

# 2018 ANNUAL REPORT FREUDENBERG GROUP



The Freudenberg Group stands for technology and innovation. Together with customers and research partners, Freudenberg employees develop leading-edge technologies, products, solutions and services. The innovative strength of Freudenberg has many facets. Having pioneered innovation throughout its history – from chrome tanning and the development of the Simmerring to sophisticated and high-tech medical devices – the company is an innovation

champion. For Freudenberg, striving together for solutions that support global sustainability is both motivation as well as the concept for success. It enables the Group to provide its customers with solutions and answers to tomorrow's questions, today. The company slogan "Innovating Together" embodies the Group's identity. This Annual Report brings you many examples of what makes Freudenberg so unique and different.

# HIGHLIGHTS

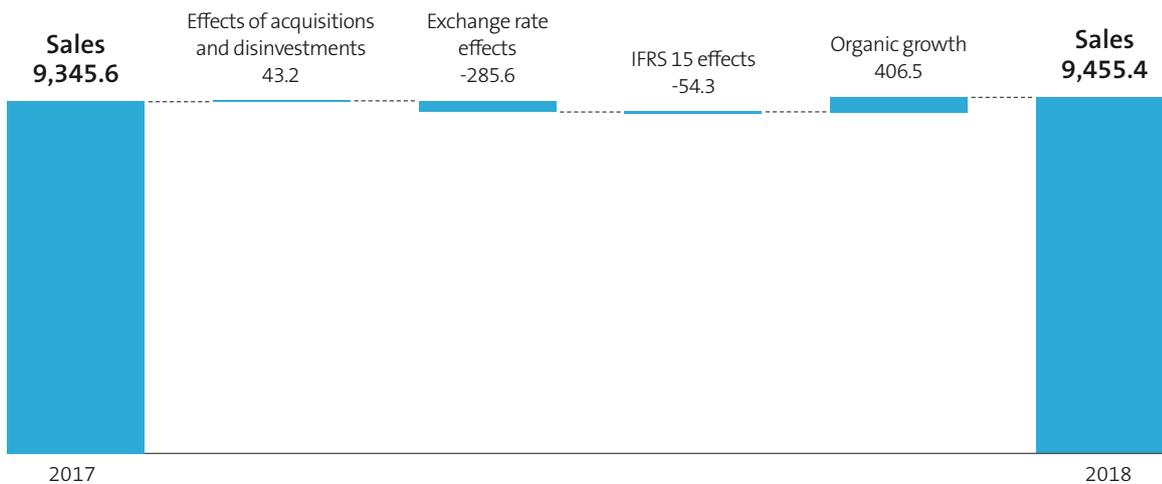
[€ million]	2014	2015	2016	2017	2018
<b>Sales</b>					
Germany	1,087	1,116	1,269	1,557	1,641
EU (excluding Germany)	1,657	1,700	2,094	2,434	2,448
Other European countries	334	308	314	441	429
North America	1,383	1,668	2,093	2,502	2,434
South/Central America	296	274	281	326	285
Asia	1,089	1,204	1,700	1,907	2,016
Africa/Australia	136	141	149	179	202
<b>Total sales</b>	<b>5,982</b>	<b>6,411</b>	<b>7,900</b>	<b>9,346</b>	<b>9,455</b>
Consolidated profit	478	521	1,087	700	602
Cash flow from operating activities	618	763	945	929	828
Cash flow from investing activities	-339	-429	-1,510	-612	-581
Balance sheet total	6,667	7,238	10,224	10,194	10,239
Equity	3,211	3,700	4,603	4,835	5,312
Equity ratio	48 %	51 %	45 %	47 %	52 %
Workforce (as at Dec. 31)	34,030	34,007	46,266	47,653	49,137
Workforce (annual average)	34,094	34,312	40,951	47,657	48,894

# SALES DEVELOPMENT

In 2018, Freudenberg once again continued the good development of sales. Compared with the previous year, organic growth was further boosted and reached €406.5 million. However, a number of factors impacted on the sales figure in euros during the financial year. These included significant negative exchange rate effects, amounting to €285.6 million, especially resulting from the

development in the US dollar exchange rate. In addition, the first-time application of the new accounting standard IFRS 15 had a negative impact of €54.3 million on sales. In the year under review, the effects of acquisitions and disinvestments totaled €43.2 million. Sales in the 2018 financial year reached €9,455.4 million, 1.2 percent up on the figure for the previous year.

[€ million]



# 2018 FREUDENBERG ANNUAL REPORT

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# COMPANY BOARDS

## SUPERVISORY BOARD



From left: Pott, Schildhauer, Towfigh, Kuhlich, Freudenberg, Wentzler, Kammüller, Kairisto, Purvis, Kurz, Thielen, Freudenberg-Beetz, Schücking

**Martin Wentzler, Großhesselohe**

Chairman of the Supervisory Board of Freudenberg SE  
Attorney

**Professor Dr. Dieter Kurz, Lindau**

Deputy Chairman of the Supervisory Board of  
Freudenberg SE  
Chairman of the Shareholder Council of the Carl Zeiss  
Foundation

**Martin Freudenberg, Heidelberg**

Managing Director of  
Jumag Dampferzeuger GmbH

**Dr. Maria Freudenberg-Beetz, Weinheim**

Biologist

**Essimari Kairisto, Korschenbroich**

MA Business Management, Management Consultant,  
Member of the Board of Directors of Fortum Oy

**Dr. Mathias Kammüller, Ditzingen**

Managing Director and  
CDO of TRUMPF GmbH + Co. KG

**Maeva Kuhlich, Chichilianne, France**

Manufacturing Integrator at  
Becton Dickinson France S.A.S.

**Dr. Richard Pott, Leverkusen**

Chairman of the Supervisory Board of  
Covestro AG

**David M. Purvis, Kansas City, Missouri, USA**

Former Executive Vice President  
and CTO at Solectron Corp.

**Walter Schildhauer, Stuttgart**

Managing Partner of  
speedwave GmbH

**Dr. Christoph Schücking, Frankfurt am Main**

Attorney and Notary Public

**Mathias Thielen, Zürich, Switzerland**

Managing Director of Credit Suisse AG

**Professor Dr. Emanuel V. Towfigh, Bad Soden**

University Professor, Dean of the EBS University  
Law School

as at December 31, 2018

## BOARD OF MANAGEMENT



From left: Krauch, Sohi and Krieger

**Dr. Mohsen Sohi, Frankfurt am Main**  
Chief Executive Officer

**Dr. Tilman Krauch, Heidelberg**  
Member of the Board, CTO

**Dr. Ralf Krieger, St. Leon-Rot**  
Member of the Board, CFO

as at December 31, 2018

## EXECUTIVE COUNCIL

Members	Business Groups
Claus Möhlenkamp (CEO)	Freudenberg Sealing Technologies
Frank Müller (CEO)	Vibracoustic
Dr. Frank Heislitz (CEO)	Freudenberg Performance Materials
Karin Overbeck (CEO)	Freudenberg Home and Cleaning Solutions
Hanno D. Wentzler (CEO)	Freudenberg Chemical Specialities
and the Board of Management	
Membership of the above-mentioned five CEOs in the Executive Council takes stronger account of the perspectives of the Business Groups with regard to overarching issues.	

## MANAGEMENT OF THE BUSINESS GROUPS

Management	Business Groups
Claus Möhlenkamp (CEO and Member of the Executive Council), Dr. Theodore Duclos (CTO), Ludger Neuwinger-Heimes (CFO), Dieter Schäfer (COO)	Freudenberg Sealing Technologies
Richard Schmidt (CEO), Craig Barnhart (CFO)	Freudenberg Oil & Gas Technologies
Dr. Andreas Raps (CEO), Dr. Sebastian Weiss (CFO), Dr. Kai Ziegler (CTO)	EagleBurgmann
Dr. Max Gisbert Kley (CEO), Kurt Ziminski (CFO)	Freudenberg Medical
Frank Müller (CEO and Member of the Executive Council), Dr. Jörg Böcking (CTO), Volker Christ (CFO)	Vibracoustic
Dr. Frank Heislitz (CEO and Member of the Executive Council), Thomas Herr (CFO), John McNabb (CTO)	Freudenberg Performance Materials
Dr. Andreas Kreuter (CEO), Frank Reuther (CFO), Dr. Jörg Sievert (COO)	Freudenberg Filtration Technologies
Satoshi Kawamura (CEO), Yasuhiro Esaki (COO), Yukiyasu Izuta (CFO), Atsushi Shimoda (CTO)	Japan Vilene Company
Karin Overbeck (CEO and Member of the Executive Council), Dr. Arman Barimani (CTO), Kerstin Borrs (CFO)	Freudenberg Home and Cleaning Solutions
Hanno D. Wentzler (CEO and Member of the Executive Council), Dr. Jörg Matthias Großmann (CFO)	Freudenberg Chemical Specialities
Horst Reichardt (CEO), Wolfgang Schneider (CFO)	Freudenberg IT

# REPORT OF THE SUPERVISORY BOARD



Martin Wentzler (Chairman)

**The Board of Management and the Supervisory Board held regular and detailed discussions on the progress of the Freudenberg Group and major individual business transactions based on verbal and written reports from the Board of Management. Furthermore, both company boards jointly consulted on fundamental issues of business policy which was updated where necessary. Moreover, the Supervisory Board advised the Board of Management in managing the company, while supervising and monitoring the conduct of business. In addition, the Chairman of the Supervisory Board held discussions with the members of the Board of Management on current business developments. Regular exchanges between the Chairman of the Supervisory Board, the Chairman of the Audit Committee and the Board of Management member responsible for Finance were also held.**

The Supervisory Board held six meetings in 2018. These meetings addressed an analysis of the markets, sales and earnings development, the financial situation and the Group's risk management. The agenda also included the portfolio structure, special projects and future-related topics.

At the beginning of the year under review the Supervisory Board approved the strategy for the period 2018 – 2020 with the core themes of "New Mobility", "Sustainability" and "Digitalization". Furthermore, the

Supervisory Board consulted on the negotiations on the North American Free Trade Agreement and Brexit.

In addition, the Supervisory Board addressed acquisitions and their integration in the Group, such as the acquisition of E. D. Oates Pty Ltd, Melbourne, Australia, the market leader in the professional cleaning business in Australia, by Freudenberg Home and Cleaning Solutions. Furthermore, Japan Vilene Company purchased Hanns Glass GmbH & Co. KG, Grafing, Germany, the global leader for the production of floor mats for the automotive industry. In addition, stakes in the fuel cell manufacturer Elcore GmbH, Munich, Germany, and Elcomax GmbH, Munich, Germany, were acquired, and Freudenberg Sealing Technologies purchased a stake in the U.S. company XALT Energy, Midland, Michigan, USA, a producer of large lithium ion battery cells, modules and systems. Moreover, the Supervisory Board was involved in the review of various strategic options for the best possible path forward for Freudenberg IT.

The Audit Committee met five times in the year under review. In the first quarter of 2018 it consulted closely on the annual financial statements and the consolidated financial statements as at December 31, 2017 and on the reports from the auditors about these financial statements. The second meeting focused on risk management, with the Audit Committee first addressing the auditor's report assessing the internal control system. This report was discussed extensively with auditor representatives, making cross references to the relevant auditors' reports from previous financial years. As the 2018 financial year progressed, the Audit Committee also consulted on the intra-annual financial situation and, among other things, was informed about the development of Group risk management and the planned standardization in Freudenberg Group accounting.

Other issues addressed by the Audit Committee in 2018 included the work of the Ethics Office, information security, the principles of the German Corporate Governance Code as applied mutatis mutandis, the implementation of the General Data Protection Regulation, changes in accounting standards, and a preview of the 2018 consolidated annual financial statements. Furthermore, the Audit Committee consulted regularly on the ongoing reports prepared by Corporate Audit and reported back to each plenary session of the Supervisory Board on the issues

addressed by the Audit Committee and the outcomes of its consultations.

The Innovation and Technology Committee met twice. The topics at these meetings were innovation and technology projects, IP strategies, and marketing strategies of various Business Groups.

The Personnel Committee met three times in the year under review. It consulted on matters such as leadership development, the talent management process, and succession planning in key bodies of the Freudenberg Group.

The annual financial statements, the consolidated financial statements prepared pursuant to IFRS, the combined management report of Freudenberg SE and the Group, and the dependent company report of Freudenberg SE for 2018 were audited by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Mannheim, Germany, and were issued with an unqualified audit opinion. The members of the Supervisory Board were provided with the documentation for the annual financial statements and the audit reports in due time. The Supervisory Board approved the consolidated financial statements and the combined management report of Freudenberg SE and the Group and the annual financial statements of Freudenberg SE, and following examination, concurred with the auditor's findings. The annual financial statements of Freudenberg SE as at December 31, 2018 are therefore adopted.

The report on relations with affiliated companies (dependent company report) in accordance with Section 312 of the German Stock Corporation Act (AktG) submitted by the Board of Management of Freudenberg SE was audited by the auditors, who issued the following opinion:

"We render this report in accordance with the provisions of Section 313 AktG and conclude that the report of the Board of Management of Freudenberg SE, Weinheim, Germany, on relations with affiliated companies for the financial year from January 1 to December 31, 2018 attached as Appendix 1 complies with the provisions of Section 312 AktG. The Board of Management provided us with all the explanations and supporting documents requested. The dependent company report complies with the principles of a true and fair view. In accordance with Section 312 (3), 3rd sentence, AktG, the concluding statement of the dependent company report has therefore been

included in the management report (Section 289, German Commercial Code (HGB)).

Based on the results of our audit, the dependent company report does not give rise to any reservations. We have therefore issued the following audit opinion:

Based on our audit and assessment, which were carried out in accordance with professional standards, we confirm that

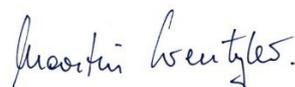
1. the factual statements made in the report are correct,
2. the payments made by the company regarding legal transactions detailed in the report were not unreasonably high,
3. there are no circumstances in favor of a significantly different assessment than that made by the Board of Management regarding the measures listed in the report."

The Supervisory Board examined the Board of Management's report on relations with affiliated companies and approved it as well as the related audit report. The examination of the dependent company report by the Supervisory Board did not result in any objections to the concluding statement by the Board of Management in the dependent company report.

On June 30, 2018, Dr. Tilman Krauch was reelected to the Board of Management of Freudenberg SE for a further term of five years effective July 1, 2019. Furthermore, Dr. Christoph Schücking was reelected to the Supervisory Board of Freudenberg SE for a further four years and subsequently reelected Chairman of the Audit Committee.

On behalf of the Supervisory Board I would like to thank all employees, Business Group managing bodies and the Board of Management. Their great personal commitment made an important contribution to the Group's success in a very challenging year.

Weinheim, March 20, 2019  
For the Supervisory Board



Martin Wentzler  
Chairman

# BOARD OF MANAGEMENT FOREWORD

Freudenberg looks back at 2018 as a year of strategic and operating successes. The company continued to perform well in a volatile and challenging environment.

Particularly noteworthy were the above market average organic sales growth of 4.3 percent and the strong operating profit. The company continued to successfully develop innovative solutions for its customers and put in place the organizational framework necessary to maintain and expand its leading position in the relevant markets. The strong strategic and operative planning are the keys to Freudenberg's success, along with the team spirit of more than 49,000 employees as well as close and agile cooperation with its customers. As a technology group focused on efficiency, Freudenberg has again expanded its research and development activities, to be even more agile in creating innovative solutions for the customers.



Dr. Mohsen Sohi (CEO)

## Business performance figures:

We are particularly proud of our **organic sales growth** of 4.3 percent in 2018. In the year under review, acquisitions contributed €91.3 million in sales.

Throughout the financial year, however, various factors dampened euro-based sales. One was significant negative exchange rate effects of €285.6 million, due, above all, to developments in the dollar's exchange rate. In addition, other currency losses relative to the euro - including the Turkish lira - contributed to this negative effect. Also, the first-time application of IFRS 15 had a

€54.3 million negative impact on sales. The standard contains new rules for the amount and timing of revenue recognition for all contracts with customers.

In total, **sales** increased from €9,345.6 million to €9,455.4 million.

In addition to sales, **profit from operations** is a key indicator of our financial performance. Our business generated an operating profit of €910.3 million. This is slightly above the previous year's high level of €905.0 million and is equivalent to a return on sales of 9.6 percent. We achieved this increase despite a sharp rise in material prices - particularly for metals and plastics - and energy prices over the course of the year. We also continued to invest heavily to secure the future of our Group.

Noteworthy here are the ever greater **investments in electromobility**. **Investments in innovations** were also at their highest ever: €444.3 million (previous year: €427.8 million), representing 4.7 percent of sales (previous year: 4.6 percent). Freudenberg measures the effectiveness of research and development activities using the share of new products (those younger than four years) as a percentage of total sales. This increased to 33.6 percent (previous year: 33.0 percent).

Despite higher operating profit, the **consolidated profit** fell from €700.1 million to €602.4 million. The decline stems primarily from lower investment income, as well as a decline in the pro rata results from associated companies, and from impairment of goodwill.

9,455.4

Sales € million

910.3

Operating profit € million

49,137

Freudenberg employees

We were able to increase our very healthy **equity ratio** once again. As of December 31, 2018, the ratio was 51.9 percent (previous year: 47.4 percent). **Liquid funds** at year end totaled €984.7 million (previous year: €998.8 million).

The **ratings agency** Moody's Deutschland GmbH, Frankfurt am Main, assessed the overall performance and decided to maintain Freudenberg SE's "A3" rating with a stable outlook from the previous year. This is equivalent to an excellent single-A rating.

### Three essential pillars for the 2018 to 2020 Strategic Period

This year marks the beginning of a new strategic period for Freudenberg. The years 2018 – 2020 will be vital to our Group's future, as the markets are shifting ever faster and the pace of technological and digital change continues to accelerate.

The automotive industry is facing fundamental change - with **electromobility** and autonomous vehicles driving this shift. As a reliable partner for our customers, we are working hard on forward-looking innovations for all drive types including electric engines, hybrids, fuel cells and internal combustion engines.

Two acquisitions this year strengthened Freudenberg Sealing Technologies' energy and storage business: In early January 2018, parts of Munich-based fuel cell manufacturers Elcore GmbH and Elcomax GmbH were purchased. The Business Group also purchased shares in XALT Energy, LLC, Midland, Michigan, USA. The company produces large-scale lithium-ion battery cells, modules and systems for use in heavy utility vehicles, such as buses, ships and other industrial applications.

Several Business Groups have also strengthened their innovation activities in battery separator development. Freudenberg Performance Materials is now manufacturing fuel cell gas diffusion layers on an

industrial scale at its headquarters in Weinheim. Freudenberg Sealing Technologies has developed special seals for fuel cells, which can be installed directly on the gas diffusion equipment, making ultra-thin designs possible.

**Digitalization** continues apace and has changed almost every aspect of the business world. Digital transformation can take countless forms. Freudenberg needs to clearly separate important factors from "hype". So digitalization must either offer added value to our customers or significantly improve efficiency. Due to our varied technologies and markets, each Business Group is developing a separate digitalization strategy. Nevertheless, they need to share ideas, learn together, pass on best practices and work together to advance the innovation process.

**Sustainability** - the third strategic topic - is a part of Freudenberg's "Responsibility for Society" and has two dimensions. One is process design and equipment usage that conserve resources (Footprint). The second is the numerous Freudenberg products and solutions that make our customers' production more efficient and sustainable or allow products to be manufactured with greater resource efficiency (Handprint). Group-wide key performance indicators have been established for material efficiency, energy efficiency and emissions. Examples of successful sustainability projects can be found in the "Responsibility for Society (UN Global Compact Progress Report)" chapter on pages 20 – 23.

Beyond the strategy periods, Freudenberg also has various **planning phases**. We monitor the Business Groups' markets in our three year strategic planning process. Megatrends and future developments are used when planning for the next ten to 15 years; examples here include continuous development of electromobility and digitalization. We look at more fundamental questions over even longer periods. In late 2015, we started a project that looks 35 years into the future. The outcome of the project now influences

our strategic planning, our research projects and our acquisition pipeline.

The Group seeks to strengthen its portfolio through selective and targeted **acquisitions** in all the Business Groups. Our goal is a balanced portfolio combining cyclical and anticyclical businesses - with equal sales contributions from the Americas, Europe and Asia. Examples of acquisitions included:

In January, Freudenberg Home and Cleaning Solutions acquired the company E.D. Oates Pty Ltd., Melbourne, Australia. Oates is the market leader for professional cleaning products in Australia and has an extensive range of household and cleaning products for the end consumer business.

In April, Japan Vilene Company acquired Hanns Glass GmbH & Co. KG, Grafing, Germany. The company is one of the world's leading manufacturers of floor mats for the automotive industry and holds a strong position in Europe.

In December, Freudenberg Filtration Technologies signed a contract to acquire a majority stake in Apollo Air Cleaner Co., Ltd., Shunde, China. Apollo is a leading supplier of air and water filtration solutions in China. The transaction still requires approval from antitrust authorities.

The Freudenberg Group together with the management of its Freudenberg IT (FIT) Business Group examined various strategic options best suited for FIT's future. The process resulted in the sale of FIT to the Syntax Group of Canada, effective late February 2019. Three IT companies - Syntax, FIT and EmeraldCube - are being brought together under the Syntax umbrella to create a strengthened global IT full-service provider with a clear IT growth plan. This is paving the way for FIT's future success.

### **Strengthening Innovation**

As a technology group, innovation has always been key to our success. Three examples of innovations from various Business Groups illustrate how we strengthen our customers and society over the long term with innovative solutions: Heat shields in electric vehicle batteries, water-based Hydro Lubricants and new wound care that has direct coatings made from silicon adhesives.

The rapid changes also driven by digitalization mean we must further improve and accelerate our innovation strength. The goal is to maintain and expand our position as market leader in our segments. We are working to further develop Freudenberg's material, process and system competencies via nine technology platforms. We focus on essential interdisciplinary technologies relevant to several Business Groups, and in doing so create knowhow synergies.

We want to be more agile on the market and even faster in developing innovative solutions for our customers - this aspiration was the focus of our **international senior management conference** DIALOG, which was held in July 2018 with 400 participants from throughout the Freudenberg World.

The two core topics of "Innovating Together" and "Digitalization" were used to create a common understanding about how our Group can further accelerate its innovation speed in changing markets. Efficient processes were also discussed, to find the right path for digitalization at Freudenberg.

### **Efficiency and excellence**

With renewed vigor, we worked hard on Freudenberg's interpretation of "**Operational Excellence**" to make our processes, services and products more efficient, better and safer: through standardization and by applying Lean and Six Sigma methods.

We are continually working to be and remain excellent in all areas. This is specifically true for our **Talent Management**, where we made further progress in the year under review. The Operations Leadership Program was carried out for the first time. It complements two other executive development programs; the "Strategic Leadership Program" and the "Business Leadership Program". The goal of Talent Management is to support diversity and inclusion in the company, while also attracting the best employees, developing their skills and retaining them within the company.

**Workplace safety** at Freudenberg is also good for a manufacturing company. The LDIFR value (accidents with at least one day of work lost per one million hours worked) was 1.5 in the year under review (previous year: 1.4).

## Responsibility for Society

Success for Freudenberg means both financial success, while also fulfilling our responsibility for society. The two goals have been inextricably linked since the company's founding. At Freudenberg, "Responsibility for Society" covers five areas: Sustainability; Health & Safety and Environmental Protection (HSE); Corporate Citizenship; Compliance and Human Rights & Labor. Freudenberg's commitment to **Corporate Citizenship** extends beyond the value chain. In 2018, many Group companies, sites and employees volunteered in small initiatives and complex projects. The e<sup>2</sup> (education and environment) program has been strengthening our corporate citizenship since 2015. The goal is to provide people with access to education and employment, and support environmental protection. Freudenberg has already donated a total of €14 million to the program. By the end of the year, e<sup>2</sup> was supporting some 70 projects.

## Outlook

We expect a challenging macroeconomic environment in the 2019 financial year. Growth forecasts for the world economy in 2019 are slightly lower than those for the previous year. The risk of a stronger decline in global growth has increased. Geopolitical and economic uncertainties are unlikely to abate. In the face of increasing market volatility, the goal is to closely monitor further developments and react flexibly. The spotlight is on the threat of an escalating trade conflict between the US and China, the Brexit process, the

financial stability of individual nations, rising commodity prices and a possible economic slowdown in the automotive sector. Freudenberg is well prepared to face these and other challenges. We are cautious in our planning and anticipate a subdued business performance in markets relevant to the Group.

## Thanks

Despite difficult market conditions, our company has continued to be successful. We had organic growth, have become more efficient, expanded our areas of excellence and leveraged further Group potential. This is primarily thanks to our employees. We thank you for your contribution to our success. The uncertainties in the difficult market environment will not disappear in the new year. However, we are ready for change. We will be more agile, cooperate even closer and experiment more - and keep a close eye on our markets and customers as we do so.

After all, our customer's success is our success. We want to thank them and our business partners for their confidence and excellent cooperation.

Weinheim, Germany, March 20, 2019  
For the Board of Management



Dr. Mohsen Sohi  
CEO

# LEADING TECHNOLOGY GROUP

**As a leading technology group, excellence at Freudenberg means setting standards in technology, innovation and quality.**

Freudenberg is a global technology group that strengthens its customers and society long-term through forward-looking innovations. Working with customers and the world of science, Freudenberg employees develop leading-edge technologies, products, solutions and services.

They are experts in their fields and use their expertise to develop excellent solutions for some 40 market segments and thousands of applications - seals, vibration control technology components, technical textiles, filters, specialty chemicals, medical technology products, IT services and state-of-the-art cleaning products.

Innovation forms a common thread through Freudenberg's history - covering chrome tanning, Simmerrings along with sophisticated and high-technology medical products. Across the globe, the Freudenberg Group's products and services make a valuable contribution to customers' success – often invisible, but always essential and in keeping with the company's positioning "Freudenberg is a values-based technology group that best serves its customers and society".

The collaborative search for environmentally and socially sustainable solutions is both Freudenberg's motivation and the basis for the company's success. "Innovating Together" is put into practice across Business Groups and regional sites around the world.



Freudenberg employees act and think like entrepreneurs, show initiative and are ready to take on responsibility. They work in diverse teams on international projects to develop solutions that are both innovative and visionary.

Innovation, strong customer orientation and close cooperation, as well as diversity and team spirit are the cornerstones of the Group. The company holds strong to core values it has been putting into practice for 170 years: a commitment to excellence, reliability and proactive, responsible action.

# RESPONSIBILITY FOR SOCIETY (UN GLOBAL COMPACT PROGRESS REPORT)

As a family-owned, values-based technology group, success for Freudenberg is financial success as well as fulfilling our responsibility for society. The two goals have been inextricably linked since the company's founding.

- Freudenberg Values & Principles
- Areas relevant to "Responsibility"
- Processes and initiatives along the value chain (based on the UN Global Compact)
- Initiatives that extend beyond the value chain





At Freudenberg, “Responsibility for Society” covers five areas: Sustainability, Health, Safety and Environmental Protection, Corporate Citizenship, Compliance and Human Rights & Labor. All five areas are firmly anchored in Freudenberg’s Values and Principles and closely interlinked.

Values have always been important at Freudenberg when dealing with customers, business partners, neighbors and the environment. Freudenberg employees pledge to uphold an internal Code of Conduct, take part in Freudenberg’s “We all take care” initiative to improve environmental protection, health and occupational safety and have developed innovative, sustainable solutions to improve quality of life around the globe.

In 2014, the company signed the UN Global Compact because it is important to communicate the actions to customers, neighbors, potential employees and institutions. The principles that underlie the Global Compact are inscribed in the Freudenberg Group’s Guiding Principles with different wording. The principles focus on four areas; human rights, labor standards, environmental protection and anti-corruption.

The following describes how Freudenberg put these principles into practice in the past year.

## “We all take care” Group-wide initiative

Since launching in 2002, the internal “We all take care” initiative has encouraged employees around the world to make their work and workplace safer, healthier and more environmentally friendly; to get involved in social projects and help improve safety at the company.

*We <sup>all</sup> take care!*

The initiative stands for putting corporate values into practice – across country borders, hierarchies and Business Groups. Each employee is encouraged to bring forth ideas and suggestions. Via the Freudenberg Portal, employees can find details about successful projects and speed up the improvement process. As part of the Corporate Health, Safety, Security, Environment meetings, upper management was integrated in the process and the heads from each of the Business Groups helped move things forward. Up to now more than 3,400 projects have been submitted.

Every year, Freudenberg honors employees who have successfully taken part in the “We all take care” award.

First prize in the year under review went to a team at Freudenberg & Vilene Nonwovens in Yang-Mei, Taiwan, for a process water management project. The team started by analyzing the water quality for each treatment plant and discussed possible improvements. The changes to the treatment processes were then discussed with experts including those from other Freudenberg Business Groups and then established at the sites after initial testing was completed. The reverse osmosis process plays a key role in the improved technology.

Second prize went to a team at Freudenberg Sealing Technologies in Hamburg for a series of HSE videos.

Third prize went to VistaMed in Carrick-on-Shannon, Ireland for greater safety in manual cutting processes.

The final award ceremony presented twelve projects from throughout the Freudenberg World. A total of 157 projects were submitted.



The finalists of the “We all take care” award at the ceremony in May 2018 in Weinheim, Germany

## Important figures for “Responsibility for Society”

On this page, you can see a selection of the important figures quantifying “Responsibility for Society”. A detailed explanation for the figures can be found in the chapters for the five areas of responsibility.

**49,137**

Freudenberg employees

**94.1**

(in tons/million euro sales)

**CO<sub>2</sub> emissions**

**157**

“We all take care” projects

**0.25**

(in kWh/euro sales)

**Energy efficiency**

**1.5**

**LDIFR (Lost Day Incident Frequency Rate):**

All workplace incidents with at least one day of work lost per one million hours worked

**14.6**

(in tons/million euro sales)

**Waste**

**28.8**

(million euros)

**Investments in environmental protection and workplace safety**



## SUSTAINABILITY

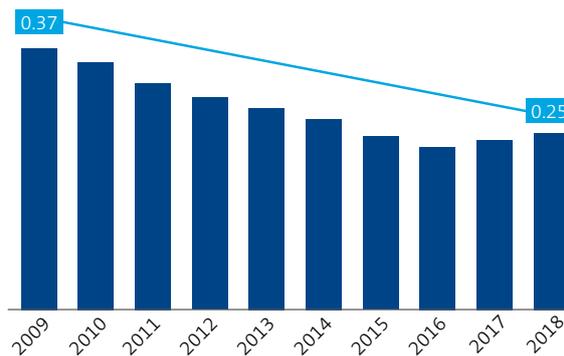
Product and process sustainability have always been part of responsibility practiced at Freudenberg. In 2016, the Group's Sustainability Strategy was developed and handed over to all the Business Groups to act as a framework in 2017. Sustainability was also made into a systematic component of the strategy process.

Sustainability is a part of Freudenberg’s “Responsibility for Society” and has two dimensions: One dimension is how the company designs processes and uses equipment to conserve resources (**Footprint**). The second dimension is the numerous Freudenberg products and solutions that make our customer’s production more efficient and sustainable or allow products to be manufactured with greater resource efficiency (**Handprint**). Freudenberg helps improve sustainability around the world by minimizing our Footprint and maximizing our Handprint. The five core topics: materials, waste, energy, emissions and water are the most important ones for the Group. The five core topics were used to derive the three Group-wide TOP themes for Freudenberg: Material efficiency, energy efficiency and emissions. Freudenberg has a KPI (Key Performance Indicator) for each of them. The KPIs help create more transparency by making improvements comparable across the Group.

Freudenberg has been measuring and analyzing **energy consumption** across the Group since 2009. The company has managed to continuously improve energy efficiency through various measures put in place since the launch of the energy management system. Energy consumption has been reduced by over **a third** in just nine years: from 0.37 to **0.25** kilowatt hours per euro in sales. Freudenberg remains committed to further improving energy efficiency.

Since 2017, **CO<sub>2</sub> emissions** across the Group have been tracked in accordance with the Greenhouse Gas protocol. Adjusting for direct and indirect energy consump-

ENERGY EFFICIENCY AT FREUDENBERG  
(Kilowatt hours per euros in sales)



The increase is attributable to the inclusion of Japan Vilene Company in the consolidation of energy since 2017, and the negative exchange rate effects significantly lowering euro-based Group sales.

tion, Freudenberg reports emissions in accordance with Scopes 1 and 2. Site-based calculations indicate a value of **94.1 tons of CO<sub>2</sub>** per million euros in sales. This increase of almost six percent compared to the previous year is primarily attributable to negative currency effects, which significantly reduced Group sales. See chapter “Sales Performance” on the inside of the cover.

For the first time since the reporting year, a Group-wide **waste indicator** of **14.6 tons** per million euros in sales was also compiled in line with the Global Reporting Initiative (GRI). Of these, 91.06 percent are “safer” and 8.94 percent “hazardous” waste.

In 2018, specific approaches and measures identified to make sure sustainability is put into practice at each of the Business Groups led to innovative solutions that create direct added value for customers.



- 
**Materials**  
 Material efficiency  
 Recycled, renewable and replacement materials  
 End-of-Life-(EOL) handling of products
- 
**Emissions**  
 Air pollution/ emissions
- 
**Waste**  
 Waste handling
- 
**Water**  
 Water pollution  
 Water consumption
- 
**Energy**  
 Energy efficiency  
 Renewable energy

## EXAMPLES OF SUCCESSFUL SUSTAINABILITY PROJECTS

The Freudenberg Group's constant quest for greater sustainability strengthens innovation. At the same time, innovations make more sustainable processes and products possible in the first place. Innovation and sustainability are closely linked and drive each other. Innovations can contribute to sustainability by having a positive impact on the Footprint and Handprint.

Selected **Footprint examples** are listed on this two-page spread; selected **Handprint examples** can be found on the following two-page spread.

### Footprint

The search for sustainable production processes is an important part of Freudenberg's DNA and is firmly anchored in the principles of the values-based technology group. Topics such as energy and material efficiency, the sustainable use of resources and waste reduction are important in minimizing the company's Footprint. Continuous improvement in these areas helps Freudenberg take responsibility for society.



#### Materials

Material efficiency  
Recycled, renewable and replacement materials  
End-of-Life-(EOL) handling of products



#### Emissions

Air pollution/ emissions



#### Waste

Waste handling



#### Water

Water pollution  
Water consumption



#### Energy

Energy efficiency  
Renewable energy

## WASTE



### Improved production processes reduce waste

Waste levels were high at the site of Freudenberg's Klüber Lubrication company in Shanghai, China. One reason was the ever-broader product range which generated the need for more cleaning between production batches as well as a broad range and high quantity of raw materials and thus ever more packaging waste. To avoid waste, the site adjusted production planning, making it no longer necessary to clean between batches. Containers instead of barrels were used for the storage of raw materials as well.



The project team was able to significantly reduce hazardous waste disposal, while generating cost savings of 24 percent.

## ENERGY



### Modern LEDs save energy

Modern lamps with light emitting diodes (LEDs) can save lots of energy. They also last an average of 25 times longer than light bulbs. To have production halls as energy efficient as possible, Freudenberg sites around the world have switched to LED lighting. This includes the EagleBurgmann site in South Africa. In the production facilities, fluorescent and mercury vapor lamps were replaced with modern LEDs. This lowers the annual energy requirements for lighting by about half.



At Freudenberg sites worldwide, light bulbs (icon) are being replaced by modern LEDs.

## ENERGY AND EMISSIONS



### Ground water creates a pleasant climate and saves energy

At the EagleBurgmann site in Eurasburg, Germany, a modern climate concept helps keep temperatures at 19 degrees Celsius, ideal for people and machines. Water circulates through the concrete floor and in air coolers on the walls in the production hall. Depending on the temperature outside, it either removes heat or releases heat. As it comes from the ground water, the cooling energy can thus be drawn from available geothermal sources. This lowers operating costs by 75 percent and reduces CO<sub>2</sub> emissions.



Whether summer or winter: Modern air conditioning keeps an area of over 16,500 square meters at a constant temperature.

## WATER



### Reducing chemical usage

Water is treated with chemicals to allow for its re-use in production facilities. This compromises water quality and with it the environment. The Freudenberg Performance Materials site in Yang-Mei, Taiwan, called in experts and closely examined every step of the water treatment process. A project team tested various improvements and introduced a reverse osmosis process and other methods. It sank chemical consumption by 202 tons a year and significantly improved the quality of the treated water.



The project team set itself the goal of increasing both the quantity and the quality of the treated water.

## WASTE AND MATERIALS



### Intelligent sorting

The manufacture of seals at Freudenberg Sealing Technologies in Northfield, New Hampshire, USA, used to contaminate the machine coolant with metal shavings. The fluid would thus need to be disposed of at regular intervals. To save resources, the site developed a procedure to separate the metal remnants from the coolant and recycle it for production. The process saves some 3,000 liters of coolant every year. The metal shavings can also be recycled. Other Freudenberg sites have already adopted the process.



The new process saves around 30 percent of the coolant that previously had to be disposed of with metal shavings (icon).

## ENERGY AND EMISSIONS



### Clean solar energy for production

More and more Freudenberg Group sites are using solar power for their energy supply. This is particularly useful in the Klüber Lubrication site in Querétaro, Mexico, where the sun shines an average 7.7 hours a day: The 2,800 square-meter photovoltaic array on the roof of the production hall and warehouse supplies about 80 percent of the energy needed. It saves some 200 tons of CO<sub>2</sub> emissions a year. Similar systems have already been installed at Klüber Lubrication in Mysore, India and Chem-Trend in Howell, Michigan, USA.



The site in Querétaro, Mexico, is reducing its footprint with solar power.

## OTHER EXAMPLES OF SUCCESSFUL SUSTAINABILITY PROJECTS

Selected **Handprint examples** are listed on this two-page spread, selected **Footprint examples** can be found on the previous two-page spread.

### Handprint

Responsibility for society means that Freudenberg also helps customers become more sustainable. Innovative products and services can thus help contribute to greater energy efficiency for our customers for example. Expanding our Handprint also has a positive impact on our customers' quality of life while making an improved contribution to sustainability in various areas outside of Freudenberg.



#### Materials

Material efficiency  
Recycled, renewable and replacement materials  
End-of-Life-(EOL) handling of products



#### Emissions

Air pollution/ emissions



#### Waste

Waste handling



#### Water

Water pollution  
Water consumption



#### Energy

Energy efficiency  
Renewable energy

## MATERIALS AND WATER



### Biodegradable lubricants reduce material usage

Freudenberg's Klüber Lubrication company has two environmentally friendly specialty lubricants for 90 percent of all the lubrication points in ships. The lubricants provide increased wear protection, increasing the life of the entire fleet. Shipping companies benefit from lower repair and replacement part costs. The lubricants are also quickly biodegradable and thus far less damaging to the environment than standard lubricants made from mineral oils.



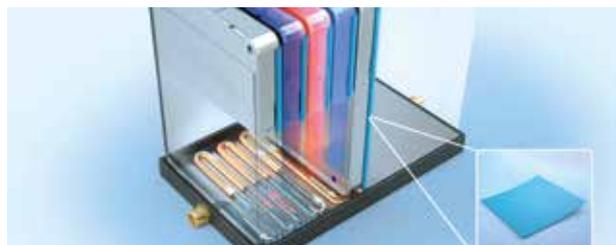
Specialty lubricants from Klüber Lubrication are functional and environmentally friendly.

## ENERGY AND EMISSIONS



### Mobility of the Future

Freudenberg components make vehicles with electric drives efficient and safe. Freudenberg Sealing Technologies developed a heat shield for thermal management in lithium-ion batteries that helps prevent overheating in a damaged cell from spreading to the other cells and compromising the entire battery system. The Business Group has also developed a pressure compensation valve for battery systems. It is composed of a patented multi-layered nonwoven and provides pressure compensation at temperatures ranging from  $-40^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ .



Heat shields between the individual cells ensure that the heat in the defective cell is isolated until it has been degraded.

## ENERGY AND EMISSIONS



### Fuel cells for emission-free mobility

Freudenberg has a broad range of products for zero-emission mobility. Research has been carried out for 20 years on fuel cells. One result is the so-called gas diffusion layer made using conductive non-wovens from Freudenberg Performance Materials. They help ensure the optimal distribution of the two reactive gases, hydrogen and oxygen as well as for the transport of any water and heat generated. Raw material usage is thus made more efficient.



Freudenberg researchers are working on the future of mobility.

## EMISSIONS



### Clean air thanks to filter calculation software

Fine dust, pollen or sandy grit - the location of paint plants, power plants or hospitals strongly influences the design of air intake filter systems. Other factors include system requirements such as operating times and flow volumes. Freudenberg Filtration Technologies has developed a software that takes all factors into account and makes digital calculations to find a filter solution. The customer benefit: The more tailored the system, the greater the performance, safety and economic viability.



The newly developed calculation software supports customers in finding the optimal filter solution.

## MATERIALS AND WASTE



### Old plastics for new household products

Freudenberg Home and Cleaning Solutions uses recycled plastic to make its home and professional cleaning products. Up to now, this was only possible for the gray product parts. The site in Aurora, Illinois, USA, worked with a partner to make it possible to manufacture red product parts with recycled polypropylene. To do so, Freudenberg Home and Cleaning Solutions purchases some 1,300 tons of clear plastic waste every year - some of which comes from its customers, the large retail chains, thus supporting their Zero Waste programs.



Employees in Aurora, Illinois, use recycled waste to manufacture household products.

## ENERGY



### Sustainable energy from wind power

The Freudenberg Group supplies many components to the wind power industry. Seals for the yaw-bearing between the tower and nacelle, for rotor-blade bearings as well as the primary bearings help protect machine elements against sand, dust or salty air. Freudenberg Sealing Technologies developed seals for extremely large wind turbines. They use meander springs instead of radial springs, so that the seal can be maintained even during high winds. It prevents leaks and reduces maintenance costs.



Freudenberg seals ensure reliability and planning security for wind turbine operators.



## OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION

Freudenberg's HSE (Health, Safety and Environment) Guideline includes the HSE principles and defines the Freudenberg Group's values in this area. The overarching goals are avoiding accidents, preventative health protection and continuously reducing the negative impact of its business on the environment.

Freudenberg is committed to employees' wellbeing and their personal development. Occupational safety and health are supported and put into practice at all levels within Freudenberg, in line with internal regulations. Health protection, occupational safety and process safety are all part of the daily routine at Freudenberg.

**The approach has allowed the Freudenberg Group to reduce the number of accidents to a low level relative to industry benchmarks.** Existing measures are strengthened and enhanced with new targeted approaches for continuous improvement. Success in occupational safety serves as a benchmark for other areas where Freudenberg also hopes to continuously improve, particularly environmental protection and health protection. This is how preventative health management projects are increasingly pursued in the company.

An HSE Week is held once a year and all sites within the Freudenberg Group are called on to implement HSE campaigns. In the year under review, employees received occupational safety training courses and lessons on workplace ergonomics, stress reduction and safety, and continuous participation was thus encouraged. Energy efficiency was the focus for environmental protection.

Internal and external audits as well as the HSE assessments at all Freudenberg Group sites are used to assess improvements in environmental protection, occupational safety and health protection or fire safety. One goal of these programs is to improve operational procedures and help avoid personal harm to individuals, work outages and thus any potential supply disruptions. The audit findings are systematically evaluated and remediation measures implemented within the relevant Business Groups.

### Management systems

The expansion of occupational health and safety management systems (OHSAS 180001) and switch to ISO 450001 and environmental protection systems (ISO 14001 or EMAS) continued in 2018.

Numerous sites are implementing DIN EN ISO 50001-compliant management systems to reduce energy consumption and limit the environmental impact. Freudenberg Sealing Technologies, Eagle-Burgmann, Vibracoustic, Freudenberg Performance Materials, Freudenberg Filtration Technologies and Freudenberg Home and Cleaning Solutions have introduced the management systems at their German production sites. Other production sites at Eagle-Burgmann in Austria and Freudenberg Performance Materials in France have also followed this example. Currently the Group is checking which European sites require energy audits in accordance with DIN EN 16247-1.

### Investments

The share of direct investments in environmental protection, occupational health and safety as part of overall investment in tangible assets, intangible assets and investment properties was **7.6** percent (previous year: 5.3 percent).

### Environmental Protection

Freudenberg feels obligated to protect the environment and takes responsibility to make their actions as environmentally friendly as possible.

The goal is to continuously reduce our negative impact along the entire value chain, by using resources more efficiently, reducing emissions, saving energy, water and other materials while improving transportation. Freudenberg also includes ecological factors when re-designing and modernizing buildings.



The Freudenberg Filtration Technologies plant in Potvorice, Slovakia, is one of the most modern in the Business Group's global production network.

Freudenberg uses many raw materials and processes in production. The materials and processes vary in their impact on occupational safety and the environment. Freudenberg has many ways to control the associated risks. The goal is to continuously reduce physical hazards at a site as well as their impact on the environment.

We actively search for alternatives to hazardous materials or those with a pending REACH (European Regulation on Registration, Evaluation and Restriction of Chemicals) classification prior to the passage of any regulations. Assessments are carried out to prevent any negative impact on production from restrictions placed on a material. In addition, many products are developed in phased processes to make sure that the use of hazardous chemicals and the environmental impact of a new product is less than its predecessor.

### Incidents

In 2018, the Freudenberg Group had **24** environmental and crisis management incidents (previous year: 12).

Large fires occurred on the Freudenberg Sealing Technologies sites in Brzostek, Poland, and Freudenberg Performance Materials in Yang-Mei, Taiwan.

Leaks of consumables led to mild environmental contamination at Freudenberg Performance Materials in Kaiserslautern, Germany, Freudenberg Chemical Specialities in Zwingenberg, Germany, Freudenberg Home and Cleaning Solutions in Augsburg, Germany, Freudenberg Home and Cleaning Solutions in Norrköping, Sweden, and EagleBurgmann in Minhang, China.

Longer shutdowns hit the Freudenberg Medical site in Carpinteria, California, USA, due to wildfires and several sites in Brazil because of a long-running, country-wide trucker strike.

Safety incidents occurred at the Japan Vilene Company site in Hopkinsville, Kentucky, USA, and the Freudenberg-NOK Sealing Technologies site in Bristol, New Hampshire, USA.

A severe workplace accident at the Freudenberg Home and Cleaning Solutions site in Monselice, Italy, aroused local media interest.

### Resource consumption

In 2018, Freudenberg used **2.4** million megawatt hours of energy (previous year: 2.3 million megawatt hours). The energy usage was primarily distributed among the following sources:

- Third-party supplies (electricity, steam and district heating, which were produced external to the Freudenberg site; **1.57** million megawatt hours)
- Gas (**0.75** million megawatt hours)
- Heating oil (**0.03** million megawatt hours)

The **2.4** million megawatt hours generated costs totaling roughly **163** million euros. Energy costs made up **1.7** percent of overall revenue (previous year: 1.6 percent).

### Contaminated sites

Provisions for contaminated sites fell by 19.5 percent relative to the previous year.

The reasons for this are the gradual progress of ongoing restructuring projects, new legal requirements in Germany and exchange rate effects. Following the completion of the preliminary remediation planning for the Weinheim wastewater treatment plant and the former site of Freudenberg Sealing Technologies in Pinerolo, Italy, the costs for the remediation phase were estimated. As a result, the necessary provisions were adjusted accordingly. The renovation phase for both projects should start this year. A groundwater monitoring program is being conducted at the Klüber Lubrication site in São Paulo, Brazil.

Due to planned conversion measures at the Weinheim site, new provisions have been set aside for exploration and potential remediation measures. Due to new limits for perfluorinated and polyfluorinated chemicals, analytical costs for future projects will rise. Currency adjustments for ongoing projects in Brazil and the USA also required a review of the provision totals.

### Preventative healthcare

In 2018, the Group expanded preventative health care management and carried out the health principles in the form of various programs and initiatives. The Business Groups compile health care indicators, such as sick leave, to find improvement potential and then derive measures.

The holistic and sustainable health program at Freudenberg-NOK Sealing Technologies in Cuautla, Mexico are particularly noteworthy. It is directed at all employees and successfully combines, knowledge, fun and team work: Sick days fell significantly, and the health rates improved.

The “Connecting of Nonwoven Material” project on the other hand provides an impressive illustration of the impact small changes can have. Adjustment to a single step in the production line at Freudenberg Performance Materials in Weinheim, Germany made the workplace far more ergonomic. Time and money were also saved.

Since May 2017, employees at the Weinheim Industrial Park have been able to use the Freudenberg Fitness Studio. An initial user survey found high satisfaction with the equipment and specifically with the highly qualified team of trainers.

### Occupational Safety

The Freudenberg internal Safety Boost campaign launched in 2017 further intensified and focused occupational safety activities in the year under review. Activities focused on the five areas of organization and responsibility, safety culture, detection and reporting of high potential risk events, machine safety and cross-audits. The campaign will be continued in the coming years.

Freudenberg’s internal reporting uses the LDIFR (Lost Day Incident Frequency Rate) benchmark. The figure serves as a non-financial key performance indicator for the Freudenberg Group. All workplace incidents with at least one day of work lost per one million hours worked are measured.

The total number of incidents resulting in more than one day’s absence in the year under review was **156** (previous year: 140). The Group had **6** serious accidents in 2018 (previous year: 6).

Occupational safety focuses on measures to raise employee safety awareness. The numerous projects in the “We all take care” initiative serve as an illustration of these measures.

Trainees at the Freudenberg Sealing Technologies site in Hamburg developed high-impact and witty short films, presenting typical traffic violations. The films are presented on large screens at the site, raising awareness of the topic among employees.

At Freudenberg Medical in Carrick-on-Shannon, Ireland, tasks are performed that involve working on small parts with scalpels or knives. Cuts occur repeatedly. Various measures helped significantly reduce the need to perform such tasks. In turn, the number of injuries was reduced significantly.

Holistic occupational safety aspects are also included within the “We all take care” initiative. The Freudenberg Home and Cleaning Solutions in Lisbon, Portugal, appealed directly to employees’ attitudes toward life. Emphasizing the importance of a positive attitude not only improved their subjective sense of life but also reduced the number of sick days.



Occupational health and safety have top priority at Freudenberg.



## CORPORATE CITIZENSHIP

Corporate Citizenship has always been integral to Freudenberg and practiced both inside and outside the company. The Group strives to be a good corporate citizen and good neighbor in all the countries, states and communities we call home. Corporate Citizenship at Freudenberg goes beyond the value chain – as seen in the hundreds of projects near our sites.

In 2018, many Group companies, sites and employees worldwide volunteered in small initiatives and complex projects. All campaigns are tailored to local requirements and in general Freudenberg employees volunteer locally.

### Global program for education and environmental protection

Freudenberg has worked for society since its founding. With the launch of the e<sup>2</sup> (education and environment) initiative, Corporate Citizenship was rolled out across the globe in 2015. The goal is to provide people with access to education and employment, and support environmental protection. The initiative complements existing individual initiatives that meet a list of criteria. Freudenberg is donating a total of 14 million euros to e<sup>2</sup> over seven years.

In the year under review, e<sup>2</sup> supported a broad spectrum of aid projects, covering everything from small-scale campaigns to large-scale educational programs, all in the direct neighborhood of Freudenberg sites. Examples of supported projects include: The Bedford Bobcats in New Hampshire, USA, provides special needs children with an all-day sports program from

the Special Olympics. In Košice, Slovakia, “Interactive Education for a Better Future” offers professional English lessons to children from socially disadvantaged families. “Plant for the Future” works to protect endangered mangrove forests in Thailand.

### Company-wide initiative for refugees

The Freudenberg Group is donating 2.6 million euros as part of a company-wide initiative to help integrate refugees. By late 2016, the company had helped over 70 different initiatives in Germany and in crisis-plagued regions supporting children and young people, and teaching language skills.

Now, refugees need long-term prospects and apprenticeships. As donations are used to secure the financing, the refugee traineeships can be created in addition to the regular traineeships.

In 2017, the first refugees started their training courses at Freudenberg. In the year under review, further refugees started their training courses. The Group also offered eleven refugees an internship - with the goal of hiring as many as possible later as trainees.



“e<sup>2</sup>” lifts the spirits of young people.



Lessons at the non-profit training center in Nagapattinam, India.

The following examples illustrate the long-term orientation of local aid projects at the Freudenberg Group:

### **Training center in India**

Since 2009, Freudenberg has offered young people in a non-profit training center in Nagapattinam, India, in the province of Tamil Nadu south of Chennai the opportunity to qualify as electricians, welders, engine mechanics, pipe fitters and machinists in dual training programs. The Nagapattinam region is poor, populated mainly by farmers and fishers, and suffered immensely from the 2004 Tsunami.

### **School project in China**

In May 2008, an earthquake devastated the village of Haijin in Szechuan Province, China. Freudenberg helped rebuild an elementary school that reopened in 2009. The building has enough space to teach 300 students. Every year, Freudenberg employees visit the elementary school and organize various activities such as the summer school project, tutoring and a Christmas party.

### **“Service Day” in North America**

In North America, Freudenberg organized the 5th Service Day. Employees from over 60 sites in Canada, the US and Mexico volunteered to help at educational institutions, municipalities and agricultural facilities.

### Exchange program for children of employees

In celebration of the company's 150th birthday in 1999, the youth exchange program TANNER was launched for children of employees. The goal is to expose young people to other cultures, expand their horizons and learn life lessons. Over the years, more than 1,200 young people have traveled the globe with TANNER. The young participants, their parents and the hosts all have a stronger feeling that they are part of the global Freudenberg community.

### Germany-wide initiative: "Die Wissensfabrik" (The Knowledge Factory)

Since 2016, Freudenberg has also been a member of the Germany-wide initiative, "The Knowledge Factory" which works together with companies to support educational projects in preschools and schools. Up to now, Freudenberg employees in over 20 educational partnerships have supported two "Knowledge Factory" projects: The goal of "KiTec - Children Discover Technology" is to get preschool and elementary school children interested in technological interactions. The "IT2School" project provides the targeted fundamentals of information technology (IT) to students in their first few years at secondary school.

### Volunteer exchange

In 2018, some 100 participants from 40 charitable initiatives and clubs from the Rhine-Neckar region met at the Freudenberg Group in Weinheim for their 7th annual networking meeting. The goal is to provide new inspiration for non-profits and discuss other topics, meet like-minded individuals while also developing ideas for new projects. The Freudenberg Group created the meeting to expand the network among the many non-profit organizations in the area. The Group also supports social projects at the headquarters in Weinheim as part of the "Wir tun was" initiative.

### Freudenberg Foundation

Since 1984, the Freudenberg Foundation has been helping bring about real, long-term change by promoting inclusion, education and democracy. As a non-profit company, the Foundation is a Partner in the Freudenberg & Co. KG. The primary focus of activities are children and young people and their social, linguistic, educational and professional integration.



In 2018, some 100 participants from 40 charitable initiatives and clubs from the Rhine-Neckar region met at the Freudenberg Group in Weinheim for their 7th annual networking meeting.



## COMPLIANCE

As early as 1887, when his sons joined the company, founder Carl Johann Freudenberg drafted his first business policy principles. The document forms the basis for the Freudenberg Group's ten Business Principles for partners and employees. One principle stipulates that success must come from performance, another states that Freudenberg shall not engage in illegal or unethical business practices.

### Business Principles and Guiding Principles

Supplemental Guiding Principles were derived from the Freudenberg Group's Business Principles and define the values used in conduct towards employees, business partners, stakeholders and third parties.

### Compliance Structure

Freudenberg is a company where the Business Groups have general autonomy when making operational decisions. The Business Groups are thus generally responsible for compliance with laws and regulations.

At the Holding level, and that of the Freudenberg Compliance Management Council, the focus is on the most important compliance issues relevant to the Group or those with international implications, which specifically pose a threat to Freudenberg's reputation.

To determine the suitability for the Compliance Management System in the individual Business Groups, the Freudenberg Compliance Management Council worked with Ernst & Young in the Q3 and Q4 2018 to carry out a survey across all Business Groups. It is designed to determine the areas where inter-Business Group initiatives or best practice approaches are possible or where there

might be need for improvement. The measures will be carried out over the course of 2019 and 2020.

### Code of Conduct

The Code of Conduct is derived from the Business Principles and Guiding Principles, with a close focus on Responsibility. The Code of Conduct is the same everywhere around the world and designed to ensure that respect for the law and proper conduct remain a cornerstone of how Freudenberg conducts business.

The Code of Conduct is available to all employees around the world in 26 languages, as a printed brochure and a digital document. It is communicated and explained to all employees. The Business Groups have made use of a wide-range of media available for communication, including presentation templates, FAQs and e-learning tools. The consistent and continuous communication clearly indicates that the Code of Conduct is binding even for new employees (as an annex to their employment agreement for example) and the need for compliance with the Code is emphasized.

In order for the Code of Conduct to remain a central building block of the corporate culture while expanding assistance available to employees and managers,



The Business Principles and Guiding Principles in the Group are discussed with all new employees.



Freudenberg regularly trains employees on compliance-relevant topics in face-to-face meetings and with e-learning tools.

the Freudenberg Compliance Management Council undertook further measures. These include regular interactions with human resource officers in the Business Groups, active cooperation with the Ethics Offices and their members as well as regular training sessions covering core compliance topics; “anti-trust and competition” and “anti-corruption laws in the regions”.

2018 saw numerous classroom training sessions on compliance issues, where employees received personal instruction - using case studies and other means. The e-learning program covering numerous individ-

ual topics represent an expanded opportunity for the Business Groups to train employees from various departments and areas of responsibility in specific topic areas.

The global standard e-learning tool for the Code of Conduct is a suitable medium for all employees to learn more about the Freudenberg Code of Conduct. It also allows for the monitoring of participant attendance and performance and invites employees to give feedback.

## Ethics Offices

The Ethics Offices are an important part of Freudenberg's Compliance Management System. The offices are a contact for any employees who - for whatever reason - feel they cannot turn to their superiors, HR team or their employee representatives. The opportunity to confidentially and pro-actively report compliance violations or impending violations in a confidential environment helps create a culture of trust and protects Freudenberg's internal Values and Principles.

Another global Ethics Office meeting was held in 2018. Representatives from the Corporate Ethics Office and the Regional Ethics Offices shared their experience, particularly when it comes to handling cultural differences. As the Ethics Offices have a unique perspective on the organization thanks to their work, the analyses they perform and any tendencies they uncover shall be included in drafts of anonymous recommendations.

Doing so, makes it possible to prevent compliance incidents or complaints beforehand.

## Risk Management and Corporate Audit

Anti-corruption measures and evaluation of their effectiveness also remained a component of risk management and the work of the Corporate Audit team. The goal of the department is to uncover corrupt practices, evaluate the effectiveness of counter measures and improve them as needed.

Internal audits evaluate compliance with the standards. Employees receive anti-corruption training in classroom sessions and as part of e-learning courses. The Freudenberg Compliance Management Council works together with Corporate Audit and the Ethics Offices to assess any incidents that may arise.



Participants in the global Ethics Office Meeting



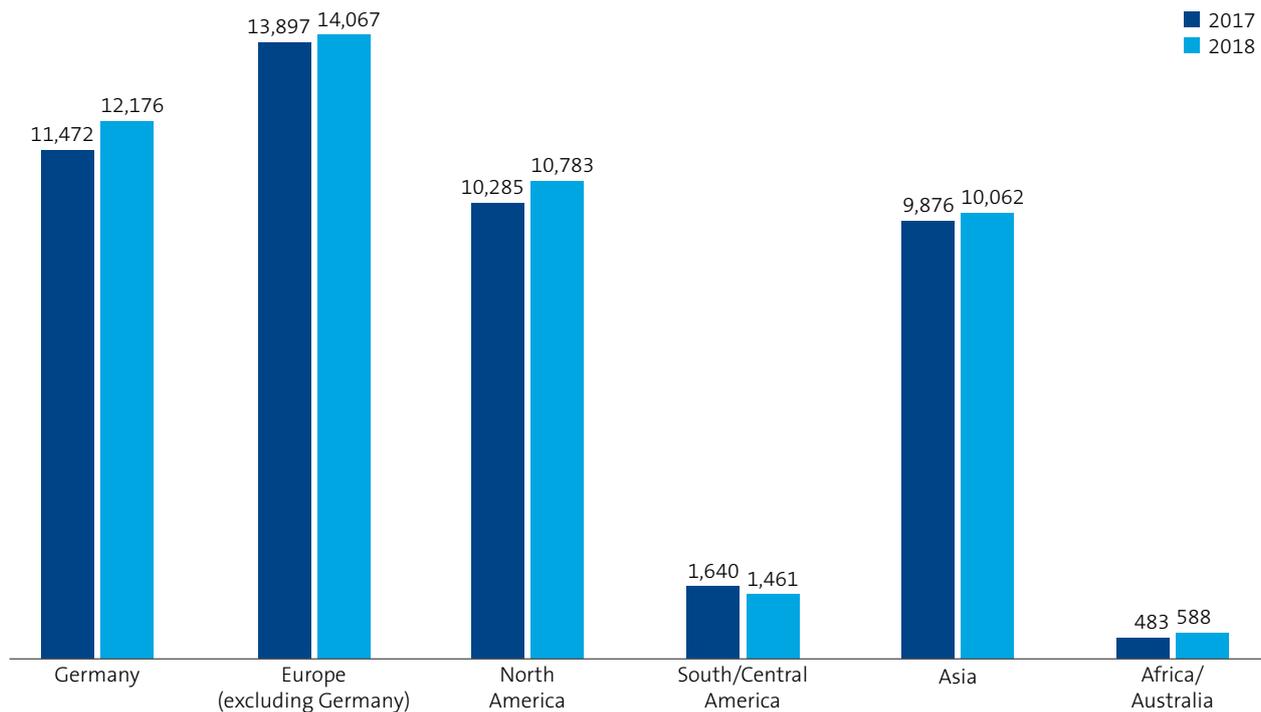
## HUMAN RIGHTS & LABOR

Diverse teams drive innovation at Freudenberg. The best solutions and innovations come when employees contribute their varied experience, knowledge and skills to a collaboration. Employees provide new ideas, generate imaginative solutions and create innovative products. The over 49,000 employees all have a common foundation: entrepreneurship in their mindset and actions. This stance can be found in around 60 countries.

## Employees

As of December 31, 2018 Freudenberg employed 49,137 employees (previous year: 47,653 employees).

FREUDENBERG GROUP EMPLOYEES BY REGION



In Germany, the employee headcount increased to 12,176 (previous year: 11,472), in Europe (ex-Germany) the number rose to 14,067 (previous year: 13,897), in North America to 10,783 (previous year: 10,285), in Asia to 10,062 (previous year: 9,876) and in Africa/Australia to 588 (previous year: 483). The employee count in South America / Central America was 1,461 (previous year: 1,640). You can find information about training at Freudenberg on page 41.

## Corporate Principles

The Freudenberg Group Guiding Principles are Value for Customers, Leadership, Responsibility, Innovation, People and Long-Term Orientation. The principles form the basis and benchmark for everything the Group does. Regular audits assess whether or not these benchmarks are applied in the workplace.

As nearly 70 percent of employees participated in the Group-wide Principles & Engagement survey in 2017, the focus in the year under review was on putting in place improvement measures at all Freudenberg sites. The measures are many and focus on improving communication and cooperation.

In Human Rights & Labor, the focus is on the principles governing People and Responsibility as they express the Freudenberg Group's fundamental interpretation of these topics.

The Leadership Principles are part of the Group's Business Principles (see also page 32, Compliance).

### Guiding Principle "People"

As a family company, we are devoted to our employees' well-being and personal development. We reject all forms of discrimination and harassment and show understanding and respect in our dealings with each other.

We promote a multi-cultural environment where employees work together in worldwide teams to enrich our culture and capability. We believe in the value of enduring relationships with customers, suppliers and industrial partners

### Guiding Principle Responsibility

Our company and its family shareholders together are committed to protecting the environment. Our goal is to be a good corporate citizen and good neighbor in all the countries, states and communities we call home. We take all possible care to ensure the safety of the workplace and of our products.

As a family company, we strive for the highest standards of personal behavior. Fairness and integrity guide our conduct amongst ourselves, towards our business partners and the general public.

### Management Principles

The Freudenberg Group has social responsibilities to all its staff, both in Germany and abroad. No one single standard can be applied here: what is needed is a flexible response attuned to the laws, customs, needs and possibilities in each individual country. Discrimination and exploitation of vulnerable people have no place in our company.

The Group's business policy requires adherence to behavioral principles with which both the partners and the staff feel able to identify:



Diverse teams drive innovation at Freudenberg. Employees provide new ideas, generate imaginative solutions and create innovative products.

We, too, have to hold our own against fierce competition. Success has to come from performance; we shall not agree to any business where illegal or unethical means are utilized.

We will not manufacture any products designed to harm people (e.g. weapons).

A responsible attitude to the environment and the safety of our staff are important corporate objectives, and must not be restricted to letter-of-the-law compliance with the relevant statutory requirements.

Compliance with applicable laws and other regulations, as well as with the applicable Business and Guiding Principles of the Freudenberg Group and the observance of non-contradictory, supplementary in-house (e.g. Codes of Conduct employee handbooks) and external local practices (together “Corporate Principles”) is an indispensable condition for solid cooperation among all Group employees and is the foundation for relationships with third parties, particularly suppliers, custom-

ers and authorities. They thus form the basis for the economic success of the Group. The Business Principles are compulsory for all employees and must be actively put into practice and carried out at all levels, starting with the Management Board at Freudenberg SE, the Board of Partners, management at the Business Groups and all other leaders.

Infringements are not acceptable and may result in disciplinary action from the Board level down and include Business Group management and other superiors. This is especially true in cases of active and passive corruption, breaches of antitrust rules, violation of relevant legal environmental and technical safety and labor law rules (such as breaches of equal opportunity principles) and violations of employees’ personal rights (such as personal degradation or sexual harassment).

## Attractive Employer

### Strengthening the employer brand

Freudenberg launched a new global brand in 2015 - promising forward-looking solutions for customers and society at large. Parallel to these efforts, an employer positioning was worked out and established. In the year under review, 2017's revised employer promise was put in place to attract individual target groups and make sure that Freudenberg would appeal to the right talented individuals in the future.

### Sample awards

In 2018, the Freudenberg Group once again won various awards for successful human resource work. Examples include:

For the seventh time in a row, the Freudenberg company, Chem-Trend of Michigan, USA, was named one of the 150 **Top Employers** in the Region. The Detroit Free Press rating also included awards for Freudenberg NOK Sealing Technologies.

In 2018, the Freudenberg Group in Germany also received the **Fair Company Seal of Approval**, which it has had since 2009. Fair Company is a voluntary pact where participating companies agree to comply with certain rules guaranteeing fair working conditions for newly hired employees.

The Freudenberg Group in Germany received two awards for its internships in the "**Clevis Praktikantenspiegel 2018**" one as a "Hidden Champion" for "above average employer quality 2018" and the other as the top company in the "Mechanical and plant engineering" category. The Praktikantenspiegel has over 5,000 participants making it the largest internship survey on the German labor market.

### Attractiveness

Freudenberg offers numerous benefits to attract new employees and retain current employees. Work is con-

stantly ongoing to expand these benefits and communicate them to employees.

Offers tend to vary from region to region and site to site, but on the whole are generally far better than the minimum legal requirements in the respective countries. As part of the Talent Management program, (see Talent Management on this page) Freudenberg supports numerous continuing education programs at all hierarchical levels (see Employee Development, page 41). Freudenberg also sees maintaining a good work-life balance as important in helping to ensure and improve employee health and well-being. The Group provides the best possible medical support as part of an occupational health management program and sponsors numerous sport and fitness programs.

The global IT system for human resources will be further expanded to place employees more firmly at the center of all HR processes and to ensure that these processes are more efficient. In the year under review, a selection process was carried out for new software, to manage all HR and organizational master data files as well as core talent management processes and remuneration management processes.

### Talent Management

The competition for top talent is one of the biggest challenges companies face. Talent Management at Freudenberg has been further expanded to meet the company's own standards of excellence.

Talent Management at Freudenberg is designed to make sure that employees receive a fair and balanced evaluation of their performance, their conduct and their potential. In the year under review, this process identified strengths, development potential as well as courses of action to ensure the targeted continuing development of employees. Another focus of the process is long-term succession management for experts and leaders in all units.

## Diversity

Diversity is anchored in the Group's Values and Principles and also clearly positioned in the brand. Freudenberg is convinced that teams with people of various ages and genders and with diverse cultural backgrounds are more successful. The balanced gender distribution is particularly noteworthy. Positive developments were found here: The share of female experts and managers has risen in the past three years to 33 percent. This increase is the result of taking the diversity of candidates into consideration when hiring. The share of women in middle management has also increased to more than 25 percent.

## Employee development

Leadership development was further expanded in 2018. Some 500 participants used the Leadership Framework based on the cross-Business Group leadership development programs.

In 2018, a total of 110 managers took part in the three Executive Development Programs: the Strategic Leadership Program, the Business Leadership Program and the Operations Leadership Program. A new component was a two-day program focused on diversity and inclusion.

The Freudenberg Academy as a virtual combination of all continuing education activities at the Business Groups helped advance Group-wide cooperation through the joint usage of the Learning Management System. The Freudenberg Learning & Development Community coordinates in matters of Group-wide interest and develops standard course offerings, which are then accessible to all Business Groups.

## Vocational training at Freudenberg

In 2018, 134 young people (previous year: 127) started vocational training at Freudenberg companies in Germany.

In total, 377 people were in traineeships at Freudenberg as of December 31, 2018. The spectrum ranges from 2-year commercial or technical traineeships to dual studies at a university of cooperative education. Neighboring companies send their young employees to Freudenberg for training, highlighting the company's reputation for the high standard of its vocational training.

The new vocational training center in Weinheim was completed in the reporting year and offers innovative and modern learning concepts in a light-filled, two-story building. An example includes the Learning Factory 4.0, where trainees learn about company processes through production workflows, helping them gain a quicker grasp of interactions and better control of the processes using high-tech machines.



The fully automated instructional lines imitate a production line, making digitalization tangible.

## UN Global Compact Index

The UN Global Compact (UNGC) is the world's largest and most important initiative for responsible corporate leadership. Since signing in 2014, Freudenberg has voluntarily agreed to make sure our business is values-based and sustainable.

The following Global Compact Index provides an overview of the ten principles in the Global Compact and illustrates the pages of the Annual Report where readers can find information about the progress we have made in implementing these principles.

UNGC PRINCIPLE	Content	Reference
<b>Human Rights</b>		<b>29, 33*, 38–39, 41</b>
Principle 1	Protection and compliance with international human rights	29, 33*, 38–39, 41
Principle 2	No violations of human rights	29, 33*, 38–39, 41
<b>Labor standards</b>		<b>25–27, 29, 33*, 34, 38, 41</b>
Principle 3	Uphold the freedom of association and the right to collective bargaining	33*
Principle 4	Elimination of all forms of forced labor	33*
Principle 5	Abolition of child labor	33*
Principle 6	Elimination of discrimination	33*, 38, 41
<b>Environmental Protection</b>		<b>12, 19–23, 25–26, 29, 33*</b>
Principle 7	Environmental protection through care principle	19–23, 25–26, 29, 33*
Principle 8	Support for environmental awareness	19–23, 25, 29, 33*
Principle 9	Development of environmentally friendly technologies	12, 19–23, 26
<b>Anti-corruption</b>		<b>33*–35</b>
Principle 10	Anti-corruption measures	33*–35

\*The parts of the Freudenberg Code of Conduct covering the relevant principles.

# COMBINED MANAGEMENT REPORT

## FUNDAMENTAL INFORMATION

### BUSINESS MODEL

#### Organizational structure

The Freudenberg Group (Freudenberg) is a global technology group that strengthens its customers and society long-term through forward-looking innovations.

At year-end 2018, the number of companies in Freudenberg totaled 487 located in 56 countries. 447 of these companies were included in the consolidation. 422 companies, including 163 sales companies and 162 production companies, were fully consolidated. The remaining companies were holding or management companies.

Together with partners, customers and the world of science, the eleven Business Groups in the year under review developed leading-edge products, excellent solutions and services for some 40 market segments and for thousands of applications: seals, vibration control components, technical textiles, filters, specialty chemicals, medical products, IT services, and the most modern cleaning products.

STRATEGIC MANAGEMENT PARENT COMPANY FREUDENBERG & CO. KOMMANDITGESELLSCHAFT			
BUSINESS OPERATIONS PARENT COMPANY FREUDENBERG SE			
Seals and Vibration Control Technology Business Area	Nonwovens and Filtration Business Area	Household Products Business Area	Specialties and Others Business Area
Business Groups	Business Groups	Business Group	Business Groups
Freudenberg Sealing Technologies	Freudenberg Performance Materials	Freudenberg Home and Cleaning Solutions	Freudenberg Chemical Specialities
Freudenberg Oil & Gas Technologies	Freudenberg Filtration Technologies		Freudenberg IT
EagleBurgmann	Japan Vilene Company		<b>Divisions</b>
Freudenberg Medical			Freudenberg Business Services
Vibracoustic			Freudenberg Service

As at December 31, 2018. For further details on Freudenberg companies, please refer to the chapter entitled "Review of Operations by Business Area".

Freudenberg builds on lasting and reliable relationships with customers and partners. The partnership with NOK Corporation, Tokyo, Japan, for example, already spans more than 50 years. Numerous activities in the Americas, Asia (China and India) and in Europe have been jointly established during the decades-long partnership.

Freudenberg and NOK Corporation jointly hold shares in several companies. Particularly worthy of mention are Freudenberg-NOK General Partnership, Plymouth, USA, which is fully consolidated in the consolidated financial statements, as well as NOK-Freudenberg Asia Holding Co. Pte. Ltd., Singapore, which is disclosed at-equity as a 50:50 joint venture in the consolidated financial statements.

Further details can be found under “Investments in joint ventures” and “Investments in associated companies” in the Notes to the Consolidated Financial Statements.

Across the globe, Freudenberg’s products and services make a valuable contribution to the success of its customers – rarely visible, but always indispensable in the spirit of the new **positioning** which states that **“Freudenberg is a values-based technology group that best serves its customers and society“**.

Freudenberg offers its **customers** in the passenger car and commercial vehicle industry, mechanical and plant engineering, textile and apparel, construction, mining and heavy industry, energy, chemical, and the oil and gas sectors excellent innovative technological products and services. In the year under review the customer base also included companies in the medical technology, civil aviation, and rail vehicles sectors.

Innovation strength, strong customer orientation and close collaboration as well as diversity and team spirit are the cornerstones of the Group. Commitment to excellence, reliability and pro-active, responsible action have belonged to the company’s core values ever since it was founded in 1849.

Freudenberg introduced the “Strategic Guide” **leadership concept** in 2013. Under this concept, the Board of Management concentrates on developing the Freudenberg Group strategy, approves major investments, draws up strategic guidelines, and defines strategic planning. Operational business is in the hands of independent companies whose management conducts business under their own responsibility. These individual companies in turn belong to Business Groups.

Freudenberg has two **parent companies**: Freudenberg & Co. Kommanditgesellschaft (Freudenberg & Co. KG), Weinheim, Germany, is the strategic parent company, Freudenberg SE, Weinheim, Germany, is the parent company with responsibility for managing business operations. The corporate bodies of Freudenberg & Co. KG are the Management Board, the Board of Partners and the General Meeting. The corporate bodies of Freudenberg SE are the Board of Management, the Supervisory Board and the Shareholders Meeting. The composition of the Management Board of Freudenberg & Co. KG and the Board of Management of Freudenberg SE is identical. This also applies to the Board of Partners of Freudenberg & Co. KG and the Supervisory Board of Freudenberg SE.

Freudenberg is a **family company** and is currently owned by some 320 heirs to the founding father Carl Johann Freudenberg.

## Organizational changes

### Acquisitions and disinvestments and discontinued operations

In January 2018, the **Freudenberg Home and Cleaning Solutions** Business Group acquired E. D. Oates Pty. Ltd., Melbourne, Australia. Oates is the market leader in the professional cleaning business in Australia, and has a broad and comprehensive range of household and cleaning products in the consumer business.

Also in January 2018, the **Freudenberg Sealing Technologies** Business Group acquired stakes in the fuel cell manufacturers Elcore GmbH and Elcomax GmbH, both Munich, Germany. Furthermore, **Freudenberg Sealing Technologies** purchased a stake in XALT Energy, LLC, Midland, Michigan, USA. The company manufactures large-scale lithium ion battery cells, modules and systems for use in heavy-duty commercial vehicles such as city and transit buses, in the marine industry and in other industrial applications.

In April 2018, the **Japan Vilene Company** Business Group acquired Hanns Glass GmbH & Co. KG, Grafing, Germany. The company is a leading global supplier of car floor mats for the automotive industry with a strong presence in Europe.

In December 2018, the **Freudenberg Filtration Technologies** Business Group signed a contract to purchase the majority shareholding in Apollo Air-Cleaner Co., Ltd., Shunde, China. Apollo is a leading supplier of air and water filtration solutions in China. The transaction still requires approval from the antitrust authorities.

## Business processes

During the year under review, Freudenberg continued with its intensive efforts to make products, services and processes more efficient, better and safer. Operational Excellence activities related to both administration and production.

Digitalization continues to advance at a fast pace and has already changed almost every business. There are innumerable possibilities for initiating digital change. For Freudenberg, however, the crucial factor is separating what is important from the digital hype. At Freudenberg, that means digitalization must either bring added value for customers or achieve a significant boost in efficiency. Given the market differences, each Business Group develops its own digitalization strategy. Notwithstanding, it is important to share ideas, learn together, exchange best practices and drive the process of innovation. The “Digitalization” technology platform supports collaboration across Business Groups to find the path best suited to Freudenberg.

Moreover, all Business Groups continued to work on responding to customer needs even more effectively and on optimizing business processes. Further details and information can be found in the chapter entitled “Review of Operations by Business Area”.

## RESEARCH AND DEVELOPMENT

Striving for solutions that support the sustainable development of the environment and society worldwide has always been the foundation for success at Freudenberg. The joint search to find new solutions and products for customers is always at the forefront of these endeavors. Close collaboration between employees and customers, partners and scientists worldwide is therefore firmly anchored in our corporate structure in the spirit of "Innovating Together".

In 2018, Freudenberg conducted research and development activities in the amount of €444.3 million (previous year: €427.8 million). This represents 4.7 percent of sales (previous year: 4.6 percent). Research and development activities also include development expenses for customer-specific development projects disclosed under cost of sales in the consolidated statement of profit or loss.

The Business Groups account for the largest share of funds for R&D activities. They cooperate closely with their customers on technology and product developments in their market segments. As a leading technology group and innovative partner, the Group's self-image is founded on meeting the most demanding requirements in terms of product, process and service quality.

The objective of all innovation activities is to constantly expand and renew the product portfolio. Freudenberg measures the effectiveness of R&D activities as the share of new products (products less than 4 years old) in total sales. This share is 33.6 percent (previous year: 33.0 percent).

### **Innovation management further strengthened**

Following the optimization of Group-wide innovation management in 2017, Freudenberg addressed further improvements in innovation activities and strengthened technological innovation processes in the year under review. Various players within innovation management are tasked with constantly driving forward the innovation power of the Freudenberg Group.

Among other things, the Freudenberg Technology Innovation Corporate Function supports the Business Groups in their medium- and long-term innovation activities. Freudenberg Technology Innovation contributes expertise - in fields such as tribology, polymers, surface technology and simulation - and provides the required technological infrastructure, processes and methods.

### Bundling technology know-how

The technology platforms are one important strategic element for cross-Business Group knowledge transfer. In total, there were nine active technology platforms in the year under review: Digitalization, Medical Technology & Hygiene, Nonwovens, Sealing Technology, Molding, Wear & Lubrication, Surface Technologies, Polymers, Mixing & Reacting. One feature common to all technology platforms is the identification and evaluation of relevant cross-sectional issues aimed at developing new technologies and thus enabling business success. To that end, specific competences in the relevant fields are developed and made available to the Business Groups.

Long-term topics are intensively pursued in the form of strategic programs. Some individual technological issues arising from the technology platforms or the strategic programs are supported and advanced by short-term technology exploration and incubation projects.

In 2018, nine long-term topics were processed under strategic programs, including the "Advanced Polymers for Extreme Conditions" project, where the findings culminated in new materials, processes and products that were transferred to the relevant Business Groups for further use. In connection with this project, a laboratory-scale twin-screw extruder was added to the technological infrastructure of Freudenberg Technology Innovation. With this new equipment, it is now possible to test the behavior of polymers under extreme conditions.

### Future project

In the year under review, a project team analyzed 20 growth fields for possible business opportunities for the Freudenberg Group. The long-term goal of the project is to adjust the Group's business portfolio to future requirements through targeted strategic product developments or acquisitions.

### Innovations for tomorrow's world

Freudenberg is constantly working on innovations in many areas of life. A whole gamut of customers and markets benefits from these forward-looking ideas, technically advanced products and excellent services.



Freudenberg is constantly working on innovations in many areas of life.

To meet the many challenges of e-mobility, **Freudenberg Sealing Technologies** has engineered numerous solutions ready for series production using materials developed and customized in-house. These materials are particularly important for meeting the complex challenges of different applications such as fireproof requirements, operating life or freedom from contamination. Two noteworthy designs in the field of fuel cell applications are seal integration on metal bipolar plates and gas diffusion layers with integral seals. In both cases, the assemblies perform significantly more functions than just their primary task of reliably sealing the fuel cell stack. Car manufacturers can engineer compact design and automated assembly, thereby reducing the number of parts and simplifying the assembly process. The same applies to an innovative heat shield for lithium-ion batteries. This heat shield insulates the battery and prevents a damaged cell in a lithium-ion battery from overheating and, in the worst case, leading to the entire battery system exploding. Heat shields between individual cells are designed so that the heat from a damaged cell remains insulated until it can be drained away. This new

product was recognized with the MATERIALICA Design + Technology Award in October 2018.

The products and seals used in the oil and gas industry must be able to withstand extreme conditions: temperatures ranging from approximately -46° Celsius to approximately +316° Celsius, pressures of up to 20,000 PSI, high bending moments, and corrosive elements. The new FlangeLok Compact Flange developed by **Freudenberg Oil & Gas Technologies** is an innovative connector offering significant weight and space savings with a high bending moment that functions in all of these extreme conditions. The FlangeLok Compact Flange has a patented TechLock metal seal ring and offers superior sealing even in extreme operating conditions.

A solution to a customer's highly-complex tribological problem for a nuclear power station was successfully developed through close cooperation between **EagleBurgmann**, Freudenberg Technology Innovation and und Fraunhofer Institute for Mechanics of Materials (IWM). The solution featured "DiamondFace", the Business Group's tried-and-tested innovative microcrystalline diamond coating, in combination with the "Atomistic Simulation of Friction and Wear" platform project.

**Freudenberg Medical** markets combination products and drug delivery coatings under the Hemoteq brand name. The main fields of application are drug-eluting stents and drug-coated balloons to treat vascular construction or occlusion. It is now planned to transfer the underlying technology to new medical products. Together with its customers, Hemoteq is working on drug delivery coatings for implants in a cerebral environment (brain).

The new cord-reinforced flexible prop shaft coupling called NRG-Disc from **Vibracoustic** offers carmakers a cost-effective alternative to a classic rubber disc for all-wheel and rear-wheel drive vehicles. The decoupling disc helps reduce the impact of torsional vibration occurring in the engine on the drivetrain. It is significantly lighter and much more compact than

comparable products, but can nevertheless absorb maximum torque.

New wound dressings with a direct coating of silicone adhesives from **Freudenberg Performance Materials** are much more flexible than conventional products and adapt better to the wound bed. The innovative foam with silicone coating enables antibacterial preparations to perform their function more effectively than foams with a transfer coating. In addition, the reduction of production process steps and complexity saves energy, avoids waste and simplifies the supply chain. Another innovative project from Freudenberg Performance Materials also highlights sustainability: comfortemp fiberball eco padding. The material is as lightweight as natural down and offers optimal thermal insulation and breathability. The high-performance padding is made of 70 percent recycled material and is ideal for sportswear and functional outerwear.

In the year under review, **Freudenberg Filtration Technologies** developed a filter for use in the growing field of environmentally-friendly bus and train drivetrains. The fuel cell filter effectively protects both the catalyst material and the membranes used in the stack and system components from contaminant gases and particles. The Business Group also launched the micronAir Gas Shield filters, a new modular product portfolio of automotive cabin air filters that adsorb gases and odors. Freudenberg technologies interact to create targeted product solutions in response to different cabin air quality requirements and, in combination with high-efficiency particulate filters, provide optimal comfort and protection. These solutions can be transferred to further gas adsorption applications.

Underbody shields (UBS) protect parts of the engine and the interior on the vehicle underside. In the year under review, **Japan Vilene Company** launched nonwoven UBS materials designed to replace fiberglass reinforced products. The benefits: non-wovens weigh less and reduce noise better than fiberglass materials.

**Freudenberg Home and Cleaning Solutions** developed iTrace, a new digital solution for professional cleaning businesses. Among other things, the cloud-based platform is designed to provide support to improve fleet management efficiency, thus saving costs. An app can be used, for example, to track the items of cleaning equipment in use at the various locations and to identify the condition of the equipment. iTrace can also live track cleaning materials and prepare inventory statistics, thereby enhancing transparency and planning capability for customers.

The new hydro lubricants from **Klüber Lubrication** (part of the **Freudenberg Chemical Specialities** Business Group) are causing a revolution in lubrication technology. Apart from extremely low friction coefficients, the water-based lubricants enhance sustainability and improve occupational safety. The German Design Council recognized the company for this innovation, presenting it with the German Innovation Award in two categories: in "Excellence in Business to Business" for the innovative products group, and in the "Design Thinking" category for the cutting-edge process used to develop the hydro lubricants. The company also launched a digital innovation with the "MyKlüber" smartphone app: using near field communication technology, customers can verify the authenticity of products by scanning a code on the original Klüber packaging, as well as downloading product information and safety data sheets.

### **Freudenberg Awards**

Freudenberg recognizes outstanding achievements in innovation by regularly presenting two external science prizes – the Carl Freudenberg Prize and the Karl Freudenberg Prize – and an internal innovation prize – the Freudenberg Innovation Award. The Karl Freudenberg Prize was presented for the 30<sup>th</sup> time in 2018. The awardee was the biologist Dr. Kristina Döring, whose work provided an important foundation for helping prevent diseases such as diabetes, Alzheimer's, Parkinson's and cancer in future.

# REPORT ON ECONOMIC CONDITIONS

## MACROECONOMIC ENVIRONMENT

In 2018, global gross domestic product lost some of its momentum year-on-year against the backdrop of a marked increase in economic and geopolitical uncertainty. Given the good situation on labor markets in many countries, private consumption was the economic mainstay. In contrast, corporate investment and foreign trade felt the effects of growing uncertainty as a result of the smoldering trade dispute between the USA and China, the prolonged negotiations on the North American Free Trade Agreement, and the impending Brexit.

Coming off an already high level, gross domestic product in the USA rose further. Tax cuts and higher

expenditure by the administration created momentum for growth. A series of natural disasters in Japan impacted an otherwise robust economy. The pace of growth in Europe and Germany slackened noticeably.

Economic momentum in China almost exactly reached the target set by the government. However, growth was at the lowest level for almost 30 years. India overcame the slight dip of the previous year and spearheaded growth among the major emerging economies in 2018. Brazil and Russia, on the other hand, again fell short of their potential.

EUROPE		
Region	GDP growth 2017	GDP growth 2018
Eurozone	2.5 %	1.8 %
Germany	2.2 %	1.5 %
France	2.3 %	1.5 %
Italy	1.6 %	0.9 %
Spain	3.0 %	2.5 %
Portugal	2.8 %	2.1 %
Ireland	7.2 %	6.4 %
Greece	1.4 %	2.1 %
United Kingdom	1.7 %	1.4 %

Sources: Consensus Inc., national statistical offices  
2018 GDP growth as at February 2019

WORLD REGIONS		
Region	GDP growth 2017	GDP growth 2018
USA	2.2 %	2.9 %
Mexico	2.0 %	2.0 %
Brazil	1.0 %	1.3 %
Argentina	2.9 %	-2.3 %
Japan	1.7 %	0.8 %
Russia	1.5 %	2.3 %
China	6.9 %	6.6 %
Taiwan	2.9 %	2.6 %
India	6.7 %	7.3 %

Sources: Consensus Inc., national statistical offices  
2018 GDP growth as at February 2019

**Sector-specific environment**

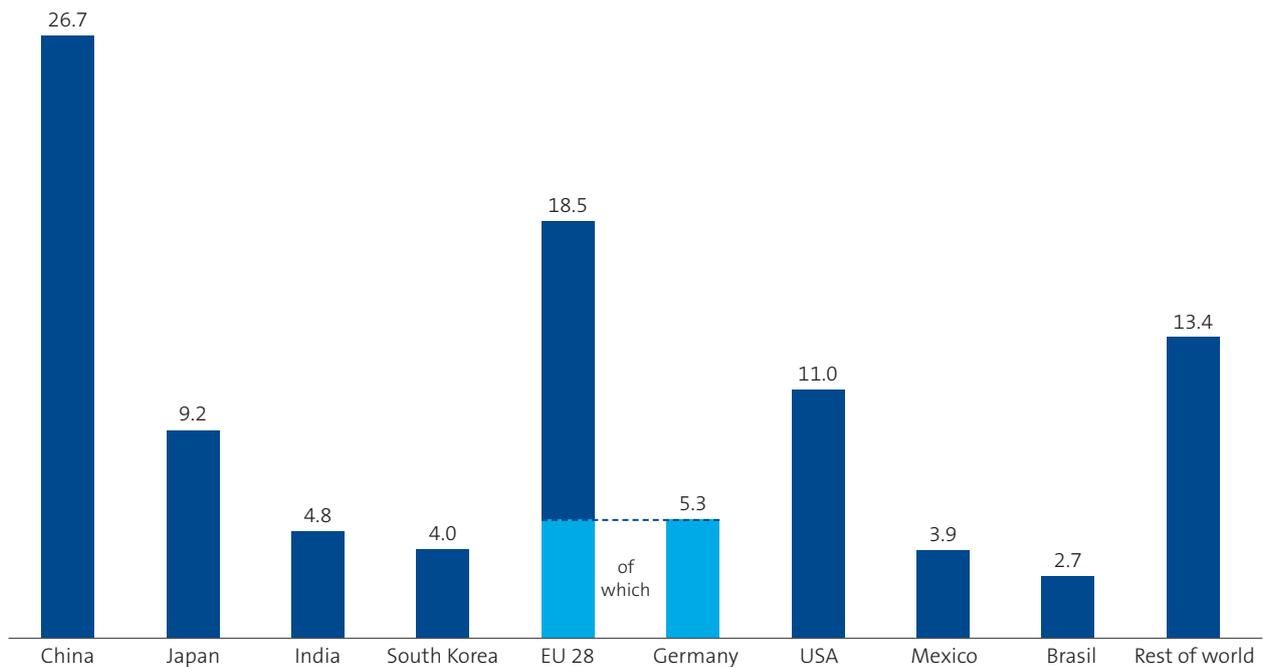
In light of the solid economic situation, the majority of Freudenberg's sales markets saw growth, although momentum slackened year-on-year.

Starting from a high prior-year level, global production in the **automotive industry** declined by 1 percent to 94 million light vehicles in total. Significant decreases in the United Kingdom (minus 9 percent), Germany (minus 10 percent, in particular as a result of the changeover to the stricter WLTP emissions test that came into effect in September 2018), and Italy (minus 6 percent) pushed the EU average into negative territory (minus 2 percent). China also ended the year 4 percent down. While production in Japan and Mexico stagnated (each 0 percent), the USA saw a slight increase (0.5 percent). Brazilian carmakers continued to recover, with production there rising 4 percent.

In light of more stringent climate targets and a growing number of diesel bans, classic drivetrain concepts came under increasing pressure in the public debate in Germany. The share of all-electric and hybrid vehicles in global production rose to approximately 5 percent. (Source: IHS Markit)

The upturn in the international **mechanical engineering** sector continued. However, tightening capacity constraints and a shortage of skilled professionals curbed the pace of growth. Moreover, as the year progressed the trade dispute between the USA and China dampened the inclination to invest. Production in the mechanical engineering sector rose 3 percent in Germany, 5 percent in the USA, 4 percent in Japan, and 7 percent in China. (Source: national statistical offices)

LIGHT VEHICLE DOMESTIC PRODUCTION  
2018 production in million units (94.2 million units worldwide)



Source: IHS Markit, February 2019

Momentum in the **textile and apparel industry** tailed off. Production in China, the global market leader, only grew 2 percent and China lost further market shares to other Asian countries such as Vietnam, Bangladesh, Cambodia and Myanmar. (Source: national statistical offices)

The long-standing boom in the global **construction industry** continued. The income of private households, companies and the public sector rose further on the back of the solid economic situation. This had a positive impact on both the housing sector and business property development. Production growth was 10 percent in China, 3 percent in the USA. The growth rate slowed to 2 percent in the EU, falling even lower to 1 percent in Germany. Storms in Japan meant production there only stagnated (0 percent). (Source: national statistical offices)

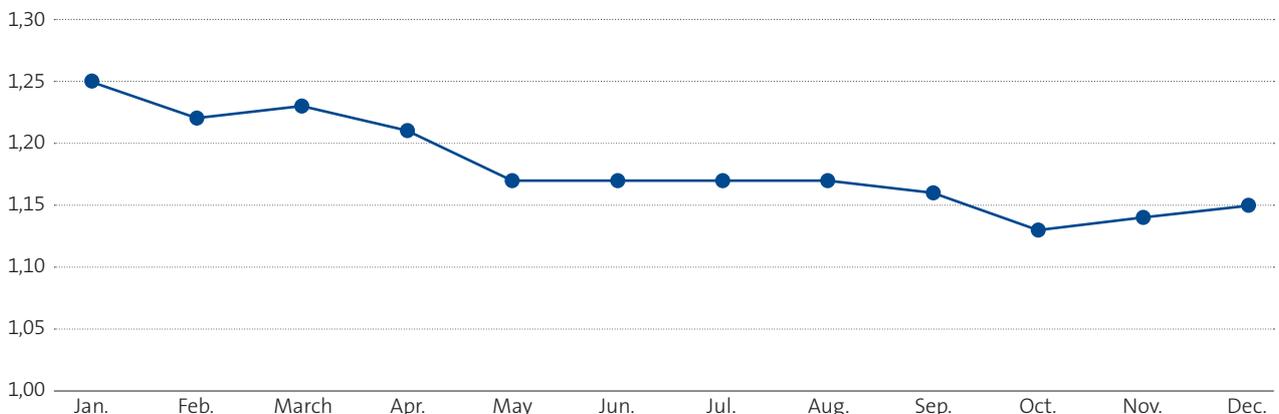
In the **medical technology sector**, the established major manufacturing nations saw strong growth in 2018. Production rose 6 percent in Germany, 6.5 percent in Japan and 5.5 percent in the USA. In China, growth was again around the 10 percent mark. (Sources: national statistical offices, BMI Research)

The **oil price** fluctuated in the first three quarters of 2018, following a strong rising trend. In the remaining months of the year, the oil price plummeted from US\$76 to approximately US\$46 per barrel of WTI. The annual average price was US\$64.96, 28 percent higher than the previous year. (Source: New York Mercantile Exchange (NYMEX))

Positive employment and wage trends boosted **private consumption**, which grew 2 percent. At the same time, inflation increased slightly after a long break (for example, an annual average of 1.9 percent for Germany), but nevertheless remained in the planned target corridors.

In 2018, there was an almost constant decrease in the value of the **euro** versus the dollar as the most relevant currency for the Group, with an annual average exchange rate of just under US\$1.18 per euro. Nevertheless, this still represents a rise of 4.6 percent compared with the previous year. (Source: European Central Bank; monthly rates)

EURO EXCHANGE RATE DEVELOPMENT IN 2018  
US dollar per euro



Source: European Central Bank; month-end rates

## BUSINESS DEVELOPMENT AND POSITION

For Freudenberg, **sales, profit from operations and return on sales** are the key financial performance indicators. The key performance indicator profit from operations describes profit before income tax without special effects (for example, significant restructuring expenses), the profit or loss on disposals of assets, impairment of goodwill, or results of major associated companies. The return on sales is calculated from the two key performance indicators sales and profit from operations.

For its internal reporting, Freudenberg uses the **LDIFR (Lost Day Incident Frequency Rate)** as a non-financial key performance indicator. It measures all accidents at work involving at least one day's absence per million working hours. Starting with the 2015 financial year, the indicator also includes data for temporary employees and agency staff.

The forecasts made at the beginning of the year with respect to the key financial and non-financial performance indicators are regularly reviewed and updated in the course of the year. The financial and non-financial key performance indicators presented are made available to the Board of Management on a monthly basis. This allows trends and changes to be identified in good time so that measures can be taken to counteract any detrimental developments.

The key financial performance indicators are used for assessing the position and development of the Group with respect to earnings and focus on sustainable growth and a continuous increase in enterprise value as indicators for steering future success.

Our performance indicators developed as follows:

FORECAST/ACTUAL COMPARISON, FREUDENBERG				
	Actual 2017	Forecast for 2018	Change	Actual 2018
Sales [€ million]	9,345.6	slightly above previous year	+1.2 %	9,455.4
Profit from operations [€ million]	905.0	at previous year's level	+0.6 %	910.3
Return on sales [percent]	9.7	slight decrease	-0.1 % points	9.6
LDIFR [LDI per million working hours]	1.4	further reduction	+0.1	1.5

Freudenberg aims for profitable growth both from its own resources (organic) and from acquisitions (external). In 2018, Freudenberg once again continued its good business development. Despite significant negative exchange rate effects, sales, at €9,455.4 million, were slightly above the level of the previous year and the forecast development was achieved.

At €910.3 million, profit from operations was slightly above the high level recorded in the previous year. Especially contributions to profit from higher sales in the year under review were more than sufficient to compensate for the rises, in some cases considerable, in the price of certain raw materials.

The LDIFR in 2018 was 1.5 (previous year: 1.4). It was not possible to achieve the further reduction which had been forecast. Levels of health and safety at Freudenberg continued to be good for a manufacturing company. The causes of accidents are precisely analyzed. The consequences of these analyses are discussed intensively and possible changes are initiated.

## Sales

Freudenberg again reported increased sales in 2018. Key success factors included the innovative product range, customer-oriented, flexible problem solutions for the various sectors of industry, and structured expansion into attractive markets and strategic business areas.

In the financial year under review, Freudenberg reported sales of €9,455.4 million (previous year: €9,345.6 million). On this basis, sales were €109,8 million or 1.2 percent higher than the figure for the previous year, representing a new record.

In 2018, acquisitions and disinvestments contributed €43.2 million to sales. Sales were reduced by significant negative exchange rate effects totaling about €285.6 million, especially as a result of the development in the US dollar exchange rate. The application of the new accounting standard IFRS 15 reduced sales by €54.3 million.

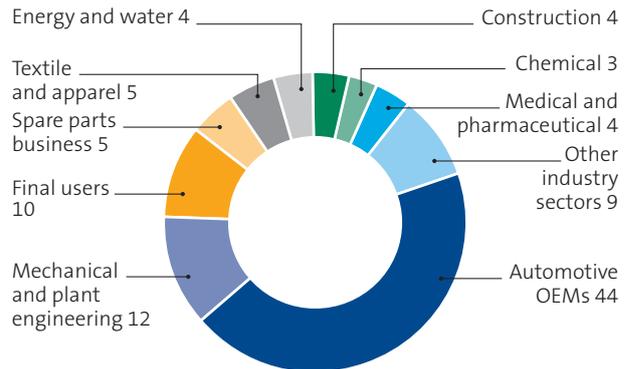
Adjusted for these special effects, the organic growth in sales was €406.5 million or 4.3 percent.

### Sectors and regions

The distribution of sales by sectors and regions remained very stable compared with the previous year.

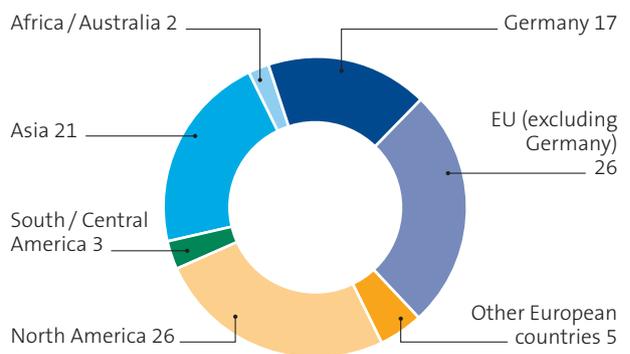
In the 2018 financial year, the share of automotive OEM business in total sales amounted to 44 percent (previous year: 45 percent). The share of the second most important customer grouping, mechanical and plant engineering, remained at about the previous year's level, with a total of 12 percent (previous year: 11 percent). In the other sectors, there was no change in the share in total sales compared with the previous year.

SALES BY SECTOR [in %]



North America accounted for 26 percent of total sales (previous year: 27 percent) and Asia for 21 percent (previous year: 20 percent). There was no change in the other regions compared with the previous year.

SALES BY REGION [in %]



## Earnings position

[€ million]	2017	2018
Sales	9,345.6	9,455.4
Cost of sales	-6,171.1	-6,395.6
<b>Gross profit</b>	<b>3,174.5</b>	<b>3,059.8</b>
Selling expenses	-1,365.8	-1,297.2
Administrative expenses	-622.6	-633.5
Research and development expenses	-414.2	-374.3
Other income and expenses	4.2	51.8
Income from participation in joint ventures	21.5	22.0
<b>Profit from operations</b>	<b>797.6</b>	<b>828.6</b>
Financial result	85.5	6.7
Profit before income taxes	883.1	835.3
Income taxes	-183.0	-232.9
<b>Consolidated profit</b>	<b>700.1</b>	<b>602.4</b>

Despite a slight increase in sales in 2018, **gross profit** fell by €114.7 million compared with the previous year. This is mainly the result of the application of the new accounting standard IFRS 15. Under this standard, expenses incurred in connection with sales promotions must be deducted from sales. Previously, part of these expenses had been recognized as selling expenses. In addition, in connection with the transition to IFRS 15 development expenses for customer-specific development projects are now included in cost of sales and no longer in research and development expenses. The changes in the presentation in the statement of profit or loss are also reflected by the development of selling expenses and research and development expenses.

The **administrative expenses ratio** remained at the same level as the previous year at 6.7 percent. Administrative expenses include expenses which cannot be allocated to production, sales or research and development, and mainly represent personnel expenses.

In the year under review, the balance of **other income and expenses** rose by €47.6 million. This figure mainly includes higher income from the disposal of intangible assets and tangible assets as well as exchange rate gains. These effects were partly offset by an impairment of goodwill.

The **financial result** fell by €78.8 million. In addition to lower income from participations, this fall was due to the decrease in the pro rata share in the profit of associated companies.

These effects led to **consolidated profit** which was €97.7 million lower than the figure for the previous year.

## Financial position

### Financing management

Freudenberg SE and the central financing company Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung, Weinheim, Germany, are responsible for all the financing activities of Freudenberg, thus ensuring that Freudenberg has sufficient liquid funds at all times. As a general principle, companies obtain the financing they require via cash pool agreements or internal loans – for legal, fiscal and other reasons, financing in some countries also takes the form of bank loans guaranteed by Freudenberg SE.

Freudenberg does not expose itself to financial risks through speculation with derivative financial instruments but uses such instruments only for hedging, and therefore reducing, risks in connection with underlying transactions and items. Future transactions are only hedged if there is a high probability of occurrence. In order to ensure the identification and management of all financing risks, the Freudenberg Group pursues a holistic approach to financial risk management. The existing financial risks are identified and limited in an institutionalized control loop.

Exchange rate risks on currency markets remain high. In addition, there is volatility on the credit and capital markets. This also impacts the financing conditions for industrial companies. Freudenberg is in a good position to tackle these challenges thanks to its conservative finance policy. Liquidity measures include high reserves of liquid funds and committed credit lines with core banks. Liquid funds are always invested on the basis of internal directives. These call for the risk-based, limit-oriented diversification of financial investments between issuers with an investment grade rating and for investment only for short terms.

A key element in external borrowing is a long-term shareholder loan where the interest payable is oriented towards market interest rates for the same terms plus a premium.

As at December 31, 2018, Freudenberg had undrawn committed credit lines amounting to some €850 million. The interest payable on the certificates of

indebtedness (“Schuldscheindarlehen”) included in the liabilities to banks is based on variable and fixed components. Further details on interest rate structure can be found in the section on interest rate risks in the Notes to the Consolidated Financial Statements.

Off-balance sheet contingent liabilities and other financial obligations of Freudenberg mainly relate to guarantees.

As in the previous year, the rating agency Moody’s Deutschland GmbH, Frankfurt am Main, Germany, rated Freudenberg SE, Weinheim, at “A3”, with a stable outlook. The Group therefore continues to hold a single-A rating.

This gives Freudenberg very good creditworthiness at investment grade level.

STATEMENT OF FINANCIAL POSITION STRUCTURE				
	Dec. 31, 2017	Dec. 31, 2018	Change	
	[€ million]	[€ million]	[Percent]	[€ million]
<b>Assets structure</b>				
Non-current assets	6,399.4	6,203.9	-3.1	-195.5
Current assets	3,794.5	3,926.9	3.5	132.4
Non-current assets held for sale and disposal groups	0.0	108.3	-	108.3
<b>Assets</b>	<b>10,193.9</b>	<b>10,239.1</b>	<b>0.4</b>	<b>45.2</b>
Capital structure				
Equity	4,835.0	5,312.1	9.9	477.1
Non-current liabilities	2,448.6	2,195.8	-10.3	-252.8
Current liabilities	2,910.3	2,663.9	-8.5	-246.4
Liabilities in connection with non-current assets held for sale and disposal groups	0.0	67.3	-	67.3
<b>Equity and liabilities</b>	<b>10,193.9</b>	<b>10,239.1</b>	<b>0.4</b>	<b>45.2</b>

### Capital structure

The **equity ratio** increased from 47.4 percent to 51.9 percent. In absolute terms, equity rose by €477.1 million. This was chiefly attributable to the positive result and to positive exchange rate developments. These positive factors were offset both by dividends paid to the parent company Freudenberg & Co. KG and to external shareholders as well as the measurement of associated companies and other participations without impact on net income. Non-controlling interests also rose by about €33.1 million. Here, the positive pro rata share in profit was offset mainly by dividends.

**Non-current liabilities** amounted to €2,195.8 million (previous year: €2,448.6 million). This change was mainly due to the reduction in other non-current liabilities. Here, the effects of the derecognition of allowances for customer-specific tools and development projects as a result of the first-time application of IFRS 15 had an effect.

The €246.4 million reduction in **current liabilities** to €2,663.9 million was chiefly the result of the reduction in short-term financial debt, especially short-term liabilities to banks. Here too, the first-time application of IFRS 15 and the resulting derecognition of customer allowances for tooling costs and development projects had an effect. Adjusted for exchange rate effects and the changes in the consolidated group, non-current liabilities fell by 10.5 percent and current liabilities by 10.1 percent.

As regards the currency structure, reference is made to the currency risk section of the Notes to the Consolidated Financial Statements.

## Investments

Adjusted for acquisitions, investments in intangible assets, tangible assets and investment properties amounted to €378.6 million (previous year: €501.5 million). This fall is chiefly due to the first-time application of IFRS 15. Under the new standard, costs connected with customer-specific development services and customer-specific tools are no longer recognized as assets but are disclosed directly as cost of sales upon the transfer of the assets to the customer.

The Freudenberg Group invested worldwide. For example, the Freudenberg Performance Materials Business Group started work on the construction of a new spunlaid plant in Taiwan. Vibracoustic completed the extension of production at its plant in Sroda Slaska, Poland, and started construction of a third plant in Chongqing, China. At its Potvorice facility in Slovakia, the Freudenberg Filtration Technologies Business Group completed extensive expansion work and invested in new production machinery. Investments in Germany totaled €125.2 million (previous year: €175.6 million). At Maisach, the new European logistics center of Freudenberg Chemical Specialities was commissioned. Vibracoustic invested in the extension of air spring production in Hamburg. Investments planned for 2019 are likely to be financed from cash flow from operating activities and to have no major effect on net assets.

## Liquidity

Cash flow from operating activities in the 2018 financial year amounted to €828.4 million, corresponding to a year-on-year decrease of €100.6 million. This fall is due to structural changes in the statement of cash flows as a result of the first-time application of IFRS 15. In the past, amortization and depreciation of customer-specific development projects and tools reduced the cash outflow from operating activities. The changed recognition of customer-specific development expenses and tools under construction as contract assets or inventories also had a negative impact on the change in working capital. Amounts used from provisions further contributed to the outflow of liquid funds.

Despite higher acquisitions than in the previous year, the negative **cash flow from investing activities** was reduced to €-581.0 million. In this context, the first-time application of IFRS 15 also had an impact, resulting in significantly lower statement of financial position additions compared with the previous year.

**Cash flow from financing activities** in the 2018 financial year was €-249.0 million (previous year: €-245.0 million). The main factors in this fall were payments to the shareholder and non-controlling interests as well as the repayment of financial debts.

The Group can meet all of its payment obligations at any time.

## Assets

The total assets of Freudenberg rose by €45.2 million to €10,239.1 million (previous year: €10,193.9 million).

**Non-current assets** fell to €6,203.9 million (previous year: €6,399.4 million). Adjusted for exchange rate effects and changes in the consolidated group, there was a significant reduction of €311.1 million. This is chiefly due to the first-time application of IFRS 15, which led to a reduction in non-current assets as at the time of the transition. Especially tangible assets were reduced by €195.5 million upon the transition as a result of the derecognition of customer-specific tools which had previously been recognized as assets. The amortization of intangible assets from purchase price allocations in the amount of €84.2 million also led to a fall in intangible assets.

The increase of €132.4 million in **current assets** to €3,926.9 million was chiefly attributable to the rise in inventories and the initial recognition of assets as a result of the first-time application of IFRS 15. Securities and cash at bank and in hand were slightly reduced by €14.1 million. Cash outflows for purchase price payments, such as for the acquisition of E. D. Oates Pty. Ltd. or Hanns Glass GmbH & Co. KG, were offset by higher investments in commercial papers. Adjusted for exchange rate effects and changes in the consolidated group, the increase was €169.3 million.

## Overall assessment

In an overall economic situation that remains volatile and challenging, Freudenberg can look back on a 2018 financial year that was successful both in strategic and in operational terms. In 2018, the Group was able to outperform the financial key performance indicators forecast for 2018 despite significant negative exchange rate effects and once again reported record profit from operations.

The non-financial key performance indicator LDIFR in 2018 was 1.5 (previous year: 1.4). It was not possible to achieve the further reduction which had been forecast. The causes of accidents are precisely analyzed. The consequences of these analyses are discussed intensively and possible changes are initiated.

In view of its solid net assets and financial position and its high-earnings business, Freudenberg's assessment of the overall financial position of the Group is very positive. It is not necessary to change this assessment as a result of the events presented under "Major Events After the Date of the Statement of Financial Position".

## REVIEW OF OPERATIONS BY BUSINESS AREA

The Freudenberg Group's four Business Areas – Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products, and Specialties and Others – focus on long-term, sustainable and profitable growth. Innovations are a common thread running through the Group's history – from chrome tanning and the Simmering to sophisticated and highly technical medical products.

Together with its partners, customers and the world of science, Freudenberg develops cutting-edge products, excellent solutions and services for some 40 market segments and thousands of applications in the spirit of the positioning “Freudenberg is a values-based technology group that best serves its customers and society”.

### SEALS AND VIBRATION CONTROL TECHNOLOGY BUSINESS AREA

**In the year under review, the Seals and Vibration Control Technology Business Area comprised the following Business Groups:**

- Freudenberg Sealing Technologies
- Freudenberg Oil & Gas Technologies
- EagleBurgmann
- Freudenberg Medical
- Vibracoustic

Sales in this Business Area rose to €5,506.4 million (previous year: €5,412.5 million). The headcount at the close of the financial year increased to 32,451 (previous year: 31,686).

FREUDENBERG SEALING TECHNOLOGIES		
	2017	2018
Sales [€ million]	2,224.7	2,258.9
Workforce	14,164	14,795

## FREUDENBERG SEALING TECHNOLOGIES



### Business development

The 2018 financial year was a successful one for Freudenberg Sealing Technologies.

The targets were met through significant growth in business in spite of major investments in e-mobility, higher material and raw material prices, and unfavorable exchange rate effects – particularly for the US dollar.

Sales growth was mainly attributable to the regions of Europe and NAFTA (North American Free Trade Agreement) nations. However, the sales performance in India, China and South America was also better than in the previous financial year.

With growth of some four percent, general industry business developed significantly better than was the case for automotive business, which was roughly on the level of the previous year. Consolidation in the automotive sector, particularly in the USA, was clearly discernible.

### Key events

At the beginning of the financial year, Freudenberg Sealing Technologies strengthened its position in the e-mobility sector and acquired extensive know-how and specific product and system solutions for business with fuel cells and lithium ion batteries through an acquisition and a strategic investment.

The acquisition concerned stakes in the fuel cell manufacturers Elcore GmbH and Elcomax GmbH, both Munich, Germany. Elcore developed an extremely efficient fuel cell for stationary applications and its patents and patent filings now exceed 200. This product will now be developed further for mobile applications.

Furthermore, Freudenberg Sealing Technologies acquired a minority stake in the U.S. firm XALT Energy, LLC, Midland, Michigan, USA. The company manufactures large-scale lithium ion battery cells, modules and systems for use in heavy-duty commercial vehicles

such as city and transit buses, in the marine industry and in other industrial applications. XALT Energy, LLC is one of the leading manufacturers in this field in the United States with over 40,000 square meters of high-grade automated cleanroom manufacturing. The company's battery products have been used successfully in urban transit buses in major American cities such as New York and Los Angeles for several years.

The Business Group invested a sum in the mid-double-digit-million-euro range in these transactions. Organizational changes accompanied the portfolio expansion. Going forward, the fuel cell and battery activities will be combined into one new division named "Battery and Fuel Cell Systems".

Freudenberg Sealing Technologies already offers a broad product portfolio for business with fuel cells and lithium ion batteries:

In the year under review, the Business Group was recognized with the "MATERIALICA Design + Technology Award 2018" in gold for its innovative heat shield for battery systems in electric vehicles. Batteries with a high energy density create a basis for the broad acceptance of electric vehicles. But the more energy is stored in a confined space, the greater the safety requirements. So precautions are essential in case a cell overheats. Experts call the phenomenon "thermal runaway" and it can cause the temperatures in a cell to rise as high as 600°Celsius. The risk is that the battery's cooling system would not be able to drain the heat away quickly enough under these conditions. If neighboring healthy cells also heat up due to the heat buildup, a chain reaction can result that, in the worst case, could lead the entire battery system to explode. Freudenberg Sealing Technologies has developed a heat shield for use in prismatic and pouch cells with almost no impact on the required installation space. In future, heat shields between the individual cells ensure that the heat from a damaged cell remains insulated until it can be drained away.

The Business Group also offers new foldable and fireproof sealing solutions for large lithium ion

batteries. The larger batteries and the higher energy density become, the more important it is for their seals to be reliable. Engineers at Freudenberg Sealing Technologies have developed several series-production-ready solutions for a perimeter seal that ranges from two-and-a-half to five meters in length, depending on the sizing of the housing. The seal has even more to do than keep out road spray and contaminants. If there is a fire, it is expected to resist the flames over a relatively long period and help prevent the fire from spreading. With the help of aviation experts at the site in Tillsonburg, Canada, Freudenberg Sealing Technologies achieved "V0", the highest classification, for one of its compounds. In the test, the flame completely died out in ten seconds.

Furthermore, when approached by a global automaker, the Business Group developed materials for use in battery housings in electric vehicles that even meet the strict flammability standards in China. The new materials help automotive manufacturers meet a new level of thermal management and occupant safety in their vehicles. For example, they can prevent a fire from spreading through a vehicle for up to 15 minutes.

Freudenberg Sealing Technologies has also developed special seals for fuel cells that are attached directly to the gas diffusion layer and facilitate very thin cell designs. The membranes for the gas exchange need to remain uncontaminated to extend the fuel cell's operating life. In addition, the gases must not escape into the environment and the hydrogen must not come into direct contact with the oxygen. This makes it essential to securely seal the gas diffusion layer. Since it is directly attached to the gas diffusion layer, the seal makes it easier to assemble fuel cell stacks. Working with a German supplier of fuel cell modules, Freudenberg Sealing Technologies is now developing seals for gas diffusion layers and fuel cells to series-production readiness.

In addition to these achievements, Freudenberg Sealing Technologies is using its expertise to make internal combustion engines more environmentally-friendly: the Business Group has developed a new bonding agent to improve the precision and long-term

stability of SCR systems for exhaust gas treatment, thus reducing the amount of nitrogen oxide in the exhaust of today's diesel engines.

Other innovations were also successful on the market in the year under review: the new large seal for grease-lubricated main bearings in wind turbines merits special mention. Manufacturers continue to increase the size of wind turbines in an effort to generate an ever-increasing supply of clean energy. Systems of this size produce powerful forces during operation that impact main shaft roller bearings and seals. Freudenberg Sealing Technologies' new "Seven-tomatic" shaft seal reliably prevents leaks from the main bearings used in conjunction with large shaft diameters while tolerating strong shaft runout. The new Freudenberg Sealing Technologies development therefore supports the trend to ever-larger wind turbines for the efficient and reliable production of clean energy.

Freudenberg Sealing Technologies developed a new rotary seal, the "Gerromatic", for use in the process industry. It has a wave-shaped sealing lip which significantly increases the amount of pressure that can be applied. The special design also reduces friction and provides self-cleaning, which extend operating life.

In agriculture, Freudenberg Sealing Technologies products boost efficiency and conserve resources. The Business Group developed a new accumulator cylinder for tractors with a track drive in cooperation with a global agricultural machinery manufacturer. The new product combines the functions of a hydraulic cylinder and a hydraulic accumulator in a single system. This makes installation easier and lowers the risk of leakage. The use of aluminum also reduces the system's weight.

**Profile:**

*Freudenberg Sealing Technologies is a leading market and technology partner for demanding and innovative applications, including sealing technology and e-mobility. Starting from the invention of the Simmerring, which was developed by Freudenberg in 1932, the Business Group today offers a broad customer-oriented product portfolio – from tailor-made individual solutions to complete sealing packages and components for electric vehicles. The partnership with NOK Corporation, Tokyo, Japan, creates a global network supplying products of the same consistently high quality worldwide.*

FREUDENBERG OIL & GAS TECHNOLOGIES		
	2017	2018
Sales [€ million]	110.2	109.8
Workforce	512	500

## FREUDENBERG OIL & GAS TECHNOLOGIES



### Business development

The market environment for Freudenberg Oil & Gas Technologies was more stable in the first three quarters of 2018 than it had been in the previous three years. In the USA, for example, where drilling activities in the year under review primarily concerned shale oil extraction, some 1,050 wells were in active operation, the same level as 2015. Furthermore, the price per barrel of WTI – the benchmark crude price in the U.S. – rallied strongly during the course of the year up to October, at approximately US\$65 per barrel.

This was followed by a sharp drop in the price per barrel at the end of December to approximately US\$46. The fall is attributable to rising oil production in the USA, uncertainty about the position of OPEC member countries and Russia with regard to further production cuts, and weaker global demand.

The oil and gas industry begins to invest as soon as the price per barrel is significantly higher than US\$50 and

there is no uncertainty as to whether the price could drop to below US\$50. This impacts sales at Freudenberg Oil & Gas Technologies, because demand for products from the Business Group then rises.

Adjusted for exchange rate effects, Freudenberg Oil & Gas Technologies sales increased in the year under review on the back of strong project work in the “Connectors” business unit and drilling product sales in the “Pressure Control Products” unit. There was a slight rise in sales in the “Engineered Seals” unit.

### Key events

Freudenberg Oil & Gas Technologies underwent realignment based on the principle of strategic business units at the beginning of the financial year in line with the Freudenberg Group’s strategy plan for the period 2018 – 2020. The business and market opportunities for Freudenberg Oil & Gas Technologies in the technology-intensive upstream segment were

evaluated under the strategy planning process. The project identified specific segments and growth paths.

In addition, the Business Group continued to concentrate on improving profitability in all business units during the year under review. It moved forward with the Operational Excellence programs and made further investments in occupational health, safety and environmental measures.

In 2018, the Business Group again focused on solutions for the exploration and production of oil and gas in the upstream segment. Work on developing new products at Freudenberg Oil & Gas Technologies centered on high-pressure and high-temperature sealing solutions to meet industry challenges and customer requirements.

The new FlangeLok Compact Flange developed by Freudenberg Oil & Gas Technologies, for example, is an innovative connector offering significant weight and space savings with a high bending moment. The FlangeLok Compact Flange has a patented TechLock metal seal ring and offers superior sealing even in extreme operating conditions such as temperatures ranging from approximately -46° Celsius to approximately +316° Celsius, pressures of up to 20,000 PSI, high bending moments, and corrosive elements.

### **Location changes**

In November, Freudenberg Oil & Gas Technologies consolidated its Vector connector production at the Fallbrook location in Houston. All three production facilities in Houston, Texas, USA, have been combined at the Fallbrook location since 2015.

### **Profile:**

*Freudenberg Oil & Gas Technologies provides innovative sealing solutions and products to the global oil and gas industry. The Business Group focuses on solutions for the upstream exploration and production segment. It develops and markets products for drilling / BOP (pressure control), wellhead equipment, fracturing services, offshore oil and gas platforms, and subsea applications.*

*Freudenberg Oil & Gas Technologies serves a wide range of customers including oil and gas producing companies, original equipment manufacturers (OEMs), and engineering and service companies that provide technologies, equipment and services for producing oil and gas from land-based platforms and subsea throughout the world. Freudenberg Oil & Gas Technologies has its own materials development and product testing lab in Houston where the Business Group develops and tests new materials and solutions.*

EAGLEBURGMANN		
	2017	2018
Sales [€ million]	789.4	821.7
Workforce	5,534	5,644

## EAGLEBURGMANN



### Business development

In the year under review, EagleBurgmann reported positive sales development in a very competitive market environment. There was profitable growth across all product groups. Moreover, incoming orders reached a record level.

In terms of regional development, EagleBurgmann won new projects for seals and supply systems in the Middle East; these included projects for the new Duqm refinery in Oman and for Socar, the oil and gas company in Azerbaijan.

The Business Group reported a strong rise in orders for seals for compressors and high-pressure applications in North America.

EagleBurgmann won a very large individual order in India. The “Hengli” project in China continued: EagleBurgmann is delivering over 2,000 seals and supply systems for the construction of a new oil refinery.

In contrast, the persistently difficult economic situation in South and Latin America significantly impacted business in the oil and gas segment there.

The Business Group strengthened and expanded its market position in the pharmaceutical industry, water procurement and wastewater treatment, energy, petrochemicals, and the food and beverage processing industry. Growth in these sectors developed as planned.

Furthermore, developments in the service business in all regions were stable. This is attributable in particular to after sales services.

### Key events

EagleBurgmann experienced a noticeable rise in technically challenging development tasks in 2018. This is due to the fact that more powerful and efficient pumps are being increasingly used in industrial

applications, resulting in the need for suitable sealing technology.

In addition, customer requirements regarding technical documentation, quality reports and pre-simulation of seals are increasing. EagleBurgmann responds to these challenges by more efficient processing of project tasks based on the core parts strategy, and through various digitalization projects: digitalization of process workflows continued and sales personnel began using a new customer relationship management system in 2018. Furthermore, sales and order processing structures along with the service network were aligned even more closely to customer expectations. One example is the service center in Qatar, an important market for compressor seals, that EagleBurgmann opened in April 2018. Preparations were made for a new sales office to be opened in the Republic of Tatarstan, a region rich in oil and gas reserves, in 2019.

Incoming orders in aftermarket business developed very well; this is attributable to the growing willingness on the part of customers to invest in high-quality products and reaffirms the strategy to expand end user business further.

The strategy for the expansion joints product group implemented in the regions of EMEA, Asia/Pacific and America at the beginning of 2018 generated encouraging results in terms of growth and profitability.

On the other hand, setting up the project structure for many ongoing projects, and the transition from the concept phase to the implementation stage of the

strategy for the period 2018 – 2020 proved challenging in the year under review. Moreover, high capacity utilization in production impacted delivery reliability.

The Business Group reviewed the management development programs in the year under review and, among other things, modernized and realigned the entry-level program for management.

Furthermore, the application of lean methods in production and administration resulted in further workflow improvements. The electronic data exchange with customers and suppliers reduced expenditure for transmitting order-relevant data, and electronic customer service processes enable more efficient working.

In 2018, EagleBurgmann launched “Seccolip”, an innovative dry running seal for agitators and use in the chemical, pharmaceutical and food industries as well as water procurement and wastewater technology. Another new product was the SHI300 mechanical seal specially developed for an extremely wide range of applications such as batch scheduling for multi-fuel pipelines.

**Profile:**

*EagleBurgmann is one of the leading international manufacturers of industrial sealing technology. The Business Group manufactures and markets a broad range of high-quality products, from technically advanced, customer-specific solutions to large-batch products for pumps, compensators and agitators.*

FREUDENBERG MEDICAL		
	2017	2018
Sales [€ million]	172.1	169.1
Workforce	1,488	1,523

## FREUDENBERG MEDICAL



### Business development

The global market for medical devices posted moderate growth in 2018. While the weaker US dollar curbed business development for many export-oriented European manufacturers, developments in the USA were more dynamic than in recent years. Markets in Asia, particularly China, continued on a strong growth path. On the other hand, exchange rate fluctuations and worsening macroeconomic conditions had a negative impact on other emerging economies.

While Freudenberg Medical achieved organic sales growth in this environment, sales expressed in euros nevertheless declined as a result of negative exchange rate effects. Sales by the Freudenberg Medical business units in the USA and Costa Rica were particularly affected by this development.

Furthermore, production at the Freudenberg Medical location in Carpinteria, California, USA, was temporarily interrupted due to the Thomas Fire in California during

the first half of the year. Moreover, several of the Business Group's key accounts were forced to stop production due to the effects of Hurricane Maria in Puerto Rico. In contrast, the second half of the year saw significantly more positive developments for Freudenberg Medical with new project ramp-ups and market share gains.

Medical devices are becoming increasingly sophisticated, for example through the integration of additional functions in minimally-invasive devices. Consequently, Freudenberg Medical offers technical solutions that enable medical device manufacturers to realize advanced product concepts, shorten development and approval times, and save costs. Freudenberg Medical further extended its portfolio of proprietary product and process platforms in 2018.

Freudenberg Medical has a presence at eleven locations in the USA, Europe, Latin America and Asia, and is therefore able to offer its products and services

all over the world. This is particularly appreciated by the Business Group's customers operating worldwide.

### Key events

Freudenberg Medical acquired an additional 12.5 percent stake in Hemoteq AG, Würselen, Germany, in 2018. As a result, the Business Group now holds 87.5 percent of the shares. Hemoteq is a leading developer and manufacturer of drug coating technologies for medical devices and offers a broad range of coating solutions for the medical industry. In 2018, Hemoteq successfully developed a new drug coating for implantable electrodes for the ENT market and significantly expanded its hydrophilic coatings line for minimally-invasive products. The company also increased the production volume for drug-coated catheters.

Freudenberg Medical began introducing the global unified quality management system during 2018. The system ensures compliance with national medical device legislation and the ISO 13485 quality standard, as well as safeguarding consistent control of important quality processes at all Freudenberg Medical business units worldwide.

An integrated ERP system provides electronic support enabling the paperless management of quality

documents. Given that the medical device industry is subject to increasingly stringent regulatory and qualitative specifications, the introduction of this system is a key initiative for offering Freudenberg Medical customers an industry-leading service and reinforcing the competitive advantage the Business Group already holds in this sector.

In November 2018, Freudenberg Medical announced it would be moving to a new global headquarters in Beverly, Massachusetts, USA. Freudenberg Medical will also be relocating silicone component production from the present factory in Gloucester, Massachusetts, USA, to the new site in Beverly and expanding these operations. The new building will have some 3,500 square meters of floor space and will be equipped with ISO Class 8 cleanrooms. The operation will be ISO 13485 certified and FDA-registered (U.S. Food and Drug Administration). It is to open in the second half of 2019.

### Profile:

*Freudenberg Medical is the global partner for the design, development and manufacture of innovative medical products. The company's portfolio comprises catheter solutions for minimally-invasive procedures and components made from complex medical materials. The company is a leader in the field of high-precision silicone and thermoplastic components and tubing as well as metal hypotubes.*

VIBRACOUSTIC		
	2017	2018
Sales [€ million]	2,116.1	2,146.9
Workforce	9,988	9,989

## VIBRACOUSTIC



### Business development

In 2018, Vibracoustic was confronted with persistent heavy pressure on prices, increases in the price of essential raw materials, and stagnating or falling vehicle production figures in key regions. Vibracoustic nevertheless continued on its sustainable growth path and outperformed the market.

Developments among car manufacturers indicate they will be offering growing numbers of partially or fully electric vehicles in future. In terms of vibration control technology, this brings new opportunities and challenges for innovative approaches and solutions. Serving market trends such as alternative drive systems, autonomous driving, shared mobility and digitalization calls for intelligent solutions to support manufacturers in their efforts to meet increasingly stringent emission regulations.

While noise and vibrations are still generated by an internal combustion engine in partially-electrified

vehicles, pure electric vehicles present a different challenge. Noise and vibrations generated at higher frequencies and by auxiliaries previously masked by the internal combustion engine become audible and noticeable. Vibracoustic is collaborating closely with leading OEMs to develop innovative and efficient solutions to meet these challenges.

Furthermore, both established electric vehicle manufacturers and new players are increasingly turning to air spring systems, since they also bring additional benefits for pure electric vehicles. Air spring systems can, for example, contribute to reducing air resistance and improving passive cooling of the battery packs.

Vibracoustic counts on innovations to continuously improve the vibration behavior of all classes of vehicles. Examples include innovative switchable air springs with a three-chamber concept or the application of activated carbon within the air spring to increase the air volume without increasing the packaging. Both

systems were introduced in series production at major German automakers in 2018.

### **Key events**

Demand for air spring systems is steadily increasing. Work on significantly expanding air springs production at the Hamburg site commenced in the first half of 2018 with a view to responding to this trend and in order to manage a major order from a premium car manufacturer in Europe.

Vibracoustic is investing in capacity expansion in China to keep pace with market growth. Planning for a third factory in China has been concluded. Construction began in the first half of 2018, with commissioning and start of production for products from the “Chassis” Division scheduled for 2019.

Capacity expansion at the plant in Sroda Slaska, Poland, was completed. Production of MCU (microcellular urethane) components commenced in the second half of 2018, which is also when the MCU European competence center began operating.

The global focus of investments in 2018 again centered on customer projects, continuous quality assurance, and HSE (Health, Safety, Environment).

### **Location changes**

A socially acceptable solution for the closure of the Breuberg location was reached in collaboration with the Works Council. Technology and production employees relocated to Weinheim and the Breuberg location was closed – as scheduled – at the end of 2018. The ability to supply customers was not affected by the closure.

The plant in Guarulhos, Brazil, was closed in the first half of 2018. Operations have commenced at the new location in Taubaté, Brazil, and the facility has sufficient capacity to cover business in South America.

### **Profile:**

*Vibracoustic is one of the leading global automotive NVH experts (noise, vibration, harshness), providing customized solutions adding comfort and supporting efficiency, safety and durability. Its expertise along the entire product life cycle and all vehicle systems as well as its broad product range enable Vibracoustic to solve current and future NVH challenges across all automotive segments. With a global network of development and production locations, the Business Group supplies almost all passenger car and commercial vehicle manufacturers as well as their direct suppliers worldwide with components that significantly increase onboard comfort.*

## NONWOVENS AND FILTRATION BUSINESS AREA

In the year under review, the Nonwovens and Filtration Business Area comprised the following Business Groups:

- Freudenberg Performance Materials
- Freudenberg Filtration Technologies
- Japan Vilene Company

In total, the Business Area generated sales of €1,899.2 million (previous year: €1,909.4 million). At year-end 2018, the headcount was 8,521, compared with 8,175 at the close of the previous year.

## FREUDENBERG PERFORMANCE MATERIALS



FREUDENBERG PERFORMANCE MATERIALS		
	2017	2018
Sales [€ million]	935.3	919.5
Workforce	3,726	3,685

## Business development

2018 was a challenging year for Freudenberg Performance Materials. Although the Business Group achieved organic sales growth, sales expressed in euros were lower as a result of negative exchange rate effects. On the cost side, the profit margin in all divisions was affected by further rises in raw material and energy prices, particularly in the second half of the year.

The global market environment for the Business Group was mixed. The carpet tiles business and the promising “Advanced Wound Care” segments were the only operations to record growth in all world regions. While the “Automotive” segment grew in Asia, business tailed off in the USA and Europe after a good start to the year.

In the “Construction” segment, strong demand in the USA – on the back of repair work following the hurricanes in 2017 – and stable developments in Russia contrasted with weaker market momentum in Western Europe.

There was growth in the apparel market in Turkey, China, India and South East Asia, but the market still faltered in Western Europe and the USA, where structural change continued as demand shifted from luxury segments to leisurewear.

There was business growth in shoe components and special applications such as Evolon, energy cables and adsorption products. The persistently difficult economic situation in South America impacted hygiene business there, although there was an improvement in the second half of the year.

## Key events

Freudenberg Performance Materials continued to restructure its logistics activities at the Weinheim location. Following the successful conclusion of discussions with employee representatives, implementation of the planned measures began in the year under review and will continue in 2019.

The Business Group stepped up its innovation activities in the year under review with the aim of developing new and advanced process technologies and fostering growth through special products with attractive market potential. One example is the project launched at the beginning of the year to install a new spunlaid line at Freudenberg Far Eastern Spunweb Comp. Ltd., Taoyuan, Taiwan. This investment underscores Freudenberg’s long-term commitment to Asia and is an important milestone for further growth in the automotive and carpet markets.

Freudenberg Performance Materials was recognized with numerous awards in 2018. Among them was the prestigious ECARF seal of quality presented to Evolon New Generation, the microfilament fabric for anti-mite bedding. The seal of the independent European Centre for Allergy Research Foundation (ECARF) aims to help allergy sufferers select the appropriate goods and services by certifying the quality of products and services according to strict standards. Evolon New Generation met the testing criteria in terms of filtration performance and sleeping comfort. Evolon New Generation was also a finalist for the RISE Innovation Award presented annually in the USA. The award recognizes innovations that creatively use advanced science and engineering principles to solve challenges.

In the medical market, Freudenberg Performance Materials was recognized as “Supplier of the Year” in the “Innovation” category. The jury praised the Business Group’s outstanding innovation strength that enabled this “market leader in advanced wound care” to launch a product that “outclassed competitors”.

Several products from the “comfortemp” thermo-insulation series won awards at ISPO 2018, the leading trade fair for the international sport business. “comfortemp down feel” was recognized in the insulation category of “Textrends 2018 TOP 10”, and “comfortemp fiberball padding” was honored in the insulation category of “Textrends 2018 SELECTION”. “comfortemp” is a new technologically top quality and ecologically clean insulation.

In Taiwan, Interface Thailand recognized the Business Group with its “Supplier Excellence Award 2018” for outstanding product quality, service and commitment to sustainability. Interface is a worldwide leader in the design and manufacture of carpet tiles. The Business Group was also recognized with the award for the “Best Performance on Product Compliance” from Apex, the leading shoe manufacturer in Bangladesh.

In Russia, the Governor of the Nizhny Novgorod Region presented the Freudenberg Performance Materials (FPM) site in Zavolzhye with an award for its excellent business performance and strong commitment to social responsibility.

In South Africa, Freudenberg Nonwovens (Pty.) Ltd., Cape Town, was recognized by Pep Clothing – its largest single customer for apparel – with the “Supplier Excellence Award 2018” for consistent performance, quality and customer satisfaction.

Sustainable action is a given for the Business Group. In the USA, Freudenberg Performance Materials LP, Durham, received the “100 Million Bottle Circle Award” from fiber supplier Unifi. 102 million post-consumer PET bottles were recycled using the fiber the Business Group purchased from Unifi to manufacture its own products.

At the beginning of 2018, Freudenberg became an official system partner of bluesign technologies, a global network that aims to systematically reduce the burden on humans and the environment caused by the textile industry. bluesign stands for transparency and

cooperation throughout the supply chain and is a renowned network that promotes sustainable business practices in the textile industry.

### **Location changes**

In view of the consolidation on the hygiene market in South America, Freudenberg Performance Materials decided to relocate its hygiene production from Argentina to Jacarei, Brazil. The Business Group will serve all of its customers in the Latin American hygiene market from the Jacarei location.

Furthermore, a key account in the hygiene segment restructured and consolidated its global supply chain. Following the termination of the supply contract with this customer, the Freudenberg Performance Materials hygiene production facility in Greetland, United Kingdom, was closed at the end of the year.

### **Profile:**

*Freudenberg Performance Materials is a leading global supplier of innovative technical textiles for a wide range of markets and applications, including automotive, construction, apparel, energy, hygiene, building interiors, medical, footwear and leather goods, as well as special applications. The Business Group is a pioneer in the field of nonwovens and operates 25 production locations in 14 countries worldwide.*

FREUDENBERG FILTRATION TECHNOLOGIES		
	2017	2018
Sales [€ million]	423.1	422.0
Workforce	2,085	2,134

## FREUDENBERG FILTRATION TECHNOLOGIES



### Business development

Freudenberg Filtration Technologies continued on its sustainable, profitable growth path in a challenging market environment thanks to high global demand for filtration solutions that protect people and improve industrial processes. Business Group sales were on the same level as the previous year. Adjusted for exchange rate effects and the effects of the sale of the engine intake air filter business in China at the end of 2017, the Business Group outperformed the market in terms of growth.

In the industrial filtration business, the focus on selected market segments and the associated more pronounced customer orientation had a positive impact. Growth also benefited significantly from good demand for filters for air purifiers in China. The markets in European countries presented a mixed picture, the situation in North America was challenging. The recovery in the Australian coal mining industry triggered a rise in sales, while the market environment in South Africa remained difficult. Water treatment

business in England was down on the previous year due to the reluctance to invest. Demand for the expanded products and services portfolio for industrial painting (filterCair) was high.

Automotive filtration business, for new vehicles as well as replacement parts, was very robust. Sales in the automotive segment grew in Europe and North America, while demand in China and South Korea was slightly weaker than in previous years. Following the sale of the engine intake air filter business in China to the former minority shareholder Changchun Autofilter Co., Ltd., the Business Group focused its activities in China on the development and manufacture of high-quality cabin air filters. Niche business with the innovative Category 4 filter for tractor cabins and with fuel cell products developed well.

### Key events

As a customer-oriented provider of high-quality, efficient filtration solutions, product innovations are an

important cornerstone for Freudenberg Filtration Technologies. In paint shop technology, for example, the Business Group actively advanced the technological transition from wet to dry paint mist separation in the year under review with a comprehensive program of products, services and consulting. Innovations include the Dry Pleat and Dry Pleat nano filter plates as well as a paint mist arrestor made of fire-retardant corrugated board for efficient and cost-effective dry separation. The GTS double-cylindrical filter cartridge series for onshore and offshore installations developed for the Gas Turbine & Compressor segment maximizes the useful lifetime of air intake systems thanks to the optimized self-cleaning characteristics.

The e.FFECT (electronic Freudenberg Filter Efficiency Calculation Tool) software launched back in 2017 was upgraded in the year under review. In addition to calculating the ideal filter combination based on process requirements and plant specifics, version 2.0 can now also calculate gas turbine loss of power.

The Business Group presented “micronAir Gas Shield”, a new premium activated carbon selection for cabin air filters. Each solution is tailored to car manufacturers’ needs and regional environmental conditions, and effectively adsorbs a wide range of harmful gases and unpleasant odors. This ensures higher-quality cabin air and helps secure the health of occupants.

The Business Group was recognized with several awards, among them the “Aftermarket 2018 Supplier Award” from the French carmaker PSA, and the “Supplier Performance Award” from Honda in North America, which was presented to Freudenberg for the sixth time in succession.

In the year under review, Freudenberg Filtration Technologies invested in capacity and quality expansion, including new cabin air filter production

lines at the Kaiserslautern location and production plant for high-arrestance air filters in China.

The Business Group completed extensive expansion work at its factory in Potvorice, Slovakia, and invested in new production machinery. After investing approx. €10 million, the site has been expanded by about 40,000 square meters and has a workforce of some 400. Automotive and industrial filters are produced at one of the Business Group’s largest and most modern factories.

Reorganization of the facility in Weinheim which commenced in 2017 was brought to a close with no compulsory redundancies. A customer information hub was added to the Filtration Science Lab in Weinheim, which was also equipped with a new test rig.

At the end of 2018, the Business Group signed a contract to purchase the majority shareholding in Apollo Air-Cleaner Co., Ltd., Shunde, China. The transaction still requires approval from the antitrust authorities. The company is a leading supplier of air and water filtration solutions in China and will continue as a joint venture between Freudenberg as the majority shareholder and the former sole proprietor Apollo Trading Group, Japan, under the name Freudenberg Apollo Filtration Technologies. Freudenberg Filtration Technologies intends to bring its current consumer filtration business into the joint venture.

**Profile:**

*Freudenberg Filtration Technologies is one of the world’s leading specialists in the development and production of air and liquid filtration solutions and their applications. The Business Group’s solutions make industrial processes more economical, conserve resources, protect people and the environment and thus contribute to improving the quality of life.*

JAPAN VILENE COMPANY		
	2017	2018
Sales [€ million]	551.0	557.7
Workforce	2,364	2,702

## JAPAN VILENE COMPANY



### Business development

Overall, Japan Vilene Company faced a challenging market environment in 2018. Against this backdrop, sales were on the same level as the previous year.

Business for Japan Vilene Company in its important Japanese market was mixed. Developments in the Air Filters Materials and Electrical Materials business remained positive, while the situation in Medical Materials continued to be difficult.

In the Automotive Materials sector, the successful acquisition of Hanns Glass GmbH & Co. KG, Grafing, Germany, strengthened the European floor mat business. Innovations in all-weather floor mats generated growth in North America, while headliner facings business there failed to meet expectations.

Hygiene business in Korea continued to decline in the face of tough competition and changes in consumer trends.

### Key events

Japan Vilene Company acquired Hanns Glass GmbH & Co. KG in April 2018. The company is a leading global supplier of car floor mats for the automotive industry with a strong presence in Europe. The Hanns Glass portfolio complements the business of VIAM, which is a core area of Japan Vilene Company. With the acquisition of Hanns Glass GmbH & Co. KG, the VIAM Group gains access to the European automotive market and will be able to supply European carmakers from local production sites. Hanns Glass has production sites in Paderborn and Meuselwitz, Germany, and Cheb, Czech Republic. These sites complement the VIAM Group's global production network in the USA, China, Mexico, Thailand and Japan.

In the year under review, the Business Group began marketing high-performance HME filters (HME is the acronym for "heat and moisture exchanger") for medical devices. These breathing filters combine low airflow resistance with high bacterial filtration

efficiency. They use technologies developed for the Business Group's industrial dust protection masks and consumer use masks. One of Japan Vilene Company's proprietary filters serves as the base material and is combined with other materials to produce a high-performance medical product that meet all users' demands.

In June 2018, Japan Vilene Company and Freudenberg Performance Materials had a joint presence at ANEX, the most important trade fair for the nonwovens industry, held in Tokyo, Japan. The motto of the exhibition stand was "Global Innovations, Local Solutions", and the Freudenberg Business Groups presented various solutions in the three categories of "Health, "Mobility" and "Energy". Three topics that attracted considerable interest were transdermal backing materials, cabin air filters, and energy products.

The Business Group joined up again with Freudenberg Performance Materials and with Freudenberg & Vilene Int. Ltd., Hong Kong, to present the first fashion show in Japan. Some 120 guests from key customers in the apparel industry found out more about interlinings and paddings from the Freudenberg Group.

Japan Vilene Company was recognized with numerous awards in the year under review. In the automotive sector, Honda Access Co., Ltd. presented the Business Group with the "Best Excellent Supplier Award 2017" for its achievements in reducing floor mat production costs. In addition, the Business Group was recognized for the third year in a row with the "Best Performance Award" from Nissan Motor Co., Ltd., for delivery performance, throughput time and quality.

In the filter business, Japan Vilene Company won the "Excellent Prize (Environmental Division Award)"

presented by Keihin Co. Ltd. at the "2018 Supplier Conference". The award acknowledges the Business Group's activities in reducing the environmental impact through waste recycling, energy savings and environmental protection education for its employees.

Furthermore, Freudenberg & Vilene Filter (Thailand) Co. Ltd., Chonburi, Thailand, a joint venture with Freudenberg Filtration Technologies, was recognized for "Quality Cost Delivery" by Keihin Thermal Technology (Thailand) Co. This award is only presented to excellent suppliers. Freudenberg & Vilene Filter (Thailand) Co. Ltd. was the only awardee to also receive Keihin's "Best Delivery Award" last year. Freudenberg & Vilene Filter (Thailand) Co. Ltd. plays a central role in the growth strategy of Japan Vilene Company.

Japan Vilene Company also won the "Air Cleaning and Contamination Control Research Convention" Award presented by Japan Air Cleaning Association. "The development and performance assessment of nanofiber air filter media", the research topic submitted by Japan Vilene Company, outperformed 60 competitors.

**Profile:**

*Since it was established in 1960, Japan Vilene Company has maintained its position as the leading domestic manufacturer of nonwoven materials under the motto of "Engineering Fabric Innovation", utilizing its long-standing raw material expertise and considerable know-how in the fields of production processes and technologies as well as nonwoven converting, and offering a wide range of products through its Automotive Materials and Industrial Materials divisions.*

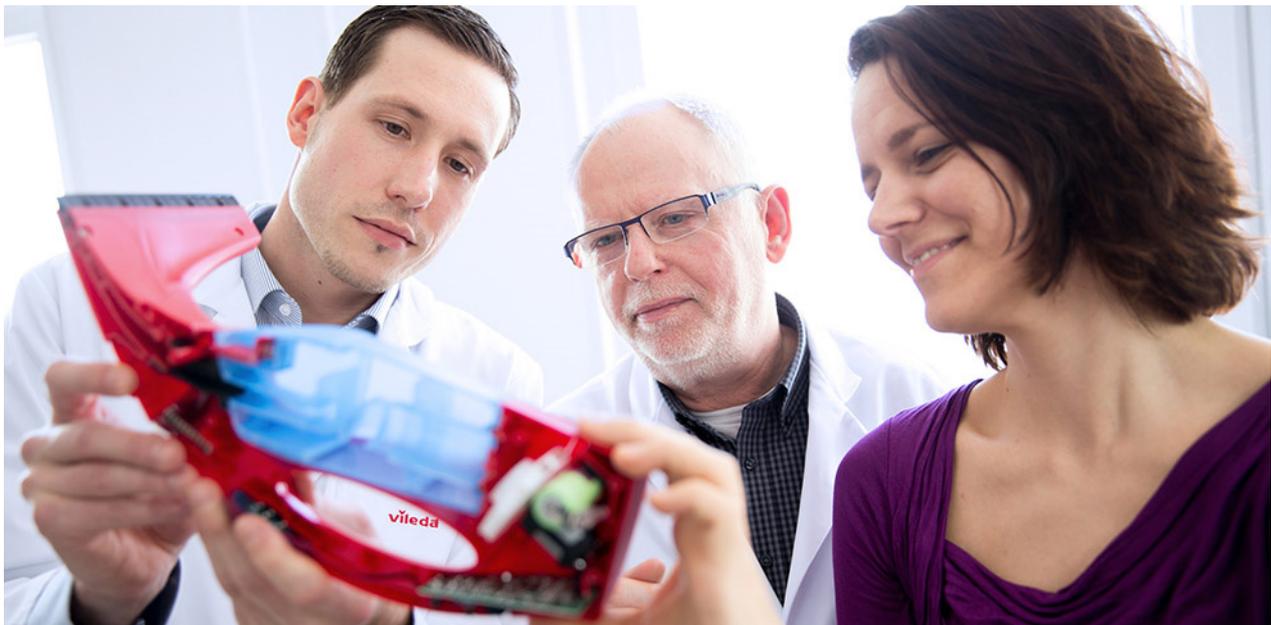
FREUDENBERG HOME AND CLEANING SOLUTIONS		
	2017	2018
Sales [€ million]	938.4	931.4
Workforce	3,030	3,273

### HOUSEHOLD PRODUCTS BUSINESS AREA

The Household Products Business Area comprises the Freudenberg Home and Cleaning Solutions Business Group whose Vileda, Vileda Professional, O-Cedar, Oates, Gimi, Gala, Wettex and Marigold

brands are active in the mechanical cleaning and laundry care segment for final users and professional cleaning companies.

## FREUDENBERG HOME AND CLEANING SOLUTIONS



### Business development

There was a slight decrease in sales compared with the previous year. The negative effect of the first-time application of IFRS 15 was almost fully offset by additional sales from acquisitions. The consumer climate in the year under review remained positive. Against this backdrop, Freudenberg Home and Cleaning Solutions grew sales further, maintained its strong position in key markets and consolidated its position as market leader,

particularly in Europe, the Business Group's largest market.

In the final user business, there was pleasing double-digit growth in sales of the "Turbo" easy wring and clean mop system as well as the flat mops. In addition, Freudenberg Home and Cleaning Solutions set up a separate development unit (the e-Products Lab) in Weinheim to further strengthen business in innovative electronic products in future.

E-commerce business continued to develop well. As in the previous year, Freudenberg Home and Cleaning Solutions recorded double-digit growth worldwide in this sector. E-commerce business with Abrasives, such as scourers, is particularly successful in the USA. STEAM, the Vileda steam mop, is another driver in online retail in key European markets.

In the institutional cleaning business, Vileda Professional developed twice as fast as the market, especially in hospitals, care facilities and cleanroom cleaning. Furthermore, the major regional markets of France, Russia and North America performed well; and India and China also recorded double-digit growth. Digital services were successfully added to the product range in Germany and Russia in 2018. As a result, solutions and services over and above the actual process of cleaning are now also available.

### **Key events**

Freudenberg Home and Cleaning Solutions continued its growth strategy in one of its key countries with the acquisition of E. D. Oates Pty. Ltd., Australia, in January 2018. Freudenberg Home and Cleaning Solutions now offers a broad and highly innovative range of home and cleaning products across all retail channels in Australia through the take-over of the market leader in the professional cleaning business there.

Furthermore, the Business Group acquired 75 percent of AlMozn National Company for Home Appliances Ltd., Jeddah, Saudi Arabia, a leading distributor of household goods in Saudi Arabia. The company has been the distributor for Vileda brand products in the Saudi Arabian market since 1969. With the transaction, Freudenberg Home and Cleaning Solutions is targeting stable development in Saudi Arabia and strengthening its market position in the Middle East.

While efforts in 2017 focused on the integration of Gimi S.p.A., Monselice, Italy, a laundry care specialist for laundry driers, ironing boards and household ladders, Freudenberg Home and Cleaning Solutions was able to report pleasing growth in this product segment in the year under review.

Furthermore, projects to improve efficiency throughout the value chain, for example in transport, logistics and retail as well as administration, were implemented in 2018 under various efficiency programs.

The Business Group was recognized with numerous awards for its products in several countries. The “Glitzi” scourer, “Spray & Clean” and “Vileda Ultramat Turbo 2in1” received prestigious industry awards. In Scandinavia, Vileda Professional was recognized by the industry association “Städbranschen Sverige” as the environmentally-friendly company of the year for production of its cloths.

### **Location changes**

In 2018, Freudenberg Home and Cleaning Solutions decided to end final user business in China, Korea and Brazil and to relocate some manufacturing and logistics operations at the Augsburg production location.

### **Profile:**

*Freudenberg Home and Cleaning Solutions is one of the leading international manufacturers of brand cleaning articles and systems and laundry care products. The products are marketed under the brand names of Vileda, Vileda Professional, O-Cedar, Oates, Gimi, Gala, Wettex und Marigold.*

### SPECIALTIES AND OTHERS BUSINESS AREA

In the year under review, the Specialties and Others Business Area mainly comprised the following Business Groups:

- Freudenberg Chemical Specialties
- Freudenberg IT

Overall, the companies in this Business Area generated sales totaling €1,374.0 million (previous year: €1,342.3 million). At year-end 2018, the headcount was 4,892 compared with 4,762 at year-end 2017.

### FREUDENBERG CHEMICAL SPECIALTIES



FREUDENBERG CHEMICAL SPECIALITIES		
	2017	2018
Sales [€ million]	1,070.8	1,104.1
Workforce	3,502	3,635

## Business development

The strong market position of the divisions belonging to Freudenberg Chemical Specialities forms the basis for the Business Group's positive sales development.

Freudenberg Chemical Specialities responded unchanged to persistently unfavorable exchange rate effects, a sharp rise in raw material prices in the first half of 2018, and the scarcity of certain base materials with consistent action to secure sales growth, earnings and customer supply. It was not until the end of the year that raw material prices fell slightly and certain base materials again became available at a more or less normal level. At year-end, the order backlog was solid and incoming orders were stable.

Demand in the manufacturing and processing industry, the automotive, general industry and construction sectors – all important market segments for Freudenberg Chemical Specialities – was predominantly good to very good in 2018. However, the economy weakened in some regions, such as Europe, particularly in the automotive sector. The moderate recovery in the global oil and gas industry continued until the fall of 2018; as in previous years, Freudenberg Chemical Specialities benefited from surprisingly strong demand for specialty products in this sector.

Industrial production in Europe remained solid in 2018, while there was a more noticeable increase in North America. Business development for Freudenberg Chemical Specialities in Turkey and Russia remained good. In South America, Freudenberg Chemical Specialities noticeably outperformed the market. In spite of somewhat difficult general conditions, there was a significant increase in demand for special solutions from Freudenberg Chemical Specialities in China, South East Asia and India, although some growth rates were lower than in the previous year.

Klüber Lubrication recorded strong organic growth in almost all market segments in the year under review, particularly in the food market, the automotive business and specialty segments such as the timber industry. As in the previous year, strong demand from

customers in the oil and gas industry continued. Sales to distributors also grew.

With its broad portfolio and growing range of environmentally compatible solutions, Chem-Trend grew its market share further, for example in the tires and composites segments. The company also consolidated its position in the automotive industry.

SurTec outperformed the market in its 25<sup>th</sup> year of business. New products with enhanced sustainability were successfully positioned. Growth was particularly strong in the construction and household segment.

Capol rallied slightly in the second half of the year after a subdued start to 2018. Rising costs, particularly in the North American market, capacity bottlenecks at the most important logistics partner, and dealer network restructuring prevented even better performance.

OKS recorded growth in key areas of business throughout the year, although sales in the German market did not quite meet expectations.

## Key events

Capol GmbH, Elmshorn, Germany, successfully integrated the business of Colarôme Inc., Saint Hubert, Canada, acquired in October 2017. A unique line of natural pigments for the food industry is now manufactured and sold under the Capol brand name.

Klüber Lubrication's new European logistics center in Maisach near Munich was commissioned. In addition to the logistics facilities primarily geared to Klüber Lubrication, the center also features a central European filling station for small bins and a technical center with laboratories, testing and application technologies for Chem-Trend.

In the year under review, Klüber Lubrication and Chem-Trend fully integrated the new national companies established in Romania in 2017 in their respective operations structures, thus strengthening business in Eastern Europe as anticipated.

In line with the Freudenberg Group's sustainability strategy, all five business divisions set up dedicated project organizations to minimize their footprint and develop and market sustainable value-added offerings for customers (handprint). Chem-Trend published its first sustainability report in 2018 and Klüber Lubrication its second, following its maiden sustainability report in 2017.

In the year under review, Freudenberg Chemical Specialities concluded the strategic project to evaluate the opportunities and possible efficiency gains of digitalization, both internally and for customers. Implementation of selected projects commenced at Klüber Lubrication, SurTec and Chem-Trend. The divisions began to develop adequate business models, create supportive operating structures, and expand digital offerings.

The German Design Council recognized Klüber Lubrication with the German Innovation Award in the "Design Thinking" category for the cutting-edge process used to develop hydro lubricants; these specialty lubricants are even more environmentally-friendly and resource-efficient. Hydro lubricants are homogeneous lubricants that use water as a functional component, thus creating opportunities for an entirely novel range of applications. The Mexican customer Cemex, one of the largest manufacturers of building materials with a global presence, also recognized Klüber Lubrication for its hydro lubricants, naming the company as "Supplier of the Year".

The Business Group also received numerous other awards in the year under review. Examples include the following: Klüber Lubrication North America in Tyler, Texas, USA, was yet again recognized as one of the "Best Places to Work". Chem-Trend won the award as a "Top Workplace" in Michigan, USA, for the seventh time in succession.

SurTec received the "Excellent Supplier of the Year" award from Gensen, the major Chinese automotive supplier, for its innovative, environmentally-friendly chrome (III) technology.

Klüber Lubrication was recognized with the "Best Innovation Project of 2017" award from the world's largest cement manufacturer, InterCement Group in Brazil. The company presented the award for the implementation of the Klüber Lubrication EnergyEfficiency Service that enables significant energy savings through tailor-made lubrication solutions based on a detailed technical analysis of plant and equipment. The cement industry is one of the world's most energy-intensive industries, which is why saving energy is a particularly important economic factor.

Capol is a founding participant of the "Initiative for Responsible Carnauba", which sets out to improve the working conditions for harvesting Carnauba, the palm wax used, for example, in the food industry, to uphold social standards and preserve biodiversity in the Carnauba harvesting regions in Brazil.

**Profile:**

*The Freudenberg Chemical Specialities Business Group comprises the operationally autonomous divisions of Klüber Lubrication, Chem-Trend, SurTec, OKS, and Capol. Klüber Lubrication is one of the world's leading manufacturers of specialty lubricants. Chem-Trend is a world market leader for release agents used to manufacture composite, rubber, plastic, metal and polyurethane molded parts. SurTec is a leading supplier of chemical specialties for surface treatment and electroplating. OKS specializes in performance lubricants and in repair and maintenance products. Capol is one of the world's leading manufacturers of coatings for the confectionery industry and supplies glazes, release agents and sealing agents, natural pigments, flavor formulations, natural vanilla extracts and other specialty products.*

FREUDENBERG IT		
	2017	2018
Sales [€ million]	173.0	164.8
Workforce	886	870

## FREUDENBERG IT



### Business development

The high pace of change again characterized the IT market in 2018. The decision to permanently cancel Cebit – formerly the world’s largest IT conference – is one example of this trend.

In such a dynamic environment, the Business Group’s mission is to provide the most comprehensive support possible for IT decision-makers (Chief Information Officers) in upscale medium-sized enterprises. According to the market research and consultancy firm Gartner, CIOs across the board spend more than 60 percent of their working time on tasks outside the classic IT spectrum. That is the starting point for Freudenberg IT – in line with its own slogan of “IT SOLUTIONS. SIMPLIFIED.” From cloud services, SAP consulting and application management issues, IIoT (Industrial Internet of Things), and cyber security to digital workplace solutions in partnership with Microsoft, Freudenberg IT was again present in the IT marketplace in 2018 with a broad and in-depth

portfolio, relieving some of the load and creating space for the digitalization of enterprises.

Freudenberg IT continued to enjoy its long-standing business success in the USA in the year under review. The innovative measures begun in 2017 bore fruit in 2018 and have strengthened Freudenberg IT in the long term. Preparations for new business can now be implemented much earlier and planned more effectively long-term through the integration of new marketing and business development processes. Moreover, an energy supplier became a new customer.

The existing structure in China was adapted due to changes in the legal framework. The company is well positioned locally and, among other things, is now collaborating closely with CEC, a business partner based in Hong Kong; a joint market approach has already been initiated.

Activities in Europe in 2018 included the further development of new forms of market approach and

customer contact. Customer relations were stepped up – particularly at management level – through measures such as the new “FIT Customer Advisory Board” and the in-house “FIT Customer Innovation Day”. New customer care programs were introduced to maintain customer satisfaction over the long term and – where possible – generate additional business. Furthermore, IIoT activities have developed successfully. A dedicated team is working at full capacity in the marketplace. In this context, the close relationship between Freudenberg IT and SAP again resulted in a successful constellation based on the IIoT hot topic. The SAP consulting business also developed very well with regard to team utilization. The situation with reference to the cooperation between Microsoft and Freudenberg IT is similar.

During the year under review, the Freudenberg Group and the management of Freudenberg IT reviewed various strategic options for the best possible path forward for the company. The aim was to find the best way to further develop Freudenberg IT’s potential over the long term and to further expand the market position as a very successful global IT service provider.

### Key events

A larger number of customers and other visitors actively engaged in dialog with Freudenberg IT at the “Customer Innovation Day 2018”. The event has established itself as an in-house trade fair and is becoming increasingly popular with the German-speaking IT community.

The groundwork for far more modern processes was laid with the launch of the “Service Now” platform and the associated further development of the “FIT Enterprise Service Management” unit – both within the Business Group and in the exchange with over 34,000 users worldwide. The innovative approach and the pooling of the “Service Now” systems and SAP are a milestone for Freudenberg IT.

The Freudenberg IT portfolio was recategorized and positioned in line with market requirements under the

slogan “<sup>simply</sup>C<sub>I</sub>ONTROL”. All units – such as Cloud Services – now have the prefix “simply”. Intensive advertising campaigns were rolled out to communicate this realignment worldwide. One outcome is a comparatively higher number of inbound enquiries. This is, however, primarily attributable to the less complex and swifter positioning of the entire portfolio of sales activities.

### Profile:

*Freudenberg IT (FIT) is a global cloud provider and IT service provider for upscale medium-sized enterprises. At home in the automotive and manufacturing sectors, FIT now provides a broad IT service spectrum that covers almost the entire SAP landscape, including application management services, SAP licenses and extensive consulting services for the implementation of SAP S/4 HANA. FIT was - among other things - involved very early on in utilizing the Industry 4.0 megatrend. A complementary partnership with Microsoft also allows for the targeted support for customers in the digitalization of ever more advanced workplace environments.*

## **REPORT ON EVENTS AFTER THE DATE OF THE STATEMENT OF FINANCIAL POSITION**

Major events after the date of the statement of financial position which are not included either in the statement of profit or loss or the statement of financial position are explained in the Notes to the Consolidated Financial Statements under the section “Major events after the date of the statement of financial position”.

## REPORT ON OPPORTUNITIES AND RISKS

Freudenberg is exposed to numerous opportunities and risks inseparably associated with business activities. Monitoring technological, political and social changes in particular is part of proactive entrepreneurship behavior. This often generates opportunities to be harnessed in order to secure and specifically improve the company's competitiveness. Opportunities are addressed in the context of the annual planning process and pursued and reported throughout the year. Long-term opportunities for profitable growth are primarily identified as part of the strategy process. Freudenberg operates a Group-wide risk management system, in which newly-acquired enterprises are also integrated, to identify risks in a timely fashion and respond to them appropriately.

### Opportunities

#### Global presence

Due to its global presence, Freudenberg has for many years been able to offer products and services at uniform worldwide standards. As a result, Freudenberg can keep pace with the international strategies of its customers, for example in production or research and development. Traditionally, Freudenberg has leveraged this expertise for many customers from Europe or North America as they gain a foothold in emerging countries. As the presence in these countries increases, some progress is being made to successfully support the international strategy of some customers from emerging economies entering the market in Western Europe. If this trend were to intensify in the future, Freudenberg could achieve additional benefits from its global presence. With the Freudenberg global brand, the Group gives a clear benefit statement, strengthens the image and raises visibility, for example as a solid supplier or an attractive employer.

#### Investments in strategic growth areas and regions

A central element of strategic planning is the continuous evolution of existing business through product and process innovations with a view to achieving profitable, significantly higher than market growth in existing business areas. This is achieved by expanding the portfolio through selective, targeted acquisitions in order to close identified technology gaps and develop access to new markets. The successful "bolt-on acquisition" strategy in the defined growth areas therefore continues. Examples in 2018 include the acquisition of E. D. Oates Pty. Ltd., Broadmeadows, Australia, and Hanns Glass GmbH & Co. KG, Grafing, Germany. In addition, options to acquire new areas of business that complement Freudenberg's existing organization are also investigated. In the medium term, Freudenberg's goal is a strategically balanced portfolio

with sales distributed evenly among the regions of the Americas, Europe and Asia.

### **Trend- and regulation-oriented product development**

Social trends are constantly changing. Changes in consumer behavior and growing expectations of products and services, for example with regard to the sustainability of products and their manufacture, are key drivers in the search for innovative solutions and new raw materials. New regulations and standards reflect these changing trends. Freudenberg therefore closely aligns the further development of its products to regulatory requirements. Systematically focusing on regulatory changes with reference to trends and the Group's ensuing innovation activities offers significant market potential and opportunities for the future.

### **Pioneer for future technologies**

As a global technology group, Freudenberg works constantly on product and process innovations and develops technology-based solutions for the future together with its partners. In spite of all necessary adjustments, the ongoing trend toward digitalization in various forms (for example, Internet of Things or Industry 4.0) as well as the move toward sustainability and environmental awareness represent opportunities for profitable growth for Freudenberg.

The strategy-oriented innovation activities therefore focus on the continuous further development of the Group's entire portfolio. This applies above all to the sectors of mobility, digitalization, energy, environment, healthcare, comfort and lightweight construction. Consequently, the key issues for the Business Groups during the year under review were e-mobility, material efficiency and sustainability. There were also highly-innovative approaches in fuel cell developments. Further groundbreaking advances in innovation activities and award achievements can be found in the chapter entitled "Research and Development".

### **Future mobility concepts**

As a partner of the automotive industry, the foreseeable changes in drive technology and alternative mobility concepts also impact Freudenberg. The term "new mobility" as used by Freudenberg not only covers e-mobility but also includes developments for the entire spectrum of drive technologies such as improvements in internal combustion engines, hybrid solutions, pure-electric cars and vehicles powered by fuel cells. Freudenberg components are also used in autonomous driving technology.

Freudenberg is well prepared for these developments thanks to its materials know-how and more than ten years of experience researching components for high-performance batteries for electric vehicles as well as some 20 years of experience researching the development of fuel cells. Advances and new developments in battery components, engines, charging units, filters, thermal management, vibration control systems or specialty lubricants offset reductions in demand for seals. Going forward, Freudenberg will remain a competent provider of solutions for high-tech innovations – for all kinds of drivetrains.

### **Harnessing synergies for strategic issues**

Throughout the world regions, Freudenberg's know-how and innovation strength are used in more than 40 market segments and for thousands of applications. The company engages in numerous activities specifically targeted at pooling this knowledge, because the potential thus generated makes a key contribution to securing the future. Synergies are harnessed to drive key strategic issues such as digitalization, sustainability and materials efficiency across the Business Groups. Joint projects and programs are always implemented under expert guidance and have already produced significant results.

Work is progressing on a future project launched in 2015 with a very long-term perspective. Under the first stage of the project, employees and external experts developed scenarios for possible trends, gauging hypothetical consequences and economic forecasts across Business Group borders. In the next step, 20 growth fields are being analyzed for business opportunities and specific strategic product developments targeted. The specialist knowledge of relevant experts is pooled in nine established technology platforms to derive Group-wide innovation activities that contribute to securing the future of the Group. These are key cross-sectional technologies of interest to several Business Groups. The new "Technology Foresight" department identifies new social and technological trends and assesses them for their relevance to the Freudenberg Group.

### **Talent management**

A talent management process covering the majority of employees worldwide has been in place at Freudenberg for several years. The process establishes a uniform procedure for talent management throughout the entire Group. It includes harmonized assessment systems and is based on standardized skills profiles and definitions of potential. This enhances the comparability of assessments and facilitates personnel development. The process improves the basis on which Freudenberg can take personnel decisions.

### **Risk management system**

The Group's risk management system is a decentralized system oriented to the organizational structure. It covers all fully consolidated Freudenberg companies, and includes all Group measures addressing the main risks. This process in particular ensures the structured identification, assessment, control and monitoring of main risks. The process also includes appropriate risk communication and the continuous improvement of the risk management system.

The primary objective of the risk management system is the prompt identification of risks that might jeopardize the continued existence of the company and the initiation of appropriate countermeasures. The intention is not to avoid all potential risks, but rather to create the leeway for taking a deliberate decision to enter into a risk backed by a comprehensive knowledge of essential information.

The risk management strategy is derived from the general strategy of the Group. The risk management system is developed, refined and audited as required.

Controlling, internal auditing, the compliance organization, the Code of Conduct, the internal control system, various quality assurance systems as well as several Corporate Functions make a significant contribution to the success of the Group's risk management.

## Risks

Risks are defined as all future developments, events or actions that could have a negative impact on the targets and strategies of the Group.

The following deals with risks classified as significant for Freudenberg ranked in descending order by their importance according to the potential level of damage. These quantifiable and non-quantifiable risks can have very differing impacts. They may occur individually and independent of one another or simultaneously. In all cases they have the potential to impact the net assets, financial position or results of operations of the Group directly or indirectly in the short or long term. Quantitative data are not disclosed because qualitative factors affecting operating activities such as failure to meet corporate targets or damage to the company's reputation are included in impact classification.

### Legal risks and compliance

Freudenberg is a globally active manufacturer of functionally relevant technical components and system parts for the automotive industry and many other sectors of industry. Freudenberg develops and produces specialty lubricants, release agents and a broad range of specialty chemicals for very diverse applications. Freudenberg also produces cleaning equipment and filter products for end users and is becoming increasingly active in the manufacture and sale of medical materials and components. A broad range of services in various business segments rounds off the Freudenberg portfolio. Consequently, Freudenberg is exposed to various legal risks. These include in particular risks in the fields of data protection, competition and antitrust law, product liability risks, contractual warranty risks, tax and excise duty law, M&A transactions, asset misappropriation fraud, anti-corruption regulations, infringements of intellectual property rights (patents and brand law), export controls as well as risks in the fields of occupational health and safety and environmental protection. These risks can affect Freudenberg to various degrees and can lead not only to fines or other

penalties or compensation, for example, but can also impact the reputation and image of the Group as a whole. In extreme cases, legal risks could have a substantial effect on Freudenberg.

Freudenberg has many measures in place to respond to these legal risks. These include comprehensive quality assurance mechanisms tailored to the requirements of the respective business models and value chains, clearly-defined product specifications, instructions, regular training for employees, documentation and preventive contractual solutions containing provisions limiting liability and taking account of the parties' spheres of influence. These measures are flanked by customary insurance cover which is thoroughly analyzed and where necessary adapted to changed conditions on an annual basis.

The Group conducts its global business in many different jurisdictions under different legal and regulatory frameworks that are undergoing change and becoming steadily more complex. The scale and scope of the laws and regulations that must be observed are subject to constant changes that are sometimes difficult to predict, and demand a high level of information processing, interdisciplinary and cross-border communication as well as a swift response and proactive approach.

By tradition, compliance with laws and regulations as well as internal guidelines and Freudenberg's own Guiding Principles and Business Principles has very high priority at Freudenberg. Employees are made aware of, skilled and trained in the relevant legal risks for their respective Business Group and the regions of relevance for Freudenberg; they are expected to observe and comply with these requirements.

Freudenberg uses classic methods (documents in all the main relevant languages and attendance seminars) to communicate compliance issues through training, dialog and discussions. Modern communication instruments such as web-based training, e-learning tools, interactive video conferences, etc., are also being increasingly used to complement the classic activities and reach as many employees as possible.

Despite all carefully applied control and prevention mechanisms in our compliance structure and compliance measures, there is a residual risk that is unavoidable given the size and complexity of our global organization. Furthermore, the possibility that Freudenberg or Freudenberg employees unconsciously infringe(s) third-party rights cannot be ruled out; this could trigger negative judicial consequences or damage the image or reputation of Freudenberg.

### **Macroeconomic and sectoral risks**

Freudenberg delivers solutions to many customer segments and sectors and is active in many regions and countries. The broad diversification of the Group reduces dependence on individual customers, customer groupings, suppliers, raw materials, regions and countries. Nevertheless, Freudenberg is dependent on the general economic situation, particularly with regard to general demand for its products and services, and dependent on some major customers. In spite of sustained efforts to diversify further, a slump in demand in a specific region or sector or a persistent international trade conflict can lead to a substantial decline in sales and earnings for Freudenberg, as for most other companies, and thus pose a not insignificant risk for Freudenberg.

Freudenberg has taken several measures to limit the negative consequences of demand-side risks. In particular, the company has appropriate capacity flexibility and practices active working capital management. Freudenberg regularly monitors several success indicators and can thus respond promptly to negative developments. In the context of a long-term response to demand-side risks, Freudenberg makes targeted investments in research and development, in individual regions and customer relations as well as selected strategic growth areas.

Freudenberg is closely following the negotiations for the United Kingdom to leave the EU (Brexit) and has analyzed the possible effects on the Group (including customs and administrative costs, logistic and customs

clearance problems, supplier and customer bottlenecks, legal framework and specifications as well as exchange rate fluctuations). A raft of measures, such as increasing inventories, is in place to respond to the aforementioned risks. Nevertheless, unexpected direct or indirect effects with a short- or medium-term impact on some sections of the Group cannot be ruled out. The long-term impact depends on the final withdrawal terms. There may be a limited operational and strategic impact on Freudenberg, which should be seen in the context of the Group's broad geographical and sectoral diversification. As long as Brexit does not lead to a global economic downturn, the overall effect on Freudenberg will be manageable.

### **Information security risk**

Modern business processes are based to a significant extent on information recorded, processed, exchanged and stored by electronic means. Potential risks caused by faults in these processes could impact both internal business processes and communication with customers and suppliers and could, for example, lead to the interruption of operations at Freudenberg or at a third party. Demands on the reliability and security of IT systems are intensifying as a result of technological progress and the trend towards greater process networking. As a provider of services, Freudenberg offers its customers the usual guarantees regarding availability and performance.

The aim of the guideline on information security issued by the Board of Management is to preserve the confidentiality, availability and integrity of information. Freudenberg deals with the relevant information security risks by operating information security management systems oriented to the ISO/IEC 27001:2013 international standard. The Business Groups, Corporate Functions and Freudenberg Regional Corporate Centers conduct comprehensive risk monitoring and implement the appropriate measures. For example, measures such as geographically separate, redundant data centers are implemented to deal with technical risks. Numerous internal training and communication measures

encourage heightened awareness on the part of employees with regard to the correct handling of information and information processing systems. The effectiveness of the information management security system is regularly assessed and the system is upgraded where necessary. Currently, this is particularly relevant in light of the general trend towards increased cyber risks.

### **Interruption of operations and long-term disruptions**

The classic risk of unplanned interruptions of operations has several possible causes. The main ones are interruptions in production, raw material availability, delivery delays, restricted availability of IT infrastructure, damage from natural hazards, or any combination of these causes. The possible consequences are loss of sales revenue and earnings, contract infringements, possible contractual penalties and claims for damages as well as reputational damage.

Freudenberg has taken numerous precautions to maintain and safeguard IT systems (back-up solutions, emergency data centers) as well as to meet contractual delivery obligations (dual/multi-sourcing, lead centers with interchangeable infrastructures, cross-plant tools, crisis training at relevant production locations) and to ensure delivery reliability and contract compliance, and has also taken out insurance cover for insurable individual risks. Despite all the measures that have already been taken or will be taken in the event of an emergency, there is a residual risk of a temporary interruption in operations with a possible impact on the sales and earnings of the Group.

### **Financial risks**

As an internationally active company with major shareholdings in other countries Freudenberg is exposed to financial risks which under certain circumstances could significantly impact the net assets, financial position or results of operations of the

Group. Such risks include financial risks from the Group's M&A activities arising from the potential impairment of goodwill and investments or of unrecognized obligations. Freudenberg employs various measures to manage these risks. The Group has several specialist functions and expert groups specifically tasked with the identification, analysis and control of Freudenberg's financial risk profile. This also includes the regular review of financial risk management methodology and steering.

Various measures to safeguard liquidity are in place which allow Freudenberg to react swiftly to unexpected liquidity-related risks. Such risks are hedged by solid banking and Partners' financing and high liquid reserves. Freudenberg has a comfortable equity ratio, a stable level of Partners' reserves, and comprehensive credit lines.

In addition, Freudenberg is exposed to exchange rate and interest rate risks. Managing these risks is implemented by internal guidelines and processes and monitored by a treasury management system. Because the exchange rate risks of the various companies have a partially offsetting effect, the effective foreign exchange risk is determined for the Group as a whole and steered by a central unit.

Interest rate risks arise from possible changes in the market rate and can lead to changes in the market value of fixed interest investments.

Funds for subsidiaries are made available in the form of loans or cash pool agreements. Freudenberg companies channel surplus liquidity to the central finance department.

Binding internal guidelines for Freudenberg companies clearly specify that derivative financial instruments may not be used for speculative purposes, but only for hedging risks in connection with underlying transactions and associated financing operations.

The Group's sound financial profile was one of several factors that led the rating agency Moody's Deutschland GmbH, Frankfurt am Main, Germany, to

confirm its Freudenberg SE A3 rating with a “stable” outlook in May 2018. This gives Freudenberg very good creditworthiness at investment grade level.

### **Risks from technological progress and third-party innovations**

As a highly diversified technology group, Freudenberg is active in numerous product and market segments, some of which differ considerably. Moreover, Freudenberg conducts its entrepreneurial activities on the basis of different business models. Consequently, Freudenberg operates in a constantly changing environment and is exposed to technological progress and a wide range of innovations. In specific terms, this means that Freudenberg comes up against new products, technologies or organizational structures.

Freudenberg addresses the implications of these customary risks in its regularly updated corporate strategy and limits these risks by various measures, in particular in-house research and development and innovation. The most important pillar and key driver of innovation at Freudenberg is to be found in the Business Groups, whose research and development activities are closely geared to their customers. In addition, the Freudenberg Group acquires external companies or business units to add to the Group’s technology and product portfolio and to enhance competitiveness through innovation.

With the Freudenberg Technology Innovation Corporate Function, Freudenberg has created an organizational unit that bundles the Group’s technical knowledge – in particular through cross-sectional technologies. At 4.7 percent, Freudenberg invests a substantial share of sales in research and development. This has led to an increase in the share of sales attributable to new products to 33.6 percent.

### **Contractual risks**

Freudenberg enters into contracts with third parties on a daily basis and makes continuous adjustments to its

portfolio through acquisitions and disinvestments of companies and business units. During the course of these activities, obligations are assumed or commitments undertaken that may change as time goes by, must be complied with over a longer period of time, or may prove impossible to meet as a consequence of unforeseen events. These activities could in retrospect prove disadvantageous and above all could negatively impact the earnings situation of the Group to a limited extent. Freudenberg has several measures in place to deal with these significant risks, such as comprehensive upfront analyses and checks with regard to acquisitions supported by external experts and consultants. This is complemented by interdisciplinary and supra-regional risk management resources established at both Business Group and holding company level, as well as the continuous improvement and further development of systematic contract management and contract monitoring in line with business demands.

### **Occupational health and safety environmental risks**

Freudenberg has production sites in some 60 countries, some of which operate under very different conditions. There are operative risks with regard to production processes in particular in terms of workflows, production equipment and the processing of hazardous materials. Freudenberg trains employees to comply with safety regulations and in the use of protective equipment, and fulfills all relevant safety requirements and guidelines.

Freudenberg locations are continually exposed to natural hazards as a result of the presence in various regions and climate zones. In spite of the usual preventive measures, earthquakes, floods, forest fires, mudslides or heavy snowfall can occasionally negatively impact business operations of the units concerned. Natural hazards are taken into consideration as part of the site selection process and during the acquisition process.

Group-wide standards in the fields of occupational health and safety, the environment, and fire protection

define and implement the minimum requirements and guidelines for the Business Groups. Internal and external audit processes monitor the implementation of programs to continuously minimize risks in these fields at the Business Groups. The audit findings are systematically evaluated and measures implemented throughout the Group. Sites regularly conduct emergency and evacuation exercises. Despite all of these preventive measures, significant occupational health and safety and environmental risks cannot be entirely ruled out.

In the case of hazardous substances, for example, efforts are made to identify substitute substances before a statutory provision comes into effect with a view to minimizing potential and customary risks arising in connection with such hazardous substances. This forestalls the effects on production of a possible ban on a given substance. In addition, many product developments are subject to a stage gate process which among other things ensures that new products have a better environmental performance than their predecessors and that undesirable substances are not used in new product development.

Since it was launched in 2002, the worldwide “We all take care” initiative motivates Freudenberg employees to make their work and their workplaces safer, healthier and more environmentally friendly as well as taking responsibility for society. The initiative is supported by the Group's top management, employee representatives and senior executives in the Business Groups, and the best projects are honored each year.

### **Internal control and risk management system (referred to the Group financial reporting process)**

The Group internal control and risk management system for the financial reporting process at Freudenberg is tasked with ensuring the functionality, compliance and effectiveness of financial reporting in the Group. The internal control system includes measures intended to ensure the complete, accurate and timely transmission and presentation of information of relevance for the preparation of the

consolidated financial statements and the consolidated management report of the Group.

The consolidated financial statements and the consolidated management report of the Group are prepared centrally. The minimum requirements regarding reporting content submitted by the companies are defined and controlled centrally, and the time frame and process requirements are monitored. The standards for IFRS reporting as regularly updated form the basis for compiling the IFRS reporting packages of the parent company and of all domestic and foreign subsidiaries included in the consolidation. There are binding instructions for Freudenberg's internal coordination and other preparatory work for the financial statements.

Freudenberg uses a standard software tool for the Group financial reporting process. This tool is used throughout the company worldwide and clearly defines user rights observing the principle of the separation of functions. The system covers both reporting by Freudenberg companies and the data for the consolidated financial statements. Additional controls are implemented in the consolidation process.

The consolidation process is also supported by a software tool for the automatic reconciliation of balances throughout the Group. The individual companies have a local internal control system which is the responsibility of the respective Business Group and which must comply with uniform minimum requirements applicable throughout the Group.

Corporate Controlling & Accounting organizes seminars for employees involved in this process in the event of important changes in financial reporting procedures and IT applications, thereby guaranteeing a consistently high standard of reporting. Actuarial reports and evaluations are compiled by specialist service providers.

There is a clear demarcation of tasks between Corporate Controlling & Accounting and the companies. The segregation of functions and the dual control principle are systematically applied. It is

standard procedure for the Group auditor and the auditors of the consolidated companies to review the functionality and compliance of the relevant Group's reporting processes. Suggestions for improvements are regularly discussed and optimized. In addition, the functionality and compliance of processes of relevance to financial reporting are reviewed regularly under an internal auditing process. The complete package of processes, systems and controls adequately ensures that the Group's reporting process is in accordance with IFRS and other regulations and laws of relevance to financial reporting and is reliable.

### **Overall assessment of the opportunities and risks**

Freudenberg has an in-depth understanding of the short- and long-term opportunities necessary for the further development of existing business areas and the development of new activities to secure the future of the Group, and actively pursues these opportunities.

In our opinion, based on the probability of occurrence and potential impact of the risks described above, they do not individually or cumulatively present a risk to the continued existence of Freudenberg.

## REPORT ON EXPECTED DEVELOPMENTS

We expect a generally challenging macroeconomic environment in the 2019 financial year. Growth forecasts for the global economy in 2019 are slightly lower than the previous year.<sup>1</sup> The risk of a stronger decline in global growth has risen. The geopolitical and economic uncertainties are not expected to decrease. In light of increasingly volatile markets, it will be necessary to follow future developments closely and respond flexibly. Attention will focus among other things on the threat of an escalating trade conflict between the USA and China, the outcome of Brexit, the financial stability of individual nations, rising raw material prices, and a possible economic slowdown in the automotive sector. Freudenberg is well equipped to manage these and other future challenges with strategic planning to 2020 on issues such as e-mobility, digitalization and sustainability as well as flexible solutions for changing customer and market needs. Set against this backdrop, we are engaged in careful planning and expect modest business development in the markets relevant to the Group.

With regard to individual developments in our regional core markets, we expect the economic trend in Germany to decelerate further, with growth at 1.3 percent. The forecast for the eurozone, which remains the Group's largest sales region, has also been adjusted downward to 1.5 percent. This trend is above all attributable to uncertainties in foreign policy and a less expansive monetary policy on the part of the European Central Bank.

We anticipate economic growth of 2.5 percent in the USA in 2019 on the back of continued higher consumer spending as a result of lower unemployment and rising incomes as well as a continuation of the positive economic effects of the enacted U.S. tax reform. Further interest rate increases by the U.S. Federal Reserve and the risk of further escalation in the trade dispute with China are, however, the first indications of a slight weakening in economic activity.

We expect strong differences in growth rates for the emerging economies. China remains one of the most important growth regions for Freudenberg. Given that China already recorded its weakest growth since the early 1990s in the 2018 financial year, we expect growth to decline further to 6.2 percent. Momentum will continue to decelerate, above all as a result of the tension from the ongoing trade conflict with the USA and the associated negative effects on exports. As China's overall debt continues to rise, a counteractive, expansionary fiscal and monetary policy is approaching its limits. We forecast economic growth of 7.3 percent for India, on the same level as the previous year. This trend is supported by ongoing good private consumption and a positive investment climate.

In Brazil, we expect to see a marked 2.4 percent increase in economic growth in 2019. Under a new government, we anticipate swift financial reforms and expect to see private consumption and investments recover. Lower government spending could curb growth slightly.

For Russia we expect economic growth to continue at a moderate 2.0 percent. There are no signs of a significant recovery. Growth momentum comes from the oil business. The increase in the VAT rate that came into effect in 2019 could, however, impact private consumption.

In the automotive industry we expect modest growth of 1.0 percent in global production. Increases of 1.6 percent in China and 1.4 percent in Japan will be offset by decreases of 0.5 percent in North America and 0.3 percent in Europe.

Furthermore, developments in the oil and gas industry are also of relevance to Freudenberg. Investments in the oil and gas industry will pick up in the 2019 financial year. Based on the lower price levels towards the end of the previous year, demand for oil will

<sup>1</sup> Sources: in this chapter, all figures relating to economic developments are based on data from Consensus Economics, the European Commission, the International Monetary Fund, and the market research and consulting company Schlegel und Partner.

increase, thus pushing the oil price upwards in 2019. We anticipate positive growth rates above all in the USA, Iraq and Saudi Arabia.

Despite the growing complexity of the environment in which we operate and constantly changing customer requirements, we expect almost all our Business Groups to record moderate business development in line with the relevant markets in the 2019 financial year. Sales increases in the individual Business Groups will offset the reverse effect attributable to the disposal of the Freudenberg IT Business Group. Together with the Business Group management, the decision was taken in early 2019 to further develop the activities of Freudenberg IT under Novacap, a Canadian financial investor with a clear IT growth plan.

**Freudenberg Sealing Technologies** expects market developments to be generally stable in 2019. Despite regional and industry-specific differences, slight global sales growth is expected for the sealing sector as a whole. Increases in productivity, leaner processes in development, sales and administration together with substantial price rises are to limit the impact of higher costs. With regard to digitalization and the transformation to e-mobility, measures will be significantly intensified and accelerated. Freudenberg Sealing Technologies is making substantial resources available to that end. Among other activities, fuel cell and battery products will be bundled in a new “Battery and Fuel Cell Systems” division.

**Freudenberg Oil & Gas Technologies** expects to see a slight increase in sales in the 2019 financial year on the back of the anticipated stabilization of the oil price and the resulting investments in the oil and gas industry. This trend will continue to be supported by productivity enhancement programs.

**EagleBurgmann** expects a modest sales trend in almost all regions in 2019. This development will be strengthened by productivity increases and cost reductions.

**Freudenberg Medical** expects a slightly positive organic sales growth in 2019. This trend will be driven in particular by the launch of new products.

**Vibracoustic** expects a slightly positive business trend in 2019. This will be driven above all by growth in air spring systems in the Chassis Division and by strong developments in North America. The Powertrain Division will also see slight growth.

The **Freudenberg Performance Materials** Business Group expects moderate sales development in 2019. Almost all units will contribute to this trend. Productivity improvements will have a positive impact.

**Freudenberg Filtration Technologies** expects a slightly positive sales trend for the coming year. This development will be driven above all by the Industrial Filtration Division. Business with cabin air filters will remain stable at the level of the previous year.

The **Japan Vilene Company** Business Group expects to see a slight rise in sales and a positive impact from productivity improvements despite a challenging market environment. The further integration of Hanns Glass GmbH & Co. KG acquired in the 2018 financial year will increasingly strengthen the position of the Business Group in the European automotive industry.

**Freudenberg Home and Cleaning Solutions** expects to see a modest sales trend in 2019 on the back of innovations in the consumer business and the Professionals Division. Efficiency improvement initiatives throughout the value chain will lead to sustained increases in productivity.

**Freudenberg Chemical Specialities** expects its strong market position to continue in 2019, forming the basis for a slightly positive sales trend. All units will contribute to this development.

As a global technology company Freudenberg is characterized by its broad portfolio of products and companies together with forward-looking innovations and solutions at the highest technological level. Our aim for 2019 is to again harness the resulting growth

potential by systematically implementing our long-term strategy for the sustained benefit of our customers and society. In order to manage economic and geopolitical uncertainties, we will stay agile and continue to respond swiftly and flexibly to changing customer and market requirements. As rapid change progresses, driven in part by digitalization, we must reinforce our innovation strength even further and accelerate our ability to innovate. To that end, we are engaged in the constant further development of our material, process and system know-how and, in that context, are focusing on key cross-sectional technologies of relevance to several Business Groups in order to generate synergy effects. The swift integration of newly-acquired businesses, responsible leadership and diversity-oriented talent management remain the pivotal factors for success.

In 2019, we will continue to drive forward with our projects in the fields of sustainability, non-financial key performance indicators, and our responsibility for society. As a responsible, innovative technology group, Freudenberg will once again implement numerous measures in environmental protection, occupational health and safety. As in the previous year, special attention will again be devoted to occupational safety in 2019. We therefore expect to see a slight reduction in the LDIFR (Lost Day Incident Frequency Rate – all incidents at work involving at least one day's absence per million working hours) for the 2019 financial year.

The analysis of present risks concludes there is no threat to the continued existence of Freudenberg. There were no major changes in the overall risk situation compared with the previous year.

Based on the developments and challenges described above, we expect Group sales in the 2019 financial year to be on the level of the previous year. The operating result is expected to be slightly lower than the level for the previous year. This is driven by rising ramp up costs to expand the e-mobility business. On the basis of these forecasts, we expect a slight decline in the return on sales in 2019.

Weinheim, March 20, 2019

The Board of Management

## FREUDENBERG SE (HGB)

Freudenberg SE is a wholly-owned subsidiary of Freudenberg & Co. KG, Weinheim, and the parent company with responsibility for the operations of the Freudenberg Group.

The net assets, financial position and results of operations of Freudenberg SE are characterized by its holding function. The company holds interests in affiliated companies and it is the profit from these investments that dominates the earnings situation of Freudenberg SE.

The annual financial statements of Freudenberg SE are set up in accordance with the Handelsgesetzbuch (HGB – German Commercial Code) and the Aktiengesetz (AktG – German Stock Corporation Act).

### EARNINGS SITUATION

At €466.1 million (previous year: €570.2 million), the profit of Freudenberg SE for the year was about 18 percent lower than the figure for the previous year. This fall was chiefly due to the investment result, which declined by €95.2 million (previous year: increase of €119.0 million) compared with the previous year.

[€ million]	2017	2018
Sales	16.6	21.5
Investment result	707.3	612.1
Other operating income	6.1	7.0
Material expenses	-5.2	-9.6
Personnel expenses	-10.1	-12.0
Other operating expenses	-92.9	-99.5
Financial result	-30.5	-29.9
<b>Profit before taxes</b>	<b>591.3</b>	<b>489.6</b>
Income taxes	-21.1	-23.5
<b>Profit for the year</b>	<b>570.2</b>	<b>466.1</b>

The **sales** of Freudenberg SE largely result from the charging of services and from royalties for the Freudenberg global brand amounting to €11.4 million (previous year: €10.7 million).

The **investment result** fell from €707.3 million to €612.1 million. Among other factors, dividend payments decreased from €117.5 million to €30.7 million.

**Other operating income** rose from €6.1 million to €7.0 million. Higher exchange rate gains were the main factor in this development.

**Material expenses** rose from €5.2 million to €9.6 million and represent services purchased.

The increase of €1.9 million in **personnel expenses** to €12.0 million (previous year: €10.1 million) is due to higher expenses for pension provisions.

The **other operating expenses** rose from €92.9 million to €99.5 million. This increase was chiefly due to higher expenses for computer services.

The **financial result** improved by €0.6 million. Among other factors, the previous year had been negatively affected by an impairment loss on financial assets.

**Income taxes** rose by €2.4 million from €-21.1 million to €-23.5 million mainly as a result of tax payments for previous periods.

## ASSETS, LIABILITIES AND FINANCIAL POSITION

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Intangible assets	8.1	11.7
Tangible assets	1.0	1.4
Financial assets	2,389.5	2,447.0
Receivables and other assets	1,817.0	2,098.7
Cash at bank and in hand	57.3	28.4
<b>Total assets</b>	<b>4,272.9</b>	<b>4,587.2</b>
Equity	2,760.5	3,108.1
Provisions	143.2	151.0
Liabilities	1,369.2	1,328.1
<b>Total equity and liabilities</b>	<b>4,272.9</b>	<b>4,587.2</b>

The assets of Freudenberg SE as the holding company chiefly consist of shares and participations in companies and amounts receivable from these companies.

As at the statement of financial position date, **financial assets** had risen by €57.5 million to €2,447.0 million (previous year: €2,389.5 million): as a result of various capital increases and asset transfers.

**Receivables and other assets** mainly include amounts receivable from affiliates. As at the date of the statement of financial position, these had risen by €278.9 million to €2,059.8 million (previous year: €1,780.9 million). This is mainly the result of higher cash pool receivables from Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung with headquarters in Weinheim, Germany.

**Equity** increased to €3,108.1 million (previous year: €2,760.5 million). The net retained profit from the previous year rose by €347.6 million from €2,015.3 million to €2,362.9 million. The profit for the year fell from €570.2 million to €466.1 million. The net retained profit for the year was reduced by dividends paid in the amount of €118.5 million (previous year: €114.4 million).

**Provisions** increased by €7.8 million from €143.2 million to €151.0 million and chiefly include provisions for pensions.

**Liabilities** fell by €41.1 million from €1,369.2 million to €1,328.1 million, chiefly as a result of the repayment of loans.

## SUMMARY STATEMENT

Against the backdrop of our sound situation with respect to net assets and financial position and the high earnings of our affiliates, we assess the general economic situation of Freudenberg SE as positive. This statement is not affected by the events reported in the chapter "Report on Events After the Date of the Statement of Financial Position".

## REPORT ON EXPECTED DEVELOPMENTS

As the parent company of the Freudenberg Group responsible for business operations but without its own business operations, Freudenberg SE mainly receives income from its affiliates. As a general principle, expectations concerning business developments within the Freudenberg Group therefore also have an impact on the earnings of Freudenberg SE. For this reason, the assumptions and statements made in the report on expected developments for Freudenberg are equally relevant to Freudenberg SE.

## NET RETAINED PROFIT AND DIVIDEND

In December 2018, the Shareholders Meeting resolved, as proposed by the Supervisory Board and the Board of Management, to pay a dividend of €118.5 million (previous year: €114.4 million) to the sole shareholder Freudenberg & Co. KG in 2018 from the net retained profit as at December 31, 2017, which amounted to €2,015.3 million.

The Board of Management proposes that the profit for the 2018 financial year, amounting to €466.1 million (previous year: €570.2 million) should be carried forward to new account.

## SUMMARY CONCLUDING STATEMENT OF DEPENDENT COMPANY REPORT OF FREUDENBERG SE

“We hereby declare in accordance with Sec. 312, Para 3, AktG (German Stock Corporation Act) that, on the basis of the circumstances of which we were aware at the time when transactions with affiliated companies were implemented or acts or forbearances were taken, our company received consideration comparable with that obtainable from a non-affiliated company and did not suffer any disadvantage as a result of such acts or forbearances.”



# CONSOLIDATED FINANCIAL STATEMENTS

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# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## ASSETS

[€ million]	Note	Dec.31, 2017	Dec.31, 2018
<b>ASSETS</b>			
Intangible assets	(1)	2,572.0	2,475.3
Tangible assets	(2)	2,359.1	2,204.0
Investment properties	(3)	12.7	10.3
Investments in joint ventures	(4)	149.5	167.3
Investments in associated companies	(5)	903.4	947.8
Other financial assets		122.5	118.6
Financial assets		1,175.4	1,233.7
Other non-current assets	(8)	55.2	72.1
Deferred taxes	(27)	225.0	208.5
<b>Non-current assets</b>		<b>6,399.4</b>	<b>6,203.9</b>
Inventories	(6)	1,021.9	1,127.8
Contract assets	(7)	-	60.0
Trade receivables		1,509.1	1,467.5
Other current assets		177.4	205.8
Current receivables	(8)	1,686.5	1,733.3
Current tax assets		87.3	81.1
Securities and cash at bank and in hand	(9)	998.8	984.7
<b>Current assets</b>		<b>3,794.5</b>	<b>3,926.9</b>
<b>Non-current assets held for sale and disposal groups</b>	(10)	<b>0.0</b>	<b>108.3</b>
		<b>10,193.9</b>	<b>10,239.1</b>

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## EQUITY AND LIABILITIES

[€ million]	Note	Dec.31, 2017	Dec.31, 2018
<b>EQUITY AND LIABILITIES</b>			
Subscribed capital		450.0	450.0
Capital reserves		50.2	50.2
Retained earnings		4,008.9	4,452.9
<b>Equity without non-controlling interests</b>		<b>4,509.1</b>	<b>4,953.1</b>
Non-controlling interests		325.9	359.0
<b>Equity</b>	(11)	<b>4,835.0</b>	<b>5,312.1</b>
Provisions for pensions and similar obligations	(12)	735.9	718.1
Other long-term provisions	(13)	142.6	109.0
Long-term provisions		878.5	827.1
Financial debt		932.3	887.6
Other non-current liabilities		280.7	132.3
Liabilities	(14)	1,213.0	1,019.9
Deferred taxes	(27)	357.1	348.8
<b>Non-current liabilities</b>		<b>2,448.6</b>	<b>2,195.8</b>
Other current provisions	(13)	631.5	571.6
Current tax liabilities		94.6	90.7
Financial debt		859.8	802.5
Trade payables		882.9	883.0
Other current liabilities		441.5	316.1
Liabilities	(14)	2,184.2	2,001.6
<b>Current liabilities</b>		<b>2,910.3</b>	<b>2,663.9</b>
<b>Liabilities in connection with non-current assets held for sale and disposal groups</b>	(10)	<b>0.0</b>	<b>67.3</b>
		<b>10,193.9</b>	<b>10,239.1</b>

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS

[€ million]	Note	2017	2018
Sales	(15)	9,345.6	9,455.4
Cost of sales	(16)	-6,171.1	-6,395.6
<b>Gross profit</b>		<b>3,174.5</b>	<b>3,059.8</b>
Selling expenses	(17)	-1,365.8	-1,297.2
Administrative expenses	(18)	-622.6	-633.5
Research and development expenses	(19)	-414.2	-374.3
Other income	(20)	103.3	135.3
Other expenses	(21)	-99.1	-83.5
Income from investments in joint ventures	(4),(22)	21.5	22.0
<b>Profit from operations</b>		<b>797.6</b>	<b>828.6</b>
Income from investments in associated companies	(5),(23)	79.4	46.9
Other investment result	(24)	36.8	-9.5
Other interest and similar income	(25)	13.3	13.3
Interest and similar expenses	(26)	-44.0	-44.0
<b>Financial result</b>		<b>85.5</b>	<b>6.7</b>
<b>Profit before income taxes</b>		<b>883.1</b>	<b>835.3</b>
Income taxes	(27)	-183.0	-232.9
<b>Consolidated profit</b>		<b>700.1</b>	<b>602.4</b>
Of which: attributable to Freudenberg		651.9	553.2
Of which: attributable to non-controlling interests	(28)	48.2	49.2

# CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

[€ million]	Note	2017	2018
<b>Consolidated profit</b>		<b>700.1</b>	<b>602.4</b>
<b>Other comprehensive income:</b>			
Remeasurement of defined benefit plans	(12)	12.4	5.3
Changes in value of securities		0.0	-22.3
Income tax relating to items that will not be reclassified to profit or loss	(11)	-23.9	-1.7
Share in other comprehensive income of associated companies	(5)	-12.3	-34.4
<b>Items that will not be reclassified to profit or loss</b>		<b>-23.8</b>	<b>-53.1</b>
Exchange rate differences	(11)	-329.6	73.6
Changes in value of securities	(11)	14.3	0.0
Change in value of derivative financial instruments	(11)	-0.6	0.3
Miscellaneous comprehensive income		-41.2	10.4
Income tax relating to items that will be reclassified subsequently to profit or loss when specific conditions are met	(11)	19.1	-4.0
Share in other comprehensive income of joint ventures	(4)	-0.5	0.2
Share in other comprehensive income of associated companies	(5)	47.2	-19.0
<b>Items that will be reclassified subsequently to profit or loss when specific conditions are met</b>		<b>-291.3</b>	<b>61.5</b>
<b>Other comprehensive income for the year</b>		<b>-315.1</b>	<b>8.4</b>
<b>Total comprehensive income for the year</b>		<b>385.0</b>	<b>610.8</b>
Of which: attributable to Freudenberg		387.5	553.5
Of which: attributable to non-controlling interests		-2.5	57.3

# CONSOLIDATED STATEMENT OF CASH FLOWS

[€ million]	Note	2017	2018
Profit before taxes		883.1	835.3
Depreciation, amortization and impairment losses on intangible assets, tangible assets, investment properties and financial assets less write-ups		479.5	441.7
Income from investments and interest income		-107.5	-41.6
Income taxes paid		-248.2	-244.6
Profit or loss on disposal of intangible assets, tangible assets, investment properties and financial assets		-11.0	-22.1
Dividends received		60.6	26.8
Other expenditure and income not affecting payments		-0.9	-2.5
Changes in inventories, trade receivables and other assets		-191.8	-70.5
Changes in trade payables and other liabilities		62.5	5.6
Changes in provisions		31.5	-68.3
Interest paid		-39.5	-41.7
Interest received		10.7	10.3
<b>Cash flow from operating activities</b>	(29)	<b>929.0</b>	<b>828.4</b>
Cash inflow from disposals of intangible assets, tangible assets and investment properties		32.7	47.9
Cash outflow from acquisitions of intangible assets, tangible assets and investment properties		-501.5	-378.6
Cash inflow from disposals of financial assets		25.5	1.5
Cash outflow from acquisitions of financial assets		-11.5	-74.5
Cash inflow in connection with the disposal of consolidated companies or other business units less cash disposed of		12.3	-1.5
Cash outflows in connection with the acquisition of consolidated companies or other business units less cash acquired		-169.6	-175.8
<b>Cash flow from investing activities</b>		<b>-612.1</b>	<b>-581.0</b>
Payments to shareholders/non-controlling interests	(30)	-153.1	-142.4
Cash inflow from the take-up of financial debts		167.7	178.0
Cash outflow from the repayment of financial debts		-258.0	-287.4
Cash inflow from disposals of loans and securities held as non-current assets		2.5	3.6
Cash outflow from acquisitions of loans and securities held as non-current assets		-4.1	-0.8
<b>Cash flow from financing activities</b>		<b>-245.0</b>	<b>-249.0</b>
<b>Changes in cash and cash equivalents with effect on payments</b>	(32)	<b>71.9</b>	<b>-1.6</b>
Changes in cash and cash equivalents from exchange rate differences		-33.8	-9.1
<b>Cash and cash equivalents at beginning of year</b>		<b>960.7</b>	<b>998.8</b>
<b>Cash and cash equivalents at end of year</b>		<b>998.8</b>	<b>988.1</b>

<sup>1</sup> The figures include assets and groups of assets held for sale.

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

[€ million]	Subscribed capital	Capital reserves	Currency translation	Remeasurement of defined benefit obligations	Fair value measurement of securities	Financial investments accounted for using the equity method
<b>Status Jan. 1, 2017</b>	<b>450.0</b>	<b>50.2</b>	<b>139.4</b>	<b>-401.7</b>	<b>30.3</b>	<b>83.2</b>
Consolidated profit						
Appropriation of profit						
Other comprehensive income			-294.7	83.2	13.3	40.1
<b>Status Dec. 31, 2017</b>	<b>450.0</b>	<b>50.2</b>	<b>-155.3</b>	<b>-318.5</b>	<b>43.6</b>	<b>123.3</b>

<b>Status Jan. 1, 2018</b>	<b>450.0</b>	<b>50.2</b>	<b>-155.3</b>	<b>-318.5</b>	<b>44.7</b>	<b>123.3</b>
Consolidated profit						
Appropriation of profit						
Other comprehensive income			69.5	8.3	-22.5	-56.4
<b>Status Dec. 31, 2018</b>	<b>450.0</b>	<b>50.2</b>	<b>-85.8</b>	<b>-310.2</b>	<b>22.2</b>	<b>66.9</b>

[€ million]	Tax effects recognized in equity	Other revenue reserves	Total retained earnings	Equity without non-controlling interests	Non-controlling interests	Equity
<b>Status Jan. 1, 2017</b>	<b>85.3</b>	<b>3,799.3</b>	<b>3,735.8</b>	<b>4,236.0</b>	<b>367.3</b>	<b>4,603.3</b>
Consolidated profit		651.9	651.9	651.9	48.2	700.1
Appropriation of profit		-114.4	-114.4	-114.4	-38.9	-153.3
Other comprehensive income	-2.5	-103.8	-264.4	-264.4	-50.7	-315.1
<b>Status Dec. 31, 2017</b>	<b>82.8</b>	<b>4,233.0</b>	<b>4,008.9</b>	<b>4,509.1</b>	<b>325.9</b>	<b>4,835.0</b>
<b>Status Jan. 1, 2018<sup>1</sup></b>	<b>82.8</b>	<b>4,240.9</b>	<b>4,017.9</b>	<b>4,518.1</b>	<b>325.9</b>	<b>4,844.0</b>
Consolidated profit		553.2	553.2	553.2	49.2	602.4
Appropriation of profit		-118.5	-118.5	-118.5	-24.2	-142.7
Other comprehensive income	-6.3	7.7	0.3	0.3	8.1	8.4
<b>Status Dec. 31, 2018</b>	<b>76.5</b>	<b>4,683.3</b>	<b>4,452.9</b>	<b>4,953.1</b>	<b>359.0</b>	<b>5,312.1</b>

<sup>1</sup> The opening balances were in some cases adjusted due to the effects of the first-time application of IFRS 9 and IFRS 15. See also the comments on equity in note (11) of the notes to the consolidated financial statements.

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

## General

Freudenberg is an international industrial group mainly active as a supplier to the automotive, mechanical engineering, oil and gas industries as well as the textile and apparel industries. The portfolio also includes medical technology and consumer goods.

The consolidated financial statements of Freudenberg SE, Weinheim, Germany, for 2018 have been drawn up in accordance with the International Financial Reporting Standards (IFRS) as they are to be applied in the European Union (EU) as of the date of the statement of financial position (December 31, 2018).

Freudenberg SE has availed itself of the right as laid down in Sec. 315a (3) HGB (Handelsgesetzbuch, "German Commercial Code") to set up its consolidated financial statements in accordance with IFRS.

The Group currency is the euro. All amounts are indicated in million euros unless otherwise stated.

## Accounting standards published but not yet applied

The International Accounting Standards Board (IASB) and the IFRS Interpretations Committee have published additional standards, interpretations and amendments the application of which was not yet binding for the 2018 financial year. The application of these standards, interpretations and amendments is subject to endorsement by the EU which, in some cases, is still pending.

Standards/Interpretations/amendments		Application binding from <sup>1</sup>	Endorsed by EU	Probable impact
IFRS 3	Amendments to IFRS 3 – <i>Business Combination</i>	January 1, 2020	No	No material impact
IFRS 9	Amendments to IFRS 9 – <i>Prepayment Features with Negative Compensation</i>	January 1, 2019	Yes	No material impact
IFRS 16	<i>Leases</i>	January 1, 2019	Yes	See information provided below
IFRS 17	<i>Insurance Contracts</i>	January 1, 2021	No	No material impact
IAS 19	Amendments to IAS 19 – <i>Plan Amendment, Curtailment or Settlement</i>	January 1, 2019	No	No material impact
IAS 28	<i>Long-term Interests in Associates and Joint Ventures</i>	January 1, 2019	Yes	No material impact
Various standards	Amendments to IAS 1 and IAS 8 – <i>Definition of Material</i>	January 1, 2020	No	No material impact
Various standards	<i>Annual Improvements to IFRSs 2015-2017 Cycle</i>	January 1, 2019	No	No material impact
IFRIC 23	<i>Uncertainty over Income Tax Treatments</i>	January 1, 2019	Yes	No material impact
Conceptual Framework	Amendments to Conceptual Framework – <i>References to the Conceptual Framework in IFRS Standards</i>	January 1, 2020	No	No material impact

<sup>1</sup> From this date or for reporting periods beginning after this date.

In January 2016, the IASB published IFRS 16 – *Leases*. The standard was endorsed into EU law on October 31, 2017. Freudenberg will apply the new standard for the first time to the financial year commencing on January 1, 2019 on the basis of the modified retrospective method and will dispense with the restatement of the comparison period in accordance with the transition requirements. For major classes of assets, the introduction of a uniform model for the recognition of leased assets by the lessee at Freudenberg will result in the recognition of right-of-use assets with respect to leased assets and corresponding lease liabilities. This will probably lead to an increase in the statement of financial position total by about 4.0 percent and will mainly concern real property leased by Freudenberg. However, there will be no negative impact on equity at the time of the first-time application as a right-of-use asset in the amount of the lease liability will be recognized for all existing

operating leases. In the statement of profit or loss, only insignificant effects on the profit from operations and the consolidated profit are expected.

In future, lease payments are to be divided into a principal portion and an interest portion. Only the interest portion is to be deducted from the cash flow from operating activities. On the other hand, cash flow from financing activities will be reduced by the principal portion of the payments.

#### Accounting standards applied for the first time in the reporting year

In the 2018 financial year, the application of the following amended and new standards was binding for the first time:

Standards/amandments	Title	Impact
IFRS 2	Amendments to IFRS 2 – <i>Classification and Measurement of Share-based Payment Transactions</i>	No material impact
IFRS 4	Amendments to IFRS 4 – <i>Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts</i>	No material impact
IFRS 9	<i>Financial Instruments</i>	See information provided below
IFRS 15	<i>Revenue from Contracts with Customers</i> Clarifications on IFRS 15 – <i>Revenue from Contracts with Customers</i>	See information provided below
IAS 40	Amendments to IAS 40 – <i>Transfers of Investment Property</i>	No material impact
IFRIC 22	<i>Foreign Currency Transactions and Advance Consideration</i>	No material impact
Various standards	<i>Annual Improvements to IFRSs 2014-2016</i>	No material impact

In July 2014, the IASB published IFRS 9 – *Financial Instruments*. The standard was endorsed into EU law in November 2016. IFRS 9 replaces IAS 39 – *Financial instruments: recognition and measurement* as well as the relevant interpretations. The introduction of IFRS 9 has also resulted in amendments to IFRS 7 – *Financial Instruments: Disclosures*. IFRS 9 states new requirements for the classification and measurement of financial assets, the impairment of financial assets and hedge accounting.

Freudenberg applies the new standard by the retrospective method and dispenses with the restatement of the comparison period on the basis of the transitional requirements. The values disclosed for 2017 therefore continue to be based on IAS 39.

All the effects of the first-time application were recognized cumulatively in equity as at January 1, 2018. Changes to the opening statement of financial position values as a result of the first-time application are presented below. The requirements of IFRS 9 do not apply to financial instruments which had already been de-recognized as at January 1, 2018. The changed disclosure requirements as a result of the amendments to IFRS 7 are not presented for the comparison period of 2017.

The introduction of IFRS 9 results in changes in the **classification and measurement of financial instruments**. IFRS 9 defines three classification categories for financial assets: “measured at amortized cost”, “measured at fair value through other comprehensive income” and “measured at fair value through profit or loss”. The standard replaces the existing categories defined in IAS 39: “loans and receivables at amortized cost”, “held-to-maturity investments” “available-for-sale financial assets (measured at fair value or amortized cost without effect on net income)” and “financial assets measured at fair value through profit or loss”. As at December 31, 2017, Freudenberg did not hold any held-to-maturity financial investments or financial assets measured at fair value through profit or loss. Financial instruments are assigned to the categories of IFRS 9 on the basis of the business model within which the financial assets are held and the contractual cash flow characteristics of the financial assets. Existing financial instruments were classified and assessed on the basis of assessments made as at January 1, 2018. All loans and receivables measured by Freudenberg at amortized cost in accordance with IAS 39 continue to be measured at amortized cost under IFRS 9. The cash flows associated with these financial instruments consist solely of principal and interest payments and are managed by Freudenberg in a business model whose objective is achieved by collecting the contractual cash flows. In future, certain financial instruments will be measured at fair value through profit or loss. This concerns debt instruments with cash flows not consisting solely of principal and interest payments, investments for which another measurement would result in an accounting mismatch and shares in partnerships. Furthermore, derivative financial instruments which do not meet the requirements for hedge accounting are measured at fair value through profit or loss. There is no difference between the carrying amount in accordance with IAS 39 and the fair value as at January 1, 2018.

Freudenberg does not hold any financial instruments for trading. As regards equity instruments, Freudenberg exercises the option of recording changes in value in equity without effect on net income. The amounts recognized under other comprehensive income for these equity instruments are not reclassified to profit or loss upon the later disposal of these instruments. A reconciliation of the measurement categories and carrying amounts under IAS 39 and IFRS 9 is given in the table below. IFRS 9 had no effect on the accounting of financial liabilities at Freudenberg.

In accordance with IFRS 9, **impairment losses** are measured using the expected loss model on the basis of expected future credit losses. The incurred loss model of IAS 39, under which only losses which had already been incurred were recognized, no longer applies. In accordance with IFRS 9, impairment losses are recognized for all financial assets measured at amortized cost, debt instruments measured at fair value without effect on net income and contract assets. In principle, IFRS 9 provides for a three-stage procedure. A loss allowance is measured either on the basis of the 12-month expected credit loss (stage 1) or on the basis of the lifetime expected credit loss if there has been a significant increase in credit risk since initial recognition (stage 2) or a credit impairment has been identified (stage 3). In the case of debt instruments held by Freudenberg and measured at amortized cost, the default risk is normally low and these are therefore to be assigned to stage 1 of the impairment loss model. The application of the model to expected credit losses resulted in the recognition of impairment losses amounting to €1.0 million as at January 1, 2018. The impairment loss was not adjusted in the current reporting period as the change was not material. For the greater part of the financial assets, especially trade receivables and contract assets, the simplified approach is adopted. In this approach, the loss allowance is always calculated on the basis of the lifetime expected credit losses. In order to determine the expected credit losses, customers are assigned to groups with similar credit risks. In the case of appropriate individual circumstances and risk indications, individual impairment losses are recognized. Information related to the past and to the future is taken into consideration in the measurement of impairment losses. A financial instrument is de-recognized if, on the basis of an appropriate estimate, it is not to be expected that a financial asset can be realized in whole or in part. Further information on the

simplified impairment loss model developed by Freudenberg is given in note (14). As at the date of initial application, January 1, 2018, the application of IFRS 9 resulted in an increase of €3.8 million in impairments to trade receivables which was recognized in retained earnings without effect on net income.

IFRS 9 includes amended regulations on **hedge accounting**. However, in accordance with the option provided in the transition rules of IFRS 9 for hedge

accounting, Freudenberg has chosen to continue to apply the regulations of IAS 39 concerning hedge accounting and to apply the requirements of IFRS 9 concerning hedge accounting from a later date.

As at the date of initial application of IFRS 9, January 1, 2018, the financial instruments held by Freudenberg, taking into consideration the new measurement categories, were as follows:

[€ million]	Classification IAS 39	Carrying amount IAS 39	Classification and carrying amount IFRS 9			Difference <sup>1</sup>
			At amortized cost	At fair value through other comprehensive income	At fair value through profit or loss	
Other financial assets	Loans and receivables at amortized cost	8.3	8.3	0.0	0.0	0.0
Other financial assets	Available-for-sale financial assets at fair value without effect on profit or loss	84.2	0.0	72.4	11.8	0.0
Other financial assets	Available-for-sale financial assets at amortized cost	30.0	0.0	3.8	26.2	0.0
Trade receivables	Loans and receivables at amortized cost	1,509.1	1,505.3	0.0	0.0	-3.8
Other assets	Loans and receivables at amortized cost	104.9	103.2	0.0	1.7	0.0
Securities and cash at bank and in hand	Loans and receivables at amortized cost	998.8	997.8	0.0	0.0	-1.0
		<b>2,735.3</b>	<b>2,614.6</b>	<b>76.2</b>	<b>39.7</b>	<b>-4.8</b>

<sup>1</sup> The differences are the result of applying the new expected credit loss model of IFRS 9. The reclassifications of the financial instruments did not result in any changes to measurements.

As at the date of initial application of IFRS 9, January 1, 2018, the classification and measurement regulations had effects on various equity items:

[€ million]	
Status Dec. 31, 2017 Fair value measurement of securities – IAS 39	43.6
Reclassification of available-for-sale financial assets to the at fair value through profit or loss category	-1.1
<b>Status Jan. 1, 2018 Fair value measurement of securities – IFRS 9</b>	<b>42.5</b>
Status Dec. 31, 2017 Retained earnings – IAS 39	4,008.9
Reclassification of available-for-sale financial assets to the at fair value through profit or loss category	1.1
Increase in loss allowance for trade receivables and contract assets	-3.8
Increase in loss allowance for securities and cash at bank and in hand	-1.0
Increase in deferred tax assets	1.4
<b>Status Jan. 1, 2018 Retained earnings – IFRS 9</b>	<b>4,006.6</b>

In May 2014, the IASB published IFRS 15 - *Revenue from Contracts with Customers* and issued further clarifications of the standard in May 2016. In 2016, the new standards and clarifications were endorsed into EU law. IFRS 15 replaces IAS 11 – *Construction Contracts* and IAS 18 – *Revenue* as well as the relevant interpretations. Under this new standard, an entity recognizes revenue at an amount that reflects the consideration to which the entity expects to be entitled in exchange for the goods or services that will be transferred to the customer. The standard also contains new regulations concerning the timing of revenue recognition. The principles in IFRS 15 are applied using a five step model which is to be applied to all contracts with customers.

In accordance with the transition requirements, Freudenberg has applied IFRS 15 using the modified retrospective method. The cumulative effect of initially applying the new standard is recognized as an adjustment to the opening balance of retained earnings. The comparison period is presented in accordance with the previous standards. Freudenberg has decided to apply the standard retrospectively solely to such contracts which were not yet completed at the date of initial application.

The effects of applying the modified retrospective method to the opening balances of financial position as at January 1, 2018 were as follows:

[€ million]	Dec. 31, 2017	Effects of IFRS 15	Dec. 31, 2018
<b>ASSETS</b>			
Intangible assets	2,572.0	-41.1	2,530.9
Customer-specific development services		-41.1	
Tangible assets	2,359.1	-195.5	2,163.6
Customer-specific tools		-195.5	
Deferred taxes	225.0	-0.6	224.4
Other non-current assets	1,243.3	0.0	1,243.3
<b>Non-current assets</b>	<b>6,399.4</b>	<b>-237.2</b>	<b>6,162.2</b>
Inventories	1,021.9	16.4	1,038.3
Customer-specific products		-35.0	
Customer-specific tools		51.4	
Contract assets	-	49.2	49.2
Customer-specific products		39.3	
Customer-specific development services		9.9	
Other current assets	2,772.6	0.0	2,772.6
<b>Current assets</b>	<b>3,794.5</b>	<b>65.6</b>	<b>3,860.1</b>
	<b>10,193.9</b>	<b>-171.6</b>	<b>10,022.3</b>
<b>EQUITY AND LIABILITIES</b>			
Retained earnings	4,008.9	12.5	4,021.4
Other equity	826.1	0.0	826.1
<b>Equity</b>	<b>4,835.0</b>	<b>12.5</b>	<b>4,847.5</b>
Other long-term provisions	142.6	0.0	142.6
Non-current other liabilities	280.7	-120.7	160.0
Customer-specific development services		-29.2	
Customer-specific tools		-91.5	
Deferred taxes	357.1	4.5	361.6
Other non-current debt	1,668.2	0.0	1,668.2
<b>Non-current liabilities</b>	<b>2,448.6</b>	<b>-116.2</b>	<b>2,332.4</b>
Other current provisions	631.5	-18.3	613.2
Refund liabilities		-18.3	
Other current liabilities	441.5	-49.6	391.9
Customer-specific development services		-4.0	
Customer-specific tools		-63.9	
Refund liabilities		18.3	
Other current debt	1,837.3	0.0	1,837.3
<b>Current liabilities</b>	<b>2,910.3</b>	<b>-67.9</b>	<b>2,842.4</b>
	<b>10,193.9</b>	<b>-171.6</b>	<b>10,022.3</b>

Previously, the economic risks and rewards of **customer specific tools** associated with the possession of the asset remained with Freudenberg and therefore, were recognized as tangible assets of the Group. Allowances received from customers in connection with such tools were recognized as other liabilities upon the receipt of payment and realized as sales from tools over the useful life of the tool in accordance with IFRIC 18. Under IFRS 15, an entity recognizes revenue when (or as) a performance obligation is satisfied by transferring a good or service to a customer. In this context, an asset is deemed to be transferred when (or as) the customer obtains control of that asset. The new criteria for the transfer of control to the customer lead to an earlier recognition of revenue. Revenues from customer-specific tools will, under IFRS 15, be realized at a point in time, i. e. at the time of acceptance by the customer. The derecognition of tooling costs previously recognized as tangible assets and customer allowances previously recognized as liabilities results in a reduction of total assets as of January 1, 2018. In future, customer-specific tools under construction will be recognized as inventories while the corresponding customer allowances represent contract liabilities under IFRS 15 and will continue to be recognized as other liabilities.

Previously, costs in connection with **customer-specific development projects**, where the economic risks and rewards associated with the ownership of the asset remain with Freudenberg, were recognized as intangible assets if the project value exceeded a threshold defined for the Group. Allowances received from customers in connection with such development projects were recognized as other liabilities and subsequently recognized as revenue over the useful life of the asset in accordance with IFRIC 18. The control of customer-specific development projects is already transferred to the customer upon the performance of the development service. As a result, the application of IFRS 15 leads to an earlier recognition of revenue. The derecognition of development costs previously recognized as intangible assets and customer allowances previously recognized as liabilities is reflected by a reduction in total assets as of January 1, 2018.

Under IFRS 15, customers-specific development costs under construction will be recognized as contract assets. The corresponding customer allowances are defined as contract liabilities and will continue to be recognized as other liabilities. In connection with the first-time application of IFRS 15, development expenses incurred for customer-specific development projects are presented as cost of sales and no longer as research and development expenses.

Under IAS 18, revenue for **customer specific products** was recognized solely after the delivery of the goods to the customer. For products that have no alternative use due to their specifications, IFRS 15 leads to an earlier recognition of revenue over time, provided Freudenberg has an enforceable right to payment from the customer in an amount that at least compensates for the performance completed to date plus a reasonable profit margin. This change in accounting policy leads to a reduction in inventories and an increase in contract assets.

Costs incurred in connection with **sales promotions** represent variable considerations and must be deducted from revenue in accordance with IFRS 15. Previously, some of these costs were recognized as selling expenses. Changes in recognition in the statement of profit or loss result in a reduction in sales and selling expenses.

In accordance with IFRS 15, amounts already received but expected to be refunded to the customer are presented as **refund liabilities** under other liabilities. These amounts typically relate to expected discounts and bonuses and were previously presented as other provisions.

The effects of the continued application of IAS 18 in comparison to IFRS 15 on the consolidated statement of financial position as at December 31, 2018 are presented in the table below:

[€ million]	IFRS 15 Dec. 31, 2018	Effects of IFRS 15	IAS 18 Dec. 31, 2018
<b>ASSETS</b>			
Intangible assets	2,475.3	53.7	2,529.0
Tangible assets	2,204.0	215.8	2,419.8
Deferred taxes	208.5	0.6	209.1
Other non-current assets	1,316.1	0.0	1,316.1
<b>Non-current assets</b>	<b>6,203.9</b>	<b>270.1</b>	<b>6,474.0</b>
Inventories	1,127.8	-14.4	1,113.4
Contract assets	60.0	-60.0	0.0
Other current assets	2,739.1	0.0	2,739.1
<b>Current assets</b>	<b>3,926.9</b>	<b>-74.4</b>	<b>3,852.5</b>
<b>Non-current assets held for sale and disposal groups</b>	<b>108.3</b>	<b>0.0</b>	<b>108.3</b>
	<b>10,239.1</b>	<b>195.7</b>	<b>10,434.8</b>
<b>EQUITY AND LIABILITIES</b>			
Retained earnings	4,452.9	-8.0	4,444.9
Other equity	859.2	0.0	859.2
<b>Equity</b>	<b>5,312.1</b>	<b>-8.0</b>	<b>5,304.1</b>
Other long-term provisions	109.0	0.0	109.0
Non-current other liabilities	132.3	120.7	253.0
Deferred taxes	348.8	-4.5	344.3
Other non-current debt	1,605.7	0.0	1,605.7
<b>Non-current liabilities</b>	<b>2,195.8</b>	<b>116.2</b>	<b>2,312.0</b>
Other current provisions	571.6	18.3	589.9
Other current liabilities	316.1	69.2	385.3
Other current debt	1,776.2	0.0	1,776.2
<b>Current liabilities</b>	<b>2,663.9</b>	<b>87.5</b>	<b>2,751.4</b>
<b>Liabilities in connection with non-current assets held for sale and disposal groups</b>	<b>67.3</b>	<b>0.0</b>	<b>67.3</b>
	<b>10,239.1</b>	<b>195.7</b>	<b>10,434.8</b>

As a result of the first-time application of IFRS 15, sales for the 2018 financial year were €54.3 million lower and consolidated profit was €5.8 million lower compared to a revenue recognition in accordance with IAS 18.

## Consolidated group

Apart from Freudenberg SE, 66 German (previous year: 64) and 355 foreign (previous year: 363) **affiliated companies**, with respect to which Freudenberg SE has the power to direct the relevant activities of the company, the right to variable returns from the company and the ability to affect such variable returns, are fully consolidated.

Freudenberg operates a joint venture in the field of mechanical seals within the EagleBurgmann Business Group together with the partner Eagle Industry Co., Ltd., Tokyo, Japan. Freudenberg holds a 25-percent stake in EagleBurgmann Japan Co., Ltd., Tokyo, Japan. The partner also holds a 25-percent indirect stake in EagleBurgmann Germany GmbH & Co. KG, Wolfratshausen, Germany. According to the joint venture agreement between the partners, Freudenberg exercises control over affiliated companies of the EagleBurgmann Group in which Freudenberg holds less than half of the voting rights of the other company; such affiliated companies are therefore fully consolidated.

No German (previous year: 0) and 14 foreign (previous year: 14) **joint ventures** are included in the consolidated financial statements. These legally independent companies are managed jointly with the partner company in each case. Both parties hold rights to the net assets of the companies. The joint ventures are consolidated by the equity method.

In addition, 10 foreign (previous year: 9) **associated companies** are included in the consolidated financial statements. Freudenberg does not control these companies but only exercises a significant influence. These companies are consolidated by the equity method.

All affiliated companies, joint ventures and associated companies are listed under "Shareholdings".

In the year under review, 8 companies were included in the consolidated financial statements as fully consolidated affiliated companies for the first time. 14 companies which had previously been fully consolidated were no longer included as fully consolidated affiliated companies due to sale, liquidation, merger or change of status. The timing of the initial consolidation was determined on the basis of the date when Freudenberg SE gained control. In the event of loss of control, deconsolidation is effected.

## Acquisitions and disposals

In the 2018 financial year, Freudenberg did not engage in any corporate acquisition or disposal transactions which were material. The consideration transferred for the acquisition of shares totaled €90.3 million and was transferred entirely with an effect on payments. The purchase price allocation resulted in a total goodwill which was not deductible for tax purposes of €41.7 million. Since the acquisition date, the newly acquired companies have recorded sales of €79.8 million and contributed €-10.1 million to consolidated profit. If the acquisitions had already taken place as of January 1, 2018, total sales would have been €13.9 million higher and consolidated profit would have been €0.7 million lower.

The transaction costs arising in connection with the company acquisitions were, in each case, not significant and were recognized with effect on net income. As at the acquisition date, there was no significant difference in each case between the gross amount of the consideration payable and the fair value.

The fair values of the main asset and liability items of the companies acquired as at the acquisition dates were determined mainly on the basis of level 3 input factors. The cumulative values were as follows:

[€ million]	Fair values
Intangible assets	79.3
Tangible assets	12.3
Other non-current assets	0.4
Inventories	15.3
Trade receivables	14.2
Other current assets	0.7
Cash acquired	3.4
<b>Assets</b>	<b>125.6</b>
Non-current liabilities	13.2
Current liabilities	22.1
<b>Liabilities</b>	<b>35.3</b>
<b>Net assets</b>	<b>90.3</b>

Intangible assets identified in connection with purchase price allocations mainly concern customer lists. The fair values of the customer lists identified were measured by the residual value method on the basis of corporate planning with a useful life of 6 to 10 years.

### Consolidation methods

The consolidated financial statements are based on the annual accounts of Freudenberg SE and the consolidated companies according to IFRS. All the annual accounts concerned were drawn up as at December 31, 2018. In accordance with IFRS 10, the accounts of the individual companies to be included in the consolidated financial statements were drawn up applying uniform accounting and measurement methods.

The acquisition costs of the individual consolidated companies are set off against the pro-rata share in the fair value of the equity of the companies concerned as of the date of acquisition according to the purchase method. Identifiable acquired assets and liabilities are also included in the consolidated statement of financial position at their fair values as of the acquisition date. Any remaining differences are shown as goodwill.

Inter-company profits and losses, sales, expenses and income and all receivables and payables between consolidated companies are eliminated. Deferred taxes are set up on consolidation transactions affecting net income.

Joint ventures and associated companies are consolidated by the equity method on the basis of financial statements drawn up in accordance with IFRS.

The differences arising from the acquisition of shareholdings in joint ventures and associated companies form part of the book value of the shareholding in the company concerned. Amortization is not recognized on goodwill in subsequent periods. An impairment test is carried out on the book value of the shareholding in the joint venture or associated company as a whole if there are indications that the carrying amount could be impaired.

## Accounting and measurement principles

Acquired intangible assets are capitalized at acquisition cost and amortized on a systematic basis.

Systematic amortization is based on the following useful lives:

Software	3 to 8 years
Patents and licenses	depending on contract term

Intangible assets with finite useful lives acquired in a business combination are amortized on a systematic basis over useful lives of up to 25 years.

An impairment test is carried out on goodwill at least once per year. For the impairment test, the goodwill acquired is allocated to the groups of cash-generating units expected to benefit from the business combination. In line with internal management reporting, the groups of cash-generating units are represented by the Business Groups. An impairment loss is recognized if the carrying amount of the group of cash-generating units is higher than its recoverable amount. The recoverable amount is the higher of the fair value less costs of disposal and the value in use of the group of cash-generating units.

For the determination of the recoverable amount, the value in use of the group of cash-generating units concerned is determined by the discounted cash flow method on the basis of a detailed planning period of 5 years. The discount rates used for the determination of the value in use are based on the weighted average cost of capital (hereafter WACC) determined separately for each group of cash-generating units.

Impairments of capitalized goodwill are shown under other expenses in the consolidated statement of profit or loss. Reversals of impairments are not recognized with respect to goodwill for which impairments have been recognized.

Impairment losses going beyond goodwill are recognized for individual assets of cash-generating units if the fair value less costs of disposal of such

units or the value in use of such units has fallen below their carrying amount.

Provided that such assets meet the requirements of IAS 38, internally generated intangible assets are carried as assets at production cost and are amortized on a systematic basis over their useful lives, if their useful lives are finite.

If the useful life of intangible assets is not considered to be finite, no amortization is effected. An impairment test is carried out on such assets annually. An intangible asset may be regarded as having an indefinite useful life when, based on an analysis of all of the relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash flows for the Group.

Expenditure in connection with development projects is capitalized as intangible assets if, in addition to meeting the criteria of IAS 38, a Group threshold is exceeded. Otherwise, development expenditure is shown as expenses. Capitalized development expenditure is amortized on a straight-line basis over the underlying contract term starting with the beginning of production of the product concerned. Amortization of capitalized development expenditure is normally recognized in research and development expenses.

Tangible assets are capitalized at acquisition or production cost. In the case of assets produced by Group companies, production cost also includes directly attributable cost as well as pro-rata overheads and depreciation.

Borrowing costs are capitalized as part of acquisition or production cost in the case of qualifying assets.

Expenditure for repairs and maintenance is generally shown as expenses. Such expenditure is only capitalized if future economic benefits in connection with such expenditure are probable and the acquisition or production cost can be reliably measured.

Taxable grants and tax-free investment subsidies, normally paid by public bodies, are set off against acquisition or production cost.

Movable non-current assets and industrial buildings are depreciated over their useful lives. This approach normally corresponds to straight-line depreciation.

Systematic depreciation is determined on the basis of the following useful lives:

Buildings	max. 50 years
Machinery and equipment	5 to 20 years
Other fixtures, fittings and office equipment	3 to 20 years

An impairment test on tangible and intangible assets assigned to cash-generating units is always carried out if circumstances or changed conditions indicate that the carrying amount of such cash-generating units may not be recovered. The composition of the cash-generating units is determined at the divisional or regional level as a function of the business model and differs between Business Groups. If the impairment of an asset reflected by a write-down in the past is reduced or eliminated, the impairment loss is reversed. The amortized acquisition or production cost represents the upper limit of measurement in such cases.

In accordance with IAS 17, tangible assets leased under finance leases are recognized as assets and written off over their economic useful life if substantially all the risks and rewards associated with the ownership of the leased asset lie with the lessee. Such assets are carried at the fair value of the leased asset at the inception of the lease or, if lower, at the present value of the minimum lease payments. A liability of the same amount is also shown on the statement of financial position.

In the case of operating leases, lease payments are recognized as expenses.

Land and buildings held to earn rentals from third parties are dealt with as investment properties. Such properties are measured at acquisition cost. Investment properties are depreciated over their useful lives. This approach normally corresponds to straight-line depreciation. As a general principle, systematic depreciation is calculated on the basis of a maximum useful life of 50 years and effected on a straight-line basis. The fair value is determined by the discounted cash flow method.

Participations are shown at fair value. In some cases, amortized cost represents the best estimate of fair value.

Investments in joint ventures and associated companies are shown at acquisition cost on first-time consolidation and subsequently adjusted for changes in the share of the shareholder in the net assets of the company concerned. In the event that the losses of a joint venture or associated company attributable to Freudenberg exceed the value of the share in that company, no further impairment losses are recognized. In the event of objective evidence of impairment or value recovery in the case of such participations, assumptions concerning future business developments must be made with a view to determining the recoverable amount.

Long-term loans are discounted if the amount of such discount is significant.

Inventories are shown at acquisition or production cost or at net realizable value, where this is lower. Inventories of raw materials and consumables and merchandise are measured by the weighted average cost method. Production cost includes directly attributable costs as well as production and material overheads and depreciation.

Receivables and other assets are recognized at amortized cost. Loss allowances are made on the basis of the expected credit loss model. For trade receivables, the simplified approach to impairment losses is adopted. In this approach, the loss allowance is always calculated on the basis of the lifetime expected credit losses. In order to determine the expected credit losses, customers are assigned to groups with similar credit risks. Individual impairment losses are recognized if circumstances become apparent which allow the conclusion that certain receivables are subject to a credit risk in excess of the general credit risk. In the determination of loss allowances, credit insurance is taken into consideration. The amortized cost is approximately equivalent to the fair value of the assets concerned. Long-term receivables are discounted if the amount of such discount is significant.

Contract assets are recognized at amortized cost. For determining impairment losses, the simplified procedure for determining the expected credit losses is applied.

The other financial assets are classified and measured on the basis of the business model within which the financial assets are held and on the basis of contractual cash flows at the time of acquisition. There are differences between the treatment of equity and debt instruments. Investments in equity instruments which are held as long-term strategic participations, and which are not expected to be sold within the short-to medium-term future are measured in equity without effect on net income. Debt instruments with cash flows not consisting solely of interest payments and principal repayments, investments for which another measurement would result in an accounting mismatch and shares in partnerships are measured at fair value through profit or loss. An impairment test is carried out for debt instruments measured at amortized cost or at fair value through other comprehensive income.

Cash at bank or in hand is shown at its nominal value. Cash held in foreign currencies is converted using the exchange rate as of the statement of financial position date. The expected credit loss model is applied. Derivative financial instruments that do not meet the requirements for hedge accounting are measured at fair value through profit or loss.

Non-current assets and groups of assets held for sale are shown separately in the statement of financial position if they are available for immediate sale in their present condition and the sale of such assets is highly probable within the next 12 months. Such assets are shown at the lower of fair value less costs to sell and book value. Systematic depreciation is not recognized on such assets from the date of reclassification. Liabilities included in a disposal group are shown separately under liabilities.

The requirement for the reversal of the impairment of assets has been complied with both for non-current and for current assets. Unless individual standards call for a different measurement, the updated acquisition or production cost represents the upper limit of measurement in such cases.

Provisions for pensions and similar obligations are determined by the projected unit credit method using actuarial principles. Service cost and the net interest on the net defined benefit liability are recognized under personnel expenses with an impact on net income. Gains and losses from remeasurements of the net defined benefit liability are disclosed under other

comprehensive income. Assets held to provide benefits for employees are measured at fair value.

Deferred taxes are calculated on temporary differences between the book values of assets and liabilities in the consolidated statement of financial position and their tax bases, taking into account the applicable national income tax rates valid on the date of realization and already in force on the statement of financial position date. In addition, deferred tax assets are recognized for tax losses carried forward if sufficient taxable income will be available in the future. Deferred tax assets and liabilities are only set off against each other in cases where the income taxes concerned are levied by the same tax authority and concern the same period. In the case of deferred tax assets which are not impaired following the offsetting, it is assumed that future taxable income will be sufficient to allow the realization of the deferred tax assets formed.

Other provisions allow for all recognizable risks and uncertain obligations towards third parties which will probably result in an outflow of resources which can be reliably estimated. Such provisions are recognized at their most probable settlement value and discounted if the amount of such discount is significant. Reimbursement rights in this connection are shown separately under other assets. In its contracts with customers, Freudenberg provides warranty services for general repair obligations but does not provide for any extended warranties. In accordance with IFRS 15, the existing warranties are mainly classified as assurance-type warranties and are recognized in accordance with IAS 37 – *Provisions, Contingent Liabilities and Contingent Assets*.

Liabilities are shown at their face value or at the repayment or settlement value, where this is higher. Non-current liabilities are discounted if the amount of such discount is significant.

Put options granted to the holders of non-controlling interests for the sale of their shares are recognized as forward purchases. The item recorded in equity for these shares is de-recognized and a liability measured at fair value is recognized. As at each statement of financial position date, the liability is remeasured. Any resulting changes in book value are recognized with an effect on net income.

Sales are measured at the fair value of the consideration received or to be received. Sales are recognized when control of the promised good or service is transferred to the customer.

The delivery of goods normally represents a performance obligation that is satisfied at a specific point in time. In determining the timing of satisfaction, the transfer of significant risks and rewards of ownership of the asset is taken as the main criterion. Normally, this is the time when the goods are physically delivered to the customer.

Sales from the delivery of customer-specific products are recognized over time, provided Freudenberg has an enforceable right to payment from the customer in an amount that at least compensates Freudenberg for the performance completed to date plus a reasonable profit margin. The amount of revenue is based on the progress towards complete satisfaction of a performance obligation and measured on the basis of the units produced.

Sales from providing services are recognized in the accounting period in which the services are performed. Revenue is recognized in the amount to which Freudenberg has a right to invoice, as this amount of consideration corresponds directly with the value to the customer of Freudenberg's performance completed to date. Customers are normally invoiced monthly. Sales in connection with customer-specific development projects are realized over time. In the case of fixed-price contracts, the amount of sales is measured based on the cost incurred to date related to the total expected cost to be incurred in connection with the full satisfaction of the performance obligation. In the case of customer-specific development projects for which Freudenberg has a right to consideration from a customer in an amount that corresponding directly with the value to the customer of Freudenberg's performance completed to date, sales are recognized as practical expedient in the amount of the consideration to which Freudenberg has a right to invoice.

Invoices are normally issued following the physical delivery of goods to the customer or the performance of the service promised in the contract. Payments by customers under fixed-price contracts are based on a contractually agreed payment plan. There are no material contracts with customers under which the

time between the transfer of a promised good or service and payment in connection with such transfer exceeds one year.

In the event that the service performed by Freudenberg exceeds the payments received or to be received by Freudenberg, a contract asset is recognized. As soon as the right to receive the consideration from the customer becomes unconditional, the contract asset is reclassified to trade receivables. If the payments received from the customer exceed the service performed by Freudenberg, a corresponding contract liability is recognized.

The performance obligations entered into by Freudenberg under contracts with customers normally have an expected original duration of one year or less. In the case of longer terms, Freudenberg is normally entitled to consideration corresponding directly to the performance of services completed to date. Freudenberg therefore uses the practical expedient to not disclose the aggregate amount of transaction price allocated to the performance obligations unsatisfied as of the end of the reporting period.

The consolidated statement of cash flows is broken down into cash flows from operating, investing and financing activities. Effects arising from changes in the consolidated group and the effects of exchange rate differences have been eliminated from the consolidated statement of cash flows. The influence of these effects on cash and cash equivalents is indicated separately.

#### **The exercise of judgement and estimates in the application of accounting and measurement methods**

In some cases, it is necessary to apply accounting methods based on estimates or the exercise of discretion in connection with the establishment of the consolidated financial statements. Normally, these methods include complex, subjective assessments and the use of uncertain assumptions which may be subject to change. It is therefore conceivable that actual amounts in the future and future events may deviate from the forecasts made as estimates for the same reporting period could have been made differently for reasons which are easy to understand. Such accounting methods based on estimates and the

exercise of discretion may therefore have a material impact on the net assets, financial position and results of operations in the consolidated financial statements and may also change over the course of time. The estimates used for the establishment of the consolidated financial statements and the underlying assumptions are regularly reviewed and any changes are taken into consideration as soon as better information is available.

The composition of a cash-generating unit and the determination of the recoverable amount for the performance of impairment tests is connected with assessments made by management concerning future developments and experience gained in the past. The cash flows predicted on the basis of these assessments may be affected by factors including volatility of capital markets, exchange rate fluctuations and expected economic development. The WACCs used for discounting take into account the market risk and the capital structure of companies comparable to the applicable group of cash-generating units. Changes in these factors may have significant impact on the existence or amount of a value impairment. Further details are given in note (1).

The actuarial assessments for the determination of provisions for pensions and similar obligations are based on major assumptions and estimates with respect to the discount rates used and expected future adjustments to salaries and pensions as well as life expectancy. All the parameters used are regularly reviewed as of the statement of financial position date. Any changes in the parameters used may lead to changes in statement of financial position values. Further details are given in note (12).

The determination of the settlement amount of provisions for restructuring, environmental risks, guarantees and litigation is normally connected with estimates and uncertainty. For the measurement of such values, the assessments of local independent experts are used in some cases. In the future, deviations between actual events and the assumptions made may necessitate adjustments to the Group's provisions. More detailed information on provisions is given in note (13).

The measurement of certain derivative financial instruments without an active market such as put or call options and earn-out clauses is based on probability predictions and the best possible estimates of the expected settlement amount, taking into consideration recognized mathematical finance methods. The same applies to the determination of expected credit losses recognized as loss allowances in connection with financial instruments measured at amortized cost. Further information on financial instruments is given in note (14).

When determining whether sufficient taxable income will be available in the future for assessing the value of deferred tax assets and the usability of losses carried forward, various estimates, including the development of tax planning strategies, must be made. Deviations between the actual results and the estimates made may have an effect on the assets, liabilities and earnings situation. Further details are given in note (27).

The determination of the amount and timing of revenue from contracts with customers is affected by a number of estimations. Sales are recognized in the amount of the consideration Freudenberg expects to be entitled. Especially in the case of the delivery of goods the amount of consideration may vary as a result of variable consideration. The amount of variable consideration is based on estimates and is determined upon the inception of the contract and reassessed at the end of each reporting period. The variable consideration is estimated either by using the expected value method or by using the most likely amount method. This depends on which method Freudenberg expects to better predict the amount of consideration to which it will be entitled. Sales are only recognized to the extent that it is highly probable that a significant reversal will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Amounts which have been received (or are to be received) and which will probably have to be refunded are recognized as refund liabilities and disclosed under other liabilities.

For the recognition of sales from customer-specific development projects, estimates need to be made concerning the degree of completion or the total cost of the contract. A change in these estimates may lead to an increase or reduction in sales in the reporting period.

Fair value is determined on the basis of input factors in 3 defined categories. Determination is based on estimates and assumptions associated with uncertainty. The following fair value measurement hierarchy is applied:

Level 1: Use of quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.

Level 2: Determination of fair value using measurement procedures based on observed input factors for similar assets or liabilities in active markets or for identical assets or liabilities in markets that are not active.

Level 3: Measurement of assets and liabilities using measurement methods based on unobservable inputs as adequate observable market data are not available for the measurement of fair value.

## Currency translations

The financial statements of almost all companies included in the consolidated financial statements which are not located in the eurozone are drawn up in the national currencies concerned. This is the currency of the primary economic environment in which the companies concerned operate (concept of functional currency).

In the accounts of individual companies, foreign-currency receivables and liabilities are translated at the exchange rates as of the date of the statement of financial position.

Goodwill created as a result of acquisitions on or after March 31, 2004, is carried as an asset of the economically independent foreign companies concerned in their respective functional currencies.

In the consolidated financial statements, the financial statements of all companies not located in the eurozone are translated in accordance with the following principles:

- Statement of financial position items are translated at the exchange rate as of the date of the statement of financial position.

- Statement of profit or loss items are translated at average annual exchange rates.

- Differences arising from the use of different exchange rates are recognized in equity without an effect on net income.

The same principles are used in the case of investments in joint ventures and associated companies consolidated by the equity method.

With effect from the beginning of the 2018 financial year, the requirements of IAS 29 were applied for the first time to the affiliated companies Freudenberg S.A. Telas sin Tejer, Buenos Aires, Argentina, and Klüber Lubrication Argentina S.A., Buenos Aires, Argentina. Inflation adjustments are calculated on the basis of a price index recommended by the Federación Argentina de Consejos Profesionales de Ciencias Económicas (FACPCE). In the year under review, this price index rose by 48 percent. From the point of view of the Group, neither the first-time application nor current inflation adjustments on the basis of historic acquisition and production costs had a material impact on the net assets, financial position or results of operations of the Group as at December 31, 2018.

The exchange rates of currencies used for currency conversion which are material to the annual financial statements developed as follows:

Country	Currency	Closing rate		Average rate		
		1 euro =	Dec. 31, 2017	Dec. 31, 2018	Dec. 31, 2017	Dec. 31, 2018
Brazil	BRL		3.9729	4.4440	3.6434	4.3294
China	CNY		7.8044	7.8751	7.6557	7.8156
India	INR		76.6055	79.7298	73.7879	80.6258
Japan	JPY		135.0100	125.8500	127.3040	130.0060
Turkey	TRY		4.5464	6.0588	4.1429	5.6835
USA	USD		1.1993	1.1450	1.1370	1.1793

Differences arising from the use of different exchange rates compared with the previous year are shown in the statement of changes in intangible and tangible

assets with respect to non-current assets and in the consolidated statement of comprehensive income with respect to equity.

## NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

**(1) Intangible assets**

Changes in intangible assets from January 1 to December 31, 2017:

[€ million]	Internally generated software	Concessions, licenses and others <sup>1</sup>	Goodwill	Payments made on account	Intangible assets in course of construction	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2017</b>	<b>3.9</b>	<b>1,743.6</b>	<b>1,552.6</b>	<b>6.3</b>	<b>20.1</b>	<b>3,326.5</b>
Changes in consolidated group <sup>2</sup>	0.0	42.2	59.8	0.0	0.0	102.0
Exchange rate differences	-0.5	-52.6	-44.8	-0.1	-0.1	-98.1
Additions	0.4	14.2	0.0	1.2	25.8	41.6
Write-ups	0.0	0.1	0.0	0.0	0.0	0.1
Disposals	0.0	-20.1	0.0	0.0	0.0	-20.1
Reclassifications <sup>2</sup>	0.1	10.9	0.0	-5.0	-6.0	0.0
<b>Status Dec. 31, 2017</b>	<b>3.9</b>	<b>1,738.3</b>	<b>1,567.6</b>	<b>2.4</b>	<b>39.8</b>	<b>3,352.0</b>
<b>AMORTIZATION</b>						
<b>Status Jan. 1, 2017</b>	<b>3.0</b>	<b>581.7</b>	<b>106.7</b>	<b>0.0</b>	<b>0.0</b>	<b>691.4</b>
Changes in consolidated group <sup>2</sup>	0.0	1.2	0.0	0.0	0.0	1.2
Exchange rate differences	-0.3	-30.9	-6.8	0.0	0.0	-38.0
Additions - systematic	0.4	143.2	0.0	0.0	0.0	143.6
Impairment losses	0.0	1.7	0.0	0.0	0.0	1.7
Write-ups	0.0	0.1	0.0	0.0	0.0	0.1
Disposals	0.0	-19.6	0.0	0.0	0.0	-19.6
Reclassifications <sup>2</sup>	0.0	-0.4	0.0	0.0	0.0	-0.4
<b>Status Dec. 31, 2017</b>	<b>3.1</b>	<b>677.0</b>	<b>99.9</b>	<b>0.0</b>	<b>0.0</b>	<b>780.0</b>
<b>Book value Dec. 31, 2017</b>	<b>0.8</b>	<b>1,061.3</b>	<b>1,467.7</b>	<b>2.4</b>	<b>39.8</b>	<b>2,572.0</b>

<sup>1</sup> Intangible assets identified in connection with purchase price allocations mainly concern customer lists/relations, technologies and know-how.

<sup>2</sup> The reclassifications also include transfers to other balance sheet items.

Changes in intangible assets from January 1 to December 31, 2018:

[€ million]	Internally generated software	Concessions, licenses and others <sup>1</sup>	Goodwill	Payments made on account	Intangible assets in course of construction	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2018<sup>3</sup></b>	<b>3.9</b>	<b>1,718.1</b>	<b>1,567.6</b>	<b>2.4</b>	<b>12.7</b>	<b>3,304.7</b>
Changes in consolidated group	0.0	36.3	41.7	0.0	0.0	78.0
Exchange rate differences	0.2	13.6	10.1	0.0	0.0	23.9
Additions	0.0	14.0	0.3	2.0	2.9	19.2
Disposals	-0.1	-18.6	0.0	0.0	0.0	-18.7
Reclassifications <sup>2</sup>	0.4	2.5	-4.0	-1.4	-11.8	-14.3
<b>Status Dec. 31, 2018</b>	<b>4.4</b>	<b>1,765.9</b>	<b>1,615.7</b>	<b>3.0</b>	<b>3.8</b>	<b>3,392.8</b>
<b>AMORTIZATION</b>						
<b>Status Jan. 1, 2018<sup>3</sup></b>	<b>3.1</b>	<b>670.8</b>	<b>99.9</b>	<b>0.0</b>	<b>0.0</b>	<b>773.8</b>
Changes in consolidated group	0.0	0.1	0.0	0.0	0.0	0.1
Exchange rate differences	0.1	9.5	1.3	0.0	0.0	10.9
Additions – systematic	0.3	108.4	0.0	0.0	0.0	108.7
Impairment losses	0.0	6.8	44.4	0.0	0.0	51.2
Write-ups	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	-0.1	-17.9	0.0	0.0	0.0	-18.0
Reclassifications <sup>2</sup>	0.0	-9.2	0.0	0.0	0.0	-9.2
<b>Status Dec. 31, 2018</b>	<b>3.4</b>	<b>768.5</b>	<b>145.6</b>	<b>0.0</b>	<b>0.0</b>	<b>917.5</b>
<b>Book value Dec. 31, 2018</b>	<b>1.0</b>	<b>997.4</b>	<b>1,470.1</b>	<b>3.0</b>	<b>3.8</b>	<b>2,475.3</b>

<sup>1</sup> Intangible assets identified in connection with purchase price allocations mainly concern customer lists/relations, technologies and know-how.

<sup>2</sup> The reclassifications also include transfers to other balance sheet items.

<sup>3</sup> The opening balances were in some cases adjusted due to the effects of the first-time application of IFRS 15.

Goodwill was subjected to an impairment test in the 2018 financial year. Apart from the expected developments in sales and profit as well as net investments of the Business Groups concerned, the basic assumptions used for determining the value in use of the groups of cash-generating units included a growth rate of 2.0 percent (previous year: 2.0 percent) and pre-tax WACCs ranging from 8.0 percent to 10.9 percent (previous year: ranging from 8.7 percent to 10.9 percent).

On this basis, an impairment of goodwill was only recognized for the group of cash-generating units Japan Vilene Company. This was the result of the adjusted at-equity results of the associated companies and a fall in the profit margin. On the basis of a WACC of 9.0 percent (previous year: 8.7 percent) and the growth rate stated above, the carrying amount following impairment was €21.8 million.

The two significant goodwill items are assigned to the groups of cash-generating units Vibracoustic and Freudenberg Sealing Technologies. The WACCs used for the impairment test were 8.0 percent (previous year: 10.7 percent) for Vibracoustic and 10.9 percent (previous year: 10.9 percent) for Freudenberg Sealing Technologies. The assumed sustainable growth rate was 2.0 percent (previous year: 2.0 percent). The book values of these goodwill items are shown in the following table:

[€ million]	Goodwill	
	Dec. 31, 2017	Dec. 31, 2018
Vibracoustic	835.9	835.9
Freudenberg Sealing Technologies	178.9	180.7

For the group of cash-generating units Vibracoustic, a sales growth rate slightly above the growth rate for global automobile production derived from external studies is assumed. The main areas of growth will be in the regions of Europe, North America and Asia. Cost increases are to be compensated for by productivity improvements.

The business plans for 2018 of the group of cash-generating units Freudenberg Sealing Technologies are based on generally stable market developments. Despite differences between the various regions and sectors, slight global business growth is expected in the sealing segment. Rising costs are to be compensated for by further productivity increases, leaner processes in development, sales and administration, and substantial price rises. In the fields of digitalization and transformation to e-mobility, the measures adopted will be significantly expanded and accelerated. Freudenberg Sealing Technologies will provide considerable resources for this purpose.

In the case of a variation in the WACC of up to +/-1.0 percentage points, it would have been necessary to recognize further impairments only for the group of cash-generating units Japan Vilene Company. There would have been no need for impairment with respect to the major goodwill items.

## (2) Tangible assets

Changes in tangible assets from January 1 to December 31, 2017:

[€ million]	Land and buildings	Machinery and equipment	Other fixtures, fittings and office equipment	Payments made on account	Construction in progress	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2017</b>	<b>1,437.2</b>	<b>3,406.8</b>	<b>1,288.7</b>	<b>42.8</b>	<b>235.8</b>	<b>6,411.3</b>
Changes in consolidated group	0.1	19.3	-1.2	-0.5	0.6	18.3
Exchange rate differences	-65.7	-155.2	-44.5	-2.3	-12.6	-280.3
Additions	41.4	90.7	77.9	38.8	210.8	459.6
Write-ups	1.0	2.1	0.1	0.0	0.0	3.2
Disposals	-8.3	-89.1	-44.6	-6.9	-6.2	-155.1
Reclassifications <sup>1</sup>	63.3	100.6	75.2	-31.0	-208.1	0.0
<b>Status Dec. 31, 2017</b>	<b>1,469.0</b>	<b>3,375.2</b>	<b>1,351.6</b>	<b>40.9</b>	<b>220.3</b>	<b>6,457.0</b>
<b>DEPRECIATION</b>						
<b>Status Jan. 1, 2017</b>	<b>642.5</b>	<b>2,462.2</b>	<b>941.6</b>	<b>0.0</b>	<b>1.1</b>	<b>4,047.4</b>
Changes in consolidated group	-1.4	8.2	-1.5	0.0	0.0	5.3
Exchange rate differences	-24.1	-112.5	-29.1	0.0	0.0	-165.7
Additions – systematic	42.2	161.7	120.3	0.0	0.0	324.2
Impairment losses	1.3	3.6	0.3	0.0	1.9	7.1
Write-ups	1.0	2.1	0.1	0.0	0.0	3.2
Disposals	-4.6	-75.3	-41.3	0.0	-2.5	-123.7
Reclassifications <sup>1</sup>	11.6	-11.1	-0.2	0.0	-0.2	0.1
<b>Status Dec. 31, 2017</b>	<b>668.5</b>	<b>2,438.9</b>	<b>990.2</b>	<b>0.0</b>	<b>0.3</b>	<b>4,097.9</b>
<b>Book value Dec. 31, 2017</b>	<b>800.5</b>	<b>936.3</b>	<b>361.4</b>	<b>40.9</b>	<b>220.0</b>	<b>2,359.1</b>

<sup>1</sup> The transfers also include reclassifications to other balance sheet items.

Changes in tangible assets from January 1 to December 31, 2018:

[€ million]	Land and buildings	Machinery and equipment	Other fixtures, fittings and office equipment	Payments made on account	Construction in progress	Total
<b>ACQUISITION/PRODUCTION COST</b>						
<b>Status Jan. 1, 2018<sup>2</sup></b>	<b>1,469.0</b>	<b>3,375.2</b>	<b>866.1</b>	<b>40.7</b>	<b>169.1</b>	<b>5,920.1</b>
Changes in consolidated group	9.3	8.0	5.3	0.0	0.4	23.0
Exchange rate differences	15.5	36.3	4.7	0.4	3.0	59.9
Additions	31.8	88.5	52.1	38.8	153.6	364.8
Write-ups	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	-14.4	-153.6	-38.6	-2.5	-2.3	-211.4
Reclassifications <sup>1</sup>	28.2	109.0	-92.7	-46.6	-144.0	-146.1
<b>Status Dec. 31, 2018</b>	<b>1,539.4</b>	<b>3,463.4</b>	<b>796.9</b>	<b>30.8</b>	<b>179.8</b>	<b>6,010.3</b>
<b>DEPRECIATION</b>						
<b>Status Jan. 1, 2018<sup>2</sup></b>	<b>668.5</b>	<b>2,438.9</b>	<b>648.9</b>	<b>0.0</b>	<b>0.2</b>	<b>3,756.5</b>
Changes in consolidated group	3.7	5.7	3.9	0.0	0.0	13.3
Exchange rate differences	7.4	32.0	4.5	0.0	0.0	43.9
Additions – systematic	47.3	159.2	63.0	0.0	0.0	269.5
Impairment losses	0.2	3.1	0.5	0.0	0.0	3.8
Write-ups	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	-9.2	-140.6	-36.4	0.0	0.0	-186.2
Reclassifications <sup>1</sup>	-12.9	0.3	-81.9	0.0	0.0	-94.5
<b>Status Dec. 31, 2018</b>	<b>705.0</b>	<b>2,498.6</b>	<b>602.5</b>	<b>0.0</b>	<b>0.2</b>	<b>3,806.3</b>
<b>Book value Dec. 31, 2018</b>	<b>834.4</b>	<b>964.8</b>	<b>194.4</b>	<b>30.8</b>	<b>179.6</b>	<b>2,204.0</b>

<sup>1</sup> The transfers also include reclassifications to other balance sheet items.

<sup>2</sup> The opening balances were in some cases adjusted due to the effects of the first-time application of IFRS 15.

In the financial year under review, Freudenberg received government grants for tangible assets in the amount of €0.9 million (previous year: €0.3 million). The grants mainly concerned investment promotion and were netted against acquisition costs.

## Leased assets

Leased assets are recognized under non-current assets at the following book values:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Land and buildings	4.1	5.4
Machinery and equipment	2.2	0.6
Other fixtures, fittings and office equipment	0.1	0.2
<b>Book value of leased assets recognized</b>	<b>6.4</b>	<b>6.2</b>

The finance lease contracts were concluded at arm's length business conditions. Such leases normally include favorable purchase options. The lease contracts

do not provide for any contingent rent payments or significant restrictions.

[€ million]	Up to 1 year	1 to 5 years	Over 5 years	Dec. 31, 2017	Up to 1 year	1 to 5 years	Over 5 years	Dec. 31, 2018
<b>Finance leases</b>								
Minimum lease payments	1.0	1.6	4.4	7.0	1.2	1.8	4.6	7.6
Discount	0.0	0.1	0.9	1.0	0.0	0.6	1.2	1.8
Present value	1.0	1.5	3.5	6.0	1.2	1.2	3.4	5.8
<b>Operating leases</b>								
Minimum lease payments	78.3	185.5	142.3	406.1	91.9	168.9	114.2	375.0

Lease payments totaling €124.5 million (previous year: €120.7 million) under operating leases were recognized with an effect on net income.

**(3) Investment properties**

Details of land and buildings held by Freudenberg as investment properties are shown in the table below:

[€ million]	2017	2018
Third-party use	100 %	100 %
Rent income	4.0	3.9

There were no significant direct operating expenses in the year under review or in the previous year.

There are no restrictions on the saleability of investment properties. Freudenberg is not under any contractual obligations to purchase, build or develop investment properties. Furthermore, Freudenberg is not under any contractual obligations to repair or maintain such investment properties going beyond its statutory obligations.

Changes in investment properties from January 1 to December 31:

[€ million]	2017	2018
<b>ACQUISITION/PRODUCTION COST</b>		
<b>Status Jan. 1</b>	<b>45.7</b>	<b>46.0</b>
Changes in consolidated group	0.0	0.0
Exchange rate differences	0.0	0.0
Additions	0.3	0.0
Write-ups/revaluations	0.0	0.0
Disposals	0.0	0.0
Reclassifications	0.0	-2.7
<b>Status Dec. 31</b>	<b>46.0</b>	<b>43.3</b>
<b>DEPRECIATION</b>		
<b>Status Jan. 1</b>	<b>31.9</b>	<b>33.3</b>
Changes in consolidated group	0.0	0.0
Exchange rate differences	0.0	0.0
Additions - systematic	1.4	1.3
Impairment losses	0.0	0.0
Write-ups/revaluations	0.0	0.0
Disposals	0.0	0.0
Reclassifications	0.0	-1.6
<b>Status Dec. 31</b>	<b>33.3</b>	<b>33.0</b>
<b>Book value Dec. 31</b>	<b>12.7</b>	<b>10.3</b>

The fair value of investment properties was €36.7 million (previous year: €37.0 million) and was calculated on the basis of discounted cash flows (level 3 inputs).

#### (4) Investments in joint ventures

The joint venture agreement with NOK Corporation, Tokyo, Japan, is of major importance for Freudenberg.

The summarized financial information of this joint venture company is set out below:

NOK-Freudenberg Asia Holding Co. Pte. Ltd., Singapore, is a 50:50 joint venture between the Japanese NOK Corporation and Freudenberg SE with the objective of serving the high-growth Chinese and Indian markets with locally-produced and imported sealing products.

[€ million]	NOK-Freudenberg Asia Holding Co. Pte. Ltd.	
	Dec. 31, 2017	Dec. 31, 2018
Current assets	202.8	257.1
Of which: cash and cash equivalents	66.0	77.7
Non-current assets	166.3	226.0
Current liabilities	101.7	181.0
Of which: current financial liabilities	13.1	75.8
Non-current liabilities	0.1	0.8
<b>Equity without non-controlling interests</b>	<b>267.3</b>	<b>301.3</b>
Freudenberg share	50.0 %	50.0 %
Pro-rata share in equity	133.7	150.6
<b>At-equity measurement</b>	<b>133.7</b>	<b>150.6</b>

	2017	2018
Sales	377.1	375.3
Profit or loss from continuing operations	43.3	42.9
Other comprehensive income	-12.9	-3.9
<b>Total comprehensive income</b>	<b>30.4</b>	<b>39.0</b>
Of which: depreciation and amortization	-16.2	-19.0
Of which: interest income	0.4	0.6
Of which: interest expenses	-1.3	-1.0
Of which: income tax expense or income	-14.6	-12.6

As in the previous year, Freudenberg did not receive any dividend from NOK-Freudenberg Asia Holding Co. Pte. Ltd.

The total carrying amount of interests in all individual joint ventures which are not material was €16.7 million (previous year: €15.8 million).

The pro-rata share of the profit or loss from continuing operations of all individual joint ventures classed as not material was €0.5 million (previous year: €-0.2 million) and the pro-rata share in other comprehensive income was €0.5 million (previous year: €0.1 million). The pro rata share in total comprehensive income was therefore €1.0 million (previous year: €-0.1 million).

## (5) Investments in associated companies

For Freudenberg, its most important investment in associated companies is its participation in the Japanese company NOK Corporation with its registered office in Tokyo, Japan.

The NOK Group manufactures and supplies sealing products, flexible printed circuits, roll products for office equipment and further products such as specialty lubricants.

This major associated company gave the following figures in its consolidated interim financial statements as at December 31, 2018:

[€ million]	NOK Corporation	
	Dec. 31, 2017	Dec. 31, 2018
Current assets	2,703.9	2,763.9
Non-current assets	3,383.8	3,621.8
Current liabilities	1,444.5	1,600.9
Non-current liabilities	866.4	813.0
Treasury shares	-3.3	-1.8
Non-controlling interests	297.6	326.6
<b>Equity without treasury shares and non-controlling interests</b>	<b>3,482.5</b>	<b>3,647.0</b>
Freudenberg share	25.1 %	25.1 %
Pro-rata share in equity	874.2	915.4
Goodwill	7.1	7.1
<b>At-equity measurement</b>	<b>881.3</b>	<b>922.5</b>

	2017	2018
Sales	5,797.6	5,322.6
Profit or loss from continuing operations	321.6	213.9
Other comprehensive income	143.1	-220.0
<b>Total comprehensive income</b>	<b>464.7</b>	<b>-6.1</b>

The decrease in the other comprehensive income of NOK Corporation is due to exchange differences on translating the financial statement in foreign currency and to effects from the change in the value of securities available for sale.

Freudenberg received dividends in the amount of €16.9 million (previous year: €16.9 million) from NOK Corporation.

As at December 31, 2018, the market value of the shareholding in NOK Corporation was €530.4 million (¥66,750.7 million) (previous year: €846.9 million; ¥114,336.7 million).

The total carrying amount of interests in all associated companies classed as not material was €25.3 million (previous year: €22.1 million).

The pro-rata share in the profit or loss from continuing operations of all individual associated companies classed as not material was €0.2 million (previous year: €6.5 million) and the pro-rata share in the other comprehensive income of these companies was €1.2 million (previous year: €-4.9 million). The pro-rata share in the total comprehensive income was therefore €1.4 million (previous year: €1.6 million).

**(6) Inventories**

Inventories break down as follows:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Raw materials and consumables	327.5	352.1
Work in progress	149.2	150.9
Finished goods and merchandise	540.7	561.7
Customer-specific tools in construction	-	59.9
Payments made on account	4.5	3.2
	<b>1,021.9</b>	<b>1,127.8</b>

Inventories rose by €105.9 million compared with the previous year. After eliminating the effects of changes in the consolidated group and exchange rate effects, inventories rose by about 9 percent.

Write-downs of inventories totaling €31.3 million (previous year: €33.0 million) were recognized as expenses in the reporting year.

Write-ups totaling €13.1 million (previous year: €12.3 million) were effected on inventories as the reason for the impairment losses concerned no longer existed.

The inventories shown are not subject to any significant restrictions on title or disposal.

**(7) Contract assets and contract liabilities**

[€ million]	Jan. 01, 2018	Dec. 31, 2018
Contract assets	49.2	60.0
Contract liabilities	30.8	33.5

The first-time application of IFRS 15 resulted in the recognition of contract assets in the amount of €49.2 million as at January 1, 2018. These are mainly the result of the over time realization of revenue for customer-specific products and development contracts and, in the event of the application of IFRS 15 in 2017, would have resulted in the recognition of sales at an earlier point in time. Contract assets are transferred to trade receivables as soon as the right to consideration becomes unconditional. As at December 31, 2018, the carrying amount of contract assets was €60.0 million.

There were no significant loss allowances for contract assets in 2018.

The initial application of IFRS 15 resulted in the recognition of contract liabilities in the amount of €30.8 million as at January 1, 2018. Contract liabilities relate to considerations received from customers in advance of performance under a contract. Contract liabilities are recognized as sales as soon as the promised goods or services have been transferred to the customer. In the reporting period, sales in the amount of €25.5 million were recognized which had been included in contract liabilities at the beginning of the financial year. As at December 31, 2018, the carrying amount of contract liabilities was €33.5 million.

Changes in the balances of contract assets and contract liabilities are mainly the result of the satisfaction of performance obligations laid down in contracts with customers.

## (8) Receivables

[€ million]	Dec. 31, 2017	Dec. 31, 2018
<b>Trade receivables</b>	<b>1,509.1</b>	<b>1,467.5</b>
Of which: Residual term up to 1 year	1,509.1	1,467.5
Of which: Residual term more than 1 year	0.0	0.0
<b>Other assets</b>	<b>232.6</b>	<b>277.9</b>
Of which: Residual term up to 1 year	177.4	205.8
Of which: Residual term more than 1 year	55.2	72.1

After adjustment for effects resulting from changes in the consolidated group and exchange rate effects, trade receivables fell by about 2 percent.

The other assets for the year under review include pension plan assets in excess of the corresponding pension obligations amounting to €5.6 million (previous year: €7.2 million).

The other assets also include other tax receivables in the amount of €73.6 million (previous year: €73.9 million) and liability insurance claims totaling €5.2 million (previous year: €5.2 million).

The claims for reimbursement in connection with recognized provisions, which are included in other assets, are shown in the other provisions under note (13).

## (9) Securities and cash at bank and in hand

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Securities	82.0	180.9
Checks and cash in hand	3.7	4.1
Cash at banks	913.1	799.7
	<b>998.8</b>	<b>984.7</b>

The increase in securities mainly concerns a rise in the amount of commercial papers and other short-term investments.

**(10) Non-current assets held for sale and disposal groups**

The assets and disposal groups presented below and the liabilities connected with these assets and disposal groups are classified as “non-current assets held for sale and disposal groups”.

This item mainly concerns assets and disposal groups attributable to the Freudenberg IT Business Group. A description of the Freudenberg IT Business Group is given in the management report. As at the statement of financial position date, the carrying amount of the assets and disposal groups concerned was lower than the fair value less costs to sell. By contract of January 18, 2019, all the shares in the Freudenberg IT Business Group were sold to the Syntax Group with effect from February 28, 2019. The Syntax Group is owned by the Canadian financial investor Novacap TMT IV, L.P., Quebec, Canada, and will round off its portfolio as an IT full service provider with Freudenberg IT.

In addition, real property with a carrying amount of €4.3 million which was no longer regarded as necessary for the business of Freudenberg was classed as held for sale. For the real property concerned, the carrying amount corresponded to the carrying amount or the fair value less costs to sell, whichever was lower. The sale of the real property concerned will probably take place within the first three quarters of 2019.

The assets and liabilities of the disposal group break down as follows:

[€ million]	Dec. 31, 2018
Intangible and tangible assets	57.3
Inventories	1.1
Trade receivables	27.1
Other assets	19.4
Securities and cash at bank and in hand	3.4
<b>Non-current assets held for sale and disposal groups</b>	<b>108.3</b>
Provisions for pensions and similar obligations	15.4
Other provisions	20.6
Trade payables	19.3
Other liabilities	12.0
<b>Liabilities in connection with non-current assets held for sale and disposal groups</b>	<b>67.3</b>

As at the date of the statement of financial position, cumulative other comprehensive income of the disposal group recognized in equity amounted to €4.4 million.

## (11) Equity

The subscribed capital in the amount of €450.0 million (previous year: €450.0 million) consists of 450 million no-par-value registered shares. The sole shareholder of Freudenberg SE is Freudenberg & Co. Kommanditgesellschaft, Weinheim (hereafter: Freudenberg & Co. KG).

The **reserves** break down as follows:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Capital reserves	50.2	50.2
Retained earnings	4,008.9	4,452.9
	<b>4,059.1</b>	<b>4,503.1</b>

The capital reserves consist of contributions in kind made by the shareholder.

The retained earnings include net income earned by the Group in the past and not distributed as well as reserves of companies included in the consolidated financial statements including expenses and income recorded without effect on net income.

The profit distributed in the reporting year amounted to €118.5 million (previous year: €114.4 million). This corresponded to a profit per share of €0.26 (previous year: €0.25).

The Board of Management proposes that the 2018 net retained profit in the amount of €2,371.2 million (previous year: €2,015,3 million) should be carried forward to new account.

In the reporting year, income (+) and expenses (-) which had previously been recorded without an effect on net income with respect to the following components of other comprehensive income were reclassified to the statement of profit or loss:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Exchange rate differences	-6.3	-1.0
Derivative financial instruments	-1.1	-0.1
	<b>-7.4</b>	<b>-1.1</b>

In the 2018 financial year, tax effects (income (+)/expenses (-)) recorded without effect on net income are attributable to the various items of other comprehensive income as follows:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Remeasurement of defined benefit plans	-23.9	-2.2
Securities and other items	19.1	-3.5
	<b>-4.8</b>	<b>-5.7</b>

## Non-controlling interests

The change in non-controlling interests in the equity of consolidated affiliated companies from €325.9 million to €359.0 million is mainly the result of the allocation of profit for the year and exchange rate differences. Furthermore, dividends also resulted in a reduction in non-controlling interests.

In the case of the following affiliated company, the consolidated financial statements include significant non-controlling interests in the amount of 25 percent of the shares:

[€ million]		
Freudenberg-NOK General Partnership, Plymouth, USA	Dec. 31, 2017	Dec. 31, 2018
Profit (+)/loss (-) attributable to non-controlling interests	14.3	12.9
Total amount of non-controlling interests	109.8	127.6

This affiliated company is included in the consolidated financial statements with the following values:

[€ million]		
Freudenberg-NOK General Partnership	Dec. 31, 2017	Dec. 31, 2018
Current assets	303.6	313.7
Non-current assets	290.8	309.1
Current liabilities	124.8	90.4
Non-current liabilities	49.0	31.7
	2017	2018
Sales	656.5	638.2
Profit (+)/loss (-)	60.3	59.7
Total comprehensive income	-3.7	80.8

Freudenberg-NOK General Partnership paid dividends in the amount of €1.2 million (previous year: €2.0 million) to the holder of the non-controlling interests.

Other non-controlling interests especially concern the EagleBurgmann Business Group, where they arise especially as a result of the contractual agreements with the partner Eagle Industry Co., Ltd., Tokyo, Japan.

## (12) Provisions for pensions and similar obligations

The Freudenberg pension scheme consists of both defined contribution and defined benefit pension plans. Defined benefit plans include both fixed salary and final salary plans. The provisions for pensions and similar obligations include obligations arising from current pensions and future pension entitlements.

The pension plans at Freudenberg Group mainly concern German, Japanese and British companies. The pension obligations of the German companies are commitments financed by provisions. These obligations are subject to the rules of the pension plan concerned and the applicable statutory provisions. The plans include benefit commitments dependent on service periods and on salaries and provide for disability benefits and benefits for surviving dependents as well as for retirement benefits.

The pension plans of British companies are managed by third party pension funds. The representatives of the pension funds are legally obliged to act in the interest of all participants in the plan. In cooperation with investment advisers, they are responsible for the development and regular review of investment strategies for the plan assets. Commitments based on age and years of service include both retirement benefits and certain forms of survivor benefits. Most of these plans are frozen and future entitlements can no longer be earned by plan participants. The pension obligations of these companies are mainly financed by plan assets, funded chiefly by employers' contributions.

The pension plans in Japan consist of benefit commitments based on age and years of service. These pension plans are managed by a third-party pension fund. The pension obligations of the Japanese companies are mainly financed by plan assets, funded solely by employers' contributions.

Apart from pension obligations, this item also includes obligations similar to pensions, such as amounts paid to employees upon the termination of their employment which do not constitute termination benefits. These benefits vary in accordance with the legal, tax and economic conditions in the countries concerned.

All defined benefit schemes of the Freudenberg Group are subject to typical actuarial risks, especially investment and interest risks.

Current service cost and net interest on the net defined benefit liability are disclosed in the statement of profit or loss under personnel expenses in the relevant functional areas.

In the case of the defined contribution plans, there are no additional obligations apart from the payment of contributions. Contributions paid are expensed under personnel expenses and amounted to €84.3 million in 2018 (previous year: €77.6 million).

The defined benefit obligations were calculated on actuarial principles by the projected unit credit method. The calculation was based on the following discount rates as major actuarial assumptions:

	Dec. 31, 2017	Dec. 31, 2018
Germany	1.85 %	1.95 %
Japan	0.52 %	0.52 %
United Kingdom	2.40 %	2.82 %

In the case of the other foreign companies, the discount rates ranged from 0.9 to 4.2 percent (previous year: 0.5 to 3.0 percent).

As a result of the pension plan regulations, the assumed trend in salaries and pensions only has an effect on the value of pension obligations in exceptional cases.

Net obligations are shown in the following items of the statement of financial position:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Provisions for pensions and similar obligations	735.9	718.1
Other assets	7.2	5.6
	<b>728.7</b>	<b>712.5</b>

Net obligations are calculated as follows:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Present value of funded obligations	299.9	266.7
Fair value of plan assets	-275.4	-247.1
<b>Surplus (-)/deficit (+)</b>	<b>24.5</b>	<b>19.6</b>
Present value of unfunded obligations	704.2	692.9
	<b>728.7</b>	<b>712.5</b>

Defined benefit obligations developed as follows:

[€ million]	Germany	Japan	United Kingdom	Miscellaneous	2017
<b>Present value of defined benefit obligations, Jan. 1, 2017</b>	<b>635.1</b>	<b>131.3</b>	<b>194.3</b>	<b>261.5</b>	<b>1,222.2</b>
Current service cost	16.2	3.4	0.0	5.2	24.8
Interest cost	11.2	0.7	5.0	4.8	21.7
Gains (-) and losses (+) from remeasurement of defined benefit obligations	-1.9	1.2	-8.5	8.9	-0.3
Gains (-) and losses (+) on settlements	0.0	0.0	0.0	0.5	0.5
Past service cost	-1.2	0.0	0.0	0.0	-1.2
Contributions by plan participants	0.0	0.0	0.0	0.7	0.7
Liabilities extinguished on settlements	0.0	0.0	-45.5	-138.1	-183.6
Benefits paid	-21.2	-3.8	-9.9	-10.6	-45.5
Other changes	1.0	0.0	0.0	4.6	5.6
Exchange rate differences	0.0	-11.1	-6.4	-23.3	-40.8
<b>Present value of defined benefit obligations, Dec. 31, 2017</b>	<b>639.2</b>	<b>121.7</b>	<b>129.0</b>	<b>114.2</b>	<b>1,004.1</b>

[€ million]	Germany	Japan	United Kingdom	Miscellaneous	2018
<b>Present value of defined benefit obligations, Jan. 1, 2018</b>	<b>639.2</b>	<b>121.7</b>	<b>129.0</b>	<b>114.2</b>	<b>1,004.1</b>
Current service cost	14.4	3.8	0.0	4.8	23.0
Interest cost	11.6	0.7	2.6	2.5	17.4
Gains (-) and losses (+) from remeasurement of defined benefit obligations	-4.2	0.8	-5.7	-1.7	-10.8
Gains (-) and losses (+) on settlements	0.0	0.0	0.0	0.3	0.3
Past service cost	0.2	0.0	0.5	0.5	1.2
Contributions by plan participants	0.1	0.0	0.0	0.6	0.7
Liabilities extinguished on settlements	0.0	0.0	-25.8	-7.6	-33.4
Benefits paid	-19.8	-4.4	-7.4	-6.2	-37.8
Other changes	-15.1	0.0	0.0	0.5	-14.6
Exchange rate differences	0.0	8.9	-1.1	1.7	9.5
<b>Present value of defined benefit obligations, Dec. 31, 2018</b>	<b>626.4</b>	<b>131.5</b>	<b>92.1</b>	<b>109.6</b>	<b>959.6</b>

The plan assets of funded pension plans developed as follows:

[€ million]	Japan	United Kingdom	Miscellaneous	2017
<b>Fair value of plan assets, Jan. 1, 2017</b>	<b>100.9</b>	<b>180.0</b>	<b>183.2</b>	<b>464.1</b>
Interest income	0.5	4.6	3.8	8.9
Gains (-) and losses (+) from remeasurement of plan assets	4.3	2.7	5.1	12.1
Contributions by employer	5.3	2.0	20.2	27.5
Contributions by plan participants	0.0	0.0	0.8	0.8
Liabilities extinguished on settlements	0.0	-45.5	-138.3	-183.8
Benefits paid	-3.8	-9.9	-8.1	-21.8
General plan administration costs	0.0	-0.3	-1.5	-1.8
Other changes	0.0	0.0	3.9	3.9
Exchange rate differences	-8.5	-5.9	-20.1	-34.5
<b>Fair value of plan assets, Dec. 31, 2017</b>	<b>98.7</b>	<b>127.7</b>	<b>49.0</b>	<b>275.4</b>

[€ million]	Japan	United Kingdom	Miscellaneous	2018
<b>Fair value of plan assets, Jan. 1, 2018</b>	<b>98.7</b>	<b>127.7</b>	<b>49.0</b>	<b>275.4</b>
Interest income	0.5	2.6	1.1	4.2
Gains (-) and losses (+) from remeasurement of plan assets	-0.3	-5.7	0.4	-5.6
Contributions by employer	6.2	2.2	5.2	13.6
Contributions by plan participants	0.0	0.0	0.6	0.6
Liabilities extinguished on settlements	0.0	-25.8	-7.7	-33.5
Benefits paid	-4.1	-7.4	-3.0	-14.5
General plan administration costs	0.0	-0.2	-0.3	-0.5
Other changes	0.0	0.0	-0.2	-0.2
Exchange rate differences	7.2	-1.0	1.4	7.6
<b>Fair value of plan assets, Dec. 31, 2018</b>	<b>108.2</b>	<b>92.4</b>	<b>46.5</b>	<b>247.1</b>

The fair value of plan assets with quoted prices in active markets was as follows:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Equity instruments	104.4	80.4
Interest-bearing securities	51.0	55.8
Other assets	66.5	81.9
	<b>221.9</b>	<b>218.1</b>

The fair value of plan assets without quoted prices in active markets was as follows:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Equity instruments	0.8	0.7
Interest-bearing securities	0.3	0.4
Other assets	52.4	27.9
	<b>53.5</b>	<b>29.0</b>

In the reporting year, gains and losses from the remeasurement of the defined benefit obligations and plan assets recognized in retained earnings developed as follows:

[€ million]	2017	2018
<b>Gains (+) and losses (-) from remeasurement, Jan. 1</b>	<b>-397.7</b>	<b>-305.1</b>
Gains (+) and losses (-) from remeasurement of defined benefit obligations	0.3	10.8
Of which: as a result of changed financial assumptions	-4.5	17.9
Of which: as a result of changed demographic assumptions	6.5	-6.5
Of which: as a result of experience-based adjustments	-1.7	-0.6
Gains (+) and losses (-) from remeasurement of plan assets	12.1	-5.5
Reclassifications/other changes	70.4	10.7
Exchange rate differences	9.8	0.5
<b>Gains (+) and losses (-) from remeasurement, Dec. 31</b>	<b>-305.1</b>	<b>-288.6</b>

In the following year, contributions in the amount of €11.5 million (previous year: €12.8 million) will probably be made to plan assets.

The weighted average duration of defined benefit obligations as at the end of the reporting year was 16.4 years (previous year: 16.9 years).

The possible changes in the defined benefit obligation as a result of changes in the discount rate, a major actuarial assumption, were calculated on the basis of the projected unit credit method. If the discount rate as at the statement of financial position date had been 0.50 percentage points lower, the present value of defined benefit obligations as at the statement of financial position date would have been €83.2 million (previous year: €88.2 million) higher. If the discount rate as at the statement of financial position date had been 0.50 percentage points higher, the present value of defined benefit obligations as at the statement of financial position date would have been €74.3 million (previous year: €77.9) lower.

**(13) Other provisions**

[€ million]	Personnel obligations	Warranties and guarantees	Onerous contracts	Miscellaneous	Total
<b>Status Jan. 1, 2018<sup>1</sup></b>	<b>351.0</b>	<b>88.6</b>	<b>25.9</b>	<b>290.3</b>	<b>755.8</b>
Increases	258.3	32.7	16.3	143.4	450.7
Unwinding of discount and effect of change in discount rate	0.2	-0.1	0.0	1.0	1.1
Amounts used	-241.0	-10.6	-13.2	-129.9	-394.7
Reversal	-21.6	-38.0	-3.5	-45.6	-108.7
Exchange rate differences	1.1	-0.2	0.1	-3.5	-2.5
Changes in consolidated group	0.8	-0.3	0.0	1.5	2.0
Other changes	-8.8	-1.5	-0.1	-12.7	-23.1
<b>Status Dec. 31, 2018</b>	<b>340.0</b>	<b>70.6</b>	<b>25.5</b>	<b>244.5</b>	<b>680.6</b>
Of which: long-term	61.6	3.3	0.5	43.6	109.0
Of which: short-term	278.4	67.3	25.0	200.9	571.6
Reimbursement claims connected with provisions and shown in the statement of financial position under other assets	0.5	1.6	0.0	1.0	3.1

<sup>1</sup> The opening balances were in some cases adjusted due to the effects of the first-time application of IFRS 15.

The provisions for personnel obligations mainly include provisions for other short-term employee benefits such as bonuses and commissions, provisions for vacation not taken and other long-term employee benefits such as long-term remuneration components as well as provisions for termination benefits.

The provisions for guarantees and warranties concern products supplied and services rendered. The provisions for onerous contracts include unrealized losses from contracts which have not been performed or not been fully performed.

The miscellaneous provisions include the following items:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Restructuring	35.9	33.4
Legal action	25.0	24.1
Environmental protection	18.6	21.6
Other	229.1	165.4
<b>Total</b>	<b>308.6</b>	<b>244.5</b>

## (14) Liabilities

[€ million]	Residual term			Dec. 31, 2017	Residual term			Dec. 31, 2018
	Up to 1 year	1 to 5 years	More than 5 years		Up to 1 year	1 to 5 years	More than 5 years	
Liabilities to banks (= financial debt)	201.3	342.1	10.5	553.9	133.5	282.0	0.4	415.9
Cash pool liabilities	98.0	0.0	0.0	98.0	101.9	0.0	0.0	101.9
Other financial debt, including leasing	12.4	1.6	3.8	17.8	12.2	1.6	4.0	17.8
Shareholder's loans	370.0	150.0	150.0	670.0	375.0	150.0	150.0	675.0
Accounts of Freudenberg & Co. KG Partners	178.1	274.3	0.0	452.4	179.9	299.6	0.0	479.5
<b>Financial debt</b>	<b>859.8</b>	<b>768.0</b>	<b>164.3</b>	<b>1,792.1</b>	<b>802.5</b>	<b>733.2</b>	<b>154.4</b>	<b>1,690.1</b>
<b>Trade payables</b>	<b>882.9</b>	<b>0.0</b>	<b>0.0</b>	<b>882.9</b>	<b>883.0</b>	<b>0.0</b>	<b>0.0</b>	<b>883.0</b>
Contract liabilities	21.1	0.0	0.0	21.1	33.5	0.0	0.0	33.5
Miscellaneous liabilities	420.4	183.2	97.5	701.1	282.6	52.7	79.6	414.9
<b>Other liabilities</b>	<b>441.5</b>	<b>183.2</b>	<b>97.5</b>	<b>722.2</b>	<b>316.1</b>	<b>52.7</b>	<b>79.6</b>	<b>448.4</b>
	<b>2,184.2</b>	<b>951.2</b>	<b>261.8</b>	<b>3,397.2</b>	<b>2,001.6</b>	<b>785.9</b>	<b>234.0</b>	<b>3,021.5</b>

The average interest rate on long-term liabilities to banks is 1.00 percent (previous year: 0.83 percent).

The interest payable on the certificates of indebtedness included in the liabilities to banks is based on variable and fixed components. Cash flows for variable and fixed interest and repayment of principal will probably be as follows from 2019 to 2023:

[€ million]	Book value	Cash Flows		
	Dec. 31, 2018	2019	2020	2021-2023
Certificates of indebtedness	214.5	2.8	160.3	59.1

Other financial debt includes loans granted by third parties. This item also includes liabilities in connection with finance leasing, with an average interest rate of 3.18 percent (previous year: 3.22 percent). Further details are given in the information on finance leases under note (2).

The loans granted by the shareholder were extended during the reporting year. Interest is payable on these loans at rates between 1.00 and 3.35 percent (previous year: between 1.00 and 3.35 percent).

The interest rates applicable to accounts of Freudenberg & Co. KG Partners vary between 1.00 and 4.00 percent depending on the individual agreements (previous year: between 1.00 and 4.00 percent).

Miscellaneous liabilities include liabilities for outstanding wages and salaries, holiday pay and special bonuses and liabilities for other taxes, as well as liabilities in connection with social security and other refund liabilities.

**Contingent liabilities and other financial obligations**

[€ million]	Dec. 31, 2017	Dec. 31, 2018
<b>CONTINGENT LIABILITIES</b>		
Bills of exchange	0.1	0.1
Guarantees	27.4	15.8
Warranty agreements	8.0	0.2
Collateral for third-party liabilities	0.0	0.1
Miscellaneous	10.1	0.4
	<b>45.6</b>	<b>16.6</b>
<b>OTHER FINANCIAL COMMITMENTS</b>		
Commitments arising from leasing contracts <sup>1</sup>	390.3	370.3
Purchase commitments in connection with intangible assets	0.5	1.4
Purchase commitments in connection with tangible assets	48.0	47.7
Purchase commitments in connection with the delivery of goods and services	105.8	92.7
Miscellaneous	10.2	23.4
	<b>554.8</b>	<b>535.5</b>

<sup>1</sup> See also the explanatory remarks in note (2) of the consolidated financial statements.

In addition, the following contingent liabilities and other financial commitments concern joint ventures:

[€ million]	Dec. 31, 2017	Dec. 31, 2018
<b>CONTINGENT LIABILITIES</b>		
Guarantees	6.0	5.6
Warranties	0.4	0.4
	<b>6.4</b>	<b>6.0</b>
<b>OTHER FINANCIAL COMMITMENTS</b>		
Commitments arising from leasing contracts <sup>1</sup>	15.8	4.7
Purchase commitments in connection with the delivery of goods and services	0.1	0.0
	<b>15.9</b>	<b>4.7</b>

<sup>1</sup> See also the explanatory remarks on leased assets in note (2) to the consolidated financial statements.

## Additional information on financial instruments

The term “financial instrument” is used to refer to any contract that gives rise to both a financial asset of one enterprise and a financial liability or equity instrument of another enterprise. A distinction is made between primary and derivative financial instruments. Primary financial instruments in the case of the purchase or sale of assets are recognized at the settlement date, i.e. the delivery of the asset concerned. Derivative financial instruments are recognized as of the trade date. In the event of loss of control over the contractually agreed rights to a financial asset, the asset concerned is derecognized. Financial liabilities are derecognized on the statement of financial position when the commitment is discharged or cancelled, or expires.

According to IFRS 9, financial instruments are divided into the following categories:

- Measured at amortized cost

This category includes debt instruments with cash flows consisting solely of principal and interest payments. They are held by Freudenberg in a business model whose objective is achieved by collecting the contractual cash flows.

- Measured at fair value through other comprehensive income

This category includes both debt and equity instruments. Debt instruments are to be included in this category if the cash flows associated with these instruments consists solely of principal and interest payments and the business model has the objective of both collecting contractual cash flows and selling financial assets. Amounts recognized in other comprehensive income for those debt instruments are reclassified to the statement of profit or loss upon the later disposal of such instruments. Equity instruments not held for trading may be assigned to this category. The amounts recognized in other comprehensive income for those equity instruments are not reclassified to the statement of profit or loss in the event of the later disposal of such instruments.

- Measured at fair value through profit or loss

This category includes both debt and equity instruments. Debt instruments are to be assigned to this category in the event that the cash flows associated with such instruments do not consist solely of principal and interest payments or if the business model is based mainly on short-term trading intentions. Equity instruments must also be assigned to this category if there are trading intentions. If there are no trading intentions, there is an option to classify equity instruments as measured at fair value through profit or loss. In addition, both debt and equity instruments are classified in this category if such classification prevents an accounting mismatch. The same applies to partnership shares. Those shares are not considered to be equity instruments and also do not meet the condition that the cash flows associated with them consist solely of principal and interest payments. Derivative financial instruments that do not meet the requirements for hedge accounting are also measured at fair value through profit or loss.

Freudenberg does not hold any financial assets or liabilities for short-term trading purposes.

## Financial instruments

Financial instruments are assigned to categories on the basis of the relevant items in the statement of financial position.

The allocation to the categories unambiguously defines the accounting and measurement of the instruments.

[€ million]	Loans and receivables at amortized cost	Available-for-sale financial assets at fair value without effect on profit or loss	Available-for-sale financial assets at amortized cost	Other financial liabilities at amortized cost	Book value Dec. 31, 2017
<b>ASSETS</b>					
Other financial assets <sup>1</sup>	8.3	84.2	30.0		122.5
Trade receivables	1,509.1				1,509.1
Other assets	104.9				104.9
Securities and cash at bank and in hand	998.8				998.8
	<b>2,621.1</b>	<b>84.2</b>	<b>30.0</b>		<b>2,735.3</b>
<b>LIABILITIES</b>					
Financial debts				1,792.1	1,792.1
Trade payables				882.9	882.9
Other liabilities				407.8	407.8
				<b>3,082.8</b>	<b>3,082.8</b>

<sup>1</sup> The figures for the previous year are calculated in accordance with IAS 39.

In the previous year Freudenberg did not hold any held to maturity financial investments or financial instruments measured at fair value through profit or loss. The fair value of available for sale financial assets was determined on the basis of the values of active markets for identical assets (level 1 input factors) in the amount of €84.2 million in 2017.

[€ million]	At amortized cost	At fair value through other comprehensive income	At fair value through profit or loss	Book value Dec. 31, 2018
<b>ASSETS</b>				
Other financial assets	6.6	57.0	55.0	118.6
Trade receivables	1,467.5			1,467.5
Other assets	132.6		27.3	159.9
Securities and cash at bank and in hand	984.7			984.7
	<b>2,591.4</b>	<b>57.0</b>	<b>82.3</b>	<b>2,730.7</b>
<b>LIABILITIES</b>				
Financial debts	1,690.1			1,690.1
Trade payables	883.0			883.0
Other liabilities	293.5		0.4	293.9
	<b>2,866.6</b>		<b>0.4</b>	<b>2,867.0</b>

Loans and receivables are measured at amortized cost. The cash flows arising from these financial assets consist solely of principal and interest payments and they are held by Freudenberg within a business model whose objective is achieved by collecting the contractual cash flows. The fair values of financial assets and financial liabilities measured at amortized cost are approximately equal to the carrying amounts of such assets and liabilities.

The other financial assets measured at fair value through other comprehensive income as at the statement of financial position date consist solely of equity instruments not held for trading purposes. The greater part of these financial instruments, in the amount of €53.3 million) were measured on the basis of active markets for identical assets (level 1 input factors). For the remaining equity instruments, in the amount of €3.7 million, the amortized cost represents the best estimate of the fair value. The amounts recognized in other comprehensive income for equity instruments are not reclassified to the statement of profit or loss upon the later disposal of such instruments. In the reporting period, there were no disposals of significant equity instruments in this category.

The other financial instruments measured at fair value through profit or loss are debt instruments with an amount of €2.5 million with cash flows not consisting solely of principal and interest payments, investments for which another measurement would lead to an accounting mismatch with an amount of €9.0 million and shares in partnerships with an amount of €43.5 million. In the case of shares in partnerships, the amortized cost represents the fair value. Insufficient more recent information was available for the measurement of fair value. In the event that later information becomes available, measurement changes are recognized in fair value with an effect on net income. This was not the case in the reporting period. The other financial assets measured at fair value through profit or loss are measured on the basis of active markets for identical assets (level 1 inputs). The loss recognized in the reporting period for financial instruments in this category was €1.9 million. The other assets in this category solely include derivative financial instruments. These concern option rights for the acquisition of shares in companies with a value of €26.7 million. The fair value of these assets is measured on the basis of developed, unobservable input factors (level 3 input factors). The other derivative financial instruments are used for hedging currency risks but do not meet the requirements for hedge accounting. They are therefore measured at fair value through profit or loss (see information on hedging transactions).

### Information on credit risks

In accordance with IFRS 9, expected credit losses are the key factor in measuring impairment losses. Impairment losses are recognized in accordance with IFRS 9 for all financial assets measured at amortized cost, for debt instruments measured at fair value without effect on net income, and for contract assets.

IFRS 9 provides for a three-stage procedure. Loss allowances are measured either on the basis of the 12-month expected credit loss (stage 1) or on the basis of the lifetime expected credit loss if there has been a significant increase in credit risk since initial recognition (stage 2) or a credit impairment has been identified (stage 3).

Securities and cash at bank and in hand are debt instruments that are measured at amortized cost. Such assets held by Freudenberg mainly have a low credit risk and are due in the short-term. Such assets must therefore be assigned to stage 1 of the impairment model. The application of the expected credit loss models of these items resulted in the recognition of an impairment loss as at January 1, 2018 of €1.0 million. The impairment losses were not adjusted in the reporting period.

[€ million]	Trade receivables	Other assets
	Dec. 31, 2017	Dec. 31, 2017
<b>Book value</b>	<b>1,509.1</b>	<b>104.9</b>
Of which: neither past due nor impaired	1,200.2	95.0
Of which: not impaired as at the date of the statement of financial position and past due within the following time		
Up to 60 days	232.2	7.7
Between 61 and 120 days	34.6	0.3
Between 121 and 180 days	17.2	0.6
Between 181 and 360 days	9.6	0.4
More than 360 days	3.7	0.5

For **trade receivables**, the simplified approach in accordance with IFRS 9 is adopted. In this approach, the loss allowance is always calculated on the basis of the lifetime expected credit losses. In order to determine the expected credit losses, customers are assigned to groups with similar credit risks. In the case of appropriate individual circumstances and risk indications, individual impairment losses are recognized. Information related to the past and to the future is taken into consideration in the measurement of impairment losses.

In order to determine the expected credit losses for a group of receivables, Freudenberg applies two factors. The first factor takes the country risk into account and the second factor accounts for the customer-specific default risk.

The centrally defined country risk factor covers factors such as transfer or convertibility risks, moratoriums, and capital or currency regulations which would prevent a company from converting its local currency into a foreign currency and/or transferring foreign currency to creditors in other countries. This specifically includes circumstances such as war, confiscation, revolution, insurrections, flooding and earthquakes. In addition the model considers forward looking information regarding the financial and economic situation. The financial information includes medium-term financial solvency indicators such as overall foreign debt and total payments in connection with external debts. These figures are typically connected with indicators such as the gross domestic product and/or foreign exchange revenues. Economic information includes long-term structural indicators that measure the growth potential such as income levels, savings rates or economic growth rates achieved and vulnerability, such as export diversification, dependence on subsidies or the size of economies.

The customer-specific risk is based on shared credit risk characteristics of receivable groups. It takes into consideration specific business models, customer experience, differences in local payment cultures and market knowledge. If there is a major difference between different due date ranges, impairment loss rates are calculated separately for the different due date ranges.

To a large extent (between 70 and 90 percent), trade receivables are covered by credit insurance. Credit insurance is taken into account in the calculation of the impairment losses. Otherwise, the carrying amount represents the maximum credit risk.

Trade receivables are de-recognized if, on the basis of an appropriate estimate, it is not to be expected that the receivable may be realized in whole or in part. In this context, the information concerned must indicate that a debtor has financial problems and that there is no realistic prospect of the receipt of payments, for example if a debtor has been placed under liquidation

or is subject to insolvency proceedings. As at the statement of financial position date, derecognized receivables in the amount of €1.3 million were still subject to enforcement activity.

The risk profile of trade receivables is summarized in the table below:

[€ million]	Gross carrying amount Dec. 31, 2018 <sup>1</sup>	Weighted average loss rate	Loss allowance
Current (not past due)	1,259.4	1 %	12.0
1 – 60 days past due	196.0	2 %	4.3
61 – 180 days past due	43.8	9 %	3.9
181 – 360 days past due	12.7	18 %	2.3
More than 360 days past due	9.6	46 %	4.4

<sup>1</sup> The figures include assets and groups of assets held for sale.

Impairment losses to trade receivables developed as follows:

[€ million]	2017 <sup>1</sup>	2018
<b>Impairment losses Jan. 1. – IAS 39</b>	<b>26.6</b>	<b>22.5</b>
Transition effect on impairment losses recognized in other comprehensive income	0.0	3.8
<b>Impairment losses Jan. 1. – IFRS 9</b>	<b>26.6</b>	<b>26.3</b>
Changes in consolidated group	-0.7	0.1
Exchange rate differences	-1.3	-0.4
Additions (expenses for impairments)	7.2	9.6
Amounts used	-4.8	-2.9
Reversals (reversal of impairment)	-4.5	-5.8
<b>Impairment losses Dec. 31</b>	<b>22.5</b>	<b>26.9</b>

<sup>1</sup> The figures for the previous year are calculated in accordance with IAS 39.

As at the statement of financial position date, impairment losses to other assets amounted to €0.7 million (previous year: €0.5 million).

## Hedging transactions

Freudenberg SE is responsible for all financing activities and also operates the cash management system for the entire group of companies. Group companies obtain the financing they require via cash pools or internal loans or, in some countries, in the form of bank loans guaranteed by Freudenberg SE.

The limits of action, responsibilities and control procedures in connection with derivative financial instruments are laid down in a binding form in internal directives for Group companies. Freudenberg does not expose itself to additional financial risks through speculation with derivative financial instruments but uses such instruments only for hedging purposes and therefore reducing risks in connection with transactions. Future transactions are only hedged if there is a high probability of occurrence. As a general principle Freudenberg uses derivative financial instruments for hedging interest rate and foreign exchange risks.

Open risk items are primarily hedged via transactions within the Group. External hedging transactions are only concluded after consultation with the responsible corporate function.

The interest rate risk represents the risk that the fair value or future cash flows of financial instruments may fluctuate as a result of changes in market interest rates. As in the previous year, there were no derivatives entered into for the purpose of interest rate hedging as at December 31, 2018.

Freudenberg is active internationally and is subject to exchange rate risks resulting from transactions in foreign currencies. Currency risks arise from future business transactions and recognized assets and liabilities concluded in a currency which is not the functional currency of the relevant Group company. The objective of hedging transactions is to reduce the volatility resulting from foreign currencies. For this purpose, currency futures and currency swaps are concluded.

Derivative financial instruments for hedging recognized assets or liabilities (fair value hedges) are shown in the statement of financial position at fair value. Changes in the fair value are recorded in the statement of profit or loss.

Financial instruments for hedging future cash flows (cash flow hedges) are also included in the statement of financial position at fair value, but changes in the fair value of such instruments are recognized without effect on net income under retained earnings, taking into consideration the applicable income taxes and recognized in the statement of profit or loss when future cash flows are realized. Ineffective portions of hedge transactions are always recognized in the statement of profit or loss. The effectiveness of hedging transactions is determined regularly by prospective assessment upon the inception of the transaction. For hedging currency risks, the main hedging transactions concluded are based on contract terms that are congruent with the underlying transaction. Ineffectiveness may arise if parameters such as the timing of a planned transaction change compared with the original estimate.

Derivative financial instruments are used solely for hedging purposes. However, if the derivatives do not meet the requirements for hedge accounting, they must be assessed as "held for trading" for accounting purposes. Such instruments are measured at fair value through profit or loss.

The notional amount of previous year currency futures concluded for hedging currency risks and still open as at December 31, 2017 was €105.4 million. The negative fair value of these instruments as at December 31, 2017 was €0.9 million. Of the total volume of derivatives, no derivatives had a term of more than one year in the previous year. Of the total volume of financial instruments classified as fair value hedges, 67 percent had a term of more than one year as at December 31, 2018. As at 31 December 2017, currency futures were included in the other assets at a fair value of €0.9 million and in other liabilities with a fair value of €1.8 million.

As at 31 December 2018, the Group held the following currency futures:

[€ million]	Dec. 31, 2018
<b>DERIVATIVE FINANCIAL INSTRUMENTS – CASH FLOW HEDGES</b>	
Other assets – book value (assets)	0.4
Other liabilities – book value (equity and liabilities)	0.3
Notional amount	31.7
Maturity date	1/2019 - 12/2019
Hedge ratio	1:1
Change in exchange rate of outstanding hedging instruments	0.1
<b>DERIVATIVE FINANCIAL INSTRUMENTS – FAIR VALUE HEDGES</b>	
Other assets – book value (assets)	0.0
Other liabilities – book value (equity and liabilities)	0.2
Notional amount	3.6
Maturity date	2/2019 - 9/2020
Hedge ratio	1:1
Change in exchange rate of outstanding hedging instruments	-0.2
Change in value of hedged item	0.2
<b>DERIVATIVE FINANCIAL INSTRUMENTS HELD FOR TRADING</b>	
Other Assets – book value (assets)	0.6
Other liabilities – book value (liabilities)	0.4
Notional amount	131.8
Maturity date	1/2019 - 12/2019

In the reporting year, value changes in the case of currency futures (cash flow hedges) are recognized in equity in the amount of €0.1 million (previous year: €-0.1 million).

The fair values of currency futures were determined on the basis of the quoted currency future prices for similar financial instruments (level 2 inputs).

Derivatives to hedge currency risks in connection with the US dollar represent the greater part of the notional amount.

[€ million]	Dec. 31, 2017	Dec. 31, 2018
Notional amount currency pair USD/EUR	62.0	60.2
Weighted average hedged rate for the year USD/EUR	1.19	1.14

## Risks in connection with financial instruments

Freudenberg is exposed to risks resulting from changes in exchange rates and interest rates and, as a general principle, uses conventional derivative instruments such as interest rate swaps, caps and currency futures to hedge risks in connection with business operations and financing to a limited extent. The use of these instruments is governed by Freudenberg directives within the risk management system which lay down limits on the basis of the value of the underlying transactions, define approval procedures, exclude the use of derivative instruments for speculative purposes, minimize credit risks and govern internal reporting and the separation of functions. Compliance with these directives and the proper handling and measurement of transactions are regularly verified, observing the principle of separation of functions. Furthermore, risk management for financial instruments is integrated in the Freudenberg Group risk management system.

The risks which are hedged are chiefly as follows:

### Interest rate risk:

In the case of fixed-interest loans or investments, there is a risk that changes in the market interest rate will affect the market value of the item concerned (market value risk contingent on interest rates). In contrast, variable interest loans and investments are not subject to this risk as the interest rate is adjusted to reflect changes in the market situation with a very short delay. However, there is a risk with respect to future interest payments as a result of short-term fluctuations in market interest rates (cash flow risk contingent on interest rates).

Risks associated with interest rate changes mainly affect long-term items. If market interest rates had been 0.5 percentage points higher or lower, on average, as of December 31, 2018, this would have had only an insignificant impact on net income.

### Currency risk:

The primary financial instruments are chiefly held in the functional currency.

Exchange rate differences caused by the conversion of financial statements into the Group currency are not taken into consideration.

If the value of the euro against major currencies held at the date of the statement of financial position (USD, GBP and JPY) had been 10 percent higher as at December 31, 2018, the profit before income taxes would have been €10.4 million (previous year: €8.0 million) lower. If the value of the euro against major currencies held (USD, GBP and JPY) had been 10 percent lower as at December 31, 2018, the profit before income taxes would have been €12.7 million (previous year: €9.8 million) higher.

### Liquidity risk:

Risks connected with cash flow fluctuations are identified by the cash flow planning system already in place. As a result of Freudenberg's good rating ("A3") and the credit lines granted by banks on a binding basis, Freudenberg can access ample sources of funds at all times.

### Credit risk:

Specific provisions are recognized to take account of identifiable risks not covered by credit insurance. In addition, a loss allowance is recognized for expected credit losses. Otherwise, the book value represents the maximum credit risk.

Freudenberg only concludes derivative financial instruments with national and international banks of investment grade rating. Credit risks are largely limited by distributing hedges between several banks and a policy of applying caps to individual banks.

## NOTES TO THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS

**(15) Sales**

[€ million]	2017	2018
Sales from sales of goods	9,027.8	9,077.1
Sales from services	159.4	153.7
Sales from research and development and research and development licenses	73.3	92.5
Sales from production-related licenses	1.4	1.2
Other sales	83.7	130.9
	<b>9,345.6</b>	<b>9,455.4</b>

Other sales include, inter alia, sales from the sale of customer-specific tools, sales from rental and lease contracts and sales from support and supplementary operations. A breakdown of sales by sectors and regions is given in the management report.

**(16) Cost of sales**

Cost of sales, amounting to €6,395.6 million (previous year: €6,171.1 million), indicates the cost of goods and services sold. Apart from individual directly attributable costs, such as personnel expenses and material expenses, overheads, and depreciation /amortization are also shown under cost of sales.

**(17) Selling expenses**

Selling expenses, amounting to €1,297.2 million (previous year: €1,365.8 million) include all expenses incurred in the sales area, for example personnel, advertising, carriage and packaging expenses.

**(18) Administrative expenses**

In 2018, administrative expenses amounted to €633.5 million (previous year: €622.6 million). Administrative expenses include all expenses which cannot be allocated to production, sales or research and development and concern, inter alia, personnel expenses and miscellaneous administrative expenses.

**(19) Research and development expenses**

Apart from personnel and material expenses, research and development expenses chiefly include the cost of licenses and patents occurring in the course of development projects.

**(20) Other income**

[€ million]	2017	2018
Currency and exchange gains <sup>1</sup>	0.0	7.9
Income from other secondary business	2.1	2.2
Income from disposals of intangible and tangible assets	8.3	29.4
Income from the change in status of investments previously consolidated at-equity	22.2	0.0
Income from disposals of financial assets	0.8	0.0
Income from recharges	7.6	10.9
Miscellaneous income	62.3	84.9
	<b>103.3</b>	<b>135.3</b>

<sup>1</sup>After offsetting of exchange rate losses.

The increase in other income is chiefly due to higher income from disposals of intangible and tangible assets and currency and exchange gains. The increase in miscellaneous income is mainly the result of the measurement of option rights.

## (21) Other expenses

[€ million]	2017	2018
Currency and exchange losses <sup>1</sup>	7.8	0.0
Losses resulting from disposals of intangible and tangible assets	7.6	6.2
Losses from the change in status of investments previously consolidated at-equity	2.5	0.0
Losses resulting from disposals of financial assets	3.4	1.1
Miscellaneous expenses	77.8	76.2
	<b>99.1</b>	<b>83.5</b>

<sup>1</sup> After offsetting of exchange rate gains.

The miscellaneous expenses mainly include the impairment loss on the goodwill of the group of cash-generating unit Japan Vilene Company in the amount of €44.4 million.

## (22) Income from investments in joint ventures

The income from investments in joint ventures amounted to €22.0 million (previous year: €21.5 million).

## (23) Income from investments in associated companies

The fall in income from investments in associated companies from €79.4 million to €46.9 million is a result of the reduced pro rata share in the profit of the associated company NOK Corporation, Tokyo, Japan.

## (24) Other investment result

The decline of other investment income from €36.8 million to €-9.5 million was chiefly the result of a reduced income from other investments and increased impairment losses on financial assets.

## (25) Other interest and similar income

As in the previous year, other interest and similar income amounted to €13.3 million.

## (26) Interest and similar expenses

In 2018, interest expenses amounted to €44.0 million (previous year: €44.0 million). This item chiefly includes interest on shareholder's loans in the amount of €13.4 million (previous year: €12.5 million) and interest payable to the Partners of Freudenberg & Co. KG in the amount of €13.1 million (previous year: €12.1 million).

## (27) Income taxes

This item shows German corporation tax (plus solidarity surcharge) and municipal trade taxes and similar taxes on income payable in other countries.

The figure also includes deferred taxes on temporary differences between the tax balance sheets and commercial balance sheets of individual companies, on adjustments to uniform measurement within Freudenberg and on consolidation transactions.

Deferred taxes are calculated at the tax rates applicable in the countries concerned.

Income taxes break down as follows (expense (-) /income (+)):

[€ million]	2017	2018
Current taxes related to the reporting period	-258.2	-242.2
Current taxes related to prior periods	8.7	-6.6
Deferred taxes	66.5	15.9
	<b>-183.0</b>	<b>-232.9</b>

The amount of deferred tax income related to changes in tax rates was €0.9 million (previous year: deferred tax income of €17.3 million). Deferred tax income includes income in the amount of €14.5 million (previous year: €51.9 million) resulting from the development or elimination of temporary differences. In the reporting year, impairment losses with respect to deferred taxes on temporary differences were

recognized in the amount of €6.1 million (previous year: €6.4 million).

In the reporting year, deferred taxes related to transactions recognized directly under equity resulted in a reduction in equity of €5.7 million (previous year: reduction in equity of €4.8 million).

As of December 31, 2018, tax losses carried forward amounted to €388.2 million (previous year: €417.7 million). Deferred tax assets were recognized in respect of tax losses carried forward totaling €37.7 million (previous year: €29.7 million). Deferred tax assets were not recognized in respect of tax losses carried forward with a total amount of €350.5 million (previous year: €388.0 million) as it is not expected that these losses will be usable. Of the tax losses carried forward, €19.5 million (previous year: €6.7 million) will be forfeited in the period up to 2028 if they are not used.

In the reporting year, tax losses carried forward totaling €14.7 million (previous year: €17.0 million) for which no deferred tax assets had been recognized were used.

Deferred taxes concern temporary differences and tax losses carried forward with the following amounts:

[€ million]	Deferred tax assets Dec. 31, 2017	Deferred tax liabilities Dec. 31, 2017	Deferred tax assets Dec. 31, 2018	Deferred tax liabilities Dec. 31, 2018
Intangible assets	14.6	312.9	18.1	287.7
Tangible assets	11.1	116.7	11.1	119.3
Financial assets	0.9	2.1	1.3	2.0
Inventories	36.4	1.0	42.7	0.7
Receivables	16.3	10.3	19.3	8.4
Other assets	6.3	0.5	3.0	8.6
Provisions for pensions and similar obligations	121.7	0.3	119.8	0.3
Other provisions	69.3	1.8	54.0	2.2
Liabilities	45.8	11.0	28.4	11.5
Other liabilities	0.1	4.4	0.1	4.2
Tax losses carried forward	6.4	0.0	6.8	0.0
	<b>328.9</b>	<b>461.0</b>	<b>304.6</b>	<b>444.9</b>
Offsetting	-103.9	-103.9	-96.1	-96.1
<b>Recognized in statement of financial position</b>	<b>225.0</b>	<b>357.1</b>	<b>208.5</b>	<b>348.8</b>

No deferred tax items were set up on temporary differences arising from shareholdings totaling €44.5 million (previous year: €38.7 million) as short-term dividend payments are not expected.

No deferred tax liabilities were recognized in respect of differences in the retained income of affiliated companies amounting to €1,974.7 million (previous year: €1,833.4 million) as it is intended to use these retained earnings for maintaining the substance and expanding the business of the companies concerned.

**Reconciliation of expected income tax with actual income tax expense**

Freudenberg SE and its German subsidiaries are subject to corporation tax (plus solidarity surcharge) and the municipal trade tax on income. Income realized in other countries is taxed at the rates applicable in the countries concerned. The tax rate of 30.0 percent (previous year: 30.0 percent) used for calculating the expected tax expense is based on the structure of Freudenberg relevant for taxation. It is calculated as the weighted average of the tax rates for the regions in which Freudenberg realized its main income. Non-taxable income includes the profit after tax of participating interests consolidated by the equity method as well as dividends received from companies which were not fully consolidated.

[€ million]	2017	2018
Profit before income taxes	883.1	835.3
<b>Expected income tax expense (-)/ income (+)</b>	<b>-264.9</b>	<b>-250.6</b>
Different tax rates:		
In Germany	0.3	0.6
In other countries	29.2	44.3
Tax portion of:		
Non-taxable income	52.4	46.9
Non-deductible expenses	-39.2	-64.1
Current taxes related to prior periods	41.2	-3.6
Tax portion of new tax losses carried forward for which no deferred tax assets were recognized	-13.7	-12.4
Tax portion of tax losses carried forward and used for which no deferred tax assets were recognized	2.1	0.6
Other taxation effects	9.6	5.4
<b>Actual income tax expense</b>	<b>-183.0</b>	<b>-232.9</b>
Effective tax rate (percent)	20.7	27.9

**(28) Profit or loss attributable to non-controlling interests**

[€ million]	2017	2018
Profit	56.0	55.9
Loss	-7.8	-6.7
	<b>48.2</b>	<b>49.2</b>

## NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS

### (29) Cash flow from operating activities

The cash flow from operating activities takes into account dividends received from joint ventures totaling €0.3 million (previous year: €0.3 million) and dividends received from associated companies totaling €21.7 million (previous year: €24.0 million).

### (30) Payments to shareholders/non-controlling interest

Payments to shareholders and non-controlling interests include dividends paid to the shareholder, to the Partners of Freudenberg & Co. KG and to holders of non-controlling interests in Group companies.

### (31) Reconciliation of financial debt

The table below shows the reconciliation of financial debt:

[€ million]	2017	With effect on payments	Without effect on payments			2018
			Acquisitions / Disposals	Exchange rate effects	Others	
Liabilities to banks	553.9	-154.2	6.8	9.5	-0.1	415.9
Liabilities from cash pool	98.0	8.5	0.0	0.0	-4.6	101.9
Other financial debt, Including liabilities from finance lease	17.8	4.5	0.8	-1.4	-3.9	17.8
Shareholder's loans	670.0	5.0	0.0	0.0	0.0	675.0
Accounts of Freudenberg & Co. KG Partners	452.4	26.7	0.0	0.0	0.4	479.5
<b>Financial debt</b>	<b>1,792.1</b>	<b>-109.5</b>	<b>7.6</b>	<b>8.1</b>	<b>-8.2</b>	<b>1,690.1</b>

### (32) Changes in cash and cash equivalents with effect on payments

Freudenberg recognizes checks, cash in hand, cash at bank and short-term securities with an original term of up to three months as cash and cash equivalents. Cash and cash equivalents include funds with an amount of €1.8 million (previous year: €1.1 million) subject to restrictions on use.

The funds subject to restrictions on use by Freudenberg largely concern cash and cash equivalents held by affiliates which can only be used by Freudenberg with restrictions as a result of exchange controls.

## FURTHER NOTES

### Material expenses

[€ million]	2017	2018
Raw materials, consumables and merchandise purchased	3,721.2	3,824.3
Services purchased	274.8	267.2
	<b>3,996.0</b>	<b>4,091.5</b>

### Workforce and personnel expenses

In the year under review, an average of 48,894 (previous year: 47,657) persons were employed in the following functions:

2018	Germany	Other countries	Total
Production	6,968	25,741	32,709
Sales	1,998	6,286	8,284
Research and development	1,740	1,850	3,590
Administration	1,334	2,977	4,311
	<b>12,040</b>	<b>36,854</b>	<b>48,894</b>

[€ million]	2017	2018
Wages and salaries	2,083.9	2,134.9
Social security contributions and costs of pensions and assistance	526.6	515.0
<b>Personnel expenses</b>	<b>2,610.5</b>	<b>2,649.9</b>

### Research and development

In the year under review, research and development activities amounting to €444.3 million (previous year: €427.8 million) were performed. Sales from research and development and research and development licenses amounted to €92.5 million (previous year: €73.3 million). In the reporting year government grants for research and development projects totaling €3.4 million (previous year: €2.3 million) were received.

## Related party disclosure

Relations with related parties concern the parent company Freudenberg & Co. KG, joint ventures, associated companies and other related parties.

Other related parties include other participations of the parent company and companies that are not included in the consolidated financial statements for reasons of materiality. Transactions with these parties in the course of the company's ordinary business were as follows:

[€ million]	Sales 2017	Receivables			Payables		
		Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2017	Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2017
Parent company	7.7	2.4	0.0	2.4	471.0	300.0	771.0
Joint ventures	50.9	28.8	0.0	28.8	1.8	0.0	1.8
Associated companies	16.0	8.3	0.0	8.3	8.4	0.0	8.4
Other related parties	3.7	3.9	0.0	3.9	38.9	0.0	38.9
	<b>78.3</b>	<b>43.4</b>	<b>0.0</b>	<b>43.4</b>	<b>520.1</b>	<b>300.0</b>	<b>820.1</b>

[€ million]	Sales 2018	Receivables			Payables		
		Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2018	Residual term up to 1 year	Residual term more than 1 year	Dec. 31, 2018
Parent company	4.6	3.8	0.0	3.8	482.6	300.0	782.6
Joint ventures	54.9	61.8	0.0	61.8	2.2	0.0	2.2
Associated companies	17.1	5.7	0.0	5.7	7.5	0.0	7.5
Other related parties	3.7	7.3	0.0	7.3	44.0	0.0	44.0
	<b>80.3</b>	<b>78.6</b>	<b>0.0</b>	<b>78.6</b>	<b>536.3</b>	<b>300.0</b>	<b>836.3</b>

Related parties also include the members of the Board of Management and the Supervisory Board. The members of these bodies are listed under "Company Boards".

The total remuneration of members of the Board of Management, or expenditure for short-term payments for members of the Board of Management amounted to €8.6 million (previous year: €8.5 million).

A current service cost of €3.1 million (previous year: €4.8 million) was incurred with respect to company pensions for Board of Management members.

An amount of €45.1 million (previous year: €46.5 million) was assigned to provisions for pension obligations to former members of the Board of Management.

Under a service agreement, Freudenberg SE paid an amount of €1.2 million (previous year: €0.8 million) to its parent company for the performance of key management functions.

### Fees of the Auditor

The auditor, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, performed the following services in the 2018 financial year:

[€ million]	2018
Auditing services	1.7
Other assurance services	0.1
Other services	0.9
	<b>2.7</b>

### Major events after the date of the statement of financial position

On December 10, 2018, the Freudenberg Filtration Technologies Business Group signed a contract to purchase a majority shareholding in Apollo Air-Cleaner Co., Ltd., from Apollo ZhanMao Technologies (HK) Co., Limited. The contract is still subject to the approval of the competition authorities. The company supplies air and water filtration solutions such as filters for air purifiers, decentralized ventilation systems and water treatment. In the 2018 calendar year, Apollo Air-Cleaner Co., Ltd., reported sales of €80.5 million and a profit of €6.7 million.

By contract of January 18, 2019, all the shares in the Freudenberg IT Business Group were sold to the Syntax Group with effect from February 28, 2019. The Syntax Group is owned by the Canadian financial investor Novacap TMT IV, L.P., Quebec, Canada, and will round off its portfolio as an IT full service provider with Freudenberg IT.

Apart from these events, there were no further events of major significance for the net assets, financial position and results of operations of the group of companies up to March 20, 2019 (the date when the annual report was approved for publication by the Supervisory Board).

Weinheim, March 20, 2019

Freudenberg SE

The Board of Management

# SHAREHOLDINGS

AS AT 31 DECEMBER, 2018

Company	Location	Country/Region	Share of capital [%]
Freudenberg SE	Weinheim	Germany	-
<b>I. AFFILIATED COMPANIES</b>			
<b>Germany</b>			
Blaesus Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG	Mainz	Germany	82,24
Burgmann International GmbH¹	Wolfratshausen	Germany	100,00
Capol GmbH¹	Elmshorn	Germany	100,00
Carl Freudenberg KG	Weinheim	Germany	100,00
Chem-Trend (Deutschland) GmbH¹	Maisach-Gernlinden	Germany	100,00
Corteco GmbH¹	Weinheim	Germany	100,00
CT Beteiligungs-GmbH¹	Munich	Germany	100,00
Dichtomatik Vertriebsgesellschaft für technische Dichtungen m.b.H	Hamburg	Germany	100,00
DS Beteiligungs-GmbH¹	Weinheim	Germany	100,00
DS Holding-GmbH¹	Weinheim	Germany	100,00
DS Verwaltungs-GmbH	Weinheim	Germany	100,00
EagleBurgmann Atlantic GmbH	Wolfratshausen	Germany	75,00
EagleBurgmann Espesey GmbH¹	Moers	Germany	75,00
EagleBurgmann Germany GmbH & Co. KG¹	Wolfratshausen	Germany	75,00
EagleBurgmann Germany Verwaltungs-GmbH	Wolfratshausen	Germany	75,00
EagleBurgmann Middle-East GmbH	Wolfratshausen	Germany	60,00
Externa Handels- und Beteiligungsgesellschaft mit beschränkter Haftung¹	Weinheim	Germany	100,00
FCS-Munich GmbH¹	Weinheim	Germany	100,00
FFT Beteiligungs-GmbH¹	Weinheim	Germany	100,00
FHP Export GmbH¹	Weinheim	Germany	100,00
FHP Holding GmbH¹	Weinheim	Germany	100,00
FIT Service GmbH¹	Weinheim	Germany	100,00
Freudenberg Chemical Specialities SE & Co. KG¹	Munich	Germany	100,00
Freudenberg Dichtungs- und Schwingungstechnik GmbH¹	Berlin	Germany	100,00
Freudenberg DS Tooling Center GmbH & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Filtration Technologies SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Haushaltsprodukte Augsburg GmbH¹	Augsburg	Germany	100,00
Freudenberg Home and Cleaning Solutions GmbH¹	Weinheim	Germany	100,00
Freudenberg IT GmbH & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Medical Europe GmbH¹	Kaiserslautern	Germany	100,00
Freudenberg Oil & Gas GmbH¹	Weinheim	Germany	100,00
Freudenberg Performance Materials Apparel SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Performance Materials Holding SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Performance Materials Logistics SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Performance Materials SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Performance Materials Service SE & Co. KG¹	Kaiserslautern	Germany	100,00
Freudenberg Process Seals GmbH & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Real Estate GmbH¹	Weinheim	Germany	100,00
Freudenberg Sealing Technologies GmbH & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Sealing Technologies GmbH¹	Hamburg	Germany	100,00
Freudenberg Technology Innovation SE & Co. KG¹	Weinheim	Germany	100,00
Freudenberg Verwaltungs- und Beteiligungs-GmbH	Weinheim	Germany	100,00

Company	Location	Country/Region	Share of capital [%]
Freudenberg Wohnbauhilfe GmbH	Weinheim	Germany	100,00
FV Beteiligungs-GmbH¹	Weinheim	Germany	100,00
Hanns Glass GmbH & Co. KG	Grafing	Germany	75,00
Hanns Glass Immobilienverwaltung GmbH & Co. KG	Paderborn	Germany	75,00
Hemoteq AG	Würselen	Germany	87,49
Integral Accumulator GmbH¹	Weinheim	Germany	100,00
Japan Vilene Europe GmbH	Weinheim	Germany	75,00
JUBA Jutta Baumgartner GmbH	Meuselwitz	Germany	75,00
Kaul GmbH	Elmshorn	Germany	100,00
Klüber Lubrication Deutschland SE & Co. KG¹	Munich	Germany	100,00
Klüber Lubrication GmbH¹	Weinheim	Germany	100,00
Klüber Lubrication München SE & Co. KG¹	Munich	Germany	100,00
Lederer GmbH¹	Öhringen	Germany	100,00
OKS Spezialschmierstoffe GmbH¹	Maisach-Gernlinden	Germany	100,00
PTFE Compounds Germany GmbH¹	Bördeland	Germany	100,00
Schneegans Freudenberg GmbH & Co. KG¹	Emmerich am Rhein	Germany	100,00
SF GmbH	Emmerich am Rhein	Germany	100,00
SurTec Deutschland GmbH¹	Zwingenberg	Germany	100,00
SurTec International GmbH¹	Bensheim	Germany	100,00
Vibracoustic Asia Holding GmbH	Weinheim	Germany	100,00
Vibracoustic CV Air Springs GmbH	Hamburg	Germany	65,07
Vibracoustic Europe GmbH	Darmstadt	Germany	100,00
Vibracoustic Germany GmbH	Breuberg	Germany	100,00
Vibracoustic GmbH	Darmstadt	Germany	100,00
Vibracoustic GmbH & Co. KG	Weinheim	Germany	100,00
Vibracoustic Management GmbH	Darmstadt	Germany	100,00
Vileda Gesellschaft mit beschränkter Haftung¹	Weinheim	Germany	100,00
<b>Other Countries</b>			
Freudenberg S.A. Telas sin Tejer	Buenos Aires	Argentina	100,00
Klüber Lubrication Argentina S.A.	Buenos Aires	Argentina	100,00
Chem-Trend Australia Pty Ltd	Thomastown	Australia	100,00
E.D. Oates Pty. Ltd.	Broadmeadows	Australia	100,00
EagleBurgmann Australasia Pty. Ltd.	Ingleburn	Australia	25,00
Freudenberg Filtration Technologies (Aust) Pty. Ltd.	Braeside	Australia	100,00
Freudenberg Household Products Pty. Ltd.	Surrey Hills	Australia	100,00
Freudenberg Pty. Ltd.	Thomastown	Australia	100,00
Freudenberg Sealing Technologies Pty. Ltd.	Brendale	Australia	100,00
Klüber Lubrication Australia Pty. Ltd.	Thomastown	Australia	100,00
EagleBurgmann Belgium B.V.B.A.	Sint-Job-in-'t-Goor	Belgium	75,03
FHP Vileda S.C.S.	Verviers	Belgium	100,00
Klüber Lubrication Belgium Netherlands S.A.	Dottignies	Belgium	100,00
Klüber Lubrication Benelux S.A./N.V.	Dottignies	Belgium	100,00
Chem-Trend Industria e Comercio de Produtos Quimicos Ltda.	Valinhos	Brazil	100,00
EagleBurgmann do Brasil Vedacoes Ltda.	Campinas	Brazil	75,00
Freudenberg Nao-Tecidos Ltda.	Jacareí	Brazil	100,00
Freudenberg Produtos do Lar Ltda.	São Paulo	Brazil	100,00
Freudenberg Servicos Corporativos da America do Sul Ltda.	Barueri	Brazil	100,00
Freudenberg-NOK-Componentes Brasil Ltda.	Diadema	Brazil	75,00
Klüber Lubrication Lubrificantes Especiais Ltda.	Barueri	Brazil	100,00

Company	Location	Country/Region	Share of capital [%]
SurTec do Brasil Ltda.	Valinhos	Brazil	100,00
Vector Tecnologia do Brasil Ltda.	Rio de Janeiro	Brazil	99,90
Vibracoustic South America Ltda.	Guarulhos	Brazil	100,00
Hänsel Textil Bulgaria ood	Rousse	Bulgaria	100,00
Freudenberg Productos del Hogar Ltda.	Santiago de Chile	Chile	100,00
Klüber Lubrication Chile Ltda.	Santiago de Chile	Chile	100,00
Burgmann Dalian Co. Ltd.	Dalian	China	40,00
Burgmann Shanghai Ltd.	Shanghai	China	40,00
Changchun Integral Accumulator Co., Ltd.	Changchun	China	100,00
Chem-Trend (Shanghai) Trading Co. Ltd.	Shanghai	China	100,00
Chem-Trend Chemicals (Shanghai) Co., Ltd.	Shanghai	China	100,00
Dichtomatik (China) Co., Ltd.	Shanghai	China	100,00
EagleBurgmann Technology (Shanghai) Co., Ltd.	Shanghai	China	50,00
EagleBurgmann Technology (Tianjin) Co., Ltd.	Tianjin	China	50,00
Freudenberg & Vilene Interlinings (Nantong) Co. Ltd.	Nantong	China	87,50
Freudenberg & Vilene International (Shanghai) Trading Co., Ltd.	Shanghai	China	87,50
Freudenberg & Vilene Nonwovens (Suzhou) Co. Ltd.	Suzhou	China	87,50
Freudenberg Home and Cleaning Solutions (Ningbo) Co., Ltd.	Ningbo	China	100,00
Freudenberg Household Products (Suzhou) Co., Ltd.	Suzhou	China	100,00
Freudenberg IT (Suzhou) Co., Ltd.	Suzhou	China	100,00
Freudenberg Management (Shanghai) Co. Ltd.	Shanghai	China	100,00
Freudenberg Medical Plastic & Metal Manufacturing (Shenzhen) Co., Ltd.	Shenzhen	China	100,00
Freudenberg Politex Ltd.	Shanghai	China	100,00
Freudenberg Real Estate (Yantai) Co. Ltd.	Yantai	China	100,00
Freudenberg Spunweb (Shanghai) Trading Co., Ltd.	Shanghai	China	67,69
Freudenberg Vilene Filter (Chengdu) Co. Ltd.	Chengdu	China	87,50
Klüber Lubrication (Shanghai) Co., Ltd.	Shanghai	China	100,00
Klüber Lubrication Industries (Shanghai) Co., Ltd.	Shanghai	China	100,00
SurTec Metal Surface Treatment Technology Co. Ltd.	Hangzhou	China	100,00
Tianjin VIAM Automotive Products Co., Ltd.	Tianjin	China	75,00
Trelleborg Automotive Design (Shanghai) Co. Ltd.	Shanghai	China	100,00
Vibracoustic (Chongqing) Co. Ltd.	Chongqing	China	100,00
Vibracoustic (Shanghai) Sales & Trading Co., Ltd.	Shanghai	China	100,00
Vibracoustic (Wuxi) Vibration Isolators Co., Ltd.	Wuxi	China	100,00
Vibracoustic (Yantai) Co., Ltd.	Yantai	China	100,00
Vibracoustic CV Air Springs (Yantai) Co., Ltd.	Yantai	China	65,07
Freudenberg Medical srl.	San José	Costa Rica	100,00
Chem-Trend A/S	Copenhagen	Denmark	100,00
EagleBurgmann KE A/S	Vejen	Denmark	75,00
EBI Atlantic A/S	Vejen	Denmark	75,00
EBI Middle-East A/S	Vejen	Denmark	60,00
Klüber Lubrication Nordic A/S	Skovlunde	Denmark	100,00
SurTec Scandinavia ApS	Fredericia	Denmark	100,00
OÜ Merinvest	Mullutu	Estonia	100,00
Freudenberg Filtration Technologies Finland Oy	Naantali	Finland	100,00
Freudenberg Home and Cleaning Solutions Oy	Espoo	Finland	100,00
Chem-Trend France S.A.S.U.	Entzheim	France	100,00
Corteco SAS	Nantiat	France	100,00

## Consolidated Financial Statement – Shareholdings

Company	Location	Country/Region	Share of capital [%]
Dichtomatik S.A.S	Mâcon	France	100,00
EagleBurgmann France S.A.S.	Sartrouville	France	75,00
FHP Vileda S.A.	Asnières Sur Seine	France	100,00
Freudenberg Filtration Technologies SAS	Villebon-sur-Yvette	France	100,00
Freudenberg Immobilier SAS	Chamborêt	France	100,00
Freudenberg Joints Elastomères SAS	Langres	France	100,00
Freudenberg Joints Plats SAS	Chamborêt	France	100,00
Freudenberg Performance Materials S.A.S.	Colmar	France	100,00
Freudenberg Sealing Technologies SAS	Langres	France	100,00
Klüber Lubrication France S.A.S.	Valence	France	100,00
SurTec France S.A.S.	Toulouse	France	100,00
Vibracoustic France SAS	Carquefou	France	100,00
Vibracoustic Nantes SAS	Carquefou	France	100,00
FHP Hellas S.A.	Kifissia, Athens	Greece	100,00
Aquabio Ltd.	Worcester	United Kingdom	100,00
Auto Suppliers Limited	Kidderminster	United Kingdom	100,00
Capol (U.K.) Limited	Huddersfield	United Kingdom	100,00
Chem-Trend (UK) Ltd.	Huddersfield	United Kingdom	100,00
Corteco Ltd.	Lutterworth	United Kingdom	100,00
Dichtomatik Ltd.	Derby	United Kingdom	100,00
EagleBurgmann Industries UK LP	Warwick	United Kingdom	75,00
EagleBurgmann Industries UK Ltd.	Warwick	United Kingdom	75,00
Filtamark Ltd.	Crewe	United Kingdom	100,00
Freudenberg Filtration Technologies UK Limited	Crewe	United Kingdom	100,00
Freudenberg Household Products LP	Rochdale	United Kingdom	100,00
Freudenberg Limited	Littleborough	United Kingdom	100,00
Freudenberg Oil & Gas Technologies Ltd.	Port Talbot	United Kingdom	100,00
Freudenberg Oil & Gas UK Ltd.	Aberdeen	United Kingdom	100,00
Freudenberg Performance Materials LP	Littleborough	United Kingdom	100,00
Freudenberg Sealing Technologies Limited	North Shields	United Kingdom	100,00
Freudenberg Technical Products Ltd.	North Shields	United Kingdom	100,00
Freudenberg Vileda Ltd.	Rochdale	United Kingdom	100,00
KE-Burgmann UK Ltd.	Congleton	United Kingdom	75,00
Klüber Lubrication Great Britain Ltd.	Huddersfield	United Kingdom	100,00
Metflex Precision Mouldings Ltd	Blackburn	United Kingdom	100,00
Techlok Limited	Port Talbot	United Kingdom	100,00
Freudenberg Textile Technologies, S.A.	Guatemala City	Guatemala	100,00
APEC (Asia) Limited	Hong Kong	Hong Kong	100,00
Freudenberg & Vilene Int. Ltd.	Hong Kong	Hong Kong	87,50
Freudenberg Household Products Ltd.	Hong Kong	Hong Kong	100,00
Freudenberg Trading (Hongkong) Ltd.	Hong Kong	Hong Kong	100,00
Japan Vilene (Hong Kong) Ltd.	Hong Kong	Hong Kong	75,00
Jump (Asia) Distributors Ltd	Hong Kong	Hong Kong	100,00
Klüber Lubrication China Ltd.	Hong Kong	Hong Kong	100,00
Vibracoustic Hong Kong Holdings Ltd.	Hong Kong	Hong Kong	100,00
Chem-Trend Chemicals Co. Pvt. Ltd.	Bangalore	India	100,00
Dichtomatik India Seals Private Limited	Bangalore	India	100,00
EagleBurgmann India Pvt. Ltd.	Pune	India	50,00
EagleBurgmann KE Pvt. Ltd.	Chennai	India	75,00
Freudenberg Filtration Technologies India Private Limited	Pune	India	100,00

Company	Location	Country/Region	Share of capital [%]
Freudenberg Gala Household Product Pvt. Ltd.	Mumbai	India	60,00
Freudenberg Performance Materials India Pvt. Ltd.	Chennai	India	100,00
Freudenberg Regional Corporate Center India Pvt. Ltd.	Bangalore	India	100,00
Gimi India Pvt. Ltd.	Bangalore	India	100,00
Klüber Lubrication India Pvt. Ltd.	Bangalore	India	90,00
SurTec Chemicals India Pvt. Ltd.	Bangalore	India	100,00
Vibracoustic India Pvt. Ltd.	Mohali	India	100,00
Vibracoustic Noida Pvt. Ltd.	New Delhi	India	100,00
PT EagleBurgmann Indonesia	Cikarang Selatan	Indonesia	24,98
PT Klüber Lubrication Indonesia	Jakarta	Indonesia	100,00
VistaMed Ltd.	Carrick-on-Shannon	Ireland	90,00
Chem-Trend Italy del Dr. Gian Franco Colori S.a.s.	Milan	Italy	100,00
Corteco S.r.l. (a socio unico)	Pinerolo	Italy	100,00
Dichtomatik S.a.s. di Externa Italia S.r.l.	Genoa	Italy	100,00
EagleBurgmann BT S.p.A.	Arcugnano	Italy	75,00
EagleBurgmann Italia S.r.l.	Vimercate	Italy	75,00
Externa Holding S.r.l.	Milan	Italy	100,00
Externa Italia S.r.l.	Pinerolo	Italy	100,00
FHP di R. Freudenberg S.A.S.	Milan	Italy	100,00
Freudenberg Italia S.a.s. di Freudenberg S.p.A.	Milan	Italy	100,00
Freudenberg Performance Materials Apparel S.a.s. di Externa Holding S.r.l.	Milan	Italy	100,00
Freudenberg S.p.A.	Milan	Italy	100,00
Freudenberg Sealing Technologies S.a.s. di Externa Italia S.r.l.u.	Pinerolo	Italy	100,00
Freudenberg Tecnologie di Filtrazione S.a.s. di Externa Holding S.r.l.	Milan	Italy	100,00
Gimi S.p.a.	Monselice	Italy	100,00
Hänsel Textil Italia S.a.s. di Externa Holding S.r.l.	Rho	Italy	100,00
Klüber Lubrication Italia S.a.s. di G. Colori	Milan	Italy	100,00
Politex S.a.s. di Freudenberg Politex s.r.l.	Novedrate	Italy	100,00
Chem-Trend Japan K.K.	Kobe	Japan	100,00
EagleBurgmann Japan Co., Ltd.	Tokyo	Japan	25,00
Freudenberg Spunweb Japan Company, Ltd.	Osaka	Japan	67,69
Japan VIAM Co., Ltd.	Moriyama	Japan	75,00
Japan Vilene Company Ltd.	Tokyo	Japan	75,00
Oshitari Laboratory, Inc.	Sayama	Japan	75,00
Oyama Chemical Co., Ltd.	Oyama	Japan	75,00
Pacific Giken Co., Ltd.	Yasu	Japan	75,00
SurTec MMC Japan KK	Tokyo	Japan	56,00
Vibracoustic Japan KK	Yokohama	Japan	100,00
Vilene Create Co., Ltd.	Tokyo	Japan	75,00
VIS Co., Ltd.	Tokyo	Japan	75,00
Freudenberg Vileda Jordan Ltd.	Amman	Jordan	51,00
Capol Inc.	Saint-Hubert	Canada	100,00
Dichtomatik Canada, Inc.	Markham	Canada	100,00
EagleBurgmann Canada Inc.	Milton	Canada	75,00
Freudenberg Filtration Technologies Inc.	London	Canada	100,00
Freudenberg Household Products Inc.	Laval	Canada	100,00
Freudenberg Oil & Gas Canada Inc.	Nisku	Canada	100,00
Freudenberg-NOK Inc.	Tillsonburg	Canada	75,00

Company	Location	Country/Region	Share of capital [%]
TOO Freudenberg Oil & Gas	Atyrau	Kazakhstan	100,00
Dichtomatik Colombia S.A.S.	Bogotá	Colombia	100,00
EagleBurgmann Colombia, S.A.S.	Bogotá	Colombia	75,00
EagleBurgmann (Malaysia) SDN. BHD.	Shah Alam	Malaysia	25,00
Freudenberg Household Products (Malaysia) Sdn Bhd	Petaling Jaya	Malaysia	100,00
Freudenberg Oil & Gas Technologies Sdn. Bhd.	Kuala Lumpur	Malaysia	100,00
Freudenberg-NOK St Malaysia Sdn. Bhd.	Kuala Lumpur	Malaysia	75,00
Klüber Lubrication (Malaysia) Sdn. Bhd.	Shah Alam	Malaysia	100,00
Chem-Trend Comercial, S.A. de C.V.	Querétaro	Mexico	100,00
Dichtomatik de Mexico S.A. de C.V.	Querétaro	Mexico	95,50
EagleBurgmann Mexico S.A. de C.V.	Cuautitlán	Mexico	75,00
Freudenberg Filtration Technologies, S.A. de C.V.	León	Mexico	100,00
Freudenberg IT, S.A. de C.V.	Puebla	Mexico	100,00
Freudenberg Productos del Hogar, S.A. de C.V.	Mexico City	Mexico	100,00
Freudenberg-NOK Sealing Technologies de Mexico, S.A. de C.V.	Cuautla	Mexico	75,00
Klüber Lubricacion Mexicana S.A. de C.V.	Querétaro	Mexico	100,00
VIAM Manufacturing Mexico S.A. de C.V.	Aguascalientes	Mexico	75,00
Vibracoustic de México, S.A. de C.V.	Lerma	Mexico	100,00
Vibracoustic Nevado, S.A. de C.V.	Toluca	Mexico	100,00
Vibracoustic Toluca, S.A. de C.V.	Toluca	Mexico	100,00
Vitechmex Nonwovens S.A. de C.V.	Aguascalientes	Mexico	75,00
Dichtomatik B.V.	Zwolle	Netherlands	100,00
EagleBurgmann Netherlands B.V.	Veenendaal	Netherlands	75,00
Freudenberg Household Products B.V.	Arnhem	Netherlands	100,00
SurTec Benelux B.V.	Reuver	Netherlands	100,00
EagleBurgmann Norway AS	Skedsmokorset	Norway	75,00
Freudenberg Home and Cleaning Solutions AS	Skedsmokorset	Norway	100,00
Freudenberg Oil & Gas Technologies AS	Drammen	Norway	100,00
Vestpak AS	Sandnes	Norway	100,00
Dichtomatik Handelsgesellschaft mbH	Vienna	Austria	100,00
EagleBurgmann Austria GmbH	Salzburg	Austria	75,00
EagleBurgmann Production Center Judenburg GmbH	Judenburg	Austria	75,00
Freudenberg Austria GmbH	Kufstein	Austria	100,00
Freudenberg Sealing Technologies Austria GmbH & Co. KG	Kufstein	Austria	100,00
Klüber Lubrication Austria Ges.m.b.H.	Salzburg	Austria	100,00
Schneegans Freudenberg Silicon Ges.m.b.H	Losenstein	Austria	100,00
SurTec Produkte und Systeme für die Oberflächenbehandlung GesmbH	Salzburg	Austria	100,00
EagleBurgmann Philippines, Inc.	Dasmariñas, Cavite	Philippines	25,00
Chem-Trend Polska Sp. z o.o.	Kobylnica	Poland	100,00
Chem-Trend Polska sp. z o.o. spółka komandytowa	Kobylnica	Poland	100,00
EagleBurgmann Poland sp. z o.o.	Warsaw	Poland	75,00
FHP Vileda Sp. z o.o.	Warsaw	Poland	100,00
FIM Polska Sp. z o.o.	Środa Śląska	Poland	100,00
Freudenberg Sealing Technologies Sp. z o.o.	Śnieciska	Poland	100,00
Freudenberg Vilene Sp. z o.o.	Lodz	Poland	100,00
Klüber Lubrication Polska Sp. z o.o.	Kobylnica	Poland	100,00
SurTec Polska Sp. z o.o.	Kobylnica	Poland	100,00
Vibracoustic Polska Sp. z o.o.	Środa Śląska	Poland	100,00

Company	Location	Country/Region	Share of capital [%]
ST Ibérica Sociedade Unipessoal, LDA	Albergaria-a-Velha	Portugal	100,00
Chem-Trend Romania s.r.l.	Bukarest	Romania	100,00
Freudenberg Household Products SRL	Braşov	Romania	100,00
Freudenberg Household Products Vileda Societate in Comandita	Braşov	Romania	100,00
Freudenberg Management Imobiliar SRL	Braşov	Romania	100,00
Freudenberg Performance Materials SRL	Braşov	Romania	100,00
Hänsel Textilrom srl	Bukarest	Romania	100,00
Klueber Lubrication Romania s.r.l.	Sibiu	Romania	100,00
SurTec Romania s.r.l.	Braşov	Romania	100,00
Vibracoustic Romania SRL	Dej	Romania	100,00
EagleBurgmann OOO	Moscow	Russian Federation	75,00
Freudenberg Filtration Technologies OOO	Nizhniy Novgorod	Russian Federation	100,00
Freudenberg Household Products Eastern Europe OOO	St. Petersburg	Russian Federation	70,00
Freudenberg Politex OOO	Zavolzhye	Russian Federation	100,00
Freudenberg Vileda Eastern Europe OOO	Moscow	Russian Federation	100,00
Klüber Lubrication OOO	Moscow	Russian Federation	100,00
OOO Freudenberg Sealing Technologies	Moscow	Russian Federation	100,00
OOO SurTec	Moscow	Russian Federation	100,00
Vibracoustic Volga OOO	Zavolzhye	Russian Federation	100,00
AlMozn National Co. For Home Appliances Limited	Jeddah	Saudi Arabia	75,00
EagleBurgmann Saudi Arabia Ltd.	Al-Khobar	Saudi Arabia	51,00
Dichtomatik A.B.	Landskrona	Sweden	100,00
EagleBurgmann Sweden AB	Norrköping	Sweden	75,00
Freudenberg Home and Cleaning Solutions AB	Norrköping	Sweden	100,00
Freudenberg Sealing Technologies AB	Stockholm	Sweden	100,00
Vibracoustic China Holding AB	Forsheda	Sweden	100,00
Vibracoustic Forsheda AB	Forsheda	Sweden	100,00
Vibracoustic Sweden Holding AB	Forsheda	Sweden	100,00
Vibracoustic Wuxi Holding AB	Forsheda	Sweden	100,00
EagleBurgmann (Switzerland) AG	Höri	Switzerland	75,00
Freudenberg Sealing Technologies AG	Zurich	Switzerland	100,00
Klüber Lubrication AG (Schweiz)	Zurich	Switzerland	100,00
Freudenberg proizvodi za domacinstvo d.o.o.	Belgrade	Serbia	100,00
SurTec Cacak d.o.o.	Čačak	Serbia	100,00
Chem-Trend Singapore Pte. Ltd.	Singapore	Singapore	100,00
EagleBurgmann KE Pte. Ltd.	Singapore	Singapore	75,00
EagleBurgmann Singapore Pte. Ltd.	Singapore	Singapore	25,00
EBI Asia Pacific Pte. Ltd.	Singapore	Singapore	25,00
EBI Asia Pte. Ltd.	Singapore	Singapore	50,00
Freudenberg Oil & Gas Pte. Ltd.	Singapore	Singapore	100,00
Klüber Lubrication South East Asia Pte. Ltd.	Singapore	Singapore	100,00
Freudenberg Filtration Technologies Slovensko, s.r.o.	Potvorice	Slovakia	90,00
Freudenberg Immobilienmanagement Slovakia, s.r.o.	Potvorice	Slovakia	100,00
Freudenberg IT, s.r.o.	Košice	Slovakia	100,00
SurTec SK s.r.o.	Vráble	Slovakia	100,00
Freudenberg Gospodinjski Proizvodi d.o.o.	Limbuš	Slovenia	100,00
SurTec Adria d.o.o.	Ljubljana	Slovenia	100,00
EagleBurgmann Ibérica S.A.	Madrid	Spain	75,00
Freudenberg Espana S.A.	Parets del Vallès	Spain	100,00
Freudenberg Espana S.A., Telas sin Tejer, S.en C.	Parets del Vallès	Spain	100,00

## Consolidated Financial Statement – Shareholdings

Company	Location	Country/Region	Share of capital [%]
Freudenberg Home and Cleaning Solutions Iberica, S.L.U.	Parets del Vallès	Spain	100,00
Freudenberg Sealing Technologies, S.L.U.	Parets del Vallès	Spain	100,00
Klüber Lubrication GmbH Ibérica S.en C.	Parets del Vallès	Spain	100,00
Vibracoustic Cascante S.A.U.	Cascante	Spain	100,00
Vibracoustic Spain Holding S.L.U.	Martorell	Spain	100,00
Vibracoustic Spain S.A.U.	Martorell	Spain	100,00
Freudenberg & Vilene International Lanka (Private) Limited	Colombo	Sri Lanka	87,50
Hänsel Textil Lanka PVT Ltd.	Colombo	Sri Lanka	87,50
EagleBurgmann Seals South Africa (Pty) Ltd.	Modderfontein/ Johannesburg	South Africa	55,50
Freudenberg Filtration Technologies (Pty) Ltd.	Cape Town	South Africa	100,00
Freudenberg Nonwovens (Pty.) Ltd.	Cape Town	South Africa	100,00
Klüber Lubrication (Pty.) Ltd.	Alrode Alberton	South Africa	100,00
SurTec South Africa Pty. Ltd.	Alrode Alberton	South Africa	100,00
Vibracoustic-Ikhwezi (Pty) Ltd.	East London	South Africa	70,00
Chem-Trend Korea Ltd.	Anseong-si	South Korea	100,00
EagleBurgmann Korea Co., Ltd.	Osan	South Korea	25,00
Freudenberg Home and Cleaning Solutions Korea Ltd.	Seoul	South Korea	100,00
Korea Filtration Technologies Co., Ltd.	Seoul	South Korea	87,50
Korea Vilene Co., Ltd.	Pyeongtaek-si	South Korea	87,50
SurTec Korea Co., Ltd.	Changwon-si	South Korea	100,00
Vibracoustic Kunhwa Co. Ltd.	Gyeongsan-si	South Korea	51,00
EagleBurgmann Taiwan Co., Ltd.	Kaohsiung	Taiwan	25,00
Freudenberg & Vilene Nonwovens (Taiwan) Co. Ltd.	Taoyuan	Taiwan	87,50
Freudenberg Far Eastern Spunweb Comp. Ltd.	Taoyuan	Taiwan	67,69
Chem-Trend Trading (Thailand) Co. Ltd.	Bangkok	Thailand	100,00
EagleBurgmann (Thailand) Co., Ltd.	Rayong	Thailand	25,00
Freudenberg & Vilene Filter (Thailand) Co. Ltd.	Chonburi	Thailand	87,50
Jump Distributors (Thailand) Co Ltd	Nonthaburi	Thailand	100,00
Klüber Lubrication (Thailand) Co., Ltd.	Bangkok	Thailand	100,00
Lucky Gecko Co Ltd	Bangkok	Thailand	100,00
VIAM Manufacturing (Thailand) Co., Ltd.	Prachin Buri	Thailand	75,00
Vibracoustic (Thailand) Ltd.	Sriracha	Thailand	100,00
Accu-Tech s.r.o.	Chrastava	Czech Republic	49,00
EagleBurgmann Czech s.r.o.	Prague	Czech Republic	75,00
Freudenberg Home and Cleaning Solutions s.r.o.	Prague	Czech Republic	100,00
Freudenberg Sealing Technologies s.r.o.	Opatovice nad Labem	Czech Republic	100,00
Hanns Glass CZ s.r.o.	Cheb	Czech Republic	75,00
Klüber Lubrication CZ, s.r.o.	Prague	Czech Republic	100,00
SurTec CR s.r.o.	Prague	Czech Republic	100,00
TPE správní s.r.o.	Melnik	Czech Republic	100,00
Vibracoustic CZ s.r.o.	Melnik	Czech Republic	100,00
Beltan Vibracoustic Titresim Elemanlari Sanayi ve Ticaret A.S.	Bursa	Turkey	100,00
Blacktech Otomotiv Sanayi ve Ticaret A.S.	Bursa	Turkey	65,07
Eagle Burgmann Endüstriyel Sızdırmazlık Sanayi ve Ticaret Limited Şirketi	Istanbul	Turkey	75,00
Freudenberg Household Products Evici Kullanım Araçları Sanayi ve Ticaret A.S.	Istanbul	Turkey	100,00
Freudenberg Sealing Technologies Sanayi ve Ticaret A.S.	Bursa	Turkey	100,00
Freudenberg Vilene Tela Sanayi ve Ticaret A.S.	Istanbul	Turkey	100,00
Klüber Lubrication Yağlama Ürünleri Sanayi ve Ticaret A.S.	Istanbul	Turkey	100,00

Company	Location	Country/Region	Share of capital [%]
Vibracoustic Çerkezköy Oto Parçaları Dış Ticaret A.S.	Çerkezköy	Turkey	100,00
Vibracoustic Çerkezköy Otomotiv Sanayi ve Ticaret A.S.	Çerkezköy	Turkey	100,00
Vibracoustic CV Air Springs Otomotiv Sanayi ve Ticaret A.S.	Gemlik	Turkey	65,07
Dichtomatik Kft.	Budapest	Hungary	100,00
EagleBurgmann Hungaria Kft.	Budapest	Hungary	75,00
Freudenberg Háztartási Cikkek Kereskedelmi BT	Budapest	Hungary	100,00
Freudenberg IM Hungária Kft.	Nyíregyháza	Hungary	100,00
Freudenberg Sealing Technologies Kft.	Kecskemét	Hungary	100,00
Freudenberg Tömítés Ipari Kft.	Lajosmizse	Hungary	100,00
Vibracoustic CV Air Springs Magyarország Kft.	Nyíregyháza	Hungary	65,07
Capol LLC	Deerfield	USA	100,00
Chem-Trend Limited Partnership	Howell	USA	100,00
Dichtomatik Americas, L.P.	Shakopee	USA	100,00
EagleBurgmann Industries Inc.	Houston	USA	75,00
EagleBurgmann Industries LP	Houston	USA	75,00
Freudenberg Business Services LP	Plymouth	USA	100,00
Freudenberg Filtration Technologies LP	Hopkinsville	USA	100,00
Freudenberg Household Products Inc.	Aurora	USA	100,00
Freudenberg Household Products LP	Aurora	USA	100,00
Freudenberg IT LP	Durham	USA	100,00
Freudenberg Medical, LLC	Gloucester	USA	100,00
Freudenberg North America Limited Partnership	Plymouth	USA	100,00
Freudenberg Oil & Gas, LLC	Houston	USA	100,00
Freudenberg Performance Materials LP	Durham	USA	100,00
Freudenberg Real Estate LP	Plymouth	USA	100,00
Freudenberg Texbond L.P.	Macon	USA	100,00
Freudenberg-NOK General Partnership	Plymouth	USA	75,00
Freudenberg-NOK Holdings, Inc.	Wilmington	USA	75,00
International Seal Company, Inc.	Santa Ana	USA	75,00
Intpacor Inc.	Plymouth	USA	100,00
Klüber Lubrication NA LP	Tyler	USA	100,00
Pellon Corporation	Plymouth	USA	100,00
SurTec, Inc.	Brunswick	USA	100,00
Tobul Accumulator Incorporated	Bamberg	USA	100,00
Upper Bristol Ramp, LLC	Wilmington	USA	75,00
VIAM Holding, Inc.	Manchester	USA	75,00
VIAM Manufacturing, Inc.	Manchester	USA	75,00
Vibracoustic CV Air Springs USA, Inc.	Wilmington	USA	65,07
Vibracoustic North America Holdings, Inc.	Plymouth	USA	100,00
Vibracoustic North America LP	Plymouth	USA	100,00
Vibracoustic USA, Inc.	South Haven	USA	100,00
VICAM Inc.	Manchester	USA	75,00
VITECH Manufacturing LP.	Hopkinsville	USA	75,00
VITECH Manufacturing, Inc.	Hopkinsville	USA	75,00
EagleBurgmann Middle East FZE	Dubai	United Arab Emirates	60,00
Freudenberg Oil and Gas FZE	Dubai	United Arab Emirates	100,00
Chem-Trend Vietnam Company Limited	Ho Chi Minh City	Vietnam	100,00
EagleBurgmann Vietnam Company Limited	Ho Chi Minh City	Vietnam	25,00

Company	Location	Country/Region	Share of capital [%]
SurTec Viet Nam Co., Ltd.	Ho Chi Minh City	Vietnam	100,00
<b>II. INVESTMENTS IN JOINT VENTURES (CONSOLIDATED BY EQUITY METHOD)</b>			
<b>Germany</b>			
<b>Other Countries</b>			
Cambus Teoranta	Spiddal	Ireland	50,00
Corfina s.r.l.	Pinerolo	Italy	50,00
NOK-Freudenberg Asia Holding Co. Pte. Ltd. <sup>2</sup>	Singapore	Singapore	50,00
TETL Holdings, LLC	Dover	USA	41,25
TTKKE Holdings, LLC	Dover	USA	30,00
<b>III. INVESTMENTS IN ASSOCIATED COMPANIES (CONSOLIDATED BY EQUITY METHOD)</b>			
<b>Germany</b>			
<b>Other Countries</b>			
Hikotomi Industrial Co., Ltd.	Hikone	Japan	24,98
NOK Corporation	Tokyo	Japan	25,10
NOK Klüber Co., Ltd.	Tokyo	Japan	49,00
Shinwa Products Co., Ltd.	Tsuzuranuki	Japan	34,09
Klüber Lubrication Korea Ltd.	Seoul	South Korea	48,00
Dawson Manufacturing Company	Benton Harbor	USA	45,00
Ishino Gasket North America L.L.C.	Plymouth	USA	37,50
XALT Energy, LLC	Midland	USA	23,86
EagleBurgmann Venezuela, C.A.	Caracas	Venezuela	41,25
SurTec Middle East (L.L.C.)	Sharjah	United Arab Emirates	35,00

<sup>1</sup> Application of Sec. 264 (3), HGB (Handelsgesetzbuch, "German Commercial Code") and Sec. 264b, HGB

<sup>2</sup> Consolidated financial statements including  
 Changchun NOK-Freudenberg Oilseal Co., Ltd., Changchun, China  
 Corteco China Co. Ltd., Guangzhou, China  
 NOK-Freudenberg Group Sales (China) Co., Ltd., Schanghai, China  
 NOK-Freudenberg Group Trading (China) Co., Ltd., Schanghai, China  
 Taicang NOK-Freudenberg Sealing Products Co., Ltd., Taicang, China  
 Wuxi NOK-Freudenberg Oilseal Co., Ltd., Wuxi, China  
 NOK-Freudenberg Hong Kong Ltd., Hongkong, Hong Kong  
 Corteco India Private Limited, Gurgaon, India  
 Sigma Freudenberg NOK PVT. Ltd., Neu-Delhi, India

# INDEPENDENT AUDITOR'S REPORT

To Freudenberg SE

## Report on the audit of the consolidated financial statements and of the group management report

### Opinions

We have audited the consolidated financial statements of Freudenberg SE and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2018, the consolidated statement of profit or loss, the consolidated statement of comprehensive income, the consolidated statement of cash flow, the consolidated statement of changes in equity for the fiscal year from 1 January to 31 December 2018, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Freudenberg SE for the fiscal year from 1 January to 31 December 31, 2018.

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 Sec. 315e HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2018 and of its financial performance for the fiscal year from 1 January to 31 December 2018, 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.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

### Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the Group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

### Other information

The supervisory board is responsible for the report of the supervisory board in the annual report. In all other respects, the executive directors are responsible for the other information. The other information comprises

- the presentation of the company boards, the executive council and the management of the business groups in the annual report,
- the foreword of the board of management in the annual report and
- the section "responsibility for society" in the annual report.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

**Responsibilities of the executive directors and the supervisory board for the consolidated financial statements and the group management report**

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

**Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than 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 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 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 Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express 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 opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Mannheim, 20 March 2019

Ernst & Young GmbH

Wirtschaftsprüfungsgesellschaft

Prof. Dr. Wollmert

Matischiok

Wirtschaftsprüfer

Wirtschaftsprüfer

[German Public Auditor]

[German Public Auditor]



## EDITORIAL INFORMATION

Freudenberg Group  
Hoehnerweg 2 – 4  
69469 Weinheim, Germany

## PUBLISHED BY:

Freudenberg & Co. Kommanditgesellschaft  
Corporate Communications  
Phone: +49 6201 80 0  
CorporateCommunications@freudenberg.com  
www.freudenberg.com

April 2019

Item No. FRE1045EN

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## PROJECT TEAM:

Corporate Communications:  
Cornelia Buchta-Noack (Lead)  
Andreas Baldauf  
Angela Gerhardt  
Katrin Jacobi

Corporate Controlling  
and Accounting:  
Marco Altherr (Lead)  
Laura Brüning  
Katrin Fanenbruck  
Tobias Feldrappe  
Ina Fütterer  
Dr. Frank Multerer  
Bodo Peisch  
Frank Raetzer  
Daniel Schwarz  
Define Yalcinkaya  
Markus Ziegler

## DESIGN:

m&s communication, Düsseldorf,  
Germany  
GreenwoodFinch Corporate  
Communications, Elmstein, Germany  
Realization with firesys GmbH

## PRODUCTION:

ABT Print und Medien, Weinheim,  
Germany

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