Merck KGaA,
Darmstadt, Germany

HALF-YEARLY FINANCIAL REPORT 2018

DISCLAIMER

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This half-yearly financial report contains certain financial indicators such as operating result (EBIT), EBITDA, EBITDA pre, business free cash flow (BFCF), free cash flow, net financial debt and earnings per share pre, which are not defined by International Financial Reporting Standards (IFRS). These financial indicators should not be taken into account in order to assess the performance of the Group in isolation or used as an alternative to the financial indicators presented in the consolidated financial statements and determined in accordance with IFRS.

The figures presented in this half-yearly financial report have been rounded. This may lead to individual values not adding up to the totals presented.

The Annual Report for 2017 has been optimized for mobile devices and is available on the Web at **ar.emdgroup.com/2017/**.

In brief

GROUP

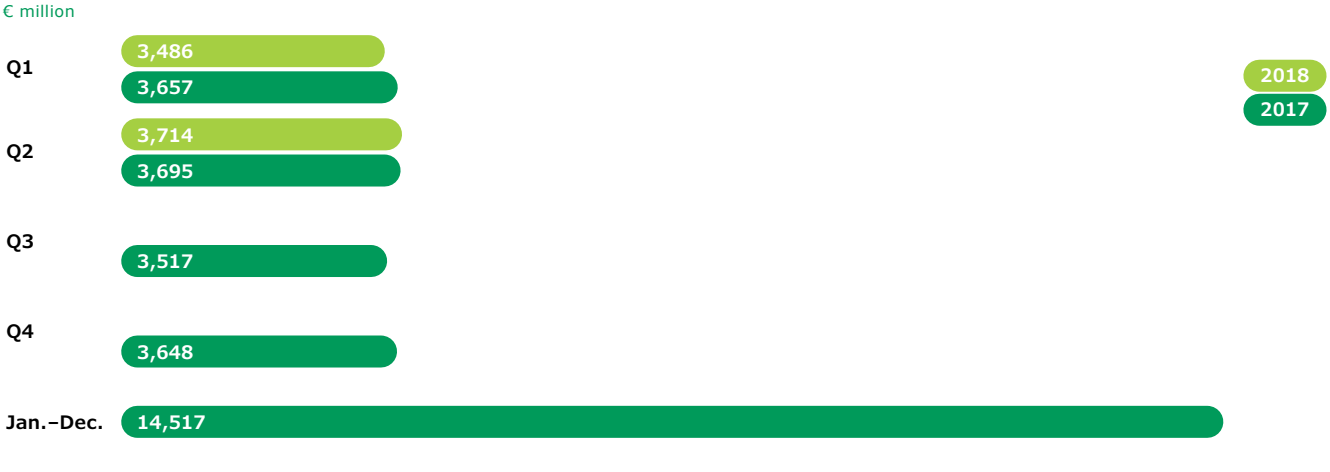
Key figures[1]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	3,714	3,695	0.5%	7,199	7,352	–2.1%
Operating result (EBIT)[2]	392	608	–35.4%	895	1,320	–32.2%
Margin (% of net sales)[2]	10.6%	16.4%		12.4%	18.0%	
EBITDA[2]	840	984	–14.6%	1,764	2,141	–17.6%
Margin (% of net sales)[2]	22.6%	26.6%		24.5%	29.1%	
EBITDA pre[2]	920	1,066	–13.7%	1,885	2,261	–16.6%
Margin (% of net sales)[2]	24.8%	28.9%		26.2%	30.8%	
Profit after tax	251	427	–41.4%	593	952	–37.7%
Earnings per share (€)	0.57	0.98	–41.8%	1.35	2.18	–38.1%
Earnings per share pre (€)[2]	1.23	1.51	–18.5%	2.56	3.24	–21.0%
Business free cash flow[2]	514	1,006	–48.9%	1,230	1,753	–29.8%

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

GROUP

Net sales by quarter[1]



[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

GROUP

EBITDA pre[1] by quarter[2]

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

Developments within the Group and R&D

We are a global science and technology company headquartered in Darmstadt, Germany. Founded in 1668, our history of 350 years makes us the world's oldest pharmaceutical and chemical company. In line with our strategic direction, our Group comprises three business sectors: Healthcare, Life Science, and Performance Materials.

We operate globally under our corporate brand. The only exceptions are Canada and the United States. In these countries, we operate as EMD Serono in the Biopharma business, as MilliporeSigma in the Life Science business and as EMD Performance Materials in the materials business.

On June 30, 2018 we had 54,009 employees worldwide, which compares with 52,233 on June 30, 2017.

This section of the present half-year financial report summarizes the highlights of the first half of 2018 at Merck KGaA, Darmstadt, Germany, including those in research and development. A detailed description of the Group and its business sectors can be found in the Annual Report for 2017 (ar.emdgroup.com/2017/).

Healthcare

BIOPHARMA

Collaborations

- In January, we entered into a partnership with Blue Mesa Health Inc., New York, NY to pilot its Centers for Disease Control and Prevention (CDC)-recognized diabetes prevention programs in territories outside the United States.
- In June, we signed a strategic collaboration agreement with Chinese internet healthcare company Alibaba Health to provide Chinese patients and their families with improved access to patient-centric healthcare services.

Oncology and Immuno-Oncology

- On February 15, we announced that the Phase III JAVELIN Lung 200 trial comparing Bavencio® (avelumab) to chemotherapy in patients with advanced lung cancer whose disease has progressed after previous treatment did not meet its pre-specified endpoint of improving overall survival. While overall clinical activity was in line with our expectations for both efficacy and safety, a high proportion of patients in the chemotherapy arm received subsequent immunotherapy outside of the study, which may have confounded the trial's outcome. More details on the primary analysis for the Lung 200 trial will be shared at a scientific conference this autumn.
- On March 1, the United Kingdom's National Institute for Health and Care Excellence (NICE) issued a Final Appraisal Determination that recommends avelumab for treating adults with metastatic Merkel cell carcinoma (MCC).
- On March 27, the Japanese Ministry of Health, Labour and Welfare granted "SAKIGAKE" fast-track designation for our investigational molecule tepotinib for patients with advanced non-small cell lung cancer (NSCLC) harboring MET exon 14 skipping alterations. SAKIGAKE designation promotes research and development in Japan, aiming at early practical application for innovative pharmaceutical products. This is the first regulatory designation granted to tepotinib.
- On May 2, we announced our entry into a development agreement with SFJ Pharmaceuticals Group for abituzumab, a pan-αv integrin inhibiting monoclonal antibody with activity against αvβ1, 3, 5, 6, and 8 integrin heterodimers. With the

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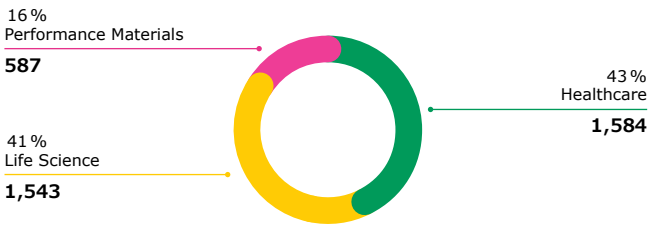
Net sales by business sector – Q2 2018

€ million/in % of net sales



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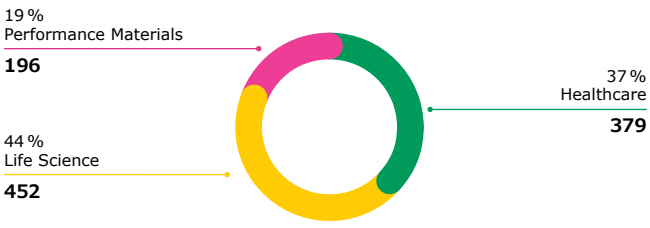
EBITDA pre[1] by business sector[2] – Q2 2018

€ million/in %



[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not presented: Decline in Group EBITDA pre by € –106 million due to Corporate and Other.

evolving understanding of the relationship between metastatic colorectal cancer (mCRC) tumor location and treatment outcomes in recent years, SFJ will pursue the combination of abituzumab, Erbitux® and chemotherapy in a first-line setting in high αvβ6-expressing patients who have RAS wild type left-sided mCRC.

- At this year's American Society of Clinical Oncology (ASCO) Annual Meeting from June 1-5 in Chicago, we presented new data from a number of high priority clinical development programs across our oncology portfolio. These included updated efficacy and safety data from the pivotal JAVELIN Merkel 200 trial of Bavencio® (avelumab) in patients with metastatic MCC. At this two-year follow-up update, Bavencio® continues to demonstrate clinically meaningful durable responses and stable rates of progression-free survival and overall survival from previous analyses in patients who responded to this treatment.

  In addition, we shared results from expansion cohorts of the ongoing M7824 Phase I clinical trial (NCT02517398) program. These data included results in patients with advanced non-small cell lung cancer and in human papillomavirus-associated cancers (NCT03427411), presented in collaboration with the National Cancer Institute. The data provided further evidence that bringing together a transforming growth factor-β (TGF-β) trap with the anti-PD-L1 mechanism may generate clinically relevant anti-tumor activity. Safety data were consistent with those observed in the overall M7824 Phase I clinical program.

  Also at ASCO, we published initial data from the Phase II VISION study of our investigational, targeted oncology molecule tepotinib in patients with advanced NSCLC harboring MET exon 14 skipping alterations. Data from the ongoing study show anti-tumor clinical activity in patients with this form of advanced NSCLC. Safety data were consistent with previously reported data, with no new safety signals identified.

  Further pipeline updates at ASCO included Phase I dose escalation data for the investigational DNA-dependent protein kinase (DNA-PK) inhibitor M3814, data from Phase I triplet therapy with ATR inhibitor M6620 and Phase I data for M2698, an inhibitor of p70S6K and AKT1/3 in the PAM pathway (PI3K/AKT/mTOR pathway).
- On June 4, ANVISA (Agência Nacional de Vigilância Sanitária), the Brazilian medical authority, approved Bavencio® for the treatment of metastatic MCC, making it the first-ever treatment indicated for metastatic MCC in Brazil. This followed approvals for the treatment of metastatic MCC earlier in the year in Australia as well as in Israel, where Bavencio® was additionally approved for the treatment of patients with locally advanced or metastatic urothelial carcinoma.
- On June 11, we announced positive results from two Phase II clinical trials of tepotinib in MET-positive, advanced hepatocellular carcinoma (HCC) with Child-Pugh Class A liver function. Both studies met their primary endpoint. The trials evaluated the efficacy, safety and pharmacokinetics of tepotinib in patients with HCC as a first-line (NCT01988493) and second-line therapy (NCT02115373).

Neurology and Immunology

- On March 7, we announced positive results from our Phase IIb study of evobrutinib (Bruton's tyrosine kinase inhibitor) in relapsing multiple sclerosis (MS). The study met its primary endpoint, demonstrating that evobrutinib resulted in a clinically meaningful reduction of gadolinium-enhancing T1 lesions on magnetic resonance imaging scans measured at weeks 12, 16, 20 and 24 in comparison to patients receiving placebo.
- In the first quarter of 2018, approval for Mavenclad® (cladribine tablets) was granted in Israel, Argentina, and in the United Arab Emirates for the treatment of adult patients with highly active relapsing MS as defined by clinical or imaging features.

  On July 30, we announced that a resubmission of the New Drug Application (NDA) for cladribine tablets as a potential treatment for patients with relapsing forms of MS was accepted for filing by the U.S. Food and Drug Administration (FDA). The acceptance indicates that the FDA has found the company's resubmission sufficiently complete to per-

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Business free cash flow[1] by business sector[2] – Q2 2018

€ million / in %

GROUP

Employees by region as of June 30, 2018

Number / in %

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Not presented: Decline in Group business free cash flow by € –129 million due to Corporate and Other.

mit a substantive review. The resubmission is in response to the Complete Response Letter issued by the FDA in 2011 requesting an improved understanding of safety risks and the overall benefit-risk profile. The NDA acceptance follows global approvals of cladribine tablets under the trade name Mavenclad® in 38 countries since August 2017, including the European Union (EU), Canada, Australia, Israel, Argentina, United Arab Emirates, Chile, and Lebanon. Additional filings in other countries are planned for 2018.

- The Phase II study of abituzumab in patients with interstitial lung disease in scleroderma was terminated due to difficulty in enrolling patients, which precluded the completion of the study within a reasonable time frame. As noted above, an agreement with SFJ was announced on May 2 to develop abituzumab in patients with mCRC.

General Medicine and Endocrinology

- On January 22, the Brazilian medical authority ANVISA approved Glifage® IR and Glifage® XR (Brazilian brand name for Glucophage®) for the prevention of type 2 diabetes in overweight patients with prediabetes, becoming the first medicine locally approved for this indication.
- On May 9, our company signed an agreement with the China Health Promotion Foundation (CHPF) to carry out a national prediabetes policy research. The three-year policy research project collaboration has been endorsed by the Chinese Center for Disease Control and Prevention (China CDC) and is designed for the research and development of a strategy to address the needs of people at high risk of diabetes.
- In June, the health authorities of Hong Kong approved Glucophage® for the prevention of type 2 diabetes in overweight patients with prediabetes. This was our 25th approval worldwide for Glucophage®.

Fertility

- In the second quarter, our Fertility Technologies business broadened its footprint, launching the fertility lab device Gidget® in China in May and obtaining clearance from the U.S. Food and Drug Administration in June for Geri® Connect and Assess.
- On June 8, we introduced the Pergoveris® Pen in Greece, the 12th European country the product has been launched in, following Germany, France, Spain, Belgium, Norway, Denmark, Romania, the Netherlands, Finland, Portugal, and Luxembourg. Further launches are to continue throughout the year.
- At this year's Annual Meeting of the European Society of Human Reproduction and Embryology (ESHRE) from July 1–4 in Barcelona, two new technologies were launched. QBOX IVF streamlines data transfer between lab instruments and Electronic Medical Record providers, while Geri® Assess 2.0 enables automatic detection of key events in embryo and blastocyst development.

CONSUMER HEALTH

- As previously reported, on April 19 we reached an agreement to sell our global Consumer Health business to Procter & Gamble (P&G) for approximately € 3.4 billion in cash. The transaction, which is expected to close by the end of the fourth quarter of 2018, is subject to regulatory approvals and satisfaction of certain other customary closing conditions.

Life Science

- In the first quarter of 2018, we continued to focus on meeting customer needs by launching nearly 4,000 products, including more than 3,000 chemicals, across the Research Solutions, Process Solutions and Applied Solutions business units.
- We invested an additional € 40 million to build a robust manufacturing and distribution platform in Asia over two years.
- In February, we received two more patents for CRISPR technology from the Korean Intellectual Property Office and the Israel Patent Office, respectively.
- We introduced Viresolve® Barrier capsule filters to protect against bioreactor contamination, designed to remove viruses, mycoplasma and bacteria from cell culture media on Feb 20, 2018.
- In the second quarter of 2018, we launched nearly 3,500 products, including more than 3,000 chemicals, across the Research Solutions, Process Solutions and Applied Solutions business units.
- On April 23, the Chinese Patent Office issued a notice granting our patent application for the company's CRISPR technology used in a genomic-integration method for eukaryotic cells. The patent addresses cutting of the chromosomal sequence of eukaryotic cells (such as mammalian and plant cells) and insertion of an external or donor DNA sequence into those cells using CRISPR. This allows scientists to replace a disease-associated mutation with a beneficial or functional sequence.
- In June, we announced plans to expand our Gillingham, UK distribution center, which supplies the pharmaceutical industry, biotechnology companies, research institutes and academic centers with biochemical and chemical reagents, laboratory supplies and testing services. At 5,250 m^2, the building will join an existing 9,500 m^2 facility at the site to serve as the primary distribution center for the United Kingdom.
- In June, we opened North America's first BioReliance® End-to-End Biodevelopment Center providing cell line development services, upstream and downstream process development and non-GMP (Good Manufacturing Practice) clinical production for drug manufacturers. The facility will help customers with their biopharmaceutical manufacturing pro-

cesses and accelerate clinical development from DNA to market. Aligned with the opening is an "Advance Biotech Grant Program" through which every six months, three recipients around the globe will be awarded a total of € 200,000 in free services and products to address their process development challenges. In the second quarter of 2018 we announced three new partnerships with leading academic institutions, including Oxford University's Jenner Institute to develop more robust and scalable vaccine manufacturing processes; a collaboration with Washington University in St. Louis, Missouri (USA) to optimize nutritional supplements to restore a healthy gut microbial community (microbiome) and with Tongji University in Shanghai for a new CRISPR Core Partnership Program.

Performance Materials

- Since April 1, Performance Materials has been organized into the three business units Display Solutions, Semiconductor Solutions and Surface Solutions. Comparing Performance Materials with a smartphone, Display Solutions stands for the user interface, Semiconductor Solutions for the intelligence, and Surface Solutions for the aesthetics.
- The integrated innovation unit Early Research & Business Development is developing a technology vision for Performance Materials and is supporting the business units to identify projects with growth potential and to capture new markets.
- On July 3, Performance Materials gave a strategy update to explain how the business sector plans to achieve an average yearly growth rate of around 2–3% after 2019 with an expected sustainable EBITDA pre margin of around 30%. The future growth of our Performance Materials businesses is expected to benefit from a growing electronics market, especially in semiconductors.

Display Solutions

- For liquid crystal window modules, we successfully started pilot production this year at the site in Veldhoven in the Netherlands.
- We are working to extend the ultra-bright liquid crystal (LC) technology UB-FFS with our UB-Plus liquid crystal materials.
- In addition, we have successfully proven manufacturing capability for the new self-aligned vertical alignment (SA-VA) liquid crystal technology. We are now looking ahead by developing applications for niche high-end display products through to high-volume TV applications. SA-VA delivers the high contrast and high viewing performance of PS-VA, but with enhanced display design and improved panel manufacturing by reducing waste and energy consumption.
- In June, we opened an OLED Technology Center in Shanghai.

Semiconductor Solutions

- We aim to discover new materials for metallization processes with low resistance and various dielectric properties for faster and better processors, servers and data storage density.
- In order to support our customers better, we have already expanded our research capacities in Taiwan and are planning a similar step for our U.S. customers. Completion is scheduled for the end of 2019.

Surface Solutions

- In pigments for industrial applications, we are currently focusing on the development of achromatic pigments. As part of the Smart Effects initiative, we are focusing our development of cosmetic pigments on matte effects (Allure series) and luster effects (Lights series).
- In addition, active ingredients of natural origin are a focal topic for new cosmetic solutions. In functional materials, such as our Iriotec® pigments, we successfully entered the market for new application areas, e.g. insulation of high-voltage cable connections and laser marking of medical devices.

Course of Business and Economic Position

Group

Overview – Q2 2018

- Group net sales increase by 0.5% to € 3.7 billion despite negative foreign exchange effects (–4.7%)
- Strong sales performance in Life Science and Healthcare responsible for 5.2% organic increase in Group sales
- Group EBITDA pre down –13.7% to € 920 million; negative foreign exchange effects account for –11.0%
- At 24.8%, Group EBITDA pre margin does not meet profitability of the year-earlier quarter
- Net financial debt amounts to € 10.7 billion as of June 30, 2018 (December 31, 2017: € 10.1 billion)

GROUP

Key figures[1]

€ million	**Q2 2018**	Q2 2017	Change	**Jan.–June 2018**	Jan.–June 2017	Change
Net sales	3,714	3,695	0.5%	7,199	7,352	–2.1%
Operating result (EBIT)[2]	392	608	–35.4%	895	1,320	–32.2%
Margin (% of net sales)[2]	10.6%	16.4%		12.4%	18.0%	
EBITDA[2]	840	984	–14.6%	1,764	2,141	–17.6%
Margin (% of net sales)[2]	22.6%	26.6%		24.5%	29.1%	
EBITDA pre[2]	920	1,066	–13.7%	1,885	2,261	–16.6%
Margin (% of net sales)[2]	24.8%	28.9%		26.2%	30.8%	
Profit after tax	251	427	–41.4%	593	952	–37.7%
Earnings per share (€)	0.57	0.98	–41.8%	1.35	2.18	–38.1%
Earnings per share pre (€)[2]	1.23	1.51	–18.5%	2.56	3.24	–21.0%
Business free cash flow[2]	514	1,006	–48.9%	1,230	1,753	–29.8%

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

DEVELOPMENT OF NET SALES AND RESULTS OF OPERATIONS

The presentation of net sales comprises the continuing operations of the Group. Net sales of the Consumer Health business are no longer reported in Group sales, as this business is to be classified as a discontinued operation pursuant to IFRS 5. The previous year's figures have been adjusted accordingly (further information on the agreed divestment of the Consumer Health business can be found in the Notes to the Half-Year Consolidated Financial Statements).

In the second quarter of 2018, net sales of the Group amounted to € 3,714 million (Q2 2017: € 3,695 million). Sales increased organically by 5.2% or € 193 million. The two business sectors Life Science (+7.7%) and Healthcare (+4.7%) mainly contributed to this growth. The negative exchange rate effects of –4.7% or € –174 million stemmed mainly from the weaker U.S. dollar compared with the year-earlier quarter. Likewise, exchange rate developments in the Asia-Pacific and Latin America regions, for example the Taiwanese dollar and the Japanese yen, as well as the Brazilian real and the Argentinian peso, negatively impacted Group sales in the second quarter of 2018.

Accounting for a 43% share of Group sales, Healthcare was once again the Group's largest business sector in terms of sales. At € 1,584 million in the second quarter of 2018, Healthcare sales were at the previous year's level, with organic increases being offset by negative foreign exchange effects.

GROUP

Net sales by business sector

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q2 2017[2]	Share
Healthcare	1,584	43%	4.7%	–4.9%	–	–0.2%	1,587	43%
Life Science	1,543	41%	7.7%	–4.6%	–	3.2%	1,495	40%
Performance Materials	587	16%	0.4%	–4.6%	–	–4.2%	612	17%
Group	**3,714**	**100%**	**5.2%**	**–4.7%**	**–**	**0.5%**	**3,695**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

Thanks to organic sales growth of 7.7% and amid negative foreign exchange effects (–4.6%), our Life Science business sector achieved a 3.2% increase in sales to € 1,543 million (Q2 2017: € 1,495 million). The share of Group sales generated by Life Science in the second quarter of 2018 thus increased to 41% (Q2 2017: 40%).

Net sales of our Performance Materials business sector decreased by –4.2% to € 587 million (Q2 2017: € 612 million) owing to negative foreign exchange effects. The business sector's percentage contribution to Group sales decreased to 16% (Q2 2017: 17%).

In the reporting period, Group sales by region were as follows:

GROUP

Net sales by region

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q2 2017[2]	Share
Europe	1,139	31%	5.2%	–1.7%	–	3.6%	1,100	30%
North America	966	26%	4.3%	–6.7%	–	–2.4%	989	27%
Asia-Pacific (APAC)	1,229	33%	5.9%	–4.0%	–	1.9%	1,206	32%
Latin America	254	7%	16.9%	–14.5%	–	2.4%	248	7%
Middle East and Africa (MEA)	126	3%	–13.3%	–3.4%	–	–16.7%	151	4%
Group	**3,714**	**100%**	**5.2%**	**–4.7%**	**–**	**0.5%**	**3,695**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

In the first six months of 2018, sales of the Group declined by –2.1% to € 7,199 million (January-June 2017: € 7,352 million). This decrease was attributable to negative foreign exchange effects (–6.3%), which exceeded organic sales growth (+4.2%). In the first half of 2018, Group sales by business sector were as follows:

GROUP

Net sales by business sector

€ million	Jan.-June 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Jan.-June 2018[2]	Share
Healthcare	3,019	42%	2.8%	–6.0%	–	–3.2%	3,118	42%
Life Science	3,030	42%	8.3%	–6.5%	–	1.8%	2,977	41%
Performance Materials	1,151	16%	–1.9%	–6.6%	–	–8.5%	1,257	17%
Group	**7,199**	**100%**	**4.2%**	**–6.3%**	**–**	**–2.1%**	**7,352**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

Sales by region from January to June 2018 were as follows:

GROUP

Net sales by region

€ million	Jan.–June 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Jan.–June 2017[2]	Share
Europe	2,268	31%	4.2%	–1.6%	–	2.7%	2,209	30%
North America	1,852	26%	4.8%	–10.0%	–	–5.2%	1,954	26%
Asia-Pacific (APAC)	2,367	33%	4.4%	–6.1%	–	–1.7%	2,408	33%
Latin America	472	7%	7.9%	–14.4%	–	–6.5%	505	7%
Middle East and Africa (MEA)	240	3%	–8.0%	–4.9%	–	–12.9%	276	4%
Group	**7,199**	**100%**	**4.2%**	**–6.3%**	**–**	**–2.1%**	**7,352**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

The consolidated income statement of the Group was as follows:

GROUP

Consolidated Income Statement[1]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	**3,714**	**3,695**	**0.5%**	**7,199**	**7,352**	**–2.1%**
Cost of sales	–1,321	–1,274	3.7%	–2,581	–2,516	2.6%
Gross profit	**2,392**	**2,421**	**–1.2%**	**4,618**	**4,836**	**–4.5%**
Marketing and selling expenses	–1,107	–1,124	–1.5%	–2,127	–2,202	–3.4%
Administration expenses	–236	–248	–4.7%	–457	–482	–5.2%
Research and development costs	–538	–513	4.8%	–1,046	–1,001	4.5%
Other operating expenses and income	–119	72	>100.0%	–93	170	>100.0%
Operating result (EBIT)[2]	**392**	**608**	**–35.4%**	**895**	**1,320**	**–32.2%**
Financial result	–65	–66	–1.8%	–126	–134	–6.5%
Profit before income tax	**328**	**542**	**–39.5%**	**769**	**1,186**	**–35.2%**
Income tax	–84	–130	–35.4%	–192	–280	–31.6%
Profit after tax from continuing operations	**244**	**412**	**–40.8%**	**577**	**906**	**–36.3%**
Profit after tax from discontinued operations	**7**	**15**	**–56.1%**	**16**	**46**	**–66.3%**
Profit after tax	**251**	**427**	**–41.4%**	**593**	**952**	**–37.7%**
Non-controlling interests	–4	–2	>100.0%	–5	–3	40.1%
Net income	**247**	**426**	**–42.0%**	**588**	**948**	**–38.0%**

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

Gross profit of the Group declined by –1.2% to € 2,392 million in the second quarter of 2018 (Q2 2017: € 2,421 million). The resulting gross margin of the Group, i.e. gross profit as a percentage of sales, decreased by around one percentage point to 64.4% (Q2 2017: 65.5%).

The increase in research and development costs by 4.8% to € 538 million (Q2 2017: € 513 million) was particularly attributable to development activities in our Healthcare business sector, leading to a Group research spending ratio (research and development costs as a percentage of sales) of 14.5% (Q2 2017: 13.9%). Accounting for a 77% (Q2 2017: 75%) share of research and development expenses of all business sectors, Healthcare is the most research-intensive business sector of our company.

Other operating expenses and income (net) showed an expense balance of € –119 million in the second quarter of 2018; in the year-earlier quarter this item showed an income balance of € 72 million. This strong change was mainly due to developments in our Healthcare business sector (see explanations in the section entitled "Healthcare").

Overall, the income and expenses disclosed in the Group income statement led to a double-digit decline in the operating result (EBIT) to € 392 million (Q2 2017: € 608 million).

In the second quarter of 2018, the financial result of the Group amounted to € –65 million (Q2 2017: € –66 million). In this context, the improvement in the interest result was almost fully offset by lower currency gains and higher expenses from the development of the time value of Share Units of Merck KGaA, Darmstadt, Germany, within the scope of the Long-Term Incentive Plan.

Income tax expenses of € 84 million (Q2 2017: € 130 million) led to an effective tax rate of 25.5% (Q2 2017: 23.9%).

Profit after tax of discontinued operations comprises the Consumer Health business, which pursuant to IFRS 5 must be reported separately in the Consolidated Income Statement (more information about the agreed divestment of the Consumer Health business can be found in the Notes to the Consolidated Half-Year Financial Statements).

Net income, i.e. profit after tax attributable to shareholders of Merck KGaA, Darmstadt, Germany, declined to € 247 million (Q2 2017: € 426 million), yielding earnings per share of € 0.57 (Q2 2017: € 0.98).

GROUP

Reconciliation[1] of EBIT[2] to EBITDA pre[2]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Operating result (EBIT)[2]	**392**	**608**	**–35.4%**	**895**	**1,320**	**–32.2%**
Depreciation/amortization/impairment losses reversals of impairment losses	448	376	19.0%	870	821	5.9%
(of which: adjustments)	*(17)*	*(–61)*	*(>100.0%)*	*(19)*	*(–57)*	*(>100.0%)*
EBITDA[2]	**840**	**984**	**–14.6%**	**1,764**	**2,141**	**–17.6%**
Restructuring costs	11	9	23.6%	16	12	32.8%
Integration costs/IT costs	21	31	–30.4%	42	57	–26.1%
Gains/losses on the divestment of businesses	37	–9	>100.0%	39	–8	>100.0%
Acquisition-related adjustments	–	7	–	1	11	–92.3%
Other adjustments	11	45	–76.5%	23	48	–52.4%
EBITDA pre[2]	**920**	**1,066**	**–13.7%**	**1,885**	**2,261**	**–16.6%**

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

After eliminating depreciation, amortization and adjustments, EBITDA pre, the key financial indicator used to steer operating business, decreased by –13.7% to € 920 million (Q2 2017: € 1,066 million). Unfavorable foreign exchange effects lowered EBITDA pre by –11.0%. Relative to net sales, the EBITDA pre margin was 24.8% in the second quarter of 2018 (Q2 2017: 28.9%). Earnings per share pre (earnings per share after net of tax effect of adjustments and amortization of purchased intangible assets) fell by –18.5% to € 1.23 (Q2 2017: € 1.51).

In the first half of 2018, EBITDA pre decreased by –16.6% and amounted to € 1,885 million (January-June 2017: € 2,261 million). Negative foreign exchange effects lowered EBITDA pre by –10.4%. The decrease in this key performance indicator was attributable to the Healthcare and Performance Materials business sectors. The EBITDA pre margin of the Group amounted to 26.2% (January-June 2017: 30.8%). Earnings per share pre fell by –21.0% to € 2.56 (January-June 2017: € 3.24).

NET ASSETS AND FINANCIAL POSITION

GROUP

Balance sheet structure

	June 30, 2018		Dec. 31, 2017		Change	
	€ million	**in%**	€ million	in%	€ million	in%
Non-current assets	**27,649**	**77.2%**	**28,166**	**79.1%**	**–517**	**–1.8%**
of which:						
Goodwill	13,614		13,582		32	
Intangible assets	7,883		8,317		–434	
Property, plant and equipment	4,483		4,512		–29	
Other non-current assets	1,669		1,755		–86	
Current assets	**8,179**	**22.8%**	**7,455**	**20.9%**	**725**	**9.7%**
of which:						
Inventories	2,708		2,632		77	
Trade accounts receivable	3,017		2,923		94	
Current financial assets	120		90		29	
Other current assets	1,103		1,221		–118	
Cash and cash equivalents	609		589		20	
Assets held for sale	623		–		623	
Total assets	**35,828**	**100.0%**	**35,621**	**100.0%**	**208**	**0.6%**
Equity	**14,894**	**41.6%**	**14,066**	**39.5%**	**828**	**5.9%**
Non-current liabilities	**12,667**	**35.4%**	**12,919**	**36.3%**	**–253**	**–2.0%**
of which:						
Provisions for pensions and other post-employment benefits	2,155		2,257		–101	
Other non-current provisions	764		788		–23	
Non-current financial liabilities	8,090		8,033		57	
Other non-current liabilities	1,657		1,842		–185	
Current liabilities	**8,267**	**23.1%**	**8,635**	**24.2%**	**–368**	**–4.3%**
of which:						
Current provisions	391		414		–24	
Current financial liabilities	3,313		2,790		522	
Trade accounts payable/Refund liabilities	2,074		2,195		–121	
Other current liabilities	2,328		3,234		–906	
Liabilities directly related to assets held for sale	161		–		161	
Total liabilities and equity	**35,828**	**100.0%**	**35,621**	**100.0%**	**208**	**0.6%**

The total assets of the Group amounted to € 35,828 million as of June 30, 2018. This represents a minor increase compared with December 31, 2017 (€ 35,621 million). Since the beginning of 2018, working capital has risen by 8.5% to € 3,677 million (December 31, 2017: € 3,387 million) owing to a slight increase in inventories and receivables amid a simultaneous decline in trade accounts payable.

The composition and the development of net financial debt were as follows:

GROUP

Net financial debt[1]

	June 30, 2018	Dec. 31, 2017	Change	
	€ million	€ million	€ million	in%
Bonds and commercial paper	8,150	8,213	–63	–0.8%
Bank loans	2,069	1,653	415	25.1%
Liabilities to related parties	1,032	767	264	34.4%
Loans from third parties and other financial liabilities	68	73	–5	–6.9%
Liabilities from derivatives (financial transactions)	82	113	–31	–27.6%
Finance lease liabilities	3	4	–1	–27.7%
Financial liabilities	**11,403**	**10,823**	**580**	**5.4%**
less:				
Cash and cash equivalents	609	589	20	3.4%
Current financial assets	120	90	29	32.5%
Net financial debt[1]	**10,674**	**10,144**	**530**	**5.2%**

[1]Not defined by International Financial Reporting Standards (IFRS).

GROUP

Reconciliation of net financial debt[1]

€ million	**2018**
January 1	**10,144**
Currency translation difference	78
Dividend payments to shareholders and to E. Merck KG, Darmstadt, Germany[2]	760
Acquisitions[2]	–
Payments from other divestments[2]	–
Free cash flow[1]	–317
Other	9
June 30	**10,674**

[1]Not defined by International Financial Reporting Standards (IFRS).
[2]As reported in the Consolidated Cash Flow Statement.

Equity rose in the first half of 2018 by 5.9% to € 14,894 million (December 31, 2017: € 14,066 million), leading to an increase in the equity ratio by around 2 percentage points to 41.6% (December 31, 2017: 39.5%). More information on the development of equity can be found in the Consolidated Statement of Changes in Net Equity in the Consolidated Half-Year Financial Statements.

The composition of free cash flow as well as the development of the relevant items are presented in the following table:

GROUP

Free cash flow[1]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Cash flow from operating activities as reported in the consolidated cash flow statement	367	520	–29.3%	748	1,297	–42.4%
Payments for investments in intangible assets	–34	–81	–57.2%	–55	–289	–81.0%
Payments from the disposal of intangible assets	1	4	–79.7%	7	4	94.1%
Payments for investments in property, plant and equipment	–168	–172	–2.4%	–396	–372	6.3%
Payments from the disposal of property, plant and equipment	2	–	–	13	17	–26.0%
Free cash flow[1]	**168**	**271**	**–37.9%**	**317**	**656**	**–51.7%**

[1] Not defined by International Financial Reporting Standards (IFRS).

In the second quarter of 2018, business free cash flow of the Group amounted to € 514 million (Q2 2017: € 1,006 million). The decline by € –492 million was due to lower EBITDA pre and to an increase in inventories and receivables.

GROUP

Business free cash flow[1.2]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
EBITDA pre [2]	920	1,066	–13.7%	1,885	2,261	–16.6%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–177	–191	–7.0%	–306	–317	–3.3%
Changes in inventories as reported in the consolidated balance sheet	–116	5	>100.0%	–185	–86	>100.0%
Changes in trade accounts receivable and receivables from royalties and licenses as reported in the consolidated balance sheet	–112	125	>100.0%	–163	–106	54.2%
Business free cash flow[2]	**514**	**1,006**	**–48.9%**	**1,230**	**1,753**	**–29.8%**

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

In comparison with the year-earlier period, business free cash flow declined by € –522 million to € 1,230 million in the first six months of 2018. This decline primarily resulted from lower EBITDA pre as well as an increase in inventories and receivables.

Healthcare

HEALTHCARE

Key figures[1]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	1,584	1,587	–0.2%	3,019	3,118	–3.2%
Operating result (EBIT)[2]	155	326	–52.3%	350	727	–51.9%
Margin (% of net sales)[2]	9.8%	20.5%		11.6%	23.3%	
EBITDA[2]	338	439	–22.9%	717	1,021	–29.8%
Margin (% of net sales)[2]	21.4%	27.7%		23.8%	32.7%	
EBITDA pre[2]	379	450	–16.0%	758	1,036	–26.9%
Margin (% of net sales)[2]	23.9%	28.4%		25.1%	33.2%	
Business free cash flow[2]	232	433	–46.5%	528	776	–31.9%

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

DEVELOPMENT OF NET SALES AND RESULTS OF OPERATIONS

In the second quarter of 2018, our Healthcare business sector generated organic growth of 4.7%, which was canceled out by negative foreign exchange effects of –4.9%. The foreign exchange effect was due mainly to the decline in the value of the U.S. dollar against the euro. The development of the Chinese renminbi as well as individual Latin American currencies also contributed to this effect.

Sales of the key product lines and products developed in the second quarter as follows:

HEALTHCARE

Net sales by major product lines/products

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Total change	Q2 2017[2]	Share
Oncology	236	15%	5.2%	–4.8%	0.4%	235	15%
thereof: Erbitux®	*203*	*13%*	*0.2%*	*–4.9%*	*–4.6%*	*213*	*13%*
thereof: Bavencio®	*17*	*1%*	*>100.0%*	*–27.8%*	*>100.0%*	*4*	*0%*
Neurology & Immunology	403	25%	0.5%	–5.8%	–5.2%	425	27%
thereof: Rebif®	*383*	*24%*	*–4.2%*	*–5.7%*	*–9.9%*	*425*	*27%*
thereof: Mavenclad®	*20*	*1%*	–	–	–	–	–
Fertility	301	19%	8.0%	–4.9%	3.1%	292	18%
thereof: Gonal-f®	*184*	*12%*	*–0.3%*	*–4.5%*	*–4.8%*	*193*	*12%*
General Medicine & Endocrinology	580	37%	2.8%	–4.6%	–1.8%	591	37%
thereof: Glucophage®	*180*	*11%*	*14.1%*	*–4.6%*	*9.5%*	*164*	*10%*
thereof: Concor®	*120*	*8%*	*0.6%*	*–4.8%*	*–4.3%*	*125*	*8%*
thereof: Euthyrox®	*93*	*6%*	*2.3%*	*–3.9%*	*–1.6%*	*94*	*6%*
thereof: Saizen®	*61*	*4%*	*–1.2%*	*–6.3%*	*–7.5%*	*66*	*4%*
Other	64	4%				44	3%
Healthcare	**1,584**	**100%**	**4.7%**	**–4.9%**	**–0.2%**	**1,587**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

Sales of the drug Rebif®, which is used to treat relapsing forms of multiple sclerosis, declined organically by –4.2% in the second quarter of 2018. Including negative foreign exchange effects of –5.7%, net sales amounted to € 383 million (Q2 2017: € 425 million). In North America, the largest sales market for Rebif®, sales decreased organically by –2.5%, which was due to the continued difficult competitive situation. In addition, currency headwinds of –6.7% adversely impacted sales, which amounted to € 252 million (Q2 2017: € 277 million). Continued competitive pressure in Europe was also responsible for the organic sales decline of –9.7%. Including negative foreign exchange effects of –1.3%, sales in Europe amounted to € 101 million (Q2 2017: € 113 million). Sales in the remaining regions totaled € 31 million (Q2 2017: € 35 million), with the decline stemming mainly from negative foreign exchange effects.

In the second quarter, sales of the oncology drug Erbitux® were stable organically, yet after foreign exchange effects of –4.9% amounted to € 203 million (Q2 2017: € 213 million). Despite a persistently difficult competitive environment and price reductions in several countries, sales in Europe declined only slightly by –2.1%. Overall, sales in the region amounted to € 108 million (Q2 2017: € 112 million). Organic sales growth of 5.4% in the Asia-Pacific region led to sales of € 66 million after foreign exchange effects of –4.3% (Q2 2017: € 65 million). The Latin America region also generated organic sales growth of 5.4%. However, negative foreign exchange effects caused net sales to fall to € 17 million (Q2 2017: € 21 million). At € 13 million, sales generated by the Middle East and Africa region were below the level of the year-earlier quarter (Q2 2017: € 15 million), reflecting an organic sales decline of –11.9% and foreign exchange effects of –4.4%.

HEALTHCARE

Product sales and organic growth[1] of Rebif® and Erbitux® by region – Q2 2018

		Total	Europe	North America	Asia-Pacific (APAC)	Latin America	Middle East and Africa (MEA)
Rebif®	€ million	383	101	252	3	14	13
	Organic growth[1] in %	–4.2%	–9.7%	–2.5%	2.9%	–0.7%	–0.4%
	% of sales	100%	26%	66%	1%	4%	3%
Erbitux®	€ million	203	108	–	66	17	13
	Organic growth[1] in %	0.2%	–2.1%	–	5.4%	5.4%	–11.9%
	% of sales	100%	53%	–	32%	9%	6%

[1]Not defined by International Financial Reporting Standards (IFRS).

Sales of € 20 million were generated in the second quarter of 2018 with the product Mavenclad®, a medicine for oral short-course treatment of highly active relapsing multiple sclerosis, following approval in Europe in August 2017. Net sales of Bavencio®, an immuno-oncology medicine, increased in the second quarter of 2018 to € 17 million (Q2 2017: € 4 million) after receiving approvals in further indications and regions in 2017.

Net sales of Gonal-f®, the leading recombinant hormone for the treatment of infertility, showed a stable organic development in comparison with the year-earlier quarter, amounting to € 184 million in the second quarter of 2018 (Q2 2017: € 193 million). Good organic sales growth in North America (10.5%) and Latin America (20.4%) compensated for the decline in Europe as well as in the Middle East and Africa.

The General Medicine & Endocrinology franchise (including CardioMetabolic Care), which commercializes products to treat cardiovascular diseases, thyroid disorders, diabetes and growth disorders, among other things, delivered an organic sales increase of 2.8% and a negative exchange rate effect of –4.6%, yielding net sales of € 580 million (Q2 2017: € 591 million). Glucophage®, the top-selling product in this franchise, fueled this development with organic sales growth of 14.1%, which was mainly achieved in the Asia-Pacific region. Including negative foreign exchange effects of –4.6%, sales amounted to € 180 million (Q2 2017: € 164 million). The beta-blocker Concor® generated sales of € 120 million (Q2 2017: € 125 million), thus remaining slightly below the level in the year-earlier quarter. Good growth in Europe (14.5%) and Latin America (7.7%) could not offset the organic decline in the remaining regions or the negative exchange rate effect. Euthyrox®, a drug to treat thyroid disorders, recorded organic growth of 2.3%. Taking negative foreign exchange effects of –3.9% into account, sales of € 93 million were at the previous year's level (Q2 2017: € 94 million). The slight organic sales decline (-1.2%) of Saizen®, the top-selling product in the Endocrinology franchise, was mainly due to the development in North America. Including currency headwinds of –6.3%, sales amounted to € 61 million (Q2 2017: € 66 million).

Net sales of the business sector by region developed as follows:

HEALTHCARE

Net sales by region

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q2 2017[2]	Share
Europe	552	35%	6.3%	–2.4%	–	4.0%	530	33%
North America	377	24%	1.4%	–6.6%	–	–5.2%	397	25%
Asia-Pacific (APAC)	375	24%	5.0%	–2.7%	–	2.3%	366	23%
Latin America	180	11%	21.9%	–14.6%	–	7.3%	168	11%
Middle East and Africa (MEA)	102	6%	–15.4%	–3.7%	–	–19.1%	126	8%
Healthcare	**1,584**	**100%**	**4.7%**	**–4.9%**	**–**	**–0.2%**	**1,587**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

In the first six months of 2018, the business sector generated sales of € 3,019 million (January-June 2017: € 3,118 million). Despite organic growth of 2.8%, net sales were lower than in the year-earlier period due to negative foreign exchange effects of –6.0%. The key drivers of organic sales performance were primarily sales of products from the Fertility portfolio, including Gonal-f®, which amounted to € 566 million (January-June 2017: € 558 million). Organic sales growth of Gonal-f® was 2.5%, with performance in North America, Asia-Pacific and Latin America contributing in particular to this development. Organic sales performance of other fertility products was positive across all regions, first and foremost in Europe and Asia-Pacific. Initial sales of Mavenclad® following regulatory approval in August 2017, as well as an increase in sales of Bavencio® in North America and Europe owing to approvals in further indications, also contributed positively to organic sales performance. Glucophage® from the General Medicine & Endocrinology franchise generated sales of € 329 million (January-June 2017: € 330 million). Organic growth of 4.9% was driven in particular by performance in the Asia-Pacific and Latin America regions. The negative foreign exchange effects in the first half of 2018 resulted mainly from the decline in the value of the U.S. dollar versus the euro as well as the development of the Chinese renminbi and individual Latin American currencies.

HEALTHCARE

Net sales by major product lines/products

€ million	Jan.-June 2018	Share	Organic growth[1]	Exchange rate effects	Total change	Jan.-June 2017[2]	Share
Oncology	462	15%	2.9%	–5.2%	–2.2%	472	15%
thereof: Erbitux®	*403*	*13%*	*–1.3%*	*–5.1%*	*–6.4%*	*431*	*14%*
thereof: Bavencio®	*29*	*1%*	*>100.0%*	*–58.5%*	*>100.0%*	*4*	*0%*
Neurology & Immunology	765	25%	–1.5%	–7.6%	–9.0%	841	27%
thereof: Rebif®	*732*	*24%*	*–5.5%*	*–7.5%*	*–13.0%*	*841*	*27%*
thereof: Mavenclad®	*33*	*1%*	–	–	–	–	–
Fertility	566	19%	8.1%	–6.7%	1.5%	558	18%
thereof: Gonal-f®	*350*	*12%*	*2.5%*	*–6.4%*	*–3.9%*	*365*	*12%*
General Medicine & Endocrinology	1,101	36%	0.8%	–5.4%	–4.6%	1,154	37%
thereof: Glucophage®	*329*	*11%*	*4.9%*	*–5.3%*	*–0.4%*	*330*	*11%*
thereof: Concor®	*219*	*7%*	*0.4%*	*–5.0%*	*–4.6%*	*230*	*7%*
thereof: Euthyrox®	*174*	*6%*	*–0.2%*	*–4.5%*	*–4.7%*	*183*	*6%*
thereof: Saizen®	*117*	*4%*	*–3.8%*	*–6.7%*	*–10.5%*	*130*	*4%*
Other	125	5%				94	3%
Healthcare	**3,019**	**100%**	**2.8%**	**–6.0%**	**–3.2%**	**3,118**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

In the first half of 2018, sales by region developed as follows:

HEALTHCARE

Net sales by region

€ million	Jan.-June 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Jan.-June 2017[2]	Share
Europe	1,094	36%	4.3%	–2.0%	–	2.3%	1,069	34%
North America	703	23%	1.1%	–9.5%	–	–8.5%	768	25%
Asia-Pacific (APAC)	703	23%	3.0%	–4.5%	–	–1.5%	714	23%
Latin America	326	11%	8.8%	–14.2%	–	–5.4%	344	11%
Middle East and Africa (MEA)	193	7%	–7.8%	–5.5%	–	–13.4%	222	7%
Healthcare	**3,019**	**100%**	**2.8%**	**–6.0%**	**–**	**–3.2%**	**3,118**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

The results of operations developed as follows:

HEALTHCARE

Results of operations[1]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	**1,584**	**1,587**	**–0.2%**	**3,019**	**3,118**	**–3.2%**
Cost of sales	–343	–345	–0.7%	–677	–663	2.0%
Gross profit	**1,241**	**1,242**	**–0.0%**	**2,342**	**2,455**	**–4.6%**
Marketing and selling expenses	–592	–617	–4.1%	–1,142	–1,184	–3.6%
Administration costs	–79	–70	12.6%	–152	–139	9.6%
Research and development costs	–407	–381	6.6%	–785	–750	4.6%
Other operating expenses and income	–9	152	>100.0%	88	346	–74.5%
Operating result (EBIT)[2]	**155**	**326**	**–52.3%**	**350**	**727**	**–51.9%**
Depreciation/amortization/impairment losses/ reversals of impairment losses	183	113	61.6%	367	294	24.8%
(of which: adjustments)	*(–)*	*(–68)*	*(–)*	*(2)*	*(–67)*	*(>100.0%)*
EBITDA[2]	**338**	**439**	**–22.9%**	**717**	**1,021**	**–29.8%**
Restructuring costs	1	1	–18.5%	–	–	–
Integration costs/IT costs	4	7	–49.4%	7	11	–42.6%
Gains/losses on the divestment of businesses	37	–11	>100.0%	37	–11	>100.0%
Acquisition-related adjustments	–	–	–	–	–	–
Other adjustments	–1	14	>100.0%	–2	14	>100.0%
EBITDA pre[2]	**379**	**450**	**–16.0%**	**758**	**1,036**	**–26.9%**

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

At € 1,241 million, gross profit of our Healthcare business sector was at the previous year's level (Q2 2017: € 1,242 million). Gross margin was 78.4% in the second quarter of 2018 and thus slightly higher than in the year-earlier quarter (Q2 2017: 78.2%).

Higher research and development costs reflected continued investments in the Biopharma development pipeline and amounted to € 407 million (Q2 2017: € 381 million). The change in other operating expenses and income was due to several factors. On the one hand, the year-earlier quarter was positively influenced by a milestone payment of € 36 million for the approval of Bavencio® recognized in income as well as a reversal of € 69 million on an impairment loss recognized in 2011 on the biopharmaceutical production plant in Corsier-sur-Vevey, Switzerland. In the second quarter of 2018, a reduction in the fair value of the contingent consideration from the divestment of the Biosimilars business led to expenses of € –39 million, which was eliminated in the calculation of EBITDA pre.

In the reporting period, EBITDA pre decreased by –16.0% to € 379 million (Q2 2017: € 450 million). This reflected the –13.3% foreign exchange impact. The EBITDA pre margin of the business sector declined to 23.9% (Q2 2017: 28.4%).

In the first half of 2018, our Healthcare business sector reported a decrease in EBITDA pre of –26.9% to € 758 million (January-June 2017: € 1,036 million). The negative foreign exchange impact on EBITDA pre was –13.3 %. Moreover, the development of EBITDA pre was influenced by the following factors: In the year-earlier period, income from a contractually agreed one-time payment of € 116 million for future license payments as well as milestone payments recognized as income for the regulatory approvals of Bavencio® in March and May 2017 (€ 73 million) had a positive impact. The first half of 2018 included receipt of a milestone payment of € 50 million from BioMarin Pharmaceutical Inc., USA, in connection with the sale of the rights to Peg-Pal in 2016.

In the first half of 2018, the EBITDA pre margin decreased to 25.1% (January-June 2017: 33.2%).

DEVELOPMENT OF BUSINESS FREE CASH FLOW

In the second quarter of 2018, business free cash flow amounted to € 232 million (Q2 2017: € 433 million). The decrease was mainly due to the increase in receivables as well as lower EBITDA pre.

HEALTHCARE

Business free cash flow[1,2]

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
EBITDA pre[2]	379	450	–16.0%	758	1,036	–26.9%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–71	–82	–13.3%	–112	–124	–10.3%
Changes in inventories	–27	–	–	–42	–17	> 100.0%
Changes in trade accounts receivable and receivables from royalties and licenses	–48	65	>100.0%	–76	–119	–36.5%
Business free cash flow[2]	**232**	**433**	**–46.5%**	**528**	**776**	**–31.9%**

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".

[2] Not defined by International Financial Reporting Standards (IFRS).

In the first six months of 2018, the business sector generated business free cash flow of € 528 million (January-June 2017: € 776 million). In particular, lower EBITDA pre was primarily responsible for the decline in this key performance indicator.

Life Science

LIFE SCIENCE

Key figures

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	1,543	1,495	3.2%	3,030	2,977	1.8%
Operating result (EBIT)[1]	254	221	14.8%	527	457	15.3%
Margin (% of net sales)[1]	16.5%	14.8%		17.4%	15.4%	
EBITDA[1]	442	411	7.6%	884	841	5.1%
Margin (% of net sales)[1]	28.7%	27.5%		29.2%	28.2%	
EBITDA pre[1]	452	454	–0.6%	906	900	0.7%
Margin (% of net sales)[1]	29.3%	30.4%		29.9%	30.2%	
Business free cash flow[1]	269	423	–36.6%	644	704	–8.6%

[1]Not defined by International Financial Reporting Standards (IFRS).

DEVELOPMENT OF SALES AND RESULTS OF OPERATIONS

In the second quarter of 2018, Life Science posted strong organic sales growth of 7.7%. However, an unfavorable foreign exchange impact of –4.6% resulted in moderate reported sales growth of 3.2% to € 1,543 million. All three business units contributed to the positive organic growth, with the largest impact coming from Process Solutions, specifically the BioProcessing business field, followed by Applied Solutions.

LIFE SCIENCE

Net sales by business unit

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q2 2017[2]	Share
Process Solutions	612	40%	12.5%	–4.6%	–	7.9%	567	38%
Research Solutions	517	33%	4.1%	–4.5%	–	–0.3%	518	35%
Applied Solutions	414	27%	5.7%	–4.7%	–	1.0%	410	27%
Life Science	**1,543**	**100%**	**7.7%**	**–4.6%**	**–**	**3.2%**	**1,495**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Previous year's figures have been adjusted due to an internal realignment.

The Process Solutions business unit, which markets products and services for the entire pharmaceutical production value chain, generated strong organic sales growth of 12.5% compared with a somewhat less dynamic year-earlier quarter (Q2 2017: 7.5%). Process Solutions thus reported the strongest growth within our Life Science business sector. Despite a negative foreign exchange effect of –4.6%, sales totaled € 612 million in the second quarter of 2018 (Q2 2017: € 567 million). Process Solutions thus accounted for 40% of Life Science net sales. The increase was primarily driven by the BioProcessing business field in Asia-Pacific and North America, specifically with higher demand for single-use products, downstream products, and cell culture media.

The Research Solutions business unit, which provides products and services to support life science work in pharmaceutical, biotechnology, and academic research laboratories, recorded a moderate organic sales increase of 4.1%. However, as a result of negative foreign exchange effects of –4.5%, sales amounted to € 517 million (Q2 2017: € 518 million). Organic growth was primarily driven by an increase in the Life Science Reagents and Kits franchise particularly in North America and Europe. The share of business sector sales accounted for by Research Solutions was 33% in the second quarter of 2018.

Applied Solutions, which accounted for a 27% share of Life Science sales in the second quarter of 2018, delivered strong organic sales growth of 5.7% with its broad range of products

for researchers as well as scientific and industrial laboratories. Organic sales increases were recorded across the entire Applied Solutions portfolio and was driven primarily by the North America and Asia-Pacific regions. The Advanced Analytical and Lab Water business fields fueled the organic sales growth of Applied Solutions. Due to negative exchange rate effects of –4.7%, sales totaled € 414 million (Q2 2017: € 410 million).

Net sales of the business sector by region developed as follows:

LIFE SCIENCE

Net sales by region

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q2 2017	Share
Europe	534	35%	5.4%	–1.1%	–	4.3%	512	34%
North America	534	35%	6.4%	–6.7%	–	–0.4%	536	36%
Asia-Pacific (APAC)	387	25%	13.9%	–4.4%	–	9.5%	353	24%
Latin America	66	4%	7.5%	–14.8%	–	–7.3%	71	5%
Middle East and Africa (MEA)	22	1%	–2.9%	–2.1%	–	–5.0%	23	1%
Life Science	**1,543**	**100%**	**7.7%**	**–4.6%**	**–**	**3.2%**	**1,495**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

In the first half of 2018, Life Science net sales increased over the year-earlier period by 1.8% to € 3,030 million (January-June 2017: € 2,977 million). This growth rate comprises strong organic growth of 8.3% and negative foreign exchange effects of –6.5%. Here too, all business units contributed favorably to organic growth, with Process Solutions being the primary contributor.

LIFE SCIENCE

Net sales by business unit

€ million	Jan.-June 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Jan.-June 2017[2]	Share
Process Solutions	1,195	39%	13.3%	–6.7%	–	6.6%	1,121	38%
Research Solutions	1,026	34%	4.2%	–6.3%	–	–2.1%	1,047	35%
Applied Solutions	809	27%	6.5%	–6.4%	–	0.1%	808	27%
Life Science	**3,030**	**100%**	**8.3%**	**–6.5%**	**–**	**1.8%**	**2,977**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

[2] Previous year's figures have been adjusted due to an internal realignment.

Process Solutions generated very dynamic organic sales growth of 13.3% in the first half of 2018. Including the negative foreign exchange effect of –6.7%, sales amounted to € 1,195 million (January-June 2017: € 1,121 million). This business unit thus accounted for 39% of Life Science net sales. Overall, the Process Solutions portfolio performed well due to the good development of demand for single-use products and cell culture media within the BioProcessing business field.

Research Solutions generated organic growth of 4.2% in the first half of 2018. However, due to the unfavorable foreign exchange impact of –6.3%, sales amounted to € 1,026 million (January-June 2017: € 1,047 million). Research Solutions accounted for 34% of Life Science net sales. All portfolios contributed positively to organic growth with the Lab and Specialty Chemicals and Life Science Reagents and Kits franchises leading the growth.

Applied Solutions generated organic sales growth of 6.5% in the first half of 2018. Taking into account the unfavorable foreign exchange impact of –6.4%, sales amounted to € 809 million (January-June 2017: € 808 million). Applied Solutions again accounted for 27% of Life Science net sales as in the first half of 2017. The majority of the Applied Solutions portfolio contributed positively to organic growth, led by the Lab Water and Industrial, Testing & Advanced Analytical business fields.

In the first half of 2018, sales by region developed as follows:

LIFE SCIENCE

Net sales by region

€ million	Jan.–June 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Jan.–June 2017	Share
Europe	1,060	35%	5.4%	–1.2%	–	4.2%	1,017	34%
North America	1,040	34%	7.8%	–10.4%	–	–2.6%	1,068	36%
Asia-Pacific (APAC)	758	25%	14.3%	–6.6%	–	7.7%	703	23%
Latin America	129	4%	7.5%	–15.4%	–	–7.9%	140	5%
Middle East and Africa (MEA)	43	2%	–9.1%	–2.0%	–	–11.1%	48	2%
Group	**3,030**	**100%**	**8.3%**	**–6.5%**	**–**	**1.8%**	**2,977**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

The results of operations developed as follows:

LIFE SCIENCE

Results of operations

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	**1,543**	**1,495**	**3.2%**	**3,030**	**2,977**	**1.8%**
Cost of sales	–677	–648	4.6%	–1,328	–1,270	4.5%
Gross profit	**865**	**848**	**2.1%**	**1,703**	**1,707**	**–0.2%**
Marketing and selling expenses	–451	–443	1.8%	–859	–891	–3.6%
Administration costs	–60	–65	–7.8%	–130	–135	–4.0%
Research and development costs	–61	–67	–9.7%	–120	–129	–6.9%
Other operating expenses and income	–40	–52	–22.9%	–67	–94	–29.3%
Operating result (EBIT)[1]	**254**	**221**	**14.8%**	**527**	**457**	**15.3%**
Depreciation/amortization/impairment losses/ reversals of impairment losses	188	190	–0.8%	357	384	–7.0%
(of which: adjustments)	*(16)*	*(3)*	*(>100.0%)*	*(16)*	*(3)*	*(>100.0%)*
EBITDA[1]	**442**	**411**	**7.6%**	**884**	**841**	**5.1%**
Restructuring costs	1	1	–24.5%	1	2	–42.3%
Integration costs/IT costs	8	17	–51.2%	20	28	–29.5%
Gains/losses on the divestment of businesses	–	1	–	–	1	–
Acquisition-related adjustments	–	7	–	1	11	–92.3%
Other adjustments	–	17	–	1	18	–95.7%
EBITDA pre[2]	**452**	**454**	**–0.6%**	**906**	**900**	**0.7%**

[1] Not defined by International Financial Reporting Standards (IFRS).

In the second quarter of 2018, gross profit increased by 2.1% to € 865 million (Q2 2017: € 848 million) and led to a gross margin of 56.1% (Q2 2017: 56.7%)

In comparison with the year-earlier quarter, the operating result (EBIT) of Life Science rose overproportionately by 14.8% to € 254 million. This was due especially to lower adjustments as well as to a decline in administration and research and development costs. EBITDA pre, our most important performance indicator, decreased slightly by –0.6% to € 452 million (Q2 2017: € 454 million). Organically, EBITDA pre improved by 2.9% over the previous year, whereby negative foreign exchange effects adversely impacted EBITDA pre by –3.4%

in the second quarter of 2018. The EBITDA pre margin of our Life Science business sector amounted to 29.3% in the second quarter of 2018.

In the first half of 2018, EBITDA pre of our Life Science business sector rose by 0.7% to € 906 million. This reflects organic growth of 6.2%, which was offset by a negative foreign exchange impact of –5.4%.

DEVELOPMENT OF BUSINESS FREE CASH FLOW

In the second quarter of 2018, Life Science generated business free cash flow of € 269 million. This represented a decrease of –36.6% compared with the second quarter of 2017. The decrease was primarily due to an increase in inventories and receivables in connection with underlying sales growth.

LIFE SCIENCE

Business free cash flow[1]

€ million	**Q2 2018**	Q2 2017	Change	**Jan.–June 2018**	Jan.–June 2017	Change
EBITDA pre[1]	452	454	–0.6%	906	900	0.7%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–55	–65	–14.7%	–97	–117	–17.2%
Changes in inventories	–75	9	> 100.0%	–99	–51	93.5%
Changes in trade accounts receivable and receivables from royalties and licenses	–53	25	> 100.0%	–67	–27	> 100.0%
Business free cash flow[1]	**269**	**423**	**–36.6%**	**644**	**704**	**–8.6%**

[1]Not defined by International Financial Reporting Standards (IFRS).

In the first half of 2018, business free cash flow of Life Science decreased by –8.6% to € 644 million compared with € 704 million in the first half of 2017. This was primarily attributable to the increase in receivables and inventories, which was partially offset by slightly higher EBITDA pre and lower investments.

Performance Materials

PERFORMANCE MATERIALS

Key figures

€ million	Q2 2018	Q2 2017	Change	Jan.–June 2018	Jan.–June 2017	Change
Net sales	587	612	–4.2%	1,151	1,257	–8.5%
Operating result (EBIT)[1]	131	167	–21.5%	267	362	–26.3%
Margin (% of net sales)[1]	22.4%	27.3%		23.2%	28.8%	
EBITDA[1]	192	231	–17.0%	384	487	–21.2%
Margin (% of net sales)[1]	32.7%	37.7%		33.4%	38.8%	
EBITDA pre[1]	196	239	–18.2%	392	503	–22.1%
Margin (% of net sales)[1]	33.4%	39.1%		34.0%	40.0%	
Business free cash flow[1]	143	239	–40.5%	280	472	–40.7%

[1]Not defined by International Financial Reporting Standards (IFRS).

DEVELOPMENT OF NET SALES AND RESULTS OF OPERATIONS

In 2018, our Performance Materials business sector is aligning itself even more strongly to the needs of customers and markets and has therefore combined its activities in three newly created business units: Display Solutions, Semiconductor Solutions and Surface Solutions. The business with OLED materials has been integrated into the Display Solutions business unit, while the remainder of the former Advanced Technologies business unit, mainly comprising optoelectronic materials, has been allocated to the Surface Solutions business unit.

In the second quarter of 2018, net sales of our Performance Materials business sector declined by –4.2% to € 587 million (Q2 2017: € 612 million). This resulted exclusively from negative foreign exchange effects of –4.6%, which could not be offset by slight organic growth of 0.4%.

The Display Solutions business unit, consisting mainly of the business with liquid crystals, photoresists for display applications and OLED materials, accounts for slightly more than half of the net sales of Performance Materials. This business unit recorded an organic decrease in sales, but continued to defend its market leadership position. The decline in sales in the second quarter of 2018 was particularly due to the performance of established liquid crystal technologies, resulting from a decrease in the unusually high market shares as well as the price declines customary in this industry. An exception here were the energy-saving UB-FFS technology as well as OLED materials, which recorded double-digit organic growth.

The Semiconductor Solutions business unit comprises the business with materials used in integrated circuit production. In the second quarter of 2018, the business unit generated very strong organic growth, which was mainly attributable to the dielectric materials and deposition materials businesses.

Net sales of the business sector by region developed as follows:

PERFORMANCE MATERIALS

Net sales by region

€ million	Q2 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Q2 2017	Share
Europe	53	9%	–6.3%	–0.4%	–	–6.6%	57	9%
North America	55	9%	4.5%	–6.6%	–	–2.1%	56	9%
Asia-Pacific (APAC)	467	80%	0.7%	–4.8%	–	–4.0%	487	80%
Latin America	9	2%	–0.2%	–10.4%	–	–10.6%	10	2%
Middle East and Africa (MEA)	2	0%	–4.8%	–1.6%	–	–6.4%	2	0%
Performance Materials	**587**	**100%**	**0.4%**	**–4.6%**	**–**	**–4.2%**	**612**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

In the first six months of 2018, sales of the business sector declined by –8.5% to € 1,151 million (January-June 2017: € 1,257 million). This development was primarily due to a negative foreign exchange effect of –6.6%, stemming mainly from the weaker U.S. dollar and Taiwanese dollar, as well as an organic sales decline of –1.9%.

The slight organic decline in sales in the first half of 2018 was particularly due to the performance of established liquid crystals technologies resulting from the decrease in the unusually high market shares as well as the price declines customary in this industry. An exception here were the energy-saving UB-FFS technology as well as OLED materials, which recorded double-digit organic growth.

In the first half of 2018, the Semiconductor Solutions business unit recorded very strong organic growth, to which all major businesses contributed. Double-digit growth rates were generated particularly with dielectric materials and deposition materials.

In the first half of 2018, sales by region developed as follows:

PERFORMANCE MATERIALS

Net sales by region

€ million	Jan.–June 2018	Share	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change	Jan.-June 2017	Share
Europe	114	10%	–6.5%	–0.4%	–	–6.9%	123	10%
North America	108	9%	2.0%	–9.9%	–	–8.0%	118	9%
Asia-Pacific (APAC)	906	79%	–1.7%	–6.9%	–	–8.6%	991	79%
Latin America	17	2%	–5.7%	–10.0%	–	–15.7%	20	2%
Middle East and Africa (MEA)	5	0%	–4.7%	–2.8%	–	–7.5%	5	0%
Performance Materials	**1,151**	**100%**	**–1.9%**	**–6.6%**	**–**	**–8.5%**	**1,257**	**100%**

[1] Not defined by International Financial Reporting Standards (IFRS).

The results of operations developed as follows:

PERFORMANCE MATERIALS

Results of operations

€ million	**Q2 2018**	Q2 2017	Change	**Jan.–June 2018**	Jan.–June 2017	Change
Net sales	**587**	**612**	**–4.2%**	**1,151**	**1,257**	**–8.5%**
Cost of sales	–300	–284	5.6%	–575	–583	–1.3%
Gross profit	**287**	**328**	**–12.7%**	**575**	**674**	**–14.6%**
Marketing and selling expenses	–61	–64	–4.6%	–121	–126	–4.0%
Administration costs	–23	–19	25.5%	–42	–36	15.1%
Research and development costs	–59	–59	0.7%	–118	–116	1.6%
Other operating expenses and income	–12	–20	–38.8%	–28	–33	–16.9%
Operating result (EBIT)[1]	**131**	**167**	**–21.5%**	**267**	**362**	**–26.3%**
Depreciation/amortization/impairment losses/ reversals of impairment losses	60	64	–5.3%	117	125	–6.4%
(of which: adjustments)	*(1)*	*(7)*	*(–84.3%)*	*(1)*	*(7)*	*(–84.3%)*
EBITDA[1]	**192**	**231**	**–17.0%**	**384**	**487**	**–21.2%**
Restructuring costs	–	–	–	–	2	–
Integration costs/IT costs	4	4	14.7%	7	9	–26.4%
Gains/losses on the divestment of businesses	–	–	–	–	–	–
Acquisition-related adjustments	–	–	–	–	–	–
Other adjustments	–	5	–	1	5	–81.0%
EBITDA pre[2]	**196**	**239**	**–18.2%**	**392**	**503**	**–22.1%**

[1] Not defined by International Financial Reporting Standards (IFRS).

Gross profit of our Performance Materials business sector was € 41 million less in the second quarter of 2018 than in the year-earlier quarter, resulting in a gross margin of 48.9% (Q2 2017: 53.6%). The operating result (EBIT) decreased by € 36 million to € 131 million in the second quarter of 2018 (Q2 2017: € 167 million). This was mainly due to decreasing sales from the highly profitable business with liquid crystals. EBITDA pre of the business sector declined by –18.2% to € 196 million (Q2 2017: € 239 million). The negative foreign exchange impact of –8.8% lowered this key performance indicator. At 33.4%, the EBITDA pre margin was below the strong year-earlier figure (Q2 2017: 39.1%).

At € 575 million, gross profit for the first half of 2018 was –14.6% below the previous year's level (January-June 2017: € 674 million). At € 267 million, the operating result (EBIT) was € 95 million lower than in the year-earlier period (January-June 2017: € 362 million). This was due primarily to the sales development of the highly profitable business with liquid crystals. In the first half of 2018, EBITDA pre decreased by –22.1% to € 392 million (January-June 2017: € 503 million). This reflected a negative foreign exchange impact of –11.5%. Consequently, at 34.0%, the EBITDA pre margin was below the strong year-earlier amount of 40.0%.

DEVELOPMENT OF BUSINESS FREE CASH FLOW

In the second quarter of 2018 business free cash flow of our Performance Materials business sector decreased to € 143 million (Q2 2017: € 239 million). Key factors for this were the decline in EBITDA pre as well as the development of inventories and higher investments.

PERFORMANCE MATERIALS

Business free cash flow[1]

€ million	**Q2 2018**	Q2 2017	Change	**Jan.–June 2018**	Jan.–June 2017	Change
EBITDA pre[1]	196	239	–18.2%	392	503	–22.1%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–25	–21	14.8%	–46	–41	11.4%
Changes in inventories	–15	–4	>100.0%	–44	–18	>100.0%
Changes in trade accounts receivable and receivables from royalties and licenses	–14	26	>100.0%	–21	29	>100.0%
Business free cash flow[1]	**143**	**239**	**–40.5%**	**280**	**472**	**–40.7%**

[1] Not defined by International Financial Reporting Standards (IFRS).

In the first six months of 2018, business free cash flow dropped by –40.7% to € 280 million (January-June 2017: € 472 million). Apart from the decline in EBITDA pre, this was mainly due to the development of inventories and receivables in the first half of both 2018 and 2017.

Corporate and Other

Corporate and Other comprises Group administration expenses for Group functions that cannot be directly allocated to the business sectors, such as Finance, Procurement, Legal, Communications, and Human Resources. Corporate costs additionally encompass expenses for central, non-allocated IT functions, including expenses related to the expansion and harmonization of IT systems within the Group as well as research and development costs spanning business sectors.

CORPORATE AND OTHER

Key figures[1]

€ million	**Q2 2018**	Q2 2017	Change	**Jan.–June 2018**	Jan.–June 2017	Change
Operating result (EBIT)[2]	–148	–106	39.4%	–249	–226	10.2%
EBITDA[2]	–132	–97	36.2%	–221	–208	6.0%
EBITDA pre[2]	–106	–78	36.2%	–171	–178	–4.0%
Business free cash flow[2]	–129	–90	42.6%	–221	–199	11.1%

[1] Previous year's figures have been adjusted, see "Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018".
[2] Not defined by International Financial Reporting Standards (IFRS).

In the second quarter of 2018, administration expenses reported under Corporate and Other amounted to € 74 million (Q2 2017: € 94 million). Research and development costs spanning business sectors, for instance expenses for the Innovation Center or for the New Business Builder unit (entering innovation fields and conducting innovation projects), were allocated to Corporate and Other in the amount of € 12 million in the second quarter of 2018 (Q2 2017: € 6 million). Other operating expenses (net) rose to € –57 million (Q2 2017: € –9 million). This was largely due to a worsening of the currency result. Consequently, in the second quarter of 2018 the operating result (EBIT) amounted to € –148 million (Q2 2017: € –106 million) and EBITDA was € –132 million (Q2 2017: € –97 million). After adjustments, EBITDA pre totaled € –106 million (Q2 2017: € –78 million). The increase in negative business free cash flow to € –129 million (Q2 2017: € –90 million) was mainly related to the development of EBITDA pre and slightly higher investments.

In the first half of 2018, EBITDA pre of Corporate and Other totaled € –171 million (January-June 2017: € –178 million). The slight improvement in this key figure resulted mainly from lower administration expenses. Business free cash flow amounted to € –221 million in the reporting period (January-June 2017: € –199 million).

Report on Risks and Opportunities

As a global company operating a large number of highly innovative business fields, our company is exposed to potential risks and opportunities.

The risk categories presented as well as the opportunities described in the Report on Risks and Opportunities found on pages 140 to 151 of the Annual Report for 2017 remain valid for the Group in the current reporting period.

At present, we are not aware of any risks that could jeopardize the continued existence of our company. We have a Group-wide risk management system in place to identify, control and mitigate potential risks. We continuously monitor business risks such as issues regarding liquidity, defaults on payables and receivables, currency and interest rates, market pricing, pension obligations, assessment of independent rating agencies, human resources, and information technology.

Regarding legal risks, we monitor a host of potential issues such as litigation regarding product liability, antitrust law, pharmaceutical law, patent law, and environmental protection.

Report on Expected Developments

With the quarterly statement as of March 31, 2018, we specified our forecast for the development of net sales and EBITDA pre for the Group and the individual business sectors in 2018.

On April 19, 2018, we announced the signing of an agreement to divest its global Consumer Health business to Procter & Gamble (P&G) for around € 3.4 billion in cash. The transaction, which is still expected to close by the end of the fourth quarter of 2018, is subject to regulatory approvals and satisfaction of certain other customary closing conditions. Since April 2018, the Consumer Health business has been reported as a discontinued operation. The previous year's figures and the figures for the first quarter have been correspondingly adjusted. The following forecast takes into account the resulting effects and presents the expected sales and earnings figures for the Group and its business sectors excluding the Consumer Health business.

Following good growth in the second quarter, particularly in our Healthcare business sector, we continue to expect for the full year 2018 a moderate organic net sales increase of +3% to +5% over the previous year. In comparison with the first quarter of 2018, the adverse impact of the increase in the value of the euro against the U.S. dollar and various emerging market currencies weakened in the second quarter, as expected. In particular, at the end of the second quarter the euro-U.S. dollar exchange rate was at the lower end of the range of 1.19–1.23 so far expected by us for the full year (quarterly statement as of March 31, 2018). For the full year, we now expect a slight improvement in the euro-U.S. dollar exchange rate of 1.19-1.22. We therefore assume that overall, exchange rate effects will have a moderately negative impact on our net sales in comparison with the previous year. However, at –3% to –5%, the impact will be slightly lower than previously expected (–4% to –6%). We also expect to see high exchange rate volatility in the second half of 2018 owing to current political and macroeconomic developments.

Overall, taking into account the treatment of the Consumer Health business as a discontinued operation, we therefore forecast net sales of the Group in a range of between € 14.1 billion and € 14.6 billion in 2018 (2017: € 14.5 billion).

Owing to solid business performance in the second quarter of 2018, we confirm our previous forecast of a slight organic decline of –1% to –3% in EBITDA pre compared with the previous year. Negative foreign exchange effects are still expected to lower EBITDA pre by between –5% and –7% compared with the previous year. Here, we assume that the negative foreign exchange impact on EBITDA pre of the business sectors, which now will be slightly below our previous expectations, will be offset by adverse transactional foreign exchange effects and higher losses from the hedging of key currencies, especially the Chinese renminbi and the euro-U.S. dollar exchange rate. The currency result is reported under Corporate and Other. Accordingly, and as per our expectations to date, Group EBITDA pre will remain in a corridor between € 3.75 billion and € 4.0 billion in 2018 (2017: € 4.246 billion).

For our Healthcare business sector, our forecast for a moderate organic increase in net sales of +3% to +5% in 2018 in comparison with the previous year remains unchanged. We assume that the positive development of demand in growth markets as well as in the General Medicine, Oncology and Fertility franchises will contribute significantly to the expected organic development of sales and counteract the expected decline in sales of Rebif® and the continued price pressure in individual regions. Moreover, we expect that Bavencio® and Mavenclad® will contribute significantly to sales growth with mid double-digit euro million and high double-digit euro million amounts, respectively. Moreover, we expect a moderately negative foreign exchange impact of –4% to –6% compared with the previous year.

For 2018, we continue to forecast EBITDA pre of our Healthcare business sector in the range of between € 1.58 billion and € 1.65 billion. The decline versus the previous year (€ 1.773 billion) predominantly reflects negative foreign exchange effects, especially owing to exchange rate developments in various growth markets, which are expected to adversely impact EBITDA pre by –5% to –7% in the year-on-year comparison. We confirm our forecast of an organic change in EBITDA pre of –1% to –2% compared with the previous year. We continue to assume that our product mix will develop unfavorably owing to the expected decline in sales of Rebif®. The divestment of our Biosimilars business in 2017 and the resulting absence of research and development costs will have a compensating effect. Our newly approved products Bavencio® and Mavenclad® will also contribute positively to the development of earnings.

For our Life Science business sector, we maintain our forecast of solid organic net sales growth, which at around +5% to +6% in total will slightly exceed expected medium-term market growth of approximately +4% p.a. Moreover, we anticipate a moderately negative foreign exchange effect of –3% to –5%. We believe that Process Solutions will continue to contribute the largest share to organic sales growth. According to our expectations, Research Solutions and Applied Solutions will also contribute positively to organic sales growth, albeit to a smaller extent.

The realization of synergies from the integration of Sigma-Aldrich has high priority for us and we will continue to vigorously pursue this aim in 2018 as well. We believe this will generate cost synergies of € 260 million as well as sales synergies of € 20 million. We confirm our expectation

of an organic increase in EBITDA pre of around +8% over the previous year as stated in our previous forecast. In comparison with our latest estimate, we assume a moderately negative foreign exchange effect that is likely to lower earnings by –3% to –5% (previously: –4% to –6%). Overall, for our Life Science business sector we thus forecast EBITDA pre in a range of between € 1.83 billion and € 1.88 billion (2017: € 1.786 billion).

For our Performance Materials business sector in 2018, we continue to forecast a slight to moderate organic sales decline of around –2% to –4% compared with the previous year. Our estimation has not changed in comparison with our latest forecast: the sales decline in our Liquid Crystals business will continue as before. Good organic sales performance in our other business fields can only partly mitigate this trend. We believe that foreign exchange will have a moderately negative impact of –3% to –5% on our sales.

We confirm our previous forecast of an organic decline of –14% to –16% in EBITDA pre compared with the previous year. The foreign exchange environment, which has become somewhat more favorable since our previous forecast, is likely to lower EBITDA pre by around –6% to –8% (previously –8% to –10%) versus the previous year. Consequently, we forecast EBITDA pre for our Performance Materials business sector of between € 745 million and € 785 million in 2018 (2017: € 980 million).

Overall, we expect EBITDA pre of Corporate and Other in 2018 to amount to between € –360 million and € –400 million (previously between € –320 million and € –360 million, 2017: € –292 million). In comparison with our previous forecast, we expect currency hedging losses in the mid double-digit million range. These are likely to be higher than expected so far due to the most recent developments of key currencies such as the Chinese renminbi as well the euro-U.S. dollar exchange rate. The main reasons for the expected organic increase in costs over the previous year are investments in innovation and digitalization initiatives, which we believe hold promise for new business opportunities and greater efficiency, linked with future savings potential. We are investing further in our IT infrastructure.

GROUP

Forecast for FY 2018 (excluding the Consumer Health business)

€ million	Net sales	EBITDA pre	Business free cash flow
Group	**~ 14,100 to 14,600** • Organic growth of +3% to 5% vs. 2017 • Moderately negative exchange rate effect –3% to –5%	**~ 3,750 to 4,000** • Organic decline of –1% to –3% vs. 2017 • Exchange rate effect –5% to –7%	**2,380 to 2,670**
Healthcare	• Moderate organic growth +3% to +5% • Moderately negative foreign exchange effect of –4% to –6%	**~ 1,580 to 1,650** • Organic decline of –1% to –2% • Exchange rate effect –5% to –7%	**1,060 to 1,140**
Life Science	• Organic growth of +5% to +6%, slightly above the medium–term market average of +4% p.a. • Moderately negative foreign exchange effect of –3% to –5%	**~ 1,830 to 1,880** • Organic growth of around +8% • Exchange rate effect –3% to –5%	**1,310 to 1,400**
Performance Materials	• Slight to moderate organic decline of –2% to –4% • Moderately negative foreign exchange effect of –3% to –5%	**~ 745 to 785** • Organic decline of –14% to –16% • Exchange rate effect –6% to –8%	**510 to 580**
Corporate and Other	–	~ –400 to –360	–500 to –450

EPS pre € 5.00 to € 5.40 (2017: € 5.92)

Full-year FX assumptions for 2018: € 1 = US$ 1.19 to 1.22

Consolidated Half-Year Financial Statements as of June 30, 2018

Consolidated Income Statement[1]

€ million	Q2 2018	Q2 2017	Jan.–June 2018	Jan.–June 2017
Net sales	**3,714**	**3,695**	**7,199**	**7,352**
Cost of sales	–1,321	–1,274	–2,581	–2,516
Gross profit	**2,392**	**2,421**	**4,618**	**4,836**
Marketing and selling expenses	–1,107	–1,124	–2,127	–2,202
Administration expenses	–236	–248	–457	–482
Research and development costs	–538	–513	–1,046	–1,001
Expenses (net) from impairment losses and reversals of impairment losses of financial assets[2]	–6	–	–8	–
Other operating income	131	254	285	521
Other operating expenses	–244	–182	–371	–351
Operating result (EBIT)[3]	**392**	**608**	**895**	**1,320**
Financial result	**–65**	**–66**	**–126**	**–134**
Profit before income tax	**328**	**542**	**769**	**1,186**
Income tax	–84	–130	–192	–280
Profit after tax from continuing operations	**244**	**412**	**577**	**906**
Profit after tax from discontinued operations	**7**	**15**	**16**	**46**
Profit after tax	**251**	**427**	**593**	**952**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany (net income)	247	426	588	948
of which: attributable to non-controlling interests	4	2	5	3
Earnings per share (in €)				
basic	0.57	0.98	1.35	2.18
– thereof from continuing operations	0.56	0.95	1.32	2.08
– thereof from discontinued operations	0.01	0.03	0.03	0.10
diluted	0.57	0.98	1.35	2.18
– thereof from continuing operations	0.56	0.95	1.32	2.08
– thereof from discontinued operations	0.01	0.03	0.03	0.10

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".
[2] Relevant for the first time as of January 1, 2018 owing to the first-time application of IFRS 9, see "Accounting and measurement principles".
[3] Not defined by International Financial Reporting Standard (IFRS).

Statement of Comprehensive Income

€ million	Q2 2018	Q2 2017	Jan.–June 2018	Jan.–June 2017
Profit after tax[1]	**251**	**427**	**593**	**952**
Items of other comprehensive income that will not be reclassified to profit or loss in subsequent periods				
Net defined benefit liability				
Changes in remeasurement	–7	91	109	156
Tax effect	1	–3	–22	–13
Changes recognized in equity	–5	89	87	142
Equity instruments[2]				
Fair value adjustments	4		27	
Tax effect	–		–	
Changes recognized in equity	4		27	
	–1	89	114	142
Items of other comprehensive income that may be reclassified to profit or loss in subsequent periods				
Debt instruments[2]				
Fair value adjustments	–		–	
Reclassification to profit or loss	–		–	
Tax effect	–		–	
Changes recognized in equity	–		–	
Available-for-sale financial assets[3]				
Fair value adjustments		–4		2
Reclassification to profit or loss		–		–1
Tax effect		–1		–
Changes recognized in equity		–4		2
Cash flow hedge reserve				
Fair value adjustments	–59	108	–27	89
Reclassification to profit or loss	21	6	15	27
Reclassification to assets	–	–	–	–
Tax effect	11	–34	4	–36
Changes recognized in equity	–27	80	–8	81
Cost of cash flow hedge reserve[1]				
Fair value adjustments	–46	–5	–51	–7
Reclassification to profit or loss	–	–	–	–
Reclassification to assets	–	–	–	–
Tax effect	18	1	18	1
Changes recognized in equity	–29	–4	–33	–6
Exchange differences on translating foreign operations				
Changes taken directly to equity	782	–1,123	348	–1,275
Reclassification to profit or loss	–17	–22	–2	–22
Changes recognized in equity	765	–1,145	346	–1,297
	709	–1,074	305	–1,221
Other comprehensive income[1]	**708**	**–985**	**419**	**–1,079**
Comprehensive income	**958**	**–558**	**1,011**	**–127**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany	954	–556	1,008	–128
of which: attributable to non-controlling interests	4	–2	3	1
Comprehensive income	**958**	**–558**	**1,011**	**–127**
thereof from continuing operations	961	–567	1,005	–167
thereof from discontinued operations	–2	9	7	40

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".
[2] Relevant for the first time as of January 1, 2018 owing to the first-time application of IFRS 9, see "Accounting and measurement principles".
[3] Relevant until December 31, 2017, see "Accounting and measurement principles".

Consolidated Balance Sheet

€ million	June 30, 2018	Dec. 31, 2017
Non-current assets		
Goodwill	13,614	13,582
Other intangible assets	7,883	8,317
Property, plant and equipment	4,483	4,512
Non-current financial assets	441	444
Other non-current assets	157	205
Deferred tax assets	1,071	1,106
	27,649	**28,166**
Current assets		
Inventories	2,708	2,632
Trade accounts receivable	3,017	2,923
Current financial assets	120	90
Other current assets	672	731
Income tax receivables	430	490
Cash and cash equivalents	609	589
Assets held for sale	623	–
	8,179	**7,455**
Total assets	**35,828**	**35,621**
Total equity		
Equity capital	565	565
Reserves[1]	12,914	12,358
Gains/losses recognized in equity[1]	1,355	1,081
Equity attributable to shareholders of Merck KGaA, Darmstadt, Germany	**14,834**	**14,003**
Non-controlling interests	61	63
	14,894	**14,066**
Non-current liabilities		
Provisions for pensions and other post-employment benefits	2,155	2,257
Other non-current provisions	764	788
Non-current financial liabilities	8,090	8,033
Other non-current liabilities	232	354
Deferred tax liabilities	1,425	1,489
	12,667	**12,919**
Current liabilities		
Current provisions	391	414
Current financial liabilities	3,313	2,790
Trade accounts payable/Refund liabilities	2,074	2,195
Income tax liabilities	863	1,059
Other current liabilities	1,466	2,175
Liabilities directly related to assets held for sale	161	–
	8,267	**8,635**
Total equity and liabilities	**35,828**	**35,621**

[1]Previous year's figures have been adjusted, see "Adjustments of prior periods".

Consolidated Cash Flow Statement

€ million	Q2 2018	Q2 2017	Jan.–June 2018	Jan.–June 2017
Profit after tax[1]	**251**	**427**	**593**	**952**
Depreciation/amortization/impairment losses reversals of impairment losses	448	380	876	828
Changes in inventories	–75	–87	–167	–188
Changes in trade accounts receivable	–115	–6	–186	–211
Changes in trade accounts payable/refund liabilities	41	133	44	71
Changes in provisions	34	21	50	72
Changes in other assets and liabilities	–243	–333	–478	–200
Neutralization of gain/loss on disposals of assets	2	–13	–7	–22
Other non-cash income and expenses[1]	23	–2	22	–6
Net cash flows from operating activities	**367**	**520**	**748**	**1,297**
thereof from discontinued operations	**–20**	**35**	**–35**	**52**
Payments for investments in intangible assets	–34	–81	–55	–289
Payments from the disposal of intangible assets	1	4	7	4
Payments for investments in property, plant and equipment	–168	–172	–396	–372
Payments from the disposal of property, plant and equipment	2	–	13	17
Payments for investments in financial assets	–7	–97	–21	–182
Payments for acquisitions less acquired cash and cash equivalents	–	–7	–	–7
Payments from the disposal of other financial assets	6	50	39	115
Payments from other divestments	–	–	–	11
Net cash flows from investing activities	**–200**	**–302**	**–412**	**–704**
thereof from discontinued operations	**–2**	**–1**	**–5**	**–9**
Dividend payment to shareholders of Merck KGaA, Darmstadt, Germany	–162	–155	–162	–155
Dividend payments to non-controlling interests	–3	–2	–5	–3
Dividend payments to E. Merck KG, Darmstadt, Germany	–531	–398	–593	–466
Payments from new borrowings from E. Merck KG, Darmstadt, Germany	375	349	375	349
Repayments of financial liabilities to E. Merck KG, Darmstadt, Germany	–	–	–109	–109
Repayments of bonds	–	–	–323	–232
Repayments of other current and non-current financial liabilities	25	22	520	142
Net cash flows from financing activities	**–295**	**–184**	**–298**	**–474**
thereof from discontinued operations	**14**	**–8**	**39**	**–4**
Changes in cash and cash equivalents	**–128**	**34**	**37**	**118**
Changes in cash and cash equivalents due to currency translation	3	–24	–4	–16
Cash and cash equivalents at the beginning of the reporting period	747	1,031	589	939
Changes in cash and cash equivalents due to reclassification to assets held for sale	–13	–	–13	–
Cash and cash equivalents as of June 30	**609**	**1,041**	**609**	**1,041**

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".

Consolidated Statement of Changes in Net Equity

	Equity capital			Retained earnings		
€ million	General partner's equity Merck KGaA, Darmstadt, Germany	Subscribed capital Merck KGaA, Darmstadt, Germany	Capital reserves (share premium) Merck KGaA, Darmstadt, Germany	Retained earnings/net-retained profit	Remeasurement of defined benefit plans	Fair value reserve for equity instruments[1]
Balance as of January 1, 2017 (as reported)	**397**	**168**	**3,814**	**8,049**	**–1,501**	
Adjustment from mandatory retrospective adoption of IFRS 9[1]	–	–	–	–3	–	
Balance as of January 1, 2017 (restated)	**397**	**168**	**3,814**	**8,046**	**–1,501**	
Profit after tax[2]	–	–	–	948	–	
Other comprehensive income[2]	–	–	–	–	142	
Comprehensive income	**–**	**–**	**–**	**948**	**142**	
Dividend payments	–	–	–	–155	–	
Transactions with no change of control	–	–	–	–	–	
Changes in scope of consolidation/Other	–	–	–	–	–	
Balance as of June 30, 2017[2]	**397**	**168**	**3,814**	**8,839**	**–1,358**	
Balance as of January 1, 2018	**397**	**168**	**3,814**	**9,903**	**–1,358**	**–**
Adjustment on initial application of IFRS 9[1]	–	–	–	23	–	–6
Adjustment on initial application of IFRS 15[1]	–	–	–	–	–	–
Balance as of January 1, 2018	**397**	**168**	**3,814**	**9,926**	**–1,358**	**–6**
Profit after tax	–	–	–	588	–	–
Other comprehensive income	–	–	–	–	87	27
Comprehensive income	**–**	**–**	**–**	**588**	**87**	**27**
Dividend payments	–	–	–	–162	–	–
Transactions with no change of control	–	–	–	–	–	–
Changes in scope of consolidation/Other	–	–	–	–2	–	–
Balance as of June 30, 2018	**397**	**168**	**3,814**	**10,350**	**–1,271**	**21**

[1] See "Accounting and measurement principles".
[2] Previous year's figures have been adjusted, see "Adjustments of prior periods".

Gains/losses recognized in equity							
Available-for-sale financial assets[1]	Fair value reserve for debt instruments[1]	Cash flow hedge reserve	Cost of hedging reserve[1]	Currency translation difference	Equity attributable to Merck KGaA, Darmstadt, Germany	Non-controlling interests	Total equity
24		**–191**	**–**	**3,229**	**13,989**	**61**	**14,050**
–		–	3	–	–	–	–
24		**–191**	**3**	**3,229**	**13,989**	**61**	**14,050**
–		–	–	–	948	3	952
2		81	–6	–1,295	–1,076	–2	–1,078
2		**81**	**–6**	**–1,295**	**–128**	**1**	**–127**
–		–	–	–	–155	–3	–158
–		–	–	–	–	–	–
–		–	–	–	–	–	–
26		**–110**	**–3**	**1,934**	**13,706**	**59**	**13,765**
31	**–**	**–121**	**–1**	**1,171**	**14,003**	**63**	**14,066**
–31	–1	–	–	–	–15	–	–15
–	–	–	–	–	–	–	–
–	**–1**	**–121**	**–1**	**1,171**	**13,988**	**63**	**14,051**
	–	–	–	–	588	5	593
	–	–8	–33	348	421	–2	419
	–	**–8**	**–33**	**348**	**1,008**	**3**	**1,011**
	–	–	–	–	–162	–5	–167
	–	–	–	–	–	–	–
	–	–	–	–	–2	–	–2
	–1	**–129**	**–35**	**1,519**	**14,834**	**61**	**14,894**

Notes to the Consolidated Half-Year Financial Statements as of June 30, 2018

These consolidated half-year financial statements have been prepared with Merck KGaA, Frankfurter Strasse 250, 64293 Darmstadt, Germany, which manages the operations of the Group, as parent company.

Accounting and measurement principles

The half-year financial statements of the Group dated June 30, 2018 comply with IAS 34. They have been prepared in accordance with the International Reporting Standards (IFRS) in force on the balance sheet date and adopted by the European Union as well as in accordance with section 117 in conjunction with section 115 of the German Securities Trading Act (WpHG). In accordance with IAS 34, a condensed scope of reporting as compared with the consolidated financial statements as of December 31, 2017 was selected. The figures presented in this half-yearly financial report have been rounded. This may lead to individual values not adding up to the totals presented.

The preparation of the consolidated half-year financial statements requires that assumptions and estimates be made to a certain extent. The assumptions and estimates are based on the current state of knowledge and the data available on the balance sheet date. A detailed presentation of the most significant judgments and sources of estimation uncertainty can be found in the Notes to the Consolidated Financial Statements of the Group for 2017. The explanations provided there, particularly with respect to accounting and measurement principles, apply accordingly with the exception of the changes presented in these financial statements as a result of new and binding accounting standards that took effect in fiscal 2018 as well as the following point: On July 20, 2018, Heubeck AG announced the publication of new mortality tables (RT 2018 G). In the calculation of the present value of the defined benefit obligations of German pension plans on the balance sheet date, which is included in provisions for pensions and similar obligations, life expectancy had not yet been determined on the basis of these current mortality tables but on the basis of the previous version (RT 2005 G). According to a first indicative estimate, we expect that the change in this actuarial assumption will lead to a mid to high double-digit million euro increase in the present value of the defined benefit obligations. This amount will be recognized in equity.

Accounting standards to be applied for the first time in fiscal 2018

The following new or amended International Financial Reporting Standards from the International Accounting Standards Board and the IFRS Interpretations Committee (IFRS and IAS as well as IFRIC and SIC) adopted by the European Union took effect as of fiscal 2018:

- IFRS 9 "Financial Instruments"
- IFRS 15 "Revenue from Contracts with Customers"
- Amendment to IAS 40 "Investment Property"
- Amendment to IFRS 2 "Share-based payment"
- Amendment to IFRS 4 "Insurance Contracts"
- Amendments to IFRS 15 "Revenue from Contracts with Customers"
- Annual Improvements to IFRSs 2014 – 2016 Cycle: Amendments to IFRS 1 "First-time Adoption of International Financial Reporting Standards" and to IAS 28 "Investments in Associates and Joint Ventures"
- IFRIC 22 "Foreign Currency Transactions and Advance Consideration"

With the exception of IFRS 9 and IFRS 15, no further rules led to a material impact on the Group's financial position or results of operations.

CHANGES TO ACCOUNTING AND MEASUREMENT PRINCIPLES RESULTING FROM IFRS 9 FINANCIAL INSTRUMENTS

IFRS 9 sets forth new rules for classification and measurement of financial instruments and the impairment of financial assets as well as for hedge accounting. The modified retrospective method was used for the adoption of IFRS 9, with the exception of the provisions for hedge accounting. In the case of hedging relationships where the Group uses options as hedging instruments, the first-time application of IFRS 9 was made retrospectively, as required, by disclosing comparative information for prior periods (see "Adjustments of prior periods." In the case of hedging relationships where the Group uses forward contracts as hedging instruments, the new IFRS 9 rules were applied for the first time using the prospective method. The material changes to the accounting and measurement principles as well as the resulting effects on the half-year consolidated financial statements from the first-time application of IFRS 9 are described in the following:

Classification and measurement

According to IFRS 9, the classification and measurement of financial assets are determined by the business model of the company and the characteristics of the cash flows of the respective financial asset. Upon initial recognition, a financial asset is designated either as "at amortized cost", "at fair value through other comprehensive income" or "at fair value through profit or loss". In accordance with IFRS 9, the classification and measurement of financial liabilities is largely unchanged from the accounting rules of IAS 39. For equity instruments held as of January 1, 2018 that are not held for trading purposes, we have uniformly exercised the option of recognizing future changes in fair value in other comprehensive income in the statement of comprehensive income and thus retaining them in consolidated equity upon disposal of the financial instrument. In principle, this option can be irrevocably exercised on the basis of the individual instrument upon its acquisition.

Impairments

The first-time application of IFRS 9 results in the application of a new impairment model which takes into account expected credit losses already at initial recognition of a financial asset. This accounting change leads to an earlier recognition of a loss allowance for financial assets. The following financial assets are affected by the new impairment model:

- Trade accounts receivable
- Contract assets
- Other debt instruments measured at amortized cost
- Debt instruments measured at fair value through other comprehensive income

The Group uses the simplified impairment model for trade accounts receivable and contract assets pursuant to which any credit losses expected to occur over the entire lifetime of the relevant financial assets are taken into account. In order to measure expected credit risks, the receivables are grouped on the basis of the existing credit risk structure and the respective maturity structure. The customer groups with comparable default risks to be taken into account are determined at the Group in accordance with the business sectors and location of the respective customers.

The default rates are derived on the basis of historical experience and current macroeconomic expectations by taking into account country-specific ratings. These country ratings are aggregated to three separate rating groups. In this context, historical default rates generally also represent the best approximation for future expected defaults in case a country's rating remains unchanged. Accordingly, when a country's rating changes, the historical default rates of the rating group to which the respective country has been re-allocated have to be applied, rather than the historical default rates of the previous rating group.

The Group expects credit risk to increase significantly when objective evidence exists that indicate financial difficulties of the debtor, the disappearance of an active market for the customer's products, an anticipated insolvency or a breach of contract due to default. Therefore, the Group conducts an analysis for all customers whose receivables are past due for more than 90 days in order to determine whether there is objective evidence of impairment that indicates an increased credit risk. A default generally exists when it is not probable that the debtor can fully meet its liabilities.

Hedge accounting

The objective of IFRS 9 is to reflect as accurately as possible the effects of risk management measures through hedge accounting. The Group has applied the hedge accounting provisions of IFRS 9 effective January 1, 2018 and did not opt for the option to continue to apply IAS 39. The existing recognized hedging relationships could be continued even after the first-time application of the IFRS 9 rules.

The adjustments relevant to the Group arising from the first-time application of the IFRS 9 provisions regarding hedge accounting are presented below:

- In the case of hedging relationships where the Group uses options as hedging instrument, only the intrinsic value of options has been designated as hedging instrument since the first-time application of IFRS 9. Changes in the fair value of the time value component of options that are used for hedge accounting have to be recognized in other comprehensive income and in a new reserve for cost of hedging within equity. The subsequent accounting of such amounts depends on the type of the hedged transaction. These amendments must be applied fully retrospectively in accordance with IFRS 9 and led to the changes in financial reporting outlined above. The table presented under "Adjustments of prior periods" shows the effects on the financial statements arising from the retrospective application of the cost of hedge approach in accordance with IFRS 9.
- In the case of hedging relationships where the Group uses forward contracts as hedging instrument, only the spot element is designated as hedging instrument. Changes in the fair value of the forward element in forward contracts are initially recognized in a new reserve for cost of hedging within equity. The subsequent accounting of such amounts depends on the type of the hedged transaction. These amendments are applied prospectively in accordance with IFRS 9. These amendments did not have any impact on the opening balance sheet as of January 1, 2018.

The following reclassifications and measurement effects upon first-time application resulted from the change in the classification and measurement of financial assets as well as the amended impairment requirements:

RECONCILIATION OF FINANCIAL ASSETS FROM IAS 39 TO IFRS 9 AS OF JANUARY 1, 2018

Measurement category in accordance with IAS 39	Measurement category in accordance with IFRS 9	Explanation	**Carrying amount in accordance with IAS 39**
€ million			**Dec. 31, 2017**
Cash and cash equivalents	**Cash and cash equivalents**		
Cash and cash equivalents	Measured at amortized cost		**589**
Trade accounts receivable	**Trade accounts receivable**		
Loans and receivables	Measured at amortized cost	→ a	**2,923**
Current financial assets	**Current financial assets**		
Loans and receivables	Measured at amortized cost		**47**
Available-for-sale financial assets	Debt instruments measured at fair value (recognized in equity)	→ b	**35**
Derivatives without a hedging relationship	Derivatives without a hedging relationship		**9**
Other current financial assets	**Other current financial assets**		
Loans and receivables	Measured at amortized cost	→ a	**247**
Derivatives with a hedging relationship	Derivatives with a hedging relationship		**30**
Non-current financial assets	**Non-current financial assets**		
Derivatives without a hedging relationship	Derivatives without a hedging relationship		**13**
Loans and receivables	Measured at amortized cost		**12**
Available-for-sale financial assets	Debt instruments measured at fair value (recognized in profit or loss)	→ c+d	**420**
	Debt instruments measured at fair value (recognized in equity, no recycling)	→ e	
Other non-current financial assets	**Other non-current financial assets**		
Loans and receivables	Measured at amortized cost		**29**
Derivatives without a hedging relationship	Derivatives without a hedging relationship		**46**
Derivatives with a hedging relationship	Derivatives with a hedging relationship		**15**
Financial assets total			**4,415**
Adjustment from the first-time application of IFRS 9			

		Retained earnings		Gains/losses recognized in equity	
Remeasurement owing to the application of the impairment model	**Carrying amount in accordance with IFRS 9**	Retained earnings/net retained profit effect	Fair value reserve for equity instruments	Available-for-sale financial assets	Fair value reserve for debt instruments
	Jan. 1, 2018	Jan. 1, 2018	Jan. 1, 2018	Jan. 1, 2018	Jan. 1, 2018
	589	–	–	–	–
–15	**2,908**	–13	–	–	–
	47	–	–	–	–
	35	–	–	1	–1
	9	–	–	–	–
–1	**246**	–1	–	–	–
	30	–	–	–	–
	13	–	–	–	–
	12	–	–	–	–
	297	8	–	–8	–
	123	29	–6	–23	–
	29	–	–	–	–
	46	–	–	–	–
	15	–	–	–	–
–16	**4,399**				
		23	**–6**	**–31**	**–1**

The individual impacts from the first-time application of IFRS 9 are explained as follows:

a) As of January 1, 2018, amended impairment rules led to an increase in loss allowances from expected credit risks of financial assets in the amount of € 16 million (before taking deferred taxes into account). This increase related mainly to trade accounts receivable.

b) Debt instruments in the amount of € 35 million, which represented available-for-sale financial debt instruments under IAS 39, are now designated as subsequently measured at "fair value through other comprehensive income" in accordance with IFRS 9. As of January 1, 2018, this reclassification led to a transfer within gains/losses recognized in equity from available-for-sale financial assets to the fair value reserve for debt instruments in the amount of € –1 million.

c) Pursuant to IFRS 9, financial assets from contingent consideration with a carrying amount of € 277 million were now designated as debt instruments "subsequently measured at fair value through profit or loss". As of January 1, 2018, this reclassification led to a transfer within gains/losses recognized in equity from available-for-sale financial assets to retained earnings in the amount of € –1 million.

d) Financial assets in the amount of € 18 million that were previously classified as equity instruments under IAS 39 have been accounted for under IFRS 9 since January 1, 2018 as debt instruments measured at fair value through profit or loss. As of January 1, 2018, the reclassification of the closed investment funds led to a transfer of changes in the market value previously recognized through other comprehensive income to retained earnings in the amount of € 9 million.

e) Since January 1, 2018, equity instruments with a carrying amount of € 123 million have been recorded at fair value through other comprehensive income in the consolidated statement of comprehensive income. As of January 1, 2018, the first-time application of IFRS 9 resulted in a reclassification in the amount of € 23 million from available-for-sale financial assets recorded in gains/losses recognized in equity to the fair value reserve for equity instruments within retained earnings. Within retained earnings, an additional amount of € 29 million was reclassified from retained earnings/net retained profit to the fair value reserve for equity instruments due to impairment losses recognized in profit or loss in the past.

CHANGES IN ACCOUNTING POLICIES FROM IFRS 15 REVENUE FROM CONTRACTS WITH CUSTOMERS

IFRS 15 defines comprehensive principles for revenue recognition as well as for the provision of information about the nature, amount, timing and uncertainty of revenue from contracts with customers. Since the Group generates approximately 95% of its revenues from contracts on the sale of goods that usually have a simple structure and normally do not constitute long-term contracts, the first-time application of IFRS 15 only has minor effects on the Group's assets, liabilities, financial position, and financial performance.

Within the context of the introduction of IFRS 15, the Group made use of the option to apply the modified first-time application method and thus recognized the cumulative adjustments in retained earnings as of January 1, 2018. Comparative information for prior periods is not disclosed in accordance with IFRS 15. The changes to the accounting and measurement principles as well as the resulting adjustment effects from the first-time application of IFRS 15 and the impact on equity as of January 1, 2018 on the Consolidated Income Statement are as follows:

- Timing of transfer of control: Revenue is recognized in accordance with IFRS 15 as soon as control over the products is transferred to the customer. The assessment of the transfer of control must be made from the customer's point of view. In the case of sales of goods, these conditions are generally fulfilled at the Group after delivery of the goods to the customer. In the case of sales of equipment in the Life Science business sector, sales are normally recognized only after installation has been successfully completed to the extent that the installation requires specialized knowledge, does not represent a clear ancillary service and the relevant equipment can only be used by the customer once successfully set up. In the case of specific supplies of goods, the transfer of control and thus the timing of revenue recognition in accordance with IFRS 15 occur later than the transfer of risks and rewards within the meaning of IAS 18. As of January 1, 2018 inventories and contract liabilities for the supply of goods were recognized for which the related revenues were already recognized in 2017 in accordance with IAS 18. However, these revenues did not meet the criteria for revenue recognition under IFRS 15 as of the date of first-time application. As of January 1, 2018, this led to a reduction in retained earnings in the amount of € 20 million (before tax). The new rules are not expected to have a material impact on the consolidated income statement for fiscal 2018.

- Out-licensing of intellectual property: With the application of IFRS 15, out-licensing intellectual property may, in some cases, lead to earlier revenue recognition as compared with IAS 18 if the out-licensed intellectual property meets the right-to-use criteria (recognition of revenue at a point in time), rather than right-to-access criteria (recognition over a period of time) and the consideration is not paid in the form of sales- or usage-based royalties. As of January 1, 2018, contract liabilities for licenses were derecognized which would have led to a recognition of revenue at a point in time (at the inception of the license) on the basis of an assessment pursuant to IFRS 15. Accordingly, this led to an increase in retained earnings in the amount of € 17 million (before tax) as of the date of transition. In fiscal 2018, based on the existing contract backlog, these new rules will result in a decrease in revenues and in other operating income in the low single-digit million euro range.
- Long-term supply contracts with minimum purchase quantities (take-or-pay contracts): Occasionally, contracts with customers provide for minimum purchase quantities. In such cases, in accordance with IFRS 15, the expected transaction price attributable to the minimum purchase quantity has to be allocated to the individual supplies. However, under IAS 18, revenue is recognized in the amount of the invoiced selling price for the individual supplies. A contract asset was recognized as of January 1, 2018. This led to a corresponding increase in retained earnings by € 4 million (before tax). The impact of these new rules on the consolidated income statement for fiscal 2018 is negligible.
- Multiple-element arrangements: Revenues from multiple-element arrangements are recognized when the respective contract element is delivered or rendered. In the Life Science business sector, there are multiple-element arrangements with service elements to a minor extent. In future, the transaction price will have to be allocated in some cases in a different manner than under IAS 18. This led to an increase in retained earnings by € 1 million (before tax) as of January 1, 2018. The impact on the consolidated income statement for fiscal 2018 is negligible.

Moreover, the new rules of IFRS 15 in the following areas are of no or only of very minor relevance for the Group:

- variable consideration
- revenue recognition over time for long-term service contracts and customer-specific construction contracts
- consignment arrangements
- collaboration agreements
- costs of obtaining or fulfilling a contract
- principal-agent relationships
- bill-and-hold arrangements
- financing components
- barter transactions
- repurchase agreements
- separate performance obligations from transportation or other logistic services
- gross presentation of rights of return granted by recognition of an asset for expected physical returns by customers

The following table shows the consolidated income statement in the reporting period had IAS 18 been applied on an ongoing basis:

	Jan.–June 2018		
€ million	**IFRS 15 (as reported)**	Reconciliation to IAS 18	IAS 18
Net sales	**7,199**	**29**	**7,228**
Cost of sales	–2,581	–4	–2,585
Gross profit	**4,618**	**25**	**4,643**
Other operating income	285	1	286
Other income and expenses/financial result	–4,134	–	–4,134
Profit before income tax	**769**	**26**	**795**
Income tax	–192	–5	–197
Profit after tax of continuing operations	**577**	**21**	**598**
Profit after tax of discontinued operations	**16**	**–**	**16**
Profit after tax	**593**	**21**	**614**

EFFECTS OF THE FIRST-TIME APPLICATION OF IFRS 9 AND IFRS 15 ON THE CONSOLIDATED BALANCE SHEET

The following table shows the effects of the first-time application of IFRS 9 and IFRS 15 on the consolidated balance sheet.

ADJUSTMENTS TO THE CONSOLIDATED BALANCE SHEET AS OF DECEMBER 31, 2017 AND JANUARY 1, 2018

		IFRS 9		IFRS 9		IFRS 15		
€ million	**December 31, 2017 (as reported)**	Reclassification (mandatory retrospective adoption)	**December 31, 2017 (restated)/ January 1, 2018 (before adjustments)**	Reclassification	Remeasurement	Reclassification	Remeasurement	**Jan. 1, 2018 (after adjustments)**
Non-current assets								
Goodwill	13,582	–	13,582	–	–	–	–	13,582
Other intangible assets	8,317	–	8,317	–	–	–	–	8,317
Property, plant and equipment	4,512	–	4,512	–	–	–	–	4,512
Non-current financial assets	444	–	444	–	–	–	–	444
Other non-current assets	205	–	205	–	–	–	–	205
Deferred tax assets	1,106	–	1,106	–	1	–	–2	1,106
	28,166	**–**	**28,166**	**–**	**1**	**–**	**–2**	**28,165**
Current assets								
Inventories	2,632	–	2,632	–	–	–	5	2,637
Trade accounts receivable	2,923	–	2,923	–	–15	–4	–	2,904
Current financial assets	90	–	90	–	–	–	–	90
Other current assets	731	–	731		–1	1	4	735
Income tax receivables	490	–	490	–	–	–	–	490
Cash and cash equivalents	589	–	589	–	–	–	–	589
	7,455	**–**	**7,455**	**–**	**–16**	**–3**	**9**	**7,445**
Total assets	**35,621**	**–**	**35,621**	**–**	**–15**	**–3**	**7**	**35,610**
Total equity								
Equity capital	565	–	565	–	–	–	–	565
Reserves	12,357	1	12,358	32	–15	–	–	12,376
Gains/losses recognized in equity	1,082	–1	1,081	–32	–	–	–	1,048
Equity attributable to shareholders of Merck KGaA, Darmstadt, Germany	**14,003**	**–**	**14,003**	**–**	**–15**	**–**	**–**	**13,988**
Non-controlling interests	63	–	63	–	–	–	–	63
	14,066	**–**	**14,066**	**–**	**–15**	**–**	**–**	**14,051**
Non-current liabilities								
Provisions for pensions and other post-employment benefits	2,257	–	2,257	–	–	–	–	2,257
Other non-current provisions	788	–	788	–	–	–	–	788
Non-current financial liabilities	8,033	–	8,033	–	–	–	–	8,033
Other non-current liabilities	354	–	354	–	–	–	–17	337
Deferred tax liabilities	1,489	–	1,489	–	–	–	–	1,489
	12,919	**–**	**12,919**	**–**	**–**	**–**	**–17**	**12,903**
Current liabilities								
Current provisions	414	–	414	–	–	–	–	414
Current financial liabilities	2,790	–	2,790	–	–	–	–	2,790
Trade accounts payable/Refund liabilities	2,195	–	2,195	–	–	–3	–	2,192
Income tax liabilities	1,059	–	1,059	–	–	–	–	1,059
Other current liabilities	2,175	–	2,175	–	–	–	25	2,200
	8,635	**–**	**8,635**	**–**	**–**	**–3**	**25**	**8,656**
Total equity and liabilities	**35,621**	**–**	**35,621**	**–**	**–15**	**–3**	**7**	**35,610**

The following table shows the effects of the first-time application of IFRS 9 and IFRS 15 on reserves as of December 31, 2017 and January 1, 2018, respectively.

Effect on reserves as of December 31, 2017/January 1, 2018

€ million

December 31, 2017 (as reported)	**12,357**
IFRS 9 (after tax)	**1**
Hedge accounting (mandatory retrospective adoption)	1
Balance as of December 31, 2017 (restated)/January 1, 2018 (before adjustments)	**12,358**
IFRS 9 (before tax)	**16**
Reclassification of financial assets	32
Expected credit loss on trade accounts receivable and other debt instruments	–16
Tax effect IFRS 9	**2**
IFRS 15 (before tax)	**2**
Timing of transfer of control from the sale of goods	–20
Out-licensing of intellectual property	17
Take-or-pay arrangements	4
Multiple-element arrangements	1
Tax effect IFRS 15	**–2**
January 1, 2018 (restated)	**12,376**

Accounting standards to be applied for the first time in subsequent reporting periods

The following standards will take effect as of fiscal 2019:

- IFRS 16 "Leases"
- Amendment to IFRS 9 "Financial Instruments"

No rules that will take effect at a later point in time were applied in advance. With the exception of the provisions of IFRS 16, none of the other new standards are expected to have a material impact on the Group's financial position or results of operations. With regard to the expected effects of IFRS 16, reference is made to the Notes to the Consolidated Financial Statements of the Group for 2017.

Scope of consolidation

As of June 30, 2018, 316 (December 31, 2017: 314) companies were fully consolidated. No companies were consolidated using either the proportionate consolidation method or the equity method as of the balance sheet date. Since the beginning of 2018 one established and one acquired company have been consolidated for the first time. Eight previously immaterial companies were also included in the consolidated financial statements for the first time. Moreover, five companies have been deconsolidated since the beginning of the year due to mergers and three companies have been deconsolidated due to liquidation.

Agreement to divest the Consumer Health business

On April 18, 2018 the Group signed an agreement on the divestment of its global Consumer Health business to The Procter & Gamble Company, USA, (P&G). The selling price was € 3.4 billion in cash. The transaction will be executed through the sale of shareholdings in multiple subsidiaries of Merck KGaA, Darmstadt, Germany, as well as by way of various asset sales (asset deals). Apart from the Consumer Health business in 44 countries, the transaction also encompasses two production facilities operated by Consumer Health in Austria and India. Moreover, with respect to the transfer of the shareholding in Merck Ltd., India, a subsidiary of Merck KGaA, Darmstadt, Germany, the commercial operations of other business sectors will be transferred. The Group intends to reacquire these immediately thereafter in a separate transaction. As part of the divestment of the Consumer Health business, following the closing and subject to the information and consultation procedure with employee representatives, around 3,400 employees, primarily from Consumer Health, are to transfer to P&G. In addition to the divestment agreement, the Group and P&G will sign a number of manufacturing, supply and service agreements.

The transaction closing is expected for the end of the fourth quarter of 2018 subject to regulatory approvals and other customary closing conditions.

With the signing of the agreement to divest the Consumer Health business, in the opinion of the Executive Board the preconditions for classification as a discontinued operation pursuant to IFRS 5 were given. Until the transaction closing, the parts of the Consumer Health business being transferred to P&G will be presented in the consolidated balance sheet as assets held for sale and as liabilities directly related to assets held for sale. In particular, the intangible assets including the allocable goodwill, property plant and equipment, inventories and trade accounts receivable, trade accounts payable as well as provisions for pensions attributable to the Consumer Health business being divested were disclosed under the aforementioned items. The previous year's balance sheet has not been restated.

In accordance with IFRS 5, the financial figures presented in the consolidated income statement of this half-yearly financial report relate only to continuing operations unless expressly stated otherwise. Services to be provided by the Group in accordance with contractual agreements after the closing of the divestment transaction have already been taken into account in the presentation in accordance with IFRS 5 based on the knowledge and contractual status as of the balance sheet date. Accordingly, the consolidated income statement of continuing operations in the reporting period and in the comparable periods also includes income and expenses from manufacturing and distribution services provided to the discontinued operation. The earnings contributions from these services have already been allocated to continuing operations in the presentation in accordance with IFRS 5, as is currently believed to be the case after the transaction closing.

In accordance with IFRS 5, the cash flows from discontinued operations are shown under separate items in the consolidated cash flow statement. A detailed reconciliation of the reporting components published in previous periods to the reporting components adjusted in accordance with IFRS 5 can be found under "Adjustments of prior periods".

The financial figures of discontinued operations are presented below:

€ million	**Jan.-June 2018**	Jan.-June 2017
Net sales	**400**	**400**
Expenses	–374	–338
Gain on fair value measurement less costs to sell or on the disposal of discontinued operations	–	–
Profit/loss of discontinued operations before income tax	**26**	**62**
Income/expenses related to income tax on ordinary activities	–11	–16
Income/expenses related to income tax on the gain on fair value measurement less costs to sell or on the disposal of discontinued operations	–	–
Proift/loss of discontinued operations after income tax	**16**	**46**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany (net income)	12	45

Development agreement with the SFJ Pharmaceuticals Group, USA, to develop abituzumab

On May 2, 2018, the Group announced that it had signed an agreement with the SFJ Pharmaceuticals Group, USA, (SFJ) to develop abituzumab. Abituzumab is an investigational monoclonal antibody with potential for treating solid tumors such as colorectal cancer (mCRC). In a Phase II study of a patient population with KRAS wild-type mCRC, a subgroup of patients with overexpression of integrin αvβ6 was identified as potentially benefiting from treatment with abituzumab in combination with Erbitux® and chemotherapy. SFJ will finance and also be responsible for Phase II and III development of abituzumab. During clinical development, the Group will expense a pro rata share of the R&D costs for payments due to SFJ if the compound achieves marketing approval.

European Commission antitrust review procedure for the Sigma-Aldrich acquisition

In connection with the antitrust review procedure for the acquisition of Sigma-Aldrich on July 6, 2017, the Group received notice from the European Commission (EU Commission), in which the EU Commission informed the Group of its preliminary conclusion that the Group and Sigma-Aldrich allegedly transmitted incorrect and/or misleading information within the scope of the acquisition of Sigma-Aldrich. The EU Commission received registration of the merger on April 21, 2015 and granted clearance on June 15, 2015 subject to the condition that the Group and Sigma-Aldrich divest parts of the European solvents and inorganic chemicals businesses of Sigma-Aldrich in order to resolve antitrust concerns.

At the present time, an EU Commission administrative procedure is still pending that could lead to a fine being imposed by the EU Commission if the EU Commission sees its view as proven. The Group is entitled to legal recourse should a fine be imposed.

On the balance sheet date of June 30, 2018, the provision set up for impending fines amounting to a mid double-digit million euro amount in accordance with the estimations by the Executive Board.

Receipt of a milestone payment from BioMarin Pharmaceutical Inc., USA, from the sale of the rights to Peg-Pal

On October 1, 2015, the Group entered into an agreement with BioMarin Pharmaceutical Inc., USA, (BioMarin) to return the development and commercialization option for Peg-Pal, an investigational compound in clinical development for the potential treatment of the rare metabolic disorder phenylketonuria (PKU). The agreement took effect in early 2016. As compensation for returning the Peg-Pal rights, the Group received entitlement to milestone payments of up to € 125 million, which are linked to the achievement of defined development objectives.

On March 28, 2018, BioMarin announced that the European Medicines Agency (EMA) had accepted the regulatory submission of Peg-Pal for the treatment of PKU. Consequently, the Group became entitled to a milestone payment of € 50 million, which was recorded in the reporting period under operating income and allocated to the Healthcare business sector.

Segment Reporting

INFORMATION BY BUSINESS SECTOR[1]

	Healthcare				Life Science			
€ million	**Q2 2018**	Q2 2017	**Jan.–June 2018**	Jan.–June 2017	**Q2 2018**	Q2 2017	**Jan.–June 2018**	Jan.–June 2017
Net sales[2]	**1,584**	**1,587**	**3,019**	**3,118**	**1,543**	**1,495**	**3,030**	**2,977**
Operating result (EBIT)[3]	**155**	**326**	**350**	**727**	**254**	**221**	**527**	**457**
Depreciation and amortization	183	183	365	361	172	190	341	380
Impairment losses	–	–	2	2	16	–	16	3
Reversals of impairment losses	–	–69	–	–69	–	–	–	–
EBITDA[3]	**338**	**439**	**717**	**1,021**	**442**	**411**	**884**	**841**
Adjustments[3]	40	12	41	15	9	43	22	59
EBITDA pre (segment result)[2]	**379**	**450**	**758**	**1,036**	**452**	**454**	**906**	**900**
EBITDA pre margin (in % of net sales)[3]	23.9 %	28.4 %	25.1 %	33.2 %	29.3 %	30.4 %	29.9 %	30.2 %
Assets by business sector[4]			8,025	8,184			20,780	20,422
Liabilities by business sector[4]			–2,760	–2,985			–1,179	–1,254
Investments in property, plant and equipment[5]	67	80	155	157	55	54	120	126
Investments in intangible assets[5]	27	64	41	258	1	10	4	23
Net cash flows from operating activities	144	326	377	708	316	276	601	568
Business free cash flow[3]	232	433	528	776	269	423	644	704

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".
[2] Excluding intersegment sales.
[3] Not defined by International Financial Reporting Standards (IFRS).
[4] Figures for the reporting period ending on June 30, 2018; previous-year figures as of December 31, 2017.
[5] As reported in the consolidated cash flow statement.

Segmentation was performed in accordance with the internal organization and reporting structure of the Group valid as of 2018.

The fields of activity of the individual segments are described in detail in the section entitled "Fundamental Information about the Group" in the Combined Management Report for 2017.

The column "Corporate and Other" in Segment Reporting includes income and expenses, assets and liabilities as well as cash flows that cannot be directly allocated to the reportable segments presented. This relates mainly to central Group functions. Moreover, the column served the reconciliation to the Group numbers. The expenses and income from the financial result and from income taxes as well as cash flows were also disclosed under "Corporate and Other".

Apart from sales, the success of a segment is mainly determined by EBITDA pre (segment result) and business free cash flow. EBITDA pre and business free cash flow are performance indicators not defined by International Financial Reporting Standards. However, they represent important variables used to steer the Group. To permit a better understanding of operational performance, EBITDA pre excludes depreciation and amortization, impairment losses and reversals of impairment losses in addition to specific adjustments presented in the following. Among other things, business free cash flow is also used for internal target agreements.

In the first half of 2018, only the Life Science business sector generated intersegment sales. Transactions with the Healthcare and Performance Materials business sectors accounted for € 25 million (January-June 2017: € 20 million) and € 1 million (January-June 2017: € 1 million), respectively. Transfer prices for intragroup sales were determined on an arm's-length basis.

Performance Materials				Corporate and Other				Group			
Q2 2018	Q2 2017	**Jan.–June 2018**	Jan.–June 2017	**Q2 2018**	Q2 2017	**Jan.–June 2018**	Jan.–June 2017	**Q2 2018**	Q2 2017	**Jan.–June 2018**	Jan.–June 2017
587	**612**	**1,151**	**1,257**	**–**	**–**	**–**	**–**	**3,714**	**3,695**	**7,199**	**7,352**
131	**167**	**267**	**362**	**–148**	**–106**	**–249**	**–226**	**392**	**608**	**895**	**1,320**
59	57	116	118	16	9	29	18	430	438	850	878
1	7	1	7	–	–	–	–	17	7	19	13
–	–	–	–	–	–	–	–	–	–69	–	–69
192	**231**	**384**	**487**	**–132**	**–97**	**–221**	**–208**	**840**	**984**	**1,764**	**2,141**
4	8	7	15	26	19	50	31	80	82	121	120
196	**239**	**392**	**503**	**–106**	**–78**	**–171**	**–178**	**920**	**1,066**	**1,885**	**2,261**
33.4 %	39.1 %	34.0 %	40.0 %	–	–	–	–	24.8 %	28.9 %	26.2 %	30.8 %
		4,065	3,942			2,958	3,073			35,828	35,621
		–466	–484			–16,528	–16,832			–20,934	–21,554
23	19	51	47	22	19	69	43	168	172	396	372
3	4	4	5	4	4	5	3	34	81	55	289
107	172	355	551	–200	–255	–585	–530	367	520	748	1,297
143	239	280	472	–129	–90	–221	–199	514	1,006	1,230	1,753

The following table presents the reconciliation of EBITDA pre of all operating businesses to the profit before income tax of the Group:

€ million	**Q2 2018**	Q2 2017[1]	**Jan.–June 2018**	Jan.–June 2017[1]
EBITDA pre of the operating businesses[2]	**1,026**	**1,144**	**2,056**	**2,439**
Corporate and Other	–106	–78	–171	–178
EBITDA pre of the Group[2]	**920**	**1,066**	**1,885**	**2,261**
Depreciation/amortization/impairment losses/ reversals of impairment losses	–448	–376	–870	–821
Adjustments[2]	–80	–82	–121	–120
Operating result (EBIT)[2]	**392**	**608**	**895**	**1,320**
Financial result	–65	–66	–126	–134
Profit before income tax	**328**	**542**	**769**	**1,186**

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".
[2] Not defined by International Financial Reporting Standards (IFRS).

Business free cash flow was determined as follows:

€ million	**Q2 2018**	Q2 2017[1]	**Jan.–June 2018**	Jan.–June 2017[1]
EBITDA pre[2]	**920**	**1,066**	**1,885**	**2,261**
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–177	–191	–306	–317
Changes in inventories as reported in the consolidated balance sheet	–116	5	–185	–86
Changes in trade accounts receivable and receivables from royalties and licenses as reported in the consolidated balance sheet	–112	125	–163	–106
Business free cash flow[2]	**514**	**1,006**	**1,230**	**1,753**

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".
[2] Not defined by International Financial Reporting Standards (IFRS).

Adjustments comprise the following:

€ million	**Q2 2018**	Q2 2017[1]	**Jan.–June 2018**	Jan.–June 2017[1]
Restructuring costs	–11	–9	–16	–12
Integration costs/IT costs	–21	–31	–42	–57
Gains (+)/losses (–) on the divestment of businesses	–37	9	–39	8
Acquisition-related adjustments	–	–7	–1	–11
Other adjustments	–11	–45	–23	–48
Adjustments before impairment losses/ reversals of impairment losses[2]	**–80**	**–82**	**–121**	**–120**
Impairment losses	–17	–9	–19	–13
Reversals of impairment losses	–	69	–	69
Adjustments (total)[2]	**–97**	**–22**	**–140**	**–63**

[1] Previous year's figures have been adjusted, see "Adjustments of prior periods".
[2] Not defined by International Financial Reporting Standards (IFRS).

The integration and IT costs of the current fiscal year amounting to € 42 million (January-June 2017: € 57 million) resulted mainly from investments in ERP systems as well as from the integration of the Sigma-Aldrich Corporation, USA. The losses from discontinued operations amounting to € 39 million (January-June 2017: profit of € 8 million) arose largely in connection with the divestment of the Biosimilars business activities.

Other adjustments amounting to € 23 million (January-June 2017: € 48 million) are mainly attributable to expenses for the company's 350th anniversary.

The following tables present a more detailed breakdown of net sales by business sector. Further income was reported within other operating income. This relates in particular to royalty and license income as well as income from upfront and milestone payments not generated in the course of ordinary business.

In some cases, IFRS 15 was applied analogously to the accounting treatment of these transactions.

Healthcare

€ million	Q2 2018	in %	Jan.–June 2018	in %
Net sales by nature				
Goods	1,543	98 %	2,948	98 %
Devices/hardware	1	–	2	–
Services	20	1 %	33	1 %
Commission income	4	–	7	–
Profit share income	16	1 %	30	1 %
Total	**1,584**	**100 %**	**3,019**	**100 %**
Net sales by major product lines/products				
Oncology	236	15 %	462	15 %
thereof: Erbitux®	*203*	*13 %*	*403*	*13 %*
thereof: Bavencio®	*17*	*1 %*	*29*	*1 %*
Neurology & Immunology	403	25 %	765	25 %
thereof: Rebif®	*383*	*24 %*	*732*	*24 %*
thereof: Mavenclad®	*20*	*1 %*	*33*	*1 %*
Fertility	301	19 %	566	19 %
thereof: Gonal-f®	*184*	*12 %*	*350*	*12 %*
General Medicine & Endocrinology	580	37 %	1,101	36 %
thereof: Glucophage®	*180*	*11 %*	*329*	*11 %*
thereof: Concor®	*120*	*8 %*	*219*	*7 %*
thereof: Euthyrox®	*93*	*6 %*	*174*	*6 %*
thereof: Saizen®	*61*	*4 %*	*117*	*4 %*
Other	64	4 %	125	5 %
Total	**1,584**	**100 %**	**3,019**	**100 %**
Net sales by region (customer location)				
Europe	552	35 %	1,094	36 %
North America	377	24 %	703	23 %
Asia-Pacific	375	24 %	703	23 %
Latin America	180	11 %	326	11 %
Middle East and Africa	102	6 %	193	7 %
Total	**1,584**	**100 %**	**3,019**	**100 %**

Life Science

€ million	Q2 2018	in %	Jan.–June 2018	in %
Net sales by nature				
Goods	1,373	89 %	2,687	89 %
Devices/hardware	67	4 %	149	5 %
Services	100	7 %	191	6 %
License income	2	–	3	–
Total	**1,543**	**100 %**	**3,030**	**100 %**
Net sales by major product lines				
Process Solutions	612	40 %	1,195	39 %
Research Solutions	517	33 %	1,026	34 %
Applied Solutions	414	27 %	809	27 %
Total	**1,543**	**100 %**	**3,030**	**100 %**
Net sales by region (customer location)				
Europe	534	35 %	1,060	35 %
North America	534	35 %	1,040	34 %
Asia-Pacific	387	25 %	758	25 %
Latin America	66	4 %	129	4 %
Middle East and Africa	22	1 %	43	2 %
Total	**1,543**	**100 %**	**3,030**	**100 %**

Performance Materials

€ million	Q2 2018	in %	Jan.–June 2018	in %
Net sales by nature				
Goods	586	100 %	1,149	100 %
Services	–	–	1	–
Total	**587**	**100 %**	**1,151**	**100 %**
Net sales by region (customer location)				
Europe	53	9 %	114	10 %
North America	55	9 %	108	9 %
Asia-Pacific	467	80 %	906	79 %
Latin America	9	2 %	17	2 %
Middle East and Africa	2	–	5	–
Total	**587**	**100 %**	**1,151**	**100 %**

Earnings per share

Basic earnings per share are calculated by dividing the profit after tax attributable to the shareholders of Merck KGaA, Darmstadt, Germany, by the weighted average number of theoretical shares outstanding. The calculation of the theoretical number of shares is based on the fact that the general partner's capital is not represented by shares. The share capital of € 168 million was divided into 129,242,252 shares. Accordingly, the general partner's capital of € 397 million was divided into 305,535,626 theoretical shares. Overall, the total capital thus amounted to € 565 million or 434,777,878 theoretical shares outstanding. The weighted average number of shares was likewise 434,777,878 in the first half of 2018.

The calculation of diluted earnings per share had to take into account a potential dilution effect that arose from the free grant of shares of Merck KGaA, Darmstadt, Germany, to eligible employees on the occasion of the 350th anniversary of the company. The shares required for this were purchased on the market. Pursuant to IAS 33, this led to an increase of 35,849 in the weighted average (diluted) number of shares to 434,813,727 shares. However, this did not lead to an arithmetical dilution effect on the indicator so that diluted earnings per share corresponded to basic earnings per share.

Earnings per share attributable to discontinued operations resulted from the agreed divestment of the Consumer Health business (see "Agreement to divest the Consumer Health business").

Information on the measurement of fair value

The impacts resulting from the reclassification and measurement of financial assets with the first-time application of IFRS 9 are presented under "Accounting and measurement principles".

The following table presents the carrying amounts and the fair values of the individual financial assets and liabilities as of June 30, 2018 for each individual financial instrument class pursuant to IFRS 9:

	Carrying amount June 30, 2018			Fair value June 30, 2018[1]			
€ million	Short-term	Long-term	Total	Fair value determined by official prices and quoted market values (Level 1)	Fair value determined using inputs observable in the market (Level 2)	Fair value determined using inputs unobservable in the market (Level 3)	Total
Financial assets							
Subsequent measurement at amortized cost							
Cash and cash equivalents	609	–	609				
Trade accounts receivable (excluding leasing receivables)	3,016	–	3,016				
Other debt instruments	153	12	166				
Subsequent measurement at fair value through profit or loss							
Equity instruments	–	1	1	–	–	1	1
Contingent consideration	–	262	262	–	–	262	262
Other debt instruments	–	25	25	2	–	23	25
Derivatives not in a hedging relationship	55	58	113	–	67	46	113
Subsequent measurement at fair value through other comprehensive income							
Equity instruments	–	123	123	15	–	108	123
Debt instruments	22	8	30	30	–	–	30
Derivatives in a hedging relationship	10	1	11	–	11	–	11
Leasing receivables (to be measured in accordance with IAS 17)[2]	1	–	1				
Total	**3,866**	**491**	**4,357**	**47**	**78**	**440**	**565**
Financial liabilities							
Subsequent measurement at amortized cost							
Trade accounts payable	2,074	–	2,074				
Other financial liabilities	3,676	8,025	11,701	7,270	4,616	–	11,886
Subsequent measurement at fair value through profit or loss							
Contingent consideration	–	5	5	–	–	5	5
Derivatives not in a hedging relationship	11	71	82	–	82	–	82
Derivatives in a hedging relationship	54	23	77	–	77	–	77
Leasing liabilities (to be measured in accordance with IAS 17)[2]	2	1	3				
Total	**5,817**	**8,125**	**13,942**	**7,270**	**4,775**	**5**	**12,050**

[1] The simplification option under IFRS 7.29(a) was used for disclosures of certain fair values.

[2] Measurements within the scope of IAS 17 are exempted from the requirements of IFRS 13 (IFRS 13.6(b)).

The following table presents the carrying amounts and the fair values for each individual class of financial instrument as of December 31, 2017 pursuant to IAS 39:

		Subsequent measurement according to IAS 39					
€ million	Carrying amount Dec. 31, 2017	Amortized cost	At cost	Fair value	Carrying amount according to IAS 17[2]	Non-financial items	Fair value Dec. 31, 2017[1]
Assets							
Cash and cash equivalents	589	589	–	–	–	–	
Current financial assets	90	47	–	44	–	–	
Held for trading (non-derivative)	–	–	–	–	–	–	–
Derivatives not in a hedging relationship	9	–	–	9	–	–	9
Held to maturity	–	–	–	–	–	–	
Loans and receivables	47	47	–	–	–	–	
Available for sale	35	–	–	35	–	–	35
Derivatives in a hedging relationship	–	–	–	–	–	–	–
Trade accounts receivable	2,923	2,923	–	–	–	–	
Loans and receivables	2,923	2,923	–	–	–	–	
Other current and non-current assets	936	276	–	92	–	568	
Derivatives not in a hedging relationship	46	–	–	46	–	–	46
Loans and receivables	276	276	–	–	–	–	
Derivatives in a hedging relationship	45	–	–	45	–	–	45
Non-financial items	568	–	–	–	–	568	
Non-current financial assets	444	12	4	429	–	–	
Derivatives not in a hedging relationship	13	–	–	13	–	–	13
Held to maturity	–	–	–	–	–	–	
Loans and receivables	12	12	–	–	–	–	
Available for sale	420	–	4	416	–	–	416
Derivatives in a hedging relationship	–	–	–	–	–	–	–
Liabilities							
Current and non-current financial liabilities	10,823	10,707	–	113	4	–	
Derivatives not in a hedging relationship	113	–	–	113	–	–	113
Other financial liabilities	10,707	10,707	–	–	–	–	11,074
Derivatives in a hedging relationship	–	–	–	–	–	–	–
Liabilities from finance leases	4	–	–	–	4	–	
Trade accounts payable	2,195	2,195	–	–	–	–	
Other financial liabilities	2,195	2,195	–	–	–	–	
Other current and non-current liabilities	2,529	1,059	–	43	–	1,427	
Derivatives not in a hedging relationship	–	–	–	–	–	–	–
Other financial liabilities	1,059	1,059	–	–	–	–	
Derivatives in a hedging relationship	43	–	–	43	–	–	43
Non-financial items	1,427	–	–	–	–	1,427	

[1] The simplification option under IFRS 7.29(a) was used for disclosures of certain fair values.

[2] Measurements within the scope of IAS 17 are exempted from the requirements of IFRS 13 (IFRS 13.6(b)).

The fair value of Level 1 financial assets amounted to € 47 million on June 30, 2018 (December 31, 2017: € 35 million). The fair value of Level 1 financial liabilities amounted to € 7,270 million on June 30, 2018 (December 31, 2017: € 7,719 million).

The fair value of Level 1 financial assets and financial liabilities is based on the official quotes and market prices on the balance sheet date. Level 1 financial assets mainly comprised shares and bonds held by the company. Level 1 financial liabilities comprised bonds issued by the Group.

The determination of the fair value of Level 2 and 3 financial assets and financial liabilities is presented in the following table:

	Fair values						
	June 30, 2018		Dec. 31, 2017				
€ million							
Fair value determined using inputs observable in the market (Level 2)	Financial assets	Financial liabilities	Financial assets	Financial liabilities	**Financial instruments therein**	**Description of the measurement technique**	**Main input factors used to determine fair values**
Derivatives (with and without hedging relationships)	66	89	54	69	Forward exchange transactions and currency options	Use of recognized actuarial methods	Market observable spot and forward rates and exchange rate volatilities
	12	70	13	86	Interest rate swaps	Use of standard market valuation models	Interest rate curves available in the market
Other other financial liabilities (subsequent measurement at amortized cost)		4,616		3,355	Liabilities due to banks and other loan liabilities	Discounting of future cash flows	Market observable interest rates
Total	**78**	**4,775**	**67**	**3,511**			
Fair value determined using inputs unobservable in the market (Level 3)							
Equity instruments	8		6		Equity interests in unlisted companies	Discounting of expected future cash flows (discounted cash flow method)	Expected cash flows from recent business planning, average cost of capital, expected long-term growth rate
	99		96			Derived from observable prices within the scope of equity refinancing sufficiently close to the balance sheet date	Transaction prices observed sufficiently close to the balance sheet date
	1		–			Cost-based determination	Acquisition cost
Derivatives (not in a hedging relationship)	46	–	46	–	Option on equity instruments in an unlisted company	Use of recognized option pricing models	Probabilities of regulatory and commercial events, milestone payments, discount rates
Contingent consideration	262	5	277	3	Contingent consideration from the sale and purchase of businesses or shares in corporations	Discounting of probability-weighted future milestone payments and license fees	Sales planning, milestone payments, probability of regulatory and commercial events, discount rates
Other debt instruments	20		18		Interests in unlisted funds	Taking into account the fair values of the companies in which the funds are invested	Fair values of the fund interests
Convertible bond	3		–		Bond with embedded settlement option for equity in a private company	Use of standard market valuation models	Market observable interest rates
Total	**440**	**5**	**443**	**3**			

The planning periods used to determine the fair value of equity investments in unlisted companies ranged from one to nine years. Cash flows for periods in excess of this are included in the terminal value calculation using long-term growth rates of between 0.5% and 1.5% (December 31, 2017: 0.5%). The applied average cost of capital (after tax) was 7.0% on June 30, 2018 (December 31, 2017: 7.0%).

To calculate the fair values of contingent consideration, the expected future payment in the form of milestone payments and license fees were weighted using the probability of occurrence and discounted using discount rates (after tax) of 6.3% to 7.2% (December 31, 2017: 6.5% to 7.6%).

The changes in financial assets and financial liabilities for each of the individual categories of financial instruments allocated to Level 3 and measured at fair value were as follows:

		Financial assets						Financial liabilities
		Subsequent measurement at fair value through profit or loss				Subsequent measurement at fair value through other comprehensive income		Subsequent measurement at fair value through profit or loss
€ million	Total	Equity instruments	Debt instruments	Contingent consideration	Derivatives without hedging relationships	Equity instruments		Contingent consideration
Net carrying amounts on Dec. 31, 2017 (IAS 39)	**440**	**18**	**–**	**277**	**46**	**102**		**–3**
Adjustment from the first-time application of IFRS 9	7	–17	21	–	–	3		–
Net carrying amounts on Jan. 1, 2018 (IFRS 9)	**447**	**1**	**21**	**277**	**46**	**105**		**–3**
Additions as a result of acquisitions/divestments	21	–	–	8	–	13		–
Transfers into Level 3 out of Level 1/Level 2	–	–	–	–	–	–		–
Fair value changes								
Gains (+)/losses (–) recognized in profit or loss	–23	–	1	–23	–	–		–1
of which other operating result	–35	–	–	–34	–	–		–1
of which attributable to assets/liabilities held as of the balance sheet date	–35	–	–	–34	–	–		–1
of which financial result	12	–	1	11	–	–		–
of which attributable to assets/liabilities held as of the balance sheet date	12	–	1	11	–	–		–
Gains (+)/losses (–) recognized in other comprehensive income	19	–	–	–	–	19		–
Currency translation difference	1	–	1	–	–	–		–
Disposals due to divestments	–29	–	–	–	–	–29		–
Transfers out of Level 3 into Level 1/Level 2	–	–	–	–	–	–		–
Net carrying amounts on June 30, 2018 (IFRS 9)	**435**	**1**	**23**	**262**	**46**	**108**		**–5**

		Financial assets			Financial liabilities	
€ million	Total	Available-for-sale financial assets	of which: Contingent consideration	Derivatives without hedging relationships	Other liabilities	of which: Contingent consideration
Net carrying amounts on Jan. 1, 2017 (IAS 39)	**74**	**75**	**50**	**–**	**–1**	**–1**
Additions as a result of acquisitions/divestments	302	258	223	46	–2	–2
Transfers to Level 3 from previous measurement at cost/Level 1/Level 2	68	68	–	–	–	–
Fair value changes						
Gains (+) / losses (–) recognized in profit or loss	–6	–6	5	–	–	–
of which other operating result	–14	–14	–3	–	–	–
of which attributable to assets/liabilities held as of the balance sheet date	–14	–14	–3	–	–	–
of which financial result	8	8	8	–	–	–
of which attributable to assets/liabilities held as of the balance sheet date	8	8	8	–	–	–
Gains (+)/losses (–) recognized in other comprehensive income	5	5	–1	–	–	–
Currency translation difference	–2	–2	–	–	–	–
Disposals	–1	–1	–	–	–	–
Transfers out of Level 3 into Level 1/Level 2	–	–	–	–	–	–
Net carrying amounts on Dec. 31, 2017 (IAS 39)	**440**	**397**	**277**	**46**	**–3**	**–3**

The Level 3 disposals in the reporting period related mainly to the divestment of an equity interest held by Merck Ventures B.V., a subsidiary of Merck KGaA, Darmstadt, Germany. Gains and losses from Level 3 assets recognized in equity were reported in the consolidated statement of comprehensive income under fair value adjustments related to equity instruments.

The most significant contingent consideration is represented by the future purchase price entitlement from the divestment of the Biosimilars business activities (carrying amount as of June 30, 2018: € 200 million/December 31, 2017: € 228 million). If, in determining the fair value of this contingent consideration as of June 30, 2018, the probability of approval or the discount rate of the three most important development programs had been estimated to be lower or higher to the extent described below, this would have led to the following valuation changes with corresponding effects on profit before tax:

		Change in probability of marketing authorization		
€ million		–10%	unchanged	10%
Change in the discount rate	6.0%	–32	3	39
	unchanged (6.3%)	–35	0	35
	7.0%	–40	–7	26

A change in the main input parameters used to measure other contingent consideration would not have had a material impact on profit before tax as the corresponding calculations are based on a limited planning horizon and the determination of the fair values does not include the calculation of a terminal value.

Related-party disclosures

As of June 30, 2018, there were liabilities by Merck Financial Services GmbH, Darmstadt, Germany, a subsidiary of Merck KGaA, Darmstadt Germany, to E. Merck KG, Darmstadt, Germany, in the amount of € 1,031.4 million. Moreover, as of June 30, 2018, Merck & Cie, Switzerland, a subsidiary of Merck KGaA, Darmstadt, Germany, had receivables from E. Merck KG, Darmstadt, Germany, in the amount of € 4.5 million. Merck KGaA, Darmstadt, Germany, had receivables from E. Merck Beteiligungen KG, Darmstadt, Germany, in the amount of € 1.4 million and Merck Financial Services GmbH, Darmstadt, Germany, a subsidiary of Merck KGaA, Darmstadt Germany, had receivables from Merck Pensionstreuhandverein e.V., Darmstadt, Germany, amounting to € 0.1 million. The balances result mainly from the profit transfers by Merck & Cie, Switzerland, a subsidiary of Merck KGaA, Darmstadt, Germany, to E. Merck KG, Darmstadt, Germany, as well as the reciprocal profit transfers between Merck KGaA, Darmstadt, Germany, and E. Merck KG, Darmstadt, Germany. They included financial payables of € 1,031.4 million and financial receivables of € 0.1 million, which were subject to standard market interest rates. Neither collateral nor guarantees existed for any of the balances either in favor or to the disadvantage of the Group.

From January to June 2018, Merck KGaA, Darmstadt, Germany, performed services for E. Merck KG, Darmstadt, Germany, with a value of € 0.5 million.

As of June 30, 2018, receivable and payables vis-à-vis non-consolidated subsidiaries amounted to € 6.9 million and € 6.7 million, respectively. From January to June 2018, the Group generated income of € 0.3 million with these companies.

Subsequent Events

Subsequent to the balance sheet date, no events of special importance occurred that could have a material impact on the net assets, financial position or results of operations.

Adjustments of prior periods

GROUP

€ million	Q1 2017 as reported	Q1 2017 IFRS 9 adjustment	Q1 2017 IFRS 5 adjustment	Q1 2017 restated	Q2 2017 as reported	Q2 2017 IFRS 9 adjustment	Q2 2017 IFRS 5 adjustment	Q2 2017 restated	Jan.–June 2017 as reported	Jan.–June 2017 IFRS 9 adjustment	Jan.–June 2017 IFRS 5 adjustment	Jan.–June 2017 restated
CONSOLIDATED INCOME STATEMENT												
Net sales	**3,861**	**–**	**–203**	**3,657**	**3,891**	**–**	**–196**	**3,695**	**7,752**	**–**	**–400**	**7,352**
Cost of sales	–1,296	–	54	–1,242	–1,331	–	57	–1,274	–2,627	–	110	–2,516
Gross profit	**2,565**	**–**	**–150**	**2,415**	**2,560**	**–**	**–140**	**2,421**	**5,125**	**–**	**–289**	**4,836**
Marketing and selling expenses	–1,168	–	89	–1,078	–1,217	–	94	–1,124	–2,385	–	183	–2,202
Administration expenses	–242	–	8	–234	–257	–	9	–248	–499	–	17	–482
Research and development costs	–495	–	7	–488	–521	–	8	–513	–1,016	–	15	–1,001
Other operating income	271	–	–4	267	253	–	1	254	523	–	–3	521
Other operating expenses	–176	–	7	–169	–190	–	8	–182	–366	–	15	–351
Operating result (EBIT)[2]	**755**	**–**	**–42**	**713**	**628**	**–**	**–20**	**608**	**1,382**	**–**	**–62**	**1,320**
Financial result	–71	2	–	–69	–71	5	–	–66	–142	7	–	–134
Profit before income tax	**684**	**2**	**–42**	**644**	**557**	**5**	**–20**	**542**	**1,241**	**7**	**–62**	**1,186**
Income taxes	–161	–	11	–151	–134	–1	5	–130	–295	–1	16	–280
Profit after tax from continuing operations	**523**	**2**	**–31**	**493**	**423**	**4**	**–15**	**412**	**946**	**6**	**–46**	**906**
Profit after tax from discontinued operations	**–**	**–**	**31**	**31**	**–**	**–**	**15**	**15**	**–**	**–**	**46**	**46**
Profit after tax	**523**	**2**	**–**	**524**	**423**	**4**	**–**	**427**	**946**	**6**	**–**	**952**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany, (net income)	521	2	–	523	421	4	–	426	943	6	–	948
of which: non-controlling interests	2	–	–	2	2	–	–	2	3	–	–	3
Earnings per share in € (basic/diluted)												
attributable to continuing operations	1.20	–	–0.07	1.13	0.97	0.01	–0.03	0.95	2.17	0.01	–0.10	2.08
attributable to discontinued operations	–	–	0.07	0.07	–	–	0.03	0.03	–	–	0.10	0.10
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME												
Profit after tax	**523**	**2**	**–**	**524**	**423**	**4**	**–**	**427**	**946**	**6**	**–**	**952**
Items of other comprehensive income that may be reclassified to profit or loss in subsequent periods:												
Costs of cash flow hedge accounting												
Fair value adjustments	–	–2	–	–2	–	–5	–	–5	–	–7	–	–7
Tax effect	–	–	–	–	–	1	–	1	–	1	–	1
Other comprehensive income	**–92**	**–2**	**–**	**–94**	**–981**	**–4**	**–**	**–985**	**–1,073**	**–6**	**–**	**–1,079**
Comprehensive income	**431**	**–**	**–**	**431**	**–558**	**–**	**–**	**–558**	**–127**	**–**	**–**	**–127**
CONSOLIDATED CASH FLOW STATEMENT												
Profit after tax	**523**	**2**	**–**	**524**	**423**	**4**	**–**	**427**	**946**	**6**	**–**	**952**
Other non-cash income and expenses	–2	–2	–	–4	2	–4	–	–2	–	–6	–	–6
Net cash flows from operating activities	**777**	**–**	**–**	**777**	**520**	**–**	**–**	**520**	**1,297**	**–**	**–**	**1,297**

[1] The IFRS 5 adjustments related to the Healthcare business sector as well as Corporate and Other; the impact on Corporate and Other has not been presented for reasons of immateriality.

[2] Not defined by International Financial Reporting Standards (IFRS).

Q3 2017				Jan.–Sept. 2017				Q4 2017				Jan.–Dec. 2017			
as reported	IFRS 9 adjust-ment	IFRS 5 adjust-ment	restated	as reported	IFRS 9 adjust-ment	IFRS 5 adjust-ment	restated	as reported	IFRS 9 adjust-ment	IFRS 5 adjust-ment	restated	as reported	IFRS 9 adjust-ment	IFRS 5 adjust-ment	restated
3,727	**–**	**–210**	**3,517**	**11,479**	**–**	**–610**	**10,869**	**3,848**	**–**	**–200**	**3,648**	**15,327**	**–**	**–809**	**14,517**
–1,299	–	62	–1,237	–3,925	–	172	–3,753	–1,394	–	77	–1,317	–5,320	–	249	–5,071
2,428	**–**	**–148**	**2,280**	**7,553**	**–**	**–438**	**7,116**	**2,454**	**–**	**–123**	**2,331**	**10,007**	**–**	**–560**	**9,446**
–1,135	–	84	–1,051	–3,520	–	267	–3,252	–1,182	–	86	–1,096	–4,702	–	353	–4,349
–220	–	9	–210	–719	–	26	–693	–211	–	5	–206	–930	–	31	–899
–545	–	8	–537	–1,561	–	23	–1,538	–580	–	10	–570	–2,140	–	32	–2,108
544	–	–6	538	1,067	–	–8	1,059	160	–	–6	153	1,227	–	–14	1,212
–172	–	14	–158	–538	–	29	–509	–399	–	28	–371	–937	–	56	–880
901	**–**	**–39**	**862**	**2,283**	**–**	**–101**	**2,183**	**241**	**–**	**–1**	**240**	**2,525**	**–**	**–102**	**2,423**
–65	–1	1	–65	–207	6	1	–200	–93	–1	–	–94	–300	5	1	–294
836	**–1**	**–38**	**797**	**2,076**	**6**	**–100**	**1,983**	**148**	**–1**	**–1**	**146**	**2,224**	**5**	**–101**	**2,129**
–187	–	10	–177	–482	–1	26	–457	868	–	18	886	386	–1	43	428
649	**–1**	**–28**	**620**	**1,595**	**5**	**–74**	**1,526**	**1,016**	**–1**	**17**	**1,032**	**2,610**	**4**	**–57**	**2,557**
–	**–**	**28**	**28**	**–**	**–**	**74**	**74**	**–**	**–**	**–17**	**–17**	**–**	**–**	**57**	**57**
649	**–1**	**–**	**648**	**1,595**	**5**	**–**	**1,600**	**1,016**	**–1**	**–**	**1,015**	**2,610**	**4**	**–**	**2,615**
645	–1	–	644	1,587	5	–	1,592	1,013	–1	–	1,012	2,600	4	–	2,605
4	–	–	4	7	–	–	7	3	–	–	3	10	–	–	10
1.48	–	–0.06	1.42	3.65	0.01	–0.16	3.50	2.33	–	0.04	2.37	5.98	0.01	–0.12	5.87
–	–	0.06	0.06	–	–	0.16	0.16	–	–	–0.04	–0.04	–	–	0.12	0.12
649	**–1**	**–**	**648**	**1,595**	**5**	**–**	**1,600**	**1,016**	**–1**	**–**	**1,015**	**2,610**	**4**	**–**	**2,615**
–	1	–	1	–	–6	–	–6	–	1	–	1	–	–5	–	–5
–	–	–	–	–	1	–	1	–	–	–	–	–	1	–	1
–622	**1**	**–**	**–621**	**–1,695**	**–5**	**–**	**–1,700**	**–148**	**1**	**–**	**–147**	**–1,843**	**–4**	**–**	**–1,847**
26	**–**	**–**	**26**	**–100**	**–**	**–**	**–100**	**868**	**–**	**–**	**868**	**767**	**–**	**–**	**767**
649	**–1**	**–**	**648**	**1,595**	**5**	**–**	**1,600**	**1,016**	**–1**	**–**	**1,015**	**2,610**	**4**	**–**	**2,615**
–3	1	–	–2	–3	–5	–	–8	–	1	–	1	–3	–4	–	–7
758	**–**	**–**	**758**	**2,055**	**–**	**–**	**2,055**	**641**	**–**	**–**	**642**	**2,696**	**–**	**–**	**2,696**

GROUP

€ million	Q1 2017 as reported	Q1 2017 IFRS 5 adjustment	Q1 2017 restated	Q2 2017 as reported	Q2 2017 IFRS 5 adjustment	Q2 2017 restated	Jan.–June 2017 as reported	Jan.–June 2017 IFRS 5 adjustment	Jan.–June 2017 restated
RECONCILIATION OF EBIT[1] TO EBITDA PRE[1]									
Operating result (EBIT)[1]	**755**	**–42**	**713**	**628**	**–20**	**608**	**1,382**	**–62**	**1,320**
Depreciation/amortization/impairment losses/reversals of impairment losses	448	–3	445	380	–4	376	828	–7	821
EBITDA[1]	**1,203**	**–45**	**1,157**	**1,008**	**–24**	**984**	**2,210**	**–69**	**2,141**
Restructuring costs	4	–	4	8	–	9	12	–	12
Integration costs/IT costs	26	–	26	31	–	31	58	–	57
Gains (–)/losses (+) from divested businesses	2	–	2	–9	–	–9	–8	–	–8
Acquisition-related adjustments	3	–	3	7	–	7	11	–	11
Other adjustments	3	–	3	48	–3	45	51	–3	48
EBITDA pre[1]	**1,240**	**–45**	**1,195**	**1,093**	**–27**	**1,066**	**2,334**	**–72**	**2,261**
BUSINESS FREE CASH FLOW[1]									
EBITDA pre[1]	1,240	–45	1,195	1,093	–27	1,066	2,334	–72	2,261
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–129	3	–126	–195	4	–191	–324	7	–317
Changes in inventories	–98	7	–91	6	–	5	–93	7	–86
Changes in trade accounts receivable as well as receivables from licenses	–254	23	–231	133	–8	125	–121	15	–106
Elimination first-time consolidation BioControl Systems	–	–	–	–	–	–	–	–	–
Business free cash flow[1]	**760**	**–12**	**747**	**1,036**	**–31**	**1,006**	**1,796**	**–43**	**1,753**

[1] Not defined by International Financial Reporting Standards (IFRS).

Q3 2017			Jan.–Sept. 2017			Q4 2017			Jan.–Dec. 2017		
as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated
901	**–39**	**862**	**2,283**	**–101**	**2,183**	**241**	**–1**	**240**	**2,523**	**–101**	**2,423**
419	–4	415	1,247	–11	1,236	511	–6	505	1,758	–17	1,741
1,320	**–42**	**1,277**	**3,530**	**–111**	**3,419**	**752**	**–7**	**745**	**4,282**	**–118**	**4,164**
16	–	16	28	–	28	56	–23	33	84	–23	61
37	–	36	94	–1	94	94	–	94	189	–1	188
–313	–	–313	–321	–	–321	11	–	11	–310	–	–310
1	–	1	12	–	12	51	–	51	63	–	63
15	–10	5	66	–13	53	40	–12	28	106	–26	81
1,076	**–53**	**1,023**	**3,410**	**–125**	**3,285**	**1,005**	**–43**	**962**	**4,414**	**–168**	**4,246**
1,076	–53	1,023	3,410	–125	3,285	1,005	–43	962	4,414	–168	4,246
–225	6	–219	–549	13	–535	–499	22	–476	–1,047	35	–1,012
4	6	10	–89	13	–76	66	–8	58	–23	5	–18
55	20	75	–66	36	–30	42	–34	8	–24	2	–22
–	–	–	–	–	–	–2	–	–2	–2	–	–2
910	**–20**	**890**	**2,706**	**–63**	**2,643**	**612**	**–62**	**550**	**3,318**	**–125**	**3,193**

GROUP

€ million	Q1 2018 as reported	Q1 2018 IFRS 5 adjustment	Q1 2018 restated
RESULTS OF OPERATIONS			
Net sales	**3,691**	**–205**	**3,486**
Cost of sales	–1,320	60	–1,260
Gross profi	**2,371**	**–145**	**2,226**
Marketing and selling expenses	–1,106	86	–1,020
Administration expenses	–228	7	–221
Research and development costs	–514	7	–508
Expenses (net) from impairment losses, and reversals of impairment losses on financial assets	–3	–	–2
Other operating income	157	–3	154
Other operating expenses	–158	31	–127
Operating result (EBIT)[1]	**518**	**–15**	**502**
Financial result	–62	1	–61
Profit before income taxes	**456**	**–15**	**441**
Taxes on income	–114	6	–108
Profit after tax from continuing operations	**342**	**–9**	**333**
Profit after tax from discontinued operations	**–**	**9**	**9**
Profit after tax	**342**	**–**	**342**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany (net income)	341	–	341
of which: non-controlling interests	1	–	1
Earnings per share in € (basic/diluted)			
attributable to continuing operations	0.78	–0.02	0.76
attributable to discontinued operations	–	0.02	0.02

[1] Not defined by International Financial Reporting Standards (IFRS).

GROUP

€ million	Q1 2018 as reported	Q1 2018 IFRS 5 adjustment	Q1 2018 restated
RECONCILIATION OF EBIT[1] TO EBITDA PRE[1]			
Operating result (EBIT)[1]	**518**	**–15**	**502**
Depreciation/amortization/impairment losses/reversals of impairment losses	428	–6	422
EBITDA[1]	**946**	**–21**	**924**
Restructuring costs	7	–2	6
Integration costs/IT costs	21	–	21
Gains (–)/losses (+) from divested businesses	2	–	2
Acquisition-related adjustments	1	–	1
Other adjustments	39	–27	12
EBITDA pre[1]	**1,015**	**–50**	**965**
BUSINESS FREE CASH FLOW[1]			
EBITDA pre[1]	1,015	–50	965
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–132	4	–129
Changes in inventories	–66	–3	–69
Changes in trade accounts receivable as well as receivables from licenses	–87	37	–51
Business free cash flow[1]	**729**	**–13**	**716**

[1] Not defined by International Financial Reporting Standards (IFRS).

HEALTHCARE

€ million	Q1 2017 as reported	Q1 2017 IFRS 5 adjustment	Q1 2017 restated	Q2 2017 as reported	Q2 2017 IFRS 5 adjustment	Q2 2017 restated	Jan.–June 2017 as reported	Jan.–June 2017 IFRS 5 adjustment	Jan.–June 2017 restated
RESULTS OF OPERATIONS									
Net sales	**1,735**	**–203**	**1,531**	**1,783**	**–196**	**1,587**	**3,518**	**–400**	**3,118**
Cost of sales	–371	54	–318	–402	57	–345	–773	110	–663
Gross profit	**1,364**	**–150**	**1,214**	**1,381**	**–140**	**1,242**	**2,745**	**–289**	**2,455**
Marketing and selling expenses	–656	89	–567	–710	93	–617	–1,367	182	–1,184
Administration expenses	–77	7	–69	–78	8	–70	–154	15	–139
Research and development costs	–376	7	–369	–389	8	–381	–765	15	–750
Other operating expenses and income	191	3	194	144	8	152	335	11	346
Operating result (EBIT)[1]	**445**	**–44**	**402**	**348**	**–23**	**326**	**794**	**–66**	**727**
Depreciation/amortization/impairment losses/reversals of impairment losses	184	–3	181	117	–4	113	301	–7	294
EBITDA[1]	**629**	**–47**	**582**	**465**	**–26**	**439**	**1,095**	**–73**	**1,021**
Restructuring costs	–	–	–	1	–	1	–	–	–
Integration costs/IT costs	4	–	4	8	–	7	12	–	11
Gains (–)/losses (+) from divested businesses	–	–	–	–11	–	–11	–11	–	–11
Acquisition-related adjustments	–	–	–	–	–	–	–	–	–
Other adjustments	–	–	–	17	–3	14	17	–3	14
EBITDA pre[1]	**633**	**–47**	**586**	**480**	**–30**	**450**	**1,113**	**–77**	**1,036**
BUSINESS FREE CASH FLOW[1]									
EBITDA pre[1]	633	–47	586	480	–30	450	1,113	–77	1,036
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–45	3	–42	–87	4	–82	–131	7	–124
Changes in inventories	–24	7	–17	1	–	–	–24	7	–17
Changes in trade accounts receivable as well as receivables from royalties and licenses	–207	23	–184	73	–8	65	–135	15	–119
Business free cash flow[1]	**356**	**–14**	**342**	**467**	**–33**	**433**	**823**	**–47**	**776**

[1] Not defined by International Financial Reporting Standards (IFRS).

Q3 2017			Jan.–Sept. 2017			Q4 2017			Jan.–Dec. 2017			Q1 2018		
as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated	as reported	IFRS 5 adjustment	restated
1,708	**–210**	**1,498**	**5,226**	**–610**	**4,616**	**1,773**	**–200**	**1,573**	**6,999**	**–809**	**6,190**	**1,640**	**–205**	**1,435**
–379	62	–317	–1,152	172	–981	–435	76	–359	–1,587	248	–1,340	–394	60	–334
1,329	**–149**	**1,180**	**4,074**	**–438**	**3,636**	**1,338**	**–124**	**1,214**	**5,412**	**–562**	**4,850**	**1,246**	**–145**	**1,101**
–666	83	–583	–2,033	266	–1,767	–689	84	–606	–2,722	349	–2,373	–636	85	–551
–71	7	–64	–226	23	–203	–73	5	–68	–299	28	–271	–81	7	–74
–423	8	–416	–1,188	22	–1,166	–443	9	–434	–1,632	32	–1,600	–385	7	–379
413	8	421	748	19	767	–60	23	–36	688	43	731	67	30	97
581	**–42**	**539**	**1,375**	**–108**	**1,267**	**73**	**–3**	**70**	**1,447**	**–111**	**1,337**	**211**	**–16**	**195**
171	–4	168	472	–11	462	236	–6	230	708	–17	691	190	–6	184
752	**–45**	**707**	**1,847**	**–119**	**1,728**	**308**	**–8**	**300**	**2,155**	**–127**	**2,028**	**401**	**–22**	**379**
–1	–	–1	–	–	–	40	–23	17	40	–23	17	1	–2	–1
5	–	5	17	–	16	11	–	11	28	–	27	3	–	3
–315	–	–315	–325	–	–325	9	–	9	–316	–	–316	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10	–10	–	27	–13	14	15	–13	2	42	–26	16	25	–26	–1
453	**–56**	**397**	**1,566**	**–132**	**1,433**	**384**	**–44**	**339**	**1,949**	**–177**	**1,773**	**430**	**–51**	**380**
453	–56	397	1,566	–132	1,433	384	–44	339	1,949	–177	1,773	430	–51	380
–85	6	–78	–216	13	–203	–196	22	–174	–411	35	–375	–44	4	–40
–12	6	–6	–36	13	–23	–3	–8	–11	–39	5	–34	–12	–3	–15
10	20	31	–125	36	–89	74	–34	40	–51	2	–49	–64	37	–27
366	**–23**	**343**	**1,189**	**–70**	**1,119**	**259**	**–64**	**195**	**1,448**	**–134**	**1,314**	**310**	**–14**	**297**

Darmstadt, July 31, 2018

Stefan Oschmann

Udit Batra

Kai Beckmann

Walter Galinat

Belén Garijo

Marcus Kuhnert

Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles for half-year financial reporting, the consolidated half-year financial statements of the Group give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the interim management report of the Group includes a fair review of the development and performance of the business and the position of the Group, together with a description of the material opportunities and risks associated with the expected development of the Group for the remaining months of the financial year.

Darmstadt, July 31, 2018

Stefan Oschmann

Udit Batra

Kai Beckmann

Walter Galinat

Belén Garijo

Marcus Kuhnert

Review Report

To Merck Kommanditgesellschaft auf Aktien, Darmstadt, Germany

We have reviewed the condensed half-year consolidated financial statements – comprising the Consolidated Income Statement, the Consolidated Statement of Comprehensive Income, the Consolidated Balance Sheet, the Consolidated Cash Flow Statement, the Consolidated Statement of Changes in Net Equity and Notes to the Half-Year Financial Statements – together with the interim group management report of Merck Kommanditgesellschaft auf Aktien, Darmstadt, Germany, for the period from January 1, 2018 to June 30, 2018 that are part of the half-year financial report according to § 115 WpHG ["Wertpapierhandelsgesetz": "German Securities Trading Act"].The preparation of the condensed half-year consolidated financial statements in accordance with those IFRS applicable to interim financial reporting as adopted by the EU, and of the interim group management report in accordance with the requirements of the WpHG applicable to interim group management reports, is the responsibility of the Company's management. Our responsibility is to issue a report on the condensed half-year consolidated financial statements and on the interim group management report based on our review.

We performed our review of the condensed half-year consolidated financial statements and the interim group management report in accordance with the German generally accepted standards for the review of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW). Those standards require that we plan and perform the review so that we can preclude through critical evaluation, with a certain level of assurance, that the condensed interim consolidated financial statements have not been prepared, in material respects, in accordance with with those IFRS applicable to interim financial reporting as adopted by the EU, and that the interim group management report has not been prepared, in material respects, in accordance with the requirements of the WpHG applicable to interim group management reports. A review is limited primarily to inquiries of company employees and analytical assessments and therefore does not provide the assurance attainable in a financial statement audit. Since, in accordance with our engagement, we have not performed a financial statement audit, we cannot issue an auditor's report.

Based on our review, no matters have come to our attention that cause us to presume that the condensed interim consolidated financial statements have not been prepared, in material respects, in accordance with those IFRS applicable to interim financial reporting as adopted by the EU, or that the interim group management report has not been prepared, in material respects, in accordance with the requirements of the WpHG applicable to interim group management reports.

Frankfurt am Main, July 31, 2018

KPMG AG
Wirtschaftsprüfungsgesellschaft

Original German version signed by

Braun
Wirtschaftsprüfer

Rackwitz
Wirtschaftsprüfer

FINANCIAL CALENDAR
2018/2019

November
11/14/2018
Report on the third quarter

April
4/26/2019
Annual General Meeting

March
3/7/2019
Annual Press Conference

May
5/14/2019
Report on the first quarter

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TYPESETTING + LAYOUT
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