Annual report

2017

BOSCH
Invented for life

BOSCH IN FIGURES

Some **440** subsidiaries and regional companies in 60 countries

7.3
billion euros expenditure on research and development

125
engineering locations worldwide

4.9
billion euros EBIT in 2017

78.1
billion euros sales revenue in 2017

Roughly
402,000
associates worldwide

The Bosch Group

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,000 associates worldwide (as of December 31, 2017). The company generated sales of 78.1 billion euros in 2017. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to create solutions for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiaries and regional companies in 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 125 locations across the globe, Bosch employs roughly 64,500 associates in research and development.

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 up-front investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

Additional information is available online at **www.bosch.com, www.iot.bosch.com, www.bosch-presse.de, www.twitter.com/BoschPresse.**

Bosch Group key data

Figures in millions of euros

	2017	2016[1]
Sales revenue	**78,066**	**73,129**
percentage change from previous year	6.8	3.6
percentage of sales revenue generated outside Germany	80	80
Research and development cost	**7,264**	**6,911**
as a percentage of sales revenue	9.3	9.5
Capital expenditure on property, plant, and equipment	**4,345**	**4,252**
as a percentage of depreciation	140	141
Associates		
average for the year	402,619	383,917
at December 31	402,166	389,281
Balance-sheet total	**81,870**	**81,875**
Equity	**37,552**	**36,084**
as a percentage of balance-sheet total	46	44
EBIT	**4,916**	**3,594**
as a percentage of sales revenue	6.3	4.9
Profit after tax	**3,274**	**2,374**
Unappropriated earnings (dividend of Robert Bosch GmbH)	**241**	**138**

[1] Values following adjustment as a result of change in accounting method

Business sectors of the Bosch Group

MOBILITY SOLUTIONS

Powertrain Solutions[1]
Chassis Systems Control
Electrical Drives
Starter Motors and Generators[2]
Car Multimedia
Automotive Electronics
Automotive Aftermarket
Automotive Steering
Connected Mobility Solutions[3]

Other businesses:
Bosch Engineering GmbH
Commercial Vehicles and Offroad Applications
eBike Systems
ETAS GmbH
Two-Wheeler and Powersports

INDUSTRIAL TECHNOLOGY

Drive and Control Technology[4]
Packaging Technology[5]

Other businesses:
Bosch Connected Industry

CONSUMER GOODS

Power Tools[6]
BSH Hausgeräte GmbH

ENERGY AND BUILDING TECHNOLOGY

Building Technologies[7]
Thermotechnology
Bosch Global Service Solutions

Other businesses:
Robert Bosch Smart Home GmbH

Other businesses not allocated to business sectors:
Bosch Healthcare Solutions GmbH
Bosch Software Innovations GmbH
Robert Bosch Start-up GmbH
Robert Bosch Venture Capital GmbH

[1] Created on Jan. 1, 2018, by merging Gasoline Systems and Diesel Systems divisions
[2] Sold Dec. 31, 2017
[3] New division from Jan. 1, 2018
[4] Bosch Rexroth AG (100% Bosch-owned)
[5] Robert Bosch Packaging Technology GmbH
[6] Robert Bosch Power Tools GmbH
[7] Until Feb. 28, 2018, Security Systems

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FOREWORD

Dear readers,

The transformation of the Bosch Group can be felt throughout the company. This is also in evidence in our annual report and the digital magazine that accompanies it. The chief drivers of this transformation, which is fundamentally changing our markets and our competitive environment, are electrification and the internet of things. We are systematically adapting to this development and, in 2017, introduced a wide range of measures in response to it. By bringing our Gasoline Systems and Diesel Systems divisions, as well as the electromobility unit, together under one roof in our new Powertrain Solutions division, we are reorganizing ourselves. This will allow us to serve our customers with the optimum combination of technologies. After all, even with electrification increasing, efficient gasoline and diesel engines will continue to play a significant role for a long time to come. We have also entered into an important partnership for automated driving.

As a further element of our IoT strategy, we set up the Bosch Center for Artificial Intelligence in 2017. The connectivity of objects and the novel business models arising from it concern all our activities, from automated driving, to Industry 4.0, to digitally connected and smart building and energy technology, including smart homes. In the years since 2008, we have built up comprehensive software expertise for the internet of things, and are thus in a sound position. In new units such as Connected Mobility Solutions and Bosch Connected Industry, we are pooling and expanding a number of IoT activities. This is also the goal behind closer, cross-divisional collaboration within the Energy and Building Technology business sector, and the creation of "digital units" for the consumer goods business with power tools and household appliances.

At the same time, it is our task to further improve our company's profitability, despite the heavy upfront investments required for this transformation. We made significant progress here in 2017. We not only took advantage of the generally buoyant global economy to boost our sales, but also considerably improved our margin. After all, strong profitability is the basis for shaping the transformation in our markets, and for making the upfront investments that are needed for this.

As in the past, this also means we have to adjust our portfolio. At the end of 2017, we completed the sale of our starter motors and generators business. In its new set-up, it has better prospects for the future. We need to sharpen our focus to make the best use of our resources. Nonetheless, we still regard the broad diversification of our products and business areas as a huge advantage. A strong, increasingly connected product base and greater cross-divisional collaboration will present us with excellent opportunities for offering attractive services and solutions in many areas of life, true to our "Invented for life" ethos. In this context, one of our tasks is to ensure that our structures are competitive over the long term. For us, open dialogue with our workforce and their representatives is central to this task, since it will allow us to develop creative solutions together. On top of this, we are encouraging the acquisition of additional expertise. For a company like Bosch, lifelong learning for everyone will be even more crucial for success in the future.

Our roughly 400,000 associates worldwide give their all to take the Bosch Group forward. On behalf of the board of management, I would like to thank them for this dedication. At the same time, I would like to thank the employee representatives for their constructive views on confronting the challenges posed by the transformation process, the shareholders and supervisory board for their support, and our business partners for the trust they have placed in us.

With best regards,

Volkmar Denner

Dr. Volkmar Denner
Chairman of the board of management

BOARD OF MANAGEMENT

Christoph Kübel   Dr. Markus Heyn   Peter Tyroller   Dr. Volkmar Denner

Dr. Dirk Hoheisel Dr. Rolf Bulander Dr. Stefan Hartung Uwe Raschke

Prof. Stefan Asenkerschbaumer

BOARD OF MANAGEMENT

Dr. Volkmar Denner
Chairman

Corporate responsibilities
- Corporate strategy
- Corporate communications
- Research and advance engineering
- Technology coordination and engineering methods
- Real estate and facilities

Subsidiaries
- Bosch Healthcare Solutions GmbH
- Bosch Software Innovations GmbH
- Robert Bosch Venture Capital GmbH

Prof. Stefan Asenkerschbaumer
Deputy chairman

Corporate responsibilities
- Finance and financial statements
- Controlling, planning, mergers and acquisitions, risk management
- Internal accounting and organization
- Purchasing and logistics
- Information technology
- In-house consultancy

Christoph Kübel

Corporate responsibilities
- Human resources and social welfare, including senior executives
- External affairs, governmental and political relations
- Legal services
- Taxes
- Compliance management
- Internal auditing
- Intellectual property
- Insurance
- Environmental protection [1]
- Occupational safety [1]

Peter Tyroller

Regional responsibilities
Asia Pacific, India

Dr. Werner Struth [2]

Corporate responsibilities
- Industrial Technology business sector
- Manufacturing coordination, production system development, and investment planning
- Environmental and fire protection, safety

Divisions
- Drive and Control Technology
- Packaging Technology

Regional responsibilities
North America, South America

Dr. Rolf Bulander

Corporate responsibilities
- Mobility Solutions business sector
- Quality

Divisions
- Gasoline Systems [3]
- Diesel Systems [3]
- Powertrain Solutions [4]
- Electrical Drives
- Starter Motors and Generators [3]

Dr. Dirk Hoheisel

Corporate responsibility
- Mobility Solutions systems integration

Divisions
- Chassis Systems Control
- Car Multimedia
- Automotive Electronics
- Automotive Steering

Dr. Markus Heyn

Corporate responsibilities
- Mobility Solutions sales
- Marketing and sales

Divisions
- Automotive Aftermarket
- Connected Mobility Solutions [4]

Subsidiaries
- ETAS GmbH
- Bosch Engineering GmbH
- Robert Bosch Mobility Services GmbH [5]

Regional responsibilities [1]
North America, South America

Uwe Raschke

Corporate responsibilities
- Consumer Goods business sector
- User experience

Division
- Power Tools

Subsidiary
- BSH Hausgeräte GmbH

Regional responsibilities
Western Europe, middle eastern Europe, Russia, Middle East, Africa

Dr. Stefan Hartung

Corporate responsibilities
- Industrial Technology business sector [1]
- Energy and Building Technology business sector
- Manufacturing coordination [1]

Divisions
- Drive and Control Technology [1]
- Packaging Technology [1]
- Bosch Global Service Solutions
- Building Technologies [6]
- Thermotechnology

Subsidiaries
- Bosch Energy Storage Solutions LLC [7]
- Robert Bosch Smart Home GmbH

Manfred Baden[8, 9]
Automotive Aftermarket

Dr. Steffen Berns[8]
Car Multimedia

Henning von Boxberg
Power Tools

Dr. Jörg Fischer
Bosch Global Service Solutions

Dr. Uwe Gackstatter[4, 10]
Powertrain Solutions

Uwe Glock
Thermotechnology

Gert van Iperen
Building Technologies[6]

Dr. Rainer Kallenbach[4]
Connected Mobility Solutions

Dr. Ulrich Kirschner[3]
Starter Motors and Generators

Dr. Stefan König
Packaging Technology

Harald Kröger[11]
Automotive Electronics

Klaus Meder[12]
Automotive Electronics

Rolf Najork
Drive and Control Technology

Stefan Seiberth[4, 13]
Powertrain Solutions

Christian Sobottka
Automotive Steering

Gerhard Johannes Steiger
Chassis Systems Control

Dr. Bernhard Straub
Electrical Drives

Dr. Uwe Thomas[14]
Automotive Aftermarket

[1] Effective April 1, 2017
[2] Until March 31, 2017
[3] Until December 31, 2017
[4] Effective January 1, 2018
[5] From September 8, 2017 until February 1, 2018
[6] Effective March 1, 2018, formerly Security Systems
[7] Until February 23, 2017
[8] Effective February 1, 2017
[9] Until January 31, 2017, Car Multimedia
[10] Until December 31, 2017, Diesel Systems
[11] Effective May 1, 2017
[12] Until April 30, 2017
[13] Until December 31, 2017, Gasoline Systems
[14] Until January 31, 2017

PRESIDENTS OF THE DIVISIONS

SUPERVISORY BOARD REPORT

Ladies and gentlemen,

The Bosch Group can look back on a successful 2017. Sales revenue and earnings increased substantially, which in turn bolstered the profitability we need for the transformation ahead. A number of important decisions were also made which will help the company prepare itself for both profound changes and new opportunities in the mobility and IoT domains. In this regard, the issues handled by the supervisory board included the fundamental changes to customer landscape in the Mobility Solutions business sector, the reorganization of the powertrain business, the company's electromobility strategy, our development partnership for automated driving, and the billion-euro investment in a new wafer fab.

The supervisory board critically examined other issues in detail as well, including the adjustments the company's traditional businesses will have to make as well as the path forward for BSH Hausgeräte GmbH, which has developed successfully since Bosch acquired it completely in 2015. In addition, the supervisory board looked closely at business developments as well as the financial and capital expenditure plans. Another focal point of the board's work was the topic of legal compliance. Where this was concerned, a committee formed in the fall of 2015 kept itself informed of the internal investigations prompted by the manipulation of diesel engine control units, and continuously assessed the risks arising from these issues. The entire supervisory board regularly solicited detailed reports about the findings of the investigations.

In our capacity as supervisory board, we regularly monitored the work of the board of management, and lent it our support relating to running the company, to developing Bosch Group strategy, and to individual matters affecting the company. We are obliged by law and the statutes to fulfill a number of tasks – an obligation which we fulfilled once more with the utmost care in the 2017 business year. In addition, 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 events in the company. For us and the board of management, the highest priority is to ensure the Bosch Group's sustained and successful development. In this endeavor, our work together is open, conscientious, and constructive.

PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC) audited and issued an unqualified audit opinion on the Robert Bosch GmbH annual financial statements, the Bosch Group consolidated financial statements, and the accompanying management reports as of and for the year ended December 31, 2017. The supervisory board discussed these documents at length and subjected them to its own examination; all members of the supervisory board had access to the auditor's reports. Moreover, at the supervisory board meeting, the auditor reported on the main findings of the audit, which were then discussed in detail. 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.

At the end of 2017, Alfred Löckle, the long-time deputy chairman of the supervisory board and former chairman of the central and combined works councils, resigned from the board. His position was taken over at the beginning of 2018 by Hartwig Geisel, the deputy chairman of the combined works council. We also welcomed Karin Solda as a new member. Moreover, at the supervisory board meeting in March, the employee representative Oliver Simon was appointed to succeed Dieter Klein. The supervisory board would like to thank the former members for their dedication, and the two new members for agreeing to play an active role.

The supervisory board would also like to thank the board of management and all Bosch Group associates for their commitment over the past year. Their hard work is decisive for giving the Bosch Group a head start in its future endeavors.

Stuttgart, March 2018
For the supervisory board

Franz Fehrenbach
Chairman

SUPERVISORY BOARD

Franz Fehrenbach
Stuttgart
Chairman
Managing partner of
Robert Bosch Industrietreuhand KG
Former chairman of the board of management of Robert Bosch GmbH

Alfred Löckle
Ludwigsburg
Deputy chairman
(until December 31, 2017)
Member of the works council of the Schwieberdingen plant, and former chairman of the central works council of the Mobility Solutions business sector as well as of the combined works council of Robert Bosch GmbH

Hartwig Geisel
Leinfelden-Echterdingen
Deputy chairman
(from January 1, 2018)
Member of the works council of the Feuerbach plant, and chairman of the central works council of the Mobility Solutions business sector as well as deputy chairman of the combined works council of Robert Bosch GmbH

Nadine Boguslawski
Stuttgart
Member of the Baden-Württemberg regional directorate of the metalworking and electrical engineering industry union (Industriegewerkschaft Metall)

Dr. Christof Bosch
Königsdorf
Spokesperson for the Bosch family

Christian Brunkhorst
Mühltal
Representative of the chairman of Industriegewerkschaft Metall

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

Klaus Friedrich
Lohr
Chairman of the works council of Bosch Rexroth AG, Lohr am Main, 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 Solutions business sector

Jörg Hofmann
Esslingen
President of Industriegewerkschaft Metall, Frankfurt am Main

Prof. Lars G. Josefsson
Stockholm
Former president and chief executive officer of Vattenfall AB

Prof. Michael Kaschke
Oberkochen
Chairman of the board of management of Carl Zeiss AG

Dieter Klein
Wolfersheim
(until March 23, 2018)
Member of the works council of the Homburg plant

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

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

Kerstin Mai
Hildesheim
Chairwoman of the works council and the central works council of Robert Bosch Car Multimedia GmbH, Hildesheim, and chairwoman of the combined works council of Robert Bosch GmbH

Dr. Wolfgang Malchow
Pliezhausen
Managing partner of Robert Bosch Industrietreuhand KG

Urs B. Rinderknecht
Zurich
Former chief executive of UBS AG

Oliver Simon
Dunzweiler
(from March 24, 2018)
Chairman of the works council of the Homburg plant, and member of the central works council of the Mobility Solutions business sector

Karin Solda
Filderstadt
(from January 1, 2018)
Chairwoman of the works council at the Leinfelden-Echterdingen location and of the central works council of Robert Bosch Power Tools GmbH

Dr. Richard Vogt
Bühl
Project director, Electrical Drives division, and chairman of the executives committee of Robert Bosch GmbH as well as of the combined executives committee of the Bosch Group in Germany

Prof. Beatrice Weder di Mauro
Singapore
Professor of international macroeconomics at the Johannes Gutenberg University of Mainz

Prof. Hermann Scholl
Stuttgart
Honorary chairman of the Bosch Group

INDUSTRIAL TRUST AND INTERNATIONAL ADVISORY COMMITTEE

ROBERT BOSCH INDUSTRIETREUHAND KG

GENERAL PARTNERS

Franz Fehrenbach
Stuttgart
Chairman of the shareholders' meeting

Dr. Wolfgang Malchow
Pliezhausen

LIMITED PARTNERS

Prof. Stefan Asenkerschbaumer
Stuttgart
(from January 1, 2018)

Dr. Christof Bosch
Königsdorf

Dr. Siegfried Dais
Gerlingen
(until December 31, 2017)

Dr. Volkmar Denner
Pfullingen

Prof. Lino Guzzella
Uster

Dr. Jürgen Hambrecht
Neustadt

Prof. Lars G. Josefsson
Stockholm

Prof. Renate Köcher
Konstanz

Urs B. Rinderknecht
Zurich

ROBERT BOSCH INTERNATIONAL ADVISORY COMMITTEE

Franz Fehrenbach
Stuttgart
Chairman

Dott. Alessandro Benetton
Treviso

Stephen J. Hadley
Washington, D.C.

HRH Prince El Hassan bin Talal
Amman

Prof. Ryozo Hayashi
Tokyo

Baba N. Kalyani
Pune

Pascal Lamy
Paris

Friedrich Merz
Arnsberg

Prof. Volker Perthes
Berlin

Ingo Plöger
São Paulo

Erwin Schurtenberger
Ascona, Beijing
(until December 31, 2017)

Jing Ulrich
Hong Kong
(from April 1, 2017)

Prof. Igor Yurgens
Moscow

HIGHLIGHTS 2017

01

Jan. 7 – Las Vegas, USA

CES® 2017 Innovation Awards

At CES® 2017, four awards go to three smart Bosch products: a digitally connected water boiler and two innovative solutions for motorcycles.

Jan. 9 – Detroit, USA

World premiere for e-axle

At the North American International Auto Show (NAIAS) in Detroit, Bosch unveils a new electric drive system.

Jan. 27 – Bengaluru, India; Palo Alto, USA; Renningen, Germany

Artificial intelligence rounds out IoT expertise

The new year sees the new Bosch Center for Artificial Intelligence (BCAI) begin its work.

02

Feb. 7 – Stuttgart, Germany

Bosch is shaping the transformation of the powertrain

Bosch announces it will be pooling all its powertrain activities in a new Powertrain Solutions division from January 1, 2018, including a unit dedicated to electromobility.

Feb. 16 – Munich and Stuttgart, Germany

Bosch and IBM launch alliance for IoT and Industry 4.0

The two companies will collaborate to make automatic updates of IoT devices available for their customers.

03

Mar. 15 – Berlin, Germany

Bosch ConnectedWorld 2017

Bosch is in the midst of a transformation into an IoT company. Among other things, it premieres an onboard computer for automated cars.

Mar. 28 – Paris, France

Bridge into the future

The Bosch headquarters in Paris is reopened as an innovation campus.

Mar. 28 – Leinfelden, Germany

Working in cross-functional “purpose teams”

To ensure the best possible focus on users, the Power Tools division is realigning its entire organization. Experts from completely different disciplines – such as engineering, marketing, and logistics – now work together in smaller units.

Apr. 4 – Stuttgart, Germany

Bosch and Daimler to collaborate on fully automated, driverless cars

The aim of this alliance is to develop a production-ready system for driverless cars on city streets, and to launch it at the start of the next decade.

04

Apr. 11 – Stuttgart-Feuerbach, Germany

Dialogue about the future of work

Works council representatives from 21 countries attend the 20th meeting of the Europa Committee (EC) in Feuerbach, which features an open, in-depth dialogue between European works council members and the board of management.

Apr. 13 – Changzhou, China

New plant in Wujin

In the Wujin industrial zone in Changzhou, Bosch will invest some 100 million euros by 2019 in a facility to manufacture components for automated driving and connectivity.

June 19 – Stuttgart and Dresden, Germany

New wafer fab in Dresden

With a total investment of roughly one billion euros, the new wafer fab is the biggest single investment in Bosch’s more than 130-year history. Following a rollout phase, manufacturing operations will likely start at the end of 2021.

05

May 18 – Paris, France

E-scooters arrive in Paris

Coup, the Bosch shared mobility platform, starts operations in Paris. Six hundred e-scooters will be available for rent in the French capital.

May 18 – Shanghai, China

Bosch agrees alliance with Alibaba

In its marketing operations in China, Bosch is turning increasingly to e-commerce, signing a strategic alliance agreement with the Alibaba Group, the biggest Chinese internet retailer.

06

June 22 – Stuttgart and Reutlingen, Germany

Bosch launches ABS for pedelec riders

Already a leading supplier of motorcycle safety technology, Bosch presents the first production-ready antilock braking system for e-bikes.

07

July 12 – Stuttgart-Feuerbach, Germany

Standing ovation

At a colloquium marking the retirement of Alfred Löckle, who was for many years the company's most senior employee representative, the guests thank him for his work for Bosch.

08

Aug. 1 – Nanjing, China and Stuttgart, Germany

Breaking ground in Nanjing

Bosch plans to build Asia Pacific's first iBooster plant. On a surface covering some 20,000 square meters, local manufacturing of this brake system is to start in 2019.

09

Sept. 3 – Berlin and Munich, Germany

50 years of BSH

BSH Hausgeräte GmbH celebrates its 50th anniversary. With its products and services, the company has helped shape both technological and social developments.

Sept. 14 – Frankfurt, Germany

IAA: Chancellor Merkel visits Bosch booth

Dr. Volkmar Denner, chairman of the board of management, shows her Bosch's new e-axle. This compact drive unit for electric cars comprises a motor, power electronics, and transmission.

Sept. 19 – Santa Clara, USA, and Stuttgart, Germany

Alliance to use blockchain technology

A total of some 20 established companies and start-ups join together to set up the Trusted IoT Alliance for more transparency, security, and efficiency on the internet of things.

Oct. 10 – Stuttgart, Germany

New Bosch hybrid battery

Bosch presents a new 48-volt battery for hybrids. Its standardized design makes it easier for established automakers and start-ups to move into hybridization.

10

Oct. 18 – Stuttgart-Feuerbach, Germany

Bosch opens IT campus

Roughly 2,000 of the 7,500 corporate IT associates will work on the modern new campus, which will further accelerate the transformation of Bosch into an IoT company.

Oct. 25 – Berlin and Stuttgart, Germany

Accolade for Bosch logistics operations

In presenting its 2017 German Logistics Award, the German Federal Logistics Association recognizes the comprehensive approach adopted by Bosch in reorganizing its global logistics operations.

11

Nov. 13 – Hannover and Stuttgart, Germany

Bosch moves into agricultural-technology market

At the 2017 Agritechnica trade fair, Bosch presents its ideas and solutions for the future of agriculture. The company is transferring automotive technology to the farm sector. Connectivity is a key to better yields.

Nov. 21 – Stuttgart, Germany

Brake disc 2.0

Bosch's new iDisc generates 90 percent less brake dust.

12

Dec. 4 – Rayong, Thailand

First smart factory in Thailand

In light of rising demand in Thailand, Bosch opens a new injection-technology plant. Construction took 18 months.

ROBERT BOSCH STIFTUNG

Since it was established in 1964, Robert Bosch Stiftung GmbH has been carrying on the company founder's public welfare endeavors. It devotes itself to social challenges and promotes projects that develop innovative and exemplary solutions for the future. It finances its work from the dividend it receives as a shareholder in Robert Bosch GmbH.

How can we best handle conflicts to prevent new outbreaks of violence? Views on this subject were exchanged by 120 peace activists from more than 40 countries at the "Truth, justice, and remembrance" global community forum, an initiative of the Robert Bosch Stiftung.

TOTAL PROJECT GRANTS 2017

Figures in millions of euros

100.5

7.4
Healthcare

7.4
Science

8.6
Society

9.1
Education

8.6
International relations: Americas and Asia

14.4
International relations: Europe and its neighbors

5.8
Projects by the Berlin liaison office to promote international relations

0.8
Projects of the management board

0.1
Projects of the communications department

20.9
Research at institutes and the Robert Bosch Hospital

10.0
Expenditure on the Robert Bosch Hospital

1.4
Robert Bosch College UWC GmbH

2.5
Die Deutsche Schulakademie gGmbH

0.8
International Alumni Center gGmbH

1.2
Funds transferred to Otto und Edith Mühlschlegel Stiftung

1.3
Dependent foundations

The following institutions also belong to the Stiftung:

- Robert Bosch Hospital
- Dr. Margarete Fischer-Bosch Institute for Clinical Pharmacology
- Institute for the History of Medicine of the Robert Bosch Stiftung
- Die Deutsche Schulakademie
- UWC Robert Bosch College
- Robert Bosch Centrum für Tumorerkrankungen
- International Alumni Center iac Berlin

Dependent foundations within the Stiftung:

- Otto und Edith Mühlschlegel Stiftung (aging)
- Hans-Walz-Stiftung (research into complementary medicine)
- DVA-Stiftung (Franco-German dialogue)

Robert Bosch Stiftung is active in the areas of healthcare, science, society, education, and international relations. To be even better prepared for major social challenges, the Stiftung has redesigned its strategy in in recent years, and now focuses its work on three main issues: "migration, integration, and participation," "social cohesion in Germany and Europe," and "viable living environments."

Promoting peace and social innovation

Given the increasing number of conflicts worldwide, the Robert Bosch Stiftung has been focusing explicitly on peace for some years now. In 2017, it initiated the "Truth, Justice, and Remembrance" global community forum. This event brought together 120 peace activists from some 40 countries who are working to come to terms with violent conflicts and regimes. The participants included the UN special rapporteur Pablo de Greiff, who remarked on the growing restraints on civil society worldwide, which he saw as a hindrance to handling conflicts.

The approach of bringing together outspoken civil-society activists is one pursued by Robert Bosch Stiftung and its ChangemakerXchange program. The program is aimed at young people working on innovative solutions for social and ecological problems. In 2017, following an enthusiastic response to the program in Europe and North Africa, the Stiftung began organizing regular summit meetings in Asia and sub-Saharan Africa at which change-makers can exchange insights and develop joint projects.

Social cohesion in Europe

Social cohesion in Europe was one of the Stiftung's focus topics in 2017. With the aim of better understanding the mood among Europeans, it supported a study by the British think-tank Chatham House. Roughly 10,000 citizens and 1,800 decision-makers from 10 European countries were polled about their attitudes to Europe. It found that many citizens value what Europe has achieved, but do not feel they benefit from the EU. For their part, decision-makers disagree about the direction European integration should take.

Since 2015, few issues have stirred passions in Europe as the refugee influx has, and the debate about how best to integrate them continues. In its "migration, integration, and participation" work, the Stiftung focused in 2017 on projects that offer newcomers space in which to play an active role. Before the German federal elections, for example, a supplement was published in a national daily newspaper in which journalists who had fled Syria, Afghanistan, and Iran wrote about what democracy, elections, and self-determination meant for them.

Countering alternative facts and supporting better education

The public debate about fake news and alternative facts is not least an existential challenge for science, which depends on fact-based discussion and argument. In 2017, in order to bolster trust in science, the Robert Bosch Stiftung funded various projects that promote understanding about scientific methods. One central element of this work was programs for science journalists in which they develop new formats for writing coherently about innovative research approaches and findings.

The key to participation in society is education – this is the conviction behind the major initiatives with which the Robert Bosch Stiftung encourages the development of pioneering classroom practice. One beacon project in Germany is the German School Prize, a competition that highlights exemplary schools. In 2017, the Stiftung launched further programs relating to the German School Prize, such as a development program for schools that have participated in the competition but not won a prize.

Tomorrow's healthcare

With society aging, the number of people with one or more chronic conditions will increase further in the years ahead. At the same time, there are fewer specialists to treat them, especially in economically underdeveloped areas. With its PORT (patient-oriented centers for primary and long-term care) program, the Robert Bosch Stiftung has been supporting five initiatives in Germany for model local health centers since early 2017. The idea is that future PORT centers will ensure the regional availability of comprehensive basic medical care. The program also depends on international exchange: the work of developing PORT centers includes fact-finding trips to model institutions in various countries.

In 2017, Robert Bosch Stiftung GmbH extended its management team: since September 1, 2017, Sandra Breka and Dr. Hans-Werner Cieslik have been working with Prof. Joachim Rogall and Uta-Micaela Dürig to manage the Stiftung's activities. The board of management team is chaired by Joachim Rogall. In addition, Dr. Christof Bosch became chairman of the board of trustees of the Stiftung in April 2017.

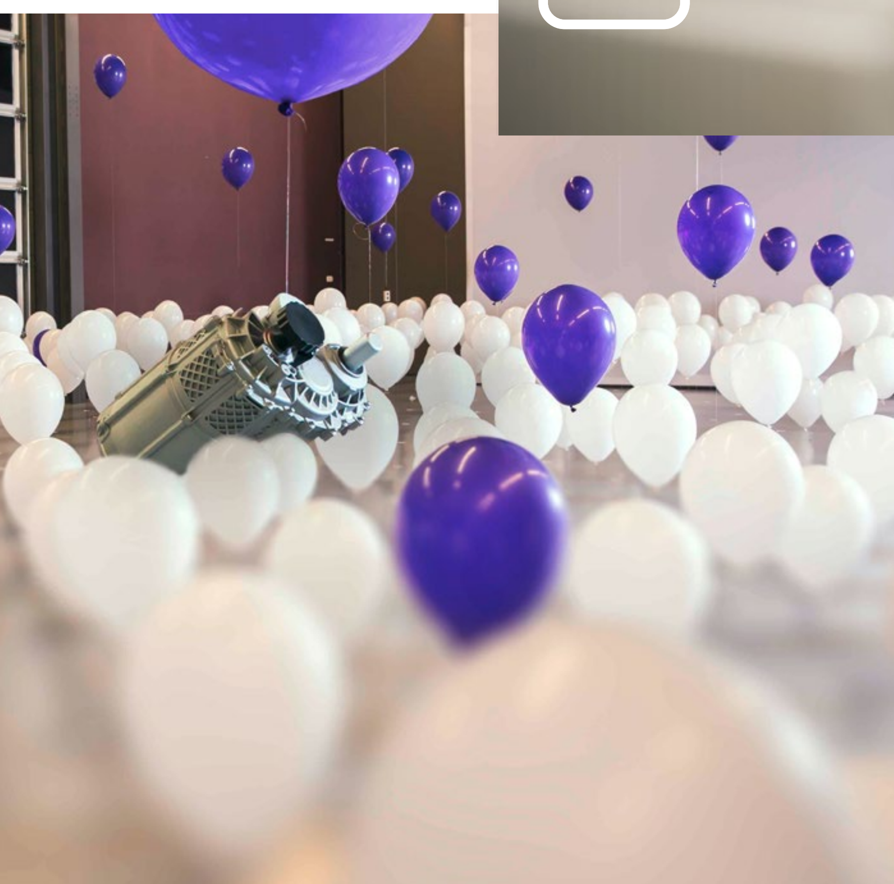
Telling it how it is: in Syria, this became too dangerous for the journalist Hiba Obaid. In Germany, she and other exiled journalists wrote about their experiences in "We vote for freedom," which was published before the German federal elections with the support of the Robert Bosch Stiftung.

5 AREAS IN WHICH BOSCH IS SHAPING CHANGE

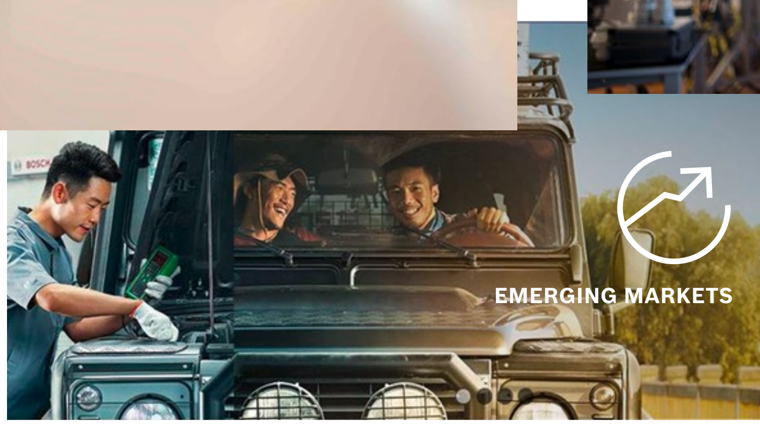
Transformation is the central theme of the digital magazine accompanying the 2017 annual report. It emphasizes how crucial transformation is for Bosch. The magazine stories focus on the five domains in which the company is actively shaping change, as set out in our “We are Bosch” mission statement – automation, connectivity, electrification, energy efficiency, and emerging markets – and explore how this is driving the company’s own transformation.

The stories illustrating Bosch strategy are now available online at annual-report.bosch.com


Simply.
Connected.
CONNECTIVITY




ENERGY EFFICIENCY


EMERGING MARKETS

BOSCH GROUP

GROUP MANAGEMENT REPORT

The Bosch Group can look back on a successful financial year in 2017. Sales revenue and earnings increased substantially, despite the considerable demands resulting from our focus on the challenges of the future. The company's aim is to become a leading supplier for mobility and the internet of things. With regard to this objective, many further strategic advances were achieved and numerous innovations launched in the past financial year. In light of the considerable challenges posed by the impending electrification of the powertrain and by new forms of mobility, the company is also vigorously tackling the need for transformation and positioning itself flexibly. The Bosch Group has developed wide-ranging expertise relating to the internet of things. In this respect, it has also carried out a large number of projects while pursuing a cross-divisional strategy. Connectivity affects all areas of business, from mobility, industrial technology, and consumer goods, to energy and building technology. Looking ahead to the 2018 financial year, our assessment of the economic environment and the growth prospects of the Bosch Group is more cautious than for 2017. We nonetheless intend to continue to increase our margin while also pursuing opportunities related to promising technologies and our transformation.

01

SHAREHOLDERS OF ROBERT BOSCH GMBH

SHAREHOLDING

Robert Bosch GmbH
1%

Bosch family
7%

Robert Bosch Stiftung GmbH
92%

VOTING RIGHTS

Bosch family
7%

Robert Bosch Industrietreuhand KG
93%

02

Bosch Group business sectors

MOBILITY SOLUTIONS

Powertrain Solutions [1]
Chassis Systems Control
Electrical Drives
Starter Motors and Generators [2]
Car Multimedia
Automotive Electronics
Automotive Aftermarket
Automotive Steering
Connected Mobility Solutions [3]

INDUSTRIAL TECHNOLOGY

Drive and Control Technology [4]
Packaging Technology [5]

CONSUMER GOODS

Power Tools [6]
BSH Hausgeräte GmbH

ENERGY AND BUILDING TECHNOLOGY

Building Technologies [7]
Thermotechnology
Bosch Global Service Solutions

[1] Created on Jan. 1, 2018, by merging Gasoline Systems and Diesel Systems divisions
[2] Sold Dec. 31, 2017
[3] New division from Jan. 1, 2018
[4] Bosch Rexroth AG (100% Bosch-owned)
[5] Robert Bosch Packaging Technology GmbH
[6] Robert Bosch Power Tools GmbH
[7] Until Feb. 28, 2018, Security Systems

Fundamental information about the group

The group

The Bosch Group is a global supplier of technology and services, and generates some 48 percent of its sales outside Europe. It encompasses around 440 subsidiaries and regional companies in 60 countries. The parent company is Robert Bosch GmbH, which is headquartered in Stuttgart, Germany. It started out as "Workshop for Precision Mechanics and Electrical Engineering," founded in Stuttgart in 1886 by Robert Bosch (1861 1942). In 1917, the company changed its legal form into that of a stock corporation (Aktiengesellschaft); in 1937, it reorganized as a close corporation, Robert Bosch GmbH. Robert Bosch Stiftung GmbH has been the majority shareholder in Robert Bosch GmbH since 1964.

As a not-for-profit foundation, the Robert Bosch Stiftung has no influence on the strategic or business orientation of the Bosch Group. The voting rights accruing to its share are held by Robert Bosch Industrietreuhand KG, an industrial trust, which performs the entrepreneurial ownership functions. The trust itself owns a capital share of 0.01 percent. Most of the remaining shares and voting rights are held by the founder's descendants. This ownership structure guarantees the Bosch Group's entrepreneurial independence, allowing the company to plan for the long term.

Organization and competitive environment

With more than 400,000 associates worldwide, the Bosch Group's overriding objective is to develop and bring to market solutions that are "Invented for life." The company is highly diversified. It is divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. Reporting is segmented in the same way. All four business sectors are among the leaders in their fields. Their markets and competitive environments vary, in some cases significantly so, with all four business sectors facing increasing competition from new suppliers in emerging markets, especially China. As a result of the internet of things (IoT), new competitors are also emerging from the IT and internet domain as well as the service sector, in some cases with new business models. However, the Bosch Group is also increasingly offering connected solutions and services, with new business models being developed for this purpose.

In the case of Mobility Solutions, the Bosch Group competes mainly with a small number of major automotive suppliers. Its chief customers are still globally operating automakers and large regional producers, particularly in China. This market is changing due to the increasing electrification, automation, connectivity, and multimodal mobility, with additional suppliers and customers entering the market. In the case of Industrial Technology, the Drive and Control Technology and Packaging Technology divisions operate as machinery and systems suppliers in fairly fragmented markets with many competitors and customers. The nature of these competitors and customers is also changing due to increasing connectivity.

In the Consumer Goods business sector, Power Tools and BSH Hausgeräte largely market their products directly to end consumers. These divisions face intense competition from both global and regional providers. In this case as well, new suppliers are entering the market from the IT and internet domain, changing the market structures as a result. In Energy and Building Technology, the Building Technologies (formerly Security Systems) and Thermotechnology divisions compete with a small number of international providers and many regional providers. Connected solutions are making the competitive landscape even more diverse, while the different sectors involved in energy and building technology are converging. The Bosch Global Service Solutions division, which has been an independent division since 2016, competes with both large international rivals and smaller local providers in the fragmented business services market.

Report on corporate governance

The board of management of Robert Bosch GmbH defines the strategy for the entire company and manages the company as a whole. Its responsibilities are set out in the table of duties. 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 appointed by the employee representatives. Robert Bosch Industrietreuhand KG acts as managing partner. In line with the mission handed down in the will of the company founder, Robert Bosch, the trust is responsible for safeguarding the company's long-term existence and, above all, its financial independence. The aim is to guarantee that the company remains independent and able to act at all times.

Owing to German legal requirements, there are targets for the percentage of women members of the supervisory board and board of management by December 31, 2021. The current targets are 20 percent of the supervisory board members of Robert Bosch GmbH, and 10 percent for the board of management of Robert Bosch GmbH. Other targets for Germany for the end of 2021 are 8 percent for the level below the board of management (first management level) and 12 percent for the second management level. At the end of 2017, 6.9 percent had been reached for the first management level (previous year 5.9 percent), while for the second management level the figure was 10.2 percent (previous year 10.0 percent). Globally, the share of women executives across all management levels within the group rose to 16.1 percent (previous year: 15.4 percent). The company's declared objective is to further increase the percentage of women executives at the highest management levels.

Business sectors

Mobility Solutions business sector

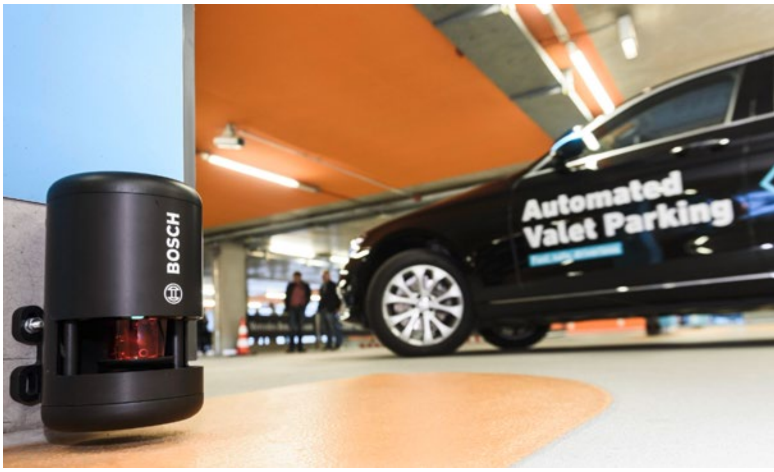
Bosch is one of the world's largest automotive suppliers and is active in various subsegments. The business sector comprises the following divisions:

Powertrain Solutions

The new Powertrain Solutions division was formed effective January 1, 2018. The former Gasoline Systems and Diesel Systems divisions were merged for this purpose. They had previously collaborated closely in the areas of engine management, sensor systems, and powertrain electrification. The division's objective is to develop comprehensive and flexible solutions in powertrain technology, regardless of the energy source. The new organization is consequently geared more closely to the needs of customers through its three operating units for passenger cars, commercial and off-highway vehicles, and electric vehicles.

Until the end of 2017, the Gasoline Systems division was responsible for developing and manufacturing innovative technologies for internal-combustion engines powered by gasoline, natural gas, and ethanol, as well as systems and components for hybrid and electric vehicles and motorcycles. These include engine management systems, fuel supply systems, fuel injection systems, ignition systems, connectors, electric motors, power electronics, battery systems, and transmission technology.

The Diesel Systems division was, until the end of 2017, responsible for an extensive range of energy-efficient, eco-friendly diesel injection systems for applications ranging from passenger cars and commercial vehicles of all kinds to industrial power-generation units. These include the common-rail system, which comprises a high-pressure injection pump, the rail, and various injectors (solenoid and piezo). The portfolio also includes air management systems such as mass air-flow sensors, electronic diesel control, and exhaust-gas management systems such as Denoxtronic. Solutions for diesel hybrid vehicles and for fuel-cell technology are additional areas of activity.



Chassis Systems Control

The Chassis Systems Control division develops and manufactures innovative components, functions, and systems that enable safe, relaxed, dynamic, and automated driving. These include brake actuation products such as vacuum-based and electro-magnetic brake boosters, as well as brake discs. ABS, TCS, and ESP® electronic braking control systems are an important area of activity. The division also supplies sensors such as speed, steering-angle, and yaw-rate sensors, as well as electronic equipment to protect occupants and pedestrians, such as airbag control units and crash sensors. A fast-growing area is that of driver assistance systems based on ultrasonic, radar, and video sensors, which are also used as the basis for automated driving. A separate unit was established for this purpose in 2017. The division's portfolio also includes products such as ACC adaptive cruise control, predictive emergency braking systems, lane-keeping systems, and parking assistants.

Electrical Drives

The Electrical Drives division's portfolio stretches from a wide variety of electromechanical components to entire systems for automotive body applications. These include innovative and energy-efficient actuators, as well as systems and components for engine thermal management, air-conditioning, and windshield cleaning. The product portfolio covers actuators for electric windows, seat adjustment, and sunroofs, as well as fan modules and engine-cooling drive systems, pumps and valves for cooling systems, front and rear wiper systems, and wiper blades. Electrical Drives also makes motors for electric steering systems, for ABS and ESP® systems, and for e-bikes.

Starter Motors and Generators

The sale of the Starter Motors and Generators division was completed at the end of 2017, with the division having been spun off into a separate entity in the summer of 2016. Prior to the sale, it had been responsible within the Bosch Group for the development, production, and sale of starter motors and alternators for passenger cars and commercial vehicles.

Car Multimedia

The Car Multimedia division offers intelligent solutions that help make the integration of in-car entertainment, navigation, telematics, and driver-assistance systems better and more flexible, as well as easy to operate. Vehicle infotainment architectures are making ever greater use of the internet, and increasingly becoming connected systems. The portfolio includes driver information and infotainment systems for worldwide use, as well as digital display instruments. In addition, the division offers communication and entertainment systems for use in both commercial vehicles and buses and on motorcycles.

Automotive Electronics

Automotive Electronics develops and manufactures microelectronic components and systems. The product range for automotive applications extends from semiconductors and MEMS (microelectromechanical systems) sensors to control units for systems including body electronics, braking control, and engine management. Automotive Electronics also includes the Bosch eBike Systems unit and, in the IoT domain, the subsidiary Bosch Connected Devices and Solutions GmbH. In entertainment electronics, Bosch Sensortec GmbH supplies MEMS sensors for a very wide range of applications.

Automotive Aftermarket

The Automotive Aftermarket division offers a comprehensive range of automotive spare parts for the aftermarket and for repair shops worldwide – from new parts to reconditioned spares and repair solutions – as well as diagnostic and repair-shop solutions. The product portfolio consists of Bosch original-equipment products, as well as services and products developed and manufactured in-house for the spare parts market. The division is also represented in the market by Bosch Car Service and AutoCrew, two independent repair-shop franchises.

Automotive Steering

Automotive Steering manufactures and sells steering technology for passenger cars and commercial vehicles. In addition to complete steering systems for vehicles ranging from compact cars to commercial vehicles, including steering columns and steering pumps, the product line also covers components such as valves, universal joints, and steering shafts. Electric steering systems are the main area of activity. They are of great importance for driver assistance systems, and will in the future be essential for automated and electric vehicles.

Connected Mobility Solutions

The new Connected Mobility Solutions division was formed at the start of 2018. It brings together the connected mobility solutions and services that had previously been spread across various units within the Mobility Solutions business sector. The goal of the reorganization is to offer customers connected solutions from a single source and to further develop the Automotive Cloud Suite, the company's platform for interconnected mobility solutions. At present, these include data-based business models and solutions for vehicle manufacturers, fleet operators, and insurance companies, as well as for end consumers. Examples include data capture and analysis, updating software in the field, electromobility services, connected parking solutions, and sharing schemes such as the use of e-scooters in selected cities.

Other businesses

The cross-divisional Two-Wheeler and Powersports unit has access to the worldwide resources of the Mobility Solutions business sector. For two-wheelers, Bosch offers safety systems such as ABS and MSC motorcycle stability control, fuel-saving powertrain technology, display instruments, and communications units. The Commercial Vehicles and Off-Road unit works along similar lines within the Mobility Solutions business sector. It has cross-divisional responsibility for systems development, product management, and sales in the commercial-vehicle and off-highway business. In addition to powertrain electrification, these include driver assistance systems and 360-degree vision systems to make materials handling vehicles safer.

The Bosch companies in the ETAS Group provide innovative solutions for embedded software systems that are used in the automotive and other industries. The subsidiary escrypt GmbH Embedded Security, Bochum, Germany, develops cyber-security solutions.

Our Bosch Engineering GmbH subsidiary, Abstatt, Germany, offers a wide range of customized solutions based on the tried and tested technology used in large-scale production. For example, it provides solutions for sports cars and off-road vehicles, but also for railcars, marine applications, and industrial engines. Bosch's motor racing activities are also based there.

In addition, ITK Engineering GmbH, Rülzheim, Germany, which we acquired at the start of 2017, offers customized systems and software development under its own brand, with engineering operations separate from Bosch.

Industrial Technology business sector

This business sector comprises two divisions and, since the beginning of 2018, one business unit:

Drive and Control Technology

Our Bosch Rexroth AG subsidiary specializes in drive and control technology. Its portfolio includes customized drive, control, and linear motion solutions for factory automation, plant construction and engineering, and mobile machinery. The division operates globally in many industries as a systems partner, service provider, and supplier. It also has a comprehensive range of services, carries out large-scale international projects, and is a leading user and provider of connected manufacturing solutions.

Packaging Technology

The division provides process and packaging solutions for the pharmaceuticals and foodstuffs industries. Its range includes standalone machines, systems solutions, and an extensive service portfolio. The division also includes ATMO, Bosch's in-house provider of assembly systems and special-purpose machinery. ATMO develops flexible, scalable plans for assembly systems, customized solutions in the field of testing and process technology, and related services.

In addition, the new Bosch Connected Industry business unit has been part of the Industrial Technology business sector since the start of 2018. It combines the software development and projects relating to Industry 4.0 that had previously been spread across different units.

Consumer Goods business sector

The business sector comprises two divisions:

Power Tools

Bosch Power Tools is a supplier of power tools, power-tool accessories, and measuring technology. The division has an extensive range of products aimed at both professional and do-it-yourself users. In addition to power tools such as hammer drills, cordless screwdrivers, and jigsaws, the product line also includes gardening equipment such as lawnmowers, hedge trimmers, and high-pressure cleaners. One of the division's focal points is convenient, high-performance cordless tools, and increasingly also web-enabled tools and services. Power Tools also offers laser measurement tools for both professional and DIY needs. The accessories include a comprehensive range of abrasive systems, drill bits, and saw blades. Precision power tools for DIY users and amateur crafters are also sold under the Dremel brand.

BSH Hausgeräte GmbH

The household appliance manufacturer BSH Hausgeräte GmbH (BSH Hausgeräte) has a product portfolio that ranges from washing machines and tumble dryers through refrigerators and freezers, stoves and ovens, and dishwashers, to small appliances such as vacuum cleaners, coffee makers, and food processors. The household appliance specialist sells its products under the global Bosch and Siemens brands (the latter under license), as well as under the Gaggenau and Neff brands. It also has its own regional and specialty brands such as Thermador, Constructa, and Junker.

Energy and Building Technology business sector

In addition to the Building Technologies, Thermotechnology, and Bosch Global Service Solutions divisions, the business sector includes the Robert Bosch Smart Home GmbH unit, as well as the Bosch Energy Storage Solutions and Cross Selling projects.

Building Technologies

The Building Technologies division (formerly Security Systems) has two areas of business: the global product business for innovative security and communications solutions, and the regional integrator business. The latter offers solutions and services for building security, energy efficiency, and building automation in selected countries. Both units focus on commercial applications. The product portfolio encompasses video-surveillance, intrusion-detection, and voice-alarm systems, access-control and software management systems,

as well as professional audio, conference, and fire-detection systems. With the aim of aligning the product business even more closely to customers' integrated security requirements, the division's five previously existing business units have been combined into three (security, communication, fire).

Thermotechnology

The Thermotechnology division supplies energy-efficient heating products and hot-water solutions, primarily in Europe. The division's products are sold under international and regional brand names such as Bosch, Buderus, Worcester, and Junkers. The product portfolio ranges from heaters to heat pumps, solar thermal systems, and solid-fuel boilers, to cogeneration plants and industrial boilers. With a view to functions such as remote diagnosis, web-enabled devices are becoming more and more important. The division is also increasingly providing comprehensive solutions for new buildings, comprising energy management, heat pumps, ventilation, and highly efficient air-conditioning technology.

Bosch Global Service Solutions
The Bosch Global Service Solutions division offers outsourcing for business processes and services, primarily for customers in the automotive, travel, and logistics industries and in information and communications technology. Within Bosch, it also provides shared-service functions.

Robert Bosch Smart Home GmbH
Robert Bosch Smart Home GmbH, Stuttgart, Germany, offers web-enabled, app-controlled products such as interior cameras and fire and motion detectors. It brings products and services for smart homes together under one roof, including the associated systems and software expertise.

Companies not allocated to business sectors
The Bosch Group's global software and systems unit, Bosch Software Innovations GmbH, Berlin, designs, develops, and operates IoT and enterprise software and systems solutions worldwide. Its applications relate particularly to mobility, energy, manufacturing, and buildings.

The subsidiary Bosch Healthcare Solutions GmbH, Waiblingen, Germany, operates in the medical technology sector, supplying sensors, software, and services. It is actively extending its portfolio. In addition to equipment for therapy management and laboratory diagnostics, the product range comprises services to increase safety and ceramic components for surgical instruments.

Robert Bosch Start-up GmbH, Stuttgart, Germany, offers a platform within the Bosch Group for the development and trial of new ideas. It gives internal start-ups access to Bosch's resources and expertise, and supports them with business know-how in areas such as controlling and marketing.

Prospects for the Bosch Group

Fundamental direction
Bosch is undergoing a fundamental transformation. Many areas of business are set to change radically over the next ten years. The internet of things and its accompanying increases in connectivity and automation are presenting a major opportunity for the company as a whole. This connectivity affects all Bosch's areas of business, from mobility solutions to industrial technology to products marketed directly to consumers such as household appliances and power tools, to energy and building technology. An additional major change will come from the increasing electrification of automotive technology.

The starting point for our strategy is the objective of securing the company's future as set out in the will of founder Robert Bosch – in other words, ensuring the company's strong and meaningful development and securing its financial independence. Our goal is to develop products that are "Invented for life," that fascinate, that improve quality of life, and that help conserve natural resources. In this respect, "products" means not only physical products and services, but also digitally connected, software-based solutions. This is changing the value chain; new value-adding activities are emerging, such as mobility providers and aggregators who bring together the content offered on various platforms. For this reason, we are driving forward innovations in both products and business models, and entering entirely new business fields. At the same time, we are also having to adapt our existing business operations.

As affirmed in our "We are Bosch" mission statement, one of our strategic focal points is shaping change, taking into account the aspects of connectivity, electrification, automation, energy efficiency, and emerging markets. It is our ambition to play an active part in shaping the far-reaching changes that are emerging in markets and technology. Apart from shaping change, our strategic focal points are customer focus and excellence.

Customer focus means having a precise understanding of customers' needs and using this understanding to find the best solution for products and business models. Excellence in all areas is essential in order to achieve our targets for growth, earnings, and agility on a lasting basis. In this respect, we measure ourselves against our best competitors. With efficient processes, lean structures, and high productivity, we aim to secure and increase the value of the company. A business environment that is changing at an ever faster pace also calls for a high degree of adaptability and greater agility.

To achieve this, we are constantly reappraising our understanding of leadership, collaboration, organization, and communication, as well as the models based on these concepts.

When putting our strategy into practice, we build on our strengths: the Bosch culture, our high level of innovation and quality, and our broad global presence. Our actions are based on the Bosch values: a clear future and result focus, responsibility and sustainability, initiative and determination, openness and trust, fairness, reliability and credibility, legality, and diversity.

A wealth of opportunities

Changes in markets and technology are opening up a wealth of opportunities for growth in the Bosch Group, particularly with regard to increasing connectivity. This connectivity is made possible by the miniaturization of electronics and ever more powerful sensors, data networks, data storage devices, and computers. More and more products can be inexpensively connected to the internet. In view of our expertise in many product areas, in software and internet technology, and in sensor technology as a supplier of MEMS sensors, we believe this offers us huge opportunities.

Automation primarily affects the Mobility Solutions and Industrial Technology business sectors. As road traffic density continues to grow, automated driving can help reduce the number of accidents and improve traffic flow. New types of services and business models offer drivers flexible and convenient mobility.

Where industrial technology is concerned, numerous opportunities are arising from increasing flexibility and connectivity in manufacturing. This opens up new ways of enhancing product quality and productivity, of adding functionality, improving resource conservation, and better protecting workers' health and safety. It also opens up potential for new services. In the Consumer Goods and Energy and Building Technology business sectors, connectivity and increasingly smart products are creating additional opportunities for growth through new services and business models.

Electrification is of particular importance for Mobility Solutions, our biggest business sector. The key drivers for electrification and electromobility are new emissions standards aimed at complying with climate targets and improving air quality in cities, falling battery costs, and, not least, driving enjoyment.

We aim to increase energy efficiency both in our products and in our own value chain. Drivers include the growing demand for energy, ever tighter regulations relating to greenhouse emissions and pollution, and the finite nature of fossil fuels. This will lead to a further increase in demand for energy-efficient products in all business sectors.

The emerging markets of Asia, South America, central and eastern Europe, and Africa are home to the majority of the world's population, with a high demand for goods and services. As a result, they will generally experience higher rates of growth than the advanced economies. For this reason, we are constantly expanding our presence in those regions. There is demand for affordable products that often have to meet special requirements of the local market, such as robustness and ease of repair. Africa is an increasingly promising market for us.

Business targets

Our goal is profitable growth. We want to grow more rapidly than the market in Europe, grow our sales in Asia Pacific and the Americas faster than in other regions, and become more established in Africa. In terms of business sectors, we aim for a balance between Mobility Solutions and our other business sectors. We have also set ourselves the goal of an EBIT margin from operations of around 7 percent, derived from benchmark comparisons of operating units, taking into account the upfront investments needed for growth projects and the expenditure for the change processes this will involve. The target margin is reviewed regularly in light of the current portfolio. The negative effects on earnings from increased depreciation and amortization as a consequence of the complete takeover of the former joint ventures Automotive Steering and BSH Hausgeräte are not taken into account in the target margin from operations.

Strategy and innovation

Leading role in IoT

Our goal is to become one of the world's leading IoT companies. Coming from a classic product-manufacturing background, the strategy we pursue here is one of enhancing our proficiency in software development and product connectivity in order to grow and enhance our product business. This opens up entirely new business opportunities, especially for services. We regard our presence in diverse markets and industries as an advantage, because of the many insights we gain as a result.

It has been nearly ten years since we started our IoT activities. Even at an early stage we had our own software platform, the Bosch IoT Suite, which we are continuing to expand in stages. The aim is for all our internet-enabled devices to be registered through this platform. In parallel with this, we are working to make all Bosch products internet-enabled over the next few years. We also launched the Bosch IoT Cloud in 2016. In addition to providing the technical infrastructure, it includes platform and software products for the fields of mobility, connected industry, and connected buildings. Furthermore, in the shape of the Bosch Center for Artificial Intelligence, we have had our own center of competence for artificial intelligence (AI) and machine learning since 2017.

We operate on all three levels of connectivity: intelligent and connected devices, software platform (Bosch IoT Suite), and applications and services. As a leading MEMS supplier, we additionally have a high level of expertise in sensor technology. We do not see our role as being limited to providing smart, web-enabled products, attractive software, or applications for the various markets and industries. We also want to play a major part in shaping key IoT ecosystems. Our aim is to maximize the ease with which users can access the various IoT products in the Bosch Group. The Bosch IoT Suite is designed as an open platform to make it appealing to a wide range of application developers.

The business sectors have already created a number of connectivity solutions. With the aid of artificial intelligence, we are also opening up new areas of business based on sensors and data analysis. One example is connected agriculture, with which we aim to reduce the need for pesticides, among other goals.

IoT expertise consolidated in new units

A key strategic step is the consolidation of connectivity activities into cross-sector units in order to implement comprehensive market strategies and further expand work in this area. For this reason, from the start of 2018, we have pooled our connected mobility services and connected service solutions under the umbrella of the new Connected Mobility Solutions division. Linking all transport users and vehicles to the internet, along with the related services, is a key element of future mobility strategies and offers significant growth potential for Bosch. The objective is to offer business customers and consumers solutions from a single source.

Mobility services and connected vehicle services are a strategic area of growth in this respect, for which we have already created a broad basis. Examples include wireless data acquisition and over-the-air software updates, electromobility services, sharing solutions and solutions for combining different modes of transport, as well as connected parking solutions. For instance, our subsidiary Coup Mobility GmbH, Berlin, Germany, provides e-scooters for inner-city use in selected European metropolises. We are testing community-based parking in German and European cities. As they drive along, vehicles detect and measure the gaps between parked cars and transmit this data to the cloud, where a digital parking map is created. In a business model involving automakers, the information is then made available to drivers, simplifying the search for curbside parking in downtown areas.

In the Industrial Technology business sector, we have also consolidated our numerous current software projects relating to Industry 4.0 in an independent business unit, Bosch Connected Industry. The new unit is intended to support us in our goal of becoming a leading user and provider of Industry 4.0 solutions. Marketing operations will be done in cooperation with the Drive and Control Technology and Packaging Technology divisions. The initial focus will be on major manufacturing companies in the mechanical engineering sector (including components), the automotive industry, and the pharmaceuticals and foodstuffs industries, with an emphasis on manufacturing and logistics operations.

Great importance of partnerships

Especially in the promising area of connectivity, partnerships play an important role. This is the case in both research and the market. In this respect, we entered into further partnerships in 2017. In the field of artificial intelligence, the Bosch Center for Artificial Intelligence and the University of Amsterdam are now collaborating in the Delta Lab research joint venture. The focus of the work is “deep learning” – machine learning on the basis of artificial neural networks. In 2017, Bosch and other international companies also established an alliance for the use of distributed ledger technologies, a type of distributed database for secure data transfer. Together with Nokia, our subsidiary Bosch Rexroth is exploring the machine communication options for real-time Industry 4.0 solutions, using the 5G standard for mobile data transfer. In the mobile environment, we are also working with Vodafone and Huawei to investigate the use of the 5G standard for vehicles. Jointly with partners from industry and logistics, we have concluded the ProveIT research project relating to logistics for connected industry. This involved an integrated planning and management platform using a mobile app for the carriers. The platform also provides important information for materials and transport planners working in plants. Bosch was also one of the founding partners of Cyber Valley in the area around Stuttgart and Tübingen, Germany.

Bosch agreed a whole series of joint ventures relating to automated driving and connected mobility in 2017. A development alliance between Bosch and Daimler AG is designed to make fully automated, driverless vehicles possible by the start of the next decade. The goal is the development and market launch of a system of driverless vehicles that is ready for production, for use in urban public transport.

The partnership with the mapping service provider HERE, in which we took an indirect 5 percent stake in February 2018, delivers synergies in data-based services for connected mobility solutions, Industry 4.0, smart homes, and smart cities. In a joint venture with TomTom, a provider of maps and traffic information, we have developed a localization service for automated driving on the basis of radar signals. Along with Geo++, Mitsubishi Electric, and u-blox, we are partnering in the Berlin-based joint venture Sapcorda Services GmbH, which will offer globally available positioning services via internet and satellite transmission. Further afield, Bosch has been partnering with the Chinese companies AutoNavi, Baidu, and NavInfo on high-precision maps for automated driving since 2017. We have also been collaborating with Baidu on the Apollo project, an open platform for the development of driverless cars. In addition, we are working with Sony Semiconductor Solutions to develop a new camera technology for improved surround sensing by video sensors, even in low light conditions.

A cross-divisional project in which a number of Bosch units will be involved is the joint venture agreed in 2017 with the northern Chinese port city of Tianjin, which is to be developed into a smart city. Other alliances in which Bosch is involved relate to connected industry, with partners such as SAP, Dell Technologies, IBM, and Software AG. Strategic alliances also include the German Plattform Industrie 4.0 and the U.S.-based Industrial Internet Consortium. We are also a strategic member of the Eclipse Foundation international open source community and partner in the German Labs Network Industrie 4.0.

New wafer fab in Dresden

We are building a new wafer fab in Dresden, where we will invest a total of around one billion euros. This makes it the biggest single investment in the company's history. To satisfy the demand generated by the growing number of IoT and mobility applications, the new location will manufacture chips on the basis of 300-mm wafers. Using this technology will allow economies of scale to be achieved relative to the existing manufacturing of 150 and 200 mm semiconductors, and help serve the growing demand that is resulting from the rise in connectivity in many areas. Bosch has been making semiconductor chips in multiple variants for more than 45 years, primarily application-specific integrated circuits (ASICs), power semiconductors, and micro-electro-mechanical systems (MEMS). Construction of the high-tech plant is scheduled to be completed by the end of 2019. Following a rollout phase, manufacturing operations are expected to start at the end of 2021.

Mobility Solutions

In the Mobility Solutions business sector, our goal is to become one of the leading suppliers in the promising areas of electrified, automated, and connected driving, and in connected mobility services. We are also intensifying our efforts to combine different modes of transport. Our vision is to make mobility emissions-free, stress-free, and accident-free, as well as multimodal. We are focusing our activities on these areas and adapting them as necessary with an eye to the future.

Transformation of the powertrain

One major strategic step at the start of 2018 was the consolidation of the Gasoline Systems and Diesel Systems divisions to form the new Powertrain Solutions division. Our aim in establishing this new division is to continue playing a leading role with our components and systems for internal-combustion engines while achieving a similar position with regard to electromobility. We also want to achieve greater flexibility where our customers and manufacturing workforce are concerned, as we still cannot predict which powertrain or combination of powertrains will predominate when. As a result, customer focus is at the forefront of the organizational setup at Powertrain Solutions. Instead of being based on powertrain types, the division is organized into customer segments: passenger cars with internal-combustion engines including hybrid models, commercial vehicles including off-highway vehicles, and electric vehicles.

Despite both the current debate surrounding diesel cars and the decline in new diesel vehicle registrations in Europe, and bearing in mind technical potential and ecological requirements, we believe there will be a mix of combustion engines and electric vehicles on the road for a long time yet. Diesel will also play an important role in this. In a number of customer projects, we are supporting automakers in the implementation of the Euro 6d emissions standard, i.e. in complying with the latest limits under real driving conditions. As a result, we are working intensively on further improvements to internal-combustion engines, for example by combining gasoline inlet manifolds and gasoline direct injection and thus their respective advantages under partial and full load. Other innovations include needle closing control, which allows the injection period in diesel engines to be controlled even more precisely, and the vehicle control unit, which reduces the number of control units within the vehicle considerably. With our iDisc, a new type of brake disc with a hard metal coating of tungsten carbide, we want to reduce particulate-matter pollution from brake dust.

We are also pressing forward with electrification in powertrain technology, drawing on our systems components. In this endeavor, we are focusing on the development and manufacture of key components of the electrical powertrain, such as the electric motor, power electronics, and battery systems. We will keep buying in the cells we need for our battery systems. Bosch will continue to work with cell suppliers to design cells for hybrid- and electric-vehicle batteries, and purchase these cells from them. For this reason, we decided at the start of 2018

to discontinue our research into current and future cell technologies, whose brief was to assess the feasibility of in-house cell production. The Stuttgart-based Lithium Energy and Power GmbH & Co. KG joint venture for lithium-ion technology will be dissolved. The subsidiary Seeo, Inc. based in Hayward, CA (USA), which researches into solid-state technology, is to be sold. We will transfer the extensive expertise we have built up in recent years in the field of battery cells to a center of competence, where we can develop it further.

Our current portfolio for powertrain electrification comprises innovative standard products and a modular system that reduces the amount of calibration effort for individual vehicles. At the end of 2018, we will start production of a new 48 volt battery for hybrid vehicles, enabling us to cover the entry-level segment. With a motor, control unit, charger, and display as well as connectivity via an app, the 48 volt system is a standardized and therefore easy-to-integrate drive unit for two-wheelers and small four-wheeled vehicles.

In 2019, we intend to launch an electric axle drive, the e-axle, on the market. It integrates a motor, power electronics, and transmission in a single drive unit. We are also looking into the electrification potential of commercial vehicles. In collaboration with the Chinese engine manufacturer Weichai, we are developing fuel-cell powertrains for commercial vehicles. Together with the start-up Nikola Corporation, Salt Lake City, UT (USA), we are working on an efficient electrical powertrain with a fuel cell as power generator and storage medium. Growth areas for electric vehicles also include thermal systems, as the inverter and battery must likewise be integrated into the thermal circulation system.

The growth market for automated and connected mobility

We are also pressing ahead with automated mobility. The core technologies here include artificial intelligence and mobile data transfer. To this end, we are gradually turning our driver assistance systems into systems for automated and connected driving. In addition to radar, video, and ultrasonic sensors, these systems include braking control systems, steering systems, electric display instruments, and connectivity solutions inside and outside the vehicle. We are also bringing a new generation of the iBooster to the market. This product not only allows faster brake-pressure build-up, but also, in combination with the ESP® electronic stability program, offers the braking-system redundancy required for self-driving cars. One further key technology for automated driving is innovative electric power steering. An important innovation that we premiered in 2017 is the onboard AI computer, which is designed to steer vehicles through complex and unknown traffic situations. We are also developing a cloud-based road-condition service. This uses the ESP® sensors to provide information on the quality of the road surface. Weather data and road sensor data is added and then shared in real time via connected vehicles.

When it comes to the safety of drivers and other road users, we are focusing more intensely on intelligently linking up surround and inertia sensors with the braking and steering systems. This will allow safety systems such as airbags or belt tensioners to be deployed at an earlier point in time and adjusted to the particular accident, thus mitigating its consequences. We have launched a new automatic emergency braking system to reduce the number of accidents involving cyclists or pedestrians. It uses radar or video sensors to detect cyclists or pedestrians suddenly passing in front of the vehicle. If necessary, full automatic braking is triggered.

In addition, we have started production of an ABS antilock braking system for e-bikes, with which we will make a significant contribution to safety. Our engineers in Australia have developed the Trailer Safety Control system for tractor-trailer combinations such as towing vehicles and caravans. This control device is designed to prevent the trailer from swerving.

In connected mobility, the human-machine interface takes the form of cockpit designs that offer increased safety and convenience while reducing driver distraction. To this end, we have introduced an anti-glare instrument cluster which can be read more easily from any angle of view, both in bright sun and in darkness. We use a new manufacturing process with a thin layer of fluid to bond the screen with the glass. In addition, we are combining the functions of the instrument clusters with infotainment in a single computer unit, the cockpit computer.

We are also working on using our product portfolio to open up additional markets for commercial and off-highway vehicles as well as two-wheelers. Connectivity is also gaining importance in the automotive aftermarket. Through innovations such as augmented reality applications, we can offer solutions to assist mechatronics engineers in complex repairs. This could involve, for example, using tablet computers to superimpose the required additional information onto the real image obtained by pointing the device's camera at the vehicle.

More focus needed

With mobility becoming electrified, automated, and connected, and given the high upfront investments associated with this trend, we also need to focus our activities more. As announced, we have sold the Starter Motors and Generators division. We have also signed an agreement to sell the Bosch Mahle Turbo Systems joint venture for turbochargers. In addition, we intend to sell the "Rund um das Rad" wheel business in the Automotive Aftermarket division. This affects our subsidiary companies Beissbarth GmbH, Munich, Germany, and Sicam S.r.l., Correggio, Italy. Furthermore, we are examining various restructuring options in our steering columns unit.

Industrial Technology

Drive and Control Technology on a promising path

The Drive and Control Technology division systematically pressed forward with its restructuring program in 2017. At the same time, a wide-ranging transformation program helped improve competitiveness. This program comprises a strategic realignment on the market and product side, a change in the organizational structure through the creation of nine business units instead of two with many different product groups, and a comprehensive initiative to change the corporate culture. The realignment was carried out in 2017, against the backdrop of a significant recovery in the market.

The division is also focusing increasingly on innovation, technological USPs, synergies in the market and within the Bosch Group, and promising new fields. The general trend is moving more and more toward software-based, automated, and connected solutions. As a result, Bosch Rexroth is positioning itself as a provider of Industry 4.0 solutions for the factory of the future, in addition to its traditionally strong standing in industrial hydraulics and especially in mobile hydraulics. These areas are also being promoted internationally. Bosch Rexroth opened its first Industry 4.0 innovation center in China in 2017.

In the three areas of factory automation, plant construction and engineering, and mobile machinery, furthermore, our subsidiary is developing a number of new products, software, and services that focus more on electrification, electronification, and connectivity. A central approach is the cross-technology linking of machinery and plant through the combination of electromechanics, hydraulics, and linear motion technology, particularly in order to boost the efficiency of existing facilities. Open connectivity architectures are key to this. The tool used for this purpose is the company's own IoT gateway, which enables new and existing machinery to be connected quickly. A new feature is the Device Portal, developed jointly by Bosch Rexroth and our internal software specialist Bosch Connected Industry; it allows central management of distributed infrastructures, including installation, configuration, and remote maintenance.

In hardware, too, Bosch Rexroth is driving forward new developments, ranging from CNC systems that enable a large number of standard applications to be used, to industrial 3D printing and the manufacturing of small batch sizes. Jointly with Heraeus and Trumpf, an industrial hydraulics project is being set up that uses selective laser melting for the cost-effective manufacture of hydraulic components, especially servo valves. In the context of the new Bosch electrical/electronic architecture for commercial vehicles and mobile machinery, Bosch Rexroth is currently developing an innovative series of control units. To complement these, sensors with SENT (single-edge nibble transmission) interfaces have been developed. Widely used in the automotive industry, these transmit both loss-free measurements and status data to the control unit. When it comes to components as well, innovation plays a major role. With high-performance servo and linear motors, for example, Bosch Rexroth is extending its product range for automation and electrification. A new class of self-cooling linear motors ensures less attrition and significantly higher productivity for a broad range of tasks, from digital and 3D printing to laser cutting and component placement.

In industrial hydraulics, the company is pressing ahead with electrohydraulics and making it ready for Industry 4.0. For example, Rexroth machine control units already enable data and information from the field to be processed by Bosch IT systems, either directly or in the Bosch IoT Cloud. This enables manufacturing companies to increase their productivity and flexibility. In mobile hydraulics, electronification opens up additional opportunities for optimization. For example, a new generation of hydraulic systems improves the interaction between tractors and coupled machinery through integrated electronic signal processing. In the context of electronification, the company is also developing new data-based services. A range of apps help to reduce product costs, save time, and improve availability.

In 2017, our subsidiary won a major contract for Ho Chi Minh City's flood risk management project. Once completed, a network of storm-surge barriers should help provide the 6.5 million inhabitants of the Vietnamese capital with protection against flooding. Bosch Rexroth will supply hydraulic cylinders weighing up to 25 metric tons for use in the floodgates, as well as the lifting and rotation segments.

Packaging Technology to be realigned

The core business of the Packaging Technology division involves process and packaging solutions for the pharmaceuticals and foodstuffs industries. Following a series of acquisitions in previous years, the strategic focus is now on consolidation. Organizationally, closer alignment to the market has led to concentration on two business units and to the spin-off of the German locations Crailsheim, Viersen, and Waiblingen into a legally independent entity, Robert Bosch Packaging Technology GmbH. These sites had previously formed part of Robert Bosch GmbH. Other consolidation activities consist of streamlining the development and manufacturing network, reviewing particular elements of the portfolio, and strengthening the service business.

Accordingly, the division is extending its range of services to cover the entire life cycle of manufacturing facilities. The basis for this is the linking of manufacturing data with Packaging Technology's expertise. For example, the division offers a maintenance support system which provides machine operators and service technicians with data about machinery and analyses based on it. A condition monitoring platform also collects detailed data on the status of machines, lines, and processes, while helping customers to continuously increase plant efficiency.

For the foodstuffs sector, the division debuted an innovative new system design for the linear filling of milk products and other pumpable foods. This is in keeping with the division's change of direction toward modular, standardized plant structures that cater to a wide range of customer requirements. It also makes an efficient value chain possible, from sales through plant construction to service.

In the new system design, both the filling and sealing systems as well as the required level of hygiene – up to highly aseptic – are fully modular. Another focus is on developing sustainable packaging solutions that conserve resources. One example is the first sealable, fully recyclable packaging for dry foodstuffs made of specialized paper. It has already received a number of awards.

In the pharmaceuticals industry, the Xelum platform for the continuous production of tablets was unveiled in 2017. It combines the measuring out, mixing, granulating, and tableting steps in one end-to-end process. The manufacturing conditions are constantly monitored by smart sensors. Another innovation is a new inspection machine for testing the vacuum-tightness of pharmaceutical containers. As a result, Bosch Packaging can for the first time offer a full range of inspection technology for liquid pharmaceutical products.

Consumer Goods

Power Tools strongly focused on users

The Power Tools division owes its success to its consistent focus on users, who are systematically involved in the development of products and services right from the start. As a result, functions and designs are adapted to the needs of the particular target group. Modern development methods such as scrum and design thinking are employed. These methods enable Power Tools to boost its capacity for innovation – a key element of the division's strategy. In 2017, one example of product innovation was a cordless all-purpose saw for home and garden use featuring a revolving micro-chain, which makes sawing both easy and precise. In 2018, power-assisted universal cordless garden clippers will be launched on the market. With these, if more than a minimum level of force is required for cutting, electronic power support is switched on automatically. In creating these products, Power Tools is making increasing use of synergies from other business sectors in the Bosch Group. When developing a cordless vacuum cleaner for windows, for example, the division drew on the Mobility Solutions business sector's extensive experience with windshield wipers.

For tradespeople, productivity is the main issue. To cater to this target group, the division is bringing very compact high-performance batteries to the market. Connected power tools are also boosting productivity. An angle grinder was added to the range of such tools in 2017. It can be configured to meet particular needs using a smartphone; important information such as the battery level can also be viewed. An innovation for users in emerging markets is an easy-to-use electric screwdriver which is small yet powerful, as well as affordable. In emerging markets especially, affordability is a further strategic focus, in addition to innovation.

A third strategic focal point is exploiting the rise of digitalization. In 2017, digital activities were combined into one unit. The objective is to drive forward digital expertise in sales and marketing, development, controlling, and finance, as well as manufacturing. To optimize its focus on the user, Power Tools is going even further. The entire organization is to be realigned. At the core of this reorganization is the creation of smaller units, in which specialists from a wide range of departments such as development, marketing, and logistics will collaborate. As a team, they will devote themselves to particular projects and products.

From a regional viewpoint, the division continued to develop its sales organizations and create new service centers in Africa. In Europe, Bosch has expanded the sale of professional power tools to include DIY stores, in addition to distribution via specialist outlets and online. In addition, the accessories business is being stepped up, especially in the United States. With an eye to safeguarding its profitability over the long term, the division – which in 2017 was spun off into the subsidiary Robert Bosch Power Tools GmbH – is simultaneously pressing forward with optimizing its manufacturing network based on the principle of local manufacturing for local users.

BSH Hausgeräte expands its digital expertise

BSH Hausgeräte continues to have ambitious growth targets. The strategic priorities of this subsidiary, which celebrated its 50th anniversary in 2017, are the expansion of digital expertise and the development of new business models for the internet of things. BSH Hausgeräte's software platform, Home Connect, is already available across a large number of countries. The multi-language Home Connect app allows control of the entire range of functions for household appliances. Designed as an open platform, the system will be gradually expanded to include additional services and the involvement of partners, for example incorporating voice control using third-party voice assistants.

In addition, BSH Hausgeräte acquired a majority stake in the start-up Kitchen Stories in 2017. Using high-quality recipe suggestions and video guides, its app aims to inspire users to cook. Looking ahead, the Home Connect app will also provide a download option for the recipes. New business models also include the in-house start-up We Wash, providing a sharing service for washing machines and dryers. By connecting the appliances to an app, We Wash makes the use and billing of communal washing facilities more convenient. Starting in 2018, a new unit within BSH Hausgeräte is will have the task of identifying and developing digital business models, as well as pooling digital expertise within the subsidiary.

BSH Hausgeräte also has the objective of substantially expanding the global household-appliance business. To this end, the global manufacturing network is being extended. In Wrocław, Poland, a new production site was opened in 2017 to manufacture refrigerators and ovens. In China, the second manufacturing plant for refrigerators was put into service in Chuzhou. A new factory for stoves is also being built at this location. In Irvine, CA (USA), the household appliances manufacturer has opened a user experience laboratory. Its purpose is to take account of the special needs of consumers in the North American market as early as the product development stage. At the location in Traunreut, Germany, at which stoves and cooktops are manufactured, a new engineering center is also under construction. At the BSH Technology Centre Asia Pacific in Adugodi near Bengaluru, India, new product lines will be developed, particularly for emerging markets. In addition, BSH Hausgeräte is streamlining its portfolio of small appliances. As a result, the sale of its ironing business has been initiated and a buyer is being sought for the Vitoria location in Spain.

Energy and Building Technology

Internet of things becoming increasingly important

In its three divisions, Building Technologies (formerly Security Systems), Thermotechnology, and Bosch Global Service Solutions, the strategy of the Energy and Building Technology business sector has four pillars: solutions for home use, systems for commercial use, solutions and services for the commercial sector, and business processes. The division aims to become a systems supplier and service provider of intelligent energy and building technology. In this respect, the internet of things has gained considerably in significance. In addition to innovations, the exploitation of synergies between the divisions and the development of new business models and services are accordingly becoming more and more important.

With regard to solutions for home use, the Thermotechnology division is systematically implementing its strategy for connectivity in heating technology. It is initially focusing on the compatibility and connectivity of the products themselves. The portfolio also includes digital offerings such as its connected products portal, which provides installers and users with remote access to connected systems. The EMMA energy management system optimizes the energy flows of photovoltaic systems, storage media, and power-consuming appliances in the home. A partnership was also started with Amazon for the Alexa voice service. It has recently become possible to use Amazon Alexa to control the 360-degree internal camera and the Eyes external camera made by the Bosch smart-home subsidiary. This feature is being extended to cover the entire Bosch smart-home system, which also includes intelligent smoke detectors and controllers for lighting and roller shutters.

In the commercial sector, the division is aligning the organization of its Building Technologies division's product business more closely with its customers. As a result, the previous five business units have been consolidated into three and sales have been focused on verticals such as airports, retail stores, and hospitals. At the same time, the division changed its name to Building Technologies to reflect the greater breadth of its areas of operation. In video security, a joint venture with Sony in sales, marketing, and technology started operations in 2017. The division is also extending its collaboration with internal and external partners in the video analysis segment. In the Bosch Energy Storage Solutions project, two projects related to battery storage were started in 2017. Both are in Germany: one at the Thermotechnology division's Wernau location and the other, in conjunction with the energy supplier EnBW AG, in Heilbronn.

One example of a new intelligent service for the commercial sector is in-store analytics, which was developed for business customers in the retail trade. Web-enabled panoramic cameras enable the behavior of shoppers to be studied anonymously, in compliance with data protection laws. For hospitals, the division also offers solutions that provide more security, convenience, and efficiency through the use of intelligently connected camera and video technology. These products include interactive infotainment systems and connected services in patients' rooms. Here, the division is drawing on the experience of Climatec LLC. Acquired in 2015, this U.S. subsidiary company specializes in building automation, also in the hospital sector.

We see further attractive growth potential in the key segment of business processes, in which our Bosch Global Service Solutions division is active. In this area, we offer new business models such as Bosch secure truck parking, which offers monitored parking spaces that can be booked in advance. A further service provides predictive maintenance for elevators. Sensors and cameras are used to detect malfunctions at an early stage, before a breakdown happens. Within Bosch, the division is also growing in importance as a shared-service provider.

Opening up new areas of business

We are also developing new business fields. Our subsidiary company Bosch Healthcare Solutions GmbH, Waiblingen, Germany, offers customers connected products and services in the area of healthcare, medical technology, and personal security. The product portfolio includes Vivatmo, a system that allows sufferers of chronic asthma and their physicians to continuously monitor the inflammatory process. The company is pursuing the vision of a digital guardian angel through its Bosch Emergency Assistant service and the accompanying Vivatar app. In addition, it will be debuting ceramic components for applications such as surgical instruments. Following many years of research and development, Bosch Healthcare Solutions is also preparing the market launch of Vivalytic. This new product offers a range of testing and procedure options in one compact laboratory device. The device is fully automatic and the platform is open to providers of other tests.

Robert Bosch Start-up GmbH, Stuttgart, plays an important part in strengthening our start-up culture and supporting internal initiatives. One example is the app developed by the myScotty start-up. It brings together a number of mobility offerings such as car, scooter, and bike sharing as well as taxis and rental cars in major cities. MyScotty allows driver's licenses to be verified online by videochat. The Deepfield Connect start-up offers sensor systems and an app that allows farmers to monitor their crops.

Through Robert Bosch Venture Capital GmbH, we invest in technology start-ups around the world. This provides us with access to disruptive innovations from an early stage. Established ten years ago, the company manages assets of 420 million euros. RBVC invests in start-ups and industry-specific venture capital funds in Europe, the U.S., Israel, and China. Investments in artificial intelligence, automated driving, comprehensive solutions for the internet of things in Europe and China, and an initial investment in distributed ledger technology are examples of the highly innovative areas in which the company actively partners with start-ups. Successful divestments such as Movidius (image processors with artificial intelligence) and Torqeedo (electric boat engines) underline this.

Working in the Bosch Group

Leadership and collaboration in focus

When it comes to ensuring a successful transformation, the work environment is a major strategic element. We have a number of initiatives related to this. Our objective is to drive forward the change that has been initiated in our culture of leadership and collaboration. We strongly believe that leadership on equal terms, networking among associates, and a culture of feedback based on openness and mutual respect promote innovation and are therefore a key to success in an increasingly digitalized world. These trends are also reflected in our leadership principles which we introduced at the end of 2016. For example, more importance is being placed on dialogue between associates and executives. Lean management incorporating team-internal exchange, regular feedback, and coaching is key to a more efficient way of working. Requirements in manufacturing are also changing as a result. The "Leadership@shopfloor" initiative is intended to support shift supervisors and team leaders in developing their management skills. The first plants are already seeing improvements with regard to productivity and days lost to illness.

For complex requirements, more and more units, including but not limited to software development, are also using agile methods and practices such as scrum and design thinking to rapidly develop optimum solutions for their customers. Yet this has long since ceased to be just about collaboration within teams – nowadays, it is about transforming entire organizational units. With the introduction of, for example, SAFe (scaled agile framework) in various divisions such as Chassis Systems Control and Bosch Connected Solutions, as well as to some extent in ETAS and the corporate IT department, we are eliminating hierarchical and functional boundaries, thus creating agile organizations for several hundred associates.

These agile organizations are giving rise to new demands on human resource management. Conventional development paths with leadership, specialist, or project career tracks are no longer sufficient. In addition, an annual performance review with goal setting and assessment by supervisors no longer meets our needs. With this in mind, an agile international team from the HR sector is developing prototypes for suitable personnel development tools. Following a pilot phase, these tools will be available for worldwide use.

Attractive working conditions

These goals and changes are also playing an important part in the selection and development of talented associates. One example is “team staffing,” where the selection process for filling vacant positions is largely directed by a team, instead of by individual executives in conjunction with the HR department. In addition, the global recruitment website was extended to 135 countries in 2017 and redesigned to be even more attractive. Social media integration and target group-specific personnel marketing were also optimized further. A new online job application tool was rolled out in regions and countries such as the Americas, India, and China for this purpose. As a result, the number of job applicants has seen a substantial increase.

We also successfully retained our trendence Employer Branding award in the category “diversity” in Germany. This award is conferred on the basis of student and graduate votes. In addition, we received an award from the German HR magazine Personalwirtschaft for a worldwide initiative aimed at encouraging associates to question unconscious patterns of thinking and to make active use of the benefits of diversity. This is because we firmly believe that diversity promotes creativity and innovation. In line with this belief, we employ people of more than 150 nationalities worldwide. We are also continuously increasing the percentage of non-German executives at the regional level and of women in leadership positions. In the majority of our focus countries, the percentage of local executives now stands at around 80 percent. In addition, we are applying a number of measures to reach our target of 20 percent for the proportion of women in leadership positions by 2020.

It is of particular importance to us to offer attractive employment models for all associates and thus help them achieve a satisfactory work-life balance. To this end, we are constantly developing our flexible working culture and we offer around 100 different work-time models. Flexible working conditions in manufacturing are a particular challenge due to the shift system and the necessity of using specific equipment. One approach is the “family workplace,” which is kept separate from cycle-dependent manufacturing. This allows private and family needs to be better taken into account.

One element of our attractiveness as an employer is our long tradition of offering company pension schemes for our associates in many countries. The Bosch Pension Fund, which was set up for associates in Germany, received awards again in 2017, including for the best German company pension fund. For the first time, the company pension scheme operated by the regional subsidiary in Korea won an award.

Training and professional development in the digital world

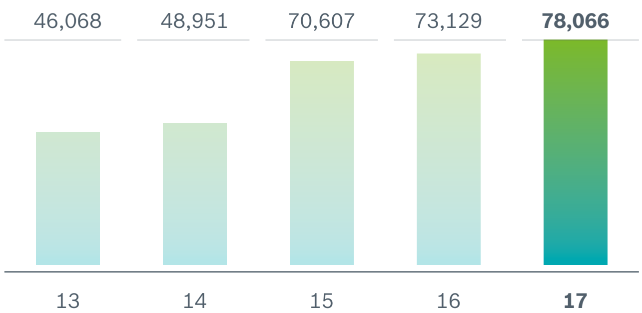
Occupational training and continuing professional development are very important at Bosch. Worldwide, over 7,300 young people completed apprenticeship schemes at Bosch in 2017, similar to the high levels of previous years. With around 4,700 apprentices, Germany is home to largest number, as a result of the country’s strong tradition of dual education in companies and vocational colleges. At our locations worldwide, we also have many training centers of our own that provide qualifications specifically for technical vocations. A particular focus of ours is on integrating Industry 4.0 elements into occupational training and giving apprentices the skills they need for the connected world of work.

Learning, and thus also occupational and further training, is becoming a central factor in the success of the transformation at Bosch. Consequently, we intend to boost the capacity for generating new knowledge quickly, efficiently, and effectively at all levels of the company. For this purpose, the worldwide cross-divisional initiative “Bosch Learning Company” was established. We aim to make learning more appealing, faster, and more flexible through the use of digital learning technologies such as eUniversity, virtual classrooms, video-based learning, mobile learning, and virtual learning groups. This also involves enhancing informal and self-guided study. The core projects in the Bosch Learning Company initiative include needs-based qualification programs for associates in the areas of electrification, software training, and digital transformation. We invested around 260 million euros in continuing professional development in 2017 alone. Moreover, the Robert Bosch Kolleg offers continuing professional development at university level for specialists and executives.

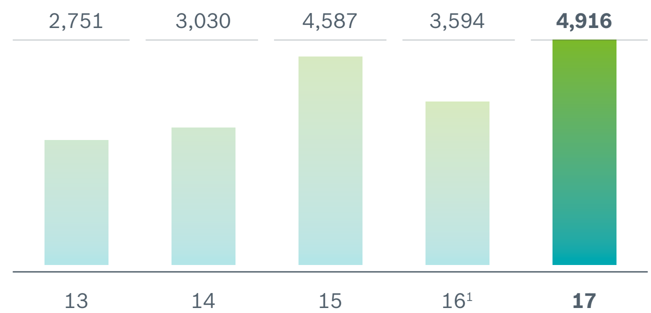
03

Development of sales revenue and EBIT
Bosch Group, 2013–2017

SALES REVENUE
in millions of euros



EBIT
in millions of euros



[1] Adjusted figure

Report on economic position

The Bosch Group took advantage of the improvement in the economic environment in 2017. Sales revenue rose more strongly than originally forecast. Result also increased encouragingly, despite the significant upfront investments needed for innovations and new business fields as well as the costs incurred through the realignment of existing areas. All business sectors contributed to the significant rise in sales. In contrast, performance by region varied greatly. The strongest revenue growth was seen in Asia Pacific. In Europe, too, growth was encouraging in 2017. While we were impacted by weakness in the automotive sector in North America, we benefited from the economic recovery in South America, following the challenges of previous years. Of the business sectors, Mobility Solutions and Industrial Technology posted the strongest growth; these sectors also achieved the highest increases in margin from operations. Consumer Goods once again posted the highest margin from operations. The Energy and Building Technology business sector also performed positively, although it was affected by the currency pressures in major markets such as the U.K. and Turkey.

Controlling system

The Bosch value concept as the basis for control

The Bosch value concept pursues Bosch's core objectives of profitable growth and financial independence. This controlling system combines value creation with value preservation. Particularly for an unlisted company such as Bosch, being able to strengthen and maintain profitability over the long term is crucial for financing future growth.

The main control parameters for value creation are sales growth, earnings before the financial result and before taxes (EBIT), and the internal "operating value contribution" indicator. The operating value contribution is calculated in the same way as EBIT, but also deducts the imputed cost of capital. Internal reporting is based in principle on International Financial Reporting Standards (IFRS). However, in certain respects, such as recognition of impairment losses, pension provisions, and provisions for losses arising from delivery commitments, internal reporting deviates from external accounting. For the management of operations and the executive incentive program, we adjust for the earnings fluctuations associated with these factors. We secure value by closely tracking cost trends and through liquidity management that includes centralized financial planning.

The central internal reporting tool is a monthly business report, which contains an up-to-date overview of the operating units' performance indicators. It provides a year-on-year comparison and a target-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 methods applied focus on developing and carrying out measures designed to achieve the planning targets. It is a top-down planning model that is strongly geared toward targets and measures. External benchmark comparisons form the basis for setting these targets.

The targets derived from the model are also a guide for the value contribution targets. These targets form the basis for the short-term variable portion of specialists' and executives' remuneration, from section-manager level to the board of management. This is known as the Bosch performance bonus. In addition, on the level of senior executives and the board of management, the VALUE program offers a variable bonus program for long-term corporate success, with a time horizon of three years. Performance as measured by the operating value contribution is also used as the basis for this.

Macroeconomic and sector-specific environment

Robust global economic activity

In view of considerable economic uncertainty and political risks, our expectations were modest as we began the 2017 fiscal year. However, the global economy developed more strongly than expected in 2017, and this in all regions. With growth of 3.2 percent (forecast: 2.8 percent), the economic environment was more robust than in 2016, when global economic output rose by only 2.7 percent. One key factor was an increase in global trade, which had a positive impact on global industrial production.

The main reason global economic output developed better than expected was the stronger momentum in Europe, which saw an increase in economic output of 2.5 percent (forecast 1.5 percent). This applies likewise to the European Union. At 2.2 percent, the pace of economic growth in Germany was also higher than the forecast 1.5 percent. The recovery in eastern Europe was also better than anticipated.

In addition, economic output in Asia Pacific grew 4.7 percent, which was higher than our forecast (4.2 percent). The pace of economic growth thus remained unchanged for the third successive year. The primary reason was more favorable developments in Japan and the ASEAN region. China posted a surprising 6.9 percent GDP growth (forecast: approx. 6 percent). In India, growth was not only down year on year. At 6.4 percent, it also fell short of our expectations (forecast: 6.8 percent). In the Americas, economic output in 2017 increased, as expected, by only a little over 2 percent. In the U.S., economic output rose 2.3 percent as we forecast. In the South American markets most important for us, notably Brazil, the economy has stabilized.

From a global viewpoint, economic activity in the automotive production segment was better than forecast in 2017. Production of passenger cars and commercial vehicles rose worldwide by 2.4 percent to 98.2 million vehicles, while we had only expected growth of a little over 1 percent. Production figures for commercial vehicles grew far more strongly than expected, mainly driven by China. Especially in South America and Russia, performance was stronger than expected. Japan and India also developed more favorably than expected. In contrast, automotive production in North America fell significantly in 2017, contrary to our original expectation of slight growth. As forecast, the growth rate in China was considerably lower than the previous year; the reason for this was purchases being brought forward in 2016 due to government incentives, which led to double-digit growth rates at that time.

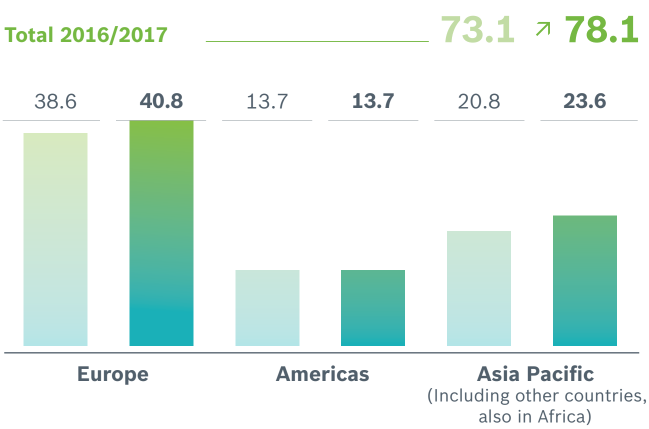
In the mechanical engineering sector, global production saw significantly higher year-on-year growth than expected. Positive stimuli came from all regions, but especially from Europe. Manufacturing in China saw a particularly sharp rise. This considerably benefited the performance of our Drive and Control Technology division.

Private consumption also grew somewhat more strongly than originally forecast. The critical factor was the improvement in the employment situation in Europe and North America, in addition to low interest rates and continuing low inflation. The rise in the price of oil in the second half of 2017 had only limited negative effects. As anticipated, the upcoming Brexit has primarily had an adverse effect on consumer spending in the United Kingdom.

As expected, there was hardly any change in growth of global construction activity, at around 3.5 percent. In the European monetary union, construction activity thus picked up as forecast. Construction activity in the U.K. was surprisingly positive, even though growth fell back as expected. By contrast, the rate of year-on-year growth in the United States was much lower than forecast. In Asia Pacific, especially in China, the growth rates were lower than in 2016, although growth rates in that region are still higher than the global average.

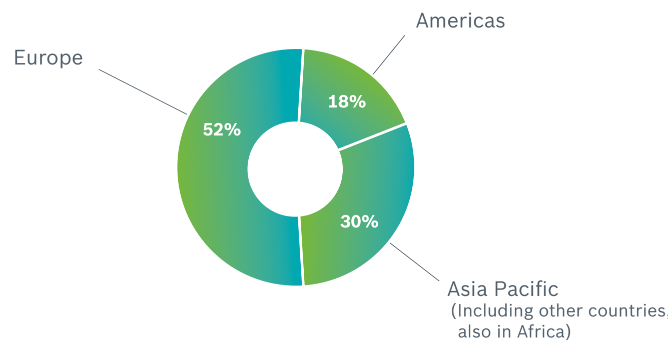
04
Development of sales revenue, 2016–2017
Bosch Group

SALES REVENUE BY REGION
in billions of euros



05
Structure of sales revenue, 2017
Bosch Group

SALES REVENUE BY REGION
percentage figures



Business developments

Bosch Group sales see steep rise

The Bosch Group's sales revenue rose to 78.1 billion euros, representing year-on-year growth of 6.8 percent in nominal terms and of 8.4 percent after adjusting for exchange-rate effects. Growth was thus significantly higher than the target range of 3 to 5 percent forecast for 2017. This was despite considerable negative effects from exchange rates, which totaled some 1.2 billion euros. These were primarily due to the euro's appreciation against the dollar, sterling, and Turkish lira, and, of the Asian currencies, the Chinese renminbi. Year on year, changes in the consolidated group affected sales to the tune of some 140 million euros. They relate especially to ITK Engineering, which was consolidated for the whole of 2017. The sale of the Starter Motors and Generators division will not have an impact on revenue figures until 2018.

Significant regional differences

Business performance varied from region to region. Growth in Europe was encouraging. We increased sales revenue to 40.8 billion euros. We thus achieved growth of 5.6 percent in nominal terms and 6.6 percent after adjusting for exchange-rate effects. This was fostered not only by the recovery in key western European markets and sound performance in Germany, but also by strong sales growth in eastern European countries such as Russia and Romania, as well as in Turkey. In the Americas, sales stagnated in nominal terms at 13.7 billion euros. After adjusting for exchange-rate effects, they grew by only 1.3 percent. The chief factor here was the unsatisfactory performance in North America, caused by the decline in automotive production. On top of this, there were also negative exchange-rate effects. Sales in North America thus dropped by 2.0 percent in nominal terms to 12.1 billion euros. After adjusting for exchange-rate effects, sales stagnated. In contrast, business in South America picked up again following the unsatisfactory performance of previous years, which was due to cyclical factors. Sales rose 16.4 percent to 1.6 billion euros, or by 13.2 percent after adjusting for exchange-rate effects.

In 2017, the strongest growth in sales was again seen in Asia Pacific (including other countries, also in Africa). Sales rose by 13.5 percent in nominal terms to 23.6 billion euros, or as much as 16.5 percent after adjusting for exchange-rate effects. Sales growth was especially strong in China. In India, we were also able to increase our sales by a double-digit percentage. Sales developed positively in Japan as well.

These differences in regional performance also affect our sales structure. The share of sales generated in Asia Pacific rose to 30 percent, compared with 28 percent the previous year. By contrast, the share of sales attributable to Europe fell to 52 percent (previous year: 53 percent), while the share generated in the Americas came to 18 percent, and thus also declined (previous year: 19 percent).

All business sectors successful

All business sectors increased their sales significantly. The Mobility Solutions and Industrial Technology business sectors grew the fastest. However, there were no appreciable year-on-year shifts in the business sectors' shares in overall Bosch Group sales.

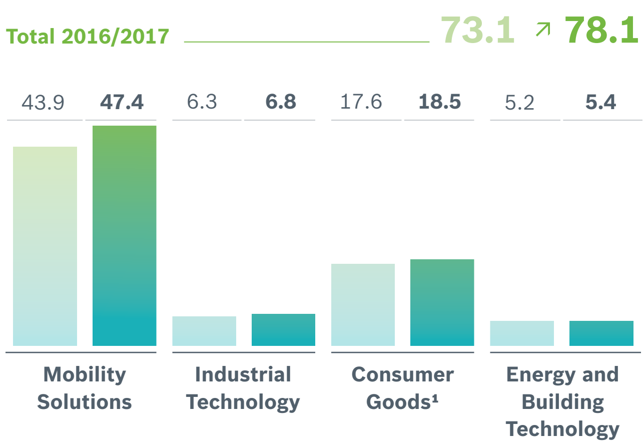
Growth in all areas for Mobility Solutions

Mobility Solutions, which remains our largest business sector, posted a strong increase in sales in 2017. Sales rose by 7.8 percent in nominal terms to 47.4 billion euros, or as much as 9.4 percent after adjusting for exchange-rate effects. The first-time inclusion of ITK Engineering had a positive effect of around 85 million euros. The divestment of the Starter Motors and Generators division at the end of 2017 has not yet had any effect on the sales figures.

06

Development of sales revenue, 2016–2017
Bosch Group

SALES REVENUE BY BUSINESS SECTOR
in billions of euros

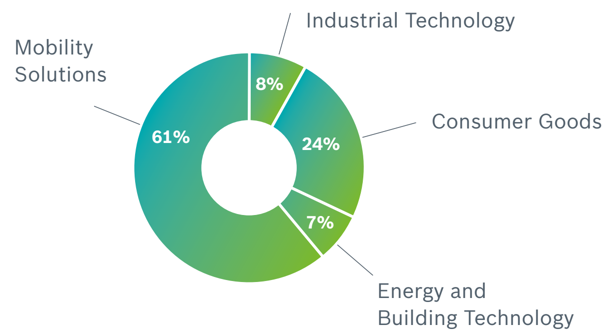


¹ Including other activities

07

Structure of sales revenue, 2017
Bosch Group

SALES REVENUE BY BUSINESS SECTOR
percentage figures



¹ Including other activities

In powertrain technology, which was consolidated in the Powertrain Solutions division at the start of the 2018 financial year, the former Gasoline Systems division again benefited from the high demand for modern gasoline direct injection systems and power electronics. Transmission technology and continuously variable automatic gearboxes were also very much in demand. Regionally, strong growth was recorded principally in China. In diesel technology, very encouraging growth above all in the Chinese commercial vehicles business more than compensated for the difficult situation in the European passenger car business. Sales of exhaust treatment systems also performed very well.

In the Chassis Systems Control division, demand for modern driver assistance systems continues to grow strongly, even in the challenging North American market. We were again successful with active and passive safety systems, such as ABS and ESP®. The Two-Wheeler and Powersports unit also posted very encouraging growth. Demand for modern display and infotainment systems in the Car Multimedia division also developed very positively. In the Electrical Drives division, furthermore, we achieved good growth in our business with automotive thermal systems and actuators, thanks to competitive new generations of products.

In the Automotive Electronics division, the drive systems and control unit business for bicycles with supplementary electric drive was very successful. Bosch Sensortec also recorded a strong increase in sales to customers from the consumer electronics segment. Overall, the control unit and sensor business with external customers from the automotive sector also grew significantly. Our software specialists in the ETAS Group and our subsidiary Bosch Engineering increased their revenues substantially. In contrast, the Automotive Aftermarket division saw moderate growth, driven primarily by demand in Europe.

Sales of automotive steering systems increased significantly year on year. This division also benefited from very positive developments in China. The shift toward electric steering systems for passenger cars and commercial vehicles continued, while hydraulic steering, pumps, and steering columns were less in demand.

Strong growth for Industrial Technology
Following the challenges of previous years, the Industrial Technology business sector increased its sales by 7.8 percent in nominal terms to 6.8 billion euros, or by 9.2 percent when adjusted for exchange-rate effects. This growth was driven by the Drive and Control Technology division, while the Packaging Technology division lagged behind expectations. Drive and Control Technology benefited from the strong improvement in demand in the areas of mobile applications and factory automation. The performance of the industrial hydraulics business was more modest. In terms of regions, China in particular posted strong growth. In the Packaging Technology division, performance in the core packaging machinery business was disappointing. With sales remaining flat, order intake increased in the case of packaging machinery for the pharmaceuticals segment. The foodstuffs segment fell back, especially as a result of changes in multinational food companies' investment behavior.

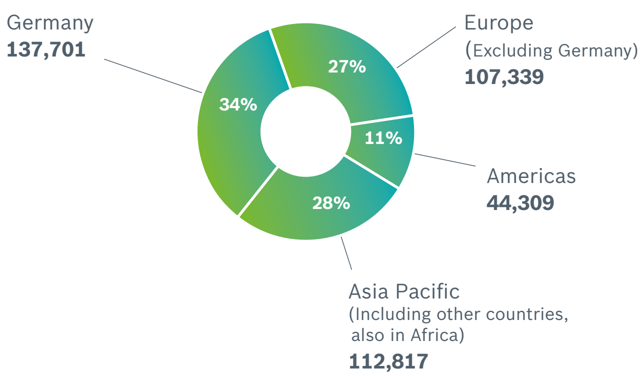
Good performance for Consumer Goods
The Consumer Goods business sector saw encouraging sales growth despite considerable negative exchange-rate effects. Sales revenue rose by 4.5 percent in nominal terms to 18.4 billion euros, and by 6.7 percent after adjusting for exchange-rate effects. The rate of growth at BSH Hausgeräte was somewhat higher than in the Power Tools division.

08

Associates
Bosch Group 2017 (year-end figure)

BY REGION

Total **402,166**

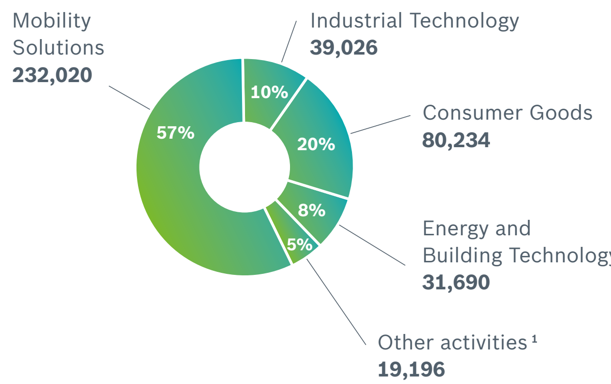


09

Associates
Bosch Group 2017 (year-end figure)

BY BUSINESS SECTOR

Total **402,166**



[1] Corporate functions and research

BSH Hausgeräte posted an increase in sales in all product categories. Regionally, the greatest impetus came from Asia, especially China, an important growth market for BSH Hausgeräte. Sales growth in Turkey and Russia was also encouraging. Business in North America increased, at least in local currency terms. The Power Tools division continued its path of growth in nearly all business units. The business units for professional tools were particularly successful, both in emerging markets and the advanced economies. Business in China and India made a notable contribution to growth, and significant increases were seen in Russia and Turkey. Business in South America also developed very positively in 2017.

Further growth in Energy and Building Technology

The Energy and Building Technology business sector, which includes the Building Technologies (formerly Security Systems), Thermotechnology, and Bosch Global Service Solutions divisions, increased its revenues by 4.1 percent to 5.4 billion euros, or by 5.8 percent when adjusted for exchange-rate effects. Building Technologies posted encouraging growth. In its product business, the benefits of the marketing partnership with Sony for video cameras were evident. The installation business was further expanded, especially in the United States. The Thermotechnology division by contrast, which specializes in heating and air conditioning systems, grew somewhat more slowly. It posted particularly strong growth in eastern Europe, Turkey, and Africa. And thanks to gains in market share, it also grew significantly in Germany, its main market. In the important British market, however, the weakness of sterling meant that sales revenue in euros was significantly below that of the prior year. The Bosch Global Service Solutions division, which was formed in 2016, again increased its sales by a double-digit amount in 2017.

Headcount

For the first time, more than 400,000 associates

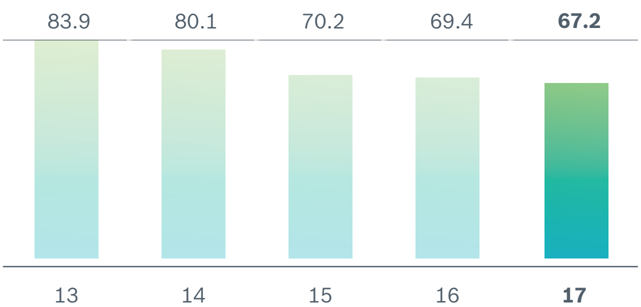
The total number of Bosch Group associates rose on balance by around 12,900 to approximately 402,200 at the end of 2017, compared with 389,300 at the end of 2016. After allowing for personnel turnover, new hires increased the total headcount by around 16,500. In 2017, however, the effects resulting from divestments outweighed those from acquisitions. As a result of these consolidation effects, headcount fell by around 3,600 associates. The fall primarily concerned the Mobility Solutions business sector, especially due to the divestment of the Starter Motors and Generators division and its roughly 7,500 associates. It was countered chiefly by the acquisition of the engineering service provider ITK Engineering.

In regional terms, the workforce structure remained largely unchanged in 2017 compared to 2016. It was only within Europe that there was a slight shift. While the proportion of associates in Germany went down by one percentage point, Europe excluding Germany saw its proportion rise by the same amount. This was also due to the divestment of the Starter Motors and Generators division. At the end of 2017, a total of around 245,000 associates were thus employed by the Bosch Group in Europe, compared with roughly 236,700 in 2016. The number of associates in Germany grew to some 137,700, compared with approximately 134,000 one year previously. Over this same period, the number of associates in Asia Pacific increased to around 112,800 from roughly 110,000. The number of associates in the Americas rose to around 44,300 from 42,600. The number increased in North America by around 1,700 to roughly 34,400, while South America basically remained unchanged over the previous year, with around 9,900 associates.

10 Development of CO_2 emissions

Bosch Group, 2013–2017

CO_2 EMISSIONS [1]
Metric tons per million euros value added [2]

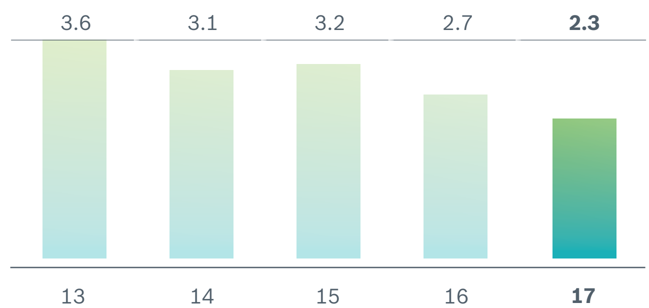


[1] Direct CO_2 emissions from stationary and mobile combustion, indirect CO_2 emissions from procured electricity, district heating and cooling, and steam, and volatile CO_2 emissions
[2] Difference between total net sales (third-party sales, intercompany sales, internal deliveries) and planned cost of materials procured externally

11 Development of occupational health and safety

Bosch Group, 2013–2017

ACCIDENTS
per million hours worked [1]



[1] Accidents resulting in one or more days of absence

In terms of business sectors as well, the workforce structure remained largely unchanged. The number of associates in the Mobility Solutions business sector increased to approximately 232,000, from roughly 226,900 at the end of 2016. This increase particularly concerned growth areas such as driver assistance systems and automated driving as well as automotive electronics. However, the divestment of Starter Motors and Generators meant that the overall rise was lower than the average for the group. As a result, the share of Mobility Solutions in the total number of Bosch Group associates fell by almost one percentage point.

The number of associates in the Industrial Technology business sector rose slightly to around 39,000, compared with 38,100 at the end of 2016. Additional associates joined the Drive and Control Technology division in particular. The number of associates in the Consumer Goods business sector rose to around 80,200, compared with 76,100 at the end of 2016. This expansion was seen mainly at BSH Hausgeräte. It was partly the result of the new manufacturing plant in Wrocław, Poland, and partly because of the strong business situation at a number of locations. The number of associates in the Energy and Building Technology business sector increased to 31,700, compared to 30,300 the previous year. The rapidly growing Bosch Global Service Solutions division in particular was responsible for the headcount increase.

The number of associates in research and development grew by around 5,700 to 64,400 across all units worldwide. Over half of them work outside Germany and are part of our global research network. The number of associates in the corporate sector for research and advance engineering ("Other activities") remained stable, at roughly 1,300.

Environmental protection, health and safety

Environmental protection, conservation of resources, and occupational health and safety have always been priorities for Bosch. Robert Bosch GmbH has been a member of the United Nations Global Compact since 2004, and is committed to its ten worldwide principles for responsible corporate governance. For us, technology that is "Invented for life" is also about reducing the environmental impact of our products and manufacturing processes. We have identified three key focal points with regard to environmental protection and accident prevention: combating climate change through energy efficiency, improving the sustainability of manufacturing through resource conservation, and boosting occupational health and safety. We have defined targets for these, based on the following indicators: relative CO_2 emissions, accident rates, and relative waste volume and water consumption. In the area of waste volume, we want to achieve an annual improvement of 2 percent by 2018. For water consumption, this figure is also 2 percent. We have made further progress in this respect, as described in detail in our sustainability report.

Proportion of CO_2 emissions again reduced

We place special importance on reducing CO_2 emissions and thus on climate action. We believe that reducing CO_2 emissions is part of our social responsibility. Through the use of intelligent technical solutions, industry can play an important role in this respect. However, energy efficiency is not just a matter of ecological and social objectives; we also see greater efficiency as a competitive advantage.

Back in 2008, we set long-term targets for reducing CO_2 emissions (relative to value added) from our locations. These targets committed us to achieving a 20 percent reduction in carbon dioxide emissions by 2020 compared with 2007 levels (excluding Automotive Steering and BSH Hausgeräte). As a result of the great progress made, we

01

Most important items of the statement of income

Figures in millions of euros

	2017	2016[1]
Sales revenue	78,066	73,129
Cost of sales	–50,156	–47,564
Gross profit	**27,910**	**25,565**
Distribution cost and administrative expenses	–15,788	–14,707
Research and development cost	–7,264	–6,911
Other operating income and expenses	84	–178
Result from companies included at equity	–26	–175
EBIT	**4,916**	**3,594**
Financial result	–148	–227
Profit before tax	**4,768**	**3,367**
Income tax expense	–1,494	–993
Profit after tax	**3,274**	**2,374**

[1] Adjusted figures

have raised this target substantially in the meantime. Our aim is to achieve an improvement (with the inclusion of BSH Hausgeräte and Automotive Steering) of 35 percent from the 2007 benchmark level by 2020. Up to and including 2017, we have already reached a 32.8 percent reduction.

Further progress in occupational health and safety

We have defined a long-term occupational health and safety target for 2020. We intend to cut the Bosch Group accident rate to 1.7 accidents per million hours worked. Safety in day-to-day work is a key concern at all Bosch locations, alongside quality, delivery reliability, and efficiency improvements. With the “Safety Basics” program, we conduct an intensive dialogue on this topic between executives and associates. In 2017, we succeeded in further reducing the accident rate to 2.3 accidents per million hours worked, compared with 2.7 the previous year. The total number of workplace accidents in 2017 was 1,649, compared with 1,849 in 2016.

Results of operations

Far better earnings due to good business situation

Although upfront investments remained heavy and additional adjustment measures were needed for the transformation, we were able to significantly improve our result in 2017. Due to good business developments, we generated earnings before the financial result and before taxes (EBIT) of 4.9 billion euros, compared with 3.6 billion euros the previous year. This is despite the subsequent adjustment to the 2016 EBIT figure to reflect the change in the method used for disclosing net interest expenses for pension provisions. We now disclose these expenses in the financial result, as is customary, and no longer in EBIT. This also affects the cost items. Disregarding this adjustment, we disclosed total EBIT of 3.3 billion euros for 2016.

EBIT from operations amounted to 5.3 billion euros in the Bosch Group in 2017, with a margin from operations of 6.8 percent, in comparison with the equally adjusted previous-year figures of 4.5 billion euros and 6.2 percent respectively. The main contributions to the improved result came from the Mobility Solutions business sector, and due to the recovery at Drive and Control Technology, the Industrial Technology business sector. Consequently, we have significantly exceeded our expectations for margin. In our forecast, we had only expected a slight improvement in the EBIT margin from operations.

The calculation of EBIT from operations disregards the earnings impact of higher depreciation and amortization from the remeasurement of assets at Automotive Steering and BSH Hausgeräte, following the complete acquisition of these former joint ventures in 2015. These effects came to around 400 million euros in 2017 (about 500 million euros the previous year).

Cost of sales once again grew at a lower rate than sales. As a result, we were able to significantly improve gross margin, even though depreciation was slightly higher year on year. It rose by roughly 70 million euros to 3.1 billion euros. Of the administrative expenses and distribution cost, it was above all administrative expenses that increased, owing to upfront investments in IoT projects and increased demand for consulting services. The rise in research and development cost was not as fast as the increase in sales. It came to approximately 7.3 billion euros in 2017, compared with 6.9 billion euros the previous year. Research and development intensity was 9.3 percent, and thus slightly higher than the previous year’s 9.5 percent. Research and development cost also includes work charged to third parties amounting to some 1.6 billion euros (previous year 1.3 billion euros).

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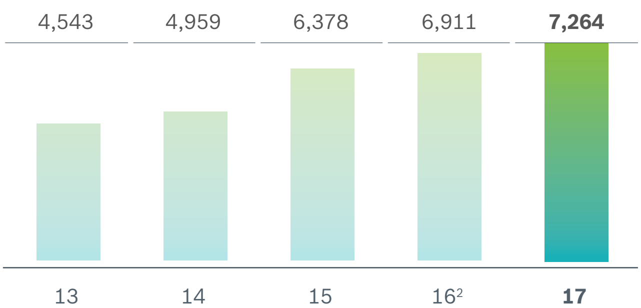
Research and development cost[1]
Bosch Group, 2013–2017

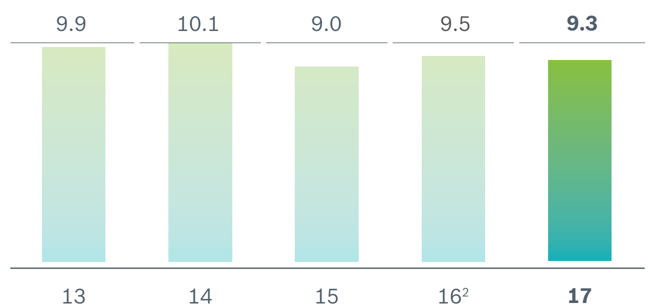
TOTAL EXPENDITURE
in millions of euros



13

Research and development cost[1]
Bosch Group, 2013–2017

TOTAL EXPENDITURE
as a percentage of sales revenue



[1] Including development work charged directly to customers
[2] Adjusted figure

The increase in research and development cost is primarily attributable to the Mobility Solutions business sector. Key areas include upfront investments in driver assistance systems, including automated driving, display and infotainment systems, and sensors. In addition, research and development cost for electric steering increased significantly. The Mobility Solutions business sector accounted for 79 percent of development cost, after 76 percent the previous year. The percentage attributable to the Consumer Goods business sector (including other activities) fell to 12 percent, compared to 14 percent the previous year. Industrial Technology and Energy and Building Technology accounted for 5 percent (previous year 6 percent) and 4 percent (previous year 4 percent) respectively.

The financial result was negative in 2017. This also applies to the adjusted figure for 2016. One reason for this was the change in method used for disclosing net interest expenses for pension provisions. Profit before tax totaled 4.8 billion euros, corresponding to a margin of 6.1 percent. Both figures were also up significantly year on year. Profit after tax rose to 3.3 billion euros, compared with 2.4 billion euros the previous year.

Our internal control parameter, the operating value contribution, is calculated only for the consolidated group used in internal reporting in 2017. It also improved significantly. The operating value contribution grew to around 1.6 billion euros in 2017, from the comparable prior-year figure of roughly 240 million euros. The fundamental difference between EBIT and the operating value contribution is the imputed 3.5 billion-euro (comparable prior-year figure: 3.4 billion-euro) cost of capital, which reduces the operating value contribution compared with EBIT.

Significant differences in result by segment

As expected, the highest margins from operations were achieved by the Mobility Solutions and Consumer Goods business sectors. In the Mobility Solutions business sector, we achieved EBIT of 3.3 billion euros, following an EBIT of 2.2 billion euros the previous year. EBIT from operations, excluding the negative effects of higher depreciation and amortization from the remeasurement of assets at Automotive Steering, came to 3.4 billion euros, compared with the prior-year figure of 2.8 billion euros. The margin from operations rose to 7.3 percent from 6.3 percent the previous year. High adjustment charges and heavy upfront investments, especially in Automotive Steering and Car Multimedia, were more than offset by the successes in other units. Automotive Steering's earnings were also severely affected by the steps taken to secure continuity of supply from the Italian supplier Albertini.

The Industrial Technology business sector succeeded in considerably improving its earnings to 221 million euros from 74 million euros the previous year. Its margin from operations rose to 3.3 percent (previous year: 1.2 percent) The principal factor here was the positive performance at Drive and Control Technology. The improvement in the mechanical engineering segment made a contribution in this respect. The division's extensive restructuring and innovations are also paying off. The performance of the Packaging Technology division was again unsatisfactory in 2017. This applies particularly to the foodstuffs segment and a series of major projects.

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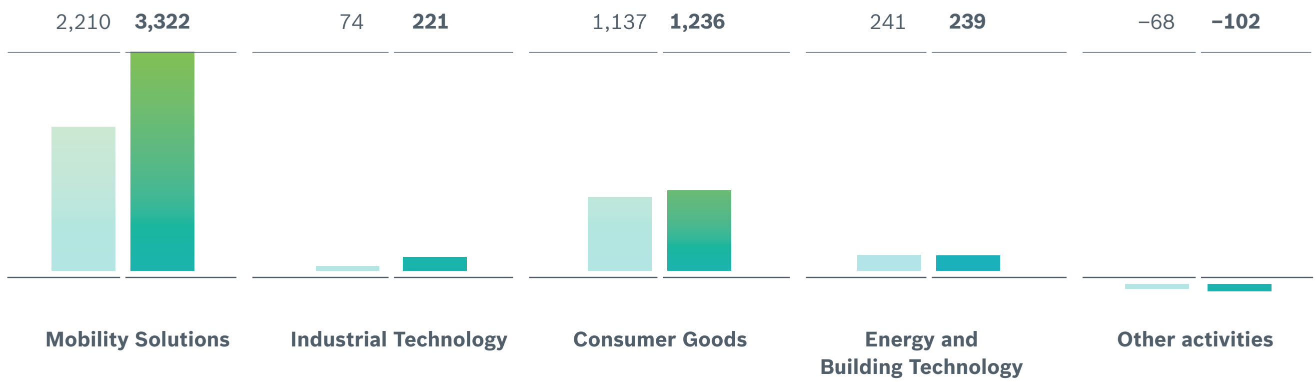
EBIT
Bosch Group, 2016[1]–2017

BY BUSINESS SECTOR
in millions of euros



[1] Adjusted figures

Profits also developed very positively in the Consumer Goods business sector in 2017. EBIT increased to 1.2 billion euros compared to 1.1 billion euros the previous year. Operationally, in other words excluding the negative effects of depreciation and amortization from the remeasurement of assets at BSH Hausgeräte as a result of the acquisition in 2015, EBIT again amounted to 1.5 billion euros. At 8.1 percent, margin from operations again reached a very good level (2016: 8.4 percent). Both Power Tools and BSH Hausgeräte were once again very successful. The Energy and Building Technology business sector generated EBIT on a par with the previous year, at 239 million euros. Margin was 4.4 percent, compared with 4.6 percent in 2016. This stagnation is due to exchange-rate burdens relating to sterling, increasing raw materials prices, and provisions for warranty claims.

Net assets and financial position

Sound balance sheet structure

The Bosch Group balance-sheet total remained stable year on year, at 81.9 billion euros. Due to the good earnings situation, we were able to increase our equity ratio to 46 percent from 44 percent the previous year.

On the assets side, our liquidity as reported in the statement of financial position came to 16.5 billion euros as of the reporting date, compared with the previous year's 16.7 billion euros. Apart from cash and cash equivalents, liquidity as per the statement of financial position includes marketable securities and bank balances with a term of more than 90 days. In the balance sheet structure, there were only minor changes on the assets side.

This also applies to equity and liabilities. Changes resulted from a repayment of bonds and liabilities to banks, and through the improvement in equity of 1.5 billion euros.

Our financing structure therefore remains very sound. Standard & Poor's reaffirmed Robert Bosch GmbH's good long-term rating of AA (with a "stable" outlook). This also benefited the subsidiary BSH Hausgeräte, which has a similar rating. The financial liabilities of the Bosch Group include bonds with a nominal value of 3.4 billion euros. The interest rates are between 1.625 percent and 5.0 percent. The average interest rate has fallen to 2.463 percent in comparison with the prior-year rate of 2.860 percent. The bonds' average residual term to maturity has increased slightly compared to the previous year. Most of the existing financial liabilities are denominated in euros. In 2017, we repaid around 0.8 billion euros' worth of bonds that had matured. No additional funding was raised.

Capital expenditure matches high prior-year level

At roughly 4.3 billion euros, capital expenditure in 2017 was up slightly year on year. The investment ratio thus fell to 5.6 percent of sales, compared with 5.8 percent the previous year. As of the reporting date, existing investment commitments as a result of orders already placed totaled roughly 730 million euros, following a previous-year figure of 580 million euros. Thanks to our very good liquidity position, we have ample financial resources at our disposal.

Broken down by business sector, investment in Mobility Solutions remained stable at 3.3 billion euros. In the other business sectors, it was up slightly year on year. The focal points of this capital expenditure were gasoline direct injection, driver assistance systems, infotainment and display systems, and increasing manufacturing capacity for semiconductors, sensors, and control units. Capital

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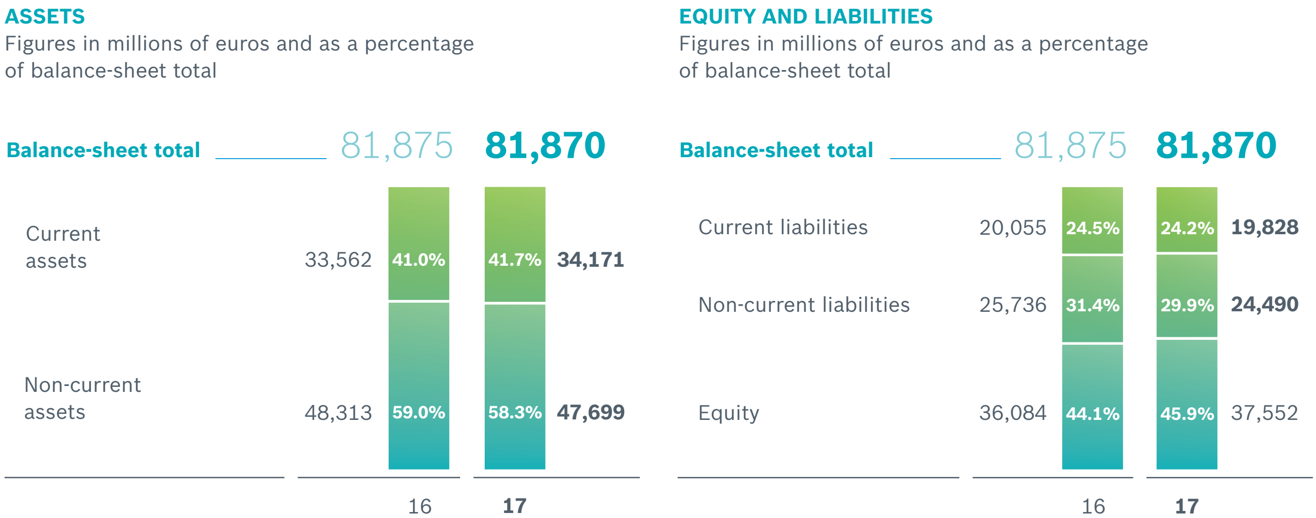
Structure of the statement of financial position
Bosch Group, 2016–2017



expenditure in Industrial Technology increased to some 140 million euros, compared with 130 million euros the previous year. The steepest rise was posted by the Consumer Goods business sector, where capital expenditure grew to some 800 million euros, compared with around 720 million euros the previous year. This is attributable especially to new manufacturing facilities and building extensions at BSH Hausgeräte. In Energy and Building Technology, capital investment rose to approximately 120 million euros, compared with 110 million euros the previous year. This again is mainly attributable to cost-reduction and product-renewal projects at manufacturing, engineering, and sales locations.

From a regional viewpoint, we invested around 2.7 billion euros in our European locations, compared with 2.8 billion euros the previous year. Capital expenditure in Germany amounted to roughly 1.5 billion euros, compared with 1.6 billion euros the previous year. Most of this went into increasing capacity for semiconductors and sensors as well as new buildings at the Reutlingen location, and into gasoline direct injection and exhaust sensors. Moreover, we are significantly expanding development activities at our site in Abstatt, with a view to the promising area of automated and connected driving. We are also modernizing the group's headquarters at Schillerhöhe in Gerlingen, which involves extensive renovations. In addition, Power Tools is redesigning and extending its headquarters in Leinfelden, near Stuttgart.

We also invested heavily in other European locations. In Hungary, this primarily went into an expansion of manufacturing for power electronics at the Hatvan site, as well as into the development center in Budapest. We also expanded capacity at other eastern European locations, particularly for exhaust-treatment systems in České Budějovice, Czech Republic, and at the electronics site in Cluj, Romania. The focus in western Europe was the location in Braga, Portugal, which manufactures head-units and automotive display systems, among other things. Outside the European Union, facilities were expanded in Turkey, both at the diesel site in Bursa and the household appliances manufacturing site in Cerkezköy. The Power Tools division's facilities in St. Niklaus, Switzerland, and Udine, Italy, were also expanded. Both manufacture power-tool accessories. Apart from these specific cases, capital expenditure was broadly distributed.

We invested 1.2 billion euros in Asia Pacific, compared with 1.0 billion euros the previous year. China was the main recipient of this, where we expanded capacity for the Mobility Solutions business sector. We are also building a new engineering center in Suzhou. Other highlights in China include capacity expansion for BSH Hausgeräte and our future research center in Nanjing. In India, we extended our manufacturing facilities for vehicle components at Bidadi and Naganathapura, and again expanded the software and engineering center at our Bengaluru location. In Southeast Asia, we opened our second mobility solutions plant in Thailand in 2017. The new Hemaraj plant primarily manufactures gasoline direct injection systems. The site also has its own engineering center. Other Southeast Asian countries in focus were Vietnam and Malaysia. At the Vietnamese location in Long Thanh, near Ho Chi Minh City, we manufacture push belts for continuously variable transmission units, while at the Penang location in Malaysia, we produce electronic control units and display systems.

We invested a total of some 470 million euros in the Americas, compared to around 460 million euros the previous year. The Mobility Solutions business sector accounted for most of this activity. This again included our U.S. manufacturing locations in Charleston, Anderson, and Florence in South Carolina, as well as a number of locations in Mexico. In Brazil, capital expenditure mainly related to our Campinas location.

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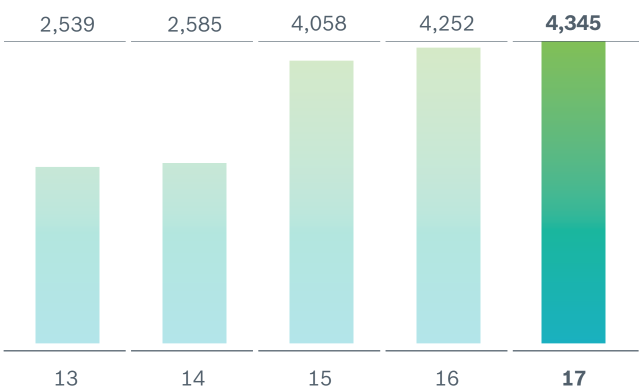
Capital expenditure on property, plant, and equipment
Bosch Group, 2013–2017

EXPENDITURE
in millions of euros



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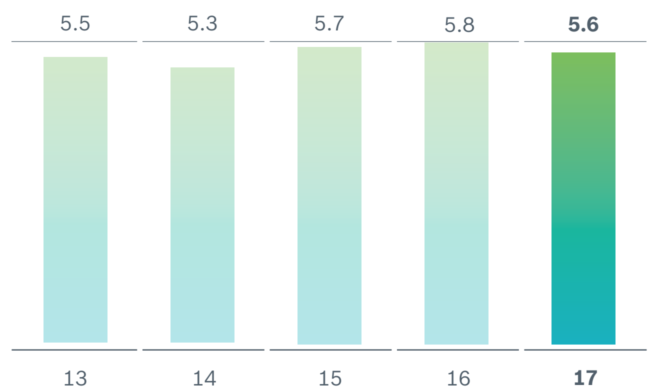
Capital expenditure on property, plant, and equipment
Bosch Group, 2013–2017

EXPENDITURE
as a percentage of sales revenue



Liquidity

Strong financial position and healthy liquidity situation

The Bosch Group has a strong financial position. In 2017, cash flow amounted to 8.4 billion euros or 10.7 percent of sales, and thus significantly surpassed the previous-year figures of 6.6 billion euros and 9.0 percent. Liquidity at year-end as per the consolidated statement of cash flows (cash and cash equivalents) stood at 4.5 billion euros, compared with 4.8 billion euros the previous year. In addition, financing of 1 billion euros and 2 billion U.S. dollars was available to Robert Bosch GmbH under its commercial paper programs.

Cash inflows from operating activities were up significantly year on year, at 6.8 billion euros. Cash outflows from investing activities scarcely changed. This is because the inflows and outflows resulting from acquisitions and from investments in participating interests largely balanced each other out. Cash flows from financing activities disclosed an outflow of 1.7 billion euros in 2017, as opposed to a slight inflow in 2016. Unlike the previous year, no new funds were raised in 2017.

The Bosch Group has a central financial and currency management system. This is designed to control payment flows to optimum effect and limit the risks of currency exposures at the Bosch Group level. Central financial management also manages our borrowings and investments. Our investment strategy is aimed at broad diversification of shares and interest-bearing securities.

Outlook

Vulnerable economy in light of political risks

The robust and, above all, broad-based global upswing should continue in the first months of 2018. Despite somewhat more favorable developments, however, we are adhering to our cautious growth estimates and, for the time being, expect global GDP to rise by just 2.6 percent. The main reason for this is the high level of geopolitical risk, such as the worsening situation in the Middle East. In addition, there is the turbulence on the capital markets in light of rising raw materials costs and volatility on the stock markets. Finally, there is the danger that protectionism may spread and slow the upswing. One sign of this is the tariffs recently imposed by the U.S. and the retaliatory measures announced by Europe and China. Moreover, we expect the further reduction of the high levels of corporate debt in China to have a negative effect.

For the three major economic regions, our expectation is that growth in the Americas will remain at roughly 2 percent year on year, while Europe as a whole will likely fall behind its previous-year level, with growth of 1¾ percent. As in past years, Asia Pacific will grow the fastest. However, at 3.8 percent, the rate of growth will likely be the lowest for more than 10 years. Our planning for China is thus based on a cautious growth forecast of 5 percent, especially as a result of state-owned enterprises' high levels of debt and the likelihood of corrective measures in real-estate markets. For India, we expect to see more rapid growth again now that various reforms have been carried out, which is reflected in our forecast of 7½ percent.

For the European Union, we expect growth to be weaker in 2017, at 1¾ percent. This is primarily due to the U.K., where uncertainty about the Brexit process is increasingly putting a brake on economic developments. For the euro zone, we anticipate that GDP will grow

02

Bosch Group, statement of cash flows

Figures in millions of euros

	2017	2016[1]
Cash flow	**8,367**	**6,565**
as a percentage of sales	**10.7**	**9.0**
Liquidity at the beginning of the year (Jan. 1)	4,753	3,707
Cash flows from operating activities	+6,799	+6,137
Cash flows from investing activities	–5,129	–5,226
Cash flows from financing activities	–1,653	+73
Other activities	–227	+62
Liquidity at the end of the year (Dec. 31)	**4,543**	**4,753**

[1] Adjusted figures

2 percent. While the recovery following the sovereign debt crisis should continue in southern Europe, the challenging domestic political situation in Spain and Italy suggests that economic activity will be slower. We forecast growth for the German economy of 1¾ percent. In eastern Europe, we expect the moderate upswing to continue.

For the U.S. economy, we anticipate growth of 2 percent. While tax reforms will likely stimulate the economy over the medium term, the already high level of capacity utilization in the U.S. economy will, in the first instance, likely mean a steeper increase in inflation, and thus also in interest rates. In the weak-growth countries of South America, the slow recovery is likely to continue.

As concerns automotive production, our most important market, our planning is also cautious following better than expected developments in 2017. We expect production figures for passenger cars and commercial vehicles to grow modestly by 1.5 percent to some 99 million vehicles. Production volumes of heavy trucks are expected to stagnate. In Europe as a whole, we expect growth to be weaker than the previous year. While production in North America is likely to stagnate, we once again anticipate double-digit growth in South America. In China and India, by contrast, our assumption is that production will slow year on year.

In mechanical engineering, our forecast is that global production will not grow quite as fast as in 2017. In Asia especially, the pace of growth will likely fall considerably, curbed above all by the slower overall development of China's economy. In the United States, we also expect the pace of growth to be weaker, while the market in Europe should grow at roughly the same rate as the previous year. We expect growth stimuli to come from greater demand for Industry 4.0 applications.

With regard to private consumption, our assumption is that growth will remain largely unchanged year on year, benefiting above all from the comparatively good employment situation in the advanced economies of the Americas and Europe. However, the price of oil, which has risen recently, is likely to prove a burden. In the U.K., purchasing propensity will decrease further as a result of Brexit and rising inflation.

With respect to the global construction business – another important market – we expect growth to fall slightly in 2018. We anticipate weaker growth in both the U.S. and the euro zone. In the U.K., moreover, there will probably be hardly any expansion of construction activity. In Asia, we expect growth rates to drop significantly. In China especially, our assumption is that there will be a further decline, which is unlikely to be offset by the stabilizing situation in India.

Further growth in sales and earnings

Against the backdrop of these considerable economic risks, we expect sales growth for the Bosch Group to be within a range of just 0 to 2 percent in the 2018 financial year. This forecast takes account of the changes in the consolidated group at the end of 2017 as a result of the divestment of the former Starter Motors and Generators division. This will reduce sales growth by approximately 1.7 percentage points. The forecast does not take account of exchange-rate effects. The Consumer Goods and Energy and Building Technology business sectors should grow at a faster rate than group sales. In the Industrial Technology business sector, we expect to see stabilization following the powerful recovery in 2017. For the Bosch Group, our current expectation is that we will be able to significantly increase the EBIT margin from operations, despite further upfront investments in the transformation process such as high research and development expenditure, a high level of capital expenditure, and further restructuring and adjustment measures. We want to increase the margin from operations in all four business sectors.

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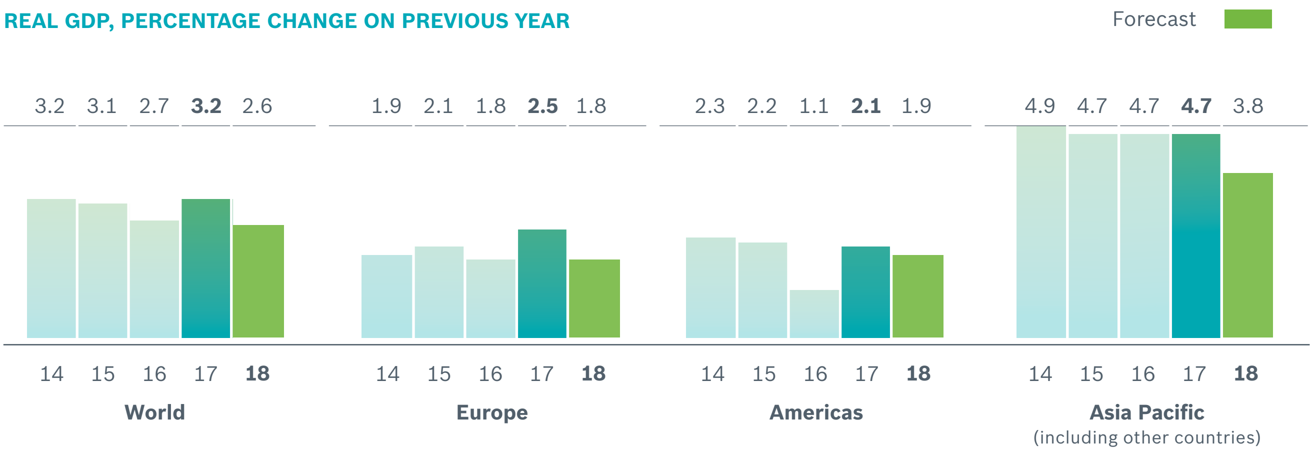
Economic growth by region, 2014–2018

REAL GDP, PERCENTAGE CHANGE ON PREVIOUS YEAR



Some figures changed from 2016 annual report following revisions to prior-year data

Report on opportunities and risks

Opportunities

For the sake of greater clarity, the “Prospects for the Bosch Group” section describes in detail the opportunities arising from the market environment, our strategy, and our innovations, both for the company as a whole and its business sectors.

Risks

Comprehensive risk management system

The Bosch Group’s risk management system is part of strategic and operations control. From strategic planning at the group level through medium-term planning by the operating units to our operational controlling, we consistently use risk management tools. At all levels of risk management, a key element is implementing the measures derived from the risk management system. The board of management of Robert Bosch GmbH – with support from the corporate departments – is responsible for risks of group-wide importance. The executive management of the divisions and the presidents of the regional organizations are responsible for identifying risks at the point of origin and for taking any necessary measures in consultation with the management board members responsible.

Strategic risks relate mainly to the way markets, competitors, and suppliers develop, to innovations in technologies and business models, to changes in the political, social, and economic environment, to acquisitions, and to the Bosch brand. We therefore constantly monitor developments at our main competitors, customers, and suppliers. We also carry out business-field, competitor, and scenario analyses. In addition, we prepare forward-looking assessments of planned positions of the Bosch Group in the technological fields and business models relevant to our company. Comprehensive strategic assessments of potential projects help control risks associated with acquisitions. To protect our brand, we carry out proactive reputation management, analyze social media, and carry out activities of our own in this area.

As part of operational controlling, an overview of all economically relevant transactions is compiled every month on the basis of a comprehensive reporting system, along with a list of major opportunities and risks. Committees such as the foreign exchange, raw materials, and investment committees examine specific risks on a regular basis. We have a group-wide liquidity planning system and permanently monitor our financial resources.

Overall risk assessment

We are not currently aware of any risks, beyond the economic and political risks mentioned in the outlook above, the risks of the business sectors listed in this report, and litigation risks, which could materially affect the net assets, financial position, and results of operations of the Bosch Group in 2018. Nor does the Bosch Group have any risk exposures that could jeopardize the group’s continued existence as a going concern. There are no significant differences from the previous year that would affect this overall assessment.

Risks affecting the business sectors

We analyze the medium-term risks for the business sectors in the risk areas of market, customers, competition, purchasing, technology, value-creation model, and business environment. The risks for our company are predominantly in the areas of market, customers, procurement, technology, and the way the competition develops. We assess any medium-term risks that we identify. The main criteria here are the likely economic impact and the estimated probability of occurrence.

Probability of occurrence	Description
Low	Up to 17 percent
Medium	Up to 33 percent
High	Up to 50 percent

Risks with a probability of occurrence of at least 50 percent are considered in our annual or interim forecasts. The assessment is based on our current planning.

We categorize these risks' economic impact as low, medium, high, and very high in terms of their relation to the anticipated accumulated EBIT from operations of the respective business sector over a medium-term horizon of four years. Risks with at least medium economic impact and probability of occurrence are defined as "special risks." They are kept under close scrutiny.

Degree of impact	Definition of impact
Low	Minor impact on the profitability of the business sector concerned
Medium	Some negative impact on the profitability of the business sector concerned
High	Considerable negative impact on the profitability of the business sector concerned
Very high	Damaging negative impact on the profitability and operations of the business sector concerned

In terms of its share in total sales revenue, the Mobility Solutions business sector shows an above-average overall risk potential. At 18 percent, however, the weighted-average probability of occurrence in this business sector is the lowest. The highest probability – 27 percent – is in the Energy and Building Technology business sector. In all these cases, therefore, the probability of occurrence is in the medium range. In this evaluation as well, there have been no appreciable changes.

There are no special risks in Mobility Solutions. The appreciable risks include a significant decline in demand for diesel passenger cars that goes far beyond the reduction in vehicle registrations seen so far. To reduce this risk, we are continuing to make every effort to cultivate a discussion on the subject of diesel technology that is based on facts. In addition, in establishing the Powertrain Solutions division, we have put ourselves on a new organizational footing, which will allow us to flexibly offer our customers solutions from a single source in the future. Added to this, extensive warranty exposure fundamentally presents a risk. Due to automakers' extensive platform and modular-design strategies, quality issues relating to individual products can result in large-scale recalls. We counter these risks with continuous improvement of our quality management process. This includes carefully selecting and monitoring our suppliers in order to safeguard the quality of the products delivered and counter the risk of delivery bottlenecks in increasingly more complex value streams. We see a further risk in growing price pressure in the Chinese market, which we counter through the technical innovations in our products.

Changes in business models and distribution channels in the aftermarket segment as a result of automakers' efforts to take control of this market also pose an appreciable risk. In addition, a large number of individual risks exist, each with low economic impact and low probability of occurrence. These individual risks relate above all to achieving target market shares and delivery shares, resource scarcity, price trends, market changes, new technologies and competitors, especially from the consumer electronics sphere, and environmental aspects. We counter these risks through extensive planning and tracking of results in acquiring delivery contracts, a broad customer and product portfolio, intensive market surveillance, and global trend scouting.

In the Industrial Technology business sector, the Drive and Control Technology division is exposed to medium risks with at least a medium probability of occurrence. However, the division's comprehensive restructuring program has resulted in an improved risk portfolio. The risks relate in particular to the particular volatility of markets, with a further drop in prices and the possible entry of new competitors, especially from China and the United States. Furthermore, growing standardization in hydraulic components increases the risk that these items may become technologically indistinguishable. We counter these risks with a product portfolio that is tailored specifically to the needs of the market. The market entry of new competitors from China is an increasing risk, also for our Packaging Technology division, as is the growing competition in the spare parts business. We counter these challenges by adjusting our portfolio.

In the Consumer Goods business sector, we can observe the ever growing importance of sales over the internet, which we will have to adjust to. Measures include the consistent expansion of our own internet activities. In addition, the Consumer Goods business sector is exposed to the risk of supply-chain disruption as a result of the growing division of labor within value chains. On the basis of predefined criteria, we regularly audit at-risk suppliers and take appropriate measures to reduce risks.

For the Energy and Building Technology business sector, with its strong presence in the U.K., the announced exit from the European Union is a special risk, particularly with respect to heating technology. The same applies to an economic slowdown in the growth markets China and Russia, and to the political situation in Turkey. For our security systems, and especially video technology, there is still the risk of price erosion due to increasing competition from Chinese providers and sales risks due to the high pace of innovation in IP technologies. Some of the ways in which we counter this are by continuously optimizing our cost structures, by increasingly developing IP-enabled products, and through partnerships.

Due to our broad regional and sectoral presence, medium-term strategic and operating risks are on the whole broadly diversified. Our risk management system clearly presents the existing risks affecting each of the business sectors. By implementing deliberate measures, we limit both the probability of occurrence and the economic impact of the risks. Overall, the analysis of opportunities and risks shows that we operate in an environment rich in opportunities. Accordingly, the above risks do not currently present any foreseeable sustained or severe threats to our profitability.

IT risks: The growing dependence of our operational processes on IT systems means that there has been a significant rise in outage-related risks. A systems failure as a result of external attacks (cyberattacks) or internal error can lead to considerable problems in product development and manufacturing as well as administrative processes, resulting in significant financial losses. We have put in place comprehensive measures, valid throughout the company, to provide organizational and technical protection against system outages, data loss, and data manipulation. In expanding our data protection and IT security organization, we are equipping ourselves for the growing requirements of the EU's General Data Protection Regulation. At the same time, this expansion makes us less vulnerable to cyberattacks. For the Bosch IoT Cloud, we apply an integrated security concept that we continually update using state-of-the-art technology, and verify its effectiveness with extensive security tests and an independent information security standard. For our IT infrastructure, a high level of availability is achieved by providing a redundant, location-independent systems architecture.

Other IT risks arise from the use of software-based products and solutions on the internet of things (IoT). In this context, there is a danger of software and data being misused or wrongly used with respect to intellectual property protection or even data privacy in an environment we can scarcely control, especially public cloud environments. To counter these risks, we support our customers through our Bosch IoT Suite service platform and through engineering and advisory services relating to the use of IoT solutions, and include exclusion of liability clauses to this effect in our contracts. In addition, liability risks arise in connection with the outage or disruption of complex systems relating to our products and services, such as manufacturing equipment that is a part of Industry 4.0 solutions and components for automated driving. To reduce these risks, we conclude appropriate agreements with our customers on terms of use and limitations on liability.

Legal risks, compliance: The principle of legality is an integral part of Bosch's values. In 2017, with the aim of further developing our compliance organization, we decided to increase headcount and took the first steps to put this into practice. We also adopted a binding product development code, and introduced the company's biggest ever compulsory classroom-based training program on that subject for about 70,000 associates. Our compliance dialogue format has been extended to include a new module on the product development code. This format is designed to allow departments to discuss potential dilemmas. As a supporting measure, we have made various tools available, including a compliance app. To ensure compliance with the product development code, additional audits are carried out. To check the compliance of our business partners, a new IT system has been introduced at corporate level. In addition, we have revised our Code of Business Conduct and notified our associates worldwide of the changes.

In the antitrust investigations of automotive suppliers that have been running worldwide for a number of years, the proceedings by the European Commission against Bosch were brought to an end by consent at the end of February 2018, in return for fines totaling 77.2 million euros. In view of potential civil-law risks associated with the matters under investigation, Bosch has already conducted discussions with customers and expects further discussions on the subject of compensation. Bosch was also able to reach fundamental agreements with class-action claimants in Canada. These agreements still require final approval by the competent courts. Since 2013, the French antitrust authorities have been investigating alleged unfair practices in the French market by the French BSH subsidiary and other manufacturers of household appliances.

The events concerning the emissions from diesel vehicles made by various automakers and in many countries bear considerable risks for Bosch. Authorities in many countries, also in North America and Europe, are investigating not only Volkswagen, Audi, and Porsche, but also several other automakers. According to press reports, these include Fiat Chrysler, Daimler, and Peugeot. As one of the world's leading suppliers of engine control units, Bosch also supplied these automakers with engine control units, including software, for various models. It supplies such components to many other automakers worldwide. The Stuttgart public prosecutor's office has so far started several formal investigations of Bosch associates, some of them persons unknown. Bosch is cooperating with the Stuttgart public prosecutor's office and with many other regulatory and criminal investigation authorities worldwide.

With respect to the events concerning various automakers' diesel vehicle emissions, Bosch has been and is a defendant in many class and individual civil-law actions around the world. This relates to the U.S. and Canada, among other countries. In several other countries, actions are also pending or have at least been threatened. In two of the pending class actions in the U.S. relating to Volkswagen, Audi, and Porsche vehicles with 2.0- and 3.0-liter engines sold in the U.S., Bosch reached an agreement that partly settles these actions with buyers and reseller dealers in 2017. The settlement has meanwhile been approved by the competent court. For this, Bosch paid a total of 327.5 million U.S. dollars. In agreeing to this settlement, Bosch neither acknowledges the validity of the claims brought forward, nor does it concede any guilt.

Many civil claimants have rejected the settlement, and are continuing to press their claims individually. In addition, the class action against Bosch by VW dealers continues. In the U.S., Bosch companies are still defendants in class actions relating to diesel passenger cars made by Daimler, Fiat Chrysler, General Motors, and Ford, together with the respective automaker. In all these proceedings, Bosch is protecting its rights. It cannot be ruled out that further actions will be brought against Bosch in relation to other automakers. The risks that may arise as a result of these pending and threatened actions are severe, and cannot be quantified in some cases.

On the basis of the facts relating to antitrust proceedings 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 as outlined, provisions throughout the group amount to some 1.2 billion euros. From the 2017 financial year, the board of management knows of no further legal risks that could, from a present perspective, materially impair the company's net assets, financial position, or results of operations.

Financial risks: The operating business of the Bosch Group is affected by fluctuations in exchange and interest rates. The aim of business policy is to limit these risks. Our strategy of maintaining a strong global presence with local production and worldwide purchasing activities generally reduces currency risks. A foreign exchange balance plan showing net positions per foreign currency is used as the basis for controlling currency risks. If necessary, these risks are hedged through centralized hedging transactions. Internal regulations and guidelines set down a mandatory framework and define responsibilities relating to payment transactions, investments, and hedging activities. According to our regulations, financial instruments such as forward transactions and interest swaps may only be used in connection with the operating business, financial investments, or financing transactions; speculative transactions are not allowed. Hedging transactions are entered into solely via banks whose creditworthiness is good. Their creditworthiness is constantly monitored, and counterparty credit limits are defined accordingly.

We have extensive financial assets. These are subject to interest-rate and exchange-rate risks. We control these risks by means of an investment process geared to our financial exposure. The objective is to secure appropriate, risk-adjusted returns on invested capital. Here, we endeavor to spread our investments as widely as possible. A limit system is used to closely monitor investment risk. Prescribed risk limits for the specific investment categories limit the potential loss. The impact of changes in interest rates on borrowed funds is sharply limited over the short and medium term by balancing the maturities of financial liabilities. Changes in financial assets and liabilities are monitored on an ongoing basis. We identify liquidity risks as part of our liquidity planning. Thanks to our good credit rating and existing financing arrangements, we have good access to external funding.

BOSCH GROUP

CONSOLIDATED FINANCIAL STATEMENTS

INCOME STATEMENT
FOR THE PERIOD FROM JANUARY 1 TO DECEMBER 31, 2017

Figures in millions of euros

	Note	2017	2016[1]
Sales revenue	1)	**78,066**	**73,129**
Cost of sales		–50,156	–47,564
Gross profit		**27,910**	**25,565**
Distribution and administrative cost	2)	–15,788	–14,707
Research and development cost	3)	–7,264	–6,911
Other operating income	4)	1,788	1,816
Other operating expenses	5)	–1,704	–1,994
Profit/loss from entities consolidated using the equity method		–26	–175
EBIT		**4,916**	**3,594**
Financial income	6)	2,264	2,528
Financial expenses	6)	–2,412	–2,755
Profit before tax		**4,768**	**3,367**
Income taxes	7)	–1,494	–993
Profit after tax		**3,274**	**2,374**
of which attributable to non-controlling interests	8)	521	425
of which attributable to parent company		2,753	1,949

[1] Restated values; see the section “Change in disclosure of the net interest expense on pension provisions”

01

STATEMENT OF COMPREHENSIVE INCOME
FOR THE PERIOD FROM JANUARY 1 TO DECEMBER 31, 2017

Figures in millions of euros

	2017	2016
Profit after tax	**3,274**	**2,374**
Change from marketable financial instruments		
recognized in other comprehensive income	425	330
of which attributable to non-controlling interests	9	16
transferred to profit or loss	–97	16
of which attributable to non-controlling interests	–4	–10
Adjustment item from currency translation of entities outside the euro zone	–1,939	–18
of which attributable to non-controlling interests	–109	–17
Items that will be reclassified to profit or loss	**–1,611**	**328**
of which entities consolidated using the equity method		3
Remeasurement of pension provisions	258	–509
of which attributable to non-controlling interests	2	–1
Items that will not be reclassified to profit or loss	**258**	**–509**
of which entities consolidated using the equity method		
Other comprehensive income	**–1,353**	**–181**
Comprehensive income	**1,921**	**2,193**
of which attributable to non-controlling interests	419	413
of which attributable to parent company	1,502	1,780

02

STATEMENT OF FINANCIAL POSITION
FOR THE YEAR ENDED DECEMBER 31, 2017

ASSETS
Figures in millions of euros

	Note	12/31/2017	12/31/2016
Current assets			
Cash and cash equivalents	10)	4,543	4,753
Trade receivables	11)	14,970	14,364
Other financial assets	12)	2,006	2,376
Income tax receivables		521	396
Other assets	13)	2,012	1,778
Inventories	14)	10,119	9,895
		34,171	**33,562**
Non-current assets			
Financial assets	15)	12,522	12,067
Income tax receivables		159	159
Property, plant, and equipment	16)	19,129	19,085
Intangible assets	17)	11,663	12,174
Investments measured at equity		143	93
Other assets		184	207
Deferred taxes	7)	3,899	4,528
		47,699	**48,313**
Total assets		**81,870**	**81,875**

EQUITY AND LIABILITIES
Figures in millions of euros

	Note	12/31/2017	12/31/2016
Current liabilities			
Trade payables	18)	7,421	6,885
Other financial liabilities	19)	1,552	2,683
Income tax liabilities		329	241
Other liabilities	20)	6,614	6,112
Income tax provisions		88	107
Other provisions	20)	3,824	4,027
		19,828	**20,055**
Non-current liabilities			
Financial liabilities	19)	5,200	5,702
Other liabilities	20)	217	236
Pension provisions	21)	11,313	11,841
Income tax provisions		696	828
Other provisions	20)	4,944	4,937
Deferred taxes	7)	2,120	2,192
		24,490	**25,736**
Equity	22)		
Issued capital		1,200	1,200
Capital reserve		4,557	4,557
Retained earnings		29,777	28,540
Unappropriated earnings		241	138
Non-controlling interests		1,777	1,649
		37,552	**36,084**
Total equity and liabilities		**81,870**	**81,875**

STATEMENT OF CHANGES IN EQUITY

Figures in millions of euros

			Retained earnings		
	Issued capital	Capital reserve	Earned profit	Treasury stock	Currency translation
1/1/2016	**1,200**	**4,557**	**28,419**	**–62**	**1,276**
Comprehensive income					–1
Dividends					
Transfer to retained earnings			1,811		
Other changes					
12/31/2016	**1,200**	**4,557**	**30,230**	**–62**	**1,275**
Comprehensive income					–1,830
Dividends					
Transfer to retained earnings			2,512		
Other changes					
12/31/2017	**1,200**	**4,557**	**32,742**	**–62**	**–555**

Other comprehensive income						
Securities	Other	Total	Unappropriated earnings	Equity parent company	Equity non-controlling interests	Group equity
606	**−3,291**	**−1,409**	**142**	**32,847**	**1,577**	**34,424**
340	−508	−169	1,949	1,780	413	2,193
			−142	−142	−283	−425
			−1,811			
	−50	−50		−50	−58	−108
946	**−3,849**	**−1,628**	**138**	**34,435**	**1,649**	**36,084**
323	256	−1,251	2,753	1,502	419	1,921
			−138	−138	−281	−419
			−2,512			
	−24	−24		−24	−10	−34
1,269	**−3,617**	**−2,903**	**241**	**35,775**	**1,777**	**37,552**

04

STATEMENT OF CASH FLOWS

Figures in millions of euros

	Note 23	2017	2016[1]
EBIT		4,916	3,594
Depreciation and amortization[2]		4,292	4,244
Increase in pension provisions and non-current provisions		9	−254
Gains on disposal of non-current assets		−98	−135
Losses on disposal of non-current assets		108	88
Result from investments measured at equity		66	81
Financial income, cash effective		1,331	1,293
Financial expenses, cash effective		−1,032	−1,457
Interest and dividends received		460	548
Interest paid		−220	−246
Income taxes paid		−1,465	−1,191
Cash flow		**8,367**	**6,565**
Increase in inventories		−787	−148
Increase in receivables and other assets		−1,771	−1,316
Increase in liabilities		1,284	757
Change in current provisions		−294	279
Cash flows from operating activities (A)		**6,799**	**6,137**
Acquisition of subsidiaries and other operating units		−84	−8
Disposal of subsidiaries and other operating units		404	26
Additions to non-current assets		−5,477	−5,213
Proceeds from disposal of non-current assets		303	316
Purchase of securities		−4,768	−7,248
Disposal of securities		4,493	6,901
Cash flows from investing activities (B)		**−5,129**	**−5,226**
Borrowing		211	1,665
Repayment of financial liabilities		−1,445	−1,167
Dividends paid		−419	−425
Cash flows from financing activities (C)		**−1,653**	**73**
Increase in liquidity (A+B+C)		**17**	**984**
Liquidity at the beginning of the period (January 1)		**4,753**	**3,707**
Exchange-rate related change in liquidity		−242	11
Increase in liquidity due to changes in the consolidated group		15	51
Liquidity at the end of the period (December 31)		**4,543**	**4,753**

[1] Restated values; see the section “Change in disclosure of the net interest expense on pension provisions”
[2] After offsetting reversals of impairments of EUR 40 million

NOTES

Principles and methods

General explanations

The consolidated financial statements of the Bosch Group for the year ended December 31, 2017, have been prepared according to the standards issued by the International Accounting Standards Board (IASB), London. The International Financial Reporting Standards (IFRSs) and the Interpretations of the IFRS Interpretations Committee (IFRS IC) as adopted by the EU at the end of the reporting period have been applied. The previous-year figures have been determined using the same principles.

The consolidated financial statements are in line with the provisions of Sec. 315e HGB [“*Handelsgesetzbuch*”: German Commercial Code] and Regulation (EC) No 1606/2002 of the European Parliament and of the Council of July 19, 2002, on the application of international accounting standards.

To enhance the clarity and transparency of the consolidated financial statements, individual 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, 2017, were authorized for disclosure by management on March 8, 2018. The consolidated financial statements and group management report will be filed with the Federal Gazette [*Bundesanzeiger*] and published there.

New standards

On September 22, 2016, the EU endorsed IFRS 15 *Revenue from Contracts with Customers* as published in May 2014. The standard will become effective for fiscal years beginning on or after January 1, 2018; it will not by early adopted by the Bosch Group. From January 1, 2018 onward, IFRS 15 will be applied retrospectively, exercising the option to recognize cumulative adjustment amounts from first-time application in equity on the date of initial application. IFRS 15 replaces the former IAS 11 *Construction Contracts* and IAS 18 *Revenue* as well as the related interpretations. According to IFRS 15, an entity should recognize revenue to depict the transfer of promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled. 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. The review of the effects of first-time adoption of IFRS 15 in the Bosch Group has concluded that the expected effects on earnings are negligible. First-time application of IFRS 15 could result in changes in the accounting of research and development work cross-charged to customers. To the extent that control over the work rendered is transferred to the customer, revenue is realized and recorded in the cross-charged costs within cost of sales.

On November 22, 2016, the EU endorsed IFRS 9 *Financial Instruments* as published in July 2014. The standard will become effective for fiscal years beginning on or after January 1, 2018; it will not be early adopted by the Bosch Group. IFRS 9 replaces the former IAS 39 *Financial Instruments: Recognition and Measurement* and will be applied in the Bosch Group from January 1, 2018 onward. All effects from the first-time application of IFRS 9 will be reported cumulatively in equity on the date of initial application; previous-year values will not be restated. IFRS 9 contains a uniform model for classifying and measuring financial assets. The classification will be based on different business models. In addition, it introduces a new impairment model for financial assets that is more forward-looking than the previous approach. IFRS 9 also includes new hedge accounting requirements. The effects of first-time adoption of IFRS 9 on the consolidated financial statements of the Bosch Group will primarily concern the measurement of trade receivables. This is based on the simplified bad debt allowance model in which impairments of trade receivables are recognized in the amount of expected losses over the residual term. Equity instruments will be measured at fair value in other comprehensive income, the effect from measurement changes will be recorded in the reserve from securities in equity. In contrast, no material effects are expected from the requirements of IFRS 9 regarding the classification of financial assets on the consolidated financial statements of the Bosch Group. The Bosch Group continues not to use hedge accounting.

The IASB published IFRS 16 *Leases* on January 13, 2016; the standard was endorsed by the EU on October 31, 2017, and will replace IAS 17 *Leases* and IFRIC 4 *Determining Whether an Arrangement Contains Embedded Leases*. The standard will become effective for fiscal years beginning on or after January 1, 2019; it will not be early adopted by the Bosch Group. IFRS 16 removes the previous classification of leases either as finance leases or operating leases. Instead, it introduces a single lease accounting model, according to which lessees are required to recognize a right-of-use asset and a lease liability. Accordingly, previously unrecognized leases will in the future have to be recognized in the statement of financial position. The effects of first-time adoption of IFRS 16 on the consolidated financial statements of the Bosch Group are still under review, along with how to exercise the options contained in IFRS 16. Depending on how said options are exercised, it is currently expected that the first-time accounting of assets and liabilities will at most equal the present value of the currently disclosed obligations from operating leases. The detailed analysis of the effects of first-time adoption of IFRS 16 has not yet been completed.

Basis of consolidation

Besides Robert Bosch GmbH, the consolidated financial statements include all subsidiaries for which Robert Bosch GmbH fulfills the criteria for control pursuant to 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 companies consolidated in the fiscal year for the first time is consolidated pursuant to IFRS 3 *Business Combinations* using the acquisition method of accounting. At the time of combination, the cost of the shares acquired is offset against pro-rata revalued equity. Assets, liabilities, and contingent liabilities are carried at fair value. Remaining debit differences are accounted for as goodwill. Any credit differences are recognized with effect on income. Any difference resulting from the purchase of additional non-controlling interests is offset against equity.

Joint ventures as defined by IFRS 11 *Joint Arrangements* are accounted for using the equity method.

Pursuant to IAS 28 *Investments in Associates and Joint Ventures*, investments are included in the consolidated financial statements using the equity method if significant influence can be exercised. At present, no associates have been accounted for using the equity method. On the grounds of materiality, investments in associates are measured at amortized cost.

Within the consolidated group, intercompany profits and losses, sales, expenses, and other income, as well as all receivables and liabilities or provisions, are eliminated. In the case of consolidation measures with an effect on income, the effects for income tax purposes are considered and deferred taxes recognized.

Currency translation

In the separate financial statements of the group companies, all receivables 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.

The financial statements of the consolidated companies outside the euro zone 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 until the disposal of the subsidiaries, and disclosed as a separate line item in equity.

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

		Closing rate		Average rate	
	1 EUR =	12/31/2017	12/31/2016	2017	2016
Australia	AUD	1.53	1.46	1.47	1.49
Brazil	BRL	3.97	3.43	3.61	3.86
China	CNY	7.80	7.31	7.63	7.34
Czech Republic	CZK	25.54	27.02	26.33	27.03
Hungary	HUF	310.14	311.02	309.25	311.46
India	INR	76.61	71.59	73.53	74.37
Japan	JPY	135.01	123.40	126.71	120.20
Korea	KRW	1,279.61	1,269.36	1,276.74	1,284.18
Poland	PLN	4.18	4.41	4.26	4.36
Russian Federation	RUB	69.39	63.81	66.02	74.24
Switzerland	CHF	1.17	1.07	1.11	1.09
Turkey	TRY	4.55	3.71	4.12	3.34
United Kingdom	GBP	0.89	0.86	0.88	0.82
United States	USD	1.20	1.05	1.13	1.11

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Accounting policies

Cash and cash equivalents comprise cash, reserve bank deposits, and bank balances with an original maturity of less than 90 days. Measurement is at amortized cost.

Trade receivables and other financial assets allocable to the “loans and receivables” category are measured at amortized cost. All discernible specific risks and general credit risks are accounted for by appropriate valuation allowances. According to internal group guidelines, the carrying amounts of receivables are generally corrected via a valuation allowance account.

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. In addition to direct cost, cost of conversion includes an allocable portion of necessary 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 associated with holding and selling inventories due to obsolescence. Inventories are written down further when their net realizable value falls below cost.

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:

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

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In accordance with IAS 36 *Impairment of Assets*, impairment losses are recorded on property, plant, and equipment if the 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 17 *Leases*, leased items of property, plant, and equipment which, from a substance-over-form perspective, are deemed to be purchases of assets with long-term financing (finance leases) are recognized at the time of addition at the lower of the fair value of the leased assets or present value of the minimum lease payments. Depreciation is charged over the economic useful life. If it is uncertain whether title to the leased asset will be transferred, the asset is depreciated over the term of the lease agreement (if shorter than the economic useful life). The finance expense from these leases is disclosed under other financial result.

Investment property is measured at depreciated cost in accordance with IAS 40 *Investment Property*.

Government grants are only recognized pursuant to IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance* 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. Grants related to income are presented as part of profit or loss in the period in which the related expenses are incurred.

Purchased and internally generated intangible assets are capitalized 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. As a rule, the useful life is four years. Intangible assets accounted for in the course of business combinations have a useful life of up to 50 years.

As a rule, **borrowing costs** are not included in the cost of assets. If they are directly attributable to the acquisition, construction, or production of a qualifying asset they are included in the cost of that asset in accordance with IAS 23 *Borrowing Costs*. Write-downs on capitalized borrowing costs are reported in the cost of sales.

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) and tested annually for impairment. If the carrying amount of a cash-generating unit's net assets exceeds its recoverable amount, impairment losses are charged in accordance with the requirements of IAS 36. Pursuant to IFRS 1 *First-time Adoption of International Financial Reporting Standards*, goodwill existing as of January 1, 2004 (date of transition), was transferred at the carrying amount in accordance with the provisions of the German Commercial Code. Goodwill is also tested for impairment pursuant to the provisions of IAS 36.

Intangible assets with an indefinite useful life are tested annually for impairment. Intangible assets subject to wear and tear are only tested for impairment if there is any 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 the carrying amount. Impairment losses are reversed if the reasons for the impairment loss from previous years no longer apply.

Interests in jointly controlled entities are included in the consolidated financial statements using the equity method. 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 write-offs, where appropriate.

As a rule, **financial instruments** are determined as of the settlement date. Financial instruments are accounted for at amortized cost or fair value. In the case of a financial asset or financial liability not accounted for at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability are taken into account.

When determining the fair value, the input factors of the measurement methods pursuant to IFRS 13 *Fair Value Measurement* 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 the carrying amount.

In accordance with IAS 39 *Financial Instruments: Recognition and Measurement*, the following categories of financial instrument are used in the Bosch Group:

- Held-to-maturity investments
- Loans and receivables
- Financial liabilities measured at amortized cost
- Financial assets and liabilities held for trading
- Available-for-sale financial assets

The fair-value option pursuant to IAS 39 is not exercised.

Financial investments held to maturity, loans and receivables, and current and non-current financial liabilities are measured at amortized cost using the effective interest method. Impairments of loans and receivables to allow for anticipated credit risks based on past experience are recognized in the form of specific and general bad debt allowances. When determining valuation allowances for the general credit risk, financial assets that could potentially be impaired are grouped together by similar credit risk characteristics and collectively tested for impairment and, if necessary, written down.

Financial assets and liabilities held for trading are measured at fair value. Changes in value are recognized in profit or loss. These are derivative financial instruments which are mainly used to limit currency, interest, and commodity risks in accordance with internal risk management. Hedge accounting is not used in the Bosch Group.

Available-for-sale financial assets are those non-derivative financial assets that cannot be allocated to any of the three preceding categories. They are carried at fair value. Unrealized gains and losses from changes in market value are disclosed in equity, net of deferred taxes, until they are realized. Interest received is generally recognized through profit or loss using the effective interest method. Dividends are recognized through profit or loss as soon as payment is legally enforceable. If impairment losses are necessary, the accumulated net loss is eliminated from equity and disclosed in profit or loss. If an impairment loss recorded on equity instruments is reversed in accordance with IAS 39, this is offset directly against equity. Reversals of impairment losses on debt instruments may not exceed the amount of the previously recognized impairment loss. The amount of the reversal is recognized in profit or loss.

If the fair value of available-for-sale financial assets cannot be reliably determined, they are accounted for at cost. These are investments for which there is no active market. Necessary impairment losses are recognized in profit or loss and are not reversed.

As of every reporting date, the carrying amounts of the financial assets which are not measured at fair value through profit or loss are examined for substantial objective evidence that an asset may be impaired. Such evidence may, for instance, be serious financial difficulties suffered by the debtor, the high probability that insolvency proceedings will be instituted against the debtor, the disappearance of an active market for the financial asset, a prolonged decline in the fair value of the financial asset below amortized cost, or significant changes in the technological, economic, legal, or market environment in which the issuer operates. A possible impairment loss is given if the fair value of the asset is lower than the carrying amount. The fair value of loans and receivables is the present value of the estimated future cash flows discounted using the original effective interest rate.

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 unless they 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, affect neither the profit before tax nor the taxable income. Deferred tax assets arising from unused tax losses and tax credits are recognized as an asset only where there is assurance beyond any reasonable doubt that future taxable income would be sufficient to allow the benefit of the loss to be realized. 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. Tax implications from profit distributions are generally not considered until the resolution for the appropriation of profits has been adopted. If it is uncertain whether recognized deferred taxes can be realized, they are adjusted accordingly.

Assets and liabilities held for sale are classified as held for sale if their carrying amount will be recovered principally through a sale transaction and the sale is highly likely to be effected. 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.

For **finance leases** under which the Bosch Group is the lessor, a receivable is recognized at the net investment value and disclosed under financial assets. Liabilities from finance leases are disclosed under financial liabilities, at the present value of the future lease payments. Leases under which substantially all risks and rewards incidental to ownership have been transferred to the lessee are classified as finance leases.

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.

Tax provisions pertain to obligations relating to income tax and other taxes. Deferred taxes are disclosed in separate line items of the statement of financial position.

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. They are discounted at the capital market interest rate that reflects the risks specific to the liability.

Revenue from the supply of products and goods or from the provision of services is recognized when title and risk are transferred to the purchaser, less sales deductions. Interest and lease income is recorded according to the contractual agreement and, where appropriate, accrued pro rata temporis. In the case of finance leases, the payments are divided up using actuarial methods.

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 the depreciation of production equipment and the amortization of other intangible assets, and the write-downs of inventories.

Development cost that cannot be recognized as part of the carrying amount of an asset is released to profit or loss in the period incurred.

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 disclosure of the assets and liabilities, income and expenses, and contingent liabilities disclosed in the reporting period. Estimates and assumptions concern the following:

The determination of valuation allowances on receivables is based on estimates and assumptions with respect to the credit standing of individual customers and sovereign risks. 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 and other intangible assets for impairment are based on estimates. Assumptions are also made in the determination of the discount rates and growth rates used. 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. Pension provisions and similar obligations are measured using actuarial methods. This requires various assumptions, including with respect to life expectancy, salary trends, and the pension growth rate. The recognition and measurement of other provisions is based on estimates of the amount and probability of future events. To the extent possible, such estimates are based on past experience, and are regularly reviewed and adjusted as necessary.

Change in disclosure of the net interest expense on pension provisions

In the fiscal year, it was decided to no longer disclose in personnel expenses (i.e. in the functional costs) the net interest expense from the unwinding of the discount on pension provisions, but rather in the financial result. This leads to a more appropriate presentation and, in turn, to more reliable information on the Bosch Group's results of operations. In the income statement, the change in disclosure affects the line items cost of materials, distribution and administrative cost, research and development cost, and financial expenses. The reclassifications also affect EBIT and, in turn, the initial value in the statement of cash flows. In addition, there is also a change in the item "Increase in pension provisions and non-current provisions" included there. The section to this effect in the notes is also affected. There are also effects on the EBIT and non-cash expenses items in segment reporting.

The effects on the line items of the income statement are presented in the table below; the previous year's values in the income statement, the statement of cash flows, and the notes to the financial statements were restated.

Figures in millions of euros

	2016 before reclassification		2016 after reclassification
Sales revenue	**73,129**		**73,129**
Cost of sales	–47,711	147	–47,564
Administrative expenses	–4,081	37	–4,044
Distribution cost	–10,695	32	–10,663
Research and development cost	–6,954	43	–6,911
Other operating income and expenses	–178		–178
Result from measurement at equity	–175		–175
EBIT	**3,335**	**259**	**3,594**
Financial result	32	–259	–227
of which interest expenses	–225	–259	–484
Profit before tax	**3,367**		**3,367**
Income taxes	–993		–993
Profit after tax	**2,374**		**2,374**

Consolidation

Consolidated group

Robert Bosch GmbH is headquartered in Stuttgart, Germany. The shareholders of Robert Bosch GmbH are Robert Bosch Stiftung GmbH, Stuttgart (92.0 percent of the shares), the Bosch family (7.4 percent of the shares), and Robert Bosch Industrietreuhand KG, Stuttgart, which performs the entrepreneurial ownership functions. Robert Bosch GmbH holds treasury stock equivalent to 0.6 percent of capital.

Besides Robert Bosch GmbH, the consolidated group comprises a further 442 (previous year: 441) fully consolidated companies. The group developed as follows:

	Germany	Outside Germany	Total
Included in consolidation at January 1, 2016	**85**	**358**	**443**
Additions/formations in fiscal year 2016	9	18	27
Disposals/mergers in fiscal year 2016	3	25	28
Included in consolidation at December 31, 2016	**91**	**351**	**442**
Additions/formations in fiscal year 2017	6	17	23
Disposals/mergers in fiscal year 2017	3	19	22
Included in consolidation at December 31, 2017	**94**	**349**	**443**

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The consolidated group includes 5 special funds, as well as other investments.

In the fiscal year 2017, the following companies were consolidated for the first time:

- Coup Mobility GmbH, Berlin, Germany
- ITK Engineering GmbH, Rülzheim, Germany
- Robert Bosch Mobility Services GmbH, Gerlingen, Germany
- Robert Bosch Semiconductor Manufacturing Dresden GmbH, Dresden, Germany
- Robert Bosch Siebte Vermögensverwaltungsgesellschaft mbH, Gerlingen, Germany
- Security and Safety Things GmbH, Berlin, Germany
- Bosch Rexroth Chile S.p.A., Santiago de Chile, Chile
- Bosch Automotive Products (Wuhu) Co., Ltd., Wuhu, China
- United Automotive Electronic Systems (Chongqing) Co., Ltd., Chongqing, China
- COUP France S.A.S., Saint-Ouen, France
- TOO Robert Bosch, Almaty, Kazakhstan
- Robert Bosch SIA, Riga, Latvia
- Bosch Automotive Service Solutions, S.A. de C.V., Mexico City, Mexico
- Bosch Thermotechnology Netherlands Holding B.V., Boxtel, Netherlands
- SIA Abrasives Polska Sp. z o.o., Goleniów, Poland
- Bosch Rexroth Sales S.R.L., Blaj, Romania
- Evroradiators LLC, Engels, Russian Federation
- Robert Bosch Samara LLC, Chernovskiy, Russian Federation
- Robert Bosch, spol. s.r.o., Bratislava, Slovakia
- Nimbus Holdings LLC, Wilmington, DE, USA
- Robert Bosch Asset Management II Corporation, Farmington Hills, MI, USA
- Robert Bosch Start-up Platform North America LLC, Wilmington, DE, USA
- Robert Bosch Engineering and Business Solutions Vietnam Co., Ltd., Ho Chi Minh City, Vietnam

Due to changes to the consolidated group, sales revenue increased by EUR 140 million, while total assets decreased by EUR 461 million.

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

Figures in millions of euros

	Bosch Automotive Diesel Systems Co., Ltd., Wuxi, China		United Automotive Electronic Systems Co., Ltd., Shanghai, China	
	2017	**2016**	**2017**	**2016**
Current assets	1,050	749	1,478	1,431
Non-current assets	331	359	1,333	1,392
Current liabilities	477	383	976	1,021
Non-current liabilities	29	14	185	185
Sales revenue	2,051	1,469	2,968	2,720
Profit/loss after tax	471	312	448	413
Comprehensive income	421	290	345	370
Cash flows from operating activities	279	362	546	499
Cash flows from investing activities	−27	−25	−201	−203
Cash flows from financing activities	−257	−330	−311	−233
Share of capital attributable to non-controlling interests	34.0%	34.0%	49.0%	49.0%
Profit/loss attributable to non-controlling interests	160	106	220	202
Equity attributable to non-controlling interests	298	242	809	792
Dividends paid to non-controlling interests	87	112	136	111

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Figures in millions of euros

	Bosch HUAYU Steering Systems Group, Shanghai, China		Bosch Ltd., Bengaluru, India	
	2017	2016	2017	2016
Current assets	892	559	910	811
Non-current assets	498	322	945	959
Current liabilities	812	477	482	430
Non-current liabilities	33	1	26	32
Sales revenue	1,609	1,019	1,475	1,416
Profit/loss after tax	167	122	180	200
Comprehensive income	134	111	121	256
Cash flows from operating activities	348	215	287	–65
Cash flows from investing activities	–68	–38	–171	99
Cash flows from financing activities	–84	–84	–83	–43
Share of capital attributable to non-controlling interests	49.0%	49.0%	29.5%	29.5%
Profit/loss attributable to non-controlling interests	82	60	53	59
Equity attributable to non-controlling interests	267	197	397	386
Dividends paid to non-controlling interests	28	41	24	13

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

Joint ventures

The following entities are joint ventures in accordance with IFRS 11 and were recognized in the consolidated financial statements using the equity method in accordance with IAS 28:

- Bosch Mahle Turbo Systems GmbH & Co. KG, Stuttgart, Germany (50 percent)
- EM-motive GmbH, Hildesheim, Germany (50 percent)
- Lithium Energy and Power GmbH & Co. KG, Stuttgart, Germany (50 percent)
- KB Wiper Systems Co., Ltd., Daegu, Korea (50 percent)
- Hytec Holdings (Pty.) Ltd., Johannesburg, South Africa (50 percent)
- Associated Fuel Pump Systems Corporation, Anderson, SC, USA (50 percent)

The share of capital corresponds to the share of voting rights in each case.

As in the previous year, there were no unrecognized commitments to joint ventures as of the reporting date that could lead to a future outflow of cash or other resources.

Material joint ventures

The fifty-fifty joint venture Bosch Mahle Turbo Systems GmbH & Co. KG, Stuttgart, Germany, was established in 2008 by Robert Bosch GmbH and MAHLE GmbH, Stuttgart. The company, which belongs to the Mobility Solutions business sector, develops and manufactures exhaust-gas turbochargers for gasoline and diesel engines for use in passenger cars and commercial vehicles.

The condensed financial information for Bosch Mahle Turbo Systems GmbH & Co. KG, Stuttgart, Germany, is presented in the table below; it corresponds with the amounts presented in the joint venture's IFRS financial statements.

Figures in millions of euros

	Bosch Mahle Turbo Systems GmbH & Co. KG, Stuttgart, Germany	
	2017	**2016**
Sales revenue	389	373
Depreciation and amortization	–35	–32
EBIT	–78	–106
Interest income	0	0
Interest expenses	–1	–2
Profit/loss before tax	–86	–129
Income taxes	0	0
Profit/loss after tax	–86	–129
Other comprehensive income	0	0
Comprehensive income	–86	–129
Current assets	176	168
of which cash and cash equivalents	39	1
Non-current assets	173	187
Current liabilities	98	124
of which financial liabilities	0	36
Non-current liabilities	26	44
Equity	225	187
Share of equity attributable to the group	112	94

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Further information on the planned sale of the interests in Bosch Mahle Turbo Systems GmbH & Co. KG is included in the section "Discontinued operations."

Condensed financial information on individually immaterial joint ventures

Figures in millions of euros

	2017	2016
Carrying amount of the investments	84	93
Group share of profit after tax	–22	–17
Group share of other comprehensive income of the period	–1	3
Group share of comprehensive income	–23	–14

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The carrying amount of the interests in the above-mentioned individually immaterial joint ventures corresponds to the proportionate share in these companies' equity.

Business combinations

On January 11, 2017, Robert Bosch GmbH acquired 100% of the shares in ITK Engineering GmbH (formerly: ITK Engineering AG), Rülzheim, Germany. The purchase price came to EUR 116 million, and was largely financed by transfer of cash. The company will be included in the consolidated financial statements of the Bosch Group from January 1, 2017, onward. ITK Engineering GmbH offers tailored engineering and consulting services for industrial enterprises and research institutions in a wide range of industries, and is allocated to the Mobility Solutions business sector. Assets amounting to EUR 37 million (of which cash and cash equivalents of EUR 4 million) were acquired and debt amounting to EUR 20 million assumed as of the date of first-time consolidation. In the course of the purchase price allocation, previously unidentified intangible assets amounting to EUR 88 million and deferred tax liabilities totaling EUR 26 million were recognized. Goodwill of EUR 37 million arose, mainly reflecting the value of the workforce and some of the expected synergy and earnings potential. This is not tax-deductible. Losses of EUR 5 million allocable to the acquired company from the time of first-time consolidation onward were included in the income statement of the Bosch Group.

Discontinued operations

In January 2017, Bosch and MAHLE announced that they planned to sell the joint venture Bosch Mahle Turbo Systems GmbH & Co. KG, Stuttgart. The contract governing the sale was signed in September 2017, and the transaction is scheduled to be completed in the fiscal year 2018. With respect to the planned divestment, the carrying value of the stake in Bosch Mahle Turbo Systems GmbH & Co. KG was written up by EUR 40 million to EUR 59 million.

In June 2015, it had already been announced that the Starter Motors and Generators division of the Mobility Solutions business sector would be restructured and that a new buyer or partner would be sought in order to secure the division's long-term prospects. To this end, the global business with starters and generators was spun off to legally independent entities. In May 2017, the agreement to sell SEG Automotive Germany GmbH (formerly Robert Bosch Starter Motors Generators Holding GmbH) including its subsidiaries was signed. The transaction was completed on December 31, 2017, and will be financed by transferring cash. With assets amounting to EUR 1,224 million sold and liabilities totaling EUR 723 million transferred, a gain on disposal of EUR 70 million was earned in the transaction. Of the provisional purchase price of EUR 571 million, EUR 429 million were paid in the fiscal year 2017 by transferring cash.

Notes to the income statement

01 Sales revenue

Sales revenue amounted to EUR 78,066 million (previous year: EUR 73,129 million). The Mobility Solutions business sector accounted for EUR 47,384 million (previous year: EUR 43,936 million) of this total, the Industrial Technology business sector for EUR 6,742 million (previous year: EUR 6,257 million), the Consumer Goods business sector for EUR 18,388 million (previous year: EUR 17,588 million), and the Energy and Building Technology business sector for EUR 5,438 million (previous year: EUR 5,223 million). Sales revenue that cannot be allocated to the business sectors came to EUR 114 million (previous year: EUR 125 million).

02 Distribution and administrative cost

Figures in millions of euros

	2017	2016
Administrative expenses	4,514	4,044
Distribution cost	11,274	10,663
	15,788	**14,707**

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

03 Research and development cost

Research and development cost contains both research cost and development cost that cannot be capitalized and depreciation on recognized development cost. In addition, it includes development work charged directly to customers.

Figures in millions of euros

	2017	2016
Total research and development cost	7,480	7,062
Development cost recognized in the reporting period	–460	–465
Depreciation on recognized development cost	244	271
	7,264	**6,911**

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04 Other operating income

Figures in millions of euros

	2017	2016
Income from exchange-rate fluctuations	866	880
Income from the reversal of valuation allowances on receivables and other assets	37	
Income from the disposal of non-current assets	97	78
Income from rent and leases	12	12
Income from the reversal of provisions	61	221
Sundry other operating income	715	625
	1,788	**1,816**

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The income from exchange-rate fluctuations is offset by expenses which are disclosed in other operating expenses. These income and expense items contain the effective exchange-rate results and the results from foreign-currency derivatives allocable to the operating business.

Leases are accounted for according to the rules pertaining to operating leases, provided that substantially all the risks and rewards incidental to ownership remain with the Bosch Group as lessor. The assets concerned are recognized in property, plant, and equipment, and the lease payments received, provided they are not disclosed as sales revenue, are recorded in other operating income.

Government grants related to income amounted to EUR 145 million (previous year: EUR 131 million). They are offset against the respective expenses. If there are no such expenses, the grants are disclosed in sundry other operating income.

In addition, sundry other operating income contains gains from the sale of SEG Automotive Germany GmbH (formerly Robert Bosch Starter Motors Generators Holding GmbH), including its subsidiaries, and from the sale of individual business operations of the Bosch Group.

05 Other operating expenses

Figures in millions of euros

	2017	2016
Expenses from exchange-rate fluctuations	769	661
Valuation allowances on receivables and other assets		91
Expenses from the disposal of non-current assets	102	87
Other taxes	69	75
Expenses from the recognition of provisions	292	403
Impairment of goodwill	55	
Sundry other operating expenses	417	677
	1,704	**1,994**

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The expenses from the recognition of provisions include additions to the provisions for legal risks.

06 Financial result

Figures in millions of euros

	2017	2016
Investment income	34	86
Gains/losses on disposal of investments	–4	56
Result from investments	**30**	**142**
Interest and similar income	421	446
Interest and similar expenses	–453	–484
Interest result	**–32**	**–38**
Gains on disposal of securities	214	259
Losses on disposal of securities	–61	–191
Exchange-rate gains	684	1,035
Exchange-rate losses	–1,284	–1,034
Gains on derivatives	884	627
Losses on derivatives	–521	–866
Other income	27	19
Other expenses	–89	–180
Other financial result	**–146**	**–331**
Financial result, total	**–148**	**–227**
of which financial income	2,264	2,528
of which financial expenses	–2,412	–2,755

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The line items “gains/losses on derivatives” contain transactions to hedge financial assets. The line item “other expenses” contains impairments of securities totaling EUR 49 million (previous year: EUR 93 million).

Capitalized borrowing costs of EUR 12 million (previous year: EUR 11 million) were deducted from interest expenses. The underlying borrowing rate is 2.0 percent (previous year: 2.5 percent).

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

Figures in millions of euros

	2017		2016	
	Interest income	Interest expenses	Interest income	Interest expenses
Loans and receivables	121		101	
Available-for-sale financial assets	299		341	
Financial liabilities measured at amortized cost		223		223
	420	**223**	**442**	**223**

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07 Income taxes

Income taxes are classified according to their origin as follows:

Figures in millions of euros

	2017	2016
Current taxes	1,291	1,132
Deferred taxes	203	–139
	1,494	**993**

20

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 29 percent. As in the previous year, the tax rates outside Germany range between 9 percent and 40 percent.

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

Figures in millions of euros

	2017		2016	
	Assets	Liabilities	Assets	Liabilities
Receivables, other assets, and inventories	776	232	660	226
Securities and investments	38	312	33	282
Property, plant, and equipment	180	911	144	926
Intangible assets	299	1,383	333	1,484
Other assets	74		144	
Liabilities	824	105	911	88
Provisions	2,500	91	2,726	61
Other liabilities	0	123		151
Unused tax losses and tax credits	245		603	
Total	**4,936**	**3,157**	**5,554**	**3,218**
Netting	–1,037	–1,037	–1,026	–1,026
	3,899	**2,120**	**4,528**	**2,192**

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In the fiscal year, write-downs on deferred tax assets came to EUR 709 million (previous year: EUR 541 million).

There are EUR 2,218 million in unused tax losses for which no deferred tax assets have been recognized (previous year: EUR 1,439 million). Within the next three years, EUR 173 million of that amount (previous year: EUR 109 million) will be forfeited. In addition, deferred tax assets were not recognized on tax credits of EUR 21 million (previous year: EUR 20 million).

Consolidation measures give rise to deferred tax assets of EUR 221 million (previous year: EUR 232 million) and deferred tax liabilities of EUR 3 million (previous year: EUR 3 million).

No deferred tax liabilities are recognized on retained profits of foreign subsidiaries where their distribution is not planned. A tax burden could result if these profits are distributed. In Germany, for instance, such income is taxable at 5 percent in addition to any foreign withholding tax.

In the reporting period, deferred taxes of EUR 243 million (previous year: EUR 155 million) were recorded directly in equity. Of this total, EUR 33 million (previous year: EUR 42 million) decreases the surplus from securities and EUR 210 million decreases retained earnings due to the change in actuarial parameters in accordance with IAS 19 (previous year: increase of EUR 197 million).

In the fiscal year, changed tax rates in the Bosch Group resulted in a deferred tax expense of EUR 86 million (previous year: EUR 1 million).

The basis for the expected income tax expense is the German tax rate of 29 percent. The difference between expected and disclosed income tax expense is attributable to the following factors:

Figures in millions of euros

	2017	**2016**
Profit before tax	4,768	3,367
Expected income tax expense	1,383	976
Variances due to tax rate	3	–124
Non-deductible expenses	201	109
Zero-rated income	–306	–253
Other differences	213	285
Income tax expense disclosed	**1,494**	**993**
Effective tax rate	31%	29%

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08 Non-controlling interests

Profits attributable to non-controlling interests amount to EUR 527 million (previous year: EUR 436 million). They are counter-balanced by losses of EUR 6 million (previous year: EUR 11 million).

09 Other notes to the income statement

In the reporting period, personnel expenses of EUR 22,266 million (previous year: EUR 21,056 million) were incurred. Cost of materials amounted to EUR 35,618 million (previous year: EUR 33,366 million).

Information about amortization and depreciation is contained in the notes on non-current assets.

Notes to the statement of financial position

10 Cash and cash equivalents

Figures in millions of euros

	2017	2016
Bank balances (term up to 90 days)	4,527	4,735
Cash and reserve bank deposits	16	18
	4,543	**4,753**

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The bank balances are partly invested as secured deposits in tri-party repo transactions. As of the reporting date, the carrying amount of the secured deposits is EUR 400 million (previous year: EUR 1,100 million). The bank provided collateral of the same amount in the form of securities.

11 Trade receivables

In the fiscal year, trade receivables came to EUR 14,970 million (previous year: EUR 14,364 million). Of that amount, EUR 5 million (previous year: EUR 7 million) have a term of more than one year.

Information about valuation allowances on trade receivables is contained in the credit risk section of note 26 “Capital and risk management.”

12 Other financial assets (current)

Figures in millions of euros

	2017	2016
Securities	565	852
Bank balances (term of more than 90 days)	331	676
Loan receivables	326	342
Derivative financial assets	221	74
Receivables from finance leases	34	34
Sundry other financial assets	529	398
	2,006	**2,376**

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

Note 27 “Leases” contains additional disclosures on receivables from finance leases.

13 Other assets (current)

Figures in millions of euros

	2017	2016
Prepaid expenses	204	208
Receivables from tax authorities (without income tax receivables)	1,581	1,367
Sundry other assets	227	203
	2,012	**1,778**

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14 Inventories

Figures in millions of euros

	2017	2016
Raw materials, consumables, and supplies	3,281	3,123
Work in process	1,554	1,537
Finished goods and merchandise	5,199	5,083
Prepayments	85	152
	10,119	**9,895**

26

Of the total amount of inventories, an amount of EUR 442 million (previous year: EUR 418 million) is carried at net realizable value. In the fiscal year, impairment losses of EUR 77 million (previous year: EUR 5 million) were recognized in profit or loss. No inventories were pledged as collateral.

15 Non-current financial assets

Figures in millions of euros

	2017	2016
Securities	11,051	10,458
Investments	1,063	1,098
Loan receivables	64	135
Derivative financial assets	67	85
Receivables from finance leases	142	149
Other financial assets	135	142
	12,522	**12,067**

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There are no loan receivables due in more than five years (previous year: EUR 51 million). As in the previous year, there are no other financial receivables due in more than five years.

Disclosures on valuation allowances on loan receivables, other financial receivables, and finance lease receivables are contained in the credit risk section of note 26 “Capital and risk management.”

Note 27 “Leases” contains further details on receivables from finance leases.

Non-current securities and investments

The securities consist of interest-bearing and other securities as well as shares.

The pledged securities have a carrying amount of EUR 1,011 million (previous year: EUR 964 million). The pledged securities satisfy the legal requirement to secure obligations to employees and bank guarantees. Fund units equivalent to at least the value of the claims were pledged as collateral.

Investments include unlisted investments amounting to EUR 608 million (previous year: EUR 599 million). There is no active market for these investments; they are therefore carried at cost. There were no material divestments of unlisted investments in the reporting period or in the previous year. As of the reporting date, the group plans to sell unlisted investments on a small scale.

16 Property, plant, and equipment

Figures 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 1/1/2016	**10,121**	**93**	**23,693**	**10,133**	**2,054**	**46,094**
Changes in consolidated group	32		91	25	−152	−4
Additions	254	2	1,160	901	1,935	4,252
Reclassifications	191	−8	926	387	−1,496	
Disposals	−121	−2	−872	−669	−44	−1,708
Exchange rate differences	17		−37	1	−11	−30
Gross values 12/31/2016	**10,494**	**85**	**24,961**	**10,778**	**2,286**	**48,604**
Depreciation 1/1/2016	**4,210**	**38**	**16,233**	**7,452**	**19**	**27,952**
Changes in consolidated group	3		−66	1		−62
Additions	285	1	1,702	1,033	1	3,022
Reclassifications	−15	−1	16	5	−5	
Disposals	−95		−774	−607	−5	−1,481
Exchange rate differences	36		44	8		88
Depreciation 12/31/2016	**4,424**	**38**	**17,155**	**7,892**	**10**	**29,519**
Carrying amounts 12/31/2016	**6,070**	**47**	**7,806**	**2,886**	**2,276**	**19,085**
Gross values 1/1/2017	**10,494**	**85**	**24,961**	**10,778**	**2,286**	**48,604**
Changes in consolidated group	−4		−383	−230	−49	−666
Additions	201	1	1,068	921	2,154	4,345
Reclassifications	222	9	1,099	351	−1,681	
Disposals	−64	−3	−815	−600	−61	−1,543
Exchange rate differences	−384		−975	−262	−95	−1,716
Gross values 12/31/2017	**10,465**	**92**	**24,955**	**10,958**	**2,554**	**49,024**
Depreciation 1/1/2017	**4,424**	**38**	**17,155**	**7,892**	**10**	**29,519**
Changes in consolidated group	−8		−268	−187		−463
Additions	290	1	1,694	1,109	1	3,095
Reclassifications	3			2	−5	
Disposals	−33	−2	−723	−545	−1	−1,304
Exchange rate differences	−145		−633	−172	−2	−952
Depreciation 12/31/2017	**4,531**	**37**	**17,225**	**8,099**	**3**	**29,895**
Carrying amounts 12/31/2017	**5,934**	**55**	**7,730**	**2,859**	**2,551**	**19,129**

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The total depreciation charge for the fiscal year contains the following impairment losses:

- Land and buildings: EUR 2 million (previous year: EUR 2 million)
- Plant and equipment: EUR 16 million (previous year: EUR 65 million)
- Other equipment, fixtures, and furniture: EUR 10 million (previous year: EUR 6 million)

The impairment losses of the fiscal year contain an amount of EUR 13 million, attributable to plant and equipment as well as other equipment, fixtures, and furniture of BSH Hausgeräte (Consumer Goods business sector). The impairment loss was recognized owing to the poorer business prospects. EUR 12 million concerns plant and equipment as well as other equipment, fixtures, and furniture of the Automotive Steering division (Mobility Solutions business sector). The impairment losses were recognized against the backdrop of increasingly demanding customer specifications and tough competition.

The carrying amounts contain the following amounts from finance leases in which the Bosch Group is the lessee:

- Land and buildings: EUR 14 million (previous year: EUR 16 million)
- Plant and equipment: EUR 2 million (previous year: EUR 2 million)
- Other equipment, fixtures, and furniture: EUR 8 million (previous year: EUR 10 million)

The obligations entered into to purchase items of property, plant, and equipment amounted to EUR 727 million (previous year: EUR 583 million); there were no restrictions on title in the fiscal year or in the previous year. Government grants for assets of EUR 41 million (previous year: EUR 14 million) were deducted from the additions in the reporting year.

Investment property comprises rented land and buildings which were measured at amortized cost. Measured at fair value, the portfolio comes to EUR 108 million (previous year: EUR 104 million). The fair values were calculated at corporate headquarters. The residential property in Germany and Asia allocated to level 3 of the fair-value hierarchy pursuant to IFRS 13 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. The rental income from investment property came to EUR 8 million (previous year: EUR 9 million), maintenance expenses totaled EUR 4 million (previous year: EUR 3 million).

A review of the useful lives of property, plant, and equipment revealed that special-purpose machinery is used for a longer period than previously estimated. The useful life on which depreciation is based was therefore extended to eight years. In the fiscal year and subsequent years, this change increases depreciation of property, plant, and equipment as presented in the following table:

Figures in millions of euros

	2017	2018	2019	2020
Depreciation of property, plant, and equipment	43	99	102	37

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17 Intangible assets

Figures in millions of euros

	Acquired intangible assets (without goodwill)	Acquired goodwill	Internally generated intangible assets	Total
Gross values 1/1/2016	**9,164**	**5,786**	**1,463**	**16,413**
Changes in consolidated group	20			20
Additions	260	18	525	803
Disposals	–164	–42	–151	–357
Exchange rate differences	–3	10		7
Gross values 12/31/2016	**9,277**	**5,772**	**1,837**	**16,886**
Amortization 1/1/2016	**2,499**	**697**	**727**	**3,923**
Changes in consolidated group	7			7
Additions	810		318	1,128
Disposals	–164	–42	–149	–355
Exchange rate differences	9			9
Amortization 12/31/2016	**3,161**	**655**	**896**	**4,712**
Carrying amounts 12/31/2016	**6,116**	**5,117**	**941**	**12,174**
Gross values 1/1/2017	**9,277**	**5,772**	**1,837**	**16,886**
Changes in consolidated group	95	45	–13	127
Additions	312		514	826
Disposals	–121		–193	–314
Exchange rate differences	–315	–167	–3	–485
Gross values 12/31/2017	**9,248**	**5,650**	**2,142**	**17,040**
Amortization 1/1/2017	**3,161**	**655**	**896**	**4,712**
Changes in consolidated group	–2		–12	–14
Additions	755	55	297	1,107
Disposals	–119		–181	–300
Exchange rate differences	–126	–2		–128
Amortization 12/31/2017	**3,669**	**708**	**1,000**	**5,377**
Carrying amounts 12/31/2017	**5,579**	**4,942**	**1,142**	**11,663**

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The amount of amortization for the fiscal year contains the following impairment losses:

- Acquired intangible assets (without goodwill): EUR 9 million (previous year: EUR 2 million)
- Internally generated intangible assets: EUR 33 million (previous year: EUR 91 million)

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

The goodwill of EUR 4,942 million (previous year: EUR 5,117 million) is attributable to the divisions (cash-generating units) as follows:

Figures in millions of euros

	2017	2016
Gasoline Systems	365	353
Diesel Systems	54	54
Automotive Aftermarket	366	411
Automotive Steering	108	108
Drive and Control Technology	1,523	1,535
Packaging Technology	125	131
Power Tools	372	388
BSH Hausgeräte GmbH	548	548
Security Systems	443	477
Thermotechnology	990	1,007
Other	48	105
	4,942	**5,117**

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Goodwill is subjected to an annual impairment test. An impairment loss is recorded when the recoverable amount is below the carrying amount of the cash-generating unit. An asset's recoverable amount is the higher of its fair value less costs of disposal and its value in use. Value in use is derived from the future cash flows. The cash flows are determined by reference to business plans with a planning period of five years and based on the medium-term planning approved by management. Planning is based on expectations with respect to future market shares, growth in the respective markets, and the profitability of products and services. Cash flows after the detailed planning period are determined by reference to an expected long-term growth rate.

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

Percentage figures

	Mobility Solutions		Industrial Technology		Consumer Goods		Energy and Building Technology	
	2017	2016	2017	2016	2017	2016	2017	2016
Growth rate	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pre-tax discount rate	11.6	11.0	10.4	9.5	8.9	9.3	10.3	10.1

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A risk-free interest rate of 1.3 percent (previous year: 0.9 percent) and a market risk premium of 6.5 percent (previous year: 6.5 percent) are assumed. The standard tax rate used is 29 percent (previous year: 29 percent).

In the fiscal year, the annual impairment test indicated that an impairment loss of EUR 55 million had to be recognized on goodwill. The full amount of the impairment loss was attributable to the Bosch Software Innovations operating unit, which is disclosed under "All other segments."

For all other items of goodwill for which the annual impairment test did not indicate any need to recognize an impairment loss, neither an increase in the discount rate by 0.5 of a percentage point nor a decrease in the growth rate by 0.5 of a percentage point would have led to an impairment loss.

18 Trade payables

Figures in millions of euros

	2017	2016
Trade payables	7,393	6,835
Notes payable	28	50
	7,421	**6,885**

33

In the fiscal year, there are trade payables of EUR 4 million due in more than one year (previous year: EUR 8 million).

19 Other current and non-current financial liabilities

Figures in millions of euros

	2017		2016	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Bonds	51	3,298	809	3,351
Promissory loans		1,652	65	1,651
Liabilities to banks	619	117	550	575
Loans	87	22	98	27
Derivative financial liabilities	75	10	147	7
Finance lease obligations	6	18	6	22
Other financial liabilities	714	83	1,008	69
	1,552	**5,200**	**2,683**	**5,702**

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Financial liabilities amounting to EUR 3,492 million (previous year: EUR 3,568 million) are due in more than five years.

Note 27 "Leases" contains additional disclosures on finance lease obligations.

20 Other liabilities and provisions

Sundry other liabilities

Figures in millions of euros

	2017		2016	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Accruals in the personnel area	2,551		2,400	
Accruals in the sales and marketing area	1,355		1,257	
Other accruals	825		722	
Tax liabilities (without income tax liabilities)	769		680	
Prepayments received for inventories	520		473	
Deferred income	196	104	170	89
Deferred income from tooling compensation received	10	80	13	115
Sundry other liabilities	388	33	397	32
	6,614	**217**	**6,112**	**236**

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EUR 1 million of the sundry other liabilities (previous year: EUR 11 million) are due in more than five years.

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.

Provisions (without income tax provisions and pension provisions)

Figures in millions of euros

	2017		2016	
	up to 1 year	more than 1 year	up to 1 year	more than 1 year
Tax provisions (without income tax provisions)	40	43	45	79
Provisions in the personnel area	906	1,889	808	1,881
Provisions in the sales and marketing area	2,017	1,075	2,174	1,220
Other provisions	861	1,937	1,000	1,757
	3,824	**4,944**	**4,027**	**4,937**

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Provisions developed as follows:

Figures in millions of euros

	1/1/2017	Changes in consolidated group	Amounts used	Amounts reversed	Increase incl. increase in discounted amount	Exchange rate adjustments	12/31/2017
Tax provisions	1,059	–1	–136	–142	101	–14	867
Provisions in the personnel area	2,689	–25	–523	–102	783	–27	2,795
Provisions in the sales and marketing area	3,394	–79	–1,349	–469	1,706	–111	3,092
Other provisions	2,757	–24	–691	–158	952	–38	2,798
	9,899	**–129**	**–2,699**	**–871**	**3,542**	**–190**	**9,552**

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Of the total increase in provisions, an amount of EUR 15 million (previous year: EUR 24 million) relates to increases in the discounted amount.

Provisions in the personnel area relate to obligations from personnel adjustment measures, from early phased retirement, and from other special benefits for which the timing or amount cannot yet be precisely determined. 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. Other provisions are recognized, among other things, for risks from purchasing obligations, environmental protection obligations, litigation risks, restructuring, and legal risks.

In the antitrust investigations of automotive suppliers that have been running worldwide for a number of years, the proceedings by the European Commission against Bosch were brought to an end by consent at the end of February 2018, in return for fines totaling EUR 77.2 million. In view of potential civil-law risks associated with the matters under investigation, Bosch has already conducted discussions with customers and expects further discussions on the subject of compensation. Bosch was also able to reach fundamental agreements with class-action claimants in Canada. These agreements still require final approval by the competent courts. Since 2013, the French antitrust authorities have been investigating alleged unfair practices in the French market by the French BSH subsidiary and other manufacturers of household appliances.

The events concerning the emissions from diesel vehicles made by various automakers and in many countries bear considerable risks for Bosch. Authorities in many countries, also in North America and Europe, are investigating not only Volkswagen, Audi, and Porsche, but also several other automakers. According to press reports, these include Fiat Chrysler, Daimler, and Peugeot. As one of the world's leading suppliers of engine control units, Bosch also supplied these automakers with engine control units, including software, for various models. It supplies such components to many other automakers worldwide. The Stuttgart public prosecutor's office has so far started several formal investigations of Bosch associates, some of them persons unknown. Bosch is cooperating with the Stuttgart public prosecutor's office and with many other regulatory and criminal investigation authorities worldwide.

With respect to the events concerning various automakers' diesel vehicle emissions, Bosch has been and is a defendant in many class and individual civil-law actions around the world. This relates to the U.S. and Canada, among other countries. In several other countries, actions are also pending or have at least been threatened. In two of the pending class actions in the U.S. relating to Volkswagen, Audi, and Porsche vehicles with 2.0- and 3.0-liter engines sold in the U.S., Bosch reached an agreement that partly settles these actions with buyers and reseller dealers in 2017. The settlement has meanwhile been approved by the competent court. For this, Bosch paid a total of USD 327.5 million. In agreeing to this settlement, Bosch neither acknowledges the validity of the claims brought forward, nor does it concede any guilt.

Many civil claimants have rejected the settlement, and are continuing to press their claims individually. In addition, the class action against Bosch by VW dealers continues. In the U.S., Bosch companies are still defendants in class actions relating to diesel passenger cars made by Daimler, Fiat Chrysler, General Motors, and Ford, together with the respective automaker. In all these proceedings, Bosch is protecting its rights. It cannot be ruled out that further actions will be brought against Bosch in relation to other automakers. The risks that may arise as a result of these pending and threatened actions are severe, and cannot be quantified in some cases.

On the basis of the facts relating to antitrust proceedings 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 as outlined, provisions throughout the group amount to EUR 1,248 million.

Contingent liabilities and other financial obligations

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

Figures in millions of euros

	2017	2016
Contingent liabilities related to notes issued and transferred	13	21
Contingent liabilities from guarantees	19	20
Other contingent liabilities	10	9
	42	**50**

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21 Pension provisions and similar obligations

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 voluntary contributions to state or private pension or insurance funds, based on legal or contractual provisions. No further payment obligations arise for the company from the payment of these contributions. The defined benefit plans are funded or unfunded pension systems, or systems financed by insurance premiums.

Plan assets are invested based on the underlying promised defined benefits. Asset-liability studies are performed for this purpose regularly. The funding status is an important controlling variable in this context. Bosch continuously monitors it with the involvement of external experts. The investment policy is derived from the corresponding governance guidelines. External asset managers are commissioned to handle the investment of 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 bAV Plan), introduced on January 1, 2006, is a contribution-based plan with salary-based contributions. The Bosch bAV Plan is partly funded via an external pension fund. The value of the assets of the external pension fund is offset against the pension obligation calculated using the projected unit credit method. In Germany, the external pension funds are Bosch Pensionsfonds AG and Bosch Hilfe e.V.

During the vesting period, employer and employee contributions are added to the assets of Bosch Pensionsfonds AG up to the tax-allowed ceiling. Contributions that exceed the tax-allowed ceiling are allocated to the direct benefit obligation. The benefit amount rises in line with the performance of Bosch Pensionsfonds. Grandfather provisions were transferred to the Bosch bAV Plan. For a constantly decreasing number of employees in the vesting period, a transitional arrangement guarantees a fixed rate of return on the defined benefit obligation.

Aside from the Bosch bAV Plan, BSH Hausgeräte GmbH grants benefits in the form of a contribution-based capital component with salary-based contributions or a salary-based pension component.

On reaching retirement, or in the event of occupational disability or death, the earned benefits are paid out in the form of a lump-sum payment, in partial payments, or as a lifelong annuity. Beneficiaries who reach retirement from January 1, 2016 onward receive a fund-based retirement pension payment through Bosch Pensionsfonds. Owing to the low likelihood of claims being exerted, the plan is treated as a defined contribution plan from the start of the pension.

Japan

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

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

All the benefits are paid out in the form of lump-sum payments on termination, death, or reaching retirement age. Annuity payments are possible for associates in some CPPs 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 associates 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 pension plan. The 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 plan is in deficit and is being restructured.

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

United States

Bosch maintains the Bosch pension plan and eleven additional smaller pension plans, all of which are funded and in line with the ERISA requirements. The legal minimum funding requirements therefore apply to these plans. The Bosch pension plan is a cash balance plan under which the benefits depend on age, term of service, and salary. Benefits are paid out on reaching retirement age or in the event of death. The plan does not accept new members.

Two unfunded pension plans are also closed for new members; these 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, term of service, and salary, and are paid out on reaching retirement age or in the event of death.

In addition, Bosch finances 14 unfunded plans for post-employment medical care. Eight plans are already closed. The level of benefits and the contributions for pensioners vary depending on location, age, and term of service. The benefits include healthcare benefits and life assurance contributions for pensioners and their spouses.

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:

Percentage figures

	Germany		Japan		Switzerland		U.K.		U.S.		Total	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Discount factor	2.0	1.8	0.4	0.4	0.6	0.6	2.5	2.7	3.5	4.1	2.2	2.0
Projected salaries	3.0	3.0	2.3	2.3	1.5	1.5	2.9	2.9	3.5	3.5	3.0	3.0
Projected pensions	1.8	1.8	n.a.	n.a.	n.a.	0.0	2.8	2.8	n.a.	n.a.	1.7	1.6

n.a. Not applicable

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The discount factor in the euro zone was determined taking bonds into account which were rated AA by at least one rating agency as of the reporting date. The discount factor is calculated for all regions in accordance with IAS 19.

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

The pension plans are measured using the current mortality tables as of December 31 of the fiscal year concerned. As of December 31, 2017, the following mortality tables are used:

Germany	Heubeck 2005G mortality tables
Japan	2015 MHLW Standard Table
Switzerland	BVG 2015 generation tables for pensioners, BVG 2015 P22 for future beneficiaries
U.K.	105 percent for males, 96 percent for females of S2PXA tables with 2014 CMI projections and 1.25 percent long-term improvement
U.S.	RP2006, projected by MP2017; aggregate for some plans, collar adjustments for others

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As of December 31, 2016, the following mortality tables were used in the key countries:

Germany	Heubeck 2005G mortality tables
Japan	2015 MHLW Standard Table
Switzerland	BVG 2015 generation tables for pensioners, BVG 2015 P21 for future beneficiaries
U.K.	105 percent for males, 96 percent for females of S2PXA tables with 2014 CMI projections and 1.25 percent long-term improvement
U.S.	RP2006, projected by MP2016; aggregate for some plans, collar adjustments for others

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

Figures in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
At 12/31/2017					
Germany	14,075	–3,524			10,551
Japan	230	–259		59	30
Switzerland	1,063	–1,081	17	14	13
U.K.	362	–320	8		50
U.S.	1,838	–1,535			303
Other	550	–190	6		366
	18,118	**–6,909**	**31**	**73**	**11,313**
At 12/31/2016					
Germany	13,950	–3,079			10,871
Japan	253	–260	39		32
Switzerland	1,235	–1,170	3		68
U.K.	366	–309	7		64
U.S.	1,988	–1,561			427
Other	564	–191	1	5	379
	18,356	**–6,570**	**50**	**5**	**11,841**

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

Figures in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
At 1/1/2017	**18,356**	**–6,570**	**50**	**5**	**11,841**
Pension cost charged to profit or loss					
Current service cost	598				598
Past service cost	–5				–5
Losses from plan settlements not related to past service cost	1				1
Net interest income/expense	356	–141			215
Other		5			5
	950	**–136**	**0**	**0**	**814**
Remeasurement					
Return on plan assets (excluding amounts included in net interest)		–456			–456
Gains arising from changes in demographic assumptions	–22				–22
Gains arising from changes in financial assumptions	–220				–220
Experience losses	276				276
Other adjustments				73	73
	34	**–456**	**0**	**73**	**–349**
Contributions					
Employer		–384			–384
Beneficiaries	20	–20			0
	20	**–404**	**0**	**0**	**–384**
Benefits paid[1]	–678	239			–439
Special effects (plan settlement)	–2	2			0
Transfers					0
Currency translation	–410	339		–5	–76
Changes in consolidated group	–152	77			–75
Changes in other assets			–19		–19
At 12/31/2017	**18,118**	**–6,909**	**31**	**73**	**11,313**

[1] Including EUR 40 million for transfer payments to Bosch Pensionsfonds at the beginning of the pension phase for payment of a fund-based retirement pension.

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Figures in millions of euros

	Present value of the obligation	Plan assets	Other assets	Unrecognized asset	Provision
At 1/1/2016	**17,216**	**–5,997**	**38**	**5**	**11,262**
Pension cost charged to profit or loss					
Current service cost	567				567
Past service cost[1]	–111				–111
Gains from plan settlements not related to past service cost	–9				–9
Net interest income/expense	417	–159		1	259
Other		6			6
	864	**–153**	**0**	**1**	**712**
Remeasurement					
Return on plan assets (excluding amounts included in net interest)		–232			–232
Gains arising from changes in demographic assumptions	–36				–36
Losses from changes in financial assumptions	924				924
Experience losses	44				44
Other adjustments				–1	–1
	932	**–232**	**0**	**–1**	**699**
Contributions					
Employer		–395			–395
Beneficiaries	18	–18			0
	18	**–413**	**0**		**–395**
Benefits paid[2]	–686	243			–443
Special effects (plan settlement)	–30	30			0
Transfers	–1				–1
Currency translation	27	–34			–7
Changes in consolidated group	16	–14			2
Changes in other assets			12		12
At 12/31/2016	**18,356**	**–6,570**	**50**	**5**	**11,841**

[1] Including past service cost of minus EUR 44 million due to plan amendments in Germany and of minus EUR 65 million due to plan amendments at the Swiss Bosch pension fund.
[2] Including EUR 26 million for transfer payments to Bosch Pensionsfonds at the beginning of the pension phase for payment of a fund-based retirement pension.

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The plan assets comprise the following components:

Percentage figures

	Germany		Japan		Switzerland		U.K.		U.S.	
	2017	**2016**	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**
Cash and cash equivalents	**1**	**1**	**2**	**2**	**1**	**0**	**1**	**1**	**1**	**3**
Equity instruments	**37**	**37**	**32**	**30**	**27**	**26**	**46**	**38**	**46**	**44**
of which Europe	59	51	13	13	45	52	53	55	13	14
of which North America	23	21	35	35	34	33	28	26	72	73
of which Asia Pacific	15	13	52	52	7	7	16	15	9	7
of which emerging markets	1	10			11	6	3	4	6	6
of which other	2	5			3	2		0		0
Debt instruments	**45**	**47**	**62**	**64**	**32**	**33**	**50**	**53**	**53**	**53**
of which government bonds	31	39	76	81	17	19	42	41	36	35
of which corporate bonds	57	57	17	14	63	66	58	59	64	65
of which other debt instruments	12	4	7	5	20	15				
Property	**9**	**7**			**36**	**36**		**0**		
of which owner-occupied	21									
of which non-owner-occupied	79									
Insurance	**2**	**0**	**4**	**4**			**3**	**4**		
Other	**6**	**8**			**4**	**5**		**4**		

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Quoted prices in an active market are available for cash and equity instruments. For the other classes of assets, there are in most cases no quoted prices in an active market. The "Other" item mainly comprises investments in infrastructure and investments in special funds.

Duration and estimated maturities of the pension obligation

The weighted duration of the pension obligation as of December 31, 2017, is 13.9 years (previous year: 15.3 years).

Estimated maturities of the undiscounted estimated pension payments

Figures in millions of euros

	2017	**2016**
Less than one year	723	715
Between one and two years	726	729
Between two and three years	790	781
	2,239	**2,225**

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The estimated additions to plan assets in the fiscal year 2018 amount to EUR 393 million (previous year: EUR 391 million).

The estimated benefits to be paid directly in the fiscal year 2018 amount to EUR 462 million (previous year: EUR 450 million).

Sensitivity of the defined benefit obligations in relation to actuarial parameters

Percentage figures

	Germany		Japan		Switzerland		U.K.		U.S.	
	2017	**2016**	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**
Discount factor										
Increase of 0.5 percentage points	–4.8	–5.6	–4.5	–4.8	–5.6	–5.7	–8.3	–8.4	–6.2	–6.5
Decrease of 0.5 percentage points	5.0	6.0	4.9	5.1	6.4	6.4	9.2	9.4	6.9	7.3
Projected salaries										
Increase of 0.25 percentage points	0.1	0.1	0.8	0.8	0.2	0.2	0.5	0.5	0.0	0.0
Decrease of 0.25 percentage points	–0.1	–0.1	–0.7	–0.7	–0.2	–0.2	–0.5	–0.5	0.0	0.0
Projected pensions										
Increase of 0.25 percentage points	0.7	0.7	n.a.	n.a.	2.5	2.5	1.7	1.7	n.a.	n.a.
Decrease of 0.25 percentage points	–0.6	–0.6	n.a.	n.a.	–2.4	–2.4	–1.6	–1.6	n.a.	n.a.
Life expectancy										
Increase by one year	2.4	2.4	n.a.	n.a.	2.9	2.9	3.2	3.2	2.4	2.4

n.a. Not applicable

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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 left unchanged. This means that possible correlation effects were not considered.

Defined contribution plans

Expenses for defined contribution plans amounted to EUR 1,308 million (previous year: EUR 1,202 million).

Provision for long-service bonuses

Expenses for additions to long-service bonuses amounted to EUR 57 million (previous year: EUR 102 million).

22 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

Percentage figures

	Shareholding	Voting rights
Robert Bosch Stiftung GmbH	92.0	
Robert Bosch Industrietreuhand KG		93.2
Bosch family	7.4	6.8
Robert Bosch GmbH (treasury stock)	0.6	

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Retained earnings contain profits that have not been distributed and that were generated in the past by the entities included in the consolidated financial statements, as well as other comprehensive income. The effects of changes in actuarial parameters in the pension provisions are disclosed in the "Other changes" column of accumulated other comprehensive income. This position also contains differences between purchase price and purchased pro-rata equity of additional share purchases.

Retained earnings also consider treasury stock of EUR 62 million.

The unappropriated earnings of the group match those of Robert Bosch GmbH.

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 Automotive Diesel Systems Co., Ltd., Wuxi, Bosch HUAYU Steering Systems Group, Shanghai, all China, and Bosch Ltd., Bengaluru, India.

Other notes

23 Statement of cash flows

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

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

The investing activities mainly consist of additions to non-current assets, including leased assets and the purchase and disposal of subsidiaries and other business entities, as well as of securities.

Financing activities combine the inflows and outflows of cash and cash equivalents from borrowing and repayment of financial liabilities, as well as 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.

The liquidity contained in the statement of cash flows includes cash of EUR 4,543 million (previous year: EUR 4,753 million). In the reporting period, there was no transfer restriction for cash and cash equivalents.

Effects of acquisitions on the cash flow are explained in the "Business combinations" section.

Changes in liabilities from financing activities during the fiscal year are presented in the following table:

Figures in millions of euros

		Cash-effective changes		Non-cash changes		
	1/1/2017	**Borrowing**	**Repayment**	**Changes in consolidated group, reclassi-fications**	**Exchange rate-related changes**	**12/31/2017**
Current liabilities from financing activities	1,426	183	–1,445	527	–21	670
Non-current liabilities from financing activities	5,577	28		–521	–17	5,067
	7,003	**211**	**–1,445**	**6**	**–38**	**5,737**

24 Segment reporting

Disclosures on business sectors

Figures in millions of euros

	Mobility Solutions		Industrial Technology		Consumer Goods	
	2017	**2016[1]**	**2017**	**2016[1]**	**2017**	**2016[1]**
External sales	47,384	43,936	6,742	6,257	18,388	17,588
Intersegment sales	19	185		279		62
Total sales	47,403	44,121	6,742	6,536	18,388	17,650
EBIT	3,322	2,210	221	74	1,236	1,137
of which: profit/loss from entities consolidated using the equity method	–29	–177	3	2		
Non-cash expenses (without depreciation)	2,532	2,733	484	423	846	802
Amortization and depreciation of intangible assets and property, plant, and equipment	2,869	2,691	221	238	796	862
Impairment losses on intangible assets and property, plant, and equipment	47	157		3	23	6
Non-cash income	542	413	108	103	237	214
Assets	13,798	14,239	2,480	2,760	7,325	7,094
Liabilities	3,211		367		2,007	
Investments measured at equity	106	59	37	34		

[1] Restated values; see the section “Change in disclosure of the net interest expense on pension provisions”

	Energy and Building Technology		All other segments		Consolidation		Group	
	2017	2016[1]	2017	2016[1]	2017	2016	2017	2016[1]
	5,438	5,223	114	125			78,066	73,129
	8	8			–27	–534		
	5,446	5,231	114	125	–27	–534	78,066	73,129
	239	241	–102	–68			4,916	3,594
							–26	–175
	231	197	13	44			4,106	4,199
	161	159	29	34			4,076	3,984
			55				125	166
	41	59	38	24			966	813
	1,693	1,715	105	188			25,401	25,996
	314		10				5,909	
							143	93

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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*. The operating business within the business sectors is the responsibility of the divisions.

The Mobility Solutions business sector mainly comprises the following areas of business: injection technology for internal-combustion engines, alternative powertrain concepts, systems for active and passive driving safety, assistance and convenience functions, technology for user-friendly infotainment as well as vehicle-to-vehicle and vehicle-to-infrastructure communication, concepts, technology, and services for the automotive aftermarket, and steering systems for passenger cars and commercial vehicles.

The Industrial Technology business sector combines the following activities:

- Automation technology (technologies for drives, controls, and motion)
- Packaging technology (machines and packing lines for the confectionery, food, beverage, and tobacco industry, as well as for the pharmaceuticals industry)

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

- Power tools (tools for the trade, industry, and DIY, accessories, garden tools, as well as industrial tools and measuring equipment)
- Household appliances (appliances for cooking, washing-up, washing, 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)
- Heating systems (heating and hot-water boilers including open- and closed-loop control systems)
- Service solutions (business solutions for internal and external customers, shared services for the Bosch Group)
- Services to increase energy-efficiency in non-residential buildings

Business segments which are not reportable are combined and presented in the category “All other segments.” This mainly relates to financing, holding, and other service companies as well as the remaining activities in the photovoltaics area.

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).

Items attributable to financing activities are not included in segment reporting.

The main controlling variables reported to the board of management are EBIT and, as an internal indicator, the operating value contribution.

Transfer prices between the business 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 item included in non-cash income is income from the reversal of provisions.

Segment assets comprise trade receivables as well as inventories, in both cases before valuation allowances. Segment liabilities contain trade payables. Owing to changes in reporting to management, the items segment assets and segment liabilities are disclosed at annual average values from 2017 onward; segment liabilities are reported for the first time for the fiscal year 2017.

Reconciliation statements

Figures in millions of euros

	2017	2016[1]
Sales		
Sales by reportable segment	77,979	73,538
Sales of all other segments	114	125
Consolidation	–27	–534
Group sales	**78,066**	**73,129**
Result		
EBIT by reportable segment	5,018	3,662
EBIT of all other segments	–102	–68
Financial income	2,264	2,528
Financial expenses	–2,412	–2,755
Profit before tax	**4,768**	**3,367**
Assets		
Assets by reportable segment	25,296	25,808
Assets of all other segments	105	188
Reconciliation to values at 12/31	1,291	
Impairment losses on segment assets	–1,603	–1,737
Other current assets	9,082	9,303
Non-current assets	47,699	48,313
Group assets	**81,870**	**81,875**
Liabilities		
Liabilities by reportable segment	5,899	
Liabilities of all other segments	10	
Reconciliation to values at 12/31	1,512	
Other current liabilities	12,407	
Non-current liabilities	24,490	
Group liabilities	**44,318**	

[1] Restated values; see the section “Change in disclosure of the net interest expense on pension provisions”

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Disclosures by important countries

Figures in millions of euros

	Sales by registered office of the customer		Non-current assets[1]	
	2017	**2016**	**2017**	**2016**
Europe	**40,782**	**38,628**	**20,485**	**20,267**
of which Germany	15,342	14,548	13,059	12,714
of which the U.K.	3,935	3,863	404	440
of which France	3,194	3,037	425	436
of which Italy	2,526	2,372	510	510
Americas	**13,677**	**13,705**	**3,459**	**3,893**
of which the U.S.	10,110	10,360	2,921	3,279
Asia	**22,631**	**19,834**	**6,747**	**6,992**
of which China	14,862	12,465	4,801	4,986
of which Japan	2,332	2,221	471	530
Other regions	**976**	**962**	**101**	**107**
Group	**78,066**	**73,129**	**30,792**	**31,259**

[1] Non-current assets consist of intangible assets and property, plant, and equipment.

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

25 Additional notes on financial instruments

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 IAS 39:

Figures in millions of euros

	2017	2016
Loans and receivables	–124	128
Available-for-sale financial assets	–28	411
Financial assets and liabilities held for trading	559	–83
Financial liabilities measured at amortized cost	–201	–356

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The net profit/loss contains the result of the receivables and loan valuation, the result of the reversal of the reserve from securities in equity, exchange-rate gains and losses, interest income and expenses, as well as the result from derivatives.

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

Book values, carrying amounts, and fair values by category

Figures in millions of euros

	Category pursuant to IAS 39	Carrying amount 2017	Carrying amount pursuant to IAS 39			Carrying amount pursuant to IAS 17 and IFRS 10	Fair value 2017
			(Amortized) cost	Fair value recognized in other compre-hensive income	Fair value recognized in profit or loss		
ASSETS							
Cash and cash equivalents	**LaR**	**4,543**	**4,543**				
Trade receivables	**LaR**	**14,970**	**14,970**				
Current other financial assets		**2,006**					
Securities	AfS	565		565			565
Bank balances	LaR	331	331				
Loan receivables	LaR	326	326				
Derivative financial assets	FAHfT	221			221		221
Receivables from finance leases	n.a.	34				34	
Sundry other financial assets	LaR	529	529				
Non-current financial assets		**12,522**					
Securities	AfS	11,051		11,051			11,051
Investments	AfS/n.a.	1,063	328	455		280	455
Loan receivables	LaR	64	64				66
Derivative financial assets	FAHfT	67			67		67
Receivables from finance leases	n.a.	142				142	
Other financial assets	LaR	135	135				135

Figures in millions of euros

	Category pursuant to IAS 39	Carrying amount 2017	Carrying amount pursuant to IAS 39			Carrying amount pursuant to IAS 17	Fair value 2017
			(Amortized) cost	Fair value recognized in other compre-hensive income	Fair value recognized in profit or loss		
EQUITY AND LIABILITIES							
Trade payables	**FLAC**	**7,421**	**7,421**				
Current other financial liabilities		**1,552**					
Bonds	FLAC	51	51				
Liabilities to banks	FLAC	619	619				
Loans	FLAC	87	87				
Derivative financial liabilities	FLHfT	75			75		75
Finance lease obligations	n.a.	6				6	
Other financial liabilities	FLAC	714	714				
Non-current financial liabilities		**5,200**					
Bonds	FLAC	3,298	3,298				3,674
Promissory loans	FLAC	1,652	1,652				1,693
Liabilities to banks	FLAC	117	117				119
Loans	FLAC	22	22				24
Derivative financial liabilities	FLHfT	10			10		10
Finance lease obligations	n.a.	18				18	
Other financial liabilities	FLAC	83	83				83

LaR Loans and receivables
AfS Available-for-sale financial assets
FAHfT Financial assets held for trading
FLAC Financial liabilities measured at amortized cost
FLHfT Financial liabilities held for trading
n.a. Not applicable

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Figures in millions of euros

	Category pursuant to IAS 39	Carrying amount 2016	Carrying amount pursuant to IAS 39			Carrying amount pursuant to IAS 17 and IFRS 10	Fair value 2016
			(Amortized) cost	Fair value recognized in other comprehensive income	Fair value recognized in profit or loss		
ASSETS							
Cash and cash equivalents	**LaR**	**4,753**	**4,753**				
Trade receivables	**LaR**	**14,364**	**14,364**				
Current other financial assets		**2,376**					
Securities	AfS	852		852			852
Bank balances	LaR	676	676				
Loan receivables	LaR	342	342				
Derivative financial assets	FAHfT	74			74		74
Receivables from finance leases	n.a.	34				34	
Sundry other financial assets	LaR	398	398				
Non-current financial assets		**12,067**					
Securities	AfS	10,458		10,458			10,458
Investments	AfS/n.a.	1,098	262	499		337	499
Loan receivables	LaR	135	135				145
Derivative financial assets	FAHfT	85			85		85
Receivables from finance leases	n.a.	149				149	
Other financial assets	LaR	142	142				142

Figures in millions of euros

	Category pursuant to IAS 39	Carrying amount 2016	Carrying amount pursuant to IAS 39			Carrying amount pursuant to IAS 17	Fair value 2016
			(Amortized) cost	Fair value recognized in other comprehensive income	Fair value recognized in profit or loss		
EQUITY AND LIABILITIES							
Trade payables	**FLAC**	**6,885**	**6,885**				
Current other financial liabilities		**2,683**					
Bonds	FLAC	809	809				
Promissory loans	FLAC	65	65				
Liabilities to banks	FLAC	550	550				
Loans	FLAC	98	98				
Derivative financial liabilities	FLHfT	147			147		147
Finance lease obligations	n.a.	6				6	
Other financial liabilities	FLAC	1,008	1,008				
Non-current financial liabilities		**5,702**					
Bonds	FLAC	3,351	3,351				3,794
Promissory loans	FLAC	1,651	1,651				1,615
Liabilities to banks	FLAC	575	575				588
Loans	FLAC	27	27				30
Derivative financial liabilities	FLHfT	7			7		7
Finance lease obligations	n.a.	22				22	
Other financial liabilities	FLAC	69	69				69

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The carrying amounts of the financial assets and liabilities, classified by the categories of IAS 39, are as follows:

Figures in millions of euros

	2017	2016
Loans and receivables	20,898	20,810
Available-for-sale financial assets	12,399	12,071
Financial assets held for trading	288	159
Financial liabilities measured at amortized cost	14,064	15,088
Financial liabilities held for trading	85	154

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Composition of the derivative financial instruments

Figures in millions of euros

	Market values				Nominal values	
	2017	**2017**	**2016**	**2016**	**2017**	**2016**
	up to 1 year	**more than 1 year**	**up to 1 year**	**more than 1 year**		
Derivatives with a positive market value						
Interest derivatives	**0**		**1**		**110**	**63**
of which interest swaps						
of which other interest derivatives	0		1		110	63
Foreign currency derivatives	**141**	**19**	**59**	**27**	**7,861**	**5,741**
Other derivatives	**80**	**48**	**14**	**58**	**333**	**360**
Derivatives with a negative market value						
Interest derivatives	**1**	**1**	**2**	**1**	**184**	**160**
of which interest swaps		1		1	10	10
of which other interest derivatives	1		2		174	150
Foreign currency derivatives	**72**	**9**	**128**	**3**	**5,155**	**7,838**
Other derivatives	**2**	**0**	**17**	**3**	**29**	**171**

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The foreign currency derivatives are mainly forward exchange contracts.

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

Figures in millions of euros

	Category pursuant to IAS 39	Level 1[1]		Level 2[2]		Level 3[3]		Total	
		2017	2016	2017	2016	2017	2016	2017	2016
Financial assets									
Securities	AfS	4,195	4,377	7,355	6,933	66		11,616	11,310
of which current		336	94	229	758			565	852
of which non-current		3,859	4,284	7,126	6,174	66		11,051	10,458
Investments	AfS	455	499					455	499
Derivative financial instruments	FAHfT	1	1	287	158			288	159
of which current		1	1	220	73			221	74
of which non-current				67	85			67	85
Financial liabilities									
Derivative financial instruments	FLHfT	1	2	84	152			85	154
of which current		1	2	74	145			75	147
of which non-current				10	7			10	7

[1] Fair value is measured on the basis of listed, unadjusted market prices on 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 (e.g. discounted cash flow method or Black-Scholes model)
[3] Fair value is measured on the basis of unobservable market data

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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. No items were reclassified in the current fiscal year.

The fair value of financial assets and liabilities measured at amortized cost is determined on the basis of observable market data such as share prices, exchange rates, or interest curves (level 2).

In the fiscal year, units were acquired in a closed fund that are allocated to level 3. 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 the changes in the market value of each respective investment within the fund.

Changes during the fiscal year in financial assets allocated to level 3 are presented in the table below:

Figures in millions of euros

	1/1/2017	Additions	Disposals	Changes recognized in other comprehensive income	Changes recognized in profit or loss	12/31/2017
Securities		61		5		66

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The changes recognized in other comprehensive income are reported in equity in the reserve from securities.

26 Capital and risk management

Capital management

The main objective of the centralized capital management of the Bosch Group is to maintain the company's sound financial substance and thus to secure the financial independence and flexibility required for further growth.

The main controlling variables of our system of financial targets are EBIT and, as an internal indicator, the operating value contribution. The operating value contribution is calculated by deducting the cost of capital from EBIT. Additional adjustments are also made in certain other respects, such as recognition of impairment losses, pension provisions, and provisions for losses arising from delivery commitments. The development of these controlling variables is the yardstick used to assess performance. It is also used for portfolio management. It is supplemented for capital management purposes by the conventional financial, liquidity, and indebtedness indicators.

Hedging policy and financial derivatives

The operative business of the Bosch Group is impacted in particular by fluctuations in exchange and interest rates as well as commodity price risks on the procurement side. Business policy aims to limit these risks by means of hedging. All 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 operative business, financial investments, or financing transactions; speculative transactions are not allowed. Trading limits are an important component of the guidelines. Hedges are concluded solely via banks whose creditworthiness is regarded as impeccable. The rating given by leading agencies as well as current risk assessments in financial markets are taken into account. The creditworthiness of the banking partners of the Bosch Group 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 entered into as secured deposits in tri-party repo transactions. In such cases, the bank provides predefined securities as collateral. The transactions themselves, as well as the management and valuation of the securities, are managed by a clearing center. For details, please refer to note 10 "Cash and cash equivalents."

The decision-making bodies are committees for commodities, foreign currencies, and investments that meet at regular intervals. There is a spatial and functional segregation of trading, settlement, and control functions. Key tasks of the control function include determining risks using the value-at-risk method as well as the basis-point-value method, and ongoing compliance checks with instructions and guidelines.

Each month, the risk of financial investments is calculated using the value-at-risk concept for the next month. Prescribed risk limits for the various investment categories limit the potential loss. The forecast quality of the value-at-risk method is tested by means of monthly backtesting. Management is informed monthly about risk analyses and the results of investments and hedges.

Currency risk

Currency risks of the operative business are mitigated by the central management of selling and purchasing currencies. The currency risk is determined on the basis of the worldwide consolidated cash flow in the respective currencies. Based on the business plan, estimated inflows and outflows in the various countries for the planning period are aggregated in a foreign exchange balance plan. The resulting net position is used for the central management of currency exposures.

The largest net currency positions of the planned cash flow are in CNY, GBP, and USD.

Hedging largely takes the form of forward exchange contracts; currency options and currency swaps to secure group financing are used to a lesser extent. These transactions, which are only entered into with banks, are subject to minimum requirements with respect to nature, scope, and complexity.

The risk attaching to material operating foreign currency items is determined using the value-at-risk concept, supplemented by worst-case analyses. These risk analyses and the hedge result are determined monthly and presented to management.

To present the currency risks in accordance with IFRS 7 *Financial Instruments: Disclosures* for the most important foreign currencies, all monetary assets and monetary liabilities denominated in foreign currency for all consolidated companies were analyzed at balance sheet 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 implications for the profit before tax:

Figures in millions of euros

	10% increase in EUR		10% decrease in EUR	
	2017	2016	2017	2016
CHF	–4	12	4	–12
CNY	13	30	–13	–29
CZK	–43	–42	43	42
GBP	66	33	–66	–33
HUF	–10	–13	10	13
JPY	–14	12	14	–12
KRW	22	40	–22	–40
PLN	–9	–7	9	7
RUB	–29	–9	29	9
TRY	–45	–49	45	49
USD	17	34	–17	–34

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

Figures in millions of euros

	10% increase in USD		10% decrease in USD	
	2017	2016	2017	2016
CNY	–7	–12	7	12

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The effects on earnings shown here mainly result from loans within the Bosch Group which, by way of an exception, were granted in a currency other than the local currency of the borrower, e.g. because it can be repaid from expected cash flows in this currency. The currency risk for the statement of financial position does not correspond to the economic risk, which is determined on the basis of forecast cash flows.

Interest-rate risks

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

An analysis of the interest risk was carried out in accordance with IFRS 7. The sensitivity analysis considered assets and liabilities subject to floating interest rates, fixed-rate securities, and interest derivatives. Mutual funds and money market funds were not included.

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 reserve from securities in equity and the profit before tax:

Figures in millions of euros

	Increase in market interest level by 100 basis points		Decrease in market interest level by 100 basis points	
	2017	2016	2017	2016
Reserve from securities	–234	–264	234	264
Profit before tax	21	20	–21	–20

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Share-price risks

The analysis of the share-price risk in accordance with IFRS 7 took into account share portfolios, investments measured at fair value, as well as share derivatives with a total carrying amount of EUR 4,566 million (previous year: EUR 4,215 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 reserve from securities in equity and the profit before tax:

Figures in millions of euros

	10% increase in share price		10% decrease in share price	
	2017	2016	2017	2016
Reserve from securities	433	374	–377	–318
Profit before tax	23	47	–79	–103

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Other price risks

Derivatives and physical fixed-price contracts 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:

Figures in millions of euros

	10% increase in forward rates		10% decrease in forward rates	
	2017	2016	2017	2016
Profit before tax	44	50	–44	–50

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

Credit risks

The maximum credit risk for each class 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 there is an intention to settle the receivable based on the net amount 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:

Figures in millions of euros

	2017	2016
Trade receivables (gross value)	15,577	14,978
Offsetting of credit notes	–607	–614
Trade receivables (carrying amount)	14,970	14,364
Financial guarantee contracts (received)	–1,640	–1,368
Remaining credit risk	**13,330**	**12,996**

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The change in valuation allowances for specific risks as well as for the general credit risk is presented in the following table:

Figures in millions of euros

	Trade receivables	Loan receivables
At 1/1/2016	**612**	**8**
Change in the valuation allowance for specific risks	28	3
Change in the valuation allowance for the general credit risk	6	1
At 12/31/2016	**646**	**12**
Change in the valuation allowance for specific risks	–61	3
Change in the valuation allowance for the general credit risk	–151	–3
At 12/31/2017	**434**	**12**

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A review of the valuation allowance rates for general credit risks during the fiscal year concluded that the percentages used until now no longer take adequate account of the risk default of trade receivables. As a result, the corresponding valuation allowance rates were adjusted, leading to income of EUR 113 million in the fiscal year.

Valuation allowances were recognized on a small scale on receivables from finance leases.

At the end of the reporting period, there is no indication of any significant defaults of trade receivables or of other financial assets exposed to credit risks that are neither impaired nor past due.

The table below shows a maturity analysis of the unimpaired trade receivables:

Figures in millions of euros

	2017	2016
Trade receivables	14,970	14,364
of which not impaired and not past due at the end of the reporting period	5,235	4,025
of which not impaired but past due at the end of the reporting period	158	167
for less than one month	115	119
for more than one month, but less than three months	24	29
for more than three months	19	19

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Of the loan receivables, other financial receivables, and receivables from finance leases (both current and non-current), an amount of EUR 837 million (previous year: EUR 815 million) is not impaired and not past due. There are no loan receivables, other financial receivables, and receivables from finance leases (both current and non-current) which are not impaired but are past due.

Derivative transactions are entered into in accordance with 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 *Financial Instruments Presentation*, as netting is only enforceable in the case of insolvency.

The credit risk for derivatives 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:

Figures in millions of euros

	2017	2016
Derivatives with a positive market value (carrying amount)	288	159
Amounts not offset in the statement of financial position		
Derivatives	–44	–39
Cash collateral received	–7	
Remaining credit risk	**237**	**120**

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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 5,108 million (previous year: EUR 5,605 million). In addition to that, there is a Euro commercial paper program with a volume of EUR 1,000 million and a U.S. commercial paper program with a volume of USD 2,000 million, neither of which had been drawn at the end of the reporting period.

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.

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

Figures in millions of euros

	2017	2016
Trade payables (gross value)	8,028	7,499
Offsetting of credit notes	–607	–614
Trade payables (carrying amount)	7,421	6,885
Financial guarantee contracts (granted)	–10	–8
Remaining liquidity risk	**7,411**	**6,877**

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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:

Figures in millions of euros

	2017	2016
Derivatives with a negative market value (carrying amount)	85	154
Amounts not offset in the statement of financial position		
Derivatives	–44	–39
Cash collateral provided	–1	
Remaining liquidity risk	**40**	**115**

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

Figures in millions of euros

	Carrying amount	Undiscounted cash flows					
	2017	2018	2019	2020	2021	2022	2023 et seq.
Non-derivative financial liabilities							
Trade payables	7,421	7,416	3	2			
Bonds	3,349	134	375	566	552	68	2,326
Promissory loans	1,652	23	171	14	14	14	1,555
Liabilities to banks	736	633	105	14	0	0	0
Finance lease obligations	24	6	6	5	4	3	6
Loans	109	88	5	5	3	2	7
Other financial liabilities	797	715	13	3	2	6	58
Derivative financial liabilities							
Gross settlement	79						
Cash outflows		4,529	245			6	
Cash inflows		4,459	236			6	
Net settlement	6						
Cash outflows		6	0				

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Figures in millions of euros

	Carrying amount	Undiscounted cash flows					
	2016	2017	2018	2019	2020	2021	2022 et seq.
Non-derivative financial liabilities							
Trade payables	6,885	6,877	3	3	2		
Bonds	4,160	912	138	375	566	552	2,395
Promissory loans	1,716	89	23	171	14	14	1,568
Liabilities to banks	1,125	566	513	72			
Finance lease obligations	28	7	8	5	4	2	6
Loans	125	99	5	6	6	3	8
Other financial liabilities	1,077	1,007	8	2	1	1	58
Derivative financial liabilities							
Gross settlement	125						
Cash outflows		7,007	134	1			
Cash inflows		6,875	131	0			
Net settlement	29						
Cash outflows		25	4				

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The undiscounted cash flows contain interest and principal payments. All on-call financial liabilities are allocated to the earliest possible period. The variable interest payments were determined using the last interest rate determined before the respective balance sheet date.

27 Leases

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

Figures in millions of euros

	2017	2016
Gross capital expenditures on finance leases		
due not later than one year	43	44
due later than one year and not later than five years	119	125
due later than five years	52	53
	214	**222**
Present value of outstanding minimum lease payments		
due not later than one year	34	34
due later than one year and not later than five years	98	102
due later than five years	47	47
	179	**183**
Unearned finance income	**35**	**39**

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There were no unguaranteed residual values.

Finance lease obligations primarily stem from vehicle lease agreements with terms of three to six years and the lease on a factory building. The liabilities are due as follows:

Figures in millions of euros

	2017	2016
Future minimum lease payments		
due not later than one year	8	8
due later than one year and not later than five years	18	22
due later than five years	6	8
Interest portion contained in the future minimum lease payments		
due not later than one year	2	2
due later than one year and not later than five years	5	7
due later than five years	1	1
Present value of outstanding minimum lease payments		
due not later than one year	6	6
due later than one year and not later than five years	13	15
due later than five years	5	7
	24	**28**

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The outstanding minimum lease payments from operating lease agreements with entities of the Bosch Group as lessors mainly stem from activities of the Security Systems division, and are due as follows:

Figures in millions of euros

	2017	2016
Due not later than one year	47	44
Due later than one year and not later than five years	139	121
Due later than five years	59	52
	245	**217**

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Obligations from operating lease agreements with entities of the Bosch Group as lessors mainly pertain to lease agreements for technical equipment, for IT equipment, for vehicles, and for buildings. The minimum amount of the undiscounted future payments from operating leases amounts to EUR 1,706 million (previous year: EUR 1,488 million).

The obligations are due as follows:

Figures in millions of euros

	2017	2016
Due not later than one year	512	475
Due later than one year and not later than five years	909	816
Due later than five years	285	197
	1,706	**1,488**

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The payments of the period of EUR 604 million (previous year: EUR 574 million) recognized in profit or loss are contained in the costs of the functional areas (cost of sales, and distribution, administrative, and research and development cost).

28 Related parties disclosures

As shareholder, Robert Bosch Industrietreuhand KG exercises majority voting rights at Robert Bosch GmbH. In addition, Robert Bosch Industrietreuhand KG is accountable for the internal audit of the Bosch Group. The costs incurred for this of EUR 15 million (previous year: EUR 14 million) were borne by Robert Bosch GmbH.

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. Bosch Hilfe e.V. provides assistance to associates of co-owners in emergencies (emergency assistance). Bosch Hilfe e.V. is co-owned by Robert Bosch GmbH, Stuttgart, Germany, Robert Bosch Car Multimedia Holding GmbH, Hildesheim, Germany, and Robert Bosch Elektronik GmbH, Salzgitter, Germany. A part of the asset portfolio of Bosch Hilfe e.V. consists of its ownership in Robert Bosch Wohnungsgesellschaft mbH, Stuttgart, Germany, which builds and rents property for Bosch associates.

Robert Bosch Stiftung GmbH, Stuttgart, is the tenant of several properties belonging to Robert Bosch GmbH, Stuttgart.

Transactions with related parties

Related parties of the Bosch Group include the joint ventures as well as the entities in which non-controlling interests are held. Transactions with these entities are presented in the following table:

Figures in millions of euros

	Goods and services sold		Goods and services purchased		Receivables		Liabilities	
	2017	2016	2017	2016	2017	2016	2017	2016
Joint ventures	35	55	40	76	21	38	18	20
Investees	86	66	500	148	41	24	98	38

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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.

The total remuneration of key management personnel totals EUR 50 million in fiscal year 2017 (previous year: EUR 47 million) and breaks down as follows:

Figures in millions of euros

	2017	2016
Short-term benefits	32	30
Post-employment benefits	9	9
Other long-term benefits	9	8
Termination benefits	0	0

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Share-based payments are not made.

Key management personnel had been granted loans of EUR 0.1 million as of the reporting date.

There are no provisions (valuation allowances) for doubtful debts due from key management personnel. Moreover, no expenses were incurred for uncollectible or doubtful receivables.

The Bosch Group pays other related parties compensation totaling EUR 0.0 million (previous year: EUR 0.0 million) for various services. At the end of the fiscal year there were neither receivables nor liabilities from such business transactions. Guarantees have neither been given nor received.

For obligations from pensions and deferred compensation, provisions totaling EUR 115 million (previous year: EUR 130 million) have been recognized.

29 Additional disclosures pursuant to Sec. 315e HGB

Remuneration of members of the board of management and supervisory board

The total remuneration of the members of the board of management (including provisions) comes to EUR 36 million in the fiscal year 2017 (previous year: EUR 34 million), and that of the former members of the board of management and their dependants to EUR 15 million (previous year: EUR 17 million). The remuneration of the members of the supervisory board comes to approximately EUR 2 million. An amount of EUR 214 million (previous year: EUR 211 million) has been accrued for pension obligations to former members of the board of management and their surviving dependants.

Headcount

	Annual average 2017	Annual average 2016
EU countries	218,635	209,389
Rest of Europe	26,199	24,861
Americas	44,209	41,829
Asia, Africa, Australia	113,576	107,838
	402,619	**383,917**

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Disclosures on personnel expenses

Personnel expenses break down as follows:

Figures in millions of euros

	2017	2016
Remuneration	18,397	17,506
Social security costs	3,064	2,845
Post-employment benefit costs	805	705
	22,266	**21,056**

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Auditor’s fees

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

Figures in millions of euros

	2017	2016
Fees for		
Audit services	8	5
Audit-related services	3	0
Tax advisory services	3	1
Other services	15	13

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LIST OF SHAREHOLDINGS OF THE BOSCH GROUP
AS OF DECEMBER 31, 2017

1 Consolidated group

	Company name	Registered office	Percentage share of capital
Germany	Robert Bosch GmbH	Stuttgart	
	Ampack GmbH	Königsbrunn	100.0 [1]
	AS Abwicklung Dritte Produktion GmbH i.L.	Stuttgart	100.0
	AS Abwicklung und Solar-Service Deutschland GmbH i.L.	Stuttgart	100.0
	AS Abwicklung und Solar-Service GmbH i.L.	Stuttgart	100.0
	BD Kompressor GmbH	Lollar	100.0
	BD Kompressor Holding GmbH & Co. KG	Lollar	50.0
	Beissbarth GmbH	Munich	100.0 [1, 2]
	BeYond GmbH	Hildesheim	100.0 [1]
	Bosch Access Systems GmbH	Würselen	100.0 [1]
	Bosch Automotive Service Solutions GmbH	Pollenfeld	100.0 [1]
	Bosch Connected Devices and Solutions GmbH	Reutlingen	100.0 [1]
	Bosch Emission Systems GmbH & Co. KG	Stuttgart	100.0 [3]
	Bosch Energy and Building Solutions GmbH	Ditzingen	100.0 [1]
	Bosch Engineering GmbH	Abstatt	100.0 [1]
	Bosch Healthcare Solutions GmbH	Waiblingen	100.0 [1]
	Bosch Industriekessel GmbH	Gunzenhausen	100.0 [1]
	Bosch KWK Systeme GmbH	Lollar	100.0 [1]
	Bosch Packaging Systems GmbH	Remshalden	100.0 [1]
	Bosch Pensionsgesellschaft mbH	Stuttgart	100.0 [1]
	Bosch Power Tec GmbH	Böblingen	100.0
	Bosch Rexroth AG	Stuttgart	100.0 [1, 2]
	Bosch Rexroth Guss GmbH	Lohr am Main	100.0 [1]
	Bosch Rexroth Vermögensverwaltung GmbH	Lohr am Main	100.0 [1]
	Bosch Sensortec GmbH	Kusterdingen	100.0 [1]
	Bosch Service Solutions Leipzig GmbH	Leipzig	100.0 [1]
	Bosch Service Solutions Magdeburg GmbH	Magdeburg	100.0 [1]
	Bosch Sicherheitssysteme GmbH	Stuttgart	100.0 [1, 2]
	Bosch Sicherheitssysteme Engineering GmbH	Nuremberg	100.0 [1]
	Bosch Sicherheitssysteme Montage und Service GmbH	Weimar	100.0 [1]
	Bosch Silicon Trading GmbH	Obernissa	100.0
	Bosch SoftTec GmbH	Hildesheim	100.0 [1]
	Bosch Software Innovations GmbH	Berlin	100.0 [1]
	Bosch Solar CISTech GmbH	Arnstadt	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]

Company name	Registered office	Percentage share of capital
Bosch Thermotechnik GmbH	Wetzlar	100.0 [1,2]
Bosch Thermotechnik Vermögensverwaltung 1 GmbH	Wetzlar	100.0 [1]
Bosch-Hilfe Immobilien GbR	Stuttgart	94.9
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]
Buderus Guss GmbH	Breidenbach	100.0
Buderus Immobilien GmbH	Wetzlar	96.0 [1]
CONSTRUCTA Gesellschaft mit beschränkter Haftung	Munich	100.0 [1]
Constructa-Neff Vertriebs-GmbH	Munich	100.0
Coup Mobility GmbH	Berlin	100.0
Bosch Service Solutions GmbH	Stuttgart	100.0 [1]
ETAS GmbH	Stuttgart	100.0 [1,2]
EVI Audio GmbH	Straubing	100.0 [1]
Gaggenau Hausgeräte GmbH	Munich	100.0 [1]
Holger Christiansen Deutschland GmbH	Wilnsdorf	100.0 [1]
Hüttlin GmbH	Schopfheim	100.0 [1]
ITK Engineering GmbH	Rülzheim	100.0
Landau Electronic GmbH	Mörfelden-Walldorf	100.0 [1]
Matra-Werke GmbH	Hainburg	100.0 [1]
Moehwald GmbH	Homburg/Saar	100.0 [1]
Neff GmbH	Munich	100.0 [1]
Pharmatec GmbH	Dresden	100.0 [1]
Pollux Solar-Service GmbH	Arnstadt	100.0
Robert Bosch Automotive Steering GmbH	Schwäbisch Gmünd	100.0 [1,2]
Robert Bosch Automotive Steering Bremen GmbH	Bremen	100.0 [1]
Robert Bosch Battery Systems GmbH	Stuttgart	100.0 [1]
Robert Bosch Car Multimedia GmbH	Hildesheim	100.0 [1]
Robert Bosch Car Multimedia Holding GmbH	Hildesheim	100.0 [1,2]
Robert Bosch Elektronik GmbH	Salzgitter	100.0 [1]
Robert Bosch Elektronik Thüringen GmbH	Arnstadt	100.0 [1]
Robert Bosch Fahrzeugelektrik Eisenach GmbH	Eisenach	100.0 [1]
Robert Bosch Hausgeräte GmbH	Munich	100.0 [1]
Robert Bosch Immobilienverwaltungs GmbH & Co. KG	Stuttgart	100.0
Robert Bosch Lizenzverwaltungsgesellschaft mbH	Holzkirchen	100.0
Robert Bosch Lollar Guss GmbH	Lollar	100.0 [1]

	Company name	Registered office	Percentage share of capital
	Robert Bosch Manufacturing Solutions GmbH	Stuttgart	100.0 [1, 2]
	Robert Bosch Mobility Services GmbH	Gerlingen	100.0
	Robert Bosch Packaging Technology GmbH	Waiblingen	100.0 [1, 2]
	Robert Bosch Power Tools GmbH	Leinfelden-Echterdingen	100.0
	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 Siebte Vermögensverwaltungsgesellschaft mbH	Gerlingen	100.0 [1]
	Robert Bosch Smart Home GmbH	Stuttgart	100.0 [1]
	Robert Bosch Starter Motors Generators GmbH	Schwieberdingen	100.0 [1]
	Robert Bosch Start-up GmbH	Stuttgart	100.0 [1]
	Robert Bosch Venture Capital GmbH	Gerlingen	100.0 [1]
	Robert Bosch Vierte Vermögensverwaltungsgesellschaft mbH	Gerlingen	100.0 [1]
	Security and Safety Things GmbH	Berlin	100.0
	SEG Hausgeräte GmbH	Munich	100.0 [1]
	sia Abrasives Deutschland GmbH	Solingen	100.0
	UC Vermögensverwaltung 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) The company makes use of the exemption provided for in Sec. 264b HGB.

	Company name	Registered office	Percentage share of capital
Europe			
Austria	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
	Robert Bosch AG	Vienna	100.0
	Robert Bosch Holding Austria GmbH	Vienna	100.0
	SBM Schoeller-Bleckmann-Medizintechnik GmbH	Ternitz	100.0
Belgium	Bosch Rexroth N.V.	Brussels	100.0
	Bosch Thermotechnology N.V. / S.A.	Leuven-Heverlee	100.0
	BSH Home Appliances S.A.	Brussels	100.0
	Robert Bosch Produktie N.V.	Tienen	100.0
	Robert Bosch S.A.	Anderlecht (Brussels)	100.0
	sia Abrasives Belgium N.V. / S.A.	Mollem	100.0

	Company name	Registered office	Percentage share of capital
Bulgaria	BSH Domakinski Uredi Bulgaria EOOD	Sofia	100.0
	Bosch Software Innovations EOOD	Sofia	100.0
Croatia	BSH kućanski uređaji d.o.o.	Zagreb	100.0
Czech Republic	Bosch Diesel s.r.o.	Jihlava	100.0
	Bosch Rexroth spol. s.r.o.	Brno	100.0
	Bosch Thermotechnika s.r.o.	Krnov	100.0
	BSH domácí spotřebiče 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
Denmark	Bosch Rexroth A/S	Hvidovre	100.0
	BSH Hvidevarer A/S	Ballerup	100.0
	Holger Christiansen A/S	Esbjerg	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.r.l.	La Ferté-Bernard	100.0
	Bosch Centre de Service S.A.S.	Freyming-Merlebach	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.	Clamart	100.0
	BSH Electroménager S.A.S.	Saint-Ouen	100.0
	COUP France S.A.S.	Saint-Ouen	100.0
	e.l.m. leblanc S.A.S.	Drancy	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
	sia Abrasives France S.a.r.l.	Villepinte	100.0
Greece	BSH Ikiakes Syskeves A.B.E.	Athens	100.0
	Robert Bosch S.A.	Koropi (Athens)	100.0
Hungary	Bosch Rexroth Kft.	Budapest	100.0
	BSH Háztartási Készülék Kereskedelmi Kft.	Budapest	100.0

	Company name	Registered office	Percentage share of capital
	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 Automotive Steering Kft.	Eger	100.0
	Robert Bosch Power Tool Elektromos Szerszámgyártó Kft.	Miskolc	100.0
	Zelmer Magyarország Kereskedelmi Kft.	Budapest	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.	Correggio	100.0
	Bosch Energy and Building Solutions Italy S.r.l.	Milan	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
	Freud S.p.A.	Milan	100.0
	Holger Christiansen Italia S.r.l.	Bologna	100.0
	ROBERT BOSCH S.p.A. Società Unipersonale	Milan	100.0
	SICAM S.r.l.	Correggio	100.0
	Tecnologie Diesel S.p.A. Società Unipersonale	Modugno (Bari)	100.0
	VHIT S.p.A.	Offanengo	100.0
Kazakhstan	TOO BSH Home Appliances	Almaty	100.0
	TOO Robert Bosch	Almaty	100.0
Latvia	Robert Bosch SIA	Riga	100.0
Luxembourg	Ferroknepper Buderus S.A.	Esch-sur-Alzette	100.0
	BSH électroménagers S.A.	Senningerberg	100.0
Netherlands	Bosch Packaging Technology B.V.	Schiedam	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 Thermotechnology Netherlands Holding B.V.	Boxtel	100.0
	Bosch Transmission Technology B.V.	Tilburg	100.0
	BSH Huishoudapparaten B.V.	Amsterdam	100.0
	Nefit Vastgoed B.V.	Deventer	100.0
	Robert Bosch B.V.	Boxtel	100.0

	Company name	Registered office	Percentage share of capital
	Robert Bosch Asset Managing C.V.	Boxtel	100.0
	Robert Bosch Finance Nederland B.V.	Boxtel	100.0
	Robert Bosch Holding Nederland B.V.	Boxtel	100.0
	Robert Bosch IC Financing Nederland B.V.	Boxtel	100.0
	Robert Bosch Investment Nederland B.V.	Boxtel	100.0
	Robert Bosch Packaging Technology B.V.	Weert	100.0
	Bosch Power Tools B.V.	Breda	100.0
Norway	Bosch Rexroth A/S	Ski	100.0
	BSH Husholdningsapparater A/S	Oslo	100.0
	Robert Bosch A/S	Ski	100.0
Poland	Bosch Rexroth Sp. z o.o.	Warsaw	100.0
	BSH Sprzęt Gospodarstwa Domowego 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 Termotechnologia, S.A.	Aveiro	100.0
	BSHP Electrodomésticos, S.U., Lda.	Carnaxide	100.0
	Robert Bosch, S.A.	Lisbon	100.0
Romania	Bosch Service Solutions S.R.L.	Timişoara	100.0
	Bosch Rexroth S.R.L.	Blaj	100.0
	Bosch Rexroth Sales S.R.L.	Blaj	100.0
	BSH Electrocasnice S.R.L.	Bucharest	100.0
	ROBERT BOSCH S.R.L.	Bucharest	100.0
Russian Federation	OOO “Construction & investments”	Khimki	100.0
	OOO Bosch Power Tools	Engels	100.0
	OOO Bosch Rexroth	Moscow	100.0
	OOO Bosch Thermotechnik	Moscow	99.0
	OOO BSH Bytowije Pribory	St. Petersburg	100.0
	OOO Robert Bosch	Moscow	100.0
	Evroradiators LLC	Engels	100.0
	Robert Bosch Samara LLC	Chernovsky	100.0
	OOO Robert Bosch Saratow	Engels	100.0
Serbia	BSH Kućni Aparati d.o.o. Beograd	Belgrade	100.0
	Robert Bosch DOO	Belgrade	100.0

	Company name	Registered office	Percentage share of capital
Slovakia	BSH Drives and Pumps s.r.o.	Michalovce	100.0
	Holger Christiansen Produktion Slovakia s.r.o.	Bernolákovo	100.0
	Robert Bosch spol. s.r.o.	Bratislava	100.0
Slovenia	BSH Hišni Aparati d.o.o.	Nazarje	100.0
	Bosch Rexroth d.o.o.	Škofja Loka	100.0
Spain	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
	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
	sia Abrasives Espana S.A.U.	Madrid	100.0
Sweden	Bosch Rexroth AB	Stockholm	100.0
	Bosch Thermoteknik AB	Tranås	100.0
	BSH Home Appliances AB	Stockholm	100.0
	Robert Bosch AB	Kista	100.0
Switzerland	Bosch Packaging Services AG	Beringen	100.0
	Bosch Packaging Systems AG	Beringen	100.0
	Bosch Packaging Technology SA	Ecublens	100.0
	Bosch Pouch Systems AG	Beringen	100.0
	Bosch Rexroth Schweiz AG	Buttikon	100.0
	BSH Hausgeräte AG	Geroldswil	100.0
	Buderus Heiztechnik AG	Pratteln	100.0
	Robert Bosch AG	Zuchwil	100.0
	Robert Bosch Internationale Beteiligungen AG	Zuchwil	100.0
	Scintilla AG	Solothurn	100.0
	sia Abrasives Industries AG	Frauenfeld	100.0
Turkey	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.Ş.	Istanbul	100.0
Ukraine	TOV BSH Pobutova Technika	Kiev	100.0
	Holger Christiansen Production Ukraine	Krakovets	100.0

	Company name	Registered office	Percentage share of capital
	MBT Trade T.B.O.	Kiev	100.0
	Zelmer Ukraine T.B.O.	Kiev	100.0
United Kingdom	Bosch Automotive Service Solutions Ltd.	Brixworth	100.0
	Bosch Lawn and Garden Ltd.	Stowmarket	100.0
	Bosch Packaging Technology Limited	Derby	100.0
	Bosch Rexroth Ltd.	St. Neots	100.0
	Bosch Security Systems Ltd.	Denham	100.0
	Bosch Thermotechnology Ltd.	Worcester	100.0
	BSH Home Appliances Ltd.	Milton Keynes	100.0
	Kliklok International Limited	Bristol	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 plc	Worcester	100.0
Americas			
Argentina	Bosch Rexroth S.A.I.C.	Buenos Aires	100.0
	BSH Electrodomésticos S.A.	Buenos Aires	100.0
	Robert Bosch Argentina Industrial S.A.	Buenos Aires	100.0
Brazil	Bosch Rexroth Ltda.	Atibaia	100.0
	Bosch Termotecnologia Ltda.	São Paulo	100.0
	Robert Bosch Ltda.	Campinas	100.0
	Robert Bosch Centro de Comunicação Limitada	Campinas	100.0
	Robert Bosch Direção Automotiva Ltda.	Sorocaba	100.0
	Robert Bosch Tecnologia de Embalagem Ltda.	Alphaville	100.0
Canada	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
	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	Robert Bosch Ltda.	Bogotá	100.0

	Company name	Registered office	Percentage share of capital
Costa Rica	Robert Bosch Service Solutions - Costa Rica Sociedad Anonima	Heredia	100.0
Mexico	Bosch Automotive Service Solutions, S.A. de C.V.	Mexico City	100.0
	Bosch Rexroth, S.A. de C.V.	Mexico City	100.0
	Frenados Mexicanos, S.A. de C.V.	Aguascalientes	100.0
	Robert Bosch México Sistemas Automotrices, S.A. de C.V.	San Luis Potosí	100.0
	Robert Bosch Mexico 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 Mexico, S.A. de C.V.	Mexicali	100.0
	Robert Bosch, S. de R.L. de C.V.	Toluca	100.0
Peru	BSH Electrodomésticos S.A.C.	Callao/Lima	100.0
	Robert Bosch S.A.C.	Lima	100.0
United States	Bosch Automotive Service Solutions Inc.	Warren, MI	100.0
	Bosch Brake Components LLC	Broadview, IL	100.0
	Bosch Packaging Services Inc.	Raleigh, NC	100.0
	Bosch Packaging Technology, Inc.	New Richmond, WI	100.0
	Bosch Rexroth Corporation	Lehigh Valley, PA	100.0
	Bosch Security Systems Inc.	Burnsville, MN	100.0
	Bosch Thermotechnology Corp.	Londonderry, NH	100.0
	BSH Home Appliances Corporation	Irvine, CA	100.0
	Climatec, LLC	Phoenix, AZ	100.0
	Compu-Spread Corporation	Delano, MN	100.0
	ETAS Inc.	Ann Arbor, MI	100.0
	FHP Manufacturing Company	Fort Lauderdale, FL	57.0
	Freud America Inc.	High Point, NC	100.0
	Kliklok Corporation	Decatur, GA	100.0
	Nimbus Holdings LLC	Wilmington, DE	100.0
	Osgood Industries, Inc.	Oldsmar, FL	100.0
	Robert Bosch Asset Management I LLC	Wilmington, DE	100.0
	Robert Bosch Asset Management I LP	Wilmington, DE	100.0
	Robert Bosch Asset Management II Corporation	Farmington Hills, MI	100.0
	Robert Bosch Automotive Steering LLC	Florence, KY	100.0
	Robert Bosch Battery Systems LLC	Orion, MI	100.0
	Robert Bosch Finance LLC	Broadview, IL	100.0
	ROBERT BOSCH FUEL SYSTEMS LLC	Kentwood, MI	100.0

	Company name	Registered office	Percentage share of capital
	Robert Bosch LLC	Broadview, IL	100.0
	Robert Bosch North America Corporation	Broadview, IL	100.0
	Robert Bosch Packaging Technology Inc.	Minneapolis, MN	100.0
	Robert Bosch Start-up Platform North America LLC	Wilmington, DE	100.0
	Robert Bosch Tool Corporation	Mt. Prospect, IL	100.0
	Seeo, Inc.	Hayward, CA	100.0
	sia Abrasives, Inc. USA	Charlotte, NC	100.0
Asia			
China	Bosch (Ningbo) e-scooter Motor Co., Ltd.	Ningbo	60.0
	Bosch (Shanghai) Investment Consulting Co., Ltd.	Shanghai	100.0
	Bosch (Shanghai) Security Systems 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 Components (Changchun) Co., Ltd.	Changchun	55.0
	Bosch Automotive Diesel Systems Co., Ltd.	Wuxi	66.0
	Bosch Automotive Products (Changsha) Co., Ltd.	Changsha	100.0
	Bosch Automotive Products (Chengdu) Co., Ltd.	Chengdu	100.0
	Bosch Automotive Products (Wuhu) Co., Ltd.	Wuhu	100.0
	Bosch Automotive Aftermarket (China) Co., Ltd.	Nanjing	100.0
	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 Steering Jincheng (Nanjing) Co., Ltd.	Nanjing	70.0
	Bosch Automotive Steering Management (Shanghai) Co., Ltd.	Shanghai	100.0
	Bosch Automotive Systems (Wuxi) Co., Ltd.	Wuxi	100.0
	Bosch Automotive Technical Service (Beijing) Co., Ltd.	Beijing	100.0
	Bosch Car Multimedia (Wuhu) Co., Ltd.	Wuhu	60.0
	Bosch (China) Investment Ltd.	Shanghai	100.0
	Bosch Electronics Trading (Suzhou) Co., Ltd.	Suzhou	100.0
	Bosch HUAYU Steering Systems Co., Ltd.	Shanghai	51.0
	Bosch HUAYU Steering Systems (Nanjing) Co., Ltd.	Nanjing	100.0
	Bosch HUAYU Steering Systems (Wuhan) Co., Ltd.	Wuhan	51.0
	Bosch HUAYU Steering Systems (Yantai) Co., Ltd.	Yantai	51.0
	Bosch Laser Equipment (Dongguan) Limited	Dongguan	100.0
	Bosch Packaging Technology (Chengdu) Co., Ltd.	Chengdu	100.0
	Bosch Packaging Technology (Hangzhou) Co., Ltd.	Hangzhou	100.0
	Bosch Power Tools (China) Ltd.	Hangzhou	100.0
	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

	Company name	Registered office	Percentage share of capital
	Bosch Security Systems Ltd.	Hong Kong	100.0
	Bosch Thermotechnology (Beijing) Co., Ltd.	Beijing	100.0
	Bosch Thermotechnology (Shandong) Co., Ltd.	Zibo	100.0
	Bosch Thermotechnology (Shanghai) Co., Ltd.	Shanghai	100.0
	Bosch Thermotechnology (Wuhan) Co., Ltd.	Wuhan	100.0
	Bosch Trading (Shanghai) Co., Ltd.	Shanghai	100.0
	BSH Electrical Appliances (Jiangsu) Co., Ltd.	Nanjing	100.0
	BSH Home Appliances Co., Ltd.	Chuzhou	100.0
	BSH Home Appliances Ltd.	Hong Kong	100.0
	BSH Home Appliances (China) Co., Ltd.	Nanjing	100.0
	BSH Home Appliances Holding (China) Co., Ltd.	Nanjing	100.0
	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
	Guangzhou sia Abrasives Company Ltd.	Guangzhou	100.0
	Hägglunds Drives Shanghai Ltd.	Shanghai	100.0
	Robert Bosch Company Ltd.	Hong Kong	100.0
	Shanghai Bosch Rexroth Hydraulics & Automation Ltd.	Shanghai	100.0
	Taixiang Vehicle Replace Parts (Shenzhen) Co., Ltd.	Shenzhen	100.0
	United Automotive Electronic Systems Co., Ltd.	Shanghai	51.0
	United Automotive Electronic Systems (Chongqing) Co., Ltd.	Chongqing	65.0
India	Bosch Automotive Electronics India Private Ltd.	Bengaluru	100.0
	Bosch Chassis Systems India Private Ltd.	Pune	100.0
	Bosch Electrical Drives India Private Ltd.	Chennai	89.2
	Bosch Ltd.	Bengaluru	70.5
	Bosch Rexroth (India) Private Limited	Ahmedabad	100.0
	BSH Home Appliances Private Limited	Mumbai	100.0
	BSH Household Appliances Manufacturing Private Limited	Mumbai	100.0
	Robert Bosch Automotive Steering Private Limited	Pune	74.0
	Robert Bosch Engineering and Business Solutions Private Ltd.	Bengaluru	100.0
Indonesia	PT BSH Home Appliances	Jakarta	100.0
	P.T. Robert Bosch	Jakarta	100.0
Israel	BSH Home Appliances Ltd.	Herzlia	100.0
Japan	Bosch Corporation	Tokyo	100.0
	Bosch Packaging Technology K.K.	Tokyo	100.0
	Bosch Rexroth Corporation	Tsuchiura-shi	99.9

	Company name	Registered office	Percentage share of capital
	Bosch Security Systems Ltd.	Tokyo	100.0
	ETAS K.K.	Yokohama	100.0
	FA Niigata Co., Ltd.	Niigata	100.0
	Fuji Aitac Co., Ltd.	Gunma	100.0
	Gunma Seiki Co., Ltd.	Gunma	100.0
	Nippon Injector Corporation	Odawara	50.0
Korea	Bosch Electrical Drives Co., Ltd.	Sejong	100.0
	Bosch Rexroth Korea Ltd.	Busan	100.0
	Robert Bosch Korea Limited Company	Daejeon	100.0
Malaysia	Bosch Power Tools Engineering Sdn. Bhd.	Penang	100.0
	Bosch Rexroth Sdn. Bhd.	Shah Alam	100.0
	BSH Home Appliances 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
Philippines	Bosch Service Solutions, Inc.	Manila	100.0
	Robert Bosch Inc.	Manila	100.0
Saudi Arabia	BSH Home Appliances Saudi Arabia LLC	Jeddah	51.0
Singapore	BOSCH PACKAGING TECHNOLOGY (SINGAPORE) PTE. LTD.	Singapore	100.0
	Bosch Rexroth Pte. Ltd.	Singapore	100.0
	BSH Home Appliances Pte. Ltd.	Singapore	100.0
	Robert Bosch (South East Asia) Pte. Ltd.	Singapore	100.0
	Robert Bosch Security Solutions Pte.	Singapore	100.0
Taiwan	Bosch Rexroth Co. Ltd.	Taipei	100.0
	BSH Home Appliances Private Limited	Taipei	100.0
	Robert Bosch Taiwan Co., Ltd.	Taipei	100.0
	Unipoint Electric MFG Co., Ltd.	Taipei	100.0
Thailand	Bosch Automotive Thailand Co. Ltd.	Rayong	87.9
	Bosch Packaging Technology (Thailand) Co., Ltd.	Chonburi	100.0
	BSH Home Appliances Ltd.	Bangkok	100.0
	Robert Bosch Ltd.	Bangkok	100.0
	Robert Bosch Automotive Technologies (Thailand) Co., Ltd.	Rayong	100.0

	Company name	Registered office	Percentage share of capital
United Arab Emirates	BSH Home Appliances FZE	Dubai	100.0
	BSH Home Appliances General Trading LLC	Dubai	100.0
	Robert Bosch Middle East FZE	Dubai	100.0
Vietnam	Bosch Vietnam Co., Ltd.	Dong Nai Province	100.0
	Robert Bosch Engineering and Business Solutions Vietnam Co. Ltd.	Ho Chi Minh City	100.0
Rest of world			
Australia	Australian Industrial Abrasives Pty. Ltd.	Rowville	100.0
	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
	Robert Bosch (Australia) Pty. Ltd.	Clayton	100.0
	sia Abrasives Australasia Holding Pty. Ltd.	Rowville	100.0
	sia Abrasives Australia Pty. Ltd.	Rowville	100.0
Morocco	BSH Electroménagers (SA)	Casablanca	100.0
New Zealand	BSH Home Appliances Ltd.	Auckland	100.0
South Africa	BSH Home Appliances (Pty.) Ltd.	Johannesburg	100.0
	Robert Bosch (Pty.) Ltd.	Brits	100.0

2 Investments measured using the equity method

	Company name	Registered office	Percentage share of capital
Germany	Bosch Mahle Turbo Systems GmbH & Co. KG	Stuttgart	50.0
	EM-motive GmbH	Hildesheim	50.0
	Lithium Energy and Power GmbH & Co. KG	Stuttgart	50.0
Korea	KB Wiper Systems Co., Ltd.	Daegu	50.0
South Africa	Hytec Holdings Pty. Ltd.	Johannesburg	50.0
United States	Associated Fuel Pump Systems Corporation	Anderson, SC	50.0

3 Investments measured at cost or at market/fair value

	Company name	Registered office	Percentage share of capital
Germany	AIG Planungs- und Ingenieurgesellschaft mbH	Stuttgart	100.0
	AJNS New Media GmbH	Berlin	64.9
	Alltrucks GmbH & Co. KG	Munich	33.3
	AS Guss Beteiligungsgesellschaft mbH	Stuttgart	100.0
	Asanetwork GmbH	Willstätt	23.3
	BD Kompressor Management GmbH	Lollar	100.0
	Bosch Emission Systems Verwaltungs-GmbH	Stuttgart	100.0
	Bosch Mahle Turbo Systems Verwaltungs GmbH	Stuttgart	50.0
	Bosch Management Support GmbH	Leonberg	100.0
	Bosch Pensionsfonds AG	Stuttgart	100.0
	Bosch Rexroth Interlit GmbH	Joachimsthal	100.0
	BS Systems GmbH & Co. KG	Zusmarshausen	50.0
	BSH Altersfürsorge GmbH	Munich	100.0
	BSH Zweite Verwaltungs GmbH	Munich	100.0
	Circular Economy Solutions GmbH	Göttingen	100.0
	COBI.bike GmbH	Frankfurt/Main	100.0
	Deutsche Auftragsagentur GmbH	Hamburg	87.0
	Drivelog GmbH	Berlin	100.0
	ECP Energiecontracting GmbH	Heidelberg	81.0
	Energiespeicher Nord GmbH & Co. KG	Braderup	45.0
	Energiespeicher Nord Verwaltungs GmbH	Braderup	45.0
	escrypt GmbH Embedded Security	Bochum	100.0
	GFI Gesellschaft für Infrastrukturdienste mbH	Reutlingen	100.0
	Home Connect GmbH	Munich	100.0
	Integrated Management Consulting GmbH	Schwäbisch Gmünd	100.0
	JCB Management GmbH	Hannover	20.0
	Johnson Controls Autobatterie GmbH & Co. KGaA	Hannover	20.0
	Knorr-Bremse Systeme für Nutzfahrzeuge GmbH	Munich	20.0
	Koller + Schwemmer GmbH	Nuremberg	100.0
	Kraftwerksbatterie Heilbronn GmbH	Stuttgart	50.0
	Makat Candy Technology GmbH	Dierdorf	100.0
	Mobility Media GmbH	Berlin	100.0
	mozaiq operations GmbH	Frankfurt/Main	33.3
	part GmbH	Bad Urach	50.0
	Profilo Elektrogeräte-Vertriebsgesellschaft mbH	Munich	100.0
	Prüfzentrum Boxberg GmbH	Boxberg	100.0
	Robert Bosch Aftermarket Solutions GmbH	Göttingen	100.0
	Robert Bosch Battery Solutions GmbH	Eisenach	100.0
	Robert Bosch Immobilien GmbH	Stuttgart	100.0

	Company name	Registered office	Percentage share of capital
	Reflekt GmbH	Munich	40.0
	Robert Bosch Technical and Business Solutions GmbH	Stuttgart	100.0
	SAPCORDA SERVICES GmbH	Berlin	28.5
	Service- und Betriebsgesellschaft Heidehof GmbH	Stuttgart	100.0
	SupplyOn AG	Hallbergmoos	42.1
	Valicare GmbH	Frankfurt/Main	100.0
	WeWash GmbH	Munich	100.0
	for you Insurance Services GmbH	Stuttgart	100.0
Europe			
Austria	Bosch General Aviation Technology GmbH	Vienna	100.0
	ITK Engineering GmbH	Premstätten	100.0
	RobArt GmbH	Linz	22.0
	ZENO Track GmbH	Vienna	100.0
Belarus	Robert Bosch OOO	Minsk	100.0
Belgium	EpiGaN NV	Leuven	17.1
Bulgaria	Robert Bosch EOOD	Sofia	100.0
Croatia	Robert Bosch d.o.o.	Zagreb	100.0
Cyprus	SDA SUPPLY Limited i.L.	Larnaca	100.0
Denmark	Moeller & Devicon A/S	Sandved	100.0
Estonia	Robert Bosch OÜ	Tallinn	100.0
France	Bosch Packaging Technology S.A.S.	Saint-Ouen	100.0
	ETAS S.A.S.	Saint-Ouen	100.0
Georgia	Robert Bosch Ltd.	Tiflis	100.0
Greece	Bosch Rexroth S.A.	Athens	100.0
Hungary	Bosch Electronic Service Kft.	Kecskemét	100.0
	Bosch Packaging Systems Kft.	Pécel	100.0
Italy	Albertini Cesare S.p.A.	Villasanta	100.0
	BARI SERVIZI INDUSTRIALI Società consortile a r.l.	Modugno	50.0
	Dana Rexroth Transmission Systems S.r.l.	Arco	50.0

	Company name	Registered office	Percentage share of capital
	DECA S.r.l.	Lugo	100.0
	Oleodinamica Gambini S.r.l.	Modena	20.0
Lithuania	UAB Robert Bosch	Vilnius	100.0
Netherlands	Tradeplace B.V.	Amsterdam	20.0
Poland	Loos Centrum Sp.z o.o.	Warsaw	26.0
Romania	BSH Electrocasnice Manufacturing S.R.L.	Bucharest	100.0
Russian Federation	Bosch Heating Systems LLC	Engels	100.0
Slovakia	Valicare s.r.o.	Trencin	51.1
Slovenia	BSH 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
	Iberia Cybernetics S.L.	Barcelona	100.0
	Noustique Perfumes S.L.	Barcelona	100.0
Switzerland	Bosch Automotive Service Solutions AG	Kriens	100.0
	Rotzinger AG	Kaiseraugst	46.7
Ukraine	Robert Bosch Ltd.	Kiev	100.0
United Kingdom	Bosch Automotive Training Limited	Motherwell	100.0
	BOXT Limited	Leeds	45.0
	ETAS Ltd.	York	100.0
	GraphCore Ltd.	London	20.2
	LAGTA Group Training Limited	Motherwell	100.0
Americas			
Brazil	Bosch Management Support Ltda.	Campinas	99.9
	Bosch Soluções Integradas Brasil Ltda.	Campinas	100.0
	Metapar Usinagem Ltda.	Curitiba-Paraná	100.0
	Planevale Planejamento e Consultoria Ltda.	São José dos Campos	100.0
	sia Abrasivos Industriais Ltda.	São José dos Pinhais	100.0

	Company name	Registered office	Percentage share of capital
Canada	ETAS Embedded Systems Canada Inc.	Kitchener, ON	100.0
Colombia	BSH Electrodomesticos S.A.S.	Bogotá	100.0
Ecuador	Robert Bosch Sociedad Anónima - Ecuabosch	Guayaquil	100.0
Mexico	Bopatec, S.A. de C.V.	Mexico City	50.0
	Bosch Management Services Mexico, S.C.	Mexico City	100.0
Panama	Robert Bosch Panama S.A.	Panama City	100.0
	Robert Bosch Panama Colon, S.A.	Colón	100.0
Paraguay	Robert Bosch Sociedad Anonima	Asunción	100.0
Peru	Bosch Rexroth S.A.C.	Lima	100.0
Uruguay	Robert Bosch Uruguay S.A.	Montevideo	100.0
Venezuela	Bosch Rexroth S.A.	Caracas	100.0
	Inversiones 421.10 (Venezuela Holding)	Caracas	100.0
	Robert Bosch S.A.	Caracas	100.0
	Skil Venezolana SRL	Caracas	100.0
United States	Akustica Inc.	Pittsburgh, PA	100.0
	Bosch Aviation Technology LLC	Novi, MI	100.0
	Bosch Management Services Corporation	Wilmington, DE	100.0
	Bosch Solar Energy Corp.	Detroit, MI	100.0
	BSE PV LLC	Palo Alto, CA	100.0
	Industrial Pharmaceutical Resources, Inc.	Bartlett, IL	49.0
	ITK Engineering, LLC	Howell, MI	100.0
	KX2 Holding Building Technologies Group, LP	Phoenix, AZ	100.0
	North America Fuel Systems Remanufacturing LLC	Kentwood, MI	50.0
	PBR International USA Ltd.	Knoxville, TN	100.0
	RoboToolz Inc.	Mountain View, CA	100.0
	Splitting Fares Inc.	Detroit, MI	100.0
Asia			
Bangladesh	Robert Bosch (Bangladesh) Ltd.	Dhaka	100.0
Cambodia	Robert Bosch (Cambodia) Co., Ltd.	Phnom Penh	100.0

	Company name	Registered office	Percentage share of capital
China	Bosch (Donghai) Automotive Test & Technology Center Co., Ltd.	Donghai	100.0
	Bosch (Hulunbeier) Automotive Test and Technology Centre Co., Ltd.	Yakeshi	100.0
	Bosch (Shanghai) Smart Life Technology Ltd.	Shanghai	100.0
	Bosch Automotive Diagnostics Equipment (Shenzhen) Ltd.	Shenzhen	100.0
	BSH Home Appliance Trading Co., Ltd.	Shanghai	100.0
	Freud International Trading (Shanghai) Co., Ltd.	Shanghai	100.0
	Guangdong Vanbo Electric Co., Ltd.	Foshan	50.0
	HEFEI M&B Air Conditioning Equipment Co., Ltd.	Heifei	40.0
	Nanjing Bovon Power Tools Co.	Nanjing	50.0
	Seeo Battery Systems Co., Ltd.	Shanghai	100.0
India	Automobility Services and Solutions Private Limited	Bengaluru	100.0
	ETAS Automotive India Private Ltd.	Bengaluru	100.0
	Klenzaids Contamination Controls Private Limited	Mumbai	49.0
	MIVIN Engineering Technologies Private Ltd.	Bengaluru	100.0
	Newtech Filter India Private Limited	Nalagarh	100.0
	Precision Seals Manufacturing Ltd.	Chakan	100.0
	ZF Steering Gear (India) Ltd.	Pune	26.0
Indonesia	P.T. Bosch Rexroth	Jakarta	100.0
	P.T. Robert Bosch Automotive	Jakarta	100.0
Iran	Bosch Tejarat Pars	Tehran	100.0
Israel	Utilight Ltd.	Yavne	22.3
Japan	Advanced Driver Information Technology Corporation	Kariya-shi	50.0
	Bosch Engineering K.K.	Tokyo	100.0
	Bosch Service Solutions Corporation	Tokyo	100.0
	ITK Engineering Japan, Inc.	Tokyo	100.0
	Kanto Seiatsu Kogyo Co., Ltd.	Honjo	94.9
	Knorr-Bremse Commercial Vehicle Systems Japan, Ltd.	Tokyo	20.0
Korea	ETAS Korea Co., Ltd.	Seoul	100.0
Laos	Robert Bosch (Lao) Sole Co., Ltd.	Vientiane	100.0
Malaysia	Pacific BBA (Malaysia) Sdn. Bhd.	Shah Alam	100.0
	Robert Bosch (Penang) Sdn. Bhd.	Penang	100.0

	Company name	Registered office	Percentage share of capital
Saudi Arabia	Robert Bosch Saudi Arabia Limited Liability Company	Riyadh	100.0
Singapore	Surelock Pte. Ltd.	Singapore	20.0
Sri Lanka	Robert Bosch Lanka (Pvt.) Ltd.	Colombo	100.0
Thailand	FMP Distribution Ltd.	Rayong	50.1
	FMP Group (Thailand) Ltd.	Rayong	50.7
	Pacific BBA (Thailand) Ltd.	Bangkok	100.0
Rest of world			
Angola	Robert Bosch, Limitada	Luanda	100.0
Australia	Autocrew Australia Pty. Ltd.	Lawnton	50.0
	FMP Group (Australia) Pty. Ltd.	Ballarat	49.0
	Pacifica Group Pty. Ltd.	Melbourne	100.0
	The Yield Technology Solution Pty. Ltd.	Hobart	28.7
Egypt	Bosch Packaging Technology Ltd.	Cairo	100.0
	Robert Bosch Ltd.	Cairo	100.0
	Robert Bosch Egypt LLC	Cairo	100.0
	Robert Bosch Holding-Egypt LLC	Cairo	100.0
Ghana	Robert Bosch Ghana Ltd.	Accra	100.0
Kenya	Robert Bosch East Africa Ltd.	Nairobi	100.0
Morocco	Robert Bosch Morocco Sarl	Casablanca	100.0
New Zealand	Bosch Rexroth Ltd.	Auckland	100.0
	Robert Bosch Ltd.	Auckland	100.0
Nigeria	Robert Bosch Limited	Lagos	100.0
South Africa	Hägglunds Drives South Africa (Pty.) Ltd.	Fourways	100.0
Tunisia	Robert Bosch Tunisie SARL	Tunis	100.0

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Stuttgart, March 8, 2018

Robert Bosch GmbH
The board of management

INDEPENDENT AUDITOR’S REPORT

To Robert Bosch Gesellschaft mit beschränkter Haftung, Stuttgart

Audit 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 statement of financial position as at 31 December 2017, and the consolidated statement of comprehensive income, consolidated statement of profit or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January 2017 to 31 December 2017, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Robert Bosch Gesellschaft mit beschränkter Haftung, Stuttgart, for the financial year from 1 January 2017 to 31 December 2017. We have not audited the content of the statement on corporate governance pursuant to § [Article] 289f Abs. [paragraph] 4 HGB [Handelsgesetzbuch: German Commercial Code] (disclosures regarding women’s quota) in accordance with the German legal requirements.

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 IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2017, and of its financial performance for the financial year from 1 January 2017 to 31 December 2017, 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. Our audit opinion on the group management report does not cover the content of the statement on corporate governance referred to above.

Pursuant to § 322 Abs. 3 Satz [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 Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 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 audit opinions on the consolidated financial statements and on the group management report.

Other Information

The executive directors are responsible for the other information. The other information comprises the statement on corporate governance pursuant to § [Article] 289f Abs. [paragraph] 4 HGB [Handelsgesetzbuch: German Commercial Code] (disclosures regarding women’s quota).

The other information comprises further the remaining parts of the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor’s report.

Our audit 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 audit 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 IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 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 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 audit 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 § 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 audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one 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 (systems) 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 audit opinion on the effectiveness of these systems.
- 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 audit 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 IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of 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 audit 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 8, 2018

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Harald Kayser
Wirtschaftsprüfer
(German Public Auditor)

Marcus Nickel
Wirtschaftsprüfer
(German Public Auditor)

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GROUP MANAGEMENT REPORT

CONSOLIDATED FINANCIAL STATEMENTS OF THE BOSCH GROUP

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TEN-YEAR SUMMARY OF THE BOSCH GROUP

Figures in millions of euros

	2008	2009	2010	2011	2012[1]	2013	2014	2015	2016[1]	2017
Sales revenue	**45,127**	**38,174**	**47,259**	**51,494**	**44,703**	**46,068**	**48,951**	**70,607**	**73,129**	**78,066**
percentage of sales revenue generated outside Germany	74	76	77	77	77	77	78	80	80	80
Research and development cost[2]	3,889	3,603	3,810	4,190	4,442	4,543	4,959	6,378	6,911	7,264
as a percentage of sales revenue	8.6	9.4	8.1	8.1	9.9	9.9	10.1	9.0	9.5	9.3
Capital expenditure	3,276	1,892	2,379	3,226	2,714	2,539	2,585	4,058	4,252	4,345
of which in Germany	1,610	928	1,023	1,161	988	913	1,098	1,394	1,580	1,546
of which outside Germany	1,666	964	1,356	2,065	1,726	1,626	1,487	2,664	2,672	2,799
as a percentage of sales revenue	7.3	5.0	5.0	6.3	6.1	5.5	5.3	5.7	5.8	5.6
as a percentage of depreciation	136	80	100	142	101	126	138	146	141	140
Depreciation of property, plant, and equipment	2,410	2,374	2,373	2,265	2,689	2,008	1,868	2,788	3,022	3,095
Annual average number of associates (thousands)	283	275	276	295	273	280	286	369	384	403
of which in Germany	114	113	112	117	109	108	105	131	133	137
of which outside Germany	169	162	164	178	164	172	181	238	251	266
at Dec. 31	282	271	284	303	273	281	290	375	389	402
Personnel expenses	12,994	12,787	14,132	14,719	14,198	14,907	15,325	20,369	21,056	22,266
Balance-sheet total	**46,761**	**47,509**	**52,683**	**54,616**	**52,611**	**55,725**	**61,924**	**77,266**	**81,875**	**81,870**
Equity	23,009	23,069	26,243	26,917	26,900	27,686	29,541	34,424	36,084	37,552
as a percentage of balance-sheet total	49	49	50	49	51	50	48	45	44	46
Cash flow	4,032	1,910	5,460	4,959	4,053	3,956	4,866	6,835	6,565	8,367
as a percentage of sales revenue	8.9	5.0	11.6	9.6	9.1	8.6	9.9	9.7	9.0	10.7
Profit after tax	372	−1,214	2,489	1,820	2,304	1,251	2,637	3,537	2,374	3,274
Unappropriated earnings	75	67	82	88	88	88	102	142	138	241

[1] Adjusted for changes in accounting policies
[2] Including development work charged directly to customers

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