FUNDAMENTAL INFORMATION ABOUT THE GROUP

THE MERCK GROUP

Merck is a global corporate group headquartered in Darmstadt, Germany. With a history dating back nearly 350 years, it is the world's oldest pharmaceutical and chemical company. Merck holds the global rights to the Merck name and brand. The only exceptions are Canada and the United States, where Merck operates as EMD Serono, EMD Millipore und EMD Performance Materials.

Merck's product portfolio ranges from innovative pharmaceuticals and biopharmaceutical products, to specialty chemicals, high-tech materials and life science tools. Until December 31, 2014, in other words the period covered by this Annual Report, Merck used a reporting structure consisting of four divisions: Merck Serono, Consumer Health, Performance Materials and Merck Millipore. The following presentation also reflects this structure.

In line with its strategic direction effective January 1, 2015, Merck is organized into three business sectors: Healthcare, Performance Materials and Life Science, which comprise the Group's six businesses. This structure will be used in the financial reports of the Merck Group as of January 1, 2015 and will be reflected for the first time in the report on the first quarter of 2015.

MERCK SERONO

Merck Serono discovers, develops, manufactures and markets innovative pharmaceutical and biological prescription drugs to treat cancer, multiple sclerosis (MS), infertility and growth disorders, as well as certain cardiovascular and metabolic diseases. As the company's largest division, in 2014 Merck Serono generated 51 % of Group sales and 51 % of EBITDA pre one-time items (excluding Corporate and Other). The present Merck Serono division was formed in 2007 with the acquisition of the Swiss biopharmaceutical company Serono SA, which was integrated stepwise into the prescription drugs business. With headquarters in Darmstadt, Germany, Merck Serono offers leading brands in specialty medicine indications.

Merck Serono commercializes its products worldwide and has a strong presence in established markets. Merck Serono's products are available in various countries and regions of the world under different brand names.

The regions of Europe and North America contributed 64 % of divisional sales in 2014. In recent years, Merck Serono has steadily expanded its presence in the Emerging Markets region, which accounted for 29 % of the division's sales in 2014.

Rebif®, Merck Serono's top-selling product, is used to treat relapsing forms of multiple sclerosis, which is one of the most common neurological diseases among young adults.

Erbitux® is the second best-selling drug in Merck Serono's product portfolio and its flagship product in Oncology. The product is a standard of care in multiple lines of metastatic colorectal cancer (mCRC) therapy as well as of both recurrent / metastatic and locally advanced squamous cell carcinoma of the head & neck (SCCHN).

On November 17, 2014, Merck Serono entered into a global strategic alliance with Pfizer Inc. to develop and commercialize MSB0010718C, an investigational anti-PD-L1 antibody currently in development by Merck Serono as a potential treatment for multiple tumor types, thereby accelerating the two companies' presence in immuno-oncology. The two companies have also agreed to combine resources and expertise to advance Pfizer's preclinical-stage anti-PD-1 antibody into Phase I trials. As part of the strategic alliance, Merck Serono will co-promote Pfizer's Xalkori®, a medicine to treat non-small cell lung cancer in the United States and several other key markets.

Merck Serono also offers products that help couples to conceive a child and is the only company to offer the most complete and clinically proven portfolio of fertility drugs for every stage of the reproductive cycle, including recombinant versions of the three hormones needed to treat infertility. As a leader and innovator, Merck Serono supports the improvement of success in Assisted Reproductive Technology not only with drugs, but also innovative technologies, for example to assess embryo viability. The products in the Fertility franchise are an important growth driver for Merck Serono. This is due to different factors, such as the increasing demand in emerging markets and the trend of couples postponing childbearing until later in life when natural fertility declines.

The General Medicine franchise mainly includes brands to treat cardiometabolic diseases. Although no longer patent-protected, the excellent brand equity built over decades makes the flagship products cornerstones for the treatment of chronic cardiovascular or metabolic diseases. This applies, for example, to Glucophage® containing the active ingredient metformin, the drug of choice for first-line treatment of type 2 diabetes, as well as to Concor® containing bisoprolol, the leading beta-blocker for chronic cardiovascular diseases such as hypertension, as well as Euthyrox® (levothyroxine) as the leading treatment for hypothyroidism. Particularly in emerging markets, there is a continuous rise in

demand for cardiometabolic therapies. This is due to both increasing life expectancy and in part also to growing prosperity in this region, along with the resulting changes in lifestyle and dietary habits. Beyond developing life cycle management products to capitalize on Merck Serono's strong brand equity, Merck entered into a long-term strategic partnership with Lupin Ltd. of India to broaden the General Medicine portfolio in emerging markets with affordable, high-quality medicines.

Merck Serono is continuously working to improve ways to administer medicines and active ingredients. For several years, Merck Serono has been developing novel injection devices, which make injections more user-friendly and at the same time more reliable for patients than conventional or prefilled syringes. In addition, these products make it easier for health care practitioners and patients to ensure adherence and thus to reach their treatment goals. Examples are the easypod™ electromechanical injection devices for the delivery of Saizen® (somatropin) and RebiSmart™ for Rebif® (interferon beta-1a). Additionally, both easypod™ and RebiSmart™ are able to wirelessly transfer data such as injection times, dates and doses to the Web-based software systems easypod™ connect and MSdialog.

Merck Serono is advancing its research and development (R&D) portfolio across the areas of oncology, immuno-oncology and immunology, and continues to invest in developing programs in multiple sclerosis. With its expertise in discovery and early development, as well as approximately 25 projects in clinical development, Merck Serono is focused on delivering differentiated new therapies to patients with unmet medical needs.

In addition, Merck has two further pharmaceutical business units that operate as independent businesses within the Healthcare business sector since the new organizational structure took effect on January 1, 2015. Allergopharma is specialized in developing high-dose hypoallergenic products for specific immunotherapy and diagnosis of type 1 allergies (such as hay fever or allergic asthma). Biosimilars is developing biological medicines that are similar to an existing registered biological medicine (the "reference medicine"). Merck is moving ahead with the development of a portfolio of biosimilar compounds applicable to various disease areas including oncology and autoimmune diseases. The focus is on developing molecules through in-house research and development as well as through partnerships.

As of January 1, 2014, two product groups were transferred from Merck Serono to Consumer Health. These are Neurobion®, a vitamin B-based analgesic, and Floratil®, a leading brand in the probiotic antidiarrheal segment in Brazil. Sales of the two products totaled € 265 million in 2013. The effects of the product group transfers on Merck Serono's figures for 2013 are presented in the following table.

MERCK SERONO →
ADJUSTED

	2013		
€ million	reported	adjustment	adjusted
Sales	6,325.8	– 265.4	6,060.4
Total revenues	5,953.6	– 265.2	5,688.4
Operating result (EBIT)	893.0	– 99.9	793.1
Margin (% of sales)	15.0		13.9
EBITDA	1,886.5	– 99.9	1,786.6
Margin (% of sales)	31.7		31.4
EBITDA pre one-time items	1,955.0	– 99.9	1,855.1
Margin (% of sales)	32.8		32.6
Business free cash flow	1,875.7	– 88.6	1,787.1

CONSUMER HEALTH

Consumer Health manufactures and markets over-the-counter pharmaceuticals. Consumer Health focuses on a number of well-known strategic brands such as Neurobion®, Bion®, Seven Seas®, Nasivin®, Femibion®, and Dolo-Neurobion®, as well as Floratil®, Sangobion®, Vigantoletten®, Apaisyl®, and Kytta®. In 2014, Consumer Health contributed 7% to Group sales and 5% to EBITDA pre one-time items (excluding Corporate and Other). Consumer Health has a high market penetration in Europe, Latin America and Southeast Asia, and is generating particularly strong growth in emerging markets, especially in India, Indonesia and Brazil, which have firmly established themselves among the top-ten markets in terms of sales. The key new product launch of Seven Seas® Perfect7® was chosen by the customers of the British health and beauty retailer Boots as the winner of the "2014 Favourite Newcomer" award.

Global megatrends favor the future growth of Consumer Health. People are becoming more health-conscious and concerned with their own physical well-being. Preventive health care and as little invasive medication as possible are becoming increasingly important – in both established and emerging markets, characterized by a growing middle class with specific needs.

On January 1, 2014, two product groups from Merck Serono were transferred to Consumer Health. These are Neurobion®, a leading global brand in the vitamin B segment, and Floratil®, a leading brand in the probiotic antidiarrheal segment in Brazil. The transfer of the two strong brands makes better use of the potential of the consumer-oriented business model of Consumer Health. Furthermore, Consumer Health has considerably strengthened its presence in the Emerging Markets region. This is a step in the journey towards having at least three leading brands and achieving a market share of at least 3% in each of its key markets. The share of Consumer Health sales accounted for by Emerging Markets increased from 28% (unadjusted year-earlier figure) to 50% in 2014 as a result of the product transfer. The effects of the product group transfers on Consumer Health's figures for 2013 are shown in the following table.

CONSUMER HEALTH →
ADJUSTED

€ million	2013 reported	2013 adjustment	2013 adjusted
Sales	479.6	265.4	745.0
Total revenues	476.9	265.2	742.1
Operating result (EBIT)	62.2	99.9	162.1
Margin (% of sales)	13.0		21.8
EBITDA	71.1	99.9	171.0
Margin (% of sales)	14.9		23.0
EBITDA pre one-time items	72.5	99.9	172.4
Margin (% of sales)	15.2		23.2
Business free cash flow	83.9	88.6	172.5

Effective May 15, 2014, Uta Kemmerich-Keil took over the leadership of Consumer Health, thus succeeding Udit Batra as President and Chief Executive Officer. Kemmerich-Keil was previously CEO of Allergopharma, the global Allergy business unit.

PERFORMANCE MATERIALS

Performance Materials comprises Merck's entire specialty chemicals business. The portfolio includes high-tech performance chemicals for applications in fields such as consumer electronics, lighting, coatings, printing technology, plastics, and cosmetics. The acquisition in May 2014 of AZ Electronic Materials (AZ), a leading supplier of high-tech materials for the electronics industry, significantly strengthened Performance Materials.

Performance Materials' share of Group sales increased in 2014 to 18 % (2013: 15 %) and its share of EBITDA pre one-time items (excluding Corporate and Other) rose to 25 % (2013: 23 %). The results of AZ have been included since May 2, 2014. The EBITDA margin pre one-time items amounted to 43.4 % of sales.

Up until December 31, 2014, i.e. during the reporting period, Performance Materials consisted of four business units: Liquid Crystals, Pigments & Cosmetics, Advanced Technologies and AZ. Effective January 1, 2015, Performance Materials was organized into the following business units: Display Materials, Pigments & Functional Materials, Integrated Circuit Materials comprising the AZ business with specialty chemicals for use in integrated circuits (semiconductors), as well as Advanced Technologies.

The Liquid Crystals business, which became part of the Display Materials business unit on January 1, 2015, generated more than half of Performance Materials' sales in 2014. With a high market share, Merck has established itself as the global market and technology leader in liquid crystal mixtures. The market is highly consolidated. In addition, barriers to market entry exist due to the technological complexity of liquid crystals and the high quality requirements of customers and consumers. The seven largest LC display manufacturers are primarily among the customers of the Liquid Crystals business. Merck has the broadest product offering in the industry and offers, among other things, liquid crystals based on PS-VA and IPS technologies. This enables Performance Materials to meet individual customer needs and offer solutions for all display sizes, from smartphones and tablet computers to large-size television screens. Merck is pursuing a strategy of leveraging its expertise in liquid crystals in order to develop new fields of application for innovative liquid crystal technology. On July 1, 2014, Merck completely acquired Peer+, a Dutch specialist for smart window technology. The company has meanwhile been fully integrated. With the acquisition of its long-standing cooperation partner Peer+, Merck is further advancing the development of the future-oriented market for liquid crystal windows (LCW). The major innovation of liquid crystal windows lies in their continuously variable switching functionality from light to dark in just seconds. In January 2015, the first LCW panels were installed in the new modular Innovation Center in Darmstadt. At the same time, the new technology is being presented to a wider audience at exhibitions and congresses.

The Pigments & Functional Materials business unit develops and markets a comprehensive product portfolio of decorative effect pigments and functional materials. The effect pigments are primarily used in automotive and industrial coatings, plastics, printing applications, and cosmetics in order to give products a unique shine. Functional materials include laser marking, conductive additives and applications for counterfeit protection, as well as high-quality cosmetic active ingredients, for example for use in skin care, sun protection or insect repellants.

Merck completed the integration of AZ and its global workforce of around 1,100 employees according to schedule by the end of 2014. During the integration phase in 2014, AZ was treated as an independent business unit within Performance Materials for reporting purposes. On January 1, 2015, AZ was transferred to the Integrated Circuit Materials business unit. As a key partner to leading global electronics manufacturers, in 2014 AZ generated nearly 80 % of its sales in Asia. AZ materials are widely used in integrated circuits, flat-panel displays and light-emitting diodes. The AZ portfolio thus optimally complements the range of materials offered by Performance Materials.

The Advanced Technologies business unit invests in future-oriented research and development, supporting the growth and sustainable competitiveness of Performance Materials. The business unit also manufactures and markets materials for organic light-emitting diodes (OLEDs), which are used in new lighting applications and display technologies. The performance of the OLED materials business was very positive in 2014. The demand for OLED materials from Merck increased significantly, particularly in Asian countries. At the same time, the customer base expanded.

MERCK MILLIPORE

Merck Millipore has a broad product and technology portfolio and offers innovative solutions for scientists and engineers in the life science industry. Life science comprises the research branches of natural and engineering sciences concerned with the structure and behavior of living organisms. Merck Millipore's products and services are used in the research, development and manufacture of biotechnological and pharmaceutical drug therapies, as well as in research and application laboratories. In addition, products and services from Merck Millipore also reach adjacent markets, such as food and beverages. Merck Millipore was established in 2010 following the acquisition of the Millipore Corporation. It is a leading supplier of life science tools.

In 2014, Merck Millipore contributed 24 % to Group sales and 19 % to EBITDA pre one-time items (excluding Corporate and Other). The majority of sales are generated by consumables. This enables Merck Millipore to achieve recurring sales and stable, attractive cash flows in an industry that is characterized by stringent regulatory requirements. A highly diversified and loyal customer base additionally ensures a favorable risk profile. At the same time, Merck Millipore benefits from its broad portfolio and its global reach. Merck Millipore comprises three business areas: Bioscience, Lab Solutions and Process Solutions, as well as multiple specialized business fields.

The main product groups of the Bioscience business area include tools and consumables for filtration and sample preparation, reagents and kits for cell biology experiments, as well as small tools and consumables for cell analysis. With these products, Merck Millipore supports its customers in understanding complex biological systems and identifying new target molecules. The Bioscience business area accounted for 15 % of Merck Millipore's sales in 2014. Since innovation is a key component of Bioscience, Merck Millipore offers complete and validated applications to make research processes faster and more efficient.

The Lab Solutions business area manufactures products for research as well as analytical and clinical laboratories in a wide variety of industries. The business area accounted for 41 % of Merck Millipore's sales in 2014. It is one of the leading suppliers of laboratory water equipment, laboratory chemicals and consumables. In addition, Lab Solutions develops and markets test solutions to identify microbial contamination, for example in pharmaceutical products, food and drinking water. For inorganic chemistry, Lab Solutions supplies ultrapure reagents, including salts, acids, caustic alkalis, and buffering agents. It also manufactures reference materials for instrumental analysis and products for inorganic trace analysis. In 2014, the Lab Solutions business area launched new Steritest™ Symbio Pumps for easier, safer and more reliable sterility testing of pharmaceutical products in laminar flow hoods, isolators and cleanrooms. The Steritest™ Symbio Pumps were developed to address stringent pharmaceutical testing requirements. The launch continues Merck Millipore's 40-year legacy of providing groundbreaking sterility testing products.

Additionally, Merck Millipore underlined its technology leadership with the announcement that its Chromocult® Coliform Agar (CCA) has been used by the International Organization for Standardization (ISO®) as the only suitable culture medium to develop a revised standard for enumerating coliform bacteria and E. coli in water samples to replace Lactose TTC Agar. The completely revised ISO® 9308-1 standard became effective on September 16, 2014.

The Process Solutions business area offers a diversity of products to pharmaceutical and biotechnology companies that enable customers to manufacture large- and small-molecule drugs safely, effectively and cost-efficiently. Accounting for 44 % of Merck Millipore sales in 2014, Process Solutions offers its customers continuous innovations, highest quality standards as well as high reliability of supply. In addition, the business area's portfolio comprises more than 400 chemicals for the synthesis of active pharmaceutical ingredients as well as drug delivery compounds. The offering in biotech production comprises products supporting cell growth and gene expression, a wide range of filtration systems, as well as salts and sugars. The single-use solutions offered by the Process Solutions business area provide increased operational flexibility to biopharmaceutical customers since they eliminate time- and cost-intensive cleaning procedures. Moreover, these single-use solutions are compatible with various products, reducing investment costs for customers.

On March 17, 2014, Merck Millipore announced a clinical research, licensing and joint development agreement with Sysmex Corporation of Japan. This collaboration will use Merck Millipore's flow cytometry technology as a platform to accelerate the creation of new, more powerful diagnostic tools for research in blood disorders. If successful, Sysmex and Merck Millipore will collaborate on developing the imaging flow technology platform for future commercialization in hematology.

On May 15, 2014, Udit Batra, who formerly headed Consumer Health, took over the leadership of Merck Millipore, succeeding Robert Yates as President and Chief Executive Officer.

On August 20, 2014, Merck Millipore and Samsung BioLogics announced the signing of a Memorandum of Understanding for a strategic alliance in the biopharmaceutical business. The proposed alliance is intended to encompass a long-term supply agreement in which Merck Millipore will provide raw materials for biopharmaceutical manufacturing.

On September 22, 2014, Merck and Sigma-Aldrich announced that they had entered into a definitive agreement under which Merck will acquire Sigma-Aldrich for US$ 17.0 billion (€ 13.1 billion), establishing one of the leading players in the global life science industry. The closing of the transaction is expected in mid-2015, subject to regulatory approvals and other customary closing conditions.

OBJECTIVES AND STRATEGIES OF THE MERCK GROUP

In 2007, Merck launched a transformation process aimed at securing its future through profitable growth in highly specialized niche markets within today's Healthcare, Life Science and Performance Materials business sectors.

This process started with the large-scale acquisitions of Serono SA in 2007 and the Millipore Corporation in 2010. In 2011, Merck embarked on the "Fit for 2018" transformation and growth program with a new executive management team. In the first phase, the company created the foundation for profitable growth by introducing a new leadership organization and a comprehensive, Group-wide efficiency program. The second phase, which started in 2014, is aimed at successively implementing the growth options identified by establishing three strong platforms for sustainable profitable growth. Merck is building on its core competencies:

- → Closeness to existing businesses
- → Innovative strength
- → Customer proximity (to offer tailored solutions)
- → Focus on specialty businesses

Moreover, Merck is aiming to expand its business model systematically and continuously to include new technologies and partnerships. In 2014, three important milestones were achieved in the implementation of the Group strategy:

- → Through the acquisition of AZ Electronic Materials, which was completed in May, the product base and new customer offerings were expanded by new technologies.
- → With the announcement of the planned acquisition of Sigma-Aldrich in September, the foundation was laid for enhancing Merck's position in the attractive life science industry. The aim of the planned merger is to offer customers a broader range of products and services as well as the industry's leading e-commerce platform.
- → With the November announcement of the agreement with Pfizer on a strategic alliance for anti-PD-L1, Merck wants to accelerate its presence in immuno-oncology by combining the strengths and capabilities of the two companies in the highly competitive anti-PD-1/anti-PD-L1 space. Up to 20 immuno-oncology clinical development programs are planned for commencement in 2015, including up to six pivotal registration studies. The alliance also has the potential to accelerate Merck's entry into the U.S. oncology market through the co-promotion of Xalkori®.

In line with its strategic agenda and focus on three growth platforms, effective January 1, 2015 Merck organizationally repositioned itself. The previous four divisions have been replaced by three **business sectors**:

- → **Healthcare** comprises the Merck Serono, Consumer Health, Allergopharma and Biosimilars businesses.
- → **Life Science** consists of the Merck Millipore business.
- → **Performance Materials** corresponds to the business of the same name.

The strategic transformation into a specialist for innovative high-tech solutions in Healthcare, Life Science and Performance Materials is reflected by the composition of sales. Within the Healthcare business sector, Merck Serono today generates more than 65–70% of its sales with biopharmaceuticals. In 2006, there was only one such product, Erbitux®, which accounted for less than 10% of sales. The classic Chemicals business has increasingly become a premium materials business that offers Merck customers a wide range of value-adding products. Today, high-tech materials and life science tools make up around 80% of sales in the Life Science and Performance Materials business sectors. In 2006, the share was around 30%.

GENERAL PRINCIPLES AND GROUP STRATEGY

The year 2018 will mark the 350th anniversary of Merck. The general principles of the "Fit for 2018" transformation and growth program and the Group strategy are to serve as a compass beyond 2018 as well.

General principles

In its business endeavors, Merck orients towards general principles. They help those responsible within the company to shape strategic plans and to make decisions.

The structure of Merck KGaA with members of the Merck family as personally liable partners requires the Merck Executive Board, whose members are also personally liable partners, to pay special attention to the long-term development of value. Therefore, sustainability plays a special role at Merck. The objective is to align the long-term development of the company with the legitimate interests of shareholders, whose engagement in Merck is normally of a shorter duration. That is why Merck's business portfolio must

always be balanced so that it reflects an optimum mix of entrepreneurial opportunities and risks. Merck achieves this through diversification in the Healthcare, Life Science and Performance Materials business sectors, as well as through its geographic breadth with respect to growth sources.

For Merck, the principle of sustainability applies not only to economic aspects. Instead, it also encompasses responsibility for society and environmental preservation. With its current and future product portfolio, Merck wants to help solve global challenges and shape a sustainable future. That is also why innovation is the basis of the company's business activities; it is the prerequisite for future growth. Merck is continually working on innovative products and services for patients and customers and relies on a continual process of internal innovation throughout all areas of the company.

Group strategy

Merck focuses on innovative and top-quality high-tech products in the Healthcare, Life Science and Performance Materials business sectors. The company's goal is sustainable and profitable growth. Merck intends to achieve this by growing organically and by further developing its competencies, as well as by making targeted acquisitions that complement and expand existing strengths in meaningful ways. Building on leading products in all its businesses, Merck aims to generate income that is largely independent of the prevailing economic cycles. Moreover, the aim is to further expand the strong market position in emerging markets in the medium to long term. In 2014, the Emerging Markets region contributed 38 % to Group sales.

STRATEGIC INITIATIVES

Capability initiatives

As Merck continues to grow in size and the business becomes increasingly global, Merck is to be seen as ONE company. ONE Merck stands not only for a strong brand, but also for a performance-oriented global company with a strong sense of "we". Merck is more than the sum of its parts. Therefore, Merck has launched four capability initiatives.

The capability initiative **ONE Merck Brand** aims to strengthen the value of the Merck brand, to increase the company's global visibility and reputation and to become more attractive to customers, partners and talent globally.

The framework for talent development, compensation and performance management is to be harmonized globally (**ONE Talent Development, Rewards and Performance Management**). As part of this initiative, Merck will focus on establishing a consistent and integrated talent and performance management process and improving the talent portfolio by proactively identifying and sourcing talent as well as ensuring workforce diversity.

The goal of the third capability initiative **ONE Process Harmonization, Standardization and Excellence** is to better coordinate processes and apply them consistently. This is particularly the case with software applications. Continuous improvement will take place through benchmarking. Ultimately, this will allow Merck to adapt rapidly to business changes as well as to integrate future acquisitions both seamlessly and efficiently.

The importance of Merck's global headquarters in Darmstadt is to increase along the lines of **ONE Global Headquarters**. Merck in Darmstadt is to become a vibrant home for creativity, scientific exchange and innovation. By laying the cornerstone for a modular Innovation Center in 2014, Merck created the basis for cross-functional and Group-wide cooperation on projects.

Business initiatives

Furthermore, Merck has set up a range of business initiatives in order to expand the existing portfolio as well as to capture new business opportunities. The following initiatives are of major significance:

Biosimilars

Merck wants to use its expertise in developing, manufacturing and commercializing high-quality biotechnological medicines in order to create a competitive biosimilars portfolio. The focus is on developing molecules through in-house research and development as well as through partnerships.

Research & Development at Merck Serono

Merck Serono introduced a more entrepreneurial model to elevate the performance dynamics of its research and development. Based on Translational Innovation Platforms (TIPs), Merck Serono wants to foster long-term planning and an entrepreneurial mindset, validated by an independent advisory board of external experts (see below).

OLEDs

Performance Materials aims to further expand its global leadership position in display materials. Merck expects OLED technology to increase in importance in the future. Performance Materials is therefore investing in developing a comprehensive OLED portfolio. By 2018, Merck aims to be a leading supplier of OLED materials.

BUSINESS STRATEGIES

Healthcare business sector

Merck Serono

Merck Serono aims to become a preferred global biopharmaceutical partner through its enduring commitment to transforming patients' lives with innovative specialty medicines, leading brands and high-value solutions. Global megatrends such as world population growth and a general increase in life expectancy are bolstering the demand for Merck Serono's products. Merck Serono is well-positioned for sustainable growth.

The first pillar of Merck Serono's strategy is to deliver innovation globally. The portfolio decision-making process has been improved and a rigorous project prioritization implemented with shorter timelines to phase transitions. Efficiency in R&D has been strengthened with the development of biomarkers to improve patient outcomes, with a focus on selected core therapeutic areas and with the creation of Translational Innovation Platforms. Merck Serono has three priority development programs: atacicept in immunology, evofosfamide (TH-302) in oncology and avelumab in immuno-oncology, an anti-PD-L1 antibody that Merck Serono will develop and commercialize with Pfizer as a potential treatment for multiple tumor types.

The second pillar of Merck Serono's strategy is to maximize the existing portfolio in developed markets. In the Multiple Sclerosis franchise, the vision is to remain a leader by providing innovative solutions that include drugs, devices and services to help people living with multiple sclerosis. Merck Serono plans to fully exploit the potential of Rebif®, its top-selling product, in an increasingly competitive multiple sclerosis market and to position it as the best interferon-based therapeutic option for patients who suffer from the relapsing form of the disease, driving differentiation via smart injection devices and the first multiple sclerosis e-Health platform. In Fertility, the focus is on expanding market leadership and on providing innovative services and technologies beyond drugs. In Oncology, Merck Serono promotes the value of Erbitux® to personalized treatments, especially in Europe and Japan, and emphasizes the importance of offering patients complete testing for RAS status in order to ensure optimum treatment. Merck Serono will also ensure launch readiness in these innovation-driven markets. Through the co-promotion of Xalkori® with Pfizer, Merck Serono is entering the U.S. oncology market and preparing for the future launch of its anti-PD-L1 antibody.

The third pillar of the Merck Serono strategy is to expand further in Emerging Markets. With a growing middle class, extended health care coverage, a shift towards chronic diseases, and rising demand for biologics, Emerging Markets are a key driver for Merck Serono, accounting for over 60 % of organic growth between 2011 and 2013. In Emerging Markets, Merck Serono is implementing strategic growth initiatives in its General Medicine and specialty medicine franchises to address specific needs. Merck Serono is leveraging capabilities and local channels, for example by extending the breadth and depth of promotion in China, expanding its portfolio via regional and local licensing, and supporting market developments in Fertility. Merck Serono is also investing selectively and growing its flagship brands with new formulations (Euthyrox® or Glucophage®), fixed-dose combinations (Concor®) and devices (Saizen®). Merck Serono is repatriating business, taking back the promotion of Merck products from industry partners where attractive. And it is expanding the focus of its portfolio with growth initiatives in biologics.

Biosimilars

The Biosimilars business is committed to providing access to high-quality biologics to more patients all over the globe. The unit is developing a biosimilars portfolio focused on oncology and inflammatory disorders, through both in-house research and development expertise in biologics, and partnerships with other biosimilar players. The initiation of Phase III trials is planned for 2015 / 2016 onwards. Biosimilars is an attractive market in which Merck is well-positioned as it can build on existing strengths and capabilities across the biosimilars value chain. This includes the ability to leverage internal assets or source capabilities from suppliers to ensure compliance with regulatory requirements, secure market access across key markets such as the Emerging Markets region, leverage commercial manufacturing capabilities and flexibility, as well as adopt a tailored go-to-market approach. Merck has also established strategic alliances with Dr. Reddy's in India to co-develop several oncology compounds and with Bionovis in Brazil to supply the Brazilian market with biological products under the Product Development Partnership (PDP) policy of the Brazilian Ministry of Health.

This is to be expanded by another, as yet undisclosed in-licensing agreement for a late-stage biosimilar.

Allergopharma

The market for causal allergy therapies is a global growth market. On the one hand, the global market growth expected by market researchers will be generated by an increasing number of people with allergies, and on the other hand it is based on the growing use of specific immunotherapy (SIT) in many emerging markets. Allergopharma is a manufacturer of diagnostics and prescription drugs for allergen immunotherapy (AIT). AIT (hyposensitization, desensitization, allergy immunization) is the only causal therapy for treating allergies to unavoidable allergens. AIT is primarily carried out by physicians who specialize in allergies, such as ENT doctors, dermatologists, pediatricians and pulmonologists. With its own research department and in cooperation with research institutes and other partners, Merck is helping develop a better understanding of the immunological mechanism that underlies the development of allergies and is actively working on the next generation of drugs for allergen immunotherapy. Plans to expand production in Reinbek near Hamburg in 2016, thus expanding capacity, will advance global expansion and will also help to meet the increasingly high manufacturing standards. As was previously the case, products to diagnose and treat type 1 allergies such as hay fever or allergic asthma will be manufactured here under ultrapure, sterile conditions.

Consumer Health

In 2012 and 2013, Consumer Health undertook steps to strategically realign the internal organization while sharpening its focus on core brands and particularly attractive key markets. In 2014, Consumer Health forged ahead with its growth agenda, particularly in the emerging markets of Latin America and Southeast Asia. As a result, Consumer Health achieved organic sales growth of 5.4%, clearly exceeding general market growth. To this end, the company is pursuing a clear strategy: The aim is for Consumer Health to achieve a market share of at least 3% by 2021 in each of its top 20 markets (including France, Mexico, Brazil, Germany, Indonesia, India, and the United Kingdom), with at least three brands in leading positions.

An important milestone within the framework of this strategy was the transfer of the Neurobion® and Floratil® brands from Merck Serono to Consumer Health in 2014. Neurobion® is a leading global brand in the vitamin B segment and Floratil® is a leading brand in the probiotic antidiarrheal segment in Brazil. Following their transfer to Consumer Health in 2014, both brands clearly demonstrated potential to focus more closely on consumer wishes and needs in core markets. For instance, the growth of Floratil® in the key market of Brazil increased more than tenfold. Further important components of implementing the "3 x 3" strategy are geographic expansion of existing brands into new markets, such as the recent market launch of the Bion® brand in Brazil, as well as possible inorganic growth through tactical takeovers and product acquisitions, as long as these are in line with the strategic direction.

Life Science business sector

Merck Millipore

Merck Millipore is one of the leading players in the attractive global life science tools industry. The business has a global presence across the laboratory and process markets – two broad customer sub-segments with differing needs. The strategy in laboratory markets is based on three success factors: a broad and attractive portfolio, a simple customer interface and an organization able to deal with complexity, for example more than 70,000 products serving over 1 million customers. The three key success factors for the process markets strategy are a deeply technical field force, product depth in developed markets as well as portfolio breadth in emerging markets.

Merck Millipore will focus on expanding its presence across laboratories in emerging geographies as well as gaining share of wallet in North America. Merck Millipore aims to continue to grow above market by accelerating growth in the process solutions and key laboratory businesses. This includes maintaining above-market R&D investments to remain on the innovation forefront, solving customer needs and delivering sustainable, profitable growth.

The planned acquisition of Sigma-Aldrich would establish one of the leading players in the life science industry, fostering key capabilities fully in line with Merck Millipore's strategy.

Performance Materials business sector

Performance Materials

The demand for high-tech products in general and for innovative display solutions in particular has seen high global growth in recent years. This trend is not expected to weaken in the coming years. Instead, Merck assumes that increasing demand for these types of consumer goods will come from a growing middle class in emerging markets. Therefore Performance Materials will defend its position as the market and technology leader for liquid crystals and further expand it as far as possible.

Since the typical life cycle of LC mixtures is less than three years, innovation will remain the key success factor. The liquid crystals pipeline of Performance Materials is well-stocked with new technologies such as self-aligned vertical alignment (SA-VA), advanced fringe field switching (FFS), as well as projects with applications beyond displays.

Merck's OLED business, which is part of the Advanced Technologies business unit, posted strong, above-average growth in 2014. Performance Materials wants to further position itself in the OLED market and play a leading role in this market segment in the medium to long term. Lower production costs for OLED displays are a precondition for this. External partnerships will also be used in the future to ensure the required exchange of technology and expertise.

The acquisition of AZ Electronic Materials has sustainably strengthened the portfolio and the market position of Performance Materials. All integration measures were successfully implemented in 2014, adding a further premium business to the existing profitable businesses. AZ is a manufacturer of ultrapure, innovative specialty chemicals and materials for use in integrated circuits (semiconductors) and equipment, in flat-panel displays, and for photolithographic printing. Both Performance Materials and AZ have very similar and attractive business models based on innovation, customer proximity, high market share and profitability in the growth areas of displays, semiconductors, organic electronics, and lighting.

Within its Pigments & Functional Materials business unit, Merck continues to focus on high-quality brands that add value for customers as well as on market segments with growth potential. These include effect pigments, e.g. for automotive coatings, and functional materials, e.g. for laser marking.

STRATEGIC FINANCIAL AND DIVIDEND POLICY

For reasons of sustainability, Merck generally follows a conservative financial policy. Apart from a solid balance sheet with transparent and healthy structures, this policy is reflected by the selection of financing sources, liquidity management, key financial indicators, the dividend policy, and risk management. Merck generates high business free cash flow and its return on capital employed has been sustainably maintained at a high level.

In the context of the ongoing Group-wide efficiency program, in the past years cash was reserved with high priority to fund restructuring measures across all divisions and regions. In 2014, liquid funds were then used in particular for the acquisition of AZ Electronic Materials (Performance Materials).

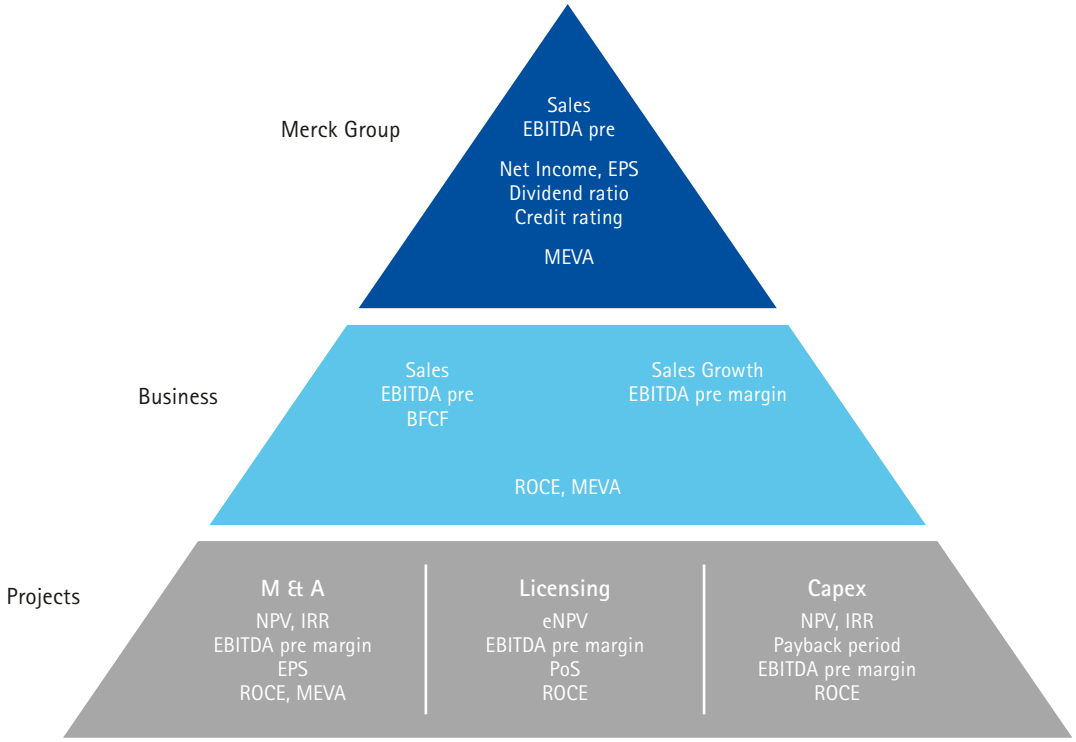
One-time expenses in connection with restructuring measures as well as costs related to the integration of acquired businesses have also been assumed for 2015. With the planned acquisition of Sigma-Aldrich (Life Science) – subject to the successful closing of the transaction – in 2015 liquid funds would likewise again be used for inorganic growth. Accordingly, in the coming years, the repayment of the financial liabilities taken up in connection with this acquisition would be at the fore, along with the associated ongoing interest payments. In this case, initial one-time expenses for the integration could already be incurred then. However, smaller, so-called bolt-on acquisitions are still not ruled out. In addition, Merck will also invest in organic growth initiatives as part of its "Fit for 2018" transformation and growth program.

Merck is pursuing a sustainable dividend policy. Provided that the economic environment develops in a stable manner, the current dividend represents the minimum level for future dividend proposals. The dividend policy follows the business development and earnings increase of the coming years. However, dividend growth could deviate, e.g. within the scope of restructuring or in the event of significant global economic developments. Merck also aims for a target corridor of 20 – 25 % of EPS pre one-time items.

INTERNAL MANAGEMENT SYSTEM OF THE MERCK GROUP

As a global company with a diverse portfolio of products and services, Merck uses a comprehensive framework of indicators to manage performance. The most important KPI (key performance indicator) to measure performance is EBITDA pre one-time items.

The Value Creation and Financial KPI Pyramid, which summarizes the important financial performance measures of the Merck Group, reflects the comprehensive framework of financial KPIs to steer the businesses and prioritize the allocation of cash resources. It consists of three managerial dimensions, which require the use of different indicators: Merck Group, Business and Projects.



Abbreviations

EBITDA pre = Earnings before interest, income tax, depreciation and amortization pre one-time items
EPS = Earnings per share
MEVA = Merck value added
BFCF = Business free cash flow
ROCE = Return on capital employed
NPV = Net present value
IRR = Internal rate of return
eNPV = expected Net present value
PoS = Probability of success

KEY PERFORMANCE INDICATORS OF THE MERCK GROUP AND ITS BUSINESSES

The three key performance indicators sales, EBITDA pre one-time items[1], and business free cash flow[1] are the most important factors for assessing operational performance. Reference to these KPIs can therefore be found in the Report on Economic Position, the Report on Risks and Opportunities, and in the Report on Expected Developments. As the most important indicators of Merck's financial business performance, the KPIs are key elements of Merck's performance management system.

Sales

Sales are defined as the revenues from the sale of goods and services rendered to external customers net of value added tax and after sales deductions such as rebates or discounts. Sales are the main indicator of business growth in the Merck Group and therefore an important parameter of external as well as internal performance measurement.

MERCK GROUP →
SALES

€ million / change in %	2014	2013	Change
Sales	**11,291.5**	**10,700.1**	**5.5**

EBITDA pre one-time items

EBITDA pre one-time items is the main performance indicator measuring ongoing operational profitability and is used internally and externally. To allow for a better understanding of the underlying operational performance, it excludes from the operating result depreciation and amortization as well as one-time items. One-time items are restricted to the following categories: impairments, integration costs / IT costs, restructuring costs, gains / losses on the divestment of businesses, acquisition costs, and other one-time items. The classification of specific income and expenses as one-time items follows clear definitions and underlies strict governance at Group level. Within the scope of internal performance management, EBITDA pre allows for the necessary changes or restructuring without penalizing the performance of the operating business.

MERCK GROUP →
RECONCILIATION EBIT TO EBITDA PRE ONE-TIME ITEMS

€ million / change in %	2014	2013	Change
Operating result (EBIT)	**1,762.0**	**1,610.8**	**9.4**
Depreciation and amortization	1,261.6	1,237.9	1.9
Impairment losses / Reversals of impairment losses	99.3	220.5	– 55.0
EBITDA	**3,122.9**	**3,069.2**	**1.7**
Restructuring costs	83.9	130.5	– 35.7
Integration costs / IT costs	87.2	49.0	78.0
Gains / losses on the divesment of businesses	– 1.9	2.3	– 182.6
Acquisition-related one-time items	85.0	0.0	–
Other one-time items	10.6	2.3	365.2
EBITDA pre one-time items	**3,387.7**	**3,253.3**	**4.1**

[1] Financial indicators not defined by International Financial Reporting Standards.

Business free cash flow (BFCF)

Business free cash flow comprises the major cash-relevant items that the individual businesses can influence and are under their full control. It sums up EBITDA pre one-time items less investments in property, plant and equipment, software, advance payments for intangible assets, as well as changes in inventories and trade accounts receivable. To manage working capital on a regional and local level, the businesses use the two indicators days sales outstanding and days in inventory.

MERCK GROUP →
BUSINESS FREE CASH FLOW

€ million / change in %	2014	2013	Change
EBITDA pre one-time items	**3,387.7**	**3,253.3**	**4.1**
Investments in property plant and equipment and software as well as advance payments for intangible assets	– 527.5	– 446.2	18.2
Changes in inventories as reported in the balance sheet	–185.5	59.7	–
Changes in trade accounts receivable as reported in the balance sheet	– 214.2	93.2	–
Adjustment first-time consolidation of AZ Electronic Materials S.A.	144.6	–	–
Business free cash flow	**2,605.1**	**2,960.0**	**–12.0**

INVESTMENTS AND VALUE MANAGEMENT

Sustainable value creation is essential to secure the long-term success of Merck. To optimize the allocation of financial resources, Merck uses a defined set of parameters as criteria for the prioritization of investment opportunities and portfolio decisions.

Net present value

The main criterion for the prioritization of investment opportunities is net present value. It is based on the discounted cash flow method and is calculated as the sum of the discounted free cash flows over the projection period of a project. Consistent with the definition of free cash flow, the weighted average cost of capital (WACC), representing the weighted average of the cost of equity and cost of debt, is used as the discount rate. Depending on the type and location of a project different mark-ups are applied to the WACC.

Internal rate of return (IRR)

The internal rate of return is a further important criterion for the assessment of acquisition projects and investments in property, plant and equipment. It is the discount rate that makes the present value of all future free cash flows equal to the initial investment or the purchase price of an acquisition. A project adds value if the internal rate of return is higher than the weighted cost of capital including mark-ups.

Return on capital employed (ROCE)

In addition to NPV and IRR, ROCE is an important metric for the assessment of investment projects. It is calculated as the operating result (EBIT) pre one-time items divided by the sum of property, plant and equipment, intangible assets, trade accounts receivable and trade accounts payable, as well as inventories.

Payback period

An additional parameter to prioritize investments into property, plant and equipment is the payback period, which indicates the time in years after which an investment will generate positive net cash flow.

Merck value added (MEVA)

MEVA gives information about the financial value created in a period. Value is created when the return on capital employed (ROCE) of the company or the business is higher than the weighted average cost of capital (WACC). MEVA metrics provide Merck with a powerful tool to weigh investment and spending decisions against capital requirements and investors' expectations.

CAPITAL MARKET-RELATED PARAMETERS

Net income and earnings per share (EPS)

Earnings per share are calculated by dividing profit after tax attributable to the shareholders of Merck KGaA (net income) by the weighted average number of theoretical shares outstanding. The use of a theoretical number of shares takes into account the fact that the general partner's capital is not represented by shares. To provide a more comparable view, Merck also publishes EPS pre, which excludes one-time items and amortization of intangible assets and is based on the company's underlying tax ratio.

Credit rating

The rating of Merck's credit worthiness by external agencies is an important indicator with respect to the company's ability to raise debt capital at attractive market conditions. The capital market makes use of the assessments published by independent rating agencies in order to assist debt providers in estimating the risks associated with a financial instrument. Merck is currently assessed by Moody's and Standard & Poor's (S&P). The most important factor for the credit rating is the ability to repay debt, which is determined in particular by the ratio of operating cash flow to (net) financial debt.

Dividend ratio

With the aim of ensuring an attractive return to shareholders, Merck pursues a reliable dividend policy with a target payout ratio based on EPS pre one-time items (see definition above).

OTHER RELEVANT/NON-FINANCIAL PERFORMANCE MEASURES

Apart from the indicators of the financial performance of the businesses, non-financial measures also play an important role in furthering the success of the company. From a Group perspective, specifically innovations in the businesses as well as the attraction and retention of highly qualified employees are of central importance.

Innovation

Innovation is the foundation of the business and will also be the prerequisite for future success in changing markets. Merck is continuously working to develop new products and service innovations for patients and customers. Indicators for the degree of innovation are defined individually depending on the specifics of the respective businesses.

Talent retention

Employing a highly qualified and motivated workforce is the basis for achieving Merck's ambitious business goals. Therefore, Merck puts a strong focus on establishing the processes and the environment needed to attract and retain the right talent with the right capabilities at the right time. To measure the success of the related measures, Merck has implemented talent retention as an important non-financial indicator.

CORPORATE RESPONSIBILITY

Responsible conduct plays a key role in Merck's corporate culture – with respect to employees, products, the environment, and society. Over the course of Merck's nearly 350-year history, the principle of corporate responsibility has become a firm pillar of corporate governance. It is part of daily conduct and is thus a fundamental prerequisite for Merck's business success.

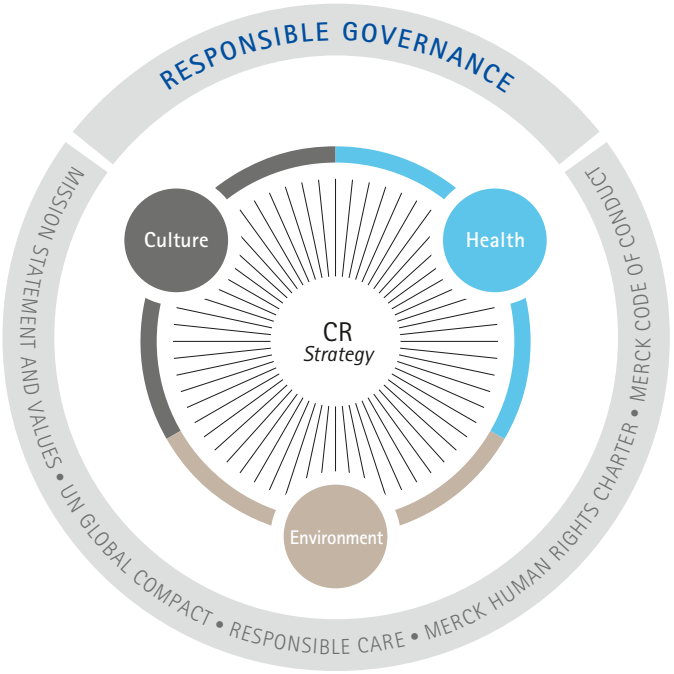
STRATEGY AND MANAGEMENT

Our corporate responsibility (CR) activities are directed by our Group-wide CR Committee, which consists of representatives from the businesses and relevant Group functions. Stefan Oschmann, Vice Chairman of the Executive Board, became chairman of this committee in January 2015. As a global company, our ambition is to create added value for consumers, market partners and the community while also helping them lead better lives.

Mankind is confronted with global societal challenges such as climate change, resource scarcity and insufficient access to health in low- and middle-income countries. We believe that we can help resolve these global challenges through our innovative products in the Healthcare, Life Science and Performance Materials sectors, as well as through responsible governance.

All of our CR activities come under the umbrella of "responsible governance" (see page 63 et seq.). Based on our corporate strategy, at the end of 2014 we selected three strategic spheres of activity from our CR framework in which we seek to excel. Our aim is to hone Merck's competitive edge while helping to sustainably secure its future.

CORPORATE RESPONSIBILITY AT MERCK →



- → **Health:** We aim to help underserved populations in low- and middle-income countries to gain access to high-quality health solutions.
- → **Environment:** A number of our innovative chemical and life science products contribute to environmental protection or help our customers conserve energy.
- → **Culture:** Culture inspires people and opens up their minds to new possibilities. As a high-tech, research-based company, we therefore promote cultural projects worldwide. Moreover, we are engaged in educational projects, especially since education is key to making culture accessible.

Merck supports relevant initiatives concerning responsible governance. The company is a member of the United Nations Global Compact and is committed to complying with the compact's principles regarding human rights, labor standards, environmental protection and anti-corruption. Moreover, we also live our corporate responsibility through our commitment to follow the guidelines of the Responsible Care Global Charter, an initiative of the International Council of Chemical Associations (ICCA). This charter aims to continuously improve the products and services of the chemical industry in terms of environmental protection, health, plant safety and security. Merck was among the first companies to sign the revised version of the Responsible Care Global Charter. In addition, we are a member of the "Chemie^3" initiative, a collaboration between the German Chemical Industry Association (VCI), the German Employers' Federation of the Chemical Industry (BAVC), and the German Mining, Chemical and Energy Industrial Union (IG BCE). As part of this globally unique collaboration, the partners aim to make sustainability a core part of the chemical industry's guiding principles and to jointly drive the sector's position within the German economy as a key contributor to sustainable development.

To Merck, corporate responsibility does not merely mean taking action, but also listening. The dialogue with our various stakeholder groups is therefore highly important to us. These stakeholders include our employees, our business associates, the Merck family, investors, regulatory agencies, and associations. We also engage in a continuous exchange in order to create transparency and clearly demonstrate how we live the Merck Values. One example of this exchange is a conference held on the topic of "Germany needs the chemical industry. Sustainability – a prerequisite for growth and prosperity?", which Merck held in September 2014 in collaboration with its Chemie^3 partners, VCI, BAVC and IG BCE. The sustainability conference took place during the German event series entitled "The Chemistry is Right in Darmstadt", which Merck, Darmstadt – the city of science, and the Technical University of Darmstadt are offering from September 2014 to June 2015. To prepare for the conference, Merck organized an expert workshop in July 2014 with representatives from the worlds of politics, business and society.

Thanks to good performance with respect to responsible, sustainable entrepreneurial conduct, Merck was again included in the FTSE4Good index in 2014. To be included in this leading international sustainability index, a company must demonstrate socially conscientious, ecological and ethical conduct. In 2014, Merck maintained its good position in other major sustainability indices as well. For instance, we were once more included in the STOXX Global ESG Leaders index. Moreover, Merck has remained listed on the Euronext Vigeo Eurozone 120 index, which features the 120 most progressive companies in Europe in terms of ecological, social and governance-related criteria.

STRATEGIC SPHERE OF ACTIVITY: HEALTH

Access to Health (A2H) is a strategic priority for Merck (see page 26 et seq.). Through our A2H approach, which spans all our businesses, we aim to help improve sustainable access to high-quality health solutions for underserved populations and communities in low- and middle-income countries. Recognizing that access is a complex and multifaceted challenge with no one-size-fits-all solution, our programs and initiatives are tailored to global, regional and local needs. We realize that we cannot work alone to address all the access gaps and that partnerships, collaboration and dialogue are key to delivering sustainable access results.

Stefan Oschmann, Vice Chairman of the Executive Board, plans to focus his presidency of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) on accelerating access to high-quality health solutions for people in low- and middle-income countries. Oschmann was elected President of the IFPMA for a two-year term at the 27th IFPMA Assembly in New York, USA in November 2014.

In November 2014, the Access to Medicine Foundation of the Netherlands recognized our efforts to improve access to health. In the 2014 Access to Medicine Index, Merck ranked sixth, moving up two places compared to 2012 and 11 places compared to 2010. Every two years, the index assesses the world's leading pharmaceutical companies with respect to their activities and initiatives to promote access to medicine in developing countries.

Merck's holistic Access to Health strategy focuses on four areas, known as the "4As of Access" framework: Availability, Affordability, Awareness, and Accessibility. In its ranking, the Access to Medicine Foundation particularly recognized Merck for its strategic and comprehensive access approach and its access initiatives.

Availability

Availability entails the research, development and refinement of health solutions that address unmet needs and are tailored to local environments. Through partnerships and innovative alliances, Merck is working to tackle diseases most affecting developing countries. One example is our engagement within the Pediatric Praziquantel Consortium. Through this public-private partnership, Merck is developing a pediatric formulation of praziquantel to treat the worm disease schistosomiasis. In March 2014, the consortium was awarded a prestigious research grant from the Japanese Global Health Innovation Technology Fund. Another example is our partnership with the non-profit research foundation Medicines for Malaria Venture, to develop new anti-malarials.

Affordability

Merck seeks to address affordability challenges by providing assistance to those who are unable to pay for the health solutions they need. To tackle these challenges, we have taken a pro-access approach through our intellectual property initiatives and are engaging in equitable pricing strategies. In 2014, Merck joined WIPO Re:Search, an open innovation platform sponsored by the World Intellectual Property Organization. With over 90 members worldwide, the platform accelerates early discovery for infectious diseases through intellectual property and knowledge sharing. Furthermore, Merck is supporting the World Health Organization (WHO) in the fight against the worm disease schistosomiasis in Africa. Merck donates Cesol® 600 tablets containing the active ingredient praziquantel to WHO. In 2014, Merck's donation to WHO amounted to more than 72 million tablets. Since the start of the program, over 54 million patients, primarily children, have been treated. At the end of 2014, Merck joined with partners to establish the Global Schistosomiasis Alliance in order to help eliminate schistosomiasis worldwide.

Awareness

Merck contributes to raising awareness by providing health workers, communities and patients with appropriate tools, knowledge, information and skills to help them make informed decisions. In its report on the Guiding Principles on Access to Healthcare (GPAH), the corporate network Business for Social Responsibility (BSR) recognized the Merck-initiated Access Dialogues as a best practice for information exchange and discussion between public and private stakeholders. In India, Merck initiated the Suswastha project. The aim is to provide underserved rural populations with affordable health solutions and to engage patients through community-level meetings as well as educative health programs. The Global Pharma Health Fund, a charitable organization funded by Merck, fights counterfeit medicines in developing countries and emerging economies. Additionally, within the scope of the Merck Capacity Advancement Program (CAP), Merck seeks to improve access to and the quality of diabetes treatment in Africa and India.

Accessibility

Merck promotes initiatives to strengthen supply chains and to develop localized health solutions in order to deliver and reach out efficiently at the point of care. One example is Merck's Temptation Project, which uses heat and humidity sensors to monitor transportation conditions of all its products shipped from Europe to the rest of the world. Furthermore, the company supports the expertise and training of managers in Africa, Asia and Latin America to strengthen local quality manufacturing standards. The BSR GPAH status report recognized the River Ambulance in India as an innovative approach to reaching underserved populations. Merck supports the non-governmental organization River Narmada Samagra, which among other things transports health workers and provides solutions to local populations living in the remote region along the Narmada River.

STRATEGIC SPHERE OF ACTIVITY: ENVIRONMENT

Through our products, we are helping to overcome global challenges such as climate change and resource scarcity. At the same time, we are also helping our customers achieve their own sustainability goals.

Developing sustainable products

We strive to continuously enhance the sustainability footprint of our products and are working to offer our customers products that enable them to reduce the negative impact of their own activities, as well as to achieve their own sustainability goals. For instance, we are developing innovative materials for energy-efficient liquid crystal and OLED displays and are thus helping our customers develop environmentally sustainable processes. Thanks to liquid crystals from Merck, displays consume approximately 20% less energy in comparison to the preceding generation of technology. The new UB FFS technology (ultra-brightness fringe field switching) provides displays with up to 15% more light transmittance, thus further reducing energy consumption. Merck is also developing liquid crystals for new applications. For instance, we are working with architects, glass makers and facade manufacturers to create the windows of tomorrow. Our ambitious goal is to use smart windows to make buildings more energy-efficient.

Within the scope of our cosmetic products business, we are working to sustainably procure and produce cosmetic ingredients as well as optimize the related production processes. In dialogue with our customers from the cosmetics industry, we are also developing cosmetic formulations that meet strict sustainability criteria and address the current trend towards more natural cosmetics. Several of our products have been certified by Ecocert, an independent organization that represents high international standards for environmentally sustainable products.

At Merck Millipore, the Design for Sustainability (DfS) program is especially aimed at reducing environmental impacts, also through customers' own use, for example their greenhouse gas emissions and water use. In 2014, Merck Millipore completed the integration of the DfS approach into the product development process. Beginning with the concept stage, product teams identify potential environmental impacts in various product life cycle stages as well as opportunities to make improvements. A scorecard is used to assess product designs in six focus categories: Materials, Energy and Emissions, Waste, Water, Packaging, as well as Usability and Innovation.

Additionally, Merck fosters its employees' ideas for new businesses through its Innospire program. In 2014, the program centered on the topics of energy conservation, conversion and efficiency, water treatment, water quality analyses, and efficient water consumption, along with patient focus, personalized medicine and digital / mobile health. Merck employees were called upon to submit suggestions for new materials and systems, as well as for new business models. During the 2014 Innospire program, 300 ideas were submitted, including some that pertained to the aforementioned topics.

STRATEGIC SPHERE OF ACTIVITY: CULTURE

Cultural promotion is a core element of our engagement in society that reflects Merck's centuries-old tradition of supporting art and culture. After all, culture nurtures characteristics that are indispensable to our business activities as a high-tech company: creativity, enthusiasm for new discoveries and the courage to transcend boundaries. Our cultural engagement focuses on music, literature and education.

Deutsche Philharmonie Merck

The Deutsche Philharmonie Merck is our musical ambassador. We consider classical music to be the universal language that brings people together; as such, it represents an important part of our culture. The concerts of this professional ensemble are highly popular, with around 26,000 people attending them per year. They represent an integral part of the cultural life in the vicinity of our global headquarters in Darmstadt. Special events for children and adolescents as well as collaboration with schools, such as the orchestra workshop held once a year since 2010, aim to make classical music more accessible to young people.

Additionally, the Deutsche Philharmonie Merck regularly invites international ensembles to play in Darmstadt while also touring the globe itself. In 2014 the orchestra gave a charity concert in the United Arab Emirates to raise money for patients with multiple sclerosis.

Fostering literature

Literature can stimulate the imagination; it can alleviate fears and give courage. Literature can also address scientific topics, thus furthering a deeper understanding of science and research. Through our engagement, we aim to help society better accept science and scientific progress. In addition, as an international company, we foster writers who further cultural exchange in our globalized world.

Merck grants and promotes four literary prizes worldwide. Since 1964, we have been sponsoring the renowned Johann Heinrich Merck Award for Literary Critique and Essay, which is presented by the German Academy for Language and Poetry at its annual autumn conference. The award, which comes with a € 20,000 prize, went to publicist Carolin Emcke in 2014.

For 12 years, Merck has been sponsoring the Premio Letterario Merck in Italy. This award is worth € 10,000 and recognizes authors who build bridges between literature and science, thereby making them accessible to a wide audience. In 2014, the award went to Carlo Rovelli, an Italian physicist, and to Francisco Gonzales-Crussi, a Mexican physician and writer.

In India, Merck collaborates with the Goethe-Institut Calcutta to present the Merck Tagore Award, which is worth 500,000 Indian rupees (around € 7,200); this literary prize is granted every two years to authors who have made a distinctive contribution to the cultural exchange between Germany and India. In April 2014, the award went to Professor Pramod Talgeri, Vice-Chancellor of the India International Multiversity.

In October 2014, Merck and the Goethe-Institut Tokyo presented the first-ever Merck Kakehashi Literature Prize. Worth a total of € 20,000, this award is granted to contemporary works by German authors that are made accessible to a wider readership in Japan. The prize went to German author Arno Schmidt for his book "Seelandschaft mit Pocahontas" (Lake Scenery with Pocahontas) and to the book's Japanese translator, Jun Wada.

Education

We view education as a key component of culture – and vice versa. Education can help us understand culture. But culture can also build a bridge to education; it can stimulate curiosity and nurture creativity. We therefore support educational projects at many of our sites, by granting scholarships for instance, or sponsoring specific classes. In order to promote young scientists, for example, Merck has been organizing the renowned annual "Jugend forscht" competition for the German federal state of Hesse every year since 1996.

RESPONSIBLE GOVERNANCE

Responsible business practices form the foundation of our operating business. We minimize ethical, economic and legal risks so as to secure Merck's license to operate. We take responsibility for our products, our employees, the environment and the community.

Responsibility for our products

The safety of our products is at the core of our corporate responsibility. As long as used properly, our products should pose no risk to customers or the environment, nor should our pharmaceuticals have a negative benefit-risk evaluation. We therefore examine safety across the entire life cycle of our products and continuously take steps to minimize risks. We make our products safer to use by providing patients and customers with extensive information material so that they can use the products in a responsible, safe and proper manner.

Through our Pharma Code for Conducting Pharmaceutical Business and Pharmaceutical Operations, we set standards for responsible marketing activities in order to ensure that patients and health care professionals have access to relevant information and that patients receive effective treatment.

(1) Safety of chemical products

There are numerous regulations intended to ensure that chemicals pose no risk to humans or the environment. Compliance with these regulatory requirements is an important part of our work. Through our Group-wide Product Safety Chemicals policy, we have introduced global processes for defining, steering and implementing product safety, and have established the corresponding management structures. Merck incorporates all relevant national and international chemical regulations into its policies and regulations and adheres to them. This includes for instance the EU chemicals regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) and CLP (Classification, Labelling and Packaging of Substances and Mixtures, EU GHS). Furthermore, we are committed to transparency. For instance, in line with the Global Product Strategy, an international initiative of the chemical industry, we provide our customers with product safety summaries for hazardous materials.

Merck has successfully completed the second phase of REACH implementation. All substances we produce or import in quantities ranging from 100 to 1,000 metric tons per year – 70 different substances in total – were successfully registered with the European Chemicals Agency (ECHA) by June 1, 2013. We are currently in phase three, during which we are working to register all substances produced or imported in quantities between one and 100 metric tons per year by mid-2018. We are fully on schedule with our activities.

(2) Safety of drugs

In everything we do, our number-one priority is patient safety. Ultimate responsibility for drug safety at Merck Serono is borne by our Medical Safety and Ethics Board (MSEB), which is chaired by our Global Chief Medical Officer. Merck Serono's Global Drug Safety unit is responsible for continuously and systematically monitoring the safety of our drugs (pharmacovigilance). This unit processes safety information from various sources such as clinical trials, adverse reaction reports and scientific literature in order to provide patients with risk-benefit evaluations during the entire life cycle of a drug.

(3) Quality of products

Our goal is to provide customers and patients with high-quality brand-name products. Through our quality vision, "Quality is embedded in everything we do!" we remind our employees of their responsibility – across all divisions, all Group functions and all levels of the company.

(4) Supplier management

Merck sources raw materials, packaging materials, technical products, components, and services from suppliers in more than 120 countries. Our basic expectations for suppliers and service providers include their compliance with fundamental environmental and social standards, which are primarily derived from the core labor standards of the ILO (International Labour Organisation), from the UN Global Compact, and from the Code of Conduct of the BME (German Federal Association for Materials Management, Purchasing and Logistics). Since 2013, our Group Procurement Policy and Responsible Sourcing Principles have defined our procurement practices and are now integrated into our general terms and conditions. They therefore constitute the foundation of every sourcing transaction and procedure.

Due to the growing significance of emerging markets as sourcing markets for Merck, we have reinforced our efforts to ensure adherence to our supply chain standards.

In addition, Merck regularly requests self-disclosures from suppliers and conducts supplier audits. In order to underscore the importance of supplier management as part of our corporate responsibility, we joined the Together for Sustainability (TfS) chemical industry initiative at the end of 2014. Starting in 2015, we will have access to a significantly greater number of supplier assessments via the TfS network, which we can then use to select and manage our suppliers.

Responsibility for our employees

Employees are crucial to the success of a company. They therefore play a central role in our business endeavors. In accordance with the Merck Values, we live a culture of mutual esteem and respect. We want to contribute to entrepreneurial success by recruiting, developing and motivating the most suitable employees. We therefore place a strategic focus on the topics of talent development, compensation and performance management. Furthermore, we want to strengthen the diversity of our employees (see also “Employees” on page 77 et seq.).

Responsibility for the environment

In the manufacture of our products, we seek to impact the environment as little as possible. This especially includes efficiently conserving resources such as energy, water and raw materials while also continuously reducing our emissions and waste.

(1) Environmental management system

Our Corporate EHS Policy defines our principles and strategies for environment, health and safety. It is implemented through internal guidelines and instruction manuals on compliant behavior in day-to-day operations, such as the Merck Group EHS Security and Quality Manual. At all sites, the local EHS managers are in charge of operational environmental protection measures. These employees continually receive training and obtain additional qualifications.

Since our businesses are constantly changing, our environmental management system must also remain flexible and adaptable. For this reason, we have internal and external audits conducted on a regular basis to determine whether the ISO 14001 requirements are still being met. In 2014, Merck received the ISO 14001 group certificate for its environmental management system for the sixth consecutive year. This certificate covers 58 sites, including eight of the nine production sites of the newly acquired AZ Electronic Materials.

Spending on environmental protection, health and safety totaled € 146 million in 2014, which also includes investments made during the year.

(2) Focus topics: Energy efficiency, greenhouse gas emissions, water scarcity

Climate change and its consequences are one of the main challenges facing society in the 21st century. As a responsible company, it is especially important to contribute to climate protection, which is why we have set ourselves the goal of reducing total direct and indirect greenhouse gas emissions by 20% by 2020, measured against the 2006 baseline.

In order to achieve this goal, Merck has launched a climate protection program called EDISON that consolidates all climate change mitigation and energy efficiency activities of the Merck Group. In 2015, as in the three preceding years, the Executive Board will earmark additional funds specifically for measures to conserve energy and reduce greenhouse gas emissions. Through more than 300 EDISON projects that have been initiated since 2012, Merck aims to annually save around 60 metric kilotons of CO_2 in the medium term. In 2014, Merck lowered its total greenhouse gas emissions by around 9% relative to the 2006 baseline, despite growth in its operating business.

Around two-thirds of the EDISON projects planned Group-wide have already been or are being rolled out, including major energy generation projects as well. In November 2014, Merck commissioned a carbon-neutral biomass energy plant in Goa, India. In December 2014, a further biomass energy station was commissioned in Jaffrey, New Hampshire, USA. At the Darmstadt site, Merck is spending around € 27 million on the construction of two state-of-the-art energy stations. The first of these two stations, which supplies the site’s pharmaceutical production operations and research activities with power, was commissioned in July 2014. The second station is currently under construction and will cover the refrigeration requirements of the site’s chemical plants and laboratories, among other power needs. Once both plants are in operation, the site’s CO_2 emissions will decrease by around 2,500 metric tons per year.

CORPORATE RESPONSIBILITY →

ENERGY CONSUMPTION (IN GWH)

	2010	2011	2012	2013	2014
Total energy consumption	**1,505**	**1,497**	**1,556**	**1,566**	**1,622**
Direct energy consumption	**919**	**920**	**940**	**1,001**	**1,071**
Natural gas	799	802	827	884	937
Liquid fossil fuels	105	105	100	102	107
Biomass and other self-generated renewable energy	15	13	13	15	27
Indirect energy consumption	**586**	**577**	**616**	**565**	**551**
Electricity	518	519	502	500	466
Steam, heat, refrigeration	68	58	114	65	85

Portfolio-adjusted in accordance with the Greenhouse Gas Protocol (including the new production sites of AZ).

CORPORATE RESPONSIBILITY →

CO_2EQ EMISSIONS (EQ = EQUIVALENTS)

Emissions in kilotons, Scope 1 and 2	2010	2011	2012	2013	2014
Total CO_2eq emissions	**577**	**541**	**551**	**567**	**524**
Direct CO_2eq emissions	352	318	321	350	323
Indirect CO_2eq emissions	225	223	230	217	201

Portfolio-adjusted in accordance with the Greenhouse Gas Protocol (including the new production sites of AZ).

Energy management plays a key role in our efforts for sustainable energy efficiency and climate change mitigation. Merck's production sites in Darmstadt and Gernsheim account for around 40 % of Merck's global energy consumption. In 2012, both of these sites qualified for ISO 50001 – Energy Management System certificates, which were reaffirmed in 2014. The Molsheim site in France, the Poseung site in Korea and the Taoyuan site in Taiwan received the ISO 50001 certificate in 2014 for the first time. The Wiesbaden site was certified for the first time in January 2015. Counting the Bari and Tiburtina sites in Italy, eight Merck production sites have a certified energy management system.

The results of the Carbon Disclosure Project likewise indicate that Merck is on the right path. In 2014, Merck again ranked in performance band B in the Climate Performance Scoring, and was thus clearly in the upper range of all participating companies in the Germany, Austria and Switzerland category. In the Climate Disclosure Scoring, which rates the thoroughness and transparency of a company's reporting, Merck scored 87 out of 100 points, putting it well above the average. The Carbon Disclosure Project, an independent non-profit organization, assessed the emissions reduction progress and climate change reporting of companies.

In addition to energy, in 2014 Merck also focused on the topic of water. We examined our sites to determine which ones are located in regions where water is scarce and thus an especially precious resource. Based on a detailed assessment, we plan to implement sustainable water management systems at these sites.

Responsibility for society

Merck sees itself as part of society, not only at its individual locations, but also at a global level. Taking responsibility towards society is an integral part of our entrepreneurial approach. We believe that we can make an important contribution to the community through our knowledge, our skills and our products.

Our social responsibility activities are primarily focused on those areas in which we have specific expertise stemming from our core businesses. We are thus engaged in health and environmental projects and support education, specifically in the natural sciences. We provide disaster relief in emergency situations, especially in those regions in which we operate.

Our subsidiaries are also engaged in a wide variety of local projects. Merck has defined overarching criteria for selecting projects, while the decisions concerning specific local projects are made by our subsidiaries. In 2014, Merck spent a total of € 50.8 million on community engagement activities. Of the total monetary and non-monetary donations made by our subsidiaries in 2014, 61 % went to Emerging Markets (Latin America and Asia, excluding Japan), 37 % to Europe, as well as 2 % to the North America and the Rest of World regions.

RESEARCH AND DEVELOPMENT AT MERCK

Merck conducts research and development worldwide in order to develop new products and services designed to improve the quality of life of patients and customers. In 2014, Merck focused on further optimizing the relevance and efficiency of its research and development activities. For this purpose, Merck increased the number of new collaborations with external research and development partners.

Around 4,700 employees work for Merck researching innovations to serve long-term health and technology trends in established and emerging markets as well as in developing countries.

Merck spent around € 1.7 billion on research and development in 2014. In our research and development activities, we focus on both in-house research and external collaborations, which enable us to increase the productivity of our research while simultaneously reducing financial outlay.

The organizational set-up of our research and development activities reflects the structure of Merck. Within the Executive Board, Stefan Oschmann, who became Vice Chairman of the Executive Board at the beginning of 2015, was responsible for Merck Serono and Consumer Health until December 31, 2014. Effective January 1, Belén Garijo assumed this responsibility as a Member of the Executive Board. Bernd Reckmann is responsible for Performance Materials and Merck Millipore.

MERCK SERONO

General

Merck Serono R&D continues to evolve with a focus on both strategic and operational improvements. In the course of 2014, with new leadership in place after the appointment of Luciano Rossetti, MD, as Executive Vice President and Head of Global R&D in July, the R&D organization further enhanced the structure of R&D to strengthen collaboration across the spectrum of Research, Development and Commercial, prioritized key development programs, and created a governance model founded on collaboration, agility and objectivity in science.

Along with a sustained effort to foster an environment of end-to-end development – from early research through to late-stage development and product registration – there is also a resolute commitment to ensuring the patient's needs are the primary driver in all decision-making. A patient-centric approach to R&D is becoming increasingly inherent across Merck Serono, from research of the highest quality through to quick and efficient clinical development. Across the continuum of R&D, there is a renewed energy to build a solution-oriented, collaborative and accountable culture that delivers value to the business and to patients. With an unwavering focus on world-class science and the development of strategic external opportunities, Merck Serono R&D aims to accelerate its pipeline.

Research and development strategy

In 2014, Merck Serono R&D continued its change strategy to better position the organization for success in the years to come. Today, founded on a solution-oriented and collaborative mindset, almost 2,300 R&D professionals are working to advance innovation across the Merck Serono R&D pipeline.

In Research, the early phases of discovery remain structured across three distinct yet closely aligned Translational Innovation Platforms (TIPs): Oncology, Immuno-Oncology, and Immunology, as well as a specific department focused on Global Health, which targets critical health needs in vulnerable populations.

With early development now part of Global Development, R&D teams share the common goal of advancing programs in a seamless fashion, collaborating to identify the right strategies for key programs as they progress along the pipeline, and aligning with Commercial from the earliest stages in the process, in order to build the right target product profile in the most effective way possible.

Program prioritization became a critical priority in 2014, streamlining the R&D portfolio based on key data milestones, among other things. With a core set of compounds now targeted as high-priority, the R&D organization can better distribute resources across its programs to optimize their potential for success.

With hubs in Darmstadt, Germany; Boston, Massachusetts, USA; Tokyo, Japan; and Beijing, China, the broad footprint of Merck Serono gives it access to innovation in its key markets. Across the entire biopharma spectrum – from academia and hospitals to research institutions and other companies in the biopharmaceutical industry – Merck Serono complements its internal expertise by leveraging the experience and knowledge of others through partnerships. In 2014, Merck Serono delivered clear examples of this strategic priority, announcing agreements with several companies and academic institutions around the world, as well as awarding external grants for research innovation in several disease areas, as detailed in the next section.

With a forward-looking view, the global Merck Serono R&D organization is positioning itself for future success. Strong collaboration, an unwavering commitment to exceptional science and a focus on objective decision-making are the key principles that will

guide the R&D teams in 2015. As a recent example, the Global Medical Affairs (GMA) organization underwent a complete redesign and strategic refocusing in 2014. Patient centricity was at the core of this effort which has several cornerstones: enhancement of therapeutic area expertise in key areas, a global best-practice sharing working style and the establishment of a novel function known as medical excellence. The new GMA organization was launched in August and implementation at headquarters, in regions and in countries worldwide is progressing rapidly, and is on track for completion in early 2015. The new organization is already delivering enhanced value to life cycle management of Merck Serono's registered products, as well as contributing significantly to the late-stage development process.

At the Merck Serono Investor & Analyst Day in September, Merck gave an update on its plans for its Biosimilars activities. In addition to the already disclosed investment plan of € 100 million for 2014, the unit plans to continue to invest in 2015, depending on the outcome of ongoing Phase I studies. Existing partnerships with India's Dr. Reddy's and Brazil's Bionovis will be expanded by another, as yet undisclosed in-licensing agreement for a late-stage biosimilar, initially for smaller emerging markets. Between 2015 and 2016, Merck plans to initiate between two and five Phase III clinical trials.

THE MERCK SERONO PIPELINE IN 2014

Merck Serono's core R&D fields include oncology, immuno-oncology, immunology and neurology. The development pipeline continues to be weighted towards oncology; however, 2014 saw important scientific and business development advances in several disease areas. In line with its open collaborative model in R&D, Merck Serono entered into a number of collaborations during 2014, some of which are highlighted below.

In addition, the company announced the launch of Merck Global Grants with a total annual investment of over € 20 million, thereby underscoring Merck's commitment to funding scientific innovation and independent medical education around the world. The Grants for Innovation in Research identify and fund what are considered to be the most promising research projects in specific fields worldwide, originating from across the biopharma spectrum, including: academia, research centers, and smaller biotech companies. During the third quarter, Grants for Innovation were awarded in the areas of Multiple Sclerosis, Oncology, Growth Disorders and Fertility.

Oncology

There were several important changes in the oncology pipeline during 2014. Evofosfamide (also known as TH-302), an investigational hypoxia-activated prodrug which is being developed in collaboration with Threshold Pharmaceuticals, is currently being evaluated in two Phase III trials, respectively in locally advanced, unresectable or metastatic soft tissue sarcoma (STS) and in advanced pancreatic cancer. A pre-planned interim efficacy and safety analysis of the STS study was performed in the third quarter of 2014. The Independent Data Monitoring Committee (IDMC), which conducted the analysis, recommended that the study should continue as planned to its natural conclusion. The analysis of the primary endpoint, overall survival (OS), is expected to be conducted in 2016. This date is only an approximation since the final analyses will be triggered only when a certain number of events have occurred. The second Phase III study (known as MAESTRO), which is being performed in advanced pancreatic cancer, reached planned enrollment of 660 patients in October. It is estimated that the final analysis of the primary endpoint of this trial, which is OS, will be performed in 2016. A Phase II trial of evofosfamide in combination with pemetrexed as a potential second-line treatment for patients with advanced non-squamous non-small cell lung cancer (NSCLC) was initiated in the second quarter of 2014. The primary endpoint in this 440-patient trial is OS.

As regards Erbitux® (cetuximab), new biomarker findings from a retrospective analysis of the completed Phase III CRYSTAL study were presented at the American Society of Clinical Oncology (ASCO) 50th Annual Meeting in Chicago. This study compared Erbitux® plus FOLFIRI with FOLFIRI alone in the first-line treatment of metastatic colorectal cancer (mCRC). A significant clinical improvement in terms of response rate, progression-free survival and overall survival was observed in patients with RAS wild-type tumors when Erbitux® was added to FOLFIRI compared with patients receiving FOLFIRI alone. Additionally, the results of the FIRE-3 study, a randomized, controlled, open-label, Phase III trial to compare the efficacy of Erbitux® plus FOLFIRI with bevacizumab plus FOLFIRI in first-line KRAS wild-type mCRC (mCRC), were published in Lancet Oncology in August 2014. Updated results in the RAS wild-type population were presented at the 2014 ESMO Congress in Madrid in September. While the primary endpoint of increased overall response rate with Erbitux® plus FOLFIRI compared with bevacizumab plus FOLFIRI was not met, a pre-planned exploratory analysis in the patient sub-group selected based on RAS status showed a statistically significant difference in overall survival in favor of Erbitux®. Given this clinically meaningful difference in overall survival, the authors state that "the data suggest that FOLFIRI plus cetuximab should be chosen as the first-line treatment regimen for patients with RAS wild-type mCRC." (Lancet Oncology 2014; 15: 1,065 – 1,075).

These results are in line with the Erbitux® label as updated by the European Medicines Agency (EMA) in December 2013, and were included in an update of the Summary of Product Characteristics in June 2014. They confirm that RAS biomarker testing is essential for patient-centric care and is thus a truly personalized approach to the treatment of mCRC. Results of a second randomized, controlled, open-label, Phase III trial (CALGB / SWOG 80405), comparing Erbitux® plus chemotherapy (either FOLFOX or FOLFIRI based on each investigator's choice) as compared to bevacizumab plus chemotherapy, were presented at the ASCO 2014 Congress and the ESMO 2014 Congress. Although showing a slight but not significant trend towards improved overall survival for patients in the RAS wild-type population treated with Erbitux® plus chemotherapy, the results seemed to differ from those of the aforementioned study. However it should be noted that the data so far are immature and the final results have not yet been published in a peer-reviewed journal.

The Chinese Food and Drug Administration (SFDA) issued a negative opinion concerning the application of Erbitux® in squamous cell carcinoma of the head and neck (SCCHN) because it considered the bridging study in Chinese patients inadequate to justify approval in China. Merck Serono decided to perform a randomized, controlled study in China in SCCHN with a view to obtaining approval for this indication. Erbitux® is currently registered in over 90 countries in this indication.

In June, Merck announced it had signed an agreement to collaborate with Sysmex Inostics GmbH, Hamburg, Germany, for the development and commercialization of a blood-based RAS biomarker test for patients with mCRC. Blood-based biomarker testing is a faster and easier approach for determining the mutation status of tumors as it requires only a small blood sample rather than a tissue biopsy procedure. The test has the potential to provide mutation status results within days, which in turn can help guide treatment decisions. In addition, it may become the method of choice in situations where a tissue biopsy is difficult to obtain, for example in patients whose physical condition does not allow for a surgical procedure.

After a careful analysis, Merck Serono decided not to pursue its development program for Sym004, and to return the rights to the compound to Symphogen for further development. This decision was not related to any new safety or efficacy findings. It will allow the company to refocus its efforts on other pipeline candidates.

Subsequent to the promising results of pre-clinical work and the ongoing Phase I trial of its c-Met kinase inhibitor tepotinib (MSC 2156119J), Merck Serono decided to embark on Phase I / II studies in solid tumors, especially focusing on the indications of NSCLC and hepatocellular carcinoma. Studies in both indications were initiated in the first quarter of 2014.

For abituzumab, an investigational anti-integrin monoclonal antibody designed to target certain integrins expressed on tumor and endothelial cells, two Phase II trials were completed this year. The results of the POSEIDON study, a combination of abituzumab with Erbitux® and irinotecan in KRAS wild-type mCRC, were presented at the ESMO World Congress on Gastrointestinal Cancer. Although the primary endpoint of increased progression-free survival was not met, the addition of abituzumab to Erbitux® and irinotecan resulted in a trend toward improved overall survival; high $\alpha v\beta 6$ integrin expression was identified as a potential predictive marker of increased response rate, as was prolonged overall survival in the abituzumab treatment arms. Further biomarker analyses are warranted to confirm and further validate the current findings. The results of the PERSEUS study in patients with metastatic castration-resistant prostate cancer were presented at the 2014 ASCO Meeting. No significant improvement in progression-

free survival was observed and development therefore will not continue in this indication.

BGB-290 (an inhibitor of poly [ADP-ribose] polymerase, or PARP), currently being developed in collaboration with BeiGene, entered Phase I clinical testing in patients with solid tumors.

Enrollment was discontinued in a combination Phase II study of the MEK inhibitor pimasertib (a small-molecule inhibitor of MEK, an enzyme that is a part of a pathway that is frequently activated in many types of solid tumors) and the PI3K/mTOR inhibitor from Sanofi U.S. (SAR245409) in low-grade serous ovarian cancer. This decision was based on the results of a futility analysis, conducted by the IDMC, which indicated that the trial was no longer expected to achieve its objective of showing a meaningful difference between the efficacy of the combination compared with pimasertib alone. However, the safety profile was in line with previous clinical data for this combination, and no unusual toxicities outside of those associated with this class were observed. The further development of pimasertib in pancreatic cancer was also discontinued as a Phase II study in this indication did not reach its primary endpoint of prolongation of progression-free survival. Pimasertib will continue to be investigated in patients with NRAS mutant malignant melanoma in a Phase II trial which is fully recruited, and expected to report results on progression-free survival (primary endpoint) during 2015. Additionally, a Phase Ib trial in solid tumors, in collaboration with Sanofi U.S., investigating pimasertib in combination with Sanofi U.S.'s hDM2 antagonist (SAR405838) will also continue.

MSC 2490484A (DNA-PK inhibitor), a small-molecule inhibitor of the repair mechanisms of DNA damage in cancer cells, entered Phase I clinical testing in patients with solid tumors.

Merck Serono and Sutro Biopharma, a privately held biotechnology company, entered into a collaboration and license agreement to develop next-generation antibody drug conjugates (ADCs) for multiple targets in oncology. Merck Serono and Mersana Therapeutics, Inc. also announced a cooperation agreement to develop next-generation ADCs. ADCs are composed of an antibody linked to a cytotoxic drug, whereby the antibody part specifically targets and delivers the cytotoxic drug to cancer cells, which could lead to higher drug levels at the tumor site.

In October 2014, Merck Serono, the Institute of Cancer Research (ICR), London, and the Wellcome Trust, London, entered into a co-development and license agreement building on two independent research programs at both the ICR and Merck Serono to identify inhibitors of tankyrase, an enzyme of the poly (ADP-ribose) polymerase (PARP) family. In a joint effort, this collaboration will aim to progress chemical compounds that have emerged from both organizations' tankyrase inhibitor programs towards clinical development. At the end of the collaboration period, Merck Serono will take over full responsibility for the selected clinical development candidate. The agreements mentioned above underline Merck Serono's approach to employing a collaborative research and development model, creating strategic partnerships in order to drive innovation.

Immuno-Oncology

For avelumab (also known as MSB0010718C), an investigational anti-PD-L1 antibody currently in development, initial data from the Phase I dose escalation study in solid tumors were presented at ASCO 2014. The study is advancing rapidly and anti-tumor activity of avelumab has already been observed in a number of patients, notably in NSCLC and in ovarian cancer. Avelumab is also being tested in a Phase II study initiated in July 2014 in patients with metastatic Merkel cell carcinoma. This is an aggressive form of skin cancer, which is rare and currently has limited treatment options. The study is a multicenter, single-arm, open trial in patients who have previously been treated with one line of chemotherapy.

In November 2014, Merck announced that it had entered into a global strategic alliance with Pfizer Inc. to develop and commercialize avelumab in order to accelerate both companies' presence in immuno-oncology. The antibody will be developed as a single agent as well as in various combinations with Pfizer's and Merck Serono's broad portfolio of approved and investigational pipeline candidates. The two companies will also combine resources and expertise to advance Pfizer's anti-PD-1 antibody into Phase I trials. As part of the strategic alliance, Merck will co-promote Pfizer's Xalkori®, a medicine to treat NSCLC, in the United States and several other key markets. Global collaboration with Pfizer is expected to accelerate the development of avelumab in multiple tumor types. Up to 20 high priority immuno-oncology clinical development programs are expected to commence in 2015, including up to six pivotal registration studies. The global alliance is expected to enable Merck's entry into the U.S. oncology market and to strengthen its Oncology franchise in several other important global markets.

Concerning tecemotide, an investigational cancer immunotherapy (also known as L-BLP25), a Phase III study called START2 was initiated in April 2014, following the results of the START study of tecemotide in stage III NSCLC. Although START did not meet its primary endpoint of demonstrating an improved OS with tecemotide compared with placebo in the overall patient population, data from an exploratory analysis of a pre-defined subgroup of patients who received tecemotide after concurrent chemoradiotherapy (CRT), showed that these patients survived longer. However in September, the results of study EMR 63325-009, a Phase I/II trial in Japanese patients with stage III, unresectable, locally advanced NSCLC, the majority of whom had received concurrent CRT, indicated that no effect had been observed for either the primary endpoint, OS, or for any of the secondary efficacy endpoints. Based on these results, Merck Serono decided to discontinue the clinical development program for tecemotide.

After a careful analysis of its pipeline assets Merck Serono decided to discontinue development of NHS-IL2 (MSB0010445), also known as Selectikine, which was in Phase II testing in advanced melanoma. This decision was not related to any new safety or efficacy findings. It will allow the company to refocus its efforts on other pipeline candidates.

Merck and MorphoSys entered into a strategic immuno-oncology collaboration to discover and develop therapeutic antibodies against immune checkpoints. Under the terms of the agreement, the two companies will join forces to develop therapies that modulate the immune system's natural ability to fight tumors. MorphoSys will apply its proprietary Ylanthia® antibody phage library and technology platform to identify antibodies against targets of interest. With its strong portfolio and capabilities in the field of immuno-oncology and clinical development, Merck Serono will be fully responsible for execution of development from Phase I onwards.

Immunology

In the field of Immunology, a Phase IIb study of atacicept, an anti-Blys and anti-APRIL fusion protein, in patients with systemic lupus erythematosus (SLE) was initiated. This study is known as ADDRESS II and follows the promising results of the completed APRIL SLE study which were presented at the Annual Meeting of the European League against Rheumatism (EULAR) in 2013. ADDRESS II is a double-blind, placebo-controlled study of atacicept given at two doses in 279 patients with active SLE to assess its efficacy and safety in reducing SLE-disease activity in patients receiving standard-of-care therapy. The outcome of this study is expected in 2016. A two-year long-term extension study (ADDRESS II LTE) has also been initiated in order to develop atacicept's safety database.

Also aiming at the treatment of SLE, an agreement was entered into by Merck KGaA, Pfizer Inc. and the Broad Institute in Cambridge, Massachusetts, in April. The collaboration is focused on the genomic profiling of patients with SLE and lupus nephritis. The goal of this research project, which will be jointly funded by Merck Serono and Pfizer, is to identify biomarkers to better define target patient populations for future therapies as well as to discover potential novel drug targets for innovative therapies.

The FORWARD study, a Phase II trial of sprifermin, an investigational fibroblast growth factor given at four doses vs placebo in patients with primary osteoarthritis of the knee, is being conducted in collaboration with Merck's strategic alliance partner, Nordic Bioscience Clinical Development. The study completed enrollment in mid-2014, following the inclusion of 549 patients, and the outcome of the study is expected to become available in 2016. Following the completion of a Phase I study in healthy volunteers of the anti-IL-17-A/F nanobody, MSB 0010841 (also known as ALX-0761), a Phase Ib study in patients with psoriasis has been initiated.

A small-molecule BTK inhibitor (MSC 2364447) entered Phase I clinical testing in healthy volunteers in the third quarter of 2014. This investigational agent is a highly selective inhibitor of the Bruton's tyrosine kinase (BTK), which is important in the development and functioning of various immune cells including B-lymphocytes and macrophages. Preclinical research suggests it may be therapeutically useful in certain autoimmune diseases.

Neurology

Merck Serono and the Institute of Experimental Neurology at San Raffaele University and Research Hospital in Milan announced the continuation of a strategic alliance to develop pre-clinical and clinical research projects in the field of neurodegenerative diseases. The translational research will focus on developing innovative therapies against serious and disabling neurological diseases affecting young adults in particular, such as multiple sclerosis (MS). Established in 2004, the renewal of this partnership extends the agreement between the parties for two additional years.

Following completion of a Phase I clinical study that demonstrated encouraging MRI results following intradermal treatment of patients with relapsing multiple sclerosis (RMS) with ATX-MS-1467, an investigational immune-tolerizing agent, a Phase II study has been initiated in RMS.

Following a thorough portfolio review, Merck Serono decided not to pursue further development of plovamer acetate, an investigational second-generation copolymer for relapsing-remitting MS. As a consequence, the Phase II study was terminated early. Merck and Ono Pharmaceutical reached a mutual agreement to terminate the license agreement on ceralifimod (ONO-4641) since the project did not meet Merck's threshold for continued investment.

Merck Serono remains committed to driving innovation in the field of MS and improving the lives of people living with the disease. In refocusing the pipeline, additional resources will be available to strengthen our pipeline in this area and bring additional, meaningful products and devices to people with MS.

Fertility

In the field of Fertility, a Phase III trial of Pergoveris® was initiated in the first quarter of 2014 and enrollment was already completed, following the inclusion of 946 patients, in the third quarter. The trial, which is known as ESPART® (Evaluating the Efficacy and Safety of Pergoveris® in ART), is a multicenter, randomized, controlled, single-blind trial with the primary endpoint being the total number of retrieved oocytes. The study is designed to assess the efficacy and safety of Pergoveris® (follitropin alfa and lutropin alfa) versus Gonal-f® (follitropin alfa) for multifollicular development as part of an Assisted Reproductive Technology (ART) treatment cycle in women who are classified as poor ovarian responders (POR) to previous ART. Data are expected in 2015.

Endocrinology

In the field of Endocrinology, Merck Serono announced in April that the Phase IIIb study of Kuvan® (sapropterin dihydrochloride) had met its primary endpoint. At the Society for the Study of Inborn Errors of Metabolism (SSIEM) Annual Symposium in Innsbruck in early September, detailed 26-week data from the study known as SPARK (Safety Pediatric EfficAcy PhaRmacokinetic with Kuvan®) were presented. Results from the study showed that the addition of Kuvan® at a dose of 10 or 20 mg/kg/day to a phenylalanine-restricted diet significantly increased phenylalanine tolerance in children with phenylketonuria (PKU) who are below four years of age and responsive to Kuvan®, compared with patients on diet alone. The SPARK study was requested by the EMA as a post-authorization measure. Given the positive outcome of the study, Merck Serono has submitted an application to the EMA for a label extension.

MERCK SERONO PIPELINE, AS OF DECEMBER 31, 2014

Therapeutic area	Compound	Indication	Status
Oncology	Evofosfamide (TH-302; hypoxia-activated prodrug)	Soft tissue sarcoma	Phase III
	Evofosfamide (TH-302; hypoxia-activated prodrug)	Pancreatic cancer	Phase III
	Evofosfamide (TH-302; hypoxia-activated prodrug)	Non-small cell lung cancer	Phase II
	Evofosfamide (TH-302; hypoxia-activated prodrug)	Melanoma	Phase II
	Evofosfamide (TH-302; hypoxia-activated prodrug)	Hematological malignancies & solid tumors	Phase I
	Abituzumab (DI17E6; anti-integrin mAb)	Colorectal cancer	Phase II
	Pimasertib (MEK inhibitor)	Melanoma	Phase II
	Pimasertib / hDM2 inhibitor combination	Solid tumors	Phase I[1]
	Tepotinib (MSC 2156119J; c-Met kinase inhibitor)	Solid tumors	Phase I
	MSC 2363318A (P70S6K and Akt inhibitor)	Solid tumors	Phase I
	BGB-283 (BRAF inhibitor)	Solid tumors	Phase I
	BGB-290 (PARP inhibitor)	Solid tumors	Phase I
	MSC 2490484A (DNA-PK inhibitor)	Solid tumors	Phase I
Immuno-Oncology	MSB 0010360N (NHS-IL12; cancer immunotherapy)	Solid tumors	Phase I[2]
	Avelumab (MSB 0010718C; anti-PD-L1 mAb)	Merkel cell skin carcinoma	Phase II
	Avelumab (MSB 0010718C; anti-PD-L1 mAb)	Solid tumors	Phase I
Immunology	Atacicept (anti-Blys / anti-APRIL fusion protein)	Systemic lupus erythematosus	Phase II
	Sprifermin (fibroblast growth factor 18)	Osteoarthritis	Phase II
	MSB 0010841 (ALX-0761; anti-IL-17 A / F nanobody)	Psoriasis	Phase I
	MSC 2364447 (BTK inhibitor)	Healthy volunteers	Phase I
Neurodegenerative Diseases	ATX-MS-1467 (immune-tolerizing agent)	Multiple sclerosis	Phase II
Fertility	Pergoveris® (follitropin alfa and lutropin alpha)	Assisted Reproductive Technology, poor ovarian responders	Phase III
Endocrinology	Kuvan® (sapropterin dihydrochloride)	PKU in pediatric patients < 4 years	Submitted for approval[3]

[1] Combined with hDM2 inhibitor (SAR405838) from Sanofi, conducted under the responsibility of Sanofi.
[2] Sponsored by the National Cancer Institute (USA).
[3] Post-approval request by the European Medicines Agency (EMA). EMA application under review.
More information on ongoing clinical trials can be found at www.clinicaltrials.gov.

IL: Interleukin
hDM2: Human Double Minute 2 homolog
mAb: Monoclonal antibody
MEK: Mitogen Activated Protein Kinase
EGFR: Epidermal Growth Factor Receptor
PARP: Poly [ADP-Ribose] Polymerase
BTK: Bruton's Tyrosine Kinase
PKU: Phenylketonuria

CONSUMER HEALTH

In its Consumer Health business, Merck markets over-the-counter medicines and food supplements in Europe – primarily for France, Germany, and the United Kingdom – as well as in Latin America and Southeast Asia, where sales volumes are rising. The focus of research and development activities in Consumer Health is on constantly improving tried and proven formulations consistent with the needs of consumers. Innovations by Consumer Health center on consumers and their needs. On the one hand, established products are being adapted to changing consumer needs while on the other hand, new technological innovations are being developed to satisfy entirely new needs. A good example of this is the new product Apaisyl® Nits Detect, which colors nits on the scalp with a fluorescent dye, thus making it much easier to comb them out. Since 2014 Merck has been increasingly entering into cooperation agreements with independent research institutions in order to tap into their expertise in developing new and existing products in a targeted manner. At the same time, Consumer Health is further developing its established brand-name products by making them simpler to use and by offering accompanying services.

PERFORMANCE MATERIALS

Merck is the undisputed market and technology leader in liquid crystals, which are primarily used in televisions and mobile communication applications. We are also one of the leading suppliers of decorative and functional effect pigments. Our high-tech materials and solutions are used by customers in the consumer electronics, lighting, coatings, printing technology, plastics applications, and cosmetics industries. In Performance Materials, Merck is also focusing on the growth dynamics of emerging markets. As a new part of Performance Materials, AZ Electronic Materials (AZ) brings additional fields of business to the Merck portfolio. AZ serves two main markets, the sector of IC Materials for integrated circuit manufacture, and materials for display applications (Optronics).

Liquid crystals

In the area of LC displays for mobile devices, Merck has developed a new LC switching mode, UB-FFS technology (ultra-brightness fringe field switching). The new LC switching mode has the potential to increase display light transmittance by 15%. The new technology offers many advantages: Firstly, it reduces energy consumption and increases the battery life of the mobile devices. Secondly, it improves mobile display quality and supports the trend towards higher resolutions. The market launch is proceeding faster than expected. The new switching mode is already used in many smartphones and tablet PCs.

The Merck "LC 2021" strategic initiative combines the company's future LC activities, with a special focus on applications beyond displays. For example, liquid crystals can regulate the light and heat transmittance of windows in building facades. Since the acquisition in July 2014 of the remaining interest in Peer+, a Dutch specialist for smart window technology, the company has now been fully integrated. Merck is investing further in LC windows, the new name for the material development of these applications. The pilot production of the windows is in full swing. Several examples were installed in Merck's own Innovation Center at the Darmstadt site in early 2015. Collaborations with partners in the glass and facade technology sector are planned for broad-based marketing of the windows.

In November, a Merck team won the 2014 Meyer-Galow Prize for business chemistry. Four LC researchers and managers were recognized for their work on the project "Energy-efficient liquid crystals for smartphones and tablet PCs".

OLEDs

Organic light-emitting diodes (OLEDs) are used in innovative lighting applications and display technologies. They provide brilliant colors and sharp images from any viewing angle; they have a long lifespan and are highly energy-efficient. In addition, OLEDs enable round or flexible displays, making them perfect for use in the latest technical applications. One such example is the smartwatch, a wristwatch that provides Internet access along with additional computer functionality.

The name of the Merck product line for these types of applications is livilux®. Merck has developed a strong portfolio of worldwide patents, based on more than ten years of experience. Development partnerships with customers are a way of testing new technologies and making them market-ready. For instance, Performance Materials has co-developed a technology that can be used to print OLED displays in collaboration with printer manufacturer Seiko Epson. While Merck contributed its expertise in OLED material and ink development to the collaboration, Seiko Epson contributed its expertise in print heads featuring Micro Piezo inkjet technology as well as process expertise. The jointly developed technology offers the advantage of lower costs and higher material efficiency. In contrast to evaporated OLED displays, the materials are applied at room temperature and under normal pressure in the case of printed OLED displays. In addition, this technique only deposits material in the areas where diodes are actually located, thereby helping to conserve resources.

High-quality pigments and functional materials

Besides high-quality decorative effect pigments, Merck also offers functional materials used, for example, in laser marking of plastics, conductive coatings, and heat-reflective glazing for greenhouses. The Meoxal® brand is the latest development in effect pigments. These pigments captivate with their brilliant color saturation and exceptional performance, as a result of their innovative layer technology and the use of aluminum flakes as substrate. They are highly suitable for a multitude of high-performance applications, especially for automotive and plastic coatings. The third pigment in the new brand family – Meoxal® Atacama Red – was launched in the second quarter of 2014.

With Xirallic® NXT, Merck is launching a new patented product generation of the well-known high-tech effect pigments. These offer customers an exceptional "living-sparkle-effect", high styling potential and consistent quality. The first product of the new generation – Xirallic® NXT Panthera Silver – is a dark-gray, metallic effect pigment, which Merck has been offering since April 2014.

AZ Electronic Materials

In the IC (Integrated Circuit) Materials business, which supplies products for integrated circuit manufacture, AZ has developed a range of products for "Extreme UV Lithography" (EUV) applications which has already been qualified by several customers from the semiconductor industry for their processes. AZ's "shrink" technology makes it possible to reduce lithographically generated structures after patterning, thus circumventing resolution limitations of existing exposure equipment in a cost-effective manner. New products are on the verge of production implementation. AZ is a leader in Directed Self Assembly (DSA), a revolutionary technology which is crucial to all advanced semiconductor manufacturers. In DSA, the information for the smallest structures is already contained in the chemical make-up of the coating material. Additionally, AZ is intensively engaged in developing thick perhydropolysilazane (PHPS) products for 3D-chip-technology as well as novel insulator materials.

The continuous development of flat-panel display technology towards larger formats and higher operating frequencies requires the use of transistors with feature sizes that are at the limit of the resolution capability of the exposure tools. In the Optronics business, AZ has successfully transferred from its IC sector so-called tandem resin technology with a specific molecular weight distribution, thus achieving a photoresist resolution near the theoretical resolution limit. In silicon technology, new siloxane materials are in an advanced stage of qualification as planarization materials for high-resolution displays and as a thin film barrier for OLED lighting.

MERCK MILLIPORE

With nearly 800 employees focused on R&D, Merck Millipore is working with customers to develop innovative solutions for the research, development and production of pharmaceutical and biotech processes worldwide. Through dedicated collaboration on new scientific and engineering insights, Merck Millipore serves as a strategic partner to customers and helps advance the promise of life science.

In 2014, Merck Millipore launched over 20 new products, proving the innovative power of its Research & Development organization, and once again received R&D Magazine 100 Awards for innovative products. The 52nd annual R&D Awards recognize the 100 most technologically significant products introduced onto the market over the past year. The Merck Millipore products that were recognized are the SmartFlare™ detection reagent and Clarisolve® depth filters.

The SmartFlare™ detection reagent is a novel probe capable of detecting specific mRNAs and miRNAs in live, intact cells. This technology allows for carrier-free cellular endocytosis of the reagent, followed by detection and relative quantitative analysis of RNA levels. Because the reagent leaves the cell after the detection event, the same sample can be used for any downstream analysis, meaning it is possible to assess multiple biomarkers or downstream functionalities in the same cells.

Clarisolve® depth filters are specifically tuned to the particle size distribution of various pretreatment methodologies, enabling the fastest and most efficient way to clarify high-density streams and easily transfer processes from upstream to downstream without the use of centrifugation. Clarisolve® depth filters were designed for high cell density / titer mammalian cell culture feed streams for mAb production. Early success has also been achieved in microbial and vaccine applications.

In March 2014, Merck Millipore announced a clinical research, licensing and joint development agreement with Sysmex Corporation of Japan. This collaboration will use Merck Millipore's flow cytometry technology as a platform to accelerate the creation of new, more powerful diagnostic tools for research in blood disorders. If successful, Sysmex and Merck Millipore will collaborate on developing the imaging flow technology platform for future commercialization in hematology.

In the second quarter of 2014, Merck Millipore launched a € 12 million investment in its Molsheim, France facility. This investment will expand Merck Millipore's ready-to-use (RTU) media manufacturing capabilities, better provide security of supplies for customers in the region, and sustain the heipha Hycon product lines. The increased manufacturing capacity will serve global market demand, and will ensure sufficient capacity to support the market growth.

The Bioscience business area launched Simplicon™ RNA Reprogramming Technology, which uses synthetic self-replicating RNA to create large numbers of human induced pluripotent stem cells (iPSCs) using a single transfection step. This efficient reprogramming of somatic cells offers a more defined and safer system for iPSC generation.

The Process Solutions business area expanded Provantage® upstream bioproduction services to the North American market. The expansion provides North American customers with media and feed screening, small-scale material production, and optimization of conditions for scale-up and technology transfer. Process Solutions also announced a new Formulation Lab in India, its first outside of Europe. The Lab is strategically located at Nerul, Navi Mumbai, with easy accessibility from the major pharmaceutical manufacturing centers at Ahmedabad, Goa and Hyderabad. The facilities at the lab are built to provide services and application assistance to the pharmaceutical industry for classical pharmaceutical clients working on solid-dose formulations.

2014 also marked the 40th anniversary of the Steritest™ system, the first closed filtration device for sterility testing. Since introducing the Steritest™ system in 1974, Merck Millipore has improved standards in sterility testing, reducing the risk of false positive and false negative results, increasing reliability and streamlining workflows for microbiologists around the world. As part of the celebration of 40 years of sterility testing, Merck Millipore will be launching three new pumps in 2014.

In August 2014, Merck Millipore and Samsung BioLogics signed a Memorandum of Understanding for a strategic alliance in the biopharmaceutical business. The proposed alliance is intended to encompass a long-term supply agreement in which Merck Millipore will provide raw materials for biopharmaceutical manufacturing.

In the third quarter of 2014, Merck Millipore also announced the opening of a new Biomanufacturing Sciences Training Center (BSTC) facility in Tokyo, Japan. The state-of-the-art facility is designed to help biopharmaceutical companies develop manufacturing processes and find solutions to processing challenges in collaboration with engineers from Merck Millipore. The goal for this facility, now the ninth of its kind for Merck Millipore, is to enhance the customer experience by delivering innovation, quality products, and comprehensive technological support – all major components of our product and service portfolio offering.

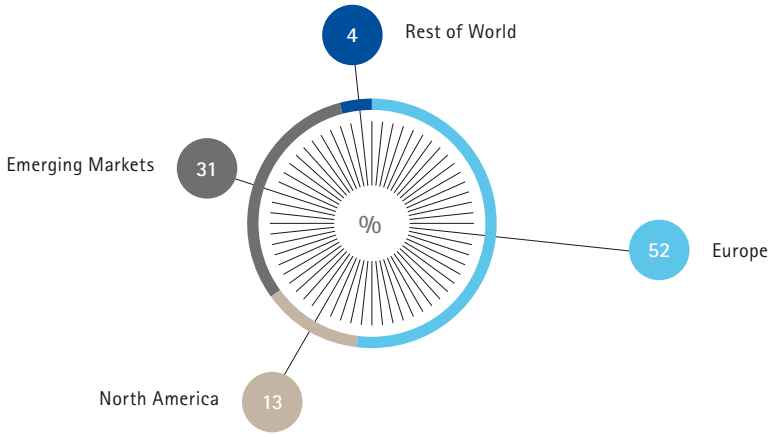
In December, Merck Millipore launched its first round of new large lab water purification systems (AFS) expanding the ability to feed high-throughput analyzers.

EMPLOYEES

Employees are crucial to the success of Merck. We are therefore focusing on recruiting the right employees with the right capabilities at the right time and retaining this talent. Within the context of our Group strategy we also place particular emphasis on talent development, compensation and performance management. In addition, we want to foster employee diversity in order to be optimally positioned to meet future challenges together with our workforce.

As of December 31, 2014, Merck had 39,639 employees worldwide (2013: 38,154.) The slight increase in the number of employees is largely attributable to the integration of AZ Electronic Materials. In 2014, Merck was represented by a total of 146 companies in 65 countries.

DISTRIBUTION OF EMPLOYEES →
BY REGION
in %



Strategic initiative: "ONE Talent Development, Rewards and Performance Management"

Within the framework of the "Fit for 2018" program, Merck launched the capability initiative "ONE Talent Development, Rewards and Performance Management" as part of its Group strategy. The aim is to attract highly qualified graduates from around the world to Merck and to retain them.

Performance management

Merck considers it important to identify employee potential early on and foster it on an individual basis. We want to offer our talent attractive career opportunities, continual personal and professional development as well as prospects within the company. Our processes are also meant to help strengthen the performance culture at Merck and to ensure that internal positions are filled in an even more efficient manner. In 2014, we rolled out the talent and performance management process at Merck globally. The evaluations of all participating employees are now carried out on the same basis and are recorded in a uniform IT system.

In this context we systematically combine talent recognition with the Performance Management Process, which allows us to objectively assess the performance of each individual employee. Clear objectives, differentiated and open feedback, and individual development plans are important prerequisites for personal development, as well as for the success of the company. As of 2015, Merck will be linking the variable bonus more closely with performance. In this way we will create greater incentives for employees to achieve top performance, while at the same time allowing them to participate to a greater extent in the success of the company.

Internal talent development and external recruiting

Through the aforementioned approach, Merck aims to bolster its performance culture and develop talent in a more targeted manner. We succeeded with this again in 2014, expanding our workforce pool to internally fill management positions when they become vacant. In 2014, the vast majority of management position vacancies were also filled by internal candidates. In addition, Merck recruited external executives in order to add new outside perspectives to our long-standing in-house expertise.

Merck is using the motto "Make great things happen" to position itself in the global job market, which conveys to potential applicants a sense of what makes Merck unique: an inspiring, motivating work environment in which innovations thrive; an environment in which everyone has the opportunity to apply their ideas and engagement to benefit customers and the company, while at the same time growing as employees.

Focus areas: Internationality, demographics, gender ratio

In our global markets, we want to hire the right people and retain them. It is also our goal to anchor knowledge about our growth markets within the company. Therefore, as part of our diversity and inclusion strategy, we are focusing on topics such as internationality, demographics and gender balance.

People from a total of 122 different nations work at Merck. Only 27 % of Merck employees are German citizens and 72 % work outside Germany.

In Germany, several other EU countries, the United States, and Japan we must prepare ourselves for demographic change. In these countries, the average age of our employees exceeds 40 – and we assume that this figure will continue to rise in the coming years. In Europe, we are addressing these demographic challenges through various programs. These include adapting workplaces to the needs of older employees and establishing a health management program to maintain their ability to do their jobs. In addition, Merck created the preconditions in 2014 in order to attract the interest of even more young specialists to Merck and to retain them.

Women currently make up 41 % of the workforce. Since the ratio of women to men varies widely across the different regions, divisions and functions, Merck has set itself the goal of increasing the percentage of female employees wherever they are underrepresented. Here we take into account the situation that is typical for the industry as well as regional differences.

A diverse management team

We believe that balanced diversity among management enhances career advancement opportunities for talented employees while also helping to provide a broad experience base within the company. In addition, it allows for differentiated decision-making, thereby making a significant contribution to the success of the company.

As a global company, Merck considers it highly important to have an international management team. Currently, 60 % of our managers – meaning positions rated Global Grade 14 and above in our Global Grading System – have a nationality other than German. Altogether, 67 different nationalities are represented in such positions.

The percentage of management positions held by women (Global Grade 14 and above) is currently 26 % Group-wide. In the subsidiaries outside Germany, this percentage is higher than at global headquarters in Darmstadt. Likewise, more women work in managerial positions in our Pharmaceuticals business than in our Chemicals business. Certain Group functions such as IT have a lower percentage of women in management positions. However, the figures are clearly increasing across Merck as a whole. Merck has reached its strategic goal of raising the percentage of management positions held by women from 25 % to 30 % and intends to further increase this percentage by 2016. In order to achieve this ambition, Merck is implementing numerous measures at local level. In 2014, we filled two of four divisional leadership positions with employees who are not from Germany. In addition, Belén Garijo, a native of Spain, joined the Executive Board and took over leadership of the Healthcare business sector at the beginning of 2015.

Workforce diversity

To us, diversity means much more than having a certain gender ratio and is not only important to us on a managerial level, but also throughout the entire workforce. Together with a culture of inclusion, diversity promotes innovation and improves team performance. In addition to the Chief Diversity Officer, who is responsible for strategically managing diversity within the company, Merck also established the Diversity Council in 2013. This aims to build further buy-in for diversity and inclusion within the company. The council consists of high-ranking managers from all parts of the company. In 2014, the Diversity Council developed the Diversity Framework, which bundles the diversity and inclusion strategies. It focuses on the following topics: recruiting the right people to work for the company, developing and retaining them, promoting efficient collaboration, driving innovations and improvements, and serving customers with diverse needs.

In addition, Merck supports specific employee networks in order to foster exchange among like-minded individuals. In 2014, we launched a project to develop the individual members of the networks in a targeted manner and to utilize the potential of the networks to an even greater extent for Merck's business activities. The results were presented to the Diversity Council and will be implemented in 2015.

Industrial safety

As a responsible employer, it is especially important to us to do everything in our power to prevent workplace-related illnesses and accidents. We apply the lost time injury rate (LTIR) as an indicator to determine the success of measures aimed at accident prevention as well as occupational health and safety. This internationally recognized key performance indicator describes the number of workplace accidents resulting in lost time of more than one day per one million working hours. Merck set itself the goal of reducing the LTIR to 2.5 by 2015. In 2014, we again outperformed this goal, achieving an LTIR of 1.8. This continuous rate of improvement can be particularly attributed to the "BeSafe!" program, which was launched in 2010. "BeSafe!" is a global initiative with harmonized standards and local modules for the specific requirements at individual sites. This program focuses on engaging managers in the safety culture and empowering our employees to take responsibility for their own safety. In 2014, we continued to sensitize our employees to workplace hazards through numerous activities and awareness campaigns.

Since 2010, Merck has been presenting the Safety Excellence Award annually in order to underscore the importance of safety. It is granted to all production sites with no workplace accidents on record for the year. In 2014, 42 out of production 69 sites were recognized. Merck also issued a Group Health Policy in 2014. The aim is to maintain and systematically strengthen the health and performance capability of employees.

Despite our efforts to prevent accidents, there were two workplace accidents resulting in fatalities in 2014. In Venezuela, an employee died in a car accident. In Pakistan, an employee was killed while performing maintenance work on a scissor lift.

Vocational and advanced training

Merck continues to place a great deal of importance on the vocational and advanced training of its employees. In 2014, we therefore also maintained a constant vocational training rate at Darmstadt, Merck's largest site. In 2014, 498 young people were enrolled in vocational training programs at this site, in a total of 24 different occupations. Since 2014, Merck has been giving unlimited employment contracts to all apprentices working in occupations for which Merck has sustainable demand. The hiring rate – taking into account voluntary terminations – has been around 90% for several years now. We also continue to offer vocational training to a large number of young people at other sites.

As part of the "MobiPro-EU" program of the Federal German Ministry of Labour and Social Affairs, for the first time five young people from Spain started an apprenticeship at Merck in Darmstadt in 2014. "Start in die Ausbildung", a German program to prepare young people for an apprenticeship, was continued with 20 interns, the same number as in 2013.

Our global advanced training program ensures that our employees and managers around the world develop the relevant skills that we need in order to implement our company strategy and to continue to succeed in the future. In 2014, we launched special management programs in China and the Middle East, among other things. So far, a total of 160 managers have participated. An example is the "Emerging Markets Management" program for young, local managers, which focuses on business management topics, tailored to Merck.

Work-life balance

Merck wishes to help its employees achieve a good balance between their professional and personal objectives. This maintains and strengthens their motivation and performance potential, enabling them to better schedule their lives to suit their own needs.

In Germany and the United States, Merck offers various flexible working models. In 2013, Merck implemented mywork@Merck at the Darmstadt, Gernsheim and Grafing sites for all exempt employees. The flexible working model aims to strengthen a culture of performance and trust within the company. Employees can choose their working hours and work location freely. In October 2014, this was also extended to non-exempt employees whose positions are suitable for the working model. At the end of 2014, a total of around 3,500 employees benefited from mywork@Merck.

Globally, 5% of our employees worked part-time in 2014. 11% of our part-time employees are men. In addition, Merck offers its employees throughout Germany comprehensive advice and assistance with regard to finding childcare and nursing care, as well as home and garden services. At various sites, employees benefit from childcare options that Merck subsidizes. A daycare center with capacity for 150 children has been operating at the Darmstadt site for more than 40 years, financially supported by the Merck family.