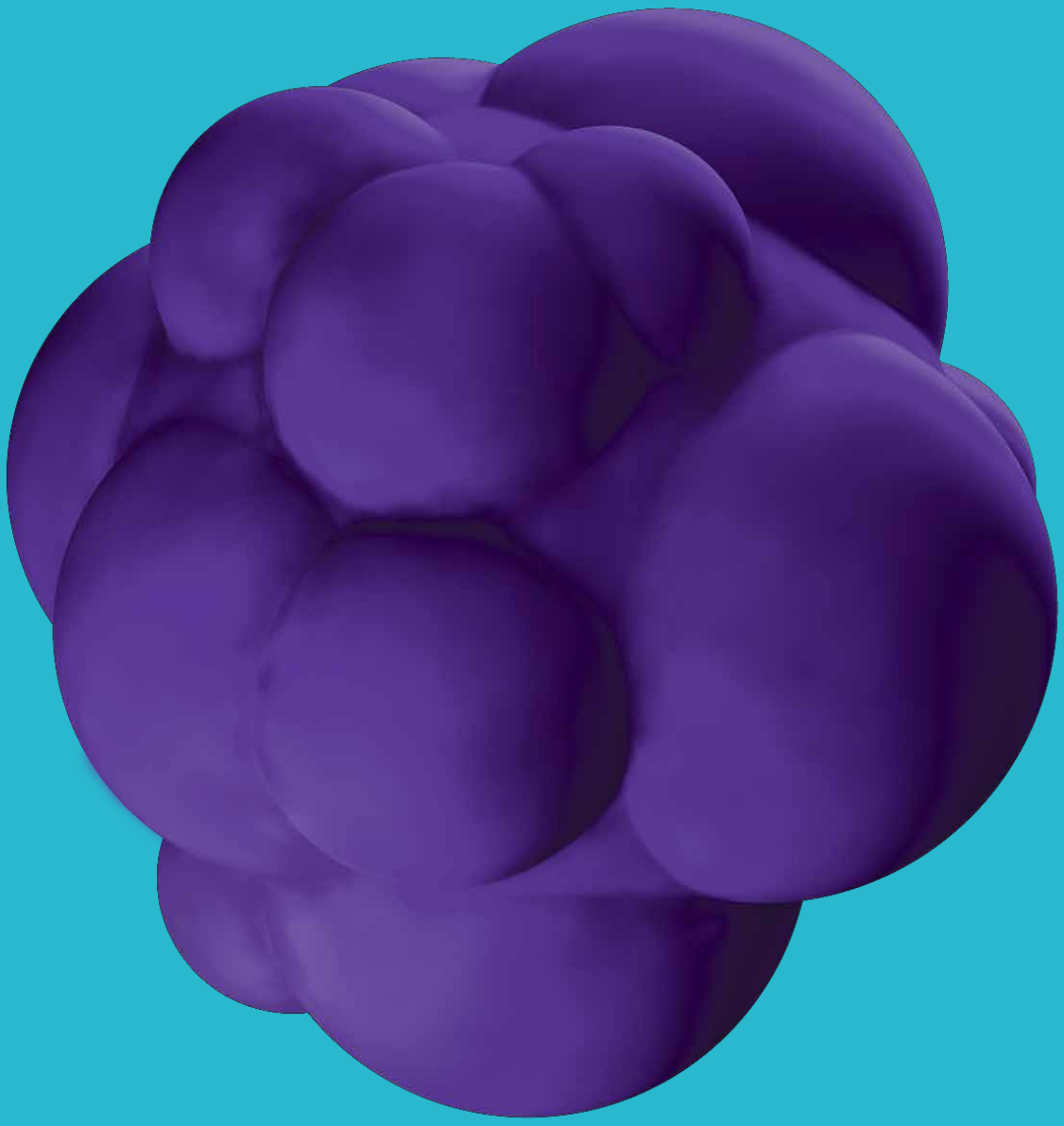
Merck KGaA,
Darmstadt, Germany



1st QUARTER 2018

Quarterly Statement

DISCLAIMER

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This document is a quarterly statement pursuant to section 53 of the Exchange Rules for the Frankfurt Stock Exchange.

This quarterly statement contains certain financial indicators such as EBITDA pre, business free cash flow (BFCF), 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 quarterly statement 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

€ million	Q1 2018	Q1 2017	Change
Net sales	3,691	3,861	–4.4%
Operating result (EBIT)[1]	518	755	–31.4%
Margin (% of net sales)[1]	14.0%	19.5%	
EBITDA[1]	946	1,203	–21.4%
Margin (% of net sales)[1]	25.6%	31.2%	
EBITDA pre[1]	1,015	1,240	–18.2%
Margin (% of net sales)	27.5%	32.1%	
Profit after tax[2]	342	524	–34.8%
Earnings per share (€)	0.78	1.20	–35.0%
Earnings per share pre (€)[1]	1.41	1.80	–21.7%
Business free cash flow[1]	729	760	–4.0%

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Effects of new financial reporting standards" under "Supplemental Financial Information".

GROUP

Net sales by quarter

€ million

GROUP

EBITDA pre[1] by quarter

€ million

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

Our Shares

At a glance

Despite a mildly positive start to the first two weeks of 2018, during which our shares reached an annual high of € 93.45, our share price declined by 13% in the first quarter of 2018 overall. Our shares finished the quarter with a closing price of € 77.84, slightly recovering from the share price low of € 75.08, which was reached on March 23, 2018. In the overall weak market environment of the first quarter, our shares significantly underperformed the relevant comparative indices. Our shares were nearly 7 percentage points behind the relevant comparative DAX® index as well as the relevant comparative index for the chemical industry, both of which declined by slightly more than 6% in the entire period. The pharmaceutical industry index decreased in the same period by more than 7%, outperforming our shares by 6 percentage points.

The dynamic development on the global equity markets in the second half of 2017 continued seamlessly in the first weeks of the new year. According to Goldman Sachs, 2018 marked the strongest new year start in the past 30 years. Our shares also benefited from this development, and initial preliminary data from tumor-specific patient cohorts on M7824, including encouraging results in gastric cancer, resonated positively with market participants. These data were presented at the Gastrointestinal Cancers Symposium 2018 of the American Society of Clinical Oncology (ASCO) from January 19 to 21 in San Francisco, California. As of the end of January, a period of adjustment set in for the equity markets, which also affected our shares. While as of mid-February the markets stabilized at a lower level, our share price started decoupling, however, and posted a considerably more negative development in the remaining weeks of the first quarter. Various factors were responsible for this. The announcement of negative clinical results of the Phase III JAVELIN Lung 200 trial with avelumab as a monotherapy in pretreated patients with advanced non-small cell lung cancer led to some profit-taking among investors. Despite unabated headwinds from the currency side and in the Performance Materials business sector, we met our forecast for 2017 and the results of the fourth quarter were in line with the expectations of analysts and investors. Initial qualitative statements on the business prospects for 2018 led to a further lowering of the earnings forecasts for the Group and impacted the share price. Initial indications of an earnings recovery in 2019 could also barely counteract this momentum and the ongoing high uncertainty regarding the development of Performance Materials.

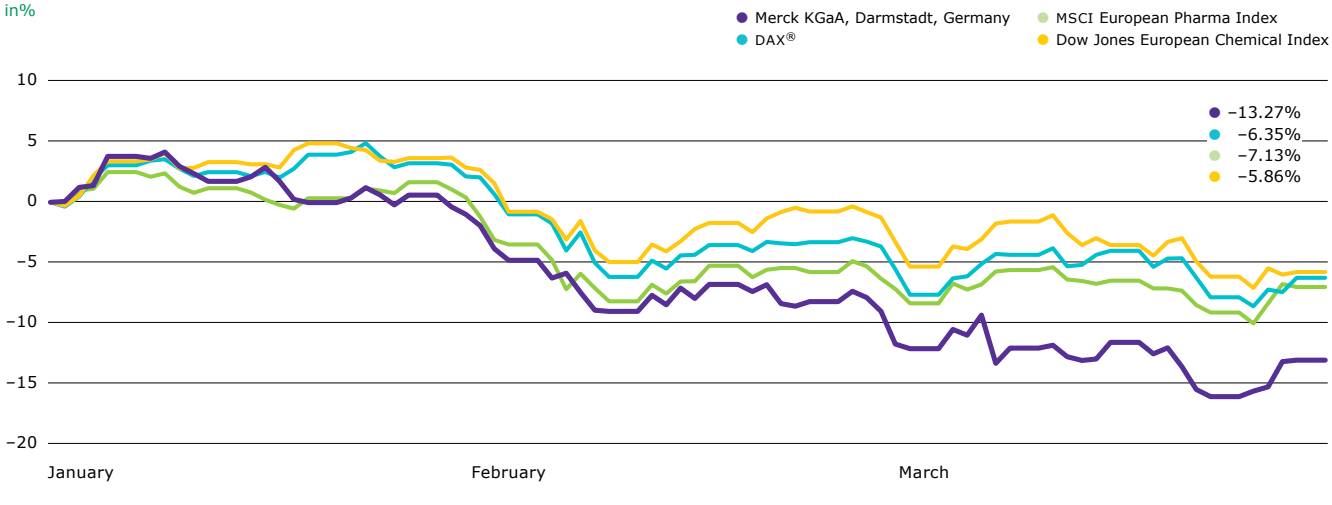
In the first quarter of 2018, our Executive Board and the Investor Relations team gave in-depth briefings to more than 190 investors at investor conferences as well as during roadshows and conference calls. In March 2018, our the Investor Relations activities finished third among 42 companies from the pharmaceutical sector in the well-known "Institutional Investor" survey of nearly 1,500 investors and more than 900 sell-side analysts.

The average daily trading volume of our shares increased over the previous-year period by more than 50% from approximately 412,000 to over 625,000 shares.

OUR SHARES

Share price development from January 1, 2018 to March 31, 2018

in%



Source: Bloomberg (closing rates)

Fundamental Information about the Group

The Group

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 company comprises three business sectors: Healthcare, Life Science, and Performance Materials.

In our Healthcare business sector, patients are in the foreground. We discover, develop and manufacture prescription medicines used to treat cancer, multiple sclerosis, and infertility, among other things. Our products help millions of people around the world.

In Life Science, we provide scientists and researchers with laboratory tools and equipment, materials, advanced technologies, and services. Our aim is to make research discovery and biomanufacturing easier, faster and more effective.

Performance Materials develops specialty chemicals and solutions for demanding applications – from liquid crystals and OLED materials for displays and lighting applications to effect pigments for coatings for coatings and cosmetics up to high-tech materials for the manufacture of integrated circuits.

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.

Apart from our three business sectors, our financial reporting presents the five regions Europe, North America, Asia-Pacific (APAC), Latin America as well as Middle East and Africa (MEA).

We had 53,358 employees worldwide on March 31, 2018, which compares with 51,480 on March 31, 2017.

A detailed description of Merck KGaA, Darmstadt, Germany, and its business sectors can be found in the Annual Report for 2017 starting on page 57. This section of the present quarterly statement summarizes the highlights of the first quarter of 2018 at Merck KGaA, Darmstadt, Germany.

GROUP

Net sales by business sector – Q1 2018
€ million/in % of net sales

GROUP

EBITDA pre[1] by business sector[2] – Q1 2018
€ million/in %

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

[2] Not presented: Decline in Group EBITDA pre by € –66 million due to Corporate and Other.

GROUP

Business free cash flow[1] by business sector – Q1 2018
€ million/in %

GROUP

Employees by region as of March 31, 2018
Number/in %

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

[2] Not presented: Decline in Group business free cash flow by € –94 million due to Corporate and Other.

Healthcare

Our Healthcare business sector comprises the Biopharma, Consumer Health and Allergopharma businesses. The share of Group sales attributable to our Healthcare business sector was 45% in the first quarter of 2018 and the share of EBITDA pre (excluding Corporate and Other) was 40%.

BIOPHARMA

Oncology and Immuno-Oncology

On March 1, the United Kingdom's National Institute for Health and Care Excellence issued a Final Appraisal Determination that recommends avelumab for treating adults with metastatic Merkel Cell Carcinoma (mMCC). Avelumab is recommended for routine National Health Service use in England, Wales and Northern Ireland for treating mMCC in adults, only if they have had one or more lines of chemotherapy for metastatic disease. Avelumab is recommended for use in England within the Cancer Drugs Fund for treating mMCC in adults only if they have not had chemotherapy for metastatic disease and the conditions in the managed access scheme are followed.

On February 15, we announced that the JAVELIN Lung 200 trial comparing 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 the 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. We remain confident in the role avelumab will play in the future treatment of lung cancer.

General Medicine and Endocrinology

On January 22, the Brazilian health 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. Brazil is ranked by the International Diabetes Federation as having the fifth largest population of prediabetic people in the world. In 2017, it was estimated that 14.6 million people were living in Brazil with this disease, and that number is expected to rise to 20.7 million by 2045. With the approval in Brazil, our flagship brand Glucophage® is now available to prediabetic patients in 19 countries, including the United Kingdom and, recently, Iran.

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. Founded in 2015, Blue Mesa Health has designed and commercialized two chronic disease prevention programs based on the CDC's landmark National Diabetes Prevention Program. Transform is a year-long lifestyle change program that integrates remote health coaching, peer support and smartphone technology with personal scales and activity trackers. Transformemos is a Spanish-language program available in the U.S. market for Spanish speakers.

On March 22, we announced that in the United States, we are partnering with March of Dimes to launch the March of Dimes Center for Social Science Research to inform evidence-based policymaking promoting the health of all mothers and babies. Our company and March of Dimes will conduct six research reports over the course of three years to better understand the relationship among economic and employer policies, women's health and productivity, and childbirth. Additionally, with our help, March of Dimes will expand its Healthy Babies Healthy Business® workplace wellness program, which supports health benefits and policies for strong mothers and babies.

Also in March, a collaboration was announced with Medisafe, a U.S.-based start-up providing a leading digital medication management and adherence solution, to help patients with cardiometabolic disorders better manage their medication intake, and to improve adherence to treatment. Through this collaboration, patients will have access to a customized version of Medisafe´s mobile platform that could combine reminders, motivation and support systems, targeted content, coupons and interventions. Brazil, Russia and Mexico are the first three countries where patients receiving primary care medicines from our company will have access to a customized version of Medisafe.

CONSUMER HEALTH

As announced 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. We intend to use the net proceeds from the divestiture primarily to accelerate deleveraging. At the same time, it will allow us to increase flexibility to strengthen all three business sectors. The divestment of the Consumer Health business is an important step in our strategy of focusing on innovation-driven businesses.

Life Science

In the first quarter of 2018, the share of Group sales attributable to our Life Science business sector was 40% and the share of EBITDA pre (excluding Corporate and Other) was 42%.

We invested an additional US$ 50 million to build a robust manufacturing and distribution platform in Asia over a span of two years. We also made an additional investment to accelerate Mobius® single-use manufacturing in Wuxi, China, as well as signed a Memorandum of Understanding with Schneider Electric that aims to automate biopharmaceutical processes for China's biopharmaceutical industry. Our focused investments in Asia ensure that our customers have access to the products needed to develop new therapies and biosimilars that accelerate access to health for people everywhere. These investments follow the November 2016 announcement of a US$ 100 million investment in Nantong, China.

Our activity in Asia continued with the signing of an agreement with Incheon Free Economic Zone (IFEZ) to build an integrated cell culture facility in Songdo, Incheon. This expansion will help meet the rapid growth in the biopharmaceutical industry in South Korea, giving us the ability to tailor our products and services to better address the needs of customers in this important region. In addition, a € 16.6 million investment was made in India for a new life science manufacturing and distribution center in the Patalganga industrial area, near Mumbai, with an expected completion date in 2019.

In February, we received two more patents for CRISPR technology from the Korean Intellectual Property Office and the Israel Patent Office. These decisions marked the fifth and sixth patent allowances, respectively for our CRISPR technology used in a genomic-integration method for eukaryotic cells. Our corporate responsibility efforts were strengthened by nine new signature partnerships with leading nonprofit organizations across the world. These long-term, multi-dimensional partnerships are designed to spark scientific curiosity and passion – paving the way for innovative breakthroughs with demonstrated impact and measurable outcomes.

Performance Materials

Our Performance Materials business sector comprises the specialty chemicals business and supplies solutions for displays, computer chips and surfaces of every kind. Since April 1, 2018, 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.

In the first quarter of 2018, Performance Materials generated 15% of Group sales and 18% of EBITDA pre (excluding Corporate and Other). The EBITDA pre margin amounted to 34.7% of sales.

We have combined our business with liquid crystals and OLED materials in the Display Solutions business unit. In the first quarter of 2018, we defended our position as the global market and technology leader in the display business despite increasing competition in this segment. Modern energy-efficient technologies such as UB-FFS (Ultra-Brightness Fringe Field Switching) have established themselves further in the market. The development of new application possibilities for liquid crystals (LCs) remains an important focus of our LC 2021 strategic initiative. Besides our traditional display business, we are also active in future-oriented technologies such as liquid crystal windows, OLED lighting solutions, smart antennas, adaptive lighting, and flexible displays. For liquid crystal window modules, we successfully started pilot production this year at the site in Veldhoven in the Netherlands.

Semiconductor Solutions, the second-largest business unit of Performance Materials, is an important partner to leading global electronics manufacturers. In the first quarter of 2018, it achieved further strong growth and gained market shares – amid an overall positive development of the semiconductor market. Semiconductor Solutions supplies products and solutions for integrated circuits, for the manufacture of microelectronic systems, for antireflection coatings, and for the miniaturization of transistor structures. Deposition materials and conductive pastes for semiconductor packaging round off the portfolio. Our materials and solutions play a key role in the innovation process of our customers, in order to make computer chips smaller, faster, more powerful, and more energy-efficient.

In the Surface Solutions business unit, our materials and solutions help our customers to make innovative surfaces of every kind more beautiful, more durable, and also smarter. Our pearlescent pigments make it possible to produce striking automotive coatings, fascinating cosmetics, extraordinary packaging, innovative product design, and even unique food creations. With our functional materials, we serve a diversity of innovative applications, from dirt-repellent, easy-care surfaces, laser marking of plastic parts and cables, to optoelectronics.

Research and Development

We conduct research and development (R&D) worldwide in order to develop new products and services designed to improve the quality of life of patients and to satisfy the needs of our customers. Further optimizing the relevance and efficiency of our research and development activities – either on our own or in cooperation with third parties – is one of our top priorities.

We research innovations to serve long-term health and technology trends in both established and growth markets.

We spent € 514 million on research and development in the first quarter of 2018.

We focus on both in-house research and external collaborations. Our R&D activities are set up in line with the structure of our company with three business sectors.

A detailed description of our R&D activities can be found in the Annual Report 2017 starting on page 83. This section of the present quarterly statement summarizes the research and development highlights of the first quarter of 2018.

Healthcare

BIOPHARMA

Oncology and Immuno-Oncology

On March 27, the Japanese Ministry of Health, Labour and Welfare granted "SAKIGAKE" fast-track designation for the investigational molecule tepotinib for patients with advanced non-small cell lung cancer harboring MET exon 14 skipping mutations. SAKIGAKE designation promotes research and development in Japan, aiming at early practical application for innovative pharmaceutical products, medical devices and regenerative medicines, and can reduce a drug's review period from 12 months to a target of six months. This is the first regulatory designation granted to tepotinib.

In January, Australia's Therapeutic Goods Administration approved Bavencio® (avelumab) for the treatment of metastatic Merkel cell carcinoma (MCC) in adults and pediatric patients 12 years and older. In addition, Israel's Ministry of Health approved Bavencio® for the treatment of adult patients with metastatic MCC, and for the treatment of patients with locally advanced or metastatic urothelial carcinoma (UC). These approvals for Bavencio® follow marketing authorizations for MCC in the European Union, Japan, Switzerland and Canada, and for both MCC and UC in the United States.

Two key articles on Bavencio® clinical trials were published in medical journals, reporting preliminary data in first-line renal cell carcinoma (RCC) and first-line metastatic MCC. The Lancet Oncology journal published preliminary data from the Phase I JAVELIN Renal 100 clinical trial, assessing Bavencio® in combination with axitinib, a tyrosine kinase inhibitor, as a first-line therapy for patients with RCC. Initial results show the safety profile seemed to be manageable, and the preliminary data on anti-tumor activity are encouraging. A Phase III trial (JAVELIN Renal 101) is currently ongoing, comparing this combination with single-agent sunitinib, a multikinase inhibitor. The Journal of the American Medical Association Oncology (JAMA Oncology) published a preplanned interim analysis of the JAVELIN Merkel 200 trial, assessing Bavencio® as a first-line treatment in metastatic MCC. The results, which were previously presented at the ESMO 2017 Congress of the European Society for Medical Oncology, are encouraging.

On the occasion of the American Society of Clinical Oncology 2018 Gastrointestinal Cancers Symposium in January (San Francisco, California) data were presented on the role of established medicine Erbitux® (cetuximab) in colorectal cancer by tumor location, including cost-effectiveness data. With respect to M7824, an investigational early phase anti-PD-L1 and anti-TGF-β bifunctional molecule, data presented included the first tumor-specific results, with encouraging results in gastric cancer. In heavily pretreated Asian patients with recurrent or refractory unresectable advanced gastric and gastroesophageal adenocarcinoma, preliminary data showed clinical activity and a safety profile in line with that anticipated in such a heavily pretreated patient population.

Two articles on M7824 were published in Science Translational Medicine and in Clinical Cancer Research. These articles provide preliminary evidence of the therapeutic potential of this molecule. Anti-tumor activity was reported both in preclinical models and in heavily pretreated patient populations, with a manageable safety profile.

The Phase I study of M9831 (VX-984), a DNA-PK inhibitor part of the DNA damage response (DDR) portfolio, has been completed.

On May 2, we announced 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. We have completed Phase II development of abituzumab in combination with Erbitux® and chemotherapy as second-line treatment of patients with KRAS wild type metastatic colorectal cancer (mCRC). A subgroup of patients with overexpression of integrin αvβ6 was identified as potentially benefitting from this treatment. With the evolving understanding of the relationship between 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. In a collaboration model that is emerging in the biopharma industry, SFJ will finance and also be responsible for Phase II/III clinical development of abituzumab. The agreement reflects our strategy to identify collaborations that can progress the company's highly promising clinical stage assets through novel innovation models.

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 (MRI) scans measured at weeks 12, 16, 20 and 24 in comparison to patients receiving placebo. Evobrutinib, discovered by us, is also in Phase IIb studies in rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE).

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. These approvals for Mavenclad® follow marketing authorizations in the European Union, Canada and Australia in 2017. A regulatory submission with the U.S. Food and Drug Administration is planned for the second quarter of 2018.

On the occasion of the Americas Committee for Treatment and Research in Multiple Sclerosis Forum 2018 in February (San Diego, California), six posters evaluating Mavenclad® in MS were presented. Data presented included further evaluation of the safety of Mavenclad® and the impact on the immune system via post hoc analyses of the CLARITY, CLARITY Extension, and ORACLE-MS trials, as well as the prospective PREMIERE registry study. Data reported included findings regarding the selectivity of Mavenclad® and its effects on the adaptive and innate immune systems.

The results from the key MRI findings of the CLARITY Extension study of Mavenclad®, were published in January in the journal of Therapeutic Advances in Neurological Disorders. The findings suggest that two-year treatment with Mavenclad® has a durable effect on MRI.

We support the "MS in the 21st Century" Steering Group to increase collaboration, education and communication between healthcare professionals and people with MS. The group achieved a publication milestone in January 2018 by publishing a scientific manuscript in the Multiple Sclerosis and Related Disorders journal.

On the occasion of the annual meeting of the European Lupus Society in March (Düsseldorf, Germany), data were presented on atacicept, a recombinant fusion protein thought to target the cytokines APRIL and BLyS. Two oral presentations of analyses of the Phase II ADDRESS II clinical trial assessing atacicept in patients with SLE reported attainment of low-disease activity and reduction of flares in patients with high SLE disease activity.

The Phase II study of abituzumab in patients with interstitial lung disease in scleroderma was terminated due to difficulties 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.

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.

In January, we introduced analytical and immunological assays focused on characterizing the attributes of monoclonal antibodies, including biosimilars. This adds additional service offerings in product characterization, which together with our BioSafety testing assays, offer customers a complete service portfolio.

In February, we introduced Viresolve® Barrier capsule filters to protect against bioreactor contamination, designed to remove viruses, mycoplasma and bacteria from cell culture media. These filters are a key component of our Viral Safety Assurance program to mitigate the risk of viral contamination in upstream bioprocesses and minimize the potential impact on drug supply and patient safety.

Performance Materials

With our Performance Materials business sector, we are the market and technology leader in most of our businesses. As a science and technology company, our innovative products and solutions differentiate us from the competition in many cases. Therefore, a successful research & development (R&D) is a key component of the strategy of Performance Materials. In 2018, we combined the part of our R&D activities that are not closely product-related in the business units in the central innovation unit Early Research & Business Development. This 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.

Display Solutions

In Display Solutions, our liquid crystal technology UB-FFS (Ultra-Brightness Fringe Field Switching) continues to grow successfully thanks to new product qualifications and increasing demand in the mobile liquid crystal (LC) display sector – notably for mobile phone and tablet applications. High-resolution 4K and 8K television developments continue to challenge the light efficiency of LC displays, and therefore we are actively working to extend the ultra-bright LC technology with our UB-Plus liquid crystal materials. The aim is to deliver 10% to 15% improved efficiency to large-size TV and public display applications. Meanwhile in the large TV application area, polymer-stabilized vertical alignment (PS-VA) liquid crystal technology continues to be dominant, with our latest new materials bringing additional performance benefits as well as improved processing efficiency for PS-VA TV manufacturing. 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.

Semiconductor Solutions

Deposition materials for gas-phase applications (e.g. atomic layer deposition, ALD) represent a technology field that offers high growth rates for our Semiconductor Solutions business unit. By strengthening our research activities in cooperation with original equipment manufacturers and chip makers, we are continuously enhancing our position. Our research projects are aimed at discovering 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. We further developed the product class of polysilazanes and are building international application support.

Course of Business and Economic Position

Group

Overview – Q1 2018

- Group net sales decline to € 3.7 billion owing to negative foreign exchange effects (–7.9%)
- Group sales increase organically by 3.5%, mainly due to very strong growth in Life Science
- Group EBITDA pre decreases by –18.2% to € 1,015 million, with negative foreign exchange effects accounting for around –10% of the decline
- Group EBITDA pre margin reaches level of 27.5% despite negative foreign exchange effects and further growth investments
- Net financial debt reduced further to € 10.0 billion (December 31, 2017: € 10.1 billion)

GROUP

Key figures

€ million	Q1 2018	Q1 2017	Change
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Business free cash flow[1]	729	760	–4.0%

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DEVELOPMENT OF NET SALES AND RESULTS OF OPERATIONS

In the first quarter of 2018, net sales of the Group declined by –4.4% or € –170 million to € 3,691 million (Q1 2017: € 3,861 million). Sales increased organically by 3.5% or € 135 million. Our two business sectors Life Science (8.8%) and Healthcare (1.8%) contributed positively to this growth, while sales of our Performance Materials business sector declined organically (–4.0%). The negative exchange rate effects of –7.9% or € –305 million stemmed mainly from the considerably weaker U.S. dollar compared with the year-earlier quarter. However, exchange rate developments in the Latin America and Asia-Pacific regions, for example the Brazilian real, the Argentinian peso, the South Korean won, the Taiwanese dollar and the Japanese yen, negatively impacted sales performance.

Accounting for an unchanged 45% share of Group sales, Healthcare was once again the Group's largest business sector in terms of sales. In comparison with the year-earlier quarter, Healthcare sales decreased by –5.5% to € 1,640 million (Q1 2017: € 1,735 million). This resulted from pronounced negative foreign exchange effects of –7.2% or € –126 million for the business sector. Organically, Healthcare sales grew by 1.8% in the first quarter of 2018.

With organic sales growth of 8.8%, our Life Science business sector achieved a total increase of 0.4% in sales to € 1,487 million (Q1 2017: € 1,481 million). Very strong negative foreign exchange effects lowered sales by –8.4% or € –124 million. The share of Group sales attributable to Life Science rose by two percentage points to 40% in the first quarter of 2018 (Q1 2017: 38%).

GROUP

Net sales components by business sector – Q1 2018

€ million/Change in %	Net sales	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change
Healthcare	1,640	1.8%	–7.2%	–	–5.5%
Life Science	1,487	8.8%	–8.4%	–	0.4%
Performance Materials	564	–4.0%	–8.5%	–	–12.5%
Group	**3,691**	**3.5%**	**–7.9%**	**–**	**–4.4%**

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

Net sales of our Performance Materials business sector declined by –12.5% to € 564 million (Q1 2017: € 645 million). In particular, negative foreign exchange effects of –8.5% or € –55 million as well as moderately weaker organic sales of –4.0% were responsible for this development. The business sector's percentage contribution to Group sales decreased by two percentage points to 15% (Q1 2017: 17%).

Geographically, only Europe generated higher year-on-year sales in the first quarter of 2018. By contrast, in the other regions sales declined owing to very strong negative exchange rate effects. Sales in Europe grew slightly by 1.3% to € 1,218 million (Q1 2017: € 1,202 million). This was primarily attributable to strong organic growth of our Life Science business sector. Consequently, Europe's share of Group sales increased by two percentage points to 33% (Q1 2017: 31%).

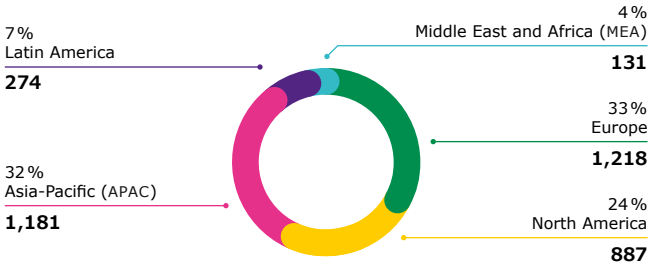
In Asia-Pacific, the Group achieved organic growth of 3.5%, which was more than offset, however, by negative exchange rate effects of –8.4%. Sales in the Asia-Pacific region amounted to € 1,181 million (Q1 2017: € 1,241 million), which represented an unchanged share of 32% of Group sales.

The decrease in net sales in North America to € 887 million (Q1 2017: € 965 million) was mainly due to the exchange rate development of the U.S. dollar. Group organic growth of 5.4% in this region was generated almost entirely by our Life Science business sector. North America's contribution to Group sales declined to 24% (Q1 2017: 25%).

GROUP

Net sales by region – Q1 2018

€ million/% of net sales



Owing to very strong negative exchange rate effects (–14.5%) sales in Latin America decreased by a total of –12.9% to € 274 million (Q1 2017: € 315 million). The organic sales increases in our Life Science business sector had a visibly positive impact. Latin America's share of Group sales amounted to 7% in the first quarter of 2018 (Q1 2017: 8%).

Group sales in the Middle East and Africa region fell by –4.6% to € 131 million (Q1 2017: € 137 million). The organic sales growth of our Healthcare business sector was not able to offset negative foreign exchange effects. This region accounted for an unchanged 4% of Group sales.

GROUP

Net sales components by region – Q1 2018

€ million/Change in %	Net sales	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	1,218	2.7%	–1.3%	–	1.3%
North America	887	5.4%	–13.5%	–	–8.1%
Asia-Pacific (APAC)	1,181	3.5%	–8.4%	–	–4.9%
Latin America	274	1.6%	–14.5%	–	–12.9%
Middle East and Africa (MEA)	131	1.6%	–6.2%	–	–4.6%
Group	**3,691**	**3.5%**	**–7.9%**	**–**	**–4.4%**

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

The consolidated income statement of the Group is as follows:

GROUP

Consolidated Income Statement

€ million	**Q1 2018**	Q1 2017	Change
Net sales	**3,691**	**3,861**	**–4.4%**
Cost of sales	–1,320	–1,296	1.9%
Gross profit	**2,371**	**2,565**	**–7.6%**
Marketing and selling expenses	–1,106	–1,168	–5.3%
Administration expenses	–228	–242	–5.9%
Research and development costs	–514	–495	4.0%
Other operating expenses and income	–4	95	> 100.0%
Operating result (EBIT)[1]	**518**	**755**	**–31.4%**
Financial result[2]	–62	–69	–9.8%
Profit before income tax[2]	**456**	**686**	**–33.6%**
Income tax[2]	–114	–161	–29.6%
Profit after tax[2]	**342**	**524**	**–34.8%**
Non-controlling interests	–1	–2	–43.7%
Net income[2]	**341**	**523**	**–34.8%**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted, see "Effects of new financial reporting standards" under "Supplemental Financial Information".

Gross profit of the Group declined by –7.6% to € 2,371 million in the first quarter of 2018 (Q1 2017: € 2,565 million). Besides an unfavorable product mix, in particular foreign exchange effects negatively impacted the development of gross profit in all business sectors. The resulting gross margin of the Group, i.e. gross profit as a percentage of sales, decreased by slightly more than two percentage points to 64.2% (Q1 2017: 66.4%).

The increase in research and development costs by 4.0% to € 514 million (Q1 2017: € 495 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 13.9% (Q1 2017: 12.8%). Accounting for a 76% (Q1 2017: 76%) share of total research and development costs of the business sectors, Healthcare remained the most research-intensive business sector of our company.

Other operating expenses and income (net) showed an expense balance of € –4 million in the first quarter of 2018; in the year-earlier quarter this item showed an income balance of € 95 million. This strong change was mainly due to developments in our Healthcare business sector (see explanations in the section entitled "Healthcare"). In particular, in Healthcare the year-earlier quarter had included income of € 116 million from compensation for future license payments.

Overall, the income and expenses disclosed in the Group income statement led to a double-digit percentage decline in the operating result (EBIT) to € 518 million (Q1 2017: € 755 million).

The improvement in the negative financial result by 9.8% to € –62 million (Q1 2017: € –69 million) was primarily attributable to the favorable development of the interest result.

Income tax expenses of € 114 million (Q1 2017: € 161 million) led to an effective tax rate of 24.9% (Q1 2017: 23.5%).

Net income, i.e. profit after tax attributable to shareholders of Merck KGaA, Darmstadt, Germany, declined to € 341 million (Q1 2017: € 523 million), resulting in earnings per share of € 0.78 in the first quarter of 2018 (Q1 2017: € 1.20).

GROUP

Reconciliation of EBIT to EBITDA pre

€ million	Q1 2018	Q1 2017	Change
Operating result (EBIT)[1]	**518**	**755**	**–31.4%**
Depreciation/amortization/impairment losses/reversals of impairment losses	428	448	–4.5%
(of which: adjustments)	*(2)*	*(4)*	*(–51.0%)*
EBITDA	**946**	**1,203**	**–21.4%**
Restructuring costs	7	4	> 100.0%
Integration costs/IT costs	21	26	–20.7%
Gains/losses on the divestment of businesses	2	2	17.2%
Acquisition-related adjustments	1	3	–83.6%
Other adjustments	39	3	> 100.0%
EBITDA pre[1]	**1,015**	**1,240**	**–18.2%**

[1] 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 –18.2% to € 1,015 million (Q1 2017: € 1,240 million), leading to an EBITDA pre margin relative to sales of 27.5% (Q1 2017: 32.1%). Unfavorable exchange rate effects impacted the development of EBITDA pre by around –10%. Earnings per share pre (earnings per share after net of tax effect of adjustments and amortization of purchased intangible assets) fell by –21.7% to € 1.41 (Q1 2017: € 1.80).

NET ASSETS AND FINANCIAL POSITION

GROUP

Balance sheet structure

	March 31, 2018		Dec. 31, 2017		Change	
	€ million	**in %**	€ million	in %	€ million	in %
Non-current assets	**27,368**	**77.8%**	**28,166**	**79.1%**	**–798**	**–2.8%**
of which:						
Goodwill	13,282		13,582		–300	
Intangible assets	7,880		8,317		–437	
Property, plant and equipment	4,468		4,512		–44	
Other non-current assets	1,738		1,755		–17	
Current assets	**7,807**	**22.2%**	**7,455**	**20.9%**	**353**	**4.7%**
of which:						
Inventories	2,704		2,632		72	
Trade accounts receivable	2,946		2,923		23	
Current financial assets	72		90		–18	
Other current assets	1,339		1,221		118	
Cash and cash equivalents	747		589		158	
Total assets	**35,175**	**100.0%**	**35,621**	**100.0%**	**–445**	**–1.3%**
Equity	**14,105**	**40.1%**	**14,066**	**39.5%**	**38**	**0.3%**
Non-current liabilities	**12,538**	**35.6%**	**12,919**	**36.3%**	**–381**	**–3.0%**
of which:						
Provisions for pensions and other post-employment benefits	2,164		2,257		–93	
Other non-current provisions	747		788		–40	
Non-current financial liabilities	7,936		8,033		–97	
Other non-current liabilities	1,691		1,842		–151	
Current liabilities	**8,533**	**24.3%**	**8,635**	**24.2%**	**–102**	**–1.2%**
of which:						
Current provisions	445		414		30	
Current financial liabilities	2,858		2,790		67	
Trade accounts payable/Refund liabilities	2,072		2,195		–123	
Other current liabilities	3,158		3,234		–76	
Total liabilities and equity	**35,175**	**100.0%**	**35,621**	**100.0%**	**–445**	**–1.3%**

The total assets of the Group amounted to € 35,175 million as of March 31, 2018. This represents a decline of 1.3% compared with December 31, 2017 (€ 35,621 million). The decline in other intangible assets was primarily due to amortization and exchange rate effects. Since the beginning of 2018, working capital has risen by 5.6% to € 3,578 million (December 31, 2017: € 3,387 million) owing to a slight increase in inventories and receivables amid a simultaneous decline in trade accounts payable as well as refund liabilities.

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

GROUP

Net financial debt[1]

	March 31, 2018	Dec. 31, 2017	Change	
	€ million	€ million	€ million	in %
Bonds and commercial paper	8,026	8,213	–187	–2.3%
Loans to banks	1,946	1,653	292	17.7%
Liabilities to related parties	659	767	–108	–14.1%
Loans from third parties and other financial liabilities	74	73	1	1.4%
Liabilities from derivatives (financial transactions)	85	113	–28	–24.5%
Finance lease liabilities	3	4	–1	–14.2%
Total financial liabilities	**10,793**	**10,823**	**–30**	**– 0.3%**
less				
Cash and cash equivalents	747	589	158	26.9%
Current financial assets	72	90	–18	–20.1%
Net financial debt[1]	**9,974**	**10,144**	**–170**	**–1.7%**

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

GROUP

Reconciliation of net financial debt[1]

€ million	**2018**
January 1	**10,144**
Currency translation	–79
Dividend payments to shareholders and to E. Merck KG, Darmstadt, Germany[2]	64
Acquisitions[2]	–
Payment from the disposal of assets held for sale[2]	–
Free cash flow[1]	–149
Other	–7
March 31	**9,974**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] According to the consolidated cash flow statement.

As of March 31, 2018, the Group reported equity of € 14,105 million (December 31, 2017: € 14,066 million). While profit after tax increased Group equity by € 342 million, the development of currency translation differences from the translation of assets held in foreign currencies into euro, the reporting currency, negatively impacted Group equity. The equity ratio improved to 40.1% (December 31, 2017: 39.5%).

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	**Q1 2018**	Q1 2017	Change
Cash flow from operating activities according to the consolidated cash flow statement	380	777	–51.1%
Payments for investments in intangible assets	–21	–209	–90.1%
Payments from the disposal of intangible assets	6	–	–
Payments for investments in property, plant and equipment	–228	–201	13.7%
Payments from the disposal of property, plant and equipment	10	17	–39.7%
Free cash flow[1]	**149**	**385**	**–61.4%**

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

In the first quarter of 2018, business free cash flow of the Group amounted to € 729 million (Q1 2017: € 760 million). The decrease of € –30 million was mainly attributable to lower EBITDA pre, which was partly offset by a lower increase in funds tied up in inventories and receivables in the first quarter of 2018 compared with the year-earlier quarter.

GROUP

Business free cash flow[1]

€ million	**Q1 2018**	Q1 2017	Change
EBITDA pre[1]	1,015	1,240	–18.2%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–132	–129	2.9%
Changes in inventories as reported in the consolidated balance sheet	–66	–98	–32.4%
Changes in trade accounts receivable and receivables from royalties and licenses as reported in the consolidated balance sheet	–87	–254	–65.6%
Business free cash flow[1]	**729**	**760**	**–4.0%**

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

Healthcare

HEALTHCARE

Key figures

€ million	**Q1 2018**	Q1 2017	Change
Net sales	1,640	1,735	–5.5%
Operating result (EBIT)[1]	211	445	–52.6%
Margin (% of net sales)[1]	12.9%	25.7%	
EBITDA[1]	401	629	–36.3%
Margin (% of net sales)[1]	24.5%	36.3%	
EBITDA pre[1]	430	633	–32.0%
Margin (% of net sales)[1]	26.3%	36.5%	
Business free cash flow[1]	310	356	–13.0%

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

DEVELOPMENT OF NET SALES AND RESULTS OF OPERATIONS

In the first quarter of 2018, our Healthcare business sector generated organic sales growth of 1.8%. The overall performance was characterized by negative exchange rate effects, which amounted to –7.2% in the first quarter. Consequently, at € 1,640 million, net sales were below the level of the year-earlier quarter (Q1 2017: € 1,735 million). The organic sales performance of the Biopharma business was stable. In particular, organic growth was generated by products to treat infertility, including Gonal-f®. In addition, initial sales of € 13 million came from Mavenclad®, our oral medicine for the treatment of multiple sclerosis. Bavencio®, an immuno-oncology medicine, generated sales of € 12 million. Declines were sustained by our top-selling medicine Rebif® due to the continued difficult competitive situation, Erbitux® and the General Medicine franchise (including CardioMetabolic Care). The Consumer Health business saw very strong organic growth, in particular with its global core strategic brands.

The main driver of the exchange rate effect was the development not only of the U.S. dollar and the resulting appreciation of the euro, but also Latin American currencies. The decline in commission income, which is also included in net sales, by –20.6% to € 17 million (Q1 2017: € 21 million) was mainly attributable to the development of commission income for Xalkori® in connection with the co-commercialization alliance with Pfizer.

As Healthcare's largest geographic market accounting for 38% of sales (Q1 2017: 37%), Europe saw slight organic growth of 1.4%. Organic growth was entirely offset by the foreign exchange impact. Consequently, net sales of € 632 million corresponded to the year-earlier figure. The positive effect from sales of Mavenclad® and medicines from the Fertility portfolio as well as the beta-blocker Concor® was partly offset by the development of Rebif® owing to the difficult competitive

environment as well as the organic decline in sales of Erbitux®. With net sales of € 371 million (Q1 2017: € 387 million), the Asia-Pacific region accounted for 23% of Healthcare sales (Q1 2017: 22%). Organic growth of 3.2% was primarily attributable to the double-digit organic sales growth in Consumer Health, both with local brands (Evion®) and the global core strategic brands Nasivin® and Neurobion®. In the Biopharma business, organic sales growth was delivered by products to treat infertility, particularly Gonal-f®, and by medicines from our General Medicine franchise (including CardioMetabolic Care). Commission income for Xalkori® from the co-commercialization agreement with Pfizer also increased. This development was offset by the organic decline in sales of Erbitux®. Exchange rate effects of –7.3% canceled out the positive development entirely.

The North America region, which was massively affected by the exchange rate development of the U.S. dollar against the euro, generated net sales of € 327 million (Q1 2017: € 371 million). This reflected a negative exchange rate effect of –12.7%. and stable organic sales growth of 0.8%. Sales of Rebif®, the top-selling medicine, declined organically, despite a price increase. Double-digit organic growth of Gonal-f® as well as initial sales of Bavencio® could only partly mitigate this development. Commission income for Xalkori® also declined owing to the development of the competitive situation. The region's contribution to net sales was 20% (Q1 2017: 21%).

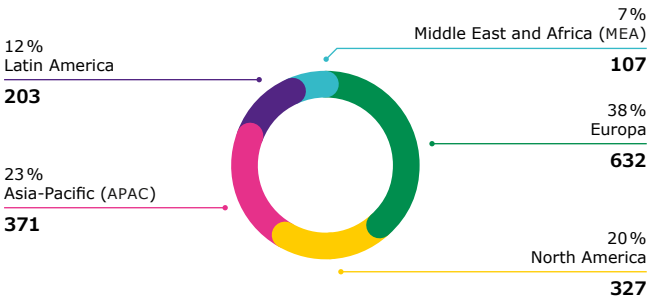
The Latin America region showed stable organic sales growth of 0.4% thanks to the strong development of net sales in Consumer Health with organic growth of 9.1%, especially with the core strategic brands, first and foremost Dolo-Neurobion®. This offset the organic decline in the Biopharma business. Organic sales growth of Erbitux® as well of products to treat infertility, including Gonal-f®, could not fully offset the decline in Rebif® sales. Taking negative foreign exchange effects of –14.3% into account, net sales amounted to € 203 million (Q1: 2017: € 235 million). The region's contribution to Healthcare sales declined overall to 12% (Q1 2017: 14%).

The Middle East and Africa region recorded organic growth of 5.5%. Including an exchange rate effect of –7.3%, net sales amounted to € 107 million and were at the level of the year-earlier quarter (Q1 2017: € 109 million). The increase was mainly attributable to the performance of Rebif®, Erbitux® and the Consumer Health business, partly offset by the negative development of Concor®, Glucophage® and Gonal-f®.

HEALTHCARE

Net sales by region – Q1 2018

€ million / % of the business sector's net sales



HEALTHCARE

Net sales components by region – Q1 2018

€ million / Change in %	Net sales	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	632	1.4%	–1.4%	–	–
North America	327	0.8%	–12.7%	–	–12.0%
Asia-Pacific (APAC)	371	3.2%	–7.3%	–	–4.1%
Latin America	203	0.4%	–14.3%	–	–13.9%
Middle East and Africa (MEA)	107	5.5%	–7.3%	–	–1.8%
Healthcare	**1,640**	**1.8%**	**–7.2%**	**–**	**–5.5%**

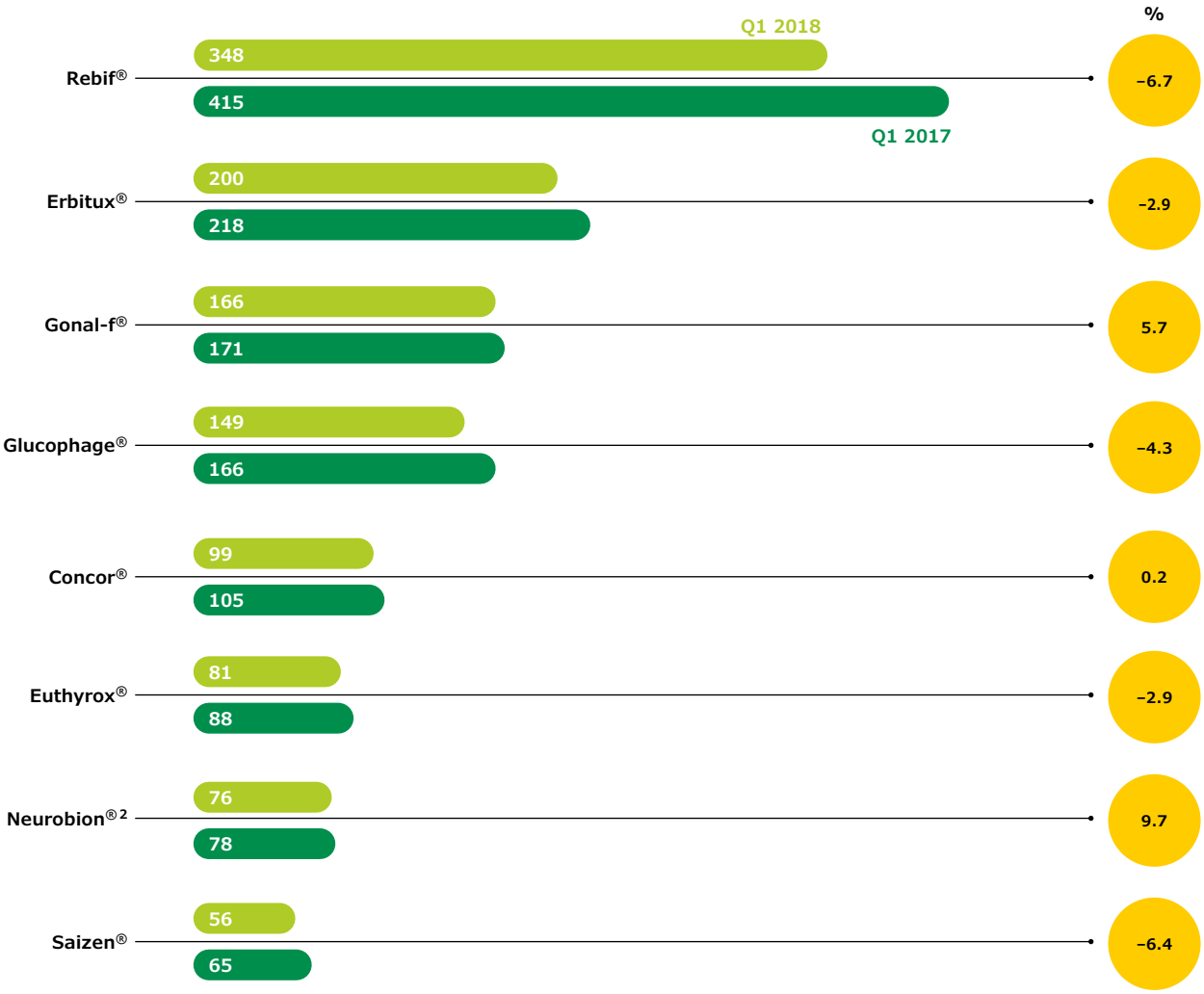
[1] Not defined by International Financial Reporting Standards (IFRS).

Net sales and the organic growth rates of the key products developed as follows:

HEALTHCARE

Product sales and organic growth[1]

€ million / Organic growth in %



[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Including Neurobion® as well as Dolo-Neurobion®, Dexabion®, Diabion® and Gavindo®; previous year's figure has been adjusted.

In the first quarter of 2018, sales of Rebif®, which is used to treat relapsing forms of multiple sclerosis, declined organically by –6.7% particularly as a result of the challenging competitive environment in North America and Europe. Taking into account currency headwinds of –9.4%, sales amounted to € 348 million (Q1 2017: € 415 million). North America, the most important sales market, accounted for 59% of total Rebif® sales (Q1 2017: 60%). Here, sales declined organically by –4.9%. Including exchange rate effects of –12.4%, sales amounted to € 207 million, and were thus below the year-earlier quarter (Q1 2017: € 250 million). Due to the continued difficult competitive situation, a price increase could not offset declining sales volumes.

In Europe, the second-largest market which accounted for 31% of sales (Q1 2017: 29%), sales decreased organically by –9.8% due to continued competitive pressure. Including foreign exchange effects of –2.0%, sales in the region amounted to € 107 million (Q1 2017: € 122 million). The share attributable to the remaining regions, namely Middle East and Africa, Latin America as well as Asia-Pacific decreased to 10% (Q1 2017: 11%). Organic sales growth of 29.7% in the Middle East and Africa region could not offset the organic decline in the remaining regions as well as the overall negative exchange rate effect. Sales in these regions amounted to € 34 million (Q1 2017: € 44 million).

The organic decline 0f –2.9% in sales of the oncology drug Erbitux® as well as exchange rate effects of –5.4% resulted in sales of € 200 million (Q1 2017: € 218 million). The share of sales accounted for by Europe, the largest region in terms of sales, increased to 55% (Q1 2017: 53%). The organic sales decline of –4.6% in Europe primarily stemmed from further price reductions in several countries as well as to the difficult competitive situation. The region generated sales of € 109 million (Q1 2017: € 116 million). This included an exchange rate effect of –0.8%. Asia-Pacific, the second-largest region in terms of sales, saw an organic sales decline of –9.2%. The region's share of sales decreased to 28% (Q1 2017: 31%). Together with negative exchange rate effects of –7.4%, sales amounted to € 56 million (Q1 2017: € 68 million). Organic sales growth of 7.6% in Latin America could only partly offset negative foreign exchange effects of –22.2%. Sales amounted to € 19 million (Q1 2017: € 22 million), equating to 9% of total Erbitux® sales (Q1 2017: 10%). The Middle East and Africa region increased its share of sales to 8% (Q1 2017: 6%). Organic sales growth of 29.9% as well as currency headwinds of –7.0% led to net sales of € 15 million (Q1 2017: € 12 million).

HEALTHCARE

Product sales and organic growth[1] of Rebif® and Erbitux® by region – Q1 2018

		Total	Europe	North America	Asia-Pacific (APAC)	Latin America	Middle East and Africa (MEA)
Rebif®	€ million	348	107	207	3	12	19
	Organic growth[1] in %	–6.7%	–9.8%	–4.9%	–6.8%	–34.5%	29.7%
	% of sales	100%	31%	59%	1%	4%	5%
Erbitux®	€ million	200	109	–	56	19	15
	Organic growth[1] in %	–2.9%	–4.6%	–	–9.2%	7.6%	29.9%
	% of sales	100%	55%	–	28%	9%	8%

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

Gonal-f®, the leading recombinant hormone for the treatment of infertility, generated organic sales growth of 5.7%. Including exchange rate effects of –8.6%, sales amounted to € 166 million (Q1 2017: € 171 million). The main driver of organic growth was the performance in North America, where volumes developed positively.

In the Endocrinology franchise, which mainly consists of products to treat growth disorders, sales amounted to € 86 million, and were thus below the year-earlier period (Q1 2017: € 95 million). The total decrease of –9.6% was almost entirely attributable to negative exchange rate effects. Saizen®, the top-selling medicine of this franchise, recorded an organic sales decline of –6.4%, for which performance in North America was mainly responsible. Global sales of Saizen® totaled € 56 million (Q1 2017: € 65 million).

The General Medicine franchise (including CardioMetabolic Care), which commercializes products to treat cardiovascular diseases, thyroid disorders and diabetes, among other things, registered an organic decrease in sales of –1.4% and a negative exchange rate effect of –5.6%, yielding net sales of € 434 million (Q1 2017: € 467 million). The top-selling product of this franchise, Glucophage®, which is used for the treatment of diabetes, saw an organic decline of –4.3%. Including negative exchange rate effects of –5.9%, sales amounted to € 149 million (Q1 2017: € 166 million). The decline in sales of the beta-blocker Concor® to € 99 million (Q1 2017: € 105 million) was caused by negative foreign exchange effects. Euthyrox®, a medicine to treat thyroid disorders, registered an organic decline of –2.9% in the first quarter of 2018. Including negative exchange rate effects of –5.1%, sales amounted to € 81 million (Q1 2017: € 88 million). This was mainly due to the sales performance in the Middle East and Africa region.

The Consumer Health business, which markets over-the-counter pharmaceuticals, generated good organic sales growth of 7.3% in the first quarter of 2018. Including a foreign exchange effect of –6.5%, net sales amounted to € 231 million (Q1 2017: € 230 million). The organic increase was driven especially by the global core strategic brands Neurobion® (including Dolo-Neurobion®), Bion® and Nasivin®. Local brands within the Asia-Pacific region also contributed to this development.

The results of operations developed as follows:

HEALTHCARE

Results of operations

€ million	Q1 2018	Q1 2017	Change
Net sales	**1,640**	**1,735**	**–5.5%**
Cost of sales	–394	–371	6.0%
Gross profit	**1,246**	**1,364**	**–8.6%**
Marketing and selling expenses	–636	–656	–3.2%
Administration costs	–81	–77	5.9%
Research and development costs	–385	–376	2.6%
Other operating expenses and income	67	191	–64.7%
Operating result (EBIT)[1]	**211**	**445**	**–52.6%**
Depreciation/amortization/impairment losses/reversals of impairment losses	190	184	3.2%
(of which: adjustments)	*(2)*	*(1)*	*(> 100.0%)*
EBITDA[1]	**401**	**629**	**–36.3%**
Restructuring costs	1	–	–
Integration costs/IT costs	3	4	–28.1%
Gains/losses on the divestment of businesses	–	–	–
Acquisition-related adjustments	–	–	–
Other adjustments	25	–	–
EBITDA pre[1]	**430**	**633**	**–32.0%**

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

Gross profit of our Healthcare business sector decreased by –8.6% to € 1,246 million in the first quarter of 2018 (Q1 2017: € 1,364 million). The foreign exchange effect, which led to the decline in net sales, did not impact the development of production costs to the same extent. Irrespective of the foreign exchange effect, earnings were at the previous year's level. This resulted in a gross margin of 76.0% (Q1 2017: 78.6%).

Marketing and selling expenses reflected market launches, especially that of Mavenclad®. The decline was due to a favorable exchange rate effect. Research and development costs reflected continued investments in the development pipeline and amounted to € 385 million (Q1 2017: € 376 million). The research spending ratio increased to 23.5% (Q1 2017: 21.7%). In the first quarter of 2018, other operating expenses and income included a milestone payment of € 50 million to be made by BioMarin Pharmaceutical Inc., USA, in connection with the divestment of Peg-Pal in 2016. The year-earlier quarter was positively influenced by income from a contractually agreed one-time payment of € 116 million for future license payments as well as a milestone payment recognized as income for the regulatory approval of Bavencio® in Merkel cell carcinoma in the United States. In addition, the first quarter of 2018 included advisory fees that were incurred in conjunction with the divestment process for the Consumer Health business and then eliminated during the calculation of EBITDA pre.

Consequently, EBITDA pre amounted to € 430 million (Q1 2017: € 633 million), corresponding to an EBITDA pre margin of 26.3% (Q1 2017: 36.5%).

DEVELOPMENT OF BUSINESS FREE CASH FLOW

In the first quarter of 2018, business free cash flow was € 310 million (Q1 2017: € 356 million). The decline was primarily attributable to lower EBITDA pre. This development was mitigated to some extent by optimized working capital management, especially with respect to receivables.

HEALTHCARE

Business free cash flow[1]

€ million	**Q1 2018**	Q1 2017	Change
EBITDA pre[1]	430	633	–32.0%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–44	–45	–2.3%
Changes in inventories	–12	–24	–48.9%
Changes in trade accounts receivable as well as receivables from royalties and licenses	–64	–207	–69.1%
Business free cash flow[1]	**310**	**356**	**–13.0%**

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

Life Science

LIFE SCIENCE

Key figures

€ million	Q1 2018	Q1 2017	Change
Net sales	1,487	1,481	0.4%
Operating result (EBIT)[1]	273	236	15.8%
Margin (% of net sales)[1]	18.4%	15.9%	
EBITDA[1]	442	430	2.8%
Margin (% of net sales)[1]	29.7%	29.0%	
EBITDA pre[1]	455	445	2.1%
Margin (% of net sales)[1]	30.6%	30.1%	
Business free cash flow[1]	375	281	33.5%

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

DEVELOPMENT OF SALES AND RESULTS OF OPERATIONS

In the first quarter of 2018, Life Science generated strong organic sales growth of 8.8% offset by a negative foreign exchange impact of –8.4%. Consequently, net sales rose only insignificantly over the year-earlier quarter. The unfavorable foreign exchange impact was primarily driven by the development of the U.S. dollar exchange rate, which decreased significantly against the euro compared with the first quarter of 2017. All three business units contributed to organic growth, with the largest contribution coming from Process Solutions, specifically the BioProcessing business field, and followed by Applied Solutions. Taking these effects into account, the business sector's net sales increased overall by 0.4% to € 1,487 million (Q1 2017: € 1,481 million).

From a geographic perspective, all regions contributed positively to Life Science's organic sales growth with the exception of the Middle East and Africa region.

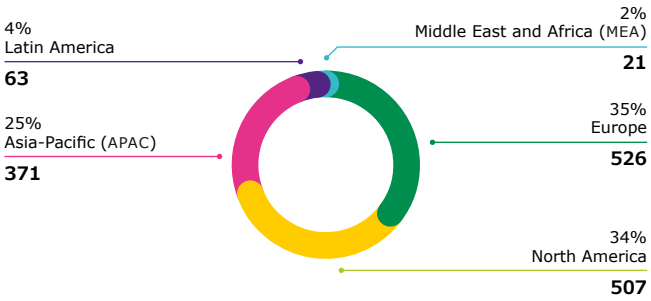
Sales in Europe increased organically by 5.5% and were driven by all three business units, with the majority of growth coming from Process Solutions, specifically within the Actives & Formulation business. Overall, sales in Europe increased to € 526 million (Q1 2017: € 505 million) equating to an overall contribution of 35% (Q1 2017: 34%) to Life Science's net sales in the first quarter.

North America, accounting for 34% (Q1 2017: 36%) of the business sector's sales, delivered strong organic growth of 9.3%. Process Solutions achieved very strong organic growth driven by BioProcessing, specifically single-use products and cell culture media. However, due to a negative foreign exchange effect of –14.1% as the result of the deterioration of the U.S. dollar-euro exchange rate, North America sales decreased to € 507 million (Q1 2017: € 532 million) in the first quarter.

LIFE SCIENCE

Net sales by region – Q1 2018

€ million/% of the business sector's net sales



Asia-Pacific achieved very strong organic sales growth of 14.7% with positive developments in all business units. Process Solutions also led the growth in this region with very good performance in BioProcessing specifically in China, India and Singapore. Overall, Asia-Pacific sales increased to € 371 million (Q1 2017: € 350 million) which represented 25% (Q1 2017: 23%) of Life Science's net sales in the first quarter.

Sales in Latin America grew organically by 7.5% mainly driven by Process Solutions, specifically within Actives & Formulation. Organic growth, which was offset by a negative currency impact of –15.9%, led to net sales for the region of € 63 million (Q1 2017: € 69 million).

Sales in the Middle East and Africa region saw an organic decrease of –14.8%, which was primarily driven by Process and Research Solutions. Net sales for the region were € 21 million (Q1 2017: € 25 million).

LIFE SCIENCE

Net sales components by region – Q1 2018

€ million/Change in %	Net sales	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	526	5.5%	–1.4%	–	4.1%
North America	507	9.3%	–14.1%	–	–4.8%
Asia-Pacific (APAC)	371	14.7%	–8.8%	–	5.9%
Latin America	63	7.5%	–15.9%	–	–8.4%
Middle East and Africa (MEA)	21	–14.8%	–2.0%	–	–16.8%
Life Science	**1,487**	**8.8%**	**–8.4%**	**–**	**0.4%**

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

All Life Science business units contributed to the positive organic sales performance in the first quarter of 2018.

The Process Solutions business unit, which markets products and services for the entire pharmaceutical production value chain, generated organic sales growth of 14.1%, which was the highest rate within our Life Science business sector. Despite an unfavorable foreign exchange effect of –8.8%, sales totaled € 583 million in the first quarter of 2018 (Q1 2017[1]: € 554 million). Process Solutions thus accounted for 39% (Q1 2017: 37%) of Life Science net sales. The increase was primarily driven by BioProcessing, specifically with higher demand for single-use products and cell culture media. As in the preceding quarter, there were no further signs of weakening demand among global accounts and demand from local accounts continued to show dynamic growth.

The Research Solutions business unit, which provides products and services to support life science research for pharmaceutical, biotechnology, and academic research laboratories, recorded a moderate increase in organic sales of 4.3%. However, as a result of negative foreign exchange effects of –8.1%, sales declined to € 509 million (Q1 2017[1]: € 529 million). Organic growth was primarily driven by an increase in the Lab and Specialty Chemicals business. The share of sales accounted for by Research Solutions in the first quarter of 2018 was 34% (Q1 2017: 36%).

Applied Solutions, which accounted for a 27% (Q1 2017: 27%) share of Life Science first-quarter sales, delivered strong organic sales growth of 7.3% with its broad range of products for researchers as well as scientific and industrial laboratories. Organic growth occurred across the majority of the Applied Solutions portfolio. Due to negative exchange rate effects of –8.2%, sales declined slightly to € 395 million (Q1 2017[1]: € 399 million).

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

LIFE SCIENCE

Net sales components by business area – Q1 2018

€ million/Change in %	Net sales	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change
Process Solutions	583	14.1%	–8.8%	–	5.3%
Research Solutions	509	4.3%	–8.1%	–	–3.8%
Applied Solutions	395	7.3%	–8.2%	–	–0.8%

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

The results of operations developed as follows:

LIFE SCIENCE

Results of operations

€ million	Q1 2018	Q1 2017	Change
Net sales	**1,487**	**1,481**	**0.4%**
Cost of sales	–650	–622	4.4%
Gross profit	**837**	**859**	**–2.5%**
Marketing and selling expenses	–408	–449	–9.0%
Administration costs	–70	–70	–0.4%
Research and development costs	–59	–62	–4.0%
Other operating expenses and income	–27	–43	–37.0%
Operating result (EBIT)[1]	**273**	**236**	**15.8%**
Depreciation/amortization/impairment losses/reversals of impairment losses	169	194	–13.0%
(of which: adjustments)	*(–)*	*(–)*	*(–)*
EBITDA[1]	**442**	**430**	**2.8%**
Restructuring costs	–	1	–100.0%
Integration costs/IT costs	12	11	2.6%
Gains/losses on the divestment of businesses	–	–	–
Acquisition-related adjustments	–	3	–100.0%
Other adjustments	1	–	–
EBITDA pre[1]	**455**	**445**	**2.1%**

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

At € 837 million, gross profit was –2.5% lower in the first quarter of 2018 than in the year-earlier period (Q1 2017: € 859 million). This was a consequence of significant adverse foreign exchange effects, which were only partially compensated for by strong organic net sales growth. Marketing and selling expenses decreased by –9.0% in comparison with the first quarter of 2017, primarily as a result of a favorable foreign exchange effect, as well as strict expense management. The planned synergies from the acquisition of Sigma-Aldrich had a favorable impact on the development of costs. Administration expenses remained relatively consistent while R&D costs decreased by –4.0% versus the year-earlier period. This was due to a favorable foreign exchange effect, and target-oriented project management. Additionally, other operating expenses (net) declined by –37.0% compared with the year-earlier quarter. This was mainly attributable to a provision for litigation set up in the first quarter of 2017.

In comparison with the first quarter of 2017, the operating result (EBIT) of Life Science rose by 15.8% to € 273 million. After eliminating depreciation and amortization as well as adjustments, EBITDA pre, the most important performance indicator, climbed 2.1% to € 455 million (Q1 2017: € 445 million). At 30.6%, the EBITDA pre margin reached the year-earlier level (Q1 2017: 30.1%).

DEVELOPMENT OF BUSINESS FREE CASH FLOW

In the first quarter of 2018, Life Science generated business free cash flow amounting to € 375 million, which represents an increase of 33.5% over the first quarter of 2017. This was primarily due to the development of inventories and receivables compared with Q1 2017, as well as higher EBITDA pre and lower capital spending.

LIFE SCIENCE

Business free cash flow[1]

€ million	**Q1 2018**	Q1 2017	Change
EBITDA pre[1]	455	445	2.1%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–42	–52	–20.3%
Changes in inventories	–24	–60	–59.7%
Changes in trade accounts receivable as well as receivables from royalties and licenses	–14	–52	–73.7%
Business free cash flow[1]	**375**	**281**	33.5%

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

Performance Materials

PERFORMANCE MATERIALS

Key figures

€ million	**Q1 2018**	Q1 2017	Change
Net sales	564	645	–12.5%
Operating result (EBIT)[1]	136	195	–30.4%
Margin (% of net sales)[1]	24.1%	30.3%	
EBITDA[1]	192	257	–25.0%
Margin (% of net sales)[1]	34.1%	39.8%	
EBITDA pre[1]	196	263	–25.7%
Margin (% of net sales)[1]	34.7%	40.9%	
Business free cash flow[1]	137	233	–41.0%

[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 therefore combining its activities in three newly created business units: Display Solutions, Semiconductor Solutions and Surface Solutions. The business with OLED materials is being integrated into the Display Solutions business unit, while the remaining part of the former Advanced Technologies business unit, mainly comprising optoelectronic materials, is being allocated to the Surface Solutions business unit.

In the first quarter of 2018, net sales of our Performance Materials business sector declined by –12.5% to € 564 million (Q1 2017: € 645 million). This resulted mainly from negative foreign exchange effects of –8.5%. The decrease was additionally intensified by an organic decline in sales (–4.0%) as the business with display materials fell short of the year-earlier quarter.

The Display Solutions business unit, consisting of the Liquid Crystals business as well as OLED and complementary materials, accounts for slightly more than 50% of the overall net sales of Performance Materials. This business unit saw an organic decrease in sales, but continued to defend its market leadership position. The decline in sales in the first quarter of 2018 stemmed from the performance of established liquid crystal technologies, caused by decrease in the unusually high market shares as well as price declines customary in this industry. An exception here were OLED materials as well as the energy-saving UB-FFS technology, which each recorded double-digit organic growth yet were unable to compensate for the organic decline in sales of established liquid crystal technologies.

The Semiconductor Solutions business unit comprises the business with materials used in integrated circuit production. The business unit delivered very strong organic growth, to which all major businesses contributed. Particularly high growth rates were achieved with dielectric materials.

The Surface Solutions business unit combines the businesses with pigments and functional fillers as well as optoelectronic materials. In the first quarter of 2018, the Surface Solutions business unit recorded a slight decline in net sales, which was mainly due to the exceptionally strong year-earlier quarter.

Accounting for 78% (Q1 2017: 78%), Asia-Pacific again generated the vast majority of the net sales of Performance Materials. This is due to the concentration of customers of Display Solutions and Semiconductor Solutions in the Asia-Pacific region. Due to the stronger euro and the performance of the Display Solutions business unit, sales in this region declined to € 439 million (Q1 2017: € 504 million). The increases in sales of semiconductor materials and pigments were unable to compensate for weaker sales of liquid crystals, resulting in a –4.0% organic sales decline in the region.

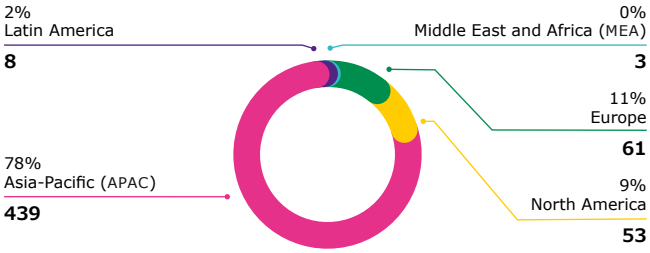
In Europe, Performance Materials generated sales of € 61 million (Q1 2017: € 65 million). The organic decline of –6.7% resulted mainly from weaker sales by the Surface Solutions and Semiconductor Solutions business units.

In North America, sales decreased sharply on account of the weak U.S. dollar to € 53 million in the first quarter of 2018 (Q1 2017: € 61 million). Organically, sales were only just below the year-earlier quarter.

PERFORMANCE MATERIALS

Net sales by region – Q1 2018

€ million/% of the business sector's net sales



Since they account for a low proportion of sales, the two regions Latin America and Middle East and Africa played a subordinate role. Both regions recorded organic sales declines due to the weaker business with decorative materials.

PERFORMANCE MATERIALS

Net sales components by region – Q1 2018

€ million/Change in %	Net sales	Organic growth[1]	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	61	–6.7%	–0.4%	–	–7.2%
North America	53	–0.3%	–13.0%	–	–13.3%
Asia-Pacific (APAC)	439	–4.0%	–9.0%	–	–12.9%
Latin America	8	–10.7%	–9.7%	–	–20.3%
Middle East and Africa (MEA)	3	–4.6%	–3.8%	–	–8.4%
Performance Materials	**564**	**–4.0%**	**–8.5%**	**–**	**–12.5%**

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

The results of operations developed as follows:

PERFORMANCE MATERIALS

Results of operations

€ million	Q1 2018	Q1 2017	Change
Net sales	**564**	**645**	**–12.5%**
Cost of sales	–275	–299	–7.9%
Gross profit	**289**	**346**	**–16.5%**
Marketing and selling expenses	–60	–62	–3.5%
Administration costs	–19	–18	4.4%
Research and development costs	–59	–58	2.6%
Other operating expenses and income	–15	–13	16.5%
Operating result (EBIT)[1]	**136**	**195**	**–30.4%**
Depreciation/amortization/impairment losses/reversals of impairment losses	57	62	–7.6%
(of which: adjustments)	*(–)*	*(–)*	*(–)*
EBITDA[1]	**192**	**257**	**–25.0%**
Restructuring costs	–	2	–100.0%
Integration costs/IT costs	2	5	–54.4%
Gains/losses on the divestment of businesses	–	–	–
Acquisition-related adjustments	–	–	–
Other adjustments	1	–	–
EBITDA pre[1]	**196**	**263**	**–25.7%**

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

Gross profit of our Performance Materials business sector was € 57 million less in the first quarter of 2018 than in the year-earlier quarter, resulting in a gross margin of 51.2% (Q1 2017: 53.6%). The operating result (EBIT) decreased by € 59 million to € 136 million in the first quarter of 2018 (Q1 2017: € 195 million). This was mainly due to decreasing sales of highly profitable liquid crystals. In addition, research and development costs rose in order to push forward with product innovations in semiconductor materials. At 34.7%, the EBITDA pre margin was below the strong year-earlier figure (Q1 2017: 40.9%).

DEVELOPMENT OF BUSINESS FREE CASH FLOW

In the first quarter of 2018 business free cash flow of our Performance Materials business sector decreased to € 137 million (Q1 2017: € 233 million). Key factors for this were the decline in EBITDA pre as well as the development of inventories and receivables.

PERFORMANCE MATERIALS

Business free cash flow[1]

€ million	**Q1 2018**	Q1 2017	Change
EBITDA pre[1]	196	263	–25.7%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–22	–20	7.7%
Changes in inventories	–29	–14	> 100.0%
Changes in trade accounts receivable as well as receivables from royalties and licenses	–7	3	> 100.0%
Business free cash flow[1]	**137**	**233**	**–41.0%**

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

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

€ million	**Q1 2018**	Q1 2017	Change
Operating result (EBIT)[1]	–102	–122	–16.0%
EBITDA[1]	–89	–113	–20.6%
EBITDA pre[1]	–66	–101	–35.4%
Business free cash flow[1]	–94	–111	–15.3%

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

In the first quarter of 2018, administration expenses reported under Corporate and Other amounted to € 59 million (Q1 2017: € 78 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 € 11 million in the first quarter of 2018 (Q1 2017: € 0 million). Other operating expenses (net) decreased to € –29 million (Q1 2017: € –40 million). This was mainly due to the positive development of the foreign exchange result. Consequently, in the first quarter of 2018 the operating result (EBIT) amounted to € –102 million (Q1 2017: € –122 million) and EBITDA was € –89 million (Q1 2017: € –113 million). After adjustments, EBITDA pre totaled € –66 million (Q1 2017: € -101 million). The improvement in EBITDA pre had a positive effect on the development of business free cash flow. Taking higher investments into account, this key figure improved to € –94 million (Q1: 2017: € –111 million).

Outlook

With the publication of the results of 2017, we provided a forecast of the development of net sales, EBITDA pre and business free cash flow for the Group and the individual business sectors in 2018. Following the end of the first quarter, this forecast is now specified in the following report.

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 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. As of the report on the second quarter, the Consumer Health business will be reported as a "discontinued operation". The previous year's figures and the figures for the first quarter will be correspondingly adjusted. The following forecast takes into account the resulting effects and presents the expected sales and earnings figures for the Group and our Healthcare business sector both including and excluding the Consumer Health business.

Following a solid first quarter, we continue to expect for the full year 2018 a moderate organic net sales increase of 3% to 5% over the previous year. Since the beginning of the year, the euro has continued to appreciate against the U.S. dollar and various emerging market currencies. In particular, in the first quarter of 2018, the €/US$ exchange rate was slightly above the range of 1.18 to 1.22 that we had expected to date for the full year 2018. Therefore, we assume that exchange rate changes will have a moderately negative effect of –4% to –6% on our net sales growth over the previous year. In contrast to our previous estimate for the full year, we expect a €/US$ exchange rate in the range of 1.19–1.23. This development depends heavily on current political and macroeconomic factors. Consequently, we continue to generally expect high exchange rate volatility in 2018. The planned divestment of our Consumer Health business is likely to reduce full-year net sales of the Group by between € 0.9 billion and € 1.0 billion. Overall, we thus forecast Group net sales of € 15.0 billion to € 15.5 billion for 2018 based on an unchanged portfolio; and of € 14.0 billion to € 14.5 billion from continuing operations taking into account the divestment of the Consumer Health business. The divestment does not change our underlying forecasts regarding organic sales growth and the foreign exchange impact.

We expect that Group EBITDA pre will be in a corridor between € 3.95 billion and € 4.15 billion in 2018. We confirm our original expectation of a slight organic decline of –1% to –3% in EBITDA pre compared with the previous year. The decrease in comparison with the previous year primarily reflects negative exchange rate effects on EBITDA pre, which we now see in a range of –5% to –7% (previously –4% to –6%) versus 2017 owing to the latest exchange rate developments. In our estimation, the divestment of our Consumer Health business will lower EBITDA pre of the Group by between € 170 million and € 200 million, leading to EBITDA pre from continuing operations in a range of between € 3.75 billion and € 4.0 billion. The divestment of the Consumer Health business does not change our assumptions for organic EBITDA pre development and exchange rate effects.

For our Healthcare business sector, our forecast for a moderate organic increase in net sales in 2018 in comparison with the previous year remains unchanged. This estimate is not altered by the changed presentation of our Consumer Health business as a discontinued operation. As a result of this presentation, net sales of our Healthcare business sector are likely to decrease by between € 0.9 billion and € 1.0 billion. Overall, our expectations have not changed from our latest forecast published in the Annual Report for 2017: We assume that the positive development of demand in growth markets will contribute significantly to the expected organic development of sales and will compensate for 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 a mid double-digit euro million and high double-digit euro million amount, respectively. We forecast EBITDA pre of our Healthcare business sector in 2018 in a range between € 1.77 billion to € 1.83 billion, assuming an unchanged portfolio. The strong decline versus the previous year (€ 1,949 million) is due first and foremost to negative exchange rate effects that are expected to adversely impact EBITDA pre by –5% to –7% in the year-on-year comparison. However, we still expect a slight organic earnings decline of –1% to –2% compared with 2017. Positive effects of around € 200 million, which we realized in 2017, will not be incurred in 2018. This includes the Bavencio® milestone payments from Pfizer and a one-time payment received as compensation for future license payments. Increasing research and development costs for further pipeline development, particularly in immuno-oncology, will remain a key driver of the forecast organic development of EBITDA pre. However, this budgeted cost increase will be further specified in the course of the year depending on clinical data and prioritization decisions. Against the background of the market launches of Bavencio® and Mavenclad® in additional countries, we also expect an increase in our marketing and selling expenses. In addition, we 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 as well as increasing earnings contributions from our newly approved products Bavencio® and Mavenclad® will partly offset the expected decline in organic EBITDA pre. The entitlement to a milestone payment of € 50 million from BioMarin in the first quarter also had a positive effect. Taking into consideration the changed presentation of our Consumer Health business as a discontinued operation, we see EBITDA pre of our Healthcare business sector in a range of between € 1.58 billion and € 1.65 billion.

For our Life Science business sector, our forecast of solid organic sales growth slightly above the expected medium-term market growth of approximately 4% per year remains unchanged for 2018. This also includes sales synergies from the acquisition of Sigma-Aldrich. We believe that Process Solutions will continue to contribute the largest share to organic sales growth. Research Solutions and Applied Solutions will also contribute positively to organic sales growth. 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 continue to expect a positive effect of around € 95 million on earnings in addition to the cost synergies already realized, which had reached a level of € 185 million in the previous year. We confirm our estimation in the most recent forecast and expect organic earnings growth for our Life Science business sector at the previous year's level of about 8%. However, negative exchange rate effects will presumably have a moderately negative impact of –4% to –6% on earnings growth. Overall, we forecast EBITDA pre in a range of between € 1.82 billion and € 1.87 billion.

We continue to forecast a slight to moderate organic sales decline in our Performance Materials business sector in 2018 compared with 2017. Our estimation has not changed in comparison with our latest forecast: the adjustment processes in our Liquid Crystals businesses will continue as before. The decline in our market shares primarily in China, which in recent years were unusually high, is still underway. Consequently, the price pressure customary in this industry cannot be offset by corresponding volume growth. An unchanged good organic sales development in our other business fields can only partly mitigate this trend. Due to unfavorable foreign exchange developments, we expect to see a moderately negative foreign exchange effect on net sales of Performance Materials in 2018. Despite this development, we nevertheless confirm our forecast for an organic decline in EBITDA pre in the mid-teens range versus the previous year, that means approximately between –14% to –16%. The foreign exchange environment, which has become somewhat more difficult since our previous forecast, is likely to weigh heavily on EBITDA pre by around –8% to –10% versus the previous year. In total, we forecast EBITDA pre for our Performance Materials business sector of between € 725 million and € 765 million in 2018.

We assume that EBITDA pre of Corporate and Other in 2018 will amount to between € –320 million and € –360 million. The main reasons are continued 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. By contrast, expected currency hedging gains should have a compensating effect in 2018.

GROUP

Forecast for FY 2018

€ million	Net sales	EBITDA pre	Business free cash flow
Group	• Organic growth 3% to 5% • Exchange rate effect –4% to –6% • ~15,000 to 15,500 (excluding Consumer Health ~14,000 to 14,500)	• Organic decline –1% to –3% vs. 2017 • Exchange rate effect –5% to –7% • ~3,950 to 4,150 (excluding Consumer Health ~3,750 to 4,000)	• ~2,460 to 2,770 (excluding Consumer Health ~2,310 to 2,620)
Healthcare	• Moderate organic growth • Moderately negative foreign exchange effect	• Organic decline –1% to –2% • Exchange rate effect –5% to –7% • ~1,770 to 1,830 (excluding Consumer Health ~1,580 to 1,650)	• ~1,140 to 1,240 (excluding Consumer Health ~1,000 to 1,080)
Life Science	• Organic growth slightly above the medium-term market average of 4% p.a. • Moderately negative foreign exchange effect	• Organic growth at around the previous year's level of 8% • Exchange rate effect –4% to –6% • ~1,820 to 1,870	• ~1,310 to 1,400
Performance Materials	• Slight to moderate organic decline • Moderately negative foreign exchange effect	• Organic decline –14% to –16% vs. 2017 • Exchange rate effect –8% to –10% • ~725 to 765	• ~480 to 550
Corporate and Other	–	• ~–360 to –320	• ~–490 to –440

EPS pre € 5.30 to € 5.65
(excluding Consumer Health € 5.00 to € 5.40)

Full-year FX assumptions for 2018:
€ 1 = US$ 1.19 to 1.23
€ 1 = CHF 1.15 to 1.20

Supplemental Financial Information

Supplemental Financial Information

Consolidated Income Statement

€ million	Q1 2018	Q1 2017
Net sales	**3,691**	**3,861**
Cost of sales	–1,320	–1,296
Gross profit	**2,371**	**2,565**
Marketing and selling expenses	–1,106	–1,168
Administration expenses	–228	–242
Research and development costs	–514	–495
Expenses (net) from impairment losses and reversals of impairment losses of financial assets[1]	–3	–
Other operating income	157	271
Other operating expenses	–158	–176
Operating result (EBIT)[2]	**518**	**755**
Financial result[3]	**–62**	**–69**
Profit before income tax[3]	**456**	**686**
Income tax[3]	–114	–161
Profit after tax[3]	**342**	**524**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany (net income)[3]	341	523
of which: attributable to non-controlling interests	1	2
Earnings per share (in €)		
basic	0.78	1.20
diluted	0.78	1.20

[1] Relevant for the first time as of January 1, 2018 owing to the first-time application of IFRS 9, see "Effects of new financial reporting standards".
[2] Not defined by International Financial Reporting Standards (IFRS).
[3] Previous year's figures have been adjusted, see "Effects of new financial reporting standards".

Consolidated Statement of Comprehensive Income

€ million	Q1 2018	Q1 2017
Profit after tax[1]	**342**	**524**
Items of other comprehensive income that will not be reclassified to profit or loss in subsequent periods		
Net defined benefit liability		
Changes in remeasurement	116	64
Tax effect	–24	–11
Changes recognized in equity	92	53
Equity instruments[2]		
Fair value adjustments	23	
Tax effect	–	
Changes recognized in equity	23	
	115	53
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		6
Reclassification to profit or loss		–1
Tax effect		1
Changes recognized in equity		6
Cash flow hedge reserve		
Fair value adjustments	32	–18
Reclassification to profit or loss	–6	21
Reclassification to assets	–	–
Tax effect	–7	–2
Changes recognized in equity	20	1
Cost of cash flow hedge reserve[1]		
Fair value adjustments	–4	–2
Reclassification to profit or loss	–	–
Reclassification to assets	–	–
Tax effect	–	–
Changes recognized in equity	–4	–2
Exchange differences on translating foreign operations		
Changes taken directly to equity	–417	–152
Reclassification to profit or loss	–2	–
Changes recognized in equity	–419	–152
	–404	–147
Other comprehensive income[1]	**–289**	**–94**
Comprehensive income	**53**	**431**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany	54	428
of which: attributable to non-controlling interests	–1	3

[1] Previous year's figures have been adjusted, see "Effects of new financial reporting standards".
[2] Relevant for the first time as of January 1, 2018 owing to the first-time application of IFRS 9, see "Effects of new financial reporting standards".
[3] Relevant until December 31, 2017, see "Effects of new financial reporting standards".

Consolidated Balance Sheet

€ million	March 31, 2018	Dec. 31, 2017
Non-current assets		
Goodwill	13,282	13,582
Other intangible assets	7,880	8,317
Property, plant and equipment	4,468	4,512
Non-current financial assets	457	444
Other non-current assets	198	205
Deferred tax assets	1,083	1,106
	27,368	**28,166**
Current assets		
Inventories	2,704	2,632
Trade accounts receivable	2,946	2,923
Current financial assets	72	90
Other current assets	749	731
Income tax receivables	590	490
Cash and cash equivalents	747	589
	7,807	**7,455**
Total assets	**35,175**	**35,621**
Total equity		
Equity capital	565	565
Reserves[1]	12,835	12,358
Gains/losses recognized in equity[1]	646	1,081
Equity attributable to shareholders of Merck KGaA, Darmstadt, Germany	**14,045**	**14,003**
Non-controlling interests	60	63
	14,105	**14,066**
Non-current liabilities		
Provisions for pensions and other post-employment benefits	2,164	2,257
Other non-current provisions	747	788
Non-current financial liabilities	7,936	8,033
Other non-current liabilities	281	354
Deferred tax liabilities	1,410	1,489
	12,538	**12,919**
Current liabilities		
Current provisions	445	414
Current financial liabilities	2,858	2,790
Trade accounts payable/Refund liabilities	2,072	2,195
Income tax liabilities	1,044	1,059
Other current liabilities	2,114	2,175
	8,533	**8,635**
Total equity and liabilities	**35,175**	**35,621**

[1] Previous year's figures have been adjusted, see "Effects of new financial reporting standards".

Consolidated Cash Flow Statement

€ million	Q1 2018	Q1 2017
Profit after tax[1]	**342**	**524**
Depreciation/amortization/impairment losses/reversals of impairment losses	428	448
Changes in inventories	–92	–101
Changes in trade accounts receivable	–71	–205
Changes in trade accounts payable/refund liabilities	2	–61
Changes in provisions	17	51
Changes in other assets and liabilities	–235	134
Neutralization of gain/loss on disposals of assets	–9	–9
Other non-cash income and expenses[1]	–1	–4
Net cash flows from operating activities	**380**	**777**
Payments for investments in intangible assets	–21	–209
Payments from the disposal of intangible assets	6	–
Payments for investments in property, plant and equipment	–228	–201
Payments from the disposal of property, plant and equipment	10	17
Payments for investments in financial assets	–13	–85
Payments from the disposal of other financial assets	33	65
Payments from other divestments	–	11
Net cash flows from investing activities	**–213**	**–402**
Dividend payments to non-controlling interests	–2	–1
Dividend payments to E. Merck KG, Darmstadt, Germany	–63	–68
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	493	119
Net cash flows from financing activities	**–3**	**–290**
Changes in cash and cash equivalents	**165**	**85**
Changes in cash and cash equivalents due to currency translation	–6	8
Cash and cash equivalents at the beginning of the reporting period	589	939
Cash and cash equivalents as of March 31	**747**	**1,031**

[1] Previous year's figures have been adjusted, see "Effects of new financial reporting standards".

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]	–	–	–	523	–	
Other comprehensive income	–	–	–	–	54	
Comprehensive income	**–**	**–**	**–**	**523**	**54**	
Dividend payments	–	–	–	–	–	
Transactions with no change of control	–	–	–	–	–	
Changes in scope of consolidation/Other	–	–	–	–	–	
Balance as of March 31, 2017	**397**	**168**	**3,814**	**8,569**	**–1,447**	
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	–	–	–	341	–	–
Other comprehensive income	–	–	–	–	92	23
Comprehensive income	**–**	**–**	**–**	**341**	**92**	**23**
Dividend payments	–	–	–	–	–	–
Transactions with no change of control	–	–	–	–	–	–
Changes in scope of consolidation/Other	–	–	–	3	–	–
Balance as of March 31, 2018	**397**	**168**	**3,814**	**10,270**	**–1,266**	**17**

[1] See "Effects of new financial reporting standards".
[2] Previous year's figures have been adjusted, see "Effects of new financial reporting standards".

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**
–		–	–	–	523	2	524
6		1	–2	–153	–95	1	–94
6		**1**	**–2**	**–153**	**428**	**3**	**431**
–		–	–	–	–	–1	–1
–		–	–	–	–	–	–
–		–	–	–	–	–	–
31	**–**	**–190**	**1**	**3,075**	**14,418**	**63**	**14,481**
31	**–**	**–121**	**–1**	**1,171**	**14,003**	**63**	**14,066**
–31	–1	–	–	–	–15	–	–15
	–	–	–	–	–	–	–
	–1	**–121**	**–1**	**1,171**	**13,988**	**63**	**14,051**
	–	–	–	–	341	1	342
	–	20	–4	–417	–287	–2	–289
	–	**20**	**–4**	**–417**	**54**	**–1**	**53**
	–	–	–	–	–	–2	–2
	–	–	–	–	–	–	–
	–	–	–	–	3	–	3
	–1	**–101**	**–6**	**754**	**14,045**	**60**	**14,105**

Information by Business Sector

€ million	Healthcare		Life Science		Performance Materials		Corporate and Other		Group	
	Q1 2018	Q1 2017	**Q1 2018**	Q1 2017	**Q1 2018**	Q1 2017	**Q1 2018**	Q1 2017	**Q1 2018**	Q1 2017
Net sales[1]	**1,640**	**1,735**	**1,487**	**1,481**	**564**	**645**	**–**	**–**	**3,691**	**3,861**
Operating result (EBIT)[2]	**211**	**445**	**273**	**236**	**136**	**195**	**–102**	**–122**	**518**	**755**
Depreciation and amortization	188	182	169	191	57	62	13	9	426	443
Impairment losses	2	2	–	3	–	–	–	–	2	5
Reversals of impairment losses	–	–	–	–	–	–	–	–	–	–
EBITDA[2]	**401**	**629**	**442**	**430**	**192**	**257**	**–89**	**–113**	**946**	**1,203**
Adjustments[2]	29	4	13	16	3	7	24	11	70	38
EBITDA pre (segment result)[2]	**430**	**633**	**455**	**445**	**196**	**263**	**–66**	**–101**	**1,015**	**1,240**
EBITDA pre margin (in % of net sales)[2]	26.3%	36.5%	30.6%	30.1%	34.7%	40.9%	–	–	27.5%	32.1%
Assets by business sector[3]	8,090	8,184	19,961	20,422	4,015	3,942	3,109	3,073	35,175	35,621
Liabilities by business sector[3]	–2,874	–2,985	–1,188	–1,254	–583	–484	–16,426	–16,832	–21,071	–21,554
Investments in property, plant and equipment[4]	88	76	65	72	28	28	47	24	228	201
Investments in intangible assets[4]	14	194	3	13	2	2	1	–	21	209
Net cash flows from operating activities	233	382	285	292	247	379	–385	–275	380	777
Business free cash flow[2]	310	356	375	281	137	233	–94	–111	729	760

[1] Excluding intersegment sales.
[2] Not defined by International Financial Reporting Standards (IFRS)
[3] Figures for the reporting period ending on March 31, 2018; previous-year figures as of December 31, 2017.
[4] As reported in the consolidated cash flow statement.

€ million	**Q1 2018**	Q1 2017
EBITDA pre of the operating businesses[1]	**1,081**	**1,342**
Corporate and Other	–66	–101
EBITDA pre of the Group[1]	**1,015**	**1,240**
Depreciation/amortization/impairment losses/reversals of impairment losses	–428	–448
Adjustments[1]	–70	–38
Operating result (EBIT)[1]	**518**	**755**
Financial result[2]	–62	–69
Profit before income tax[2]	**456**	**686**

[1] Not defined by International Financial Reporting Standards (IFRS).
[2] Previous year's figures have been adjusted. See "Effects of new financial reporting standards".

€ million	**Q1 2018**	Q1 2017
Restructuring costs	–7	–4
Integration costs/IT costs	–21	–26
Gains (+) /losses (–) on the costs of divestment of businesses	–2	–2
Acquisition-related adjustments	–1	–3
Other adjustments	–39	–3
Adjustments before impairment losses/reversals of impairment losses[1]	**–70**	**–38**
Impairment losses	–2	–4
Reversals of impairment losses	–	–
Adjustments (total)[1]	**–71**	**–41**

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

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	**Q1 2018**	in %
Net sales by nature		
Goods	1,622	99 %
Devices/hardware	1	–
Commission income	3	–
Profit share income	14	1%
Total	**1,640**	**100%**
Net sales by major product lines/products		
ONCOLOGY	226	14%
thereof: Erbitux®	*200*	*12%*
thereof: Bavencio®	*12*	*1%*
NEUROLOGY & IMMUNOLOGY	362	22%
thereof: Rebif®	*348*	*21%*
thereof: Mavenclad®	*13*	*1%*
FERTILITY	265	16%
thereof: Gonal-f®	*166*	*10%*
GENERAL MEDICINE & ENDOCRINOLOGY	520	32%
thereof: Glucophage®	*149*	*9%*
thereof: Concor®	*99*	*6%*
thereof: Euthyrox®	*81*	*5%*
thereof: Saizen®	*56*	*3%*
CONSUMER HEALTH	231	14%
thereof: Neurobion®[1]	*76*	*5%*
Other	35	2%
Total	**1,640**	**100%**
Net sales by region (customer location)		
Europe	632	38%
North America	327	20%
Asia-Pacific	371	23%
Latin America	203	12%
Middle East and Africa	107	7%
Total	**1,640**	**100%**

[1] Including Neurobion® as well as Dolo-Neurobion®, Dexabion®, Diabion® and Gavindo®.

Life Science

€ million	Q1 2018	in %
Net sales by nature		
Goods	1,314	88%
Devices/hardware	82	6%
Services	90	6%
License income	1	–
Total	**1,487**	**100%**
Net sales by major product lines		
Process Solutions	583	39%
Research Solutions	509	34%
Applied Solutions	395	27%
Total	**1,487**	**100%**
Net sales by region (customer location)		
Europe	526	35%
North America	507	34%
Asia-Pacific	371	25%
Latin America	63	4%
Middle East and Africa	21	2%
Total	**1,487**	**100%**

Performance Materials

€ million	Q1 2018	in %
Net sales by nature		
Goods	563	100%
Services	1	–
Total	**564**	**100%**
Net sales by region (customer location)		
Europe	61	11%
North America	53	9%
Asia-Pacific	439	78%
Latin America	8	2%
Middle East and Africa	3	–
Total	**564**	**100%**

Effects of new financial reporting standards

IMPACT ON FINANCIAL REPORTING

Effective January 1, 2018, the Group applied the financial reporting standards IFRS 9 Financial Instruments and IFRS 15 Revenue from Contracts with Customers for the first time. The effects of the first-time application of these standards are presented below.

Other amendments to standards and new interpretations that were also required to be applied for the first time as of January 1, 2018, did not have any material effects on the assets, liabilities, financial position or the financial performance of the Group. Financial reporting standards issued but not yet mandatory were not applied early.

Impact 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 ON CONSOLIDATED BALANCE SHEET AS OF DECEMBER 31, 2017 AND JANUARY 1, 2018

		IFRS 9		IFRS 9		IFRS 15		
€ million	**Dec. 31, 2017 (as reported)**	Reclassification (mandatory retrospective adoption)	**Dec. 31, 2017 (restated)/ January 1, 2018 (prior adjustments)**	Reclassification	Remeasurement	Reclassification	Remeasurement	**January 1, 2018 (restated)**
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**

Effects of the first-time application of IFRS 9 and IFRS 15 on reserves

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

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

€ million

December 31, 2017 (as reported)	**12,357**
IFRS 9 (after tax)	**1**
Cost of hedging (mandatory retrospective adoption)	1
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
Multi-element arrangements	1
Tax effect IFRS 15	**–2**
January 1, 2018 (restated)	**12,376**

Effects of IFRS 9 rules to be applied retrospectively

The following table shows the effects on the financial statements arising from the retrospective application of the cost of hedging approach in accordance with IFRS 9 when hedging with options. Unaffected line items are not presented. Sum totals and subtotals, therefore, may not necessarily add up.

MANDATORY RETROSPECTIVE ADOPTION FROM THE FIRST-TIME APPLICATION OF IFRS 9[1]

	Jan. 1, 2017			March 31, 2017		
€ million	As reported	Adjustments	Restated	As reported	Adjustments	Restated
Consolidated Balance Sheet						
Reserves	10,362	–3	10,359	10,937	–2	10,935
Gains/losses recognized in equity	3,062	3	3,065	2,916	2	2,918
Total equity	**14,050**	**–**	**14,050**	**14,481**	**–**	**14,481**

	Q1 2017			Q2 2017		
Consolidated Income Statement						
Financial result	–71	2	–69	–71	5	–66
Profit before income tax	**684**	**2**	**686**	**557**	**5**	**562**
Income tax	–161	–	–161	–134	–1	–135
Profit after tax	**523**	**2**	**524**	**423**	**4**	**427**
of which: attributable to shareholders of Merck KGaA, Darmstadt, Germany (net income)	521	2	523	421	4	426
Earnings per share in € (basic/diluted)	1.20	–	1.20	0.97	0.01	0.98

	Q1 2017			Q2 2017		
Consolidated Statement of Comprehensive Income						
Profit after tax	523	2	524	423	4	427
Items of other comprehensive income that may be Reclassified to profit or loss in subsequent periods						
Cost of cash flow hedge reserve						
Fair value adjustments	–	–2	–2	–	–5	–5
Tax effect	–	–	–	–	1	1
Other comprehensive income	**–92**	**–2**	**–94**	**–981**	**–4**	**–985**
Comprehensive income	**431**	**–**	**431**	**–558**	**–**	**–558**

	Q1 2017			Q2 2017		
Consolidated Cash Flow Statement						
Profit after tax	**523**	**2**	**524**	**423**	**4**	**427**
Other non-cash income and expenses	–2	–2	–4	2	–4	–2
Net cash flows from operating activities	**777**	**–**	**777**	**520**	**–**	**520**

[1] The figures have been rounded, which may lead to individual values not adding up to the totals presented.

June 30, 2017			Sept. 30, 2017			**Dec. 31, 2017**		
As reported	Adjustments	Restated	As reported	Adjustments	Restated	As reported	Adjustments	Restated
11,291	3	11,294	11,841	2	11,843	12,357	1	12,358
1,850	–3	1,847	1,325	–2	1,323	1,082	–1	1,081
13,765	**–**	**13,765**	**13,791**	**–**	**13,791**	**14,066**	**–**	**14,066**

Q3 2017			Q4 2017			**Full year 2017**		
–65	–1	–66	–93	–1	–94	–300	5	–295
836	**–1**	**835**	**147**	**–1**	**146**	**2,224**	**5**	**2,229**
–187	–	–187	868	–	868	386	–1	385
649	**–1**	**648**	**1,015**	**–1**	**1,015**	**2,610**	**4**	**2,615**
645	–1	644	1,013	–1	1,012	2,600	4	2,605
1.48	–	1.48	2.33	–	2.33	5.98	0.01	5.99

Q3 2017			Q4 2017			**Full year 2017**		
649	–1	648	1,015	–1	1,015	2,610	4	2,615
–	1	1	–	1	1	–	–5	–5
–	–	–	–	–	–	–	1	1
–622	**1**	**–621**	**–148**	**1**	**–147**	**–1,843**	**–4**	**–1,847**
26	**–**	**26**	**868**	**–**	**868**	**767**	**–**	**767**

Q3 2017			Q4 2017			**Full year 2017**		
649	**–1**	**648**	**1,015**	**–1**	**1,015**	**2,610**	**4**	**2,615**
–3	1	–2	–	1	1	–3	–4	–7
758	**–**	**758**	**641**	**–**	**641**	**2,696**	**–**	**2,696**

CHANGES IN ACCOUNTING POLICIES RESULTING FROM IFRS 9

IFRS 9 sets out new rules for classification and measurement of financial instruments and impairment of financial assets as well as for hedge accounting. The retrospective method was used for the adoption of IFRS 9, with the exception of the rules for hedge accounting, without adjusting the comparable year-earlier figures. In the case of hedging relationships where the Group uses options as hedging instruments, the first-time application of IFRS 9 proceeded retrospectively, as required, by disclosing comparative information for prior periods. In the case of hedging relationships where the Group uses forward contracts as hedging instruments, the new IFRS 9 rules were introduced prospectively. The following section describes the major effects arising from the first-time application of IFRS 9.

Classification and measurement

The first-time application of IFRS 9 results in changes in the classification of financial assets that were previously measured in subsequent periods through other comprehensive income in the consolidated statement of comprehensive income or through profit or loss in the consolidated income statement. The classification of the existing financial assets was made on the basis of a previously conducted review of the business model for managing financial assets as well as of the contractual cash flow characteristics of the financial assets. The major reclassifications for the Group are presented below:

- Financial assets from contingent consideration with a carrying amount of € 277 million, previously classified as available-for-sale financial debt instruments under IAS 39, are now allocated to the class "Debt instruments measured at fair value through profit or loss". As of January 1, 2018, this classification led to a transfer of gains/losses from changes in the market value of available-for-sale financial assets previously recognized directly in Group equity to retained earnings in the amount of € -1 million.
- Financial assets with a carrying amount of € 123 million, which were previously classified as available-for-sale equity instruments under IAS 39, will be recognized in future at fair value through other comprehensive income in the consolidated statement of comprehensive income. Upon derecognition of the relevant financial assets, the changes in the fair value recognized in other comprehensive income until the date of derecognition continue to be reported in Group equity and are not reclassified to the consolidated income statement. 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 impairments recognized in profit or loss in the past.
- Financial assets arising from debt instruments in the amount of € 35 million, which represented available-for-sale financial debt instruments under IAS 39, are now allocated to the class "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.
- Financial assets in the amount of € 18 million that was previously classified as available-for-sale equity instruments under IAS 39 are accounted for under IFRS 9 as debt instruments measured at fair value. 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.

Impairments

The first-time application of IFRS 9 results in the application of a new impairment model which takes into account any lifetime 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
- Debt instruments measured at amortized cost
- Debt instruments measured at fair value through other comprehensive income

The default rates are derived on the basis of historical experience and current macroeconomic expectations by taking into account country-specific ratings for countries in which the Group operates. These country ratings are aggregated to three separate rating groups. In this context, historical default rates generally 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 now been re-allocated must be applied, rather than the historical default rates of the previous rating group.

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 and/or the contract assets 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 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. In addition, there is the rebuttable presumption that a default exists when receivables are past due for more than 90 days. 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. Based on this analysis, the Group is able to determine when a default has occurred in relation to a financial asset. A default generally exists when it is not probable that the debtor can fully meet its liabilities.

As of January 1, 2018, the first-time application of IFRS 9 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.

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 rules 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 rules 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. 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 separate reserve for cost of hedging within Group equity. The subsequent accounting treatment of such amounts depends on the type of hedged item. These amendments must be fully applied retrospectively in accordance with IFRS 9 and led to the changes in financial reporting outlined above.
- In the case of hedging relationships where the Group uses forward contracts as hedging instruments, only the spot element is designated as hedging instrument. Changes in the fair value of the forward element in forward contracts are to be recognized in a separate reserve for cost of hedging within Group equity. The subsequent accounting of such amounts depends on the type of hedged item. 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.

CHANGES IN ACCOUNTING POLICIES FROM IFRS 15

IFRS 15 defined 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 adjustment effects resulting from the first-time application of IFRS 15 on Group equity are as follows as of January 1, 2018:

- Date of the transfer of control within the context of product sales:
  In the case of specific supplies of goods, the transfer of control and thus the date 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. This led to a reduction in retained earnings in the amount of € 20 million (before taxes). The new rules are not expected to have a material impact on the consolidated income statement for fiscal 2018.
- Out-licensing of intellectual property:
  Out-licensing intellectual property may, in some cases, lead to an earlier revenue recognition as compared with IAS 18 if the out-licensed intellectual property meets the criteria of a right-of-use license (recognition of revenue at a point in time), rather than an access right (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 taxes) as of the date of transition. In fiscal 2018, based on the existing contract backlog, these new rules will result in a decrease in net sales 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):
  In individual cases, 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 taxes). The impact of these new rules on the consolidated income statement for fiscal 2018 is negligible.
- Multiple-element arrangements:
  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 taxes) as of January 1, 2018. The impact on the consolidated income statement for fiscal 2018 is negligible.

In addition to the abovementioned adjustment effects, the first-time application of IFRS 15 will have an impact on the consolidated income statement arising from the reclassification of expenses that were reported as operating expenses under IAS 18 and have to be recognized as sales deductions under IFRS 15. These reclassifications are likely to amount to a low single-digit million euro amount in fiscal 2018 and did not result in an adjustment of retained earnings as of January 1, 2018.

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 logistics services
- gross presentation of rights of return granted by recognition of an asset for expected physical returns by customers

Significant events during the reporting period

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. According to the preliminary viewpoint of the EU Commission communicated in the letter dated July 6, 2017, the Group and Sigma-Aldrich withheld in this connection important information about an innovation project allegedly relevant for certain laboratory chemicals of significance to the analysis by the EU Commission. According to the EU Commission, the innovation project should have been included in the remedies package. On February 5, 2018, a meeting of the cooperation procedure took place between the European Commission and the Group.

Based on the estimations by the Executive Board, a provision amounting to a mid double-digit million amount for impending fines was set up in 2017. On the balance sheet date of March 31, 2018, this provision was retained in the identical amount.

ENTITLEMENT TO 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. This gave rise to the entitlement to a milestone payment of € 50 million, which was recorded in the reporting period under operating income and allocated to the Healthcare business sector.

Subsequent events

AGREEMENT TO DIVEST THE CONSUMER HEALTH BUSINESS

On April 19, 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 is € 3.4 billion. 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, businesses from other business sectors currently operated by this company (Biopharma, Life Science and Performance Materials) are initially also part of the transaction. However, the Group has legally obligated itself to reacquire these businesses from Merck Ltd., a subsidiary of Merck KGaA, Darmstadt, Germany, shortly thereafter.

Following the closing and subject to the information and consultation procedure with employee representatives, around 3,300 employees are to transfer to P&G. In addition to the divestment agreement, the Group and P&G will conclude 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. In France, P&G has granted the Group a put option, through the exercise of which the Group can divest the French Consumer Health business to P&G following the conclusion of the information and consultation procedure with employee representatives.

Owing to the high degree of uncertainty prior to the conclusion of the agreement whether and to what extent the Consumer Health business can be divested within one year, the Executive Board is of the opinion that the requirements for disclosure as a discontinued operation pursuant to IFRS 5 had not yet been met on March 31, 2018, the balance sheet date. These requirements were only deemed fulfilled with the signing of the agreement on April 19, 2018.

Darmstadt, May 9, 2018

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FINANCIAL CALENDAR
2018/2019

August
8/9/2018
Half-year report

March
3/7/2019
Annual Press Conference

November
11/14/2018
Report on the third quarter

April
4/26/2019
Annual General Meeting

May
5/14/2019
Report on the first quarter

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