghai Bosch Rexroth Hydraulics & Automation Ltd.	Shanghai	**100.0**
	Bosch Automotive Products (Shenzhen) Co., Ltd.	Shenzhen	**100.0**
	United Automotive Electronic Systems (Chongqing) Co., Ltd.	Chongqing	**65.0**
	United Automotive Electronic Systems (Liuzhou) Co., Ltd.	Liuzhou	**100.0**
	United Automotive Electronic Systems Co., Ltd.	Shanghai	**51.0**
Egypt	BSH Home Appliances Holding LLC	New Cairo	**100.0**
	BSH Home Appliances LLC	New Cairo	**100.0**
	RBEG LLC	Cairo	**100.0**
	Robert Bosch Holding Egypt LLC	Cairo	**100.0**
Ghana	Bosch Rexroth Ghana Ltd.	Accra	**100.0**
India	Bosch Automotive Electronics India Private Ltd.	Bengaluru	**100.0**
	Bosch Chassis Systems India Private Ltd.	Pune	**100.0**
	Bosch Global Software Technologies Private Limited	Bengaluru	**100.0**
	Bosch Ltd.	Bengaluru	**70.5**
	Bosch Mobility Platform and Solutions India Private Limited	Bengaluru	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
	Bosch Rexroth (India) Private Limited	Ahmedabad	**100.0**
	BSH Household Appliances Manufacturing Private Limited	Mumbai	**100.0**
	ETAS Automotive India Private Ltd.	Bengaluru	**100.0**
	Keenfinity India Private Limited	Bengaluru	**100.0**
	MIVIN ENGG. TECHNOLOGIES PRIVATE LIMITED	Bengaluru	**100.0**
	Robert Bosch Automotive Steering Private Limited	Pune	**100.0**
	Robert Bosch India Manufacturing and Technology Private Limited	Bengaluru	**100.0**
Indonesia	PT BSH Home Appliances	Jakarta	**100.0**
	PT Keenfinity Security and Communications Indonesia	Jakarta	**100.0**
	PT. Robert Bosch	Jakarta	**100.0**
Israel	BSH Home Appliances Ltd.	Herzlia	**100.0**
	Elmo Motion Control Ltd.	Petach Tikva	**100.0**
Ivory Coast	Bosch Rexroth Cote d’Ivoire S.A.R.L.	Abidjan-Marcory	**100.0**
Japan	Bosch Corporation	Yokohama	**100.0**
	Bosch Engineering K.K.	Yokohama	**100.0**
	Bosch Global Software Technologies Ltd.	Tokyo	**100.0**
	Bosch Rexroth Corporation	Tsuchiura-shi	**99.9**
	Bosch Security Systems Ltd.	Yokohama	**100.0**
	ELPRO Corporation	Tokyo	**100.0**
	ETAS K.K.	Yokohama	**100.0**
	FA Niigata Co., Ltd.	Niigata	**100.0**
	Fuji Aitac Co., Ltd.	Saitama	**100.0**
	Gunma Seiki Co., Ltd.	Gunma	**100.0**
	Nippon Injector Corporation	Odawara	**50.0**

Region / country	Company name	Registered office	Percentage share of capital
Korea	Bosch Electrical Drives Co., Ltd.	Sejong	**100.0**
	Bosch Rexroth Korea Ltd.	Busan	**100.0**
	ETAS Korea Co., Ltd.	Seoul	**100.0**
	KB Wiper Systems Co., Ltd.	Daegu	**100.0**
	Keenfinity Ltd.	Daejeon	**100.0**
	Robert Bosch Korea Limited Company	Daejeon	**100.0**
Malaysia	Bosch Power Tools Engineering Sdn. Bhd.	Penang	**100.0**
	Bosch Rexroth Sdn. Bhd.	Kuala Lumpur	**100.0**
	BSH Home Appliances Sdn. Bhd.	Kuala Lumpur	**100.0**
	Keenfinity Malaysia Sdn. Bhd.	Kuala Lumpur	**100.0**
	Robert Bosch (Malaysia) Sdn. Bhd.	Penang	**100.0**
	Robert Bosch Automotive Steering Sdn. Bhd.	Penang	**100.0**
	Robert Bosch Power Tools Sdn. Bhd.	Penang	**100.0**
	Robert Bosch Sdn. Bhd.	Kuala Lumpur	**100.0**
	Robert Bosch Semiconductor Manufacturing Penang Sdn. Bhd.	George Town Pulau Pinang	**100.0**
Morocco	BSH Electroménagers (SA)	Casablanca	**100.0**
	Keenfinity SAS	Casablanca	**100.0**
	Robert Bosch Morocco S.A.R.L.-A.U.	Casablanca	**100.0**
Mozambique	Bosch Rexroth Mozambique Lda.	Maputo	**100.0**
	Bosch Rexroth Matola Lda.	Matola	**100.0**
Namibia	Bosch Rexroth Namibia (Pty.) Ltd.	Walvis Bay	**100.0**
New Zealand	BSH Home Appliances Ltd.	Auckland	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Philippines	Bosch Service Solutions, Inc.	Manila	**100.0**
	Robert Bosch Inc.	Manila	**100.0**
Singapore	AquaEasy Pte. Ltd.	Singapore	**100.0**
	Bosch Rexroth Pte. Ltd.	Singapore	**100.0**
	BSH Home Appliances Pte. Ltd.	Singapore	**100.0**
	ELPRO Pte. Ltd.	Singapore	**100.0**
	Keenfinity Pte. Ltd.	Singapore	**100.0**
	Robert Bosch (South East Asia) Pte. Ltd.	Singapore	**100.0**
	Robert Bosch Security Solutions Pte. Ltd.	Singapore	**100.0**
South Africa	Bosch Rexroth Africa Development (RF) (Pty.) Ltd.	Kempton Park	**100.0**
	Bosch Rexroth South Africa (RF) (Pty) Ltd.	Johannesburg	**100.0**
	BSH Home Appliances (Pty.) Ltd.	Johannesburg	**100.0**
	Corgam Property Investment (RF) (Pty.) Ltd.	Kempton Park	**100.0**
	Hydraulic and Automation Warehouse (RF) (Pty.) Ltd.	Kempton Park	**100.0**
	Hytec Engineering (RF) (Pty.) Ltd.	Kempton Park	**100.0**
	Hytec Fluid Technology (RF) Pty. Ltd.	Kempton Park	**100.0**
	Hytec South Africa (RF) (Pty) Ltd.	Kempton Park	**75.0**
	Keenfinity (Pty) Ltd.	Midrand	**100.0**
	Robert Bosch (Pty.) Ltd.	Midrand	**100.0**
	Tectra Automation (RF) (Pty.) Ltd.	Kempton Park	**100.0**
Taiwan	Bosch Rexroth Co. Ltd.	Taipei City	**100.0**
	BSH Home Appliances Private Limited	Taipei City	**100.0**
	Robert Bosch Taiwan Co., Ltd.	Taipei City	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
Thailand	Bosch Automotive Thailand Co. Ltd.	Rayong	**87.9**
	BSH Home Appliances Ltd.	Bangkok	**100.0**
	Keenfinity (Thailand) Limited	Rayong	**100.0**
	Robert Bosch Automotive Technologies (Thailand) Co., Ltd.	Rayong	**100.0**
	Robert Bosch Ltd.	Bangkok	**100.0**
United Arab Emirates	BSH Home Appliances FZE	Dubai	**100.0**
	BSH Home Appliances General Trading LLC	Dubai	**100.0**
	Keenfinity FZCO	Dubai	**100.0**
	Robert Bosch Middle East FZE	Dubai	**100.0**
Vietnam	Bosch Vietnam Co., Ltd.	Dong Nai Province	**100.0**
	Bosch Global Software Technologies Co. Ltd.	Ho Chi Minh City	**100.0**
	BSH Home Appliances (Vietnam) Co. Ltd.	Ho Chi Minh City	**100.0**
Zambia	Bosch Rexroth Zambia Ltd.	Kitwe	**100.0**

2. Non-consolidated entities

Region / country	Company name	Registered office	Percentage share of capital
Germany	AIG Planungs- und Ingenieurgesellschaft mbH	Stuttgart	**100.0**
	Bosch Climate Solutions GmbH	Gerlingen	**100.0**
	Bosch Management Support GmbH	Leonberg	**100.0**
	Bosch Pensionsfonds AG	Stuttgart	**100.0**
	BSH Altersfürsorge GmbH	Munich	**100.0**
	Circular Economy Solutions GmbH	Göttingen	**100.0**
	eAx solutions GmbH	Stuttgart	**100.0**
	Elmo Motion Control GmbH	Viernheim	**100.0**
	for you Insurance Services GmbH	Gerlingen	**100.0**
	GFI – Gesellschaft für Infrastrukturdienste mbH	Reutlingen	**100.0**
	Home Connect GmbH	Munich	**100.0**
	HydraForce Hydraulics GmbH	Zweibrücken	**100.0**
	Kassow Robots GmbH	Ulm	**100.0**
	Koller + Schwemmer GmbH	Nuremberg	**100.0**
	Mobility Media GmbH	Gerlingen	**100.0**
	Prüfzentrum Boxberg GmbH	Boxberg	**100.0**
	Service- und Betriebsgesellschaft Heidehof mbH	Stuttgart	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
Europe			
Austria	ITK Engineering GmbH	Premstätten	**100.0**
Belarus	Robert Bosch OOO	Minsk	**100.0**
Bulgaria	Robert Bosch EOOD	Sofia	**100.0**
Croatia	Robert Bosch d.o.o.	Zagreb	**100.0**
Czech Republic	KR Soft s.r.o.	Prague	**100.0**
Estonia	Robert Bosch OÜ	Tallinn	**100.0**
France	Soindev 3 (Société Intermédiaire de Développement 3) S.A.S.	Saint-Ouen	**100.0**
Georgia	Robert Bosch Ltd.	Tiflis	**100.0**
Greece	Bosch Rexroth S.A.	Athens	**100.0**
Italy	Elmo Italy S.R.L.	Milan	**100.0**
Lithuania	UAB Robert Bosch	Vilnius	**100.0**
Poland	Elmo Motion Control Poland Sp. z o.o.	Warsaw	**100.0**
Romania	Bosch Servicii Termotehnica S.R.L.	Bucharest	**100.0**
	BSH Electrocasnice Manufacturing S.R.L.	Bucharest	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Russian Federation	OOO BSH Bytowije Pribory	St. Petersburg	**100.0**
Slovenia	BSH Hišni aparati I.D. INVALIDSKA DRUŽBA d.o.o.	Nazarje	**100.0**
	Robert Bosch d.o.o.	Ljubljana	**100.0**
Spain	Bosch Automotive Service Solutions S.A.U.	Madrid	**100.0**
	ITK Systems Engineering, S.L.U.	Barcelona	**100.0**
Switzerland	Elmo Motion Control AG	Biel	**100.0**
United Kingdom	Bosch Automotive Training Limited	Motherwell	**100.0**
	Camerfield Limited	Nelson	**100.0**
	Face Macanda Limited	Nelson	**100.0**
	Firepro Systems Limited	Nelson	**100.0**
	HydraForce Ltd.	Birmingham	**100.0**
	LAGTA Group Training Limited	Motherwell	**100.0**
	XL Fire Detection Systems Ltd.	Nelson	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Americas			
Brazil	Bosch Management Support Ltda.	Campinas	**100.0**
	Metapar Usinagem Ltda.	Curitiba	**100.0**
	Robert Bosch Centro de Comunicação Limitada	Joinville	**100.0**
	sia Abrasivos Industriais Ltda.	São José dos Pinhais	**100.0**
Canada	ETAS Embedded Systems Canada Inc.	Waterloo, ON	**100.0**
Ecuador	Robert Bosch Sociedad Anónima – Ecuabosch	Guayaquil	**100.0**
Mexico	Bosch Management Services México, S.C.	Mexico City	**100.0**
Paraguay	Robert Bosch Sociedad Anonima	Asunción	**100.0**
Peru	Bosch Rexroth S.A.C.	Lima	**100.0**
United States	Bosch Management Services Corporation	Wilmington, DE	**100.0**
	Bosch Solar Energy Corp.	Detroit, MI	**100.0**
	HydraForce India LLC	Lincolnshire, IL	**100.0**
	HydraForce Japan LLC	Lincolnshire, IL	**100.0**
	HydraForce Sweden LLC	Lincolnshire, IL	**100.0**
	ITK Engineering, LLC	Farmington Hills, MI	**100.0**
Uruguay	Robert Bosch Uruguay S.A.	Montevideo	**100.0**
Venezuela	Robert Bosch S.A.	Caracas	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
Asia Pacific (including other countries)			
Angola	Robert Bosch, Limitada	Luanda	**100.0**
Bangladesh	Robert Bosch (Bangladesh) Ltd.	Dhaka	**100.0**
Cambodia	Robert Bosch (Cambodia) Co., Ltd.	Phnom Penh	**100.0**
China	DMS Automation Technology (Suzhou) Co., Ltd.	Suzhou	**100.0**
	Elmo Motion Control Technology (Shanghai) Co., Ltd.	Shanghai	**100.0**
	Freud International Trading (Shanghai) Co., Ltd.	Shanghai	**100.0**
	ITK Engineering Technology (Wu Xi) Co., Ltd.	Wuxi	**100.0**
	KB Wiper Systems (JiangYin) Co., Ltd.	Jiangyin	**100.0**
Egypt	Bosch Rexroth Egypt LLC	Cairo	**100.0**
	Robert Bosch Ltd.	Cairo	**100.0**
Ghana	Robert Bosch Ghana Ltd.	Accra	**100.0**
India	KB Wiper Systems India Private Ltd.	Oragadam	**100.0**
	MICO Trading Private Ltd.	Bengaluru	**100.0**
	Newtech Filter India Private Limited	Nalagarh	**100.0**
	Precision Seals Manufacturing Pvt. Ltd.	Chakan	**100.0**
Indonesia	PT Aquaeasy Technology Indonesia	Jakarta	**100.0**
	PT Bosch Rexroth	Jakarta	**100.0**
	PT KB Wiper Systems Indonesia	Cikarang	**100.0**
	PT Robert Bosch Automotive	Jakarta	**100.0**
	PT Robert Bosch Retail Indonesia	Jakarta	**100.0**

Region / country	Company name	Registered office	Percentage share of capital
Iran	Bosch Tejarat Pars	Tehran	**100.0**
Israel	Robert Bosch Technologies Israel Ltd.	Tel Aviv	**100.0**
Japan	Bosch Service Solutions Corporation	Tokyo	**100.0**
	ITK Engineering Japan, Inc.	Tokyo	**100.0**
	Kanto Seiatsu Kogyo Co., Ltd.	Honjo	**92.9**
Kenya	Robert Bosch East Africa Ltd.	Nairobi	**100.0**
Korea	Elmo Motion Control APAC Ltd.	Hwaseong	**100.0**
Laos	Robert Bosch (Lao) Sole Co., Ltd.	Vientiane Capital	**100.0**
Malaysia	Robert Bosch (Penang) Sdn. Bhd.	Penang	**100.0**
Morocco	Bosch Rexroth Morocco S.A.R.L.	Casablanca	**100.0**
New Zealand	Bosch Rexroth Ltd.	Auckland	**100.0**
	Robert Bosch Ltd.	Auckland	**100.0**
Nigeria	Robert Bosch Limited	Lagos	**100.0**
Oman	Robert Bosch Muscat Sole Proprietor Company	Muscat	**100.0**
Saudi Arabia	BSH Home Appliances Saudi Arabia LLC	Jeddah	**51.0**
	Robert Bosch Regional Headquarters (Single Shareholder Limited Liability Company)	Jeddah	**100.0**
	Robert Bosch Saudi Arabia Ltd.	Riyadh	**100.0**

Region/country	Company name	Registered office	Percentage share of capital
Singapore	Elmo Motion Control (Singapore) PTE Ltd.	Singapore	**100.0**
	WhatsEGG Pte. Ltd.	Singapore	**78.6**
South Africa	Diesel Electric (Lesotho) (Pty) Ltd.	Brits	**100.0**
	Diesel Electric (South Africa) (Pty) Ltd.	Brits	**100.0**
	Diesel Electric Holdings (Pty) Ltd.	Brits	**100.0**
	Hägglunds Drives South Africa (Pty.) Ltd.	Fourways	**100.0**
Sri Lanka	Robert Bosch Lanka (Pvt.) Ltd.	Colombo	**100.0**
Thailand	Bosch Rexroth (Thailand) Ltd.	Rayong	**100.0**
	WhatsEgg (Thailand) Co. Ltd.	Bangkok	**70.0**
Tunisia	Robert Bosch Tunisie S.A.R.L.	Tunis	**100.0**

B. Joint ventures and associated entities

1. Entities measured using the equity method

Region / country	Company name	Registered office	Percentage share of capital
Germany	Bosch BASF Smart Farming GmbH	Cologne	**50.0**
	BS Systems GmbH & Co. KG	Zusmarshausen	**50.0**
	MAGURA Bosch Parts & Services GmbH & Co. KG	Nürtingen	**50.0**
	plc2 Design GmbH	Endingen am Kaiserstuhl	**25.0**

Region / country	Company name	Registered office	Percentage share of capital
Europe			
Austria	FerRobotics Compliant Robot Technology GmbH	Linz	**49.0**

Region / country	Company name	Registered office	Percentage share of capital
Americas			
United States	North America Fuel Systems Remanufacturing LLC	Kentwood, MI	**50.0**

2. Entities not measured using the equity method on materiality grounds

Region / country	Company name	Registered office	Percentage share of capital
Germany	Alltrucks GmbH & Co. KG	Munich	**33.3**
	Blauhut & Partner Informationssysteme GmbH	Egling	**37.6**
	Aranea Battery Solutions GmbH	Stuttgart	**50.0**
	MAGURA Bosch Parts & Services Verwaltungs-GmbH	Nürtingen	**50.0**
	SupplyOn Aktiengesellschaft	Hallbergmoos	**42.1**

Region / country	Company name	Registered office	Percentage share of capital
Europe			
Hungary	Kazántrade Kft.	Budapest	**30.0**
Italy	Oleodinamica Gambini S.r.l.	Modena	**20.0**
Poland	Loos Centrum Sp.z o.o.	Warsaw	**26.0**
United Kingdom	Megasets Ltd.	London	**25.1**

Region / country	Company name	Registered office	Percentage share of capital
Americas			
Brazil	PEÇA AI.COM S.A.	São Paulo	**20.0**
Mexico	BUSCABOT, S.A.P.I. DE C.V.	Guadalajara	**49.0**

Region / country	Company name	Registered office	Percentage share of capital
Asia Pacific (including other countries)			
Australia	The Yield Technology Solution Pty. Ltd.	Hobart	**28.7**
China	HEFEI M&B Air Conditioning Equipment Co., Ltd.	Heifei	**40.0**
India	AMP Energy C&I Eight Private Limited	New Delhi	**29.4**
	AMP Solar Infrastructure Private Limited	New Delhi	**26.0**
	Autozilla Solutions Pvt. Ltd.	Hyderabad	**26.0**
	Prebo Automotive Pte. Ltd.	Pune	**40.0**
	Simyog Technology Pvt. Ltd.	Bengaluru	**24.7**
Israel	Electra Industries Ltd.	Rishon LeZion	**40.0**

C. Other investments

Region / country	Company name	Registered office	Percentage share of capital
Asia Pacific (including other countries)			
China	Boyuan (Shanghai) Investment Management Co., Ltd.	Shanghai	**50.0**
	Shanghai Boyuan Jiacheng Venture Investment Partnership	Shanghai	**25.3**

Stuttgart, March 10, 2025

Robert Bosch Gesellschaft mit beschränkter Haftung
The board of management

Dr. Stefan Hartung
Dr. Christian Fischer
Dr. Markus Forschner
Stefan Grosch
Dr. Markus Heyn
Dr. Frank Meyer
Katja von Raven
Dr. Tanja Rückert

Auditor's report

Independent auditor's report

To Robert Bosch Gesellschaft mit beschränkter Haftung

Opinions

We have audited the consolidated financial statements of Robert Bosch Gesellschaft mit beschränkter Haftung, Stuttgart and its subsidiaries (the Group), which comprise the consolidated income statement and consolidated statement of comprehensive income for the fiscal year from January 1 to December 31, 2024, the consolidated statement of financial position as at December 31, 2024, the consolidated statement of changes in equity and the consolidated statement of cash flows for the fiscal year from January 1 to December 31, 2024, and notes to the consolidated financial statements, including material accounting policy information. In addition, we have audited the group management report of Robert Bosch Gesellschaft mit beschränkter Haftung for the fiscal year from January 1 to December 31, 2024. In accordance with the German legal requirements, we have not audited the content of the statement on corporate governance pursuant to Sec. 289f (4) HGB ["Handelsgesetzbuch": German Commercial Code] included in the "Corporate governance report" section of the group management report (disclosure on female representation on executive boards).

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB) (IFRS Accounting Standards) and adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at December 31, 2024, and of its financial performance for the fiscal year from January 1 to December 31, 2024, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. We do not express an opinion on the content of the statement on corporate governance referred to above.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Other information

The supervisory board is responsible for the supervisory board report. The executive directors are responsible for the other information. The other information comprises the corporate governance statement mentioned above pursuant to Sec. 289f (4) HGB (disclosures on the quota for women on executive boards). Furthermore, the other information comprises additional parts to be included in the annual report, of which we obtained a version prior to issuing this auditor's report, in particular the sections: "Foreword", "Board of management", "Supervisory board report", "Supervisory board", "Industrial Trust and International Advisory Committee", "Business sectors", "Highlights 2024", "Stories" and "Robert Bosch Stiftung", but not the consolidated financial statements, not the group management report disclosures whose content is audited and not our auditor's report thereon.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of the executive directors and the supervisory board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with the IFRS Accounting Standards as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group’s ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group’s position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group’s financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor’s responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group’s position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor’s report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control and of such arrangements and measures.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the

Group in compliance with the IFRS Accounting Standards as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.

- Plan and perform the audit of the consolidated financial statements to obtain sufficient appropriate audit evidence regarding the financial information of the entities or business units within the Group as a basis for forming opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and review of the work performed for the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

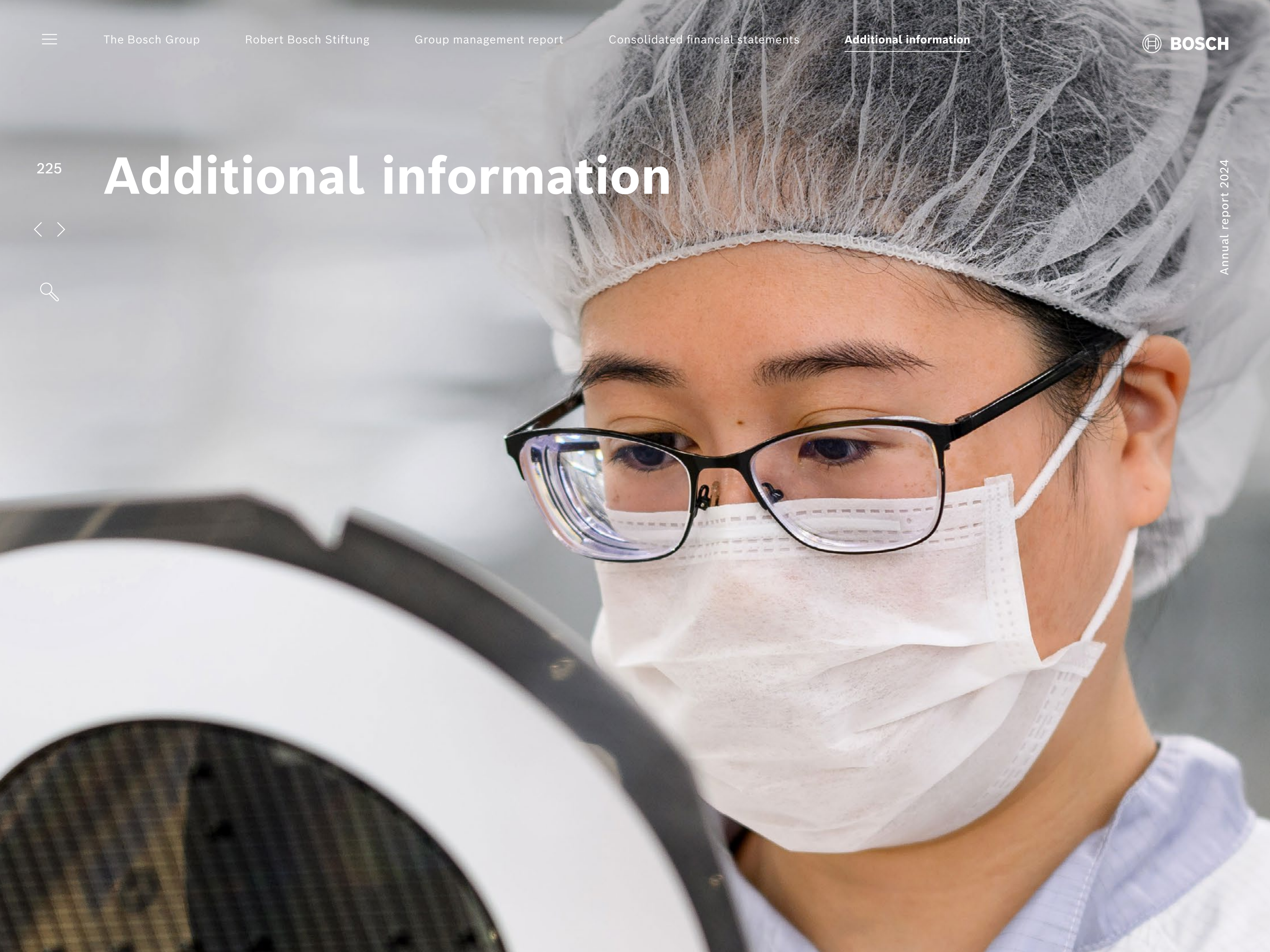
We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Stuttgart, March 12, 2025

EY GmbH & Co. KG
Wirtschaftsprüfungsgesellschaft

Somes	Bürkle
Wirtschaftsprüferin	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

Additional information



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Ten-year summary of the Bosch Group

T92

in millions of euros

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sales revenue	70,607	73,129	78,066	78,465	77,721	71,494	78,748	88,201	91,596	90,345
Research and development cost[1]	6,378	6,911	7,264	5,963	6,079	5,890	6,110	7,224	7,331	7,807
as a percentage of sales revenue	9.0	9.5	9.3	7.6	7.8	8.2	7.8	8.2	8.0	8.6
EBIT	4,587	3,335	4,916	5,502	2,903	1,657	2,815	3,474	4,503	2,796
as a percentage of sales revenue	6.5	4.6	6.3	7.0	3.7	2.3	3.6	3.9	4.9	3.1
Profit after tax	3,537	2,374	3,274	3,574	2,060	749	2,499	1,838	2,640	1,332
as a percentage of sales revenue	5.0	3.2	4.2	4.6	2.7	1.0	3.2	2.1	2.9	1.5
Capital expenditure	4,058	4,252	4,345	4,946	4,989	3,312	3,949	4,896	5,499	5,122
as a percentage of sales revenue	5.7	5.8	5.6	6.3	6.4	4.6	5.0	5.6	6.0	5.7
as a percentage of depreciation	146	141	140	159	146	101	116	141	161	137
Depreciation of property, plant, and equipment	2,788	3,022	3,095	3,103	3,421	3,282	3,393	3,474	3,421	3,735
Total assets	77,266	81,875	81,870	83,654	87,861	91,369	97,723	100,247	108,330	112,766
Equity	34,424	36,084	37,552	39,176	41,079	40,166	44,304	46,727	47,894	49,993
as a percentage of total assets	45	44	46	47	47	44	45	47	44	44
Dividend of Robert Bosch GmbH	142	138	241	242	119	67	143	162	170	186
Headcount as of December 31 of the year	374,778	389,281	402,166	409,881	398,150	395,034	402,614	421,338	429,416	417,859
Personnel expenses	20,369	21,056	22,266	22,219	23,824	22,483	23,766	24,822	26,821	29,452

1. Up to 2017: including development work charged directly to customers.

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