MERCK

Quarterly Statement

1ST QUARTER 2017

Table of Contents

This document is a quarterly statement pursuant to section 51a of the Exchange Rules for the Frankfurt Stock Exchange.

This quarterly statement contains certain financial indicators such as EBITDA pre exceptionals, business free cash flow (BFCF), net financial debt and earnings per share pre exceptionals, 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 Merck 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 2016 has been optimized for mobile devices and is available on the Web at **ar2016.merckgroup.com**

MERCK – IN BRIEF

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Key figures

€ million	Q1 2017	Q1 2016	Change
Net sales	3,861	3,665	5.3%
Operating result (EBIT)	755	849	–11.1%
Margin (% of net sales)	19.5%	23.2%	
EBITDA	1,203	1,282	–6.2%
Margin (% of net sales)	31.2%	35.0%	
EBITDA pre exceptionals	1,240	1,084	14.5%
Margin (% of net sales)	32.1%	29.6%	
Profit after tax	523	593	–11.8%
Earnings per share (€)	1.20	1.36	–11.8%
Earnings per share pre exceptionals (€)	1.80	1.54	16.9%
Business free cash flow	760	763	–0.4%

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Net sales by quarter

€ million

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EBITDA pre exceptionals by quarter

€ million

OUR SHARES

At a glance

In the first quarter of 2017, our share price continued to rise in a favorable market environment. Following a year-end closing price of € 99.15 on December 31, 2016, Merck shares finished the first quarter on March 31, 2017 with a quarterly high and closing price of € 106.73, equivalent to an increase of almost 8%. In comparison with the DAX®, which rose by slightly more than 7% during the same period, this represented a slight outperformance of approximately 40 basis points. Merck shares also outperformed the two relevant chemical and pharmaceutical industry indices by about two percentage points, respectively.

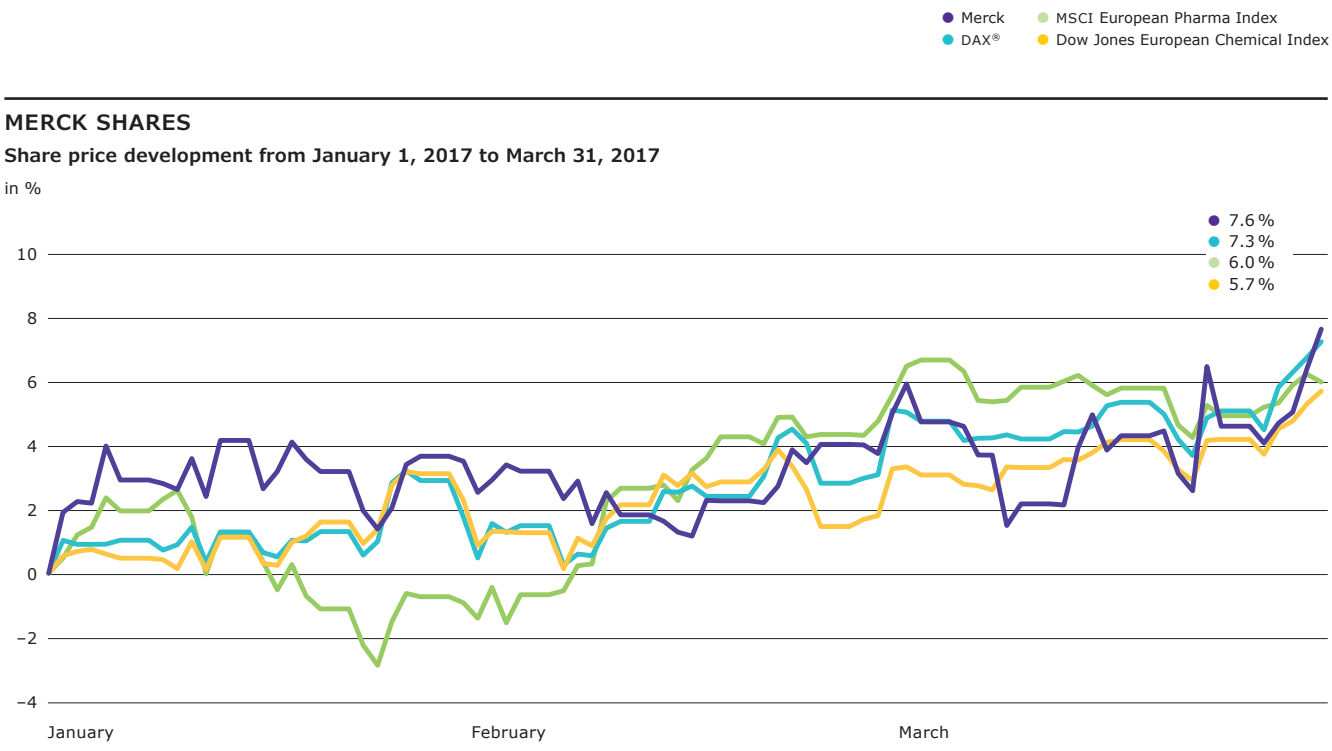
The positive Merck share price trend that began in the middle of the fourth quarter of 2016 thus continued into the first quarter of 2017. While the full-year results for 2016 and the business outlook for 2017 were received with some caution by investors and analysts, the share price began picking up visibly in mid-March. On the one hand, this was due to FDA (U S. Food and Drug Administration) approval of Bavencio® (avelumab), our immunotherapy to treat metastatic Merkel cell carcinoma (mMCC), on March 23, 2017. In addition, equity markets were positively impacted by encouraging signals for the global economic environment as well as the sustained optimism of market participants on the future economic prospects of the United States following the presidential election in November 2016. Merck shares also benefited from this.

The Merck Executive Board and Investor Relations team gave in-depth briefings to more than 160 investors during the first quarter, at several investor conferences at the beginning of the year, and during roadshows and conference calls. As additional members of the Executive Board met with investors and analysts, our visibility among financial market participants again grew slightly compared with the first quarter of 2016.

The average daily trading volume of our shares decreased significantly by around 20% from approximately 518,000 in the previous-year period to 412,000 in the first quarter of 2017. However, this was roughly in line with the trading volume in the preceding two quarters.

MERCK SHARES

Share price development from January 1, 2017 to March 31, 2017



Source: Bloomberg (closing rates)

FUNDAMENTAL INFORMATION ABOUT THE GROUP

Merck

We are a global science and technology company headquartered in Darmstadt, Germany. We hold the global rights to the Merck name and brand and will also operate uniformly as Merck in the future – the only exceptions are Canada and the United States. In these countries, we operate as EMD Serono in the Biopharma business, as MilliporeSigma – following the completed acquisition of Sigma-Aldrich – in the Life Science business and as EMD Performance Materials in the materials business.

With a history of nearly 350 years, we are the oldest chemical and pharmaceutical company in the world. Our product portfolio ranges from innovative pharmaceuticals and biopharmaceuticals to life science tools, specialty chemicals and high-tech materials. In line with our strategic direction, Merck comprises three business sectors: Healthcare, Life Science and Performance Materials.

Merck had 51,480 employees worldwide on March 31, 2017, which compares with 50,262 on March 31, 2016.

A detailed description of Merck and its business sectors can be found in the Annual Report for 2016 starting on page 47. This section of the present quarterly statement summarizes the key developments of the first quarter of 2017 at Merck.

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Sales by business sector – Q1 2017

€ million/in % of net sales

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EBITDA pre exceptionals by business sector – Q1 2017

€ million/in %

Not presented: Decline in Group EBITDA pre exceptionals by € –101 million due to Corporate and Other.

MERCK GROUP

Business free cash flow by business sector – Q1 2017

€ million/in %

Not presented: Decline in Group business free cash flow by € –111 million due to Corporate and Other.

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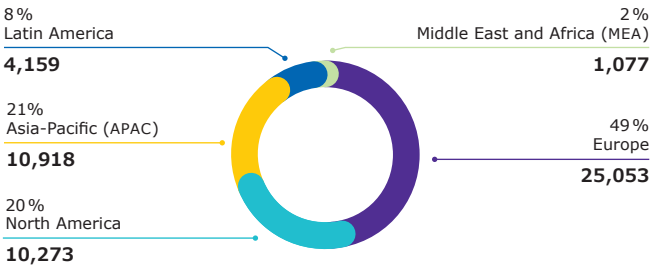
Employees by region as of March 31, 2017

Number/in %



Healthcare

The Healthcare business sector comprises the Biopharma, Consumer Health, Biosimilars and Allergopharma businesses.

The share of Group sales attributable to the Healthcare business sector was 45% in the first quarter of 2017 and the share of EBITDA pre exceptionals (excluding Corporate and Other) was 47%.

BIOPHARMA

Neurology/Immunology

In February we announced the publication of the results of a post hoc analysis of the Phase III CLARITY study in "Multiple Sclerosis Journal".

Fertility

In January we opened our first Center of Excellence (CoE) for fertility, an international state-of-the-art facility for high-quality training of healthcare professionals, such as physicians and embryologists, to improve clinical practices, protocols and clinical outcomes.

In March we announced the release of two advanced fertility technologies: Eeva® Test 3.0 and Geri™ humidified incubation products for improved efficiency in assisted reproductive treatment (ART). These first-in-class technologies will provide embryologists with in-depth information and control over the environment in which the embryo grows to support healthy embryo development and assessment.

Collaborations

In January we announced several collaboration and cooperation agreements. We entered a cooperation with Palantir Technologies Inc., based in Palo Alto, California to leverage Palantir's advanced data analytics capabilities, aiming to commercialize new products and improve patient outcomes. Initially we will apply Palantir's technology to cancer treatment and patient services.

Additionally, we signed a licensing agreement with Boston-based Vertex Pharmaceuticals which covers the worldwide development and commercialization of four promising research and development programs that represent novel approaches to the treatment of cancer. Merck will receive two clinical-stage programs targeting DNA damage repair, along with two additional novel research programs.

We entered a three-year strategic collaboration with the University of Texas MD Anderson Cancer Center. Through the collaboration we will gain access to a research platform that standardizes the long-term collection of patient medical history and data derived from tissue samples. The collaboration will encompass both biomarker-focused preclinical research and clinical trials in specific tumor types.

BIOSIMILARS

On March 9, we communicated that we were in advanced stages of negotiations to divest our Biosimilars activities. On April 24, 2017, we announced the divestment of the Biosimilars business to Fresenius. The decision is in line with the strategy of the Healthcare business sector to focus on its pipeline of innovative medicines.

ALLERGOPHARMA

In March our allergy business Allergopharma opened a new biopharmaceutical production in Reinbek, near Hamburg.

This € 42 million investment is part of our global expansion and will support our growing business in the allergy marketplace.

Life Science

In the first quarter of 2017, the share of Group sales attributable to the Life Science business sector was 38% and the share of EBITDA pre exceptionals was 33%.

The integration of Sigma-Aldrich is still underway as we maintain a focus on bringing a broader, more comprehensive portfolio to our customers. We continue to expand the e-commerce platform of legacy Sigma-Aldrich (www.sigmaaldrich.com) to include a number of core products from the legacy Millipore portfolio. To date, we have added more than 75% of the addressable portfolio to the site to enhance the overall customer experience. As a result, we are seeing increasing page views and sales.

In January we announced the acquisition of BioControl Systems Inc., a global leader in food safety testing. BioControl's established rapid detection technology and third-party validated testing platforms complement our Applied Solutions portfolio of instruments and consumables geared to the food pathogen testing workflow. The acquisition aligns with the Life Science strategy to expand in key geographies and provide a differentiated experience to customers in applied settings, including food and beverage safety testing.

The Life Science business sector expanded its end-to-end biodevelopment centers in North America, China and Europe to meet increasing global demand for end-to-end process development solutions. The expansion, which included the opening of two new process development centers in the United States and China, followed the commercial success of the center in Martillac, France – a full single-use, GMP facility for manufacturing clinical stage batches.

Performance Materials

Our entire specialty chemicals business is combined in our Performance Materials business sector, which comprises four business units: Display Materials, Integrated Circuit Materials, Pigments & Functional Materials, and Advanced Technologies. In the first quarter of 2017, the business sector's share of Group sales amounted to 17% and its share of EBITDA pre exceptionals (excluding Corporate and Other) was 20%. The EBITDA margin pre exceptionals amounted to 40.9% of sales.

In the first quarter of 2017, we defended our position as the global market and technology leader for established liquid crystal technologies – 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.

Developing new application possibilities for liquid crystals remains an important focus of our LC 2021 strategic initiative. This primarily includes the development of liquid crystal window technology, which we very successfully presented at the BAU in January 2017. This is the world's leading exhibition for architecture, materials and systems. To achieve faster market penetration of the new technology, we are investing around € 15 million in a production facility for liquid crystal window modules at a site in Veldhoven in the Netherlands. The manufacture of these switchable modules is scheduled to begin there at the end of 2017.

Integrated Circuit Materials is the second-largest business unit of Performance Materials, and as an important partner to leading global electronics manufacturers, achieved further strong growth and gained market shares in the first quarter – amid an overall positive development of the semiconductor market.

Since the beginning of 2017, the Pigments & Functional Materials business unit has been offering Xirallic® NXT Cougar Red as a new product for coating applications. It belongs to the improved product generation of the well-known high-tech effect pigments and stands out due to an attractive bluish red and very intense glitter. At the beginning of 2017, we added Tivida® FL 3000 to our portfolio of fluorosurfactants. It differentiates itself from competitive products on account of its favorable ecotoxicological profile, and even in very low concentrations it significantly improves the flow and wetting behavior of coating systems. Besides materials for technical applications, we are working on innovative materials for cosmetics. Two new raw materials complement our portfolio: RonaCare® Pristine Bright liquid, a liquid variant of an active ingredient that makes the skin appear naturally lighter, and an alcohol-free variant of the anti-aging active ingredient RonaCare® CP5.

In the first quarter of 2017, the Advanced Technologies business unit invested particularly in future-oriented research and development in Performance Materials. A very good example of this are our materials for organic light-emitting diodes (OLEDs). The OLED materials business is one of our fastest-growing businesses. In January we received the Innovation Award Architecture + Building at the BAU 2017 for our organic photovoltaic modules developed in cooperation with Belectric OPV.

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 around € 495 million on research and development in the first quarter of 2017.

We focus on both in-house research and external collaborations. Our R&D activities are set up in line with the structure of Merck with three business sectors. A detailed description of our R&D activities can be found in the Annual Report for 2016 starting on page 72. This section of the present quarterly statement summarizes the key Research and Development activities during the first quarter of 2017.

Healthcare

BIOPHARMA

Immuno-Oncology

On March 23, we announced that the U.S. Food and Drug Administration (FDA) approved avelumab injection 20 mg/ml under the brand name Bavencio®, for intravenous use, for the treatment of adults and pediatric patients 12 years and older with metastatic Merkel cell carcinoma (mMCC). This indication is approved under accelerated approval based on tumor response and duration of response. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials. Bavencio® will be co-commercialized by EMD Serono, the biopharmaceutical business of Merck in the United States, and Pfizer. Bavencio® was developed, reviewed and approved through the FDA's Breakthrough Therapy Designation and Priority Review programs. Bavencio® is a human anti-PD-L1 antibody, and is the first FDA-approved therapy for patients with mMCC. The latter is a rare and aggressive skin cancer, with fewer than half of patients surviving more than one year and fewer than 20% surviving beyond five years. Avelumab was discovered in our labs and reflects our drive to make a meaningful difference for patients with hard-to-treat cancers.

On February 28, we announced that the U.S. FDA had accepted for Priority Review the Biologics License Application (BLA) for avelumab, as a treatment for patients with locally advanced or metastatic urothelial carcinoma (mUC) with disease progression on or after platinum-based therapy. The FDA has set a Prescription Drug User Fee Act (PDUFA) target action date of August 27, 2017 for avelumab in this indication. We continue to evaluate avelumab in cancers that currently have limited treatment choices, such as metastatic or locally advanced urothelial carcinoma, to hopefully be able to provide patients with new treatment options for fighting their disease. Despite advances in the treatment of urothelial carcinoma, the prognosis for patients remains poor, particularly when the disease has metastasized. Bladder cancer makes up approximately 90% of urothelial cancers and is the sixth most common cancer in the United States.

In January we also announced that we had entered into a collaboration and licensing agreement with Domain Therapeutics (Strasbourg, France), to explore the potential of adenosine inhibition in the development of novel immuno-oncology agents. Domain is a company focused on the discovery and development of first-in-class compounds against transmembrane targets, and in particular against G protein-coupled receptors (GPCRs).

This collaboration strengthens our combination strategy in immuno-oncology, and underscores Merck's science-driven approach to discovering and developing novel compounds through both internal capabilities and external collaborations. Adenosine receptor antagonists are small molecules thought to slow tumor progression and improve the response to combination immunotherapies by inhibiting adenosine – a compound generated by cancer cells that inhibits anti-tumor responses by binding to T cells.

Oncology

In early March we announced that the UK National Institute for Health and Care Excellence (NICE) had issued a positive Final Appraisal Determination (FAD) recommending the routine National Health Service (NHS) use of Erbitux® (cetuximab) in combination with either FOLFIRI or FOLFOX as a first-line treatment for patients with RAS wild-type metastatic colorectal cancer (mCRC). This decision expands the previous NICE recommendation, which endorsed the use of Erbitux® in combination with either FOLFOX or FOLFIRI solely for patients whose cancer had spread only to the liver (liver-limited disease). It is based on robust data from Phase III clinical studies having demonstrated that Erbitux® in combination with either FOLFIRI or FOLFOX, as a first-line treatment for patients with RAS wild-type mCRC, confers significant benefit in patient outcomes.

Immunology

At the end of March we announced a development agreement with Avillion, a UK-based company focused on increasing R&D output through innovative models, for anti-IL-17 A/F Nanobody®. We have completed Phase I development of our anti-IL-17 A/F Nanobody®, an investigational therapy which is expected to begin Phase II in plaque psoriasis later this year. In a collaboration model that is recently emerging in the biopharma industry, Avillion, which is among the pioneers of such models, will be responsible for developing anti-IL-17 A/F Nanobody® from Phase II through Phase III. Avillion will also finance the clinical program through to regulatory submission. The agreement reflects Merck's strategy of identifying collaborations that progress promising clinical stage assets through novel innovation models, allowing us to focus on several priority clinical assets in our pipeline. By partnering appropriately, not only can we maintain the internal focus on our R&D innovation strategy, but also maximize other important opportunities that emerge from our pipeline. Anti-IL-17 A/F Nanobody® is an investigational therapy that could have the potential to treat inflammatory diseases. Due to the small size and unique structure of Nanobodies®, they could be a building block for a new generation of novel biological drugs. Merck acquired full, exclusive rights to anti-IL-17 A/F Nanobody® through a global development and commercialization license from Ablynx in 2013.

Neurology

A Phase II study was recently started with M2951, our BTK inhibitor in patients with multiple sclerosis (MS). M2951, known under the recommended International Non-proprietary Name evobrutinib, is a potential treatment for autoimmune and inflammatory diseases and is now in Phase II development in rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis. The evobrutinib development program in MS further contributes to Merck's legacy in multiple sclerosis. With Rebif® (interferon beta 1a) as a current treatment option and the investigational product cladribine tablets in registration, we continue to build on our commitment of making a difference in the lives of patients with MS. Evobrutinib was discovered in our own laboratories and is an example of the innovation of our in-house R&D.

Fertility

In February we announced that the European Committee for Medicinal Products for Human Use (CHMP) granted a positive opinion for the new Pergoveris® Pen. The new Pen will be comprised of a ready-to-use liquid version of Pergoveris® evolved from a freeze-dried powder and solvent combination available in vials that required patients to mix the product themselves before injection. By eliminating the need for mixing, the new Pergoveris® Pen can provide an improved treatment option for patients with severe follicle stimulating hormone (FSH) and luteinizing hormone (LH) deficiency. When approved, the liquid product will be the only premixed combination of recombinant human FSH and human LH on the market available in a pre-filled injection device for self-administration.

Life Science

In the first quarter of 2017, we continued the diverse research and development work in our Life Science business sector that is contributing to our promise of accelerating access to health for people everywhere. Our R&D teams responsible for life science product development drive innovation strategically around the needs of our customers.

Life Science launched over 2,300 products, including more than 1,900 chemicals, across its three business areas, namely Research Solutions, Process Solutions and Applied Solutions. In Research Solutions, we introduced a next-generation high-sensitivity protein detection platform, SMCxPRO™ technology, which allows researchers to detect and quantify low-abundance biomarkers that traditional methods cannot measure.

In Process Solutions, we launched six new products including the Integritest® 5 instrument for integrity testing with an improved algorithm to simplify test creation and accelerate test completion. We also launched Millipore Express® High Area Filters for processing feed streams with high particulate levels, providing greater filtration capacity with a smaller footprint than conventional filters—improving economics for biopharmaceutical manufacturing.

In the first quarter of 2017, the Life Science business sector showcased its technology and innovations at several global congresses: INTERPHEX and Pittcon (Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), where our Applied Solutions team unveiled the Milli-Q® IQ 7000 ultrapure lab water system. This water purification system, which uses environmental friendly mercury-free UV lamps and has a smaller ergonomic design to reduce waste, increases productivity in the lab and accelerates research. This launch marked 50 years of providing ultrapure water to scientists in laboratories all over the world.

Performance Materials

We are the market and technology leader in liquid crystals (LCs) and photoresist materials, which are primarily used in televisions and mobile communication applications. We are also the market leader in pearlescent pigments and one of the leading suppliers of OLED materials. Materials for integrated circuits round off the portfolio. In the first quarter of 2017, we continued to develop our technologies and products further.

Display Materials

In the first quarter, we worked with our customers, namely display manufacturers, on the further development of high-performance liquid crystal technologies. These include the energy-saving liquid crystal technology UB-FFS (ultra-brightness fringe field switching), which we are continuing to test also for non-mobile applications. In 2017, the first products using our new liquid crystal technology SA-VA (self-aligned vertical alignment) are expected on the market. Like the established liquid crystal technology PS-VA (polymer stabilized vertical alignment), SA-VA is primarily used in high-quality televisions and other large displays (for example, public information displays). The new technology is very eco-friendly and resource-conserving as it requires less energy and solvent in display manufacture. In addition, it is more efficient for display manufacturers because fewer process steps are needed. Since SA-VA technology can be processed at lower temperatures, it is suitable for sensitive materials such as those used in premium products or future applications including flexible displays.

Beyond classic displays, we have more strongly positioned liquid crystals under the licrivision™ brand as an innovative material for windows in architectural and automotive applications. We are currently concentrating on three variants: sun protection, glare protection, and privacy control where the windows switch to opaque. After the liquid crystal window technology received extremely positive resonance at trade shows and in talks with customers, we decided to drive the development forward. We are continuing to make good progress with the development of flexible displays, for which there is high demand particularly in the automotive industry, and of smart antennas using liquid crystal technology. In order to strengthen early LC research, Merck held the first LC symposium in mid-March where scientists from universities and from Merck exchanged on the latest developments in liquid crystals – for displays and beyond.

Integrated Circuit Materials

Deposition materials technology for gas phase depositions is an area of high growth for our IC chemicals business. As a result of the ever increasing challenges in chip manufacturing, more and more chemical elements are used in advanced semiconductor fabrication processes employing enabling atomic layer deposition processes (ALD). New materials are required for the deposition of layers which often are only a few atoms thick, for example, precursors that can be applied at lower temperatures and/or selectively to specific areas on the wafer. Such surface selective processes automatically carry the target materials to the right position. This is of high value for our customers since they can eliminate costly photolithography steps and at the same time automatically avoid overlay errors. Increased R&D activities with original equipment manufacturare helping our products to gain more positions in next-generation devices. Our R&D projects are focused on discovering new materials for low resistivity metallization schemes and various dielectrics for faster/better processers, servers, and data storage density. The expansion of R&D capability in Taiwan to support our customers in Asia is in progress with a target completion date of July 2017.

Pigments & Functional Materials

In the area of coating applications, we offered customers first samples of Meoxal® Victoria Red. The Meoxal® brand is characterized by outstanding hiding power with extraordinary brilliance. For the cosmetics area, as part of the Smart Effects initiative, we developed innovative matte pigments of the Allure series, which combine brightness with hiding power and good skin feel. Launched in the first quarter, Ronastar® Flaming Lights sets shimmer effects. The special design of the aluminum substrate combines a special deep-red color impression with a revolutionary sparkle. In the area of functional materials for technical applications, we further developed the product class of polysilazanes. On account of their excellent adhesion and barrier properties, these materials are suitable for use in high-quality coating systems, such as to protect against dirt and scratches, as well as in the high temperature range.

Advanced Technologies

Organic light-emitting diodes (OLEDs) are an outstanding example of our R&D activities in the Advanced Technologies business unit. We pushed ahead with their further development again in early 2017. In the area of reflective displays for mobile devices, Merck entered into an agreement with the U.S. company CLEARink Displays in the first quarter of 2017. The aim is to commercialize video-enabled reflective color displays based on CLEARink's innovative patented technology. We are driving forward material and technology development in the field of hybrid electronics. At the LOPEC 2017 exhibition held in Munich in March we impressed visitors with the prototype of a flexible display consisting of a backplane with organic thin-film transistors as well as liquid crystals from Merck. In the area of electronic packaging, we strengthened our research activities by participating in a consortium led by the Fraunhofer Institute for Reliability and Microintegration in Berlin.

COURSE OF BUSINESS AND ECONOMIC POSITION

Merck

Overview – Q1 2017

- Group net sales increase by 5.3% to € 3.9 billion
- Healthcare and Life Science eliver organic sales growth
- Group EBITDA pre exceptionals up 14.5% to € 1,240 million
- Group EBITDA margin pre exceptionals climbs to 32.1%
- Net financial debt lowered by € 0.4 billion to € 11.1 billion

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Key figures

€ million	**Q1 2017**	Q1 2016	Change
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Operating result (EBIT)	755	849	–11.1%
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Earnings per share pre exceptionals (€)	1.80	1.54	16.9%
Business free cash flow	760	763	–0.4%

Development of net sales and results of operations

Group net sales increased by 5.3% to € 3,861 million in the first quarter of 2017 (Q1 2016: € 3,665 million). The increase in sales came from both moderate organic growth and positive exchange rate effects. Organic growth amounted to 3.1% or € 113 million and was generated by Healthcare (4.4%) and Life Science (3.3%). Foreign exchange movements increased net sales by 2.6% or € 95 million. The exchange rate effects were primarily due to the development of the U.S. dollar, the Brazilian real, the Taiwanese dollar, and the Japanese yen. Group sales declined by –0.3% due to portfolio changes. On the one hand, the first-time consolidation of BioControl Systems, Inc., USA, had a positive effect on net sales. On the other hand, the divestment of the entities in Pakistan in December 2016 lowered sales.

All three business sectors of the Merck Group contributed to sales growth in the first quarter of 2017. Generating a 6.1% increase, Life Science achieved the strongest percentage growth and reported sales of € 1,481 million (Q1 2016: € 1,397 million). Accounting for an unchanged 38% of Group sales, Life Science was once again the Group's second-largest business sector in terms of sales. Healthcare, the strongest business sector in terms of sales, achieved a growth rate of 5.4%, increasing sales to € 1,735 million (Q1 2016: € 1,646 million). As in the year-earlier quarter, Healthcare accounted for a 45% share of Group sales. Owing to currency tailwinds, the Performance Materials business sector reported a 3.6% sales increase to € 645 million (Q1 2016: € 622 million), thus generating 17% of Group net sales.

€ million/Change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Total change
Healthcare	1,735	4.4%	2.0%	–1.0%	5.4%
Life Science	1,481	3.3%	2.4%	0.4%	6.1%
Performance Materials	645	–0.9%	4.5%	–	3.6%
Merck Group	**3,861**	**3.1%**	**2.6%**	**–0.3%**	**5.3%**

Driven by strong organic growth of 7.5% and supported by slightly positive exchange rate effects, sales in Asia-Pacific rose by a total of 9.9% to € 1,241 million (Q1 2016: € 1,130 million). The positive sales performance was due in particular to the Healthcare business sector, which generated an organic growth rate of 22.1% in this region. The percentage contribution to Group sales by the Asia-Pacific region rose by one percentage point to 32% (Q1 2016: 31%).

In the first quarter of 2017, sales generated in Europe declined slightly by –1.3% to € 1,202 million (Q1 2016: € 1,218 million). While Life Science and Performance Materials generated higher sales owing to organic growth, the Healthcare business sector recorded sales declines in this region. Consequently, this reduced Europe's contribution to Group sales in the first quarter of 2017 to 31% (Q1 2016: 33%).

In North America, sales rose by 3.5% to € 965 million in the first quarter of 2017 (Q1 2016: € 932 million). This was primarily due to the development of the U.S. dollar exchange rate. In the first quarter of 2017, North America's contribution to Group sales declined slightly to 25% (Q1 2016: 26%).

Sales generated by the Group in Latin America grew by 18.7% to € 315 million (Q1 2016: € 265 million). Apart from positive foreign exchange effects stemming primarily from the development of the Brazilian real, the region also delivered very strong organic growth. The share of Group sales attributable to Latin America increased to 8% (Q1 2016: 7%).

Net sales in the Middle East and Africa region rose in the first quarter of 2017 by 14.6%, amounting to € 137 million (Q1 2016: € 120 million). This positive sales development was mainly due to good organic growth in Healthcare. The share of Group sales accounted for by this region increased to 4% in the first quarter of 2017 (Q1 2016: 3%).

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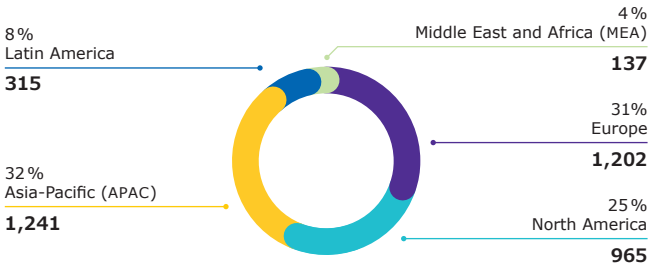
Net sales by region – Q1 2017

€ million/% of net sales



MERCK GROUP

Net sales components by region – Q1 2017

€ million/Change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	1,202	–0.4%	–0.9%	–	–1.3%
North America	965	–0.8%	3.8%	0.5%	3.5%
Asia-Pacific (APAC)	1,241	7.5%	3.9%	–1.6%	9.9%
Latin America	315	10.2%	8.3%	0.2%	18.7%
Middle East and Africa (MEA)	137	11.2%	3.4%	–	14.6%
Merck Group	**3,861**	**3.1%**	**2.6%**	**–0.3%**	**5.3%**

The consolidated income statement of the Merck Group is as follows:

MERCK GROUP

Consolidated Income Statement

€ million	Q1 2017	Q1 2016	Change
Net sales	**3,861**	**3,665**	**5.3%**
Cost of sales	–1,296	–1,307	–0.8%
(of which: amortization of intangible assets)[1]	*(–47)*	*(–44)*	*(6.8%)*
Gross profit	**2,565**	**2,358**	**8.8%**
Marketing and selling expenses	–1,168	–1,090	7.1%
(of which: amortization of intangible assets)[1]	*(–259)*	*(–257)*	*(0.8%)*
Administration expenses	–242	–206	17.7%
Research and development costs	–495	–489	1.1%
(of which: amortization of intangible assets)[1]	*(–1)*	*(–1)*	*(18.2%)*
Other operating expenses and income	95	276	–65.7%
Operating result (EBIT)	**755**	**849**	**–11.1%**
Financial result	–71	–68	3.6%
Profit before income tax	**684**	**780**	**–12.4%**
Income tax	–161	–187	–14.1%
Profit after tax	**523**	**593**	**–11.8%**
Non-controlling interests	–2	–2	–13.0%
Net income	**521**	**591**	**–11.8%**

[1] Excluding amortization of internally generated or separately acquired software.

In the first quarter of 2017, the gross profit of the Merck Group rose by € 206 million or 8.8% to € 2,565 million (Q1 2016: € 2,358 million). All three business sectors contributed to this increase, with the largest proportion of the rise stemming from Life Science. The resulting gross margin of the Group, i.e. gross profit as a percentage of sales, improved in the first quarter of 2017 to 66.4% (Q1 2016: 64.3%). The slight increase in Group research and development costs to € 495 million (Q1 2016: € 489 million) led to a research spending ratio (research and development costs as a percentage of sales) of 12.8% (Q1 2016: 13.3%). Accounting for 76% of Group R&D spending (Q1 2016: 77%), Healthcare remained our most research-intensive business sector. Other operating income (net) amounted to € 95 million in the first quarter of 2017 (Q1 2016: € 276 million). The high amount in the year-earlier quarter was mainly the result of the gain on the sale of the rights to Kuvan®. In the first quarter of 2017, other operating income also included other developments in the Healthcare business sector that significantly impacted this item: On the one hand, Merck recognized income amounting to € 116 million as compensation for future license payments (the year-earlier quarter included license income in the mid to high single-digit million euro range), and on the other hand, the approval of Bavencio® at the end of March represented the achievement of a milestone, leading to income of € 37 million. Year-on-year, the operating result (EBIT) of the Merck Group declined by –11.1% to € 755 million (Q1 2016: € 849 million).

The negative financial result grew slightly to € –71 million in the first quarter of 2017 (Q1 2016: € –68 million). This was mainly due to the development of the time value of Merck Share Units within the scope of the Merck Long-Term Incentive Plan.

Income tax expenses of € 161 million (Q1 2016: € 187 million) led to an effective tax rate of 23.5% (Q1 2016: 24.0%).

Net income, i.e. profit after tax attributable to Merck KGaA shareholders, declined to € 521 million (Q1 2016: € 591 million), resulting in earnings per share of € 1.20 (Q1 2016: € 1.36).

MERCK GROUP

Reconciliation of EBIT to EBITDA pre exceptionals

€ million	Q1 2017	Q1 2016	Change
Operating result (EBIT)	**755**	**849**	**–11.1%**
Depreciation/amortization/impairment losses/reversals of impairment losses	448	433	3.4%
(of which: exceptionals)	*(4)*	*(–)*	(–)
EBITDA	**1,203**	**1,282**	**–6.2%**
Restructuring costs	4	1	> 100.0%
Integration costs/IT costs	26	28	–4.6%
Gains/losses on the divestment of businesses	2	–324	–
Acquisition-related exceptionals	3	94	–96.4%
Other exceptionals	3	2	18.6%
EBITDA pre exceptionals	**1,240**	**1,084**	**14.5%**

Adjusted for depreciation, amortization and exceptionals, EBITDA pre exceptionals, the key financial indicator used to steer operating business, rose by 14.5% to € 1,240 million (Q1 2016: € 1,084 million), resulting in an EBITDA pre exceptionals margin of 32.1% relative to sales (Q1 2016: 29.6%). Earnings per share pre exceptionals (earnings per share adjusted by net of tax effect of exceptionals and amortization of purchased intangible assets) rose by 16.9% to € 1.80 in the first quarter of 2017 (Q1 2016: € 1.54).

Net assets and financial position

MERCK GROUP

Balance sheet structure

	March 31, 2017		Dec. 31, 2016		Change	
	€ million	**in %**	€ million	in %	€ million	in %
Non-current assets	**30,321**	**79.1%**	**30,582**	**79.9%**	**–261**	**–0.9%**
of which:						
Intangible assets	24,664		24,989		–325	
Property, plant and equipment	4,218		4,230		–12	
Other non-current assets	1,440		1,363		77	
Current assets	**8,030**	**20.9%**	**7,670**	**20.1%**	**360**	**4.7%**
of which:						
Inventories	2,705		2,607		98	
Trade accounts receivable	3,113		2,889		224	
Current financial assets	114		145		–31	
Other current assets	1,066		1,089		–23	
Cash and cash equivalents	1,031		939		92	
Total assets	**38,351**	**100.0%**	**38,251**	**100.0%**	**100**	**0.3%**
Equity	**14,481**	**37.8%**	**14,050**	**36.7%**	**431**	**3.1%**
Non-current liabilities	**14,541**	**37.9%**	**15,115**	**39.5%**	**–573**	**–3.8%**
of which:						
Provisions for pensions and other post-employment benefits	2,291		2,313		–22	
Other non-current provisions	831		834		–3	
Non-current financial liabilities	8,362		8,809		–447	
Other non-current liabilities	3,058		3,159		–101	
Current liabilities	**9,329**	**24.3%**	**9,086**	**23.8%**	**242**	**2.7%**
of which:						
Current provisions	426		412		14	
Current financial liabilities	3,897		3,788		109	
Trade accounts payable	1,933		2,048		–115	
Other current liabilities	3,073		2,838		235	
Total liabilities and equity	**38,351**	**100.0%**	**38,251**	**100.0%**	**100**	**0.3%**

The total assets of the Merck Group amounted to € 38,351 million as of March 31, 2017. This represents a minor increase compared with December 31, 2016 (€ 38,251 million). Working capital rose by 13.4% to € 3,953 million (December 31, 2016: € 3,486 million) owing to an increase in receivables and inventories as well as a decline in trade accounts payable.

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

MERCK GROUP

Net financial debt

	March 31, 2017	Dec. 31, 2016	Change	
	€ million	€ million	€ million	in %
Bonds and commercial paper	9,395	9,650	–255	–2.6%
Loans to banks	2,026	1,978	48	2.4%
Liabilities to related parties	647	758	–111	–14.6%
Loans from third parties and other financial liabilities	81	80	1	1.5%
Liabilities from derivatives (financial transactions)	107	128	–21	–16.7%
Finance lease liabilities	3	4	–1	–7.4%
Total financial liabilities	**12,258**	**12,597**	**–338**	**–2.7%**
less				
Cash and cash equivalents	1,031	939	92	9.8%
Current financial assets	114	145	–31	–21.5%
Net financial debt	**11,113**	**11,513**	**–400**	**–3.5%**

€ million	**2017**
January 1	**11,513**
Currency translation	–68
Dividend payments to shareholders and to E. Merck[1]	69
Acquisitions	–
Payment from the disposal of assets held for sale[1]	–
Free cash flow	–385
Other	–16
March 31	**11,113**

[1] According to the consolidated cash flow statement.

The increase in equity as of March 31, 2017 to € 14,481 million (December 31, 2016: € 14,050 million) was due mainly to profit after tax (see ”Consolidated Statement of Changes in Net Equity”). The equity ratio improved to 37.8% (December 31, 2016: 36.7%).

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

MERCK GROUP

Free cash flow

€ million	Q1 2017	Q1 2016	Change
Cash flow from operating activities according to the consolidated cash flow statement	777	352	>100.0%
Payments for investments in intangible assets	–209	–12	>100.0%
Payments from the disposal of intangible assets	–	–	–
Payments for investments in property, plant and equipment	–201	–160	25.1%
Payments from the disposal of property, plant and equipment	17	6	>100.0%
Free cash flow	**385**	**186**	**>100.0%**

At € 760 million in the first quarter of 2017, (Q1 2016: € 763 million), business free cash flow of the Merck Group remained at the previous year's level. The improvement due to the increase in EBITDA pre exceptionals was offset by funds tied up in higher inventories and receivables.

MERCK GROUP

Business free cash flow

€ million	Q1 2017	Q1 2016	Change
EBITDA pre exceptionals	1,240	1,084	14.5%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–129	–118	9.0%
Changes in inventories as reported in the consolidated balance sheet	–98	16	>100.0%
Changes in trade accounts receivable and receivables from royalties and licenses as reported in the consolidated balance sheet	–254	–124	>100.0%
Adjustments first-time consolidation of Sigma-Aldrich	–	–95	–
Business free cash flow	**760**	**763**	**–0.4%**

Healthcare

HEALTHCARE

Key figures

€ million	**Q1 2017**	Q1 2016	Change
Net sales	1,735	1,646	5.4%
Operating result (EBIT)	445	641	–30.6%
Margin (% of net sales)	25.7%	39.0%	
EBITDA	629	829	–24.1%
Margin (% of net sales)	36.3%	50.4%	
EBITDA pre exceptionals	633	508	24.5%
Margin (% of net sales)	36.5%	30.9%	
Business free cash flow	356	342	4.4%

Development of net sales and results of operations

In the first quarter of 2017, the Healthcare business sector generated organic sales growth of 4.4%. Including currency tailwinds of 2.0% and a portfolio effect of –1.0%, net sales amounted to € 1,735 million (Q1 2016: € 1,646 million). Within the Biopharma business, this development was attributable to medicines from the General Medicine franchise (including CardioMetabolic Care) for the treatment of diabetes (Glucophage®) and thyroid disorders (Euthyrox®). By contrast, sales of Rebif®, our top-selling drug, declined organically. The positive exchange rate effect stemmed from the increase in the value of the U.S. dollar against the euro as well as the development of the Brazilian real. At the end of 2016, we divested our business in Pakistan, which primarily had an impact on sales in the General Medicine franchise (including CardioMetabolic Care) and led to a portfolio effect of –1.0%.

Commission income, which is also included in net sales, dropped by –50.1% to € 21 million (Q1 2016: € 42 million). This was caused in particular by the takeover of the marketing rights to Glucophage® in China from Bristol-Myers Squibb at the beginning of fiscal 2017. In the past, Healthcare only recorded commission income for Glucophage® sales in China. Since the beginning of the year, Healthcare no longer receives commission income, but rather reports the corresponding sales for Glucophage® in China. In return, license payments are made to Bristol-Myers Squibb.

Europe, the Healthcare business sector's top-selling region accounting for 37% of net sales (Q1 2016: 40%), registered an organic sales decline of –3.3%. Consequently, net sales totaled € 632 million (Q1 2016: € 660 million). This was due especially to the difficult competitive environment and further price reductions for the multiple sclerosis treatment Rebif®. Sales of Gonal-f® also declined organically in this region. Overall, the region's contribution to sales decreased by three percentage points.

In the first quarter of 2017, the Asia-Pacific region surpassed North America for the first time in terms of sales. The proportion of Healthcare sales increased to 22% (Q1 2016: 20%). This effect was mainly due to the changed business model for Glucophage® marketing in China as of January 1, 2017. Merck's takeover of the Glucophage® marketing rights in China from Bristol-Myers Squibb led to an increase in sales. Previously, only commission income from this franchise was reported. Furthermore, good organic growth of Euthyrox® contributed to organic growth in the region following supply bottlenecks in the previous year. A negative portfolio effect of –4.8% was primarily due to the divestment of our business activities in Pakistan. Including currency tailwinds of 1.9%, sales in Asia-Pacific amounted to € 387 million (Q1 2016: € 325 million).

At € 371 million, the North America region delivered net sales on a par with the year-ago quarter (Q1 2016: € 370 million). The organic sales decline of –3.5% was mainly due to Rebif® and Gonal-f® and was only offset to a limited extent by the positive development of Saizen®. Positive exchange rate effects of 3.7% compensated for the organic decline in sales. The contribution to net sales decreased to 21% (Q1 2016: 22%).

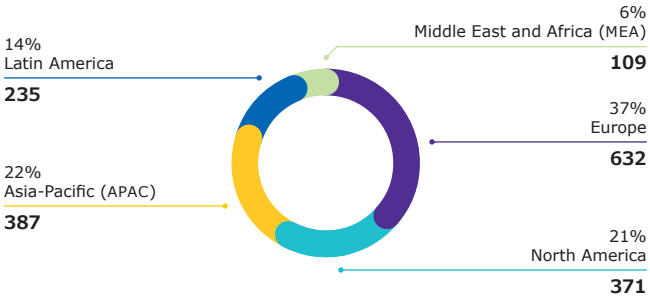
Sales in Latin America amounted to € 235 million (Q1 2016: € 195 million). The contribution to net sales rose to 14% (Q1 2016: 12%). Organic growth of 12.5% was primarily attributable to the products Erbitux® and Rebif® as well as the General Medicine franchise (including CardioMetabolic Care). The foreign exchange effect of 8.4% stemmed mainly from the development of the Brazilian real.

The Middle East and Africa region recorded organic growth of 11.5%. Including positive foreign exchange effects of 2.3%, net sales amounted to € 109 million (Q1 2016: € 96 million). The organic increase was driven by the development of our Consumer Health business as well as the products Euthyrox® and Erbitux®.

HEALTHCARE

Net sales by region – Q1 2017

€ million / % of net sales of the business sector



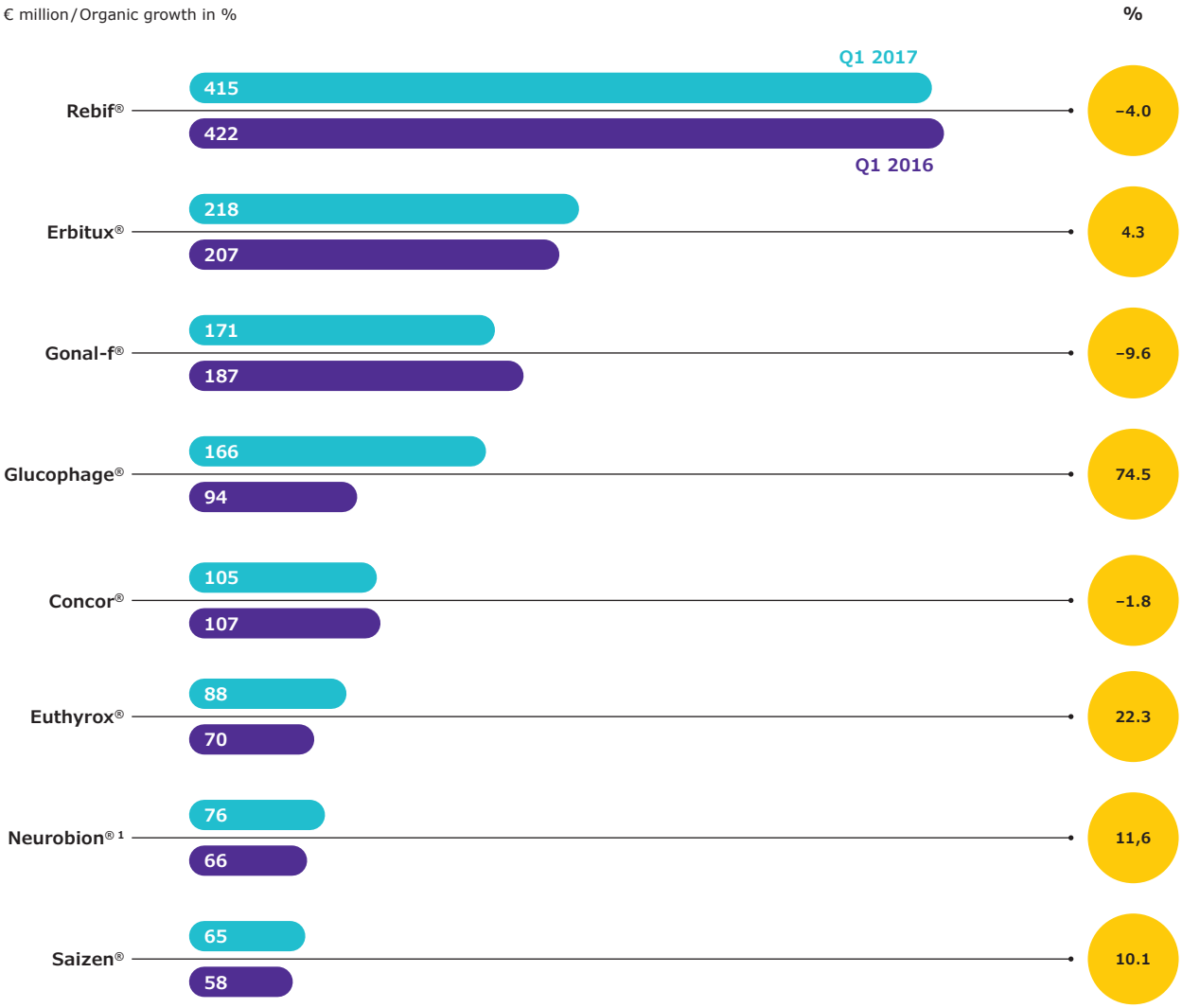
€ million / Change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	632	–3.3%	–0.8%	–0.2%	–4.2%
North America	371	–3.5%	3.7%	–	0.2%
Asia-Pacific (APAC)	387	22.1%	1.9%	–4.8%	19.2%
Latin America	235	12.5%	8.4%	–0.1%	20.7%
Middle East and Africa (MEA)	109	11.5%	2.3%	–	13.8%
Healthcare	**1,735**	**4.4%**	**2.0%**	**–1.0%**	**5.4%**

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

HEALTHCARE

Product sales and organic growth

€ million / Organic growth in %



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

In the first quarter of 2017, sales of Rebif®, which is used to treat relapsing forms of multiple sclerosis, declined organically by –4.0% owing to the challenging competitive environment, particularly in Europe and North America. Including currency tailwinds of 2.4%, sales amounted to € 415 million (Q1 2016: € 422 million). In North America, which generated 60% of Rebif® sales (Q1 2016: 60%) and is the largest market for this product, sales declined organically by –4.6%. A price increase at the beginning of the year as well as a positive exchange rate effect of 3.7% largely compensated for a negative volume effect owing to the competitive situation, which remains difficult. Sales were thus stable at € 250 million in comparison with the year-earlier quarter (Q1 2016: € 252 million). In Europe, Healthcare's second-largest market accounting for 29% of sales (Q1 2016: 32%), sales also declined organically by –9.3% to € 122 million (Q1 2016: € 135 million). This was the result of continued competitive pressure and further price reductions.

Together, the remaining regions Latin America, Middle East and Africa, and Asia-Pacific accounted for an 11% share of sales (Q1 2016: 8%). With organic sales growth of 38.3%, primarily Latin America increased its share to 6% (Q1 2016: 4%).

Thanks to organic growth of 4.3% and positive exchange rate effects of 1.2%, the oncology drug Erbitux® generated sales of € 218 million (Q1 2016: € 207 million). The share of sales attributable to Europe, which remains the top-selling region for Erbitux®, decreased to 53% (Q1 2016: 59%). Sales of € 116 million (Q1 2016: € 122 million) reflected an organic decline of –3.6% as well as an exchange rate effect of –1.6%. The Asia-Pacific region delivered good organic growth of 7.4% and, taking into account positive exchange rate effects of 4.7%, increased its share of Erbitux® sales to 31% (Q1 2016: 29%). Sales in the region amounted to € 68 million (Q1 2016: € 60 million). Latin America, the region with the strongest percentage organic sales growth of 39.3%, generated sales of € 22 million after exchange rate effects of 9.1% (Q1 2016: € 15 million). The share of Erbitux® sales accounted for by this region thus increased to 10% (Q1 2016: 7%). The share of sales attributable to the Middle East and Africa region also rose to 6%, amounting to € 12 million (Q1 2016: € 9 million).

HEALTHCARE

Product sales and organic growth of Rebif® and Erbitux® by region – Q1 2017

		Total	Europe	North America	Asia-Pacific (APAC)	Latin America	Middle East and Africa (MEA)
Rebif®	€ million	415	122	250	4	24	16
	Organic growth in %	–4.0%	–9.3%	–4.6%	3.7%	38.3%	2.5%
	% of sales	100%	29%	60%	1%	6%	4%
Erbitux®	€ million	218	116	–	68	22	12
	Organic growth in %	4.3%	–3.6%	–	7.4%	39.3%	31.1%
	% of sales	100%	53%	–	31%	10%	6%

At € 171 million, first-quarter sales of Gonal-f®, the leading recombinant hormone used in the treatment of infertility, were below the year-earlier level (Q1 2016: € 187 million). The organic sales decline of –9.6% was mainly due the regions Europe and North America. The strong year-earlier sales in North America were due to a favorable competitive situation.

Sales by the Endocrinology franchise, which mainly consists of products to treat growth disorders, amounted to € 95 million, and were thus higher than the year-earlier quarter (Q1 2016: € 90 million). This reflected organic growth of 5.3%, which was driven by the growth hormone Saizen®, the top-selling drug in this franchise. With organic growth of 10.1% and foreign exchange effects of 1.6%, Saizen® generated sales of € 65 million (Q1 2016: € 58 million). This was primarily driven by the good development in North America.

The General Medicine franchise (including CardioMetabolic Care), which commercializes products to treat cardiovascular diseases and diabetes, among other things, generated organic growth of 16.6%. Including a foreign exchange effect of 2.4% and a portfolio effect of –3.4%, net sales totaled € 467 million (Q1 2016: € 404 million). Organic growth was due in particular to the development of Glucophage®, which is used in the treatment of diabetes. Organic growth of 74.5% included the effect of the takeover of the marketing rights to Glucophage® in China from Bristol-Myers Squibb. Accordingly, net sales were realized in the first quarter of 2017 whereas in the year-earlier quarter only commission income was reported. Including exchange rate effects of 4.7% and a portfolio effect of –1.9%, sales of Glucophage® totaled € 166 million (Q1 2016: € 94 million). Euthyrox®, our drug to treat thyroid disorders, continued to show solid performance with organic growth of 22.3% and sales of € 88 million (Q1 2016: € 70 million). Among other things, this was due to a weak year-earlier quarter with supply bottlenecks in the Asia-Pacific region. The portfolio effect in General Medicine (including CardioMetabolic Care) resulted mainly from the divestment of the business in Pakistan at the end of 2016.

In the first quarter of 2017, the Consumer Health business, which commercializes over-the-counter pharmaceuticals, generated good organic sales growth of 5.0%. Including a positive foreign exchange effect of 2.1% and a portfolio effect of –0.6%, net sales amounted to € 230 million (Q1 2016: € 215 million). In particular, the global strategic brand Neurobion® contributed to organic growth across all regions. The portfolio effect resulted from the divestment of the entities in Pakistan.

The results of operations developed as follows:

HEALTHCARE

Results of operations

€ million	Q1 2017	Q1 2016	Change
Net sales	**1,735**	**1,646**	**5.4%**
Cost of sales	–371	–311	19.5%
(of which: amortization of intangible assets)[1]	*(–)*	*(–)*	*(–)*
Gross profit	**1,364**	**1,335**	**2.1%**
Marketing and selling expenses	–656	–613	7.1%
(of which: amortization of intangible assets)[1]	*(–140)*	*(–143)*	*(–2.1%)*
Administration costs	–77	–71	8.3%
Research and development costs	–376	–378	–0.6%
(of which: amortization of intangible assets)[1]	*(–)*	*(–)*	*(–)*
Other operating expenses and income	191	367	–48.1%
Operating result (EBIT)	**445**	**641**	**–30.6%**
Depreciation/amortization/impairment losses/reversals of impairment losses	184	188	–1.9%
(of which: exceptionals)	*(1)*	*(–)*	*(–)*
EBITDA	**629**	**829**	**–24.1%**
Restructuring costs	–	1	–
Integration costs/IT costs	4	2	70.0%
Gains/losses on the divestment of businesses	–	–324	–
Acquisition-related exceptionals	–	–	–
Other exceptionals	–	–	–
EBITDA pre exceptionals	**633**	**508**	**24.5%**

[1] Excluding amortization of internally generated or separately acquired software.

Gross profit of the Healthcare business sector rose in the first quarter of 2017 by 2.1% to € 1,364 million (Q1 2016: € 1,335 million). The positive effect of the increase in sales was partly offset by higher production costs and resulted in a gross margin of 78.6% (Q1 2016: 81.1%).

The increase in marketing and selling expenses was primarily driven by higher royalty and license expenses. Among other things, this item included license expenses payable to Bristol-Myers Squibb as of the beginning of 2017 owing to the takeover of the Glucophage® marketing rights in China. In addition, the launch preparations for Bavencio® and cladribine tablets contributed to the increase in marketing and selling expenses. The strong change in other operating expenses and income was attributable to several factors. The year-earlier quarter included the gain on the return of the rights to Kuvan® to BioMarin Pharmaceutical amounting to € 324 million. Other operating income in the first quarter of 2017 was positively influenced by higher license income. This mainly reflected a contractual agreement under which Merck is entitled to a one-time payment in exchange for future license payments. In the first quarter of 2017, Merck recognized income from this contractual agreement amounting to € 116 million (the year-earlier quarter included license income in the mid to high single-digit million euro range), as well as higher royalty income for Avonex® owing to a patent granted in the United States in June 2016. Furthermore, royalty and license income included the milestone payment for Bavencio® in the United States amounting to € 37 million. As a result, EBITDA pre exceptionals grew by 24.5% to € 633 million (Q1 2016: € 508 million), leading to an EBITDA margin pre exceptionals of 36.5% (Q1 2016: 30.9%).

Development of business free cash flow

In the first quarter of 2017, business free cash flow of the Healthcare business sector rose by 4.4% to € 356 million (Q1 2016: € 342 million). The positive effect of the increase in EBITDA pre exceptionals was largely offset by higher receivables in the first quarter of 2017. This was due on the one hand to the Bavencio® milestone recognized as a receivable in the first quarter of 2017, and on the other hand to receivables from Pfizer from the sharing of co-development expenses. Moreover, the takeover of the Glucophage® marketing rights in China had an impact, since for the first time net sales of Glucophage® were recognized, also leading to an increase in receivables.

HEALTHCARE

Business free cash flow

€ million	**Q1 2017**	Q1 2016	Change
EBITDA pre exceptionals	633	508	24.5%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–45	–42	7.6%
Changes in inventories	–24	–38	–36.5%
Changes in trade accounts receivable as well as receivables from royalties and licenses	–207	–87	> 100.0%
Business free cash flow	**356**	**342**	**4.4%**

Life Science

LIFE SCIENCE

Key figures

€ million	Q1 2017	Q1 2016	Change
Net sales	1,481	1,397	6.1%
Operating result (EBIT)	236	105	> 100.0%
Margin (% of net sales)	15.9%	7.5%	
EBITDA	430	284	51.5%
Margin (% of net sales)	29.0%	20.3%	
EBITDA pre exceptionals	445	393	13.3%
Margin (% of net sales)	30.1%	28.1%	
Business free cash flow	281	269	4.6%

Development of sales and results of operations

In the first quarter of 2017, Life Science registered organic sales growth of 3.3%, portfolio-related growth of 0.4% and a favorable foreign exchange impact of 2.4% compared with the strong year-earlier period. The portfolio-related growth from the acquisition of BioControl Systems, Inc., USA (BioControl), in January 2017 was somewhat offset by the divestment of the Merck entities in Pakistan. Organic growth was primarily driven by Process Solutions and Applied Solutions.

Taking these effects into account, the net sales of Life Science rose by a total of 6.1% to € 1,481 million (Q1 2016: € 1,397 million).

From a geographic perspective, all regions contributed positively to the business sector's organic sales growth.

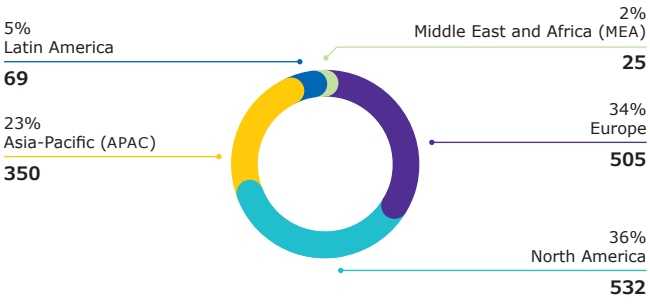
Delivering organic growth of 0.6%, North America, the business sector's largest region accounting for 36% (Q1 2016: 36%) of total Life Science sales. Applied Solutions generated very strong organic growth driven by Instrumental Analysis, offset however by Research Solutions, which faced restrained market demand across the region. Overall, sales in North America increased to € 532 million (Q1 2016: € 504 million) in the first quarter of 2017.

In Europe, sales grew organically by 2.3%. This increase was driven by Research Solutions and was mainly attributable to sales in Lab Separation and Workflow Tools. Sales in Europe rose to € 505 million (Q1 2016: € 498 million) equating to an overall contribution of 34% to Life Science's net sales in the first quarter of 2017 (Q1 2016: 36%).

LIFE SCIENCE

Net sales by region – Q1 2017

€ million / % of net sales of the business sector



Asia-Pacific achieved very strong organic sales growth of 8.2%, with good performance across the Life Science portfolio. Process Solutions fueled growth in the region, performing well in South Korea, especially in Upstream & Systems. Sales in the Asia-Pacific region increased to € 350 million (Q1 2016: € 314 million), equivalent to 23% (Q1 2016: 22%) of the business sector's net sales in the first quarter of 2017.

Latin America generated strong organic sales growth of 6.4% mainly driven by Applied Solutions, especially within Biomonitoring and Advanced Analytical. Including currency tailwinds of 9.1%, this resulted in net sales of € 69 million (Q1 2016: € 59 million).

Sales in the Middle East and Africa region saw very strong organic growth of 8.6% primarily driven by Process Solutions and Research Solutions. Net sales in the region totaled € 25 million (Q1 2016: € 21 million).

LIFE SCIENCE

Net sales components by region – Q1 2017

€ million/Change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	505	2.3%	–1.1%	0.3%	1.5%
North America	532	0.6%	3.9%	1.0%	5.4%
Asia-Pacific (APAC)	350	8.2%	4.0%	–0.5%	11.6%
Latin America	69	6.4%	9.1%	1.2%	16.6%
Middle East and Africa (MEA)	25	8.6%	8.0%	0.1%	16.7%
Life Science	**1,481**	**3.3%**	**2.4%**	**0.4%**	**6.1%**

All Life Science businesses contributed to the positive organic development of sales during the first quarter of 2017.

The Process Solutions business area, which markets products and services for the pharmaceutical production value chain, generated organic sales growth of 4.8%, which was the highest rate within the Life Science business sector. Including a favorable foreign exchange effect of 2.1% and a slight negative impact of –0.1% from the Pakistan divestment, sales amounted to € 553 million in the first quarter of 2017 (Q1 2016[1]: € 517 million). Process Solutions thus accounted for 37% (Q1 2016: 37%) of Life Science's net sales. The increase was driven by Upstream & Systems, especially with higher demand for biopharm ingredients and single-use products, as well as the services business.

Applied Solutions, which accounted for a 27% (Q1 2016: 26%) share of Life Science sales, delivered moderate organic sales growth of 4.4% in the first quarter of 2017. This was mainly driven by Lab Water with consumables and hardware sales as well as by the Biomonitoring business. Including favorable exchange rate effects of 2.7% and acquisition-related growth of 2.0%, sales totaled € 391 million (2016[1]: € 359 million). Acquisition-related growth includes BioControl, a global leader in food safety testing that is expected to provide attractive growth opportunities for the Life Science business in the food and beverage industry. This favorable portfolio growth was slightly lowered by the divestment of the entities in Pakistan.

Research Solutions recorded a slight 1.0% organic increase in sales. Including positive foreign exchange effects of 2.5%, partially offset by the Pakistan divestment (-0.3%), sales amounted to € 537 million (Q1 2016[1]: € 520 million). The share of Life Science sales accounted for by Research Solutions in the first quarter of 2017 was 36% (Q1 2016: 37%).

[1] Previous year's figures have been adjusted owing to an internal reorganization.

€ million / Change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Total change
Process Solutions	553	4.8%	2.1%	–0.1%	6.8%
Research Solutions	537	1.0%	2.5%	–0.3%	3.2%
Applied Solutions	391	4.4%	2.7%	2.0%	9.1%

The results of operations developed as follows:

LIFE SCIENCE

Results of operations

€ million	**Q1 2017**	Q1 2016	Change
Net sales	**1,481**	**1,397**	**6.1%**
Cost of sales	–622	–713	–12.8%
(of which: amortization of intangible assets)[1]	*(–15)*	*(–15)*	*(2.6%)*
Gross profit	**859**	**683**	**25.7%**
Marketing and selling expenses	–449	–421	6.7%
(of which: amortization of intangible assets)[1]	*(–116)*	*(–110)*	*(5.8%)*
Administration costs	–70	–63	11.7%
Research and development costs	–62	–62	0.3%
(of which: amortization of intangible assets)[1]	*(–)*	*(–)*	*(–)*
Other operating expenses and income	–43	–34	27.6%
Operating result (EBIT)	**236**	**105**	**> 100.0%**
Depreciation/amortization/impairment losses/reversals of impairment losses	194	179	8.4%
(of which: exceptionals)	*(–)*	*(–)*	*(–)*
EBITDA	**430**	**284**	**51.5%**
Restructuring costs	1	–	–
Integration costs/IT costs	11	16	–30.2%
Gains/losses on the divestment of businesses	–	–	–
Acquisition-related exceptionals	3	93	–96.4%
Other exceptionals	–	–	–
EBITDA pre exceptionals	**445**	**393**	**13.3%**

[1] Excluding amortization of internally generated or separately acquired software.

In the first quarter of 2017, the business sector's gross profit increased by 25.7% to € 859 million as a result of positive sales performance, operational improvements and a sharp decline of € 91 million in cost of sales compared with the year-ago period. It should be noted that in the first quarter of 2016, cost of sales included higher expenses of € 93 million owing to the step-up of inventories owing to the first-time consolidation of Sigma-Aldrich.

The year-on-year increases in marketing and selling expenses, administration costs and other operating expenses were mainly due to the higher level of business activity and a decline in license income. R&D costs were essentially flat compared with the year-earlier period.

In comparison with the first quarter of 2016, the operating result (EBIT) of Life Science soared to € 236 million (Q1 2016: € 105 million). After eliminating depreciation and amortization, and adjusted for exceptionals, EBITDA pre exceptionals, our most important performance indicator, climbed 13.3% to € 445 million (Q1 2016: € 393 million). This reflects good operating performance and the continued execution of synergies from the Sigma-Aldrich acquisition.

Development of business free cash flow

In the first quarter of 2017, Life Science generated business free cash flow amounting to € 281 million, 4.6% more than in the year-earlier period. This was primarily due to the positive development of EBITDA pre exceptionals yet was somewhat offset by higher inventory levels.

€ million	**Q1 2017**	Q1 2016	Change
EBITDA pre exceptionals	445	393	13.3%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–52	–46	13.0%
Changes in inventories	–60	75	> 100.0%
Changes in trade accounts receivable as well as receivables from royalties and licenses	–52	–59	–12.6%
Adjustments first-time consolidation of Sigma-Aldrich	–	–94	–
Business free cash flow	**281**	**269**	4.6%

Performance Materials

PERFORMANCE MATERIALS

Key figures

€ million	Q1 2017	Q1 2016	Change
Net sales	645	622	3.6%
Operating result (EBIT)	195	207	–5.6%
Margin (% of net sales)	30.3%	33.2%	
EBITDA	257	267	–4.0%
Margin (% of net sales)	39.8%	43.0%	
EBITDA pre exceptionals	263	273	–3.7%
Margin (% of net sales)	40.9%	43.9%	
Business free cash flow	233	257	–9.3%

Development of net sales and results of operations

In the first quarter of 2017, net sales of the Performance Materials business sector increased by 3.6% to € 645 million (Q1 2016: € 622 million). Growth was based on positive foreign exchange effects of 4.5% from all main currencies, with the development of the Taiwanese dollar playing a significant role. Organically, sales declined slightly by –0.9% as the Display Materials business remained below the year-earlier quarter.

The Display Materials business unit, consisting of the Liquid Crystals business and complementary materials, represented 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 2017 stemmed from the performance of established liquid crystal technologies, which resulted from a normalization of the unusually high market shares as well as the price declines customary in this industry. An exception was the innovative energy-saving UB-FFS technology, which generated double-digit growth along with record sales in the first quarter of 2017.

The Integrated Circuit Materials (ICM) business unit recorded very good organic sales growth, to which all major businesses contributed. Particularly high growth rates were achieved with dielectric materials and deposition materials for chip production.

The Pigments & Functional Materials business unit also generated solid organic growth in the first quarter of 2017. This good performance was driven by the business with decorative pigments, particularly by sales to the coatings industry.

The strong sales increase in in the Advanced Technologies business unit was fueled by the continued growth of OLED materials.

Accounting for 78% (Q1 2016: 79%), the Asia-Pacific region again generated the vast majority of the business sector's net sales. This is due to the concentration of customers for display and integrated circuit materials in Asia. In this region, Performance Materials saw a slight increase in sales to € 504 million (Q1 2016: € 492 million). Organically, sales decreased by –2.5% owing to the performance of the Display Materials business unit. The increases in sales of IC and OLED materials and of Pigments & Functional Materials could not compensate for this.

In Europe, Performance Materials delivered sales of € 65 million (Q1 2016: € 60 million). The organic sales increase of 8.7% was generated mainly with decorative pigments for the coatings industry as well as by the IC Materials business unit.

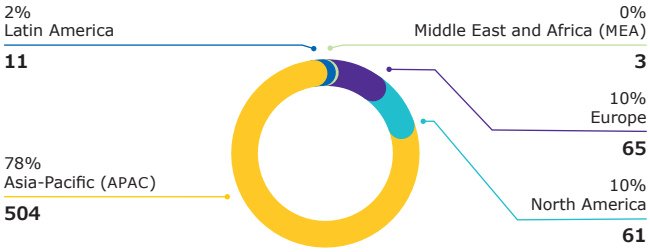
In North America, net sales rose by 7.3% to € 61 million (Q1 2016: € 57 million). Organically, this represented sales growth of 3.4% in this region. The key growth drivers were the businesses with deposition materials for chip production as well as materials for the chemical mechanical planarization of silicon wafers.

Since they account for a low proportion of sales, the two regions Latin America and Middle East and Africa played a subordinate role. Latin America recorded an organic decline in sales since the high level of sales generated with insect repellents in the year-earlier quarter normalized. In the Middle East and Africa, sales saw double-digit organic growth, albeit at a low level.

PERFORMANCE MATERIALS

Net sales by region – Q1 2017

€ million / % of net sales of the business sector



PERFORMANCE MATERIALS

Net sales components by region – Q1 2017

€ million / Change in %	Net sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Total change
Europe	65	8.7%	–0.2%	–	8.5%
North America	61	3.4%	3.9%	–	7.3%
Asia-Pacific (APAC)	504	–2.5%	5.1%	–	2.6%
Latin America	11	–8.4%	3.9%	–	–4.5%
Middle East and Africa (MEA)	3	20.2%	4.4%	–	24.6%
Performance Materials	**645**	**–0.9%**	**4.5%**	**–**	**3.6%**

The results of operations developed as follows:

PERFORMANCE MATERIALS

Results of operations

€ million	Q1 2017	Q1 2016	Change
Net sales	**645**	**622**	**3.6%**
Cost of sales	–299	–282	5.9%
(of which: amortization of intangible assets)[1]	*(–31)*	*(–28)*	*(8.9%)*
Gross profit	**346**	**340**	**1.7%**
Marketing and selling expenses	–62	–58	7.6%
(of which: amortization of intangible assets)[1]	*(–3)*	*(–5)*	*(–27.0%)*
Administration costs	–18	–16	9.9%
Research and development costs	–58	–48	20.0%
(of which: amortization of intangible assets)[1]	*(–1)*	*(–)*	*(–)*
Other operating expenses and income	–13	–12	15.0%
Operating result (EBIT)	**195**	**207**	**–5.6%**
Depreciation/amortization/impairment losses/reversals of impairment losses	62	61	1.3%
(of which: exceptionals)	*(–)*	*(–)*	*(–)*
EBITDA	**257**	**267**	**–4.0%**
Restructuring costs	2	–	–
Integration costs/IT costs	5	4	29.9%
Gains/losses on the divestment of businesses	–	–	–
Acquisition-related exceptionals	–	2	–
Other exceptionals	–	–	–
EBITDA pre exceptionals	**263**	**273**	**–3.7%**

[1] Excluding amortization of internally generated or separately acquired software.

In the first quarter of 2017, gross profit was € 6 million more than in the year-earlier quarter, resulting in a gross margin of 53.6% (Q1 2016: 54.6%). The operating result decreased by € 12 million to € 195 million in the first quarter of 2017 (Q1 2016: € 207 million). This was primarily due to the increase in research and development costs for advancing important initiatives such as liquid crystal windows and OLED. EBITDA pre exceptionals of € 263 million reflected a decline of € 10 million owing to higher research and development costs (Q1 2016: € 273 million). At 40.9%, the EBITDA margin pre exceptionals did not meet the high year-earlier figure (Q1 2016: 43.9%).

Development of business free cash flow

In the first quarter of 2017, business free cash flow of the Performance Materials business sector totaled € 233 million (Q1 2016: € 257 million). The key factors were the development of receivables in the first quarter of 2016 and 2017 as well the lower level of EBITDA pre exceptionals in the first quarter of 2017.

€ million	**Q1 2017**	Q1 2016	Change
EBITDA pre exceptionals	263	273	–3.7%
Investments in property, plant and equipment, software as well as advance payments for intangible assets	–20	–19	6.3%
Changes in inventories	–14	–20	–31.5%
Changes in trade accounts receivable as well as receivables from royalties and licenses	3	24	–87.4%
Adjustments first-time consolidation of Sigma-Aldrich	–	–2	–
Business free cash flow	**233**	**257**	**–9.3%**

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 IT functions not allocated to the business sectors, including expenses related to the expansion and harmonization of IT systems within the Merck Group.

CORPORATE AND OTHER

Key figures

€ million	**Q1 2017**	Q1 2016	Change
Operating result (EBIT)	–122	–104	16.6%
EBITDA	–113	–98	14.9%
EBITDA pre exceptionals	–101	–91	11.3%
Business free cash flow	–111	–104	6.5%

In the first quarter of 2017, administration expenses reported under Corporate and Other amounted to € 78 million (Q1 2016: € 56 million). Other operating expenses (net) decreased to € –40 million (Q1 2016: € –46 million). Taking the development of these two items into account, in the first quarter of 2017 the operating result (EBIT) amounted to € –122 million (Q1 2016: € –104 million) and EBITDA was € –113 million (Q1 2016: € –98 million). Adjusted for exceptionals, EBITDA pre exceptionals totaled € –101 million (Q1 2016: € -91 million). The increase in negative EBITDA pre exceptionals also had an impact on the development of business free cash flow, which amounted to € –111 million in the first quarter of 2017 (Q1 2016: –104 million).

OUTLOOK

With the publication of the results of 2016, we had provided an initial forecast of the development of net sales, EBITDA pre exceptionals and business free cash flow for the Merck Group and the individual business sectors in 2017.

Following a solid first quarter, we forecast net sales of the Merck Group to increase to between € 15.5 billion and € 16.0 billion in 2017. Organically, we continue to expect a slight to moderate increase in comparison with the previous year. However, we now assume that currency changes will have a slightly positive effect of probably 1% to 2% on net sales. We expect that the €/US$ exchange rate will remain in the range of € 1.06 to € 1.10, which should have a positive impact on our net sales. By contrast, Latin American currencies, for which we initially predicted a negative development, showed a stable to positive development in the first quarter. However, the sustainability of this trend continues to depend on current political and macroeconomic developments. Consequently, high exchange rate volatility is generally to be expected for 2017.

For 2017, we predict EBITDA pre exceptionals in a range of between € 4.4 billion and € 4.6 billion.

For the Healthcare business sector, our forecast for a slight organic increase in net sales in 2017 in comparison with the previous year remains unchanged. Our assumptions in this regard have not changed since the last forecast: We continue to assume that the positive development of demand in growth markets will contribute considerably to the expected development of sales and will offset the expected decline in sales of Rebif® and the continued price pressure in various regions. In addition, sales growth will benefit slightly from the full takeover of the Glucophage® marketing rights in China from Bristol-Myers Squibb Company, USA, at the beginning of 2017. On March 23, 2017, the U.S. Food and Drug Administration approved Bavencio® (avelumab) for the treatment of metastatic Merkel cell carcinoma (mMCC), a very rare form of skin cancer. In addition, on May 9, 2017, the FDA granted approval of Bavencio® for the treatment of patients with locally advanced or metastatic urothelial carcinoma (UC) who have disease progression during or following platinum-containing chemotherapy therapy, or who have disease progression within 12 months of neoadjuvant or adjuvant treatment with platinum-containing chemotherapy. Consequently, for 2017 we expect initial sales contributions from Bavencio® in the low double-digit million euro range. As expected, the divestment of our business in Pakistan in the fourth quarter of 2016 will lead to a low portfolio-related decline in sales. In 2017, EBITDA pre exceptionals of the Healthcare business sector is forecast to amount to between € 1.9 billion and € 2.0 billion. The decrease in comparison with the previous year is due to higher research and development expenses for our pipeline. Additionally, we still assume that a less profitable product mix and the absence of positive one-time effects from the previous year will lower EBITDA pre exceptionals. Royalty income from a patent granted in the United States in 2016 as well as a one-time payment as compensation for future license payments should increase EBITDA pre exceptionals. Moreover, we now include in our forecast the milestone payments from our partner Pfizer for the two aforementioned FDA approvals of Bavencio®. The closing of the transaction announced on April 24, 2017 to divest our Biosimilars business to Fresenius is expected in the second half of 2017, subject to regulatory approvals and other customary closing conditions. The cost reduction is therefore likely to only be in the low double-digit million euro range in 2017 as a whole, depending on the exact date of the transaction closing.

Following the first quarter, for our Life Science business sector in 2017 we continue to forecast solid organic sales growth that should be slightly above the expected market growth of approximately 4% p.a. This should also reflect initial sales synergies from the acquisition of Sigma-Aldrich. We believe that Process Solutions will contribute the largest share to organic sales growth, even if organic growth in the first quarter was slightly lower than in previous quarters owing to the very high year-earlier basis. Research Solutions and Applied Solutions are also expected to contribute positively to organic sales growth. Additionally, owing to the acquisition of BioControl in 2016 we expect a low positive portfolio effect in 2017. The realization of synergies has high priority for us and we will continue to vigorously pursue this aim in 2017 as well. In addition to the synergies already realized, we expect a further positive effect amounting to around € 80 million. Together with organic sales growth of the business sector, EBITDA pre exceptionals should be between € 1.78 billion and € 1.85 billion.

Contrary to our original expectations for the Performance Materials business sector, in the first quarter of 2017 it could be seen that our market shares in the Liquid Crystals business continue to normalize slowly from a high level. The typical price pressure in the industry is continuing as expected. The good organic development that we expect for the Integrated Circuit Materials and Pigments & Functional Materials business units will most likely not be able to fully offset the decline in

the Display Materials business unit. Overall, for 2017 we now expect to see a slight organic decline in sales in comparison with the previous year. The Performance Materials business sector continues to benefit from its strong diversification and strict cost management. However, the now anticipated organic sales decline will also affect earnings. For 2017, we forecast EBITDA pre exceptionals of between € 1.05 billion and € 1.13 billion in 2017.

We assume that expenses reported under Corporate and Other in 2017 will amount to between € –350 million and € –400 million, thus slightly above the range of € –350 million and € –380 million predicted so far. The main reason for this slight adjustment are expected currency hedging losses. We anticipate that these will be slightly higher in 2017 than expected due to the exchange rate developments in the first quarter as well as a slight increase in the hedge ratio that has meanwhile occurred. Corporate and Other reflects the significant amounts we are investing in our IT infrastructure and various digitalization initiatives, which we believe will lead to new business opportunities and greater efficiency in the future.

MERCK GROUP

Forecast for FY 2017

€ million	Net sales	EBITDA pre exceptionals	Business free cash flow
Merck Group	~15,500 to 16,000	~4,400 to 4,600	~2,930 to 3,150
Healthcare	• Slight organic growth • Low portfolio effect due to the divestment of our business in Pakistan	~1,900 to 2,000	~1,340 to 1,430
Life Science	• Solid organic sales growth • Low portfolio effect due to the acquisition of BioControl	~1,780 to 1,850	~1,310 to 1,380
Performance Materials	Slight organic sales decline	1,050 to 1,130	~820 to 890
Corporate and Other	–	~ –350 to –400	~ –590 to –540

Earnings per share pre exceptionals: € 6.15 to € 6.50

Full-year FX assumptions for 2017:
€ 1 = US$ 1.06 to 1.10
€ 1 = JPY 120 to 125
€ 1 = CHF 1.06 to 1.11

SUPPLEMENTAL FINANCIAL INFORMATION

Consolidated Income Statement

€ million	Q1 2017	Q1 2016
Net sales	**3,861**	**3,665**
Cost of sales	–1,296	–1,307
(of which: amortization of intangible assets)[1]	*(–47)*	*(–44)*
Gross profit	**2,565**	**2,358**
Marketing and selling expenses	–1,168	–1,090
(of which: amortization of intangible assets)[1]	*(–259)*	*(–257)*
Administration expenses	–242	–206
Research and development costs	–495	–489
(of which: amortization of intangible assets)[1]	*(–1)*	*(–1)*
Other operating income	271	480
Other operating expenses	–176	–204
Operating result (EBIT)	**755**	**849**
Financial result	–71	–68
Profit before income tax	**684**	**780**
Income tax	–161	–187
Profit after tax	**523**	**593**
of which: attributable to Merck KGaA shareholders (net income)	521	591
of which: attributable to non-controlling interests	2	2
Earnings per share (€)		
basic	1.20	1.36
diluted	1.20	1.36

[1] Excluding amortization of internally generated or separately acquired software.

Consolidated Statement of Comprehensive Income

€ million	Q1 2017	Q1 2016
Profit after tax	**523**	**593**
Items of other comprehensive income that will not be reclassified to profit or loss in subsequent periods:		
Remeasurement of the net defined benefit liability		
Changes in remeasurement	64	–409
Tax effect	–11	64
Changes recognized in equity	53	–345
	53	–345
Items of other comprehensive income that may be reclassified to profit or loss in subsequent periods:		
Available-for-sale financial assets		
Fair value adjustments	6	–1
Reclassification to profit or loss	–1	–
Tax effect	1	–
Changes recognized in equity	6	–1
Derivative financial instruments		
Fair value adjustments	–18	60
Reclassification to profit or loss	21	13
Reclassification to assets	–	–
Tax effect	–2	–20
Changes recognized in equity	1	53
Exchange differences on translating foreign operations		
Changes taken directly to equity	–152	–512
Reclassification to profit or loss	–	–76
Changes recognized in equity	–152	–588
	–145	–536
Other comprehensive income	**–92**	**–881**
Comprehensive income	**431**	**–288**
of which: attributable to Merck KGaA shareholders	428	–288
of which: attributable to non-controlling interests	3	–

Consolidated Balance Sheet

€ million	March 31, 2017	Dec. 31, 2016
Non-current assets		
Intangible assets	24,664	24,989
Property, plant and equipment	4,218	4,230
Non-current financial assets	221	218
Other non-current assets	127	131
Deferred tax assets	1,091	1,013
	30,321	**30,582**
Current assets		
Inventories	2,705	2,607
Trade accounts receivable	3,113	2,889
Current financial assets	114	145
Other current assets	619	674
Income tax receivables	435	403
Cash and cash equivalents	1,031	939
Assets held for sale	12	12
	8,030	**7,670**
Total assets	**38,351**	**38,251**
Total equity		
Equity capital	565	565
Reserves	10,937	10,362
Gains/losses recognized in equity	2,916	3,062
Equity attributable to Merck KGaA shareholders	**14,418**	**13,989**
Non-controlling interests	63	61
	14,481	**14,050**
Non-current liabilities		
Provisions for pensions and other post-employment benefits	2,291	2,313
Other non-current provisions	831	834
Non-current financial liabilities	8,362	8,809
Other non-current liabilities	387	439
Deferred tax liabilities	2,671	2,720
	14,541	**15,115**
Current liabilities		
Current provisions	426	412
Current financial liabilities	3,897	3,788
Trade accounts payable	1,933	2,048
Income tax liabilities	1,034	883
Other current liabilities	2,032	1,947
Liabilities directly related to assets held for sale	8	8
	9,329	**9,086**
Total equity and liabilities	**38,351**	**38,251**

Consolidated Cash Flow Statement

€ million	Q1 2017	Q1 2016
Profit after tax	**523**	**593**
Depreciation/amortization/impairment losses/reversals of impairment losses	448	433
Changes in inventories	–101	–19
Changes in trade accounts receivable	–205	–158
Changes in trade accounts payable	–61	–89
Changes in provisions	51	21
Changes in other assets and liabilities	134	–34
Neutralization of gain/loss on disposals of assets	–9	–388
Other non-cash income and expenses	–2	–6
Net cash flows from operating activities	**777**	**352**
Payments for investments in intangible assets	–209	–12
Payments for investments in property, plant and equipment	–201	–160
Payments from the disposal of property, plant and equipment	17	6
Payments for investments in financial assets	–85	–159
Payments from the disposal of other financial assets	65	269
Payments from other divestments	11	–
Payments from the divestment of assets held for sale	–	340
Net cash flows from investing activities	**–402**	**284**
Dividend payments to non-controlling interests	–1	–2
Dividend payments to E. Merck KG	–68	–53
Repayments of financial liabilities to E. Merck KG	–109	–18
Repayments of bonds	–232	–
Changes in other current and non-current financial liabilities	119	–500
Net cash flows from financing activities	**–290**	**–572**
Changes in cash and cash equivalents	**85**	**64**
Changes in cash and cash equivalents due to currency translation	8	–8
Changes in cash and cash equivalents due to changes in the scope of consolidation	–	–8
Cash and cash equivalents at the beginning of the reporting period	939	832
Cash and cash equivalents as of March 31	**1,031**	**880**

Consolidated Statement of Changes in Net Equity

	Equity capital			Retained earnings	
€ million	General partner's equity Merck KGaA	Subscribed capital Merck KGaA	Capital reserves (share premium) Merck KGaA	Retained earnings/ Net retained profit	Remeasurement of defined benefit plans
Balance as of January 1, 2016	**397**	**168**	**3,814**	**7,025**	**–1,160**
Profit after tax	–	–	–	591	–
Other comprehensive income	–	–	–	–	–345
Comprehensive income	**–**	**–**	**–**	**591**	**–345**
Dividend payments	–	–	–	–	–
Transactions with no change of control	–	–	–	–	–
Changes in scope of consolidation/Other	–	–	–	–	–
Balance as of March 31, 2016	**397**	**168**	**3,814**	**7,616**	**–1,505**
Balance as of January 1, 2017	**397**	**168**	**3,814**	**8,049**	**–1,501**
Profit after tax	–	–	–	521	–
Other comprehensive income	–	–	–	–	54
Comprehensive income	**–**	**–**	**–**	**521**	**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**	**8,570**	**–1,447**

Gains/losses recognized in equity					
Available-for-sale financial assets	Derivative financial instruments	Currency translation difference	Equity attributable to Merck KGaA shareholders	Non-controlling interests	Total equity
5	**–176**	**2,714**	**12,787**	**68**	**12,855**
–	–	–	591	2	593
–1	53	–586	–879	–2	–881
–1	**53**	**–586**	**–288**	**–**	**–288**
–	–	–	–	–2	–2
–	–	–	–	–	–
–	–	–	–	–	–
4	**–123**	**2,128**	**12,499**	**66**	**12,565**
24	**-191**	**3,229**	**13,989**	**61**	**14,050**
–	–	–	521	2	523
6	1	–153	–93	1	–92
6	**1**	**–153**	**428**	**3**	**431**
–	–	–	–	–1	–1
–	–	–	–	–	–
–	–	–	–	–	–
31	**–190**	**3,075**	**14,418**	**63**	**14,481**

Information by Business Sector

	Healthcare		Life Science		Performance Materials		Corporate and Other		Merck Group	
€ million	**Q1 2017**	Q1 2016	**Q1 2017**	Q1 2016	**Q1 2017**	Q1 2016	**Q1 2017**	Q1 2016	**Q1 2017**	Q1 2016
Net sales[1]	**1,735**	**1,646**	**1,481**	**1,397**	**645**	**622**	**–**	**–**	**3,861**	**3,665**
Operating result (EBIT)[2]	**445**	**641**	**236**	**105**	**195**	**207**	**–122**	**–104**	**755**	**849**
Depreciation and amortization	182	187	191	180	62	60	9	6	443	434
Impairment losses	2	–	3	–	–	–	–	–	5	1
Reversals of impairment losses	–	–	–	–1	–	–	–	–	–	–1
EBITDA[2]	**629**	**829**	**430**	**284**	**257**	**267**	**–113**	**–98**	**1,203**	**1,282**
Exceptionals[2]	4	–321	16	109	7	6	11	7	38	–198
EBITDA pre exceptionals (Segment result)[2]	**633**	**508**	**445**	**393**	**263**	**273**	**–101**	**–91**	**1,240**	**1,084**
EBITDA margin pre exceptionals (% of net sales)[2]	36.5%	30.9%	30.1%	28.1%	40.9%	43.9%	–	–	32.1%	29.6%
Net operating assets[2,3]	5,997	5,600	21,635	21,853	4,006	4,146	179	200	31,817	31,798
Segment liabilities[3]	–2,365	–2,427	–961	–953	–360	–290	–128	–106	–3,814	–3,777
Investments in property, plant and equipment[4]	76	75	72	58	28	18	24	9	201	160
Investments in intangible assets[4]	194	6	13	2	2	1	–	3	209	12
Net cash flows from operating activities	382	258	292	276	379	236	–275	–418	777	352
Business free cash flow[2]	356	342	281	269	233	257	–111	–104	760	763

[1] Without intersegment sales.
[2] Not defined by International Financial Reporting Standards (IFRS).
[3] Figures for the reporting period ending on March 31, 2017; previous-year's figures as of December 31, 2016.
[4] According to the consolidated cash flow statement.

€ million	Q1 2017	Q1 2016
EBITDA pre exceptionals of the operating businesses[1]	**1,342**	**1,175**
Corporate and Other	–101	–91
EBITDA pre exceptionals of the Merck Group[1]	**1,240**	**1,084**
Depreciation/amortization/impairment losses/reversals of impairment losses	–448	–433
Exceptionals[1]	–38	198
Operating result (EBIT)[1]	**755**	**849**
Financial result	–71	–68
Profit before income tax	**684**	**780**

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

€ million	Q1 2017	Q1 2016
Restructuring costs	–4	–1
Integration costs/IT costs	–26	–28
Gains (+)/losses (–) on the divestment of businesses	–2	324
Acquisition-related exceptionals	–3	–94
Other exceptionals	–3	–2
Exceptionals before impairment losses/reversals of impairment losses[1]	**–38**	**198**
Impairment losses	–4	–
Reversals of impairment losses	–	–
Exceptionals (total)[1]	**–41**	**198**

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

Significant events during the reporting period

Licensing agreement with Vertex Pharmaceuticals Inc., USA, for the development and commercialization of research and development programs

On January 11, 2017, Merck announced a licensing agreement with Vertex Pharmaceuticals Inc., Boston, USA, (Vertex). As part of the agreement, Merck will acquire two clinical-stage programs and two additional novel preclinical programs. The two clinical-stage programs are pursuing approaches to inhibit the DNA repair pathways that are fundamental to the survival and proliferation of certain cancers. The preclinical programs include one immuno-oncology program against a target with first-in-class potential, and a program against a completely novel target. As compensation, in March 2017 Vertex received entitlement to an upfront payment of US$ 230 million and entitlement to royalty fees on future product sales. Merck has full responsibility for the development and commercialization of all programs. These were capitalized as intangible assets in the first quarter of 2017.

Agreement on compensation for future license payments

On February 6, 2017, Merck entered into a contractual agreement under which Merck is entitled to a one-time payment in exchange for future license payments. In the first quarter of 2017, Merck received a payment from this contractual agreement amounting to € 116 million, which was allocated nearly in full to the Healthcare business sector.

Development agreement with Avillion LLP, United Kingdom, to develop Merck's anti-IL-17 A/F Nanobody®

On March 30, 2017, Merck announced an agreement with a subsidiary of Avillion LLP, London, United Kingdom (Avillion), to develop the anti-IL-17 A/F Nanobody® M1095. Merck acquired full, exclusive rights to anti-IL-17 A/F Nanobody® through a global development and commercialization license from Ablynx nv, Ghent, Belgium, in 2013. This Nanobody® is an investigational therapy which has completed Phase I development. As part of the cooperation, Avillion will be responsible for developing anti-IL-17 A/F Nanobody® from Phase II through Phase III in plaque psoriasis. Avillion will also finance the clinical program through to regulatory submission. During the development stages, Merck will recognize a financial liability for potential repayment obligations to Avillion.

Significant subsequent events

Divestment of the Biosimilars business

On April 24, 2017, Merck announced an agreement with subsidiaries of Fresenius SE & Co. KGaA on the divestment of the Biosimilars business. The transaction is expected to close in the second half of 2017, subject to regulatory approvals and other customary closing conditions. In addition to the transfer of the business activities, the parties agreed to enter into supply and services agreements which include drug development support and manufacturing services.

According to the agreed terms of the transaction, Merck will receive an upfront payment of € 170 million, milestone payments of up to € 500 million, plus royalties on future product sales. In fiscal 2016, the Biosimilars business, which is part of the Healthcare business sector, was reported as a disposal group and consisted of allocable goodwill, property, plant and equipment, and to a small extent intangible assets.

Darmstadt, May 12, 2017

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Financial Calendar
2017/2018

August
8/3/2017
Report on the
second quarter

March
3/8/2018
Annual
Press Conference

November
11/9/2017
Report on the
third quarter

April
4/27/2018
Annual
General Meeting

May
5/15/2018
Report on the
third quarter

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