



Science For A Better Life



Annual Report
2016



Fiscal 2016:

Another record year for Bayer – good progress with the acquisition of Monsanto

- > Group sales €46.8 billion (Fx & portfolio adj. + 3.5%)
- > Substantial sales and earnings increases at Pharmaceuticals
- > Consumer Health grows with competition
- > Crop Science successful in a difficult market environment
- > EBITDA before special items €11.3 billion (+ 10.2%)
- > Net income €4.5 billion (+ 10.2%)
- > Core earnings per share €7.32 (+ 7.3%)
- > Operating cash flow €8.3 billion (+ 20.8%)
- > Forecast for 2017: further growth in sales and earnings

Cover picture: The digitization of farming aims to support the efficient and sustainable use of resources. Our cover shows Charles Godoy on his farm near the town of Catalão in Brazil. He monitors his fields on a daily basis so that he can react quickly to problems.

 You can read more in the Magazine section of this Annual Report beginning on page 9.

Key Data

€ million	2015	2016	Change from 2015 (%)
Bayer Group			
Sales	46,085	46,769	+ 1.5
EBITDA ¹	9,573	10,785	+ 12.7
EBITDA before special items ¹	10,256	11,302	+ 10.2
EBITDA margin before special items ¹	22.3%	24.2%	
EBIT ¹	6,241	7,042	+ 12.8
EBIT before special items ¹	7,060	8,130	+ 15.2
Income before income taxes	5,236	5,887	+ 12.4
Net income (from continuing and discontinued operations)	4,110	4,531	+ 10.2
Earnings per share (from continuing and discontinued operations) (€) ¹	4.97	5.44	+ 9.5
Core earnings per share (from continuing operations) (€) ¹	6.82	7.32	+ 7.3
Net cash provided by operating activities (from continuing and discontinued operations)	6,890	9,089	+ 31.9
Net financial debt	17,449	11,778	- 32.5
Capital expenditures	2,511	2,578	+ 2.7
Bayer AG			
Total dividend payment	2,067	2,233	+ 8.0
Dividend per share (€)	2.50	2.70	+ 8.0
Innovation			
Research and development expenses	4,274	4,666	+ 9.2
Ratio of R&D expenses to sales – Pharmaceuticals (%)	16.0	17.0	
Ratio of R&D expenses to sales – Crop Science (%)	10.7	11.7	
Employees in research and development	14,753	15,229	+ 3.8
Employees			
Number of employees ² (Dec. 31)	116,600	115,200	- 1.2
Personnel expenses (including pension expenses) (€ million)	11,176	11,357	+1.6
Proportion of women in senior management (%)	28	29	
Proportion of employees with health insurance (%)	96	98	
Fluctuation (voluntary / total) (%)	5.0 / 13.9	4.6 / 12.3	
Hours of vocational and ongoing training per employee	20.0	22.1	+10.5
Safety & Environmental Protection			
Recordable Incident Rate (RIR) for Bayer employees	0.42	0.39	- 7.1
Loss of Primary Containment Incident Rate (LoPC-IR) ³	0.22	0.32	+ 45.5
Total energy consumption (terajoules)	83,182	84,494	+ 1.6
Energy efficiency (MWh/t) ⁴	6.34	6.77	+ 6.8
Total greenhouse gas emissions (CO ₂ equivalents in million t) ⁵	9.71	9.87	+ 1.6
Specific greenhouse gas emissions (CO ₂ equivalents in t / manufactured sales volume in t), according to the market-based method ⁶	1.69	1.54	- 8.9
Hazardous waste generated (thousand t)	541	547	+ 1.1
Water use (million m ³)	346	330	- 4.6

2015 figures restated; figures for 2012-2014 as last reported

¹ For definitions of the indicators see Chapter 2.4

² Employees calculated as full-time equivalents (FTEs)

³ Number of incidents per 200,000 working hours in which chemicals leak from their primary container, such as pipelines, pumps, tanks or drums

⁴ Quotient of total energy consumption and manufactured sales volume; Life Sciences only

⁵ Direct emissions from power plants, waste incinerators and production plants and indirect emissions from external supplies of electricity, steam and refrigeration (according to the market-based method); portfolio-adjusted in accordance with the GHG Protocol

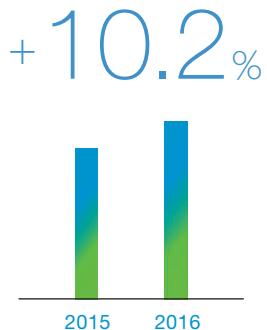
⁶ Life Sciences without Currenta

At a Glance

Sales¹



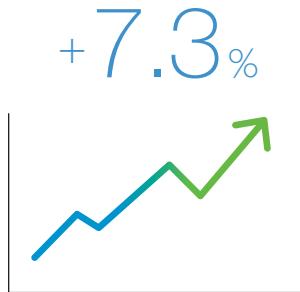
EBITDA Before Special Items¹



Net Income¹

+10.2%

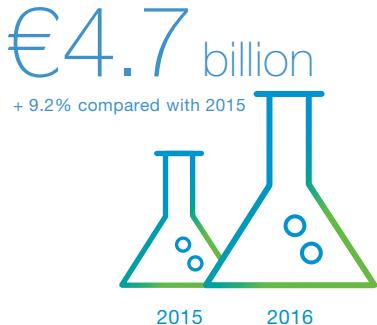
Core Earnings per Share¹



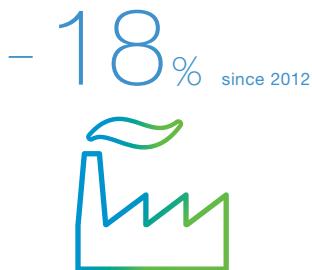
Supplier Management³



Investment in Research and Development



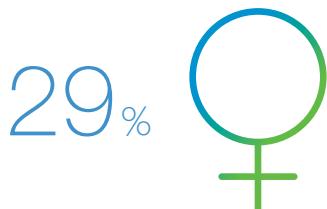
Specific Greenhouse Gas Emissions⁴



Work-Related Accidents



Proportion of Women in Senior Management



¹ Change from 2015; 2015 figures restated ² Currency- and portfolio-adjusted ³ Life Sciences ⁴ Life Sciences without Currenta

Chairman's Letter

Innovation is our core competence

Dear stockholders and friends of Bayer:

I am pleased to present to you Bayer's annual report for fiscal 2016. It has been a very exciting and intensive year – for me personally as well because I became Chairman of the Board of Management in May.

I would like to thank the entire Board of Management, which started working in its new constellation at the start of last year, for its commitment to the company. Creating an integrated organizational structure and appointing the heads of the divisions to the Board of Management have proven to have been the right steps at the right time. We have a very good management team that works extremely well together.

I would also like to thank the members of the Supervisory Board for our trust-based cooperation and all our employees, who displayed great commitment and personal dedication in making 2016 another successful year for Bayer.

In 2016, we again substantially raised both sales and earnings and thus posted a new record for our operating performance. Group sales increased by a currency- and portfolio-adjusted 3.5 percent to €46.8 billion and clean EBITDA rose by 10.2 percent to €11.3 billion. Core earnings per share advanced by 7.3 percent to €7.32.

At Pharmaceuticals, sales rose by an encouraging 8.7 percent on a currency- and portfolio-adjusted basis, with our five key growth products again making a significant contribution to growth. XareltoTM, EyleaTM, XofigoTM, StivargaTM and AdempasTM posted combined sales of €5.4 billion, compared with €4.2 billion in 2015. We raised our assessment of the combined peak annual sales potential of these five products from our previous estimate of at least €7.5 billion to more than €10 billion.

Adjusted for currency and portfolio effects, sales at Consumer Health advanced by 3.5 percent. This division posted substantial gains in Latin America and Asia/Pacific in particular.

Despite a weak market environment, Crop Science sales matched the prior-year level. Seeds expanded business significantly and Environmental Science also posted gratifying sales gains. Animal Health grew sales by a currency- and portfolio-adjusted 4.8 percent.

Covestro remains fully consolidated on account of our continued majority interest of around 64 percent at present. This business posted currency- and portfolio-adjusted sales on a level with the prior year. We are very pleased with the way Covestro has developed since its stock market listing in October 2015. It confirms that separating the two enterprises was the right move for both of them. Thanks to its very good business performance, Covestro has successfully established a good position on the capital market in its first year of independence; Bayer has excellent growth perspectives resulting from its focus on the



Bayer CEO Werner Baumann

Life Sciences. It remains our intention to divest our entire interest in Covestro in the medium term.

A particular highlight of 2016 was the agreed acquisition of Monsanto, which is intended to further strengthen Bayer as a Life Science company and create substantial additional value in the long term for you, our

stockholders, through more innovation, stronger growth and greater efficiency. The two businesses are highly complementary, both in terms of their geographical fit and their product portfolios.

It is a good step for Bayer as a whole since the two companies' combined expertise will improve our ability to help address one of the most urgent issues of our time: how to feed the some ten billion people who are expected to be living on our planet by 2050.

Together with Monsanto, we would be better able to provide farmers worldwide with a product offering that is tailored to their needs and offers them genuine added value: from the right choice of seeds through seed treatment to controlling weeds, pests and plant diseases. With regard to the increasing digitization of farming, Monsanto will give us valuable expertise.

We are confident that we will be granted all the necessary antitrust clearances enabling us to close the transaction before the end of 2017. The acquisition is to be financed through a mix of debt and equity. In November 2016, we successfully placed mandatory convertible notes as a first equity measure in this connection.

Despite the large investment being made to acquire Monsanto, we will continue to pursue organic growth in Pharmaceuticals, Consumer Health and Animal Health. The necessary funding will also be available for investments at our sites as well as for smaller acquisitions and in-licensing.

It goes without saying that this applies to research and development as well. In 2016, we again increased R&D spending in the Life Science areas to €4.4 billion. And we are planning a further increase in the current fiscal year because innovation is our core competence. In the Life Science areas in particular, there is great demand for new products

and solutions. For example, better treatments are needed for conditions such as cancer and cardiovascular disease. Likewise, solutions are required to achieve the necessary increase in agricultural productivity and feed the growing world population. In addition, investments in self-care are designed to keep our aging population healthy and contribute to the sustainability of public health care systems around the world.

Our investments in research together with targeted in-licensing are the basis for our long-term growth – as shown by the projects which have made it into our development pipelines. At Pharmaceuticals, for example, we estimate the combined peak annual sales potential of six promising product candidates in the mid- to late-stage pipeline to be at least €6 billion. And the combined peak sales potential of Bayer's crop protection and seed technology pipelines should total more than €5 billion from products that have been or will be brought to market between 2015 and 2020.

Today, any company wishing to remain at the cutting edge of scientific and technological development needs excellent partners. For this reason, we maintain a network of collaborations and strategic alliances with leading universities, public research institutes, partner companies and start-ups. Last year, for example, we concluded a cooperation agreement with Danish company FaunaPhotonics. Together we are seeking to develop novel sensor solutions which will improve farmers' ability to monitor the development of pest populations and thus control pests more effectively.

Another example is the joint venture named BlueRock Therapeutics we established with Versant Ventures with combined funding of US\$225 million to develop stem cell therapies for curing a range of diseases. BlueRock Therapeutics is the second large investment made by the Bayer Lifescience Center, which has the mission to rapidly uncover, encourage and unlock fundamental scientific breakthroughs in medicine and agriculture.

We are aware that our employees are the basis for everything we do. It is their creativity, knowledge and commitment which shape Bayer's performance ability. We therefore invest a great deal of effort in recruiting and retaining the best employees for Bayer. To this end, we provide an attractive working environment and have built a creative corporate culture that is characterized by diversity and internationality, customer focus, experimentation, collaboration and trust.

Another reason our people enjoy working for Bayer is because they know that sustainability and social responsibility are firmly anchored in our corporate culture. We have committed to upholding the basic tenets of sustainable development and the Ten Principles of the United Nations Global Compact. Each year, we contribute to society through our wide-ranging humanitarian commitment and social sponsorship activities. One example of this is our range of initiatives aimed at supporting refugees living in Germany. At our sites in Leverkusen and Berlin, we have established projects to prepare young refugees for subsequent vocational training.

Our commitment to social responsibility is also shown through our daily collaboration with smallholder farmers across the world. We support them through numerous initiatives, especially in Africa and Asia. Our expertise helps them to grow more food and market their produce more effectively – thus generating a higher income.

As you can see, Bayer is making good progress in every respect. However, we need a reliable regulatory environment if we are to remain successful in the long term. To this end, legislators will have to make clever decisions focused on growth and prosperity. We need a Europe that is flourishing and fit for the future so we will have to inject new strength

into the European ideal. The debate on how to achieve this has only just begun. We view it as a matter of course that we as a company should actively, openly and transparently contribute to the discourse on important social and political issues.

On behalf of the entire Board of Management, I would like to thank you – our valued stockholders – for the continuing confidence you have placed in Bayer.

Sincerely,

Werner Baumann

Werner Baumann

Chairman of the Board of Management of Bayer AG

Magazine

Innovation is a cornerstone of Bayer's success and critical to achieving our mission of "Science For A Better Life." Through our innovations, we are helping to solve the major challenges of our time. With a view to further strengthening Bayer's culture of innovation, we have identified four Focus Behaviors: customer focus, collaboration and experimentation – all underpinned by trust.

Customer Focus

Experimentation



Focus on
Innovation

Trust

Collaboration

Experimen- tation

Passion to innovate: research scientist
Lara Kuhnke from Bayer's Pharmaceuticals
Division in a Berlin laboratory.



Trust

Patient Prasanna Oommen
trusts her physician and
Bayer's innovative medicines.



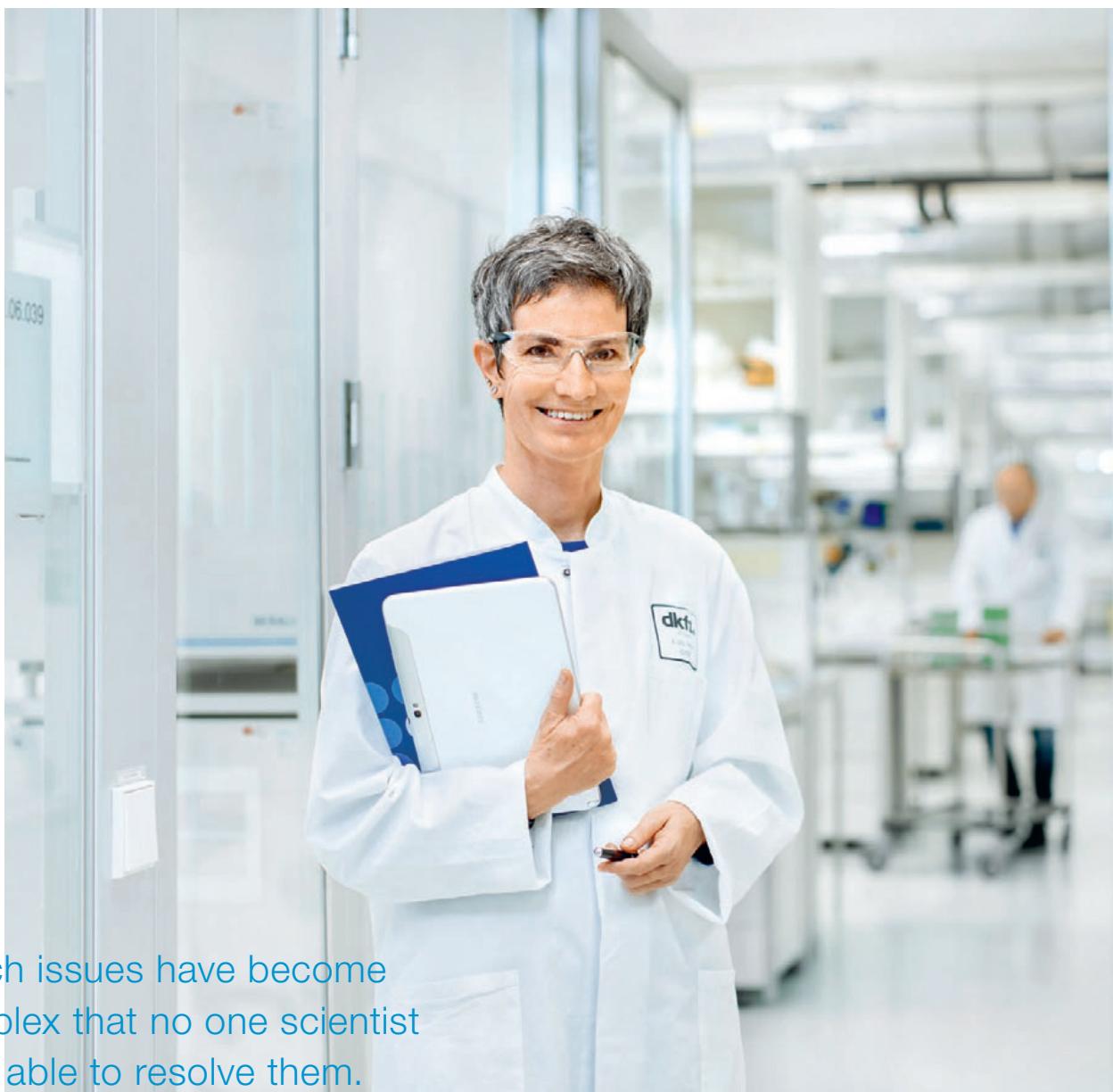
Customer Focus

Düsseldorf pharmacist Petra Jeremias advises a customer.



Collaboration

Working toward a common goal:
Jose-Miguel Robles-Turiel from Bayer's Crop Science Division
and colleague Mira Begic in a meeting.



Research issues have become so complex that no one scientist alone is able to resolve them.

Dr. Ruth Wellerreuther, alliance manager at the DKFZ

Fighting cancer

Oncology research at Bayer is committed to improving the lives of cancer patients. Bayer's researchers are working together with external partners to develop new therapeutic approaches to this disease.



You will find a video of the two Heidelberg-based cancer researchers in our Online Annual Report at www.bayer.com/ar-cancer

We develop therapies that enable the patient's body to detect cancer cells and then defeat them itself.

Dr. Rafael Carretero, cancer researcher at Bayer

In the Heidelberg laboratory run jointly by Bayer and the German Cancer Research Center (DKFZ): Alliance manager Dr. Ruth Wellenreuther (left) and Dr. Rafael Carretero (right).



Areas of oncology research at Bayer

**Antibody-drug conjugates**

Certain proteins occur more frequently on the surface of cancer cells than in healthy cells. Bayer researchers are developing molecules called antibody-drug conjugates which recognize these proteins. Like a Trojan horse, they dock onto the cancer cells and destroy them with a cell toxin. Antibody-thorium conjugates work in a similar way and transport radioactive thorium-227 to the cancer cells. The resulting energy-rich alpha particles destroy the cancer cells. By using different antibodies, conjugates can be developed for various tumor types.

**Blocking oncogenic signaling pathways in specific tumor types**

The multiplication of cancer cells is to be halted by intervening in their key molecular processes. One approach aims to block the signaling pathways which prevent cancer cell death and often result in mutations, while another approach seeks to exploit the differences in the metabolic activity of tumor cells. A third approach is investigating cancer stem cells that may result in the development of resistance mechanisms and the failure of chemotherapy and radiation therapy. And a further approach is focused on the epigenetic changes which play a role in malignant cancers. Bayer scientists are working to understand these processes better so they can reverse harmful modifications in diseased cells.

**Immuno-oncology**

Every day, cancer cells are formed in the human body because of a genetic predisposition or as a result of exposure to cigarette smoke, UV radiation or other environmental influences. They are usually eliminated by the immune system's cells. In certain cases, however, they can evade the immune response and become a harmful tumor. Bayer researchers are working mainly in collaboration with scientists from the DKFZ on approaches leading to a reactivation of the immune system to eliminate the tumor cells without affecting healthy nontumoral cells. The immune system's memory function may result in long-term therapeutic success.

The moment my best friend was told his mother had died is one I'll never forget. We were at school together at the time," remembers Dr. Rafael Carretero. Rafael and Francisco were like brothers. They lived close to each other in the same neighborhood in Granada, Spain, played soccer in the street and spent the summers together with their parents, either hiking in the Sierra Nevada or

Carretero is now 33, a molecular biologist and scientific manager of a laboratory run jointly by Bayer and the German Cancer Research Center (DKFZ). Its 12 employees on the sixth floor of the DKFZ's state-of-the-art building in Heidelberg, Germany, are conducting research to determine how the body's own immune system can be reactivated to combat tumor cells. This approach was also the subject of Carretero's PhD at the Hospital Universitario Virgen de las Nieves in Granada. The battle against cancer has been the common thread through his life. "We want to develop therapies that enable the patient's body to detect cancer cells and then fight them itself without harming healthy cells at the same time," he explains.

We are working to develop innovative treatments for patients with serious diseases such as cancer in order to extend their lives and improve their quality of life.

Professor Andreas Busch, head of Drug Discovery at Bayer

on the beach at La Herradura. But then Rafael experienced how his best friend's warm-hearted and cheerful mother suffered the side effects of chemotherapy and radiation therapy before dying – much too young – of breast cancer. "That hit me really hard and was one of the reasons why I decided to devote my life to fighting cancer – so that other people would be spared this fate," says the Bayer researcher.

What's special about the laboratory in Heidelberg is that scientists from both Bayer and the DKFZ work side by side. "This allows us to pick up on novel research findings as early as possible so that they can be channeled into drug development," explains Dr. Ruth Wellenreuther, alliance manager at the DKFZ. "Research issues have become so complex that no one scientist alone is able to resolve them. Our scientists identify potential new drug targets, and Bayer has extensive libraries of substances and antibodies. The two

parties' respective expertises complement each other ideally, which enables us to reach our objective more quickly."

The joint laboratory is one aspect of a partnership that has been in existence since 2009. Wellenreuther was involved in developing the framework for the collaboration. "This is an alliance between equals. We clarified all the structural and legal issues right at the beginning, so when we identify a new target we can move straight on to searching for suitable active ingredients." The partnership has already been successful: The first active ingredient to treat brain tumors and leukemia has been undergoing clinical testing in patients for several months now. The substance recognizes proteins that are found only in cancer cells in a subset of patients, an approach that could enable the development of effective, patient-specific therapies.

"We are working to develop innovative treatments for patients with serious diseases such as cancer in order to extend their lives and improve their quality of life," says Professor Andreas

Busch, member of the Executive Committee of Bayer's Pharmaceuticals Division and head of Drug Discovery. "Our particular strength at Bayer is that we have strong expertise in identifying active ingredients and taking them through all phases of clinical development up to and including drug approval, for the benefit of the patients."

In the battle against cancer, Bayer is pursuing three main approaches (see page 14): blocking signaling pathways that lead to uncontrolled cell division; selectively docking molecules onto cancer cells to trigger their targeted destruction; and reactivating the immune system to eliminate cancer cells itself. This latter approach is the focus of the research by Carretero and his colleagues. "Our understanding of cancer is constantly improving, but there are still plenty of unanswered questions," says Carretero, before turning his attention to the next test findings from the laboratory. "Our goal is to make cancer curable or be able to transform it into a chronic disease by providing therapeutics that keep tumor cells in check."

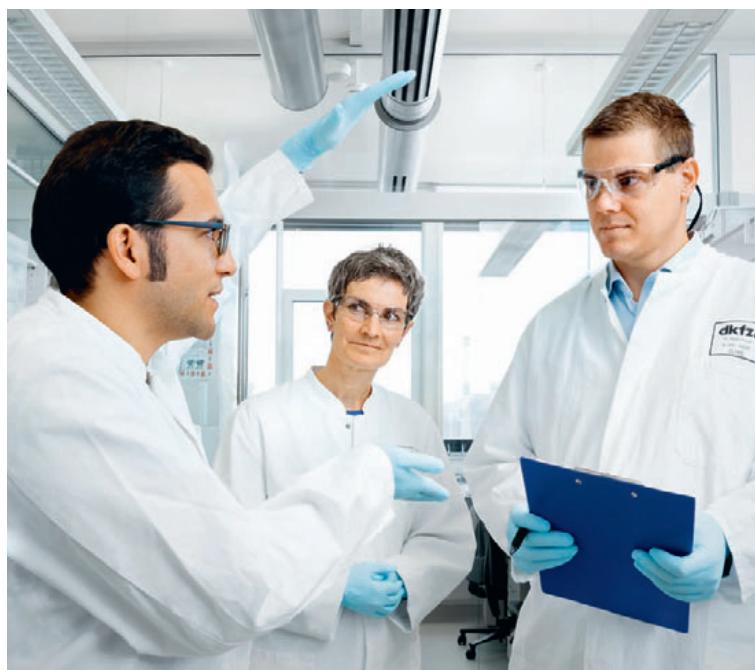
8.2 million

people died of cancer in 2012, according to the World Health Organization (WHO). In the same year, 14.1 million people were newly diagnosed with cancer.

5 years

In 2012, according to WHO, 32.6 million people worldwide had been living with cancer for five years.

Source: International Agency for Research on Cancer, World Health Organization



Dr. Rafael Carretero (left) from Bayer in conversation with Dr. Ruth Wellenreuther and Dr. Stefan Pusch from the German Cancer Research Center in Heidelberg, Germany.



Allergies – a common disorder

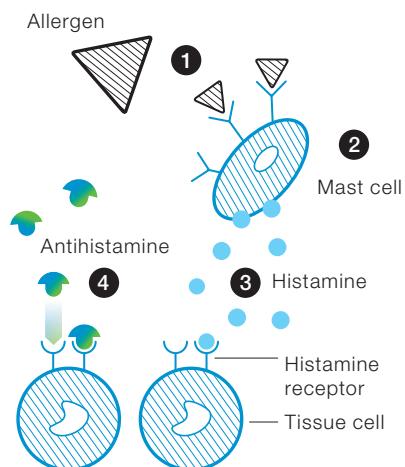
Between 10 and 20 percent of people worldwide (with regional variations) have upper respiratory allergies, the symptoms of which often impact their daily lives. Bayer markets well-known and easy-to-use products to effectively relieve these allergy symptoms.

Lulu knows she shouldn't be on the sofa. "Get down from there!" commands Jennifer T. Lulu understands straight away. The black bulldog mix with the trusting eyes knows she has done something wrong and shoots a guilty glance at her owner before exiting the room. All that remains on the sofa are black dog-hairs, and until a few years ago this would have been a major problem. Jennifer is allergic to dogs and cats.

It took her a while to realize this. When she was a student at New York University, she caught a cold – or at least, she thought that was what she had. The symptoms suggested as much, but they refused to go away even after several weeks. An internist in Manhattan correctly diagnosed the then 22-year-old's condition: Her immune system overreacts to normally harmless substances. Like many other sufferers, she is allergic to pollen and animal hair. "Finally I knew what was going on. But it was also a shock. I grew up spending tons of time outdoors with my German Shepherd, a Yorkshire Terrier and a Labrador. Now I could no longer even visit friends who had pets."

Jennifer quite simply doesn't have time for allergies. The single mother lives with her daughters Molly (9) and Lindsey (6) about an hour by car from New York City. The 42-year-old's days are tightly scheduled. The alarm clock rings shortly before 7. Mom makes breakfast, gets her daughters ready for school and then goes jogging or heads over to her gym or her yoga school, both of which are only a few minutes away. "I don't have time for long drives." Then she starts work in her office adjacent to her kitchen. Jennifer is vice president of an association that helps students repay their loans. Her clients attend colleges on the East Coast of the United States, from Maine to Maryland. Once a month, she travels to the association's headquarters in the Midwest.

Allergies and their treatment with antihistamines



An allergy is a hypersensitive reaction of the body's immune system to ordinarily harmless substances known as allergens. The immune system responds to these substances as if they were dangerous. They trigger a defense reaction by the body to, for example, pollen protein. Following initial contact with the allergen, the body develops corresponding antibodies.

1 – If an allergen comes into contact with the body again, it is recognized by the mast cells of the body's defense system, which are found especially in the mucous membranes.

2 – Already sensitized by the initial contact, the mast cells have formed large numbers of special receptors for the allergen. Mast cells release histamine, which serves as a messenger for the surrounding tissue.

3 – Histamine then docks onto the receptors in the tissue cells, which then trigger the immune response. The body reacts with allergy symptoms.

4 – Antihistamines like loratadine, the active substance in Claritin™, block histamine from docking onto its receptors, thereby hindering the cascade triggered by allergens.



Regular relaxation:
as often as possible
Jennifer T. attends a
yoga class with
instructor Fiona.



Despite her very busy professional life, Jennifer is also a class mom at her daughters' school and a Girl Scout Daisy Troop leader. She lives an active life despite her allergies – and now she has Lulu, a two-year-old crossbreed she got from an animal sanctuary. "I want my daughters to grow up with a pet. Dogs provide unconditional love and teach us how to take responsibility. That's important to me."

For Jennifer, spring is a particularly difficult time. "I used to have to sneeze all the time, my nose would run." She tried out lots of things to control her allergy symptoms. "Then I started using Claritin™. It's exactly right for me. I can be there for my children and I can do my job and live my life without my allergies holding me back."

"We know the symptoms that affect allergy sufferers: itchy, watery eyes, sneezing, a runny or itchy nose. They can have an enormous impact on their daily routine and quality of life," says Jay Kolpon, Global Category Business Unit Leader, Allergy. "We want to relieve sufferers from these symptoms. Our purpose is to enable them to embrace life with all their senses. Jennifer's story is a wonderful example of how our products help people live a better life."



Family time in the garden: Jennifer with daughters Molly (right) and Lindsey (left) on their climbing tree – Lulu the dog often joins in (photo at left).



Our video shows how Bayer's nonprescription medicines help patients lead an active life:
www.bayer.com/allergy



Round the clock

Bayer's Claritin™ family of products is available in more than 100 countries worldwide. Claritin™ is the market leader in the world's largest OTC market, the United States. Indications and trademarks vary from country to country. In the United States, Claritin™ provides 24-hour nondrowsy relief from runny nose, sneezing, itchy, watery eyes, and itchy nose or throat, helping sufferers to actively enjoy their daily lives both indoors and outdoors. Claritin-D™ 12- and 24-hour products relieves the same symptoms as Claritin™, plus nasal congestion and sinus congestion and pressure.

Allergies are on the rise

Up to 30 percent of all adults suffer from allergic rhinitis according to the World Allergy Organization and these figures are set to rise.



Best-selling product

Claritin™ is the Consumer Health Division's best-selling brand globally.



1899

Consumer Health can look back on a long tradition in the self-care market. It began in 1899 with the launch of Aspirin™, Bayer's world-renowned iconic brand.

Smart fields

The world's population is growing, but the amount of farmland available per head is shrinking. Agricultural productivity will have to increase if we want to safeguard our food supply in the long term. Digitalization in farming can help us deploy our resources efficiently and sustainably, enabling farmers to get the best out of their fields with minimal environmental impact.



Agriculture is in the grip of a revolution. Modern farmers are using digital information to optimize harvest yields. All of this information is stored in a cloud so it can be accessed by farmers on the move. The photo shows farm manager Ediney Afonso Dias in a soybean field in Brazil.



Humming quietly, the drone hovers over the field, the lens of its camera surveying the ground below it. Not 200 meters away, a twin-engined Piper stands in its hangar. The propeller plane is much faster, but the drone is better for this job. The remote-controlled aircraft's camera delivers high-resolution images from every corner of the soy fields, much better than the Piper could. If a problem comes up, Ediney Afonso Dias can react immediately. The Brazilian agronomist can then take targeted action to control weeds, fungal diseases and pests without having to treat the entire field. "Cutting-edge, sustainable agriculture needs lots of accurate information," says Dias. "Now we don't have to use crop protection agents on large areas when only certain sections are affected. That's good for us farmers and for the environment."

Dias, a graduate of the Universidade Estadual de Goiás in Brazil, has been working on Francisco and Charles Godoy's farm near the town of Catalão in the South American country for four years. A look at his office reveals the 24-year-old's structured approach to farm management. On the walls are whiteboards for each of the ten farms belonging to the Agricola Godoy company, which have a total area of 12,500 hectares. Each farm is divided into plots. For each plot, Dias has noted in detail how the soil was prepared for sowing, which soybean variety was planted, and what fertilizers and crop protection products have been deployed. The information on the walls is the roadmap for a successful harvest in 2017.

Dias' desk overlooks the barn used to store the harvest, which is currently still empty as the big harvesters wait for their turn to get to work. Everything is well prepared for achieving ambitious objectives. Dias plans to increase this harvest's yield by around five percent, without having to use any additional farmland. "Our



The soybean plants look healthy to Joao Miguel (right) and Daniel Tablas, Bayer's representative in Catalão, Brazil. The farm plans to increase yields using modern technologies.



70%

New technologies and the internet will make it possible to increase agricultural productivity by up to 70 percent through 2050 (Beecham Research).

225 million

In 2024, 27 billion interconnected devices will be in use worldwide in the most varied of applications. 225 million will be used in agriculture (Machina Research).

Farm manager Ediney Afonso Dias (photo left) in his office. Data are transmitted to the on-board systems of tractors controlled by GPS technology (below). The photo at right shows Francisco Godoy (2nd from left), his son Charles (right) and his grandsons Charles Francisco and José Victor next to his twin-engined Piper.



objective is to increase productivity from 66 to 68 or 70 bags per hectare,” he explains. An important goal, given that the amount of agricultural land available per head worldwide is falling while the global population is growing.

New digital technologies can enhance efficiency. “We monitor our fields every day so that we can quickly intervene if there is a need for action,” says Charles Godoy, who is in charge of the farm’s operational business and 40 employees. The 43-year-old has been passionate about farming ever since he was 12. “In the old days, we would simply drive through the fields in the tractor and pull out any weeds. Now we can use data from satellites and drones to boost our productivity.”

Infrared images, for example, provide information about the status of the plants. Healthy plants have a higher chlorophyll content and appear red in the images. In addition to the satellites and drones, sensors on the state-of-the-art tractors and harvesters provide vital data on soil condition and plant health. These data flow into the digital applications that Bayer is developing to help farmers around the world pursue efficient, sustainable agriculture.



A video demonstrating the use of new technologies on Charles Godoy’s farm in Brazil can be found at www.bayer.com/farming

“We provide information which enables farmers to rapidly take decisions tailored to each individual field,” explains Tobias Menne, head of Digital Farming at Bayer. “It ranges from helping them to select the right crop variety to determining the ideal time for crop protection measures and recognizing plant stress factors at an early stage.” All of this information is compiled by the farm manager and transmitted to the tractors and machinery in the fields which already today are controlled using GPS technology. The driver in the cab knows at all times exactly where an active ingredient has to be applied. This is precision agriculture, with no waste of resources. “Digital farming offers enormous opportunities,” says Menne. “We can compare the current data with the values from previous growing periods, allowing farmers to react earlier to changes, initiate counter-measures in good time and thus prevent harvest losses. And it can be used by both small-scale and large operations.”

Charles Godoy has just one goal: “I want to leave my two sons Charles Francisco and José Victor a farm that is operating to the highest technical standards.” And then he will just use his plane for fun.

Contents

To our Stockholders

Chairman's Letter	1
Magazine	9
About this Report	26
Board of Management	28
Report of the Supervisory Board	30
Investor Information	35

A Combined Management Report

1. Fundamental Information About the Group	39
1.1 Corporate Profile and Structure	39
1.1.1 Corporate Profile	39
1.1.2 Corporate Structure	42
1.1.3 Value Creation	43
1.2 Strategy and Management	44
1.2.1 Group Strategy and Targets	44
1.2.2 Management Systems	50
1.2.3 Sustainability Management	50
1.3 Focus on Innovation	53
1.4 Sustainable Conduct	63
1.4.1 Commitment to Employees and Society	63
1.4.2 Responsibility in Value Creation	70
1.4.2.1 Procurement and Supplier Management	71
1.4.2.2 Production and Logistics	73
1.4.2.3 Marketing and Distribution	75
1.4.3 Safety for People and the Environment	76
1.4.3.1 Product Stewardship	77
1.4.3.2 Safety	82
1.4.3.3 Environmental Protection	84

2. Report on Economic Position	90
2.1 Overview of Business Performance	90
2.1.1 Target Attainment 2016	90
2.1.2 Economic Position of the Bayer Group	90
2.1.3 Key Events	90
2.1.4 Economic Environment	91
2.2 Earnings; Asset and Financial Position of the Bayer Group	92
2.2.1 Earnings Performance of the Bayer Group	92
2.2.2 Business Development by Segment	95
2.2.3 Value-Based Performance	106
2.2.4 Asset and Financial Position of the Bayer Group	107
2.3 Earnings; Asset and Financial Position of Bayer AG	110
2.3.1 Earnings Performance of Bayer AG	111
2.3.2 Asset and Financial Position of Bayer AG	112
2.4 Alternative Performance Measures Used by the Bayer Group	114
3. Report on Future Perspectives and on Opportunities and Risks	117
3.1 Future Perspectives	117
3.1.1 Economic Outlook	117
3.1.2 Corporate Outlook	119
3.2 Opportunity and Risk Report	120
3.2.1 Group-wide Opportunity and Risk Management System	120
3.2.2 Opportunity and Risk Status	123
3.2.3 Planned Acquisition of Monsanto	130
3.2.4 Overall Assessment of Opportunities and Risks by the Board of Management	131

4. Corporate Governance Report	132
4.1 Declaration by Corporate Management pursuant to Section 289a and Section 315, Paragraph 5, of the German Commercial Code	132
4.2 Compliance	134
4.3 Compensation Report	135
4.3.1 Compensation of the Board of Management	135
4.3.2 Disclosures Pursuant to the Recommendations of the German Corporate Governance Code	144
4.3.3 Compensation of the Supervisory Board	147
4.3.4 Further Information	149
4.4 Takeover-Relevant Information	149

B Consolidated Financial Statements

Bayer Group Consolidated Income Statements	152
Bayer Group Consolidated Statements of Comprehensive Income	153
Bayer Group Consolidated Statements of Financial Position	154
Bayer Group Consolidated Statements of Changes in Equity	155
Bayer Group Consolidated Statements of Cash Flows	156

Responsibility Statement	157
Independent Auditor's Report	158

C Further Information

Governance Bodies	167
Organization Chart	170
Glossary	172
Five-Year Summary	174

Financial Calendar and Masthead

About this Report



This integrated Annual Report combines our financial and our sustainability reporting. Our aim is to elucidate the interactions between financial, ecological and societal factors and underline their influence on our company's long-term development, thus providing our stakeholders with comprehensive and transparent information. The consolidated financial statements of the Bayer Group as of December 31, 2016, comply with the International Financial Reporting Standards (IFRS) valid at the closing date and with the provisions of the German Commercial Code in conjunction with German financial reporting standards. With due regard to these provisions, the combined management report provides an overview of the financial position and results of operations of the Bayer Group. The Compensation Report for the Board of Management and the Supervisory Board complies with the recommendations of the German Corporate Governance Code. The consolidated financial statements and the combined management report are published in line with statutory disclosure requirements. The Bayer Group's sustainability

reporting complies with the "comprehensive" option of the G4 Guidelines of the Global Reporting Initiative (GRI) and is aligned to the ten principles of the U.N. Global Compact (UNGC). The detailed GRI content index with the corresponding UNGC principles can be found in the "Further Information" section in the augmented version of the Annual Report. Online we also publish a separate PDF file with a summary of the U.N. Global Compact Progress Report based on the criteria of the Blueprint for Corporate Sustainability Leadership.

Our reporting is also aligned to international guidelines and recommendations, including those on the definition and selection of nonfinancial indicators and on reporting such as those of the OECD and the ISO 26000 standards. In selecting and measuring our key data we also take into account the recommendations of the European Federation of Financial Analysts Societies (EFFAS) in the case of nonfinancial indicators, and those of the Greenhouse Gas Protocol regarding greenhouse gas emissions. We also consider the recommendations of the World Business Council for Sustainable Development (WBCSD) and the European Chemical Industry Council (Conseil Européen de l'Industrie Chimique – CEFIC). For 2016 we will again submit a declaration of conformity with the German Sustainability Code.

Data collection and reporting thresholds

We collected the data of all relevant organizational units and companies worldwide that fell within the scope of the Bayer Group's consolidated financial statements between January 1, 2016, and December 31, 2016. Covestro has established its own corporate organization that functions according to a similar system and comparable processes to those at Bayer. Facts and figures pertaining to Covestro are included in all chapters unless otherwise stated.

We mainly use SAP systems to collect financial data worldwide. We use the global SAP HR information system and the associated reporting application – the Sustainability Management Annual Reporting Tool (SMART) – to collect HR indicators and social data. All HSE (health, safety and environmental protection) performance indicators for the Group are collated in our Group-wide site

information system (BaySIS). The HSE data cover all fully consolidated companies in which Bayer owns at least 50% of the shares.

Data on occupational injuries, transport accidents and environmental incidents are collected at all sites worldwide. Environmentally relevant indicators are measured at all production sites and at relevant research and development sites. In accordance with IFRS 5 (Non-current Assets Held for Sale and Discontinued Operations), financial indicators are given for continuing operations unless otherwise explicitly stated. The same applies to HR indicators and our social data. In the case of HSE indicators, the value shown is the total for the Bayer Group unless otherwise reported. In 2016, the Bayer Group amended its regions. Europe is reported together with the Middle East

and Africa. Latin America is a separate region. This reflects the regional responsibilities of the individual members of the Board of Management of Bayer AG. The prior-year figures are restated accordingly. As the indicators in

this report are stated in accordance with commercial rounding principles, totals and percentages may not always be exact.

External verification

PricewaterhouseCoopers AG Wirtschaftsprüfungsgesellschaft has audited the consolidated financial statements (including the notes thereto) of Bayer AG, Leverkusen, and the combined management report for the fiscal year from January 1, 2016, to December 31, 2016, and has issued an unqualified opinion. All the online annexes that

supplement the management report in the augmented online version of the Bayer Annual Report 2016 ("Annual Report 2016 – Augmented Version") for the fiscal year from January 1 to December 31, 2016, have been reviewed by PricewaterhouseCoopers AG Wirtschaftsprüfungsgesellschaft on a limited assurance basis.

Additional information

The integrated Bayer Annual Report 2016 is available in a print version ("Annual Report 2016") and in an augmented online version ("Annual Report 2016 – Augmented Version"). The online version contains the notes to the consolidated financial statements of the Bayer Group, along with additional information. The print version contains numbered online annexes which refer the reader to additional information in the Augmented Version. You can enter

these numbers in a search mask on any page of the online Annual Report to directly access the annexes. Both versions of the Annual Report are available in PDF format for download from the Bayer website. For further guidance, the Annual Report contains references to other chapters, to (Bayer) websites and, in the Augmented Version, to GRI G4 Materiality Disclosures.

▼ Online annexes



↗ Cross-references within the Annual Report



🔗 References to websites



↗ Group target

The "Annual Report 2016 – Augmented Version" can be found at www.bayer.com/AR16

The app of the "Annual Report 2016 – Augmented Version" is available on the iTunes and Google Play stores. Please search for "Bayer Integrated Reports."

Board of Management



Erica Mann Consumer Health

Erica Mann holds a degree in analytical chemistry and a marketing diploma from her studies in Johannesburg, South Africa. She began her career with Eli Lilly & Company and held positions at Johnson & Johnson, Lederle Laboratories and Wyeth before moving into senior management at Pfizer in the United States. She became head of Consumer Care at Bayer HealthCare in 2011. She was appointed to the Bayer Board of Management in January 2016.

Johannes Dietsch Finance

Johannes Dietsch completed his training with Bayer as a commercial assistant and business administrator in 1984. He subsequently held various managerial positions within the company, including one in Japan. In 2002, Dietsch took over as head of the Finance Department in the Corporate Center. He became Senior Bayer Representative and CFO of Bayer in China in 2011. He was appointed to the Bayer Board of Management in September 2014.

Werner Baumann Chairman

Werner Baumann studied economics in Aachen and Cologne, joining Bayer AG in 1988. After holding positions of increasing responsibility in Spain and the United States, he became a member of the Board of Management of Bayer HealthCare. He was appointed to the Bayer Board of Management in 2010, first as Chief Financial Officer and then as Chief Strategy and Portfolio Officer. Baumann has been Chairman of the Bayer Board of Management since May 2016.



Dieter Weinand
Pharmaceuticals

Dieter Weinand studied pharmacology, toxicology and biology in New York. After holding positions at various companies in the pharmaceutical industry including Pfizer and Bristol-Myers Squibb, he was President Global Commercialization & Portfolio Management at Otsuka Pharmaceutical Development & Commercialization Inc. in Princeton. In 2014, Weinand became head of the Pharmaceuticals Division at Bayer. He was appointed to the Bayer Board of Management in January 2016.

Dr. Hartmut Klusik*
Human Resources · Technology · Sustainability

Hartmut Klusik studied chemistry in Marburg. After gaining a Ph.D., he began his professional career at Wolff Walsrode in 1984. He transferred to crop protection production at Bayer in Brazil in 1990. Following assignments in the United States and Australia and after holding positions of increasing responsibility at Bayer CropScience, he was appointed to the Board of Management of Bayer HealthCare with responsibility for Product Supply. He was appointed to the Bayer Board of Management in January 2016.

* Labor Director

Kemal Malik
Innovation

Kemal Malik studied medicine and worked in a London hospital. After holding different positions of increasing responsibility at Bristol-Myers Squibb, he joined Bayer in 1995. In 2007, Malik became a member of the Executive Committee, head of Global Development and Chief Medical Officer of Bayer HealthCare. He was appointed to the Bayer Board of Management in February 2014.

Liam Condon
Crop Science

Liam Condon studied international marketing in Dublin and Berlin. He held various positions of increasing responsibility with the former Schering AG, Berlin, Germany, and with Bayer HealthCare in Europe and Asia, including Managing Director of Bayer HealthCare China and head of Bayer HealthCare in Germany. Condon became Chief Executive Officer of Bayer CropScience in 2012. He was appointed to the Bayer Board of Management in January 2016.

Report of the Supervisory Board

Dear stockholders:

During 2016, the Supervisory Board monitored the conduct of the company's business by the Board of Management on a regular basis with the aid of detailed written and oral reports received from the Board of Management, and also acted in an advisory capacity. In addition, the Chairman of the Supervisory Board maintained a constant exchange of information with the respective Chairman of the Board of Management and with the other Management Board members. In this way the Supervisory Board was kept continuously informed about the company's intended business strategy, corporate planning (including financial, investment and human resources planning), earnings performance, the state of the business and the situation in the company and the Group as a whole.

Where Board of Management decisions or actions required the approval of the Supervisory Board, whether by law or under the Articles of Incorporation or the rules of procedure, the draft resolutions were inspected by the members at the meetings of the full Supervisory Board, sometimes after preparatory work by the committees, or approved on the basis of documents circulated to the members. The Supervisory Board was involved in decisions of material importance to the company. We discussed at length the business trends described in the reports from the Board of Management and the prospects for the development of the Bayer Group as a whole, the individual organizational units and the principal affiliated companies in Germany and abroad.

Changes on the Supervisory Board and the Board of Management

The Supervisory Board memberships of Prof. Dr. Ernst-Ludwig Winnacker and Dr. Helmut Panke ended as of midnight on April 29, 2016, the date of the Annual Stockholders' Meeting. The Annual Stockholders' Meeting elected Johanna (Hanneke) Faber and Prof. Dr. Wolfgang Plischke to succeed them.

The terms of office of the heads of the divisions newly appointed to the Board of Management in connection with the reorganization of the Bayer Group – Dieter Weinand (Pharmaceuticals), Erica Mann (Consumer Health) and Liam Condon (Crop Science) – began with effect from January 1, 2016. Dr. Hartmut Klusik (Human Resources, Technology & Sustainability) also joined the Board of Management effective January 1, 2016. The previous Chairman of the Board of Management, Dr. Marijn Dekkers, resigned his office effective April 30, 2016. The Supervisory Board appointed Werner Baumann as his successor.

Work of the Supervisory Board

The full Supervisory Board met five times during 2016 and resolved in writing on a special election to the Audit Committee. No member of the Supervisory Board attended only half or fewer than half of its meetings or those of the committees on which he/she served. The average attendance rate by Supervisory Board members at the meetings of the full Supervisory Board and of its committees held in 2016 was approximately 97 percent. A detailed overview of the attendance of the individual members of the Supervisory Board at the meetings of the Supervisory Board and its committees is shown in the "Further Information" section under "Governance Bodies."

The members of the Board of Management regularly attended the meetings of the Supervisory Board.

The deliberations of the Supervisory Board focused on questions relating to Bayer's strategy, portfolio and business activities. The discussions at the respective meetings in 2016 centered on various topics.



Werner Wenning, Chairman of the Supervisory Board of Bayer AG

At its February meeting, the Supervisory Board dealt with the departure of Dr. Marijn Dekkers as Chairman of the Board of Management effective April 30, 2016, and the appointment of Werner Baumann as new Chairman of the Board of Management for a duration of five years. The Supervisory Board also discussed the Annual Report 2015, the agenda for the Annual Stockholders' Meeting 2016, the Bayer Group's risk management system and the status of the Pharmaceuticals pipeline. At its April meeting, the Supervisory Board examined the business performance to date in 2016 and the imminent Annual Stockholders' Meeting.

At an extraordinary meeting in May, the Supervisory Board dealt in detail with the planned acquisition of Monsanto, including the associated financing. Following up on deliberations at earlier Supervisory Board meetings, the strategic aspects of the possible acquisition and the question of Monsanto's valuation were discussed at length. At its September meeting, the Supervisory Board once again dealt in detail with the acquisition of Monsanto and resolved on the final offer conditions for the acquisition. At this meeting, the Supervisory Board also extended the term of office of Kemal Malik on the Board of Management by an additional five years. In the intervals between its meetings, the Supervisory Board was regularly informed in writing about the respective status of the planned acquisition of Monsanto. In addition to the customary reports, the Chairman of the Supervisory Board was also kept constantly informed in detail about all major developments.

At its meeting in December 2016, the Supervisory Board undertook the routine review of the fixed compensation of the members of the Board of Management and the pension amounts of the former members of the Board of Management. Also at this meeting, the Board of Management presented its planning for the business operations in the years 2017 through 2019. The Supervisory Board approved the proposed financing framework for 2017 and also dealt with the strategy of the Bayer Group and possible courses of action with regard to the remaining interest in Covestro. In addition, the Supervisory Board resolved to issue an unqualified declaration of compliance with the German Corporate Governance Code.

Committees of the Supervisory Board

The Supervisory Board has a Presidial Committee, an Audit Committee, a Human Resources Committee, a Nominations Committee and an Innovation Committee. The current membership of the committees is shown in the "Further Information" section under "Governance Bodies."

The meetings and decisions of the committees, and especially the meetings of the Audit Committee, were prepared on the basis of reports and other information provided by the Board of Management. Reports on the committee meetings were presented at the meetings of the full Supervisory Board.

Presidial Committee: This comprises the Chairman and Vice Chairman of the Supervisory Board along with a further stockholder representative and a further employee representative. The Presidial Committee serves primarily as the mediation committee pursuant to the German Co-determination Act. It has the task of submitting proposals to the Supervisory Board on the appointment of members of the Board of Management if the necessary two-thirds majority is not achieved in the first vote at a plenary meeting. Certain decision-making powers in connection with capital measures, including the power to amend the Articles of Incorporation accordingly, have also been delegated to this committee. On a case-by-case basis, furthermore, the Supervisory Board can delegate certain responsibilities to the Presidial Committee. Finally, the Presidial Committee may also undertake preparatory work for full meetings of the Supervisory Board.

In 2016, the Presidial Committee was not required to convene in its capacity as the mediation committee. At a meeting in November 2016, it approved the issue of a mandatory convertible bond in connection with the financing of the planned acquisition of Monsanto based on a corresponding authorization by the full Supervisory Board.

Audit Committee: The Audit Committee comprises three stockholder representatives and three employee representatives. The Chairman of the Audit Committee in 2016, Dr. Klaus Sturany, satisfies the statutory requirements concerning the expertise in the field of accounting or auditing that a member of the Supervisory Board and the Audit Committee is required to possess. The Audit Committee meets regularly four times a year.

Its tasks include in particular oversight of the financial reporting process, the effectiveness and ongoing development of the internal control system, the risk management system, the internal audit system, the compliance system and the audit of the financial statements. The Audit Committee prepares the resolutions of the Supervisory Board concerning the financial statements and management report of Bayer AG and the proposal for the use of the distributable profit, the consolidated financial statements and management report of the Bayer Group and the agreements with the auditor (particularly the awarding of the audit contract, the determination of the main areas of focus for the audit and the audit fee agreement). The committee submits a proposal to the full Supervisory Board concerning the auditor's appointment, and takes appropriate measures to determine and monitor the auditor's independence. The audit focuses particularly on whether the financial statements have been prepared in compliance with the statutory requirements and whether the financial reporting provides a true and fair view of the financial position and results of operations of the company and the Group.

The Audit Committee discusses developments in the area of corporate compliance at each of its meetings where necessary.

The Chairman of the Board of Management and the Chief Financial Officer regularly attended the meetings of the Audit Committee. Representatives of the auditor were also present at all the meetings and reported in detail on the audit work and the audit reviews of the interim financial reports.

The meetings focused on a number of topics. At the February meeting, the Audit Committee discussed the financial statements of Bayer AG and the consolidated financial statements of the Bayer Group. It also carefully considered the risk report, which covered the risk management system, operational risks, planning and financial market risks, legal risks, corporate compliance, process and organizational risks, and the internal control system. At this meeting, the Audit Committee also made a recommendation to the full Supervisory Board concerning the resolution to be submitted to the Annual Stockholders' Meeting on the appointment of the auditor of the financial statements.

The April meeting mainly dealt with the yearly reports of the Group Compliance Officer and the Internal Audit department and with determining the main areas of focus for the audit of the 2016 financial statements. At its July meeting, the Audit Committee addressed the audit budget for 2017 and the scope of non-audit-related services by the external auditor. As at each meeting, it also discussed the interim financial report and legal and compliance issues. At its meeting in October, the Audit Committee dealt with the regular agenda items and with the tax strategy of the Bayer Group, value management, the audit conducted pursuant to Section 20 of the German Securities Trading Act (WpHG) (EMIR), the new requirements for the Independent Auditor's Report pursuant to ISA 700/701, and the upcoming change of external auditor.

Human Resources Committee: On this committee, too, there is parity of representation between stockholders and employees. It consists of the Chairman of the Supervisory Board and three other Supervisory Board members. The Human Resources Committee prepares the personnel decisions of the full Supervisory Board, which resolves on appointments or dismissals of members of the Board of Management. The Human Resources Committee resolves on behalf of the Supervisory Board on the service contracts of the members of the Board of Management. However, it is the task of the full Supervisory Board to resolve on the total compensation of the individual members of the Board of Management and the respective compensation components, as well as to regularly review the compensation system on the basis of recommendations submitted by the Human Resources Committee. The Human Resources Committee also discusses the long-term succession planning for the Board of Management.

The Human Resources Committee convened on three occasions in 2016. The matters discussed at these meetings concerned the compensation and contracts of the members of the Board of Management, as well as the preparation of the departure of Dr. Marijn Dekkers as Chairman of the Board of Management and the appointment of Werner Baumann as his successor.

Nominations Committee: This committee carries out preparatory work when an election of stockholder representatives to the Supervisory Board is to be held. It suggests suitable candidates for the Supervisory Board to propose to the Annual Stockholders' Meeting for election. The Nominations Committee comprises the Chairman of the Supervisory Board and the other stockholder representative on the Presidial Committee.

During four conference calls in 2016, the members of the Nominations Committee discussed candidates for the special elections to the Supervisory Board that took place at the 2016 Annual Stockholders' Meeting and for the elections to the Supervisory Board at the 2017 Annual Stockholders' Meeting.

Innovation Committee: The Innovation Committee is primarily concerned with the innovation strategy and innovation management, the strategy for the protection of intellectual property, and major research and development programs at Bayer. Within its area of responsibility, the committee advises and oversees the management and prepares any Supervisory Board decisions. The Committee comprises the Chairman of the Supervisory Board and five other members of the Supervisory Board, with parity of representation between stockholder and employee representatives.

The Chairman of the Board of Management and the member of the Board of Management responsible for Innovation regularly attend the meetings of the Innovation Committee.

The Innovation Committee convened twice in 2016. At its February meeting, it dealt with innovation management at Bayer and the development of the Bayer Lifescience Center. At its September meeting, it dealt once again with the development of the Bayer Lifescience Center, as well as with digital innovations at Bayer.

Corporate governance

The Supervisory Board dealt with the principles of corporate governance at Bayer. Among the topics discussed were the scope of dialogue between the Chairman of the Supervisory Board and investors. In December, the Board of Management and the Supervisory Board issued a new declaration concerning the German Corporate Governance Code.

Financial statements and audits

The financial statements of Bayer AG were prepared according to the requirements of the German Commercial Code and Stock Corporation Act. The consolidated financial statements of the Bayer Group were prepared according to the German Commercial Code and the International Financial Reporting Standards (IFRS). The combined management report was prepared according to the German Commercial Code. The auditor, PricewaterhouseCoopers Aktiengesellschaft, Wirtschaftsprüfungsgesellschaft, Essen, has audited the financial statements of Bayer AG, the consolidated financial statements of the Bayer Group and the combined management report. The conduct of the audit is explained in the auditor's reports. The auditor finds that Bayer has complied, as appropriate, with the German Commercial Code, the German Stock Corporation Act and/or the International Financial Reporting Standards endorsed by the European Union, and issues an unqualified opinion on the financial statements of Bayer AG and the consolidated financial statements of the Bayer Group. The financial statements of Bayer AG, the consolidated financial statements of the Bayer Group, the combined management report and the audit reports were submitted to all members of the Supervisory Board. They were discussed in detail by the Audit Committee and at a meeting of the full Supervisory Board. The auditor submitted a report on both occasions and was present during the discussions.

We examined the financial statements of Bayer AG, the proposal for the use of the distributable profit, the consolidated financial statements of the Bayer Group and the combined management report. We have no objections, thus we concur with the result of the audit.

We have approved the financial statements of Bayer AG and the consolidated financial statements of the Bayer Group prepared by the Board of Management. The financial statements of Bayer AG are thus confirmed. We are in agreement with the combined management report and, in particular, with the assessment of the future development of the enterprise. We also concur with the dividend policy and the decisions concerning earnings retention by the company. We assent to the proposal for the use of the distributable profit, which provides for payment of a dividend of €2.70 per share.

The Supervisory Board would like to thank the Board of Management and all employees for their dedication and hard work in 2016.

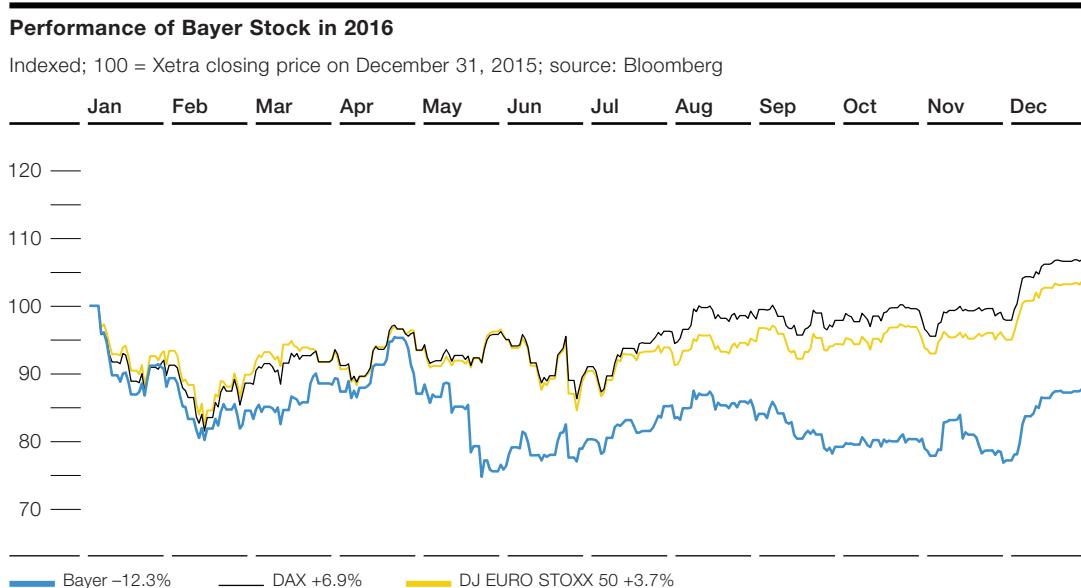
Leverkusen, February 21, 2017
For the Supervisory Board:



Werner Wenning
Chairman

Investor Information

- > Long-term return on Bayer stock still ahead of the market despite a decline in the share price in 2016
- > €4 billion in mandatory convertible notes issued as a financing component for the agreed acquisition of Monsanto
- > Dividend increase to €2.70 per share proposed



The Stock Market in 2016

Stock markets post moderate gains after a turbulent year

Fiscal 2016 was characterized by significant price fluctuations. At the beginning of the year, the financial markets were unsettled by growth concerns in China. The decline in oil prices, the Brexit vote in the United Kingdom, the U.S. presidential election and the monetary policy of the central banks caused significant fluctuations on the capital markets over the course of the year. The European Central Bank maintained its zero-interest policy and initially decided to expand its bond purchasing program. With a further interest rate hike, the U.S. Federal Reserve maintained its effort to implement a controlled departure from the phase of extremely low interest rates.

The German stock index DAX saw a decline of more than 15 percent in the first two months of 2016, falling below the 9,000-point mark in February. A phase of recovery then set in, followed by a volatile lateral movement that lasted through the beginning of December. After a strong finish in December, the DAX closed the year at 11,481 points – its fifth consecutive profitable year of growth. This equates to growth of about 6.9 percent for 2016.

Following a similar path, the European equities index EURO STOXX 50 (performance index) rose 3.7 percent, ending the year at 6,458 points. Share price performance in the United States and Japan varied. The S&P 500 index climbed by 9.5 percent, while the Nikkei 225 was largely unchanged.

Bayer share price declines

Including the dividend of €2.50 per share paid at the beginning of May, Bayer stock earned a negative return of minus 12.3 percent in 2016 after several years of what in some cases were substantial gains. Bayer stock ended the year at €99.13, thus underperforming the reference indices. The EURO STOXX Chemicals Index (performance index) climbed by 7.8 percent in 2016, while the EURO STOXX Health Care Index (performance index) rose by 2.4 percent.

		2015	2016
Earnings per share	€	4.97	5.44
Core earnings per share from continuing operations ¹	€	6.82	7.32
Equity per share	€	30.77	38.57
Dividend per share	€	2.50	2.70
Year-end price ²	€	115.80	99.13
High for the year ²	€	146.20	111.25
Low for the year ²	€	108.00	84.42
Total dividend payment	€ million	2,067	2,233
Number of shares entitled to the dividend (Dec. 31)	million shares	826.95	826.95
Market capitalization (Dec. 31)	€ billion	95.8	82.0
Average daily share turnover on German stock exchanges	million shares	2.3	2.7
Price / EPS ²		23.3	18.2
Price / core EPS ²		17.0	13.5
Price / cash flow ²		14.0	9.9
Dividend yield	%	2.2	2.7

2015 figures restated

¹ For details on the calculation of core earnings per share see Combined Management Report, Chapter A 2.4

² Xetra closing prices (source: Bloomberg). The calculation is based on the indicator "Net cash provided by (used in) operating activities, continuing operations."

Positive financing environment for Bayer in receptive markets

2016 began very weakly for issuers of corporate bonds. Investor behavior was characterized by uncertainty and reticence until the market environment improved at the end of the first quarter. Thereafter, the bond purchasing program of the European Central Bank also served to further improve financing conditions and costs. The interest levels for many maturities dipped into the negative zone and did not rise again substantially until the fourth quarter, although the absolute level remained at a historic low. Volatility remained very high at times before easing considerably in the second half of the year.

Bayer redeemed all bonds maturing in 2016 without refinancing. In November, €4 billion in three-year mandatory convertible notes were issued. This was the largest transaction of this kind to date for a European nonfinancial company. Through this issue, Bayer implemented a major component of the planned equity financing for the agreed acquisition of Monsanto. Further details of outstanding bonds are given in Note [27] to the consolidated financial statements.

Long-term return on Bayer stock still ahead of the market

A long-term investor who purchased Bayer shares for €10,000 five years ago and reinvested all dividends would have seen the value of the position grow to €22,546 as of December 31, 2016, giving an average annual return of 17.7 percent. That was above the return on the DAX (plus 14.2 percent) and the EURO STOXX 50 (plus 10.5 percent, performance index) in the same period.

Dividend increase to €2.70 per share

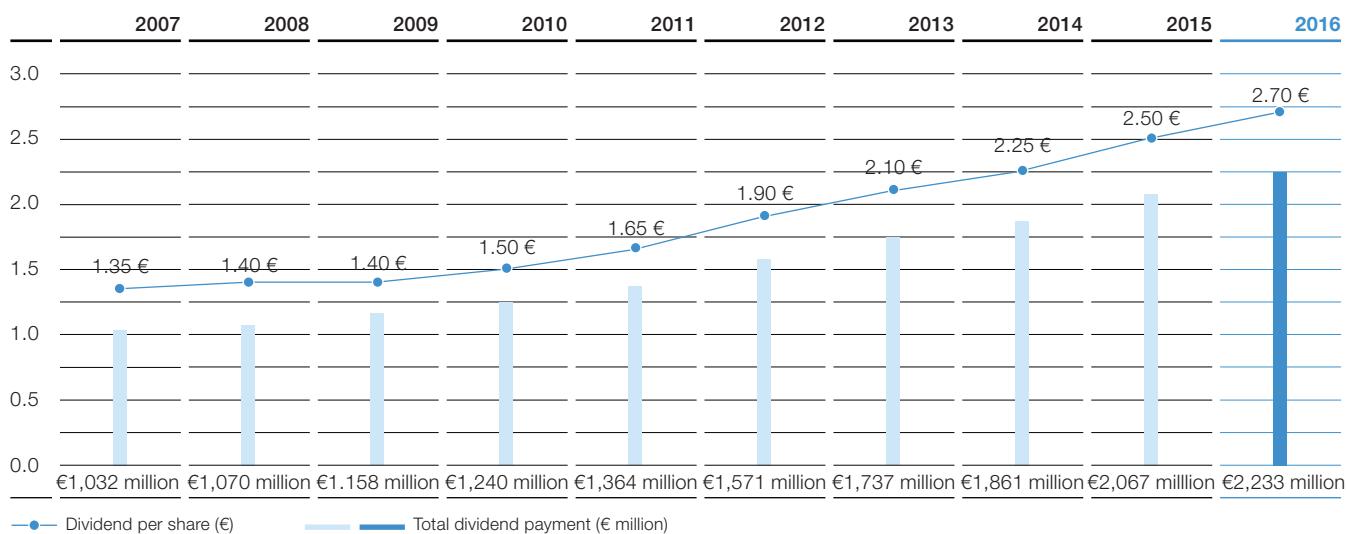
The Board of Management and the Supervisory Board will propose to the Annual Stockholders' Meeting that the dividend be increased by €0.20 to €2.70 per share. Thus we once again intend that our stockholders should participate in last year's positive business performance. The resulting payout ratio of 37 percent calculated on core earnings per share is within our target corridor of 30 percent to 40 percent.

The dividend yield calculated on the share price of €99.13 at year end 2016 amounts to 2.7 percent and the total dividend payment to €2,233 million.



See Chapter 2.2.1 of the Combined Management Report for core EPS

Dividends Per Share and Total Dividend Payments



Investor relations focused on the acquisition of Monsanto

Last year our investor relations (IR) activities focused on the announcement made and the agreement reached regarding the acquisition of Monsanto. In this connection, there were many questions from capital market participants pertaining to strategic alignment, financing and value creation.

GRI G4-26, G4-27

Bayer's management and the Investor Relations team last year communicated directly with investors and analysts during roadshows and investor conferences. Our Meet Management conference in September gave investors and analysts an opportunity to engage in direct dialogue with Bayer's top management. As in previous years, private investors also had an opportunity to find out about our company at various stockholder forums at which the Investor Relations team was present.

A sustainable investment

We continued our intensive dialogue with sustainability-oriented investors, analysts and rating agencies in 2016. Our discussions focused on business ethics, product stewardship and safety.

In 2016, Bayer again qualified for inclusion in major sustainability indices, including the Dow Jones Sustainability World, the FTSE4Good (Europe, Global and Environmental Leaders Europe 40) and the STOXX® Global ESG Leaders. In addition, Bayer was once again evaluated by the CDP as one of the leading international pharmaceutical companies in the areas of climate protection and sustainable water management.



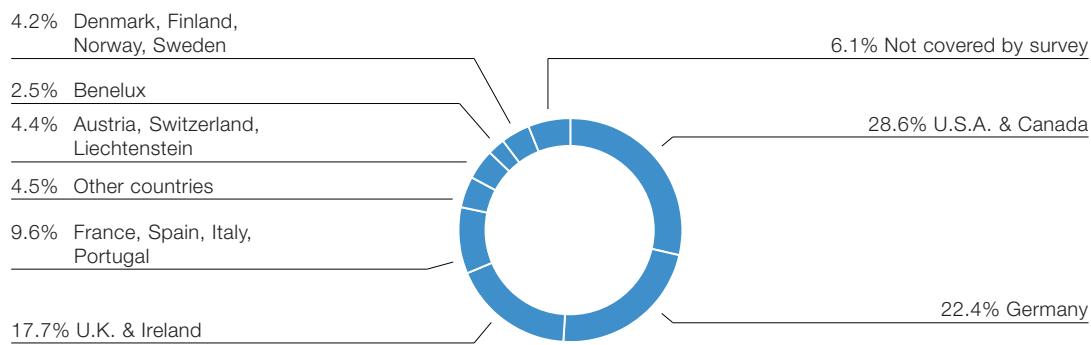
www.bayer.com/awards

A growing number of stockholders

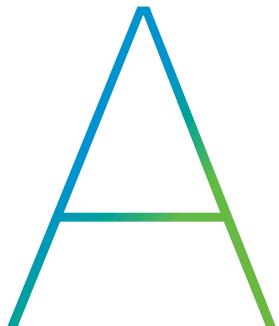
Our ownership structure continues to show the international distribution of our capital stock. The highest proportion of our outstanding shares, almost 29 percent, is held by investors in the United States and Canada, followed by Germany with about 22 percent. Bayer has a 100-percent free float as defined by Deutsche Börse, the operator of the Frankfurt Stock Exchange. The number of Bayer stockholders rose substantially in 2016. At the end of 2016, approximately 360,000 stockholders were listed in our share register – an increase of more than 20 percent compared with the previous year.

4

Shareholder Composition – Regional Allocation



Source: IPREO



Combined Management Report

of the Bayer Group and Bayer AG as of December 31, 2016

1. Fundamental Information About the Group

1.1 Corporate Profile and Structure

- > Health care and nutrition: Bayer helping to solve global challenges
- > Innovations drive the success of the Life Science businesses
- > New structure supports implementation of corporate strategy

1.1.1 Corporate Profile

Bayer is a Life Science company with a more than 150-year history and core competencies in the areas of health care and agriculture. With our innovative products, we are contributing to finding solutions to some of the major challenges of our time. A growing and aging world population requires an adequate supply of food and improved medical care. Our research and development activities are therefore focused on improving people's quality of life by preventing, alleviating and treating diseases. At the same time, we are making an important contribution to providing a reliable supply of high-quality food, feed and plant-based raw materials. Our understanding of the biochemical processes in living organisms helps us address these demanding challenges.

Our goal is to achieve and maintain leadership positions in our markets. In this way we create value for our customers, stockholders and employees, at the same time strengthening the company's earning power. We are committed to operating sustainably and addressing our social and ethical responsibilities. We also respect the interests of all our stakeholders. Employees with a passion for innovation enjoy excellent development opportunities at Bayer. All this goes to make up our mission – Bayer: Science for a Better Life.

In fulfilling our mission, we are guided by our corporate values. Represented by the acronym **LIFE** (**L**eadership, **I**ntegrity, **F**lexibility and **E**fficiency), these values apply to everyone at Bayer and are firmly integrated into our global performance management system for managerial employees. Our value culture ensures a common identity throughout the enterprise across national boundaries, management hierarchies and cultural differences.

Bayer Worldwide 2016**North America**

Sales €12,806 (12,621)¹ million
Employees 15,800 (16,000)¹
R&D² €1,081 (1,051)¹ million

Latin America

Sales €5,108 (5,494)¹ million
Employees 12,500 (13,000)¹
R&D² €71 (65)¹ million

Germany**Headquarters**

Bayer Group
Leverkusen

Pharmaceuticals
Berlin

Crop Science
Monheim am Rhein

Animal Health
Monheim am Rhein

Covestro
Leverkusen

Pharmaceuticals

▲ — Cologne
 ▲ — Berlin
 ▲ — Wuppertal
 ▲ — Bergkamen
 ▲ — Leverkusen
 ▲ — Weimar

 ▲ — Darmstadt
 ▲ — Bitterfeld-Wolfen
 ▲ — Grenzach

Crop Science

▲ — Monheim am Rhein
 ▲ — Frankfurt am Main
 ▲ — Dormagen
 ▲ — Knapsack

 ▲ — Monheim am Rhein
 ▲ — Kiel

 ▲ — Leverkusen
 ▲ — Brunsbüttel
 ▲ — Dormagen
 ▲ — Uerdingen

France

Consumer Health
 ▲ — Gaillard

Crop Science
 ▲ — Lyon
 ▲ — Sophia Antipolis

U.S.A.

Pharmaceuticals
 ▲ — San Francisco
 ▲ — Whippany
 ▲ — Berkeley
 ▲ — Indianola

Consumer Health
 ▲ — Memphis
 ▲ — Morristown
 ▲ — Cleveland
 ▲ — Myerstown

Crop Science
 ▲ — Lubbock
 ▲ — Morrisville
 ▲ — Raleigh
 ▲ — Sacramento
 ▲ — Kansas City

Animal Health
 ▲ — Shawnee

Covestro
 ▲ — Pittsburgh
 ▲ — Baytown

Mexico

Consumer Health
 ▲ — Lerma

Brazil

Animal Health
 ▲ — São Paulo

Argentina

Consumer Health
 ▲ — Pilar

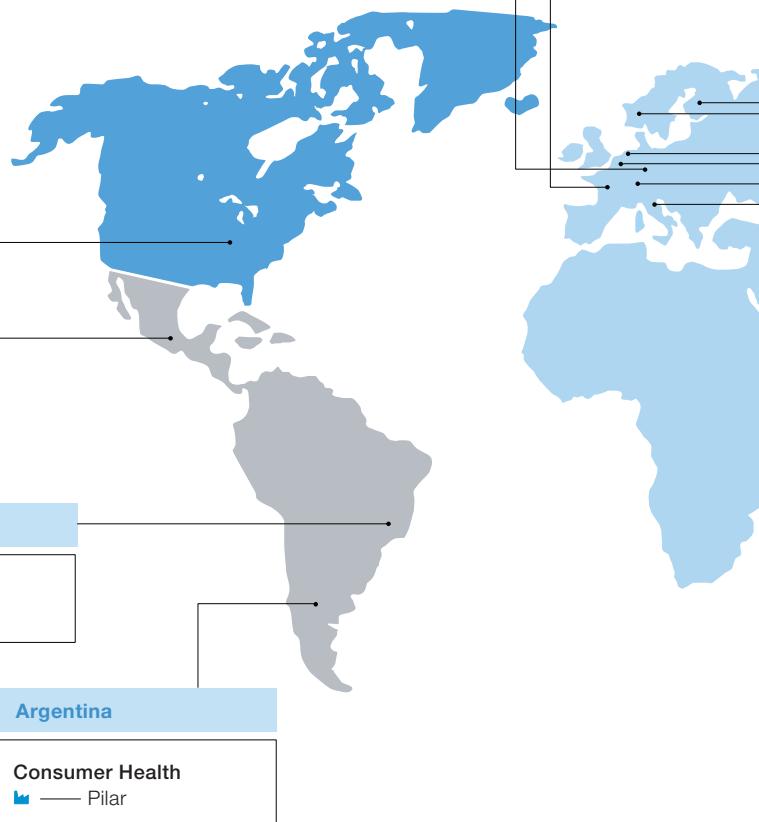
2015 figures in parentheses

¹ 2015 figures restated

² Research and development

▲ Significant research and development location

▲ Significant production location

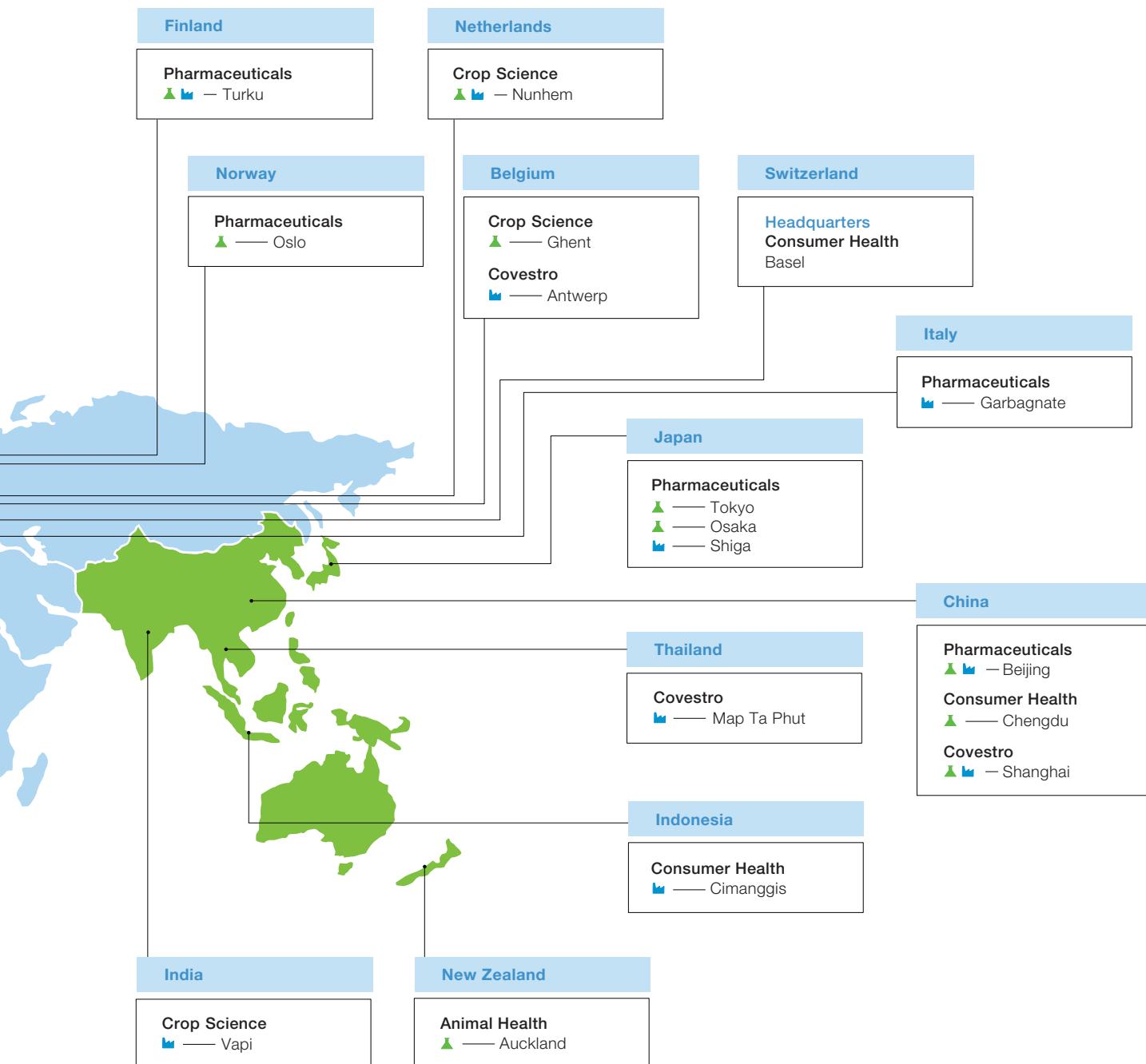


Europe / Middle East / Africa

Sales €17,823 (17,707)¹ million
Employees 59,500 (58,800)¹
R&D² €3,285 (2,944)¹ million

Asia / Pacific

Sales €11,032 (10,263)¹ million
Employees 27,400 (28,800)¹
R&D² €229 (214)¹ million



1.1.2 Corporate Structure

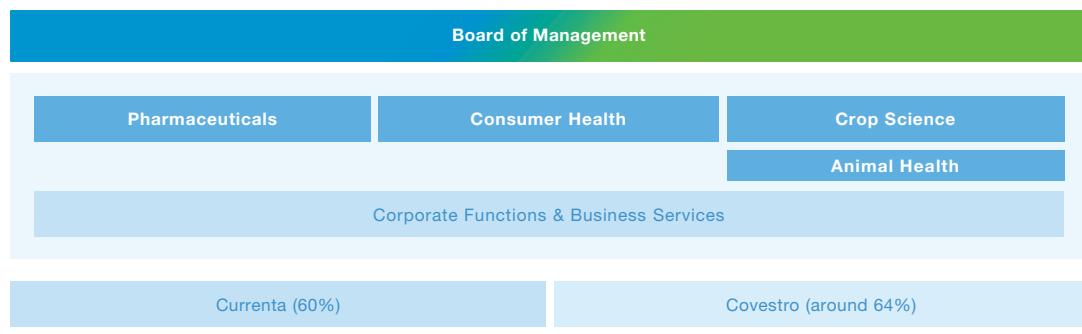
Following the stock market flotation of Covestro, we reorganized the Bayer Group effective January 1, 2016, and are now focusing on our Life Science activities. These businesses hold leading positions in innovation-driven, rapidly growing markets. Together, the Life Science businesses make up a strong, attractive and balanced portfolio that is resistant to fluctuations in demand and to potential risks. Our operations are managed in three divisions – Pharmaceuticals, Consumer Health and Crop Science – and the Animal Health business unit, which are also reporting segments. Bayer still holds about 64% of Covestro AG. Covestro therefore also remains a fully consolidated reporting segment. The operational business is supported by the corporate functions – including Technology Services, which was integrated into Bayer AG effective July 1, 2016 – Business Services and the service company Currenta.

The following changes were made to the corporate structure in the past fiscal year:

- In April 2016, Bayer AG deposited shares it held in Covestro AG in Bayer Pension Trust e.V. The number of shares deposited amounted to 10 million, or 4.9%, of the shares outstanding.
- In May 2016, Crop Science signed an agreement to divest the Consumer business of Environmental Science, which has since been reported retrospectively for 2015 and 2016 under discontinued operations. Environmental Science therefore now comprises only the business for professional users. The divestiture was closed at the start of October 2016.

A 1.1.2/1

Bayer Group Structure in 2016



In 2016, the Bayer Group comprised 301 consolidated companies in 78 countries throughout the world.

Reporting of the regions in the Annual Report has been adjusted to reflect the distribution of responsibilities on the Board of Management. Africa/Middle East is now no longer reported together with Latin America but with Europe.

The **Pharmaceuticals** segment focuses on prescription products, especially for cardiology and women's healthcare, and on specialty therapeutics in the areas of oncology, hematology and ophthalmology. The division also comprises the radiology business, which markets diagnostic imaging equipment together with the necessary contrast agents.

The **Consumer Health** segment markets mainly nonprescription (OTC = over-the-counter) products in the dermatology, nutritional supplement, analgesic, gastrointestinal, cold, allergy, sinus and flu, foot care and sun protection categories.

The **Crop Science** segment is a world-leading agriculture enterprise with businesses in seeds, crop protection and nonagricultural pest control. The Crop Protection/Seeds operating unit markets a broad portfolio of high-value seeds and innovative pest management solutions, while at the same time providing extensive customer service for sustainable agriculture. The Environmental Science operating unit provides products and services for professional nonagricultural applications, such as vector and pest control and forestry.

The **Animal Health** segment ranks among the leading international innovators in its field. It develops and markets products and solutions for the prevention and treatment of diseases in companion and farm animals.

The **corporate functions** and **Business Services** operate as Group-wide competence centers in which business support services are bundled. Currenta is the service company responsible for managing and operating the Chempark sites in Leverkusen, Dormagen and Krefeld-Uerdingen.

Covestro is one of the world's leading suppliers of high-tech polymer materials and develops innovative product solutions for a wide variety of everyday uses.

More information about our products can be found in  **Online Annex: A 1.1.2-1**

1.1.3 Value Creation

By delivering innovative products and solutions in its core businesses, Bayer creates value for its stakeholders at all stages of the value chain. We operate production sites worldwide, invest in research and development, work with international and local suppliers and contribute to the economic development of our target markets. As an employer, we provide jobs in industrialized, emerging and developing economies and create purchasing power through the salaries we pay. We contribute to public finances and thus support public infrastructure through the payment of taxes and other levies.

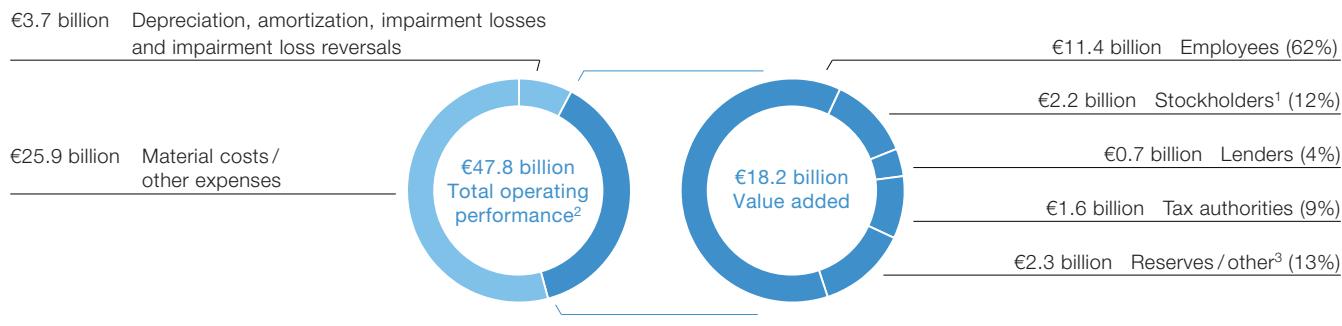
A 1.1.3/1

Value Chain Stages



See also A 1.4.2

The value added statement shows the direct financial value our business activities create for our stakeholders. We define value added as the company's total operating performance in the previous fiscal year less the costs of procured and consumed goods and services, depreciation, amortization, impairment losses and impairment loss reversals.

Bayer Group Value Added 2016¹ Bayer AG dividend proposal for 2016² Total operating performance = sales + other operating income + financial income / equity-method income (loss)³ Includes dividend for minority shareholders of Covestro AG

1.2 Strategy and Management

- > Corporate strategy targets long-term profitable growth
- > Group targets include financial and nonfinancial data
- > Sustainability management integrated in all processes

1.2.1 Group Strategy and Targets

Our mission “Bayer: Science For A Better Life” guides our endeavors to address some of today’s most pressing global challenges in health and nutrition through better medicines and a sufficient quantity of high-quality food for a steadily growing and aging population. Together with our partners, we are developing innovative solutions to tackle these challenges and thus improve people’s quality of life.

We want to safeguard our company’s long-term success in balance with ecological responsibility and societal acceptance. Sustainability is embedded in all our business practices as a fundamental condition for achieving this.



www.bayer.com/strategy

Our diversified portfolio of Life Science businesses delivers profitable growth. We continuously strive to develop our businesses such that they assume leading positions in the respective industries and segments. This development is sustained by our core competencies of innovation, customer focus, quality, process excellence and portfolio management, and by our people.

To advance the consistent implementation of our strategy, we have set ambitious group targets for our company in the areas of growth and profitability, innovation, sustainability and employees. These targets are explained in more detail on the following pages.

Strategies of the Segments

Pharmaceuticals

At Pharmaceuticals, our largest segment in terms of sales, we focus on researching, developing and marketing specialty-focused innovative medicines that provide significant clinical benefit and value, primarily in the therapeutic areas of cardiology, oncology, gynecology, hematology and ophthalmology. In this way, we are addressing the growing requirements of patients, physicians, health care payers and regulatory agencies.

We will continue to drive growth with our successfully launched products Xarelto™, Eylea™, Stivarga™, Xofigo™ and Adempas™. We are continuing to expand the use of these medicines through comprehensive clinical development programs – some of them in collaboration with other pharmaceutical companies – and to make them available to further patient groups.

To drive sustainable growth, we are continually increasing our investment in research and development, focusing on the areas with the greatest potential for innovation such as cardiology, oncology and gynecology. We aim to continue supplementing our own innovation strength through targeted external collaborations. In addition, we are expanding and supplementing our development portfolio through licensing agreements and acquisitions.

Moreover, we are seeking to further increase our efficiency as a means of ensuring the availability of resources for investment in innovation.

To improve access to our products in developing and emerging countries (Access to Medicine), we are implementing economically feasible concepts and further developing our compounds for the treatment of neglected tropical diseases alongside our philanthropic activities.

▼ Online Annex: A 1.2.1-1

Consumer Health

The growing and aging world population represents an increasing challenge to public health care systems. For this reason, the issue of self-care is gaining importance for millions of people, as well as for governments, health care systems and health care payers.

Our Consumer Health segment is responding to this change with its mainly nonprescription (OTC) brand products to treat and prevent diseases and to improve well-being, providing consumers with the corresponding self-care solutions. Our strategy is aimed at further building on our strong position in the market for over-the-counter medicines, nutritional supplements and other self-care products in selected categories.



See also A 1.1.2

Increasing competition for consumer attention combined with ongoing industry and distribution channel consolidation require a stronger focus on brand building, key markets and consumer-centric innovation. In order to drive the organic growth of our core brands, such as Claritin™, Aspirin™, Aleve™, Bepanthen™, Canesten™, Alka-Seltzer™, Dr. Scholl's™, One a Day™, Coppertone™, Elevit™ and Berocca™, we are investing in product innovation and geographical expansion. We additionally intend to further strengthen our positions in key markets such as the United States, Brazil, Russia and China through product developments, marketing innovations and new digital offerings.

We also plan to continue selectively pursuing external growth opportunities that arise from the progressive consolidation of the OTC industry in order to expand our presence in strategic focus categories and markets by way of acquisitions.

Crop Science

Our Crop Science segment is aligned to the long-term trends of the agricultural markets. Our aim is to help shape the future of the agricultural industry with innovative offerings that enable the production of sufficient high-quality food, animal feed and renewable raw materials for a growing world population despite the limited amount of available arable land. We want to contribute to global food security through an environmentally friendly and sustainable increase in agricultural productivity. Our innovation strength is intended to benefit both our customers and society as a whole and be the source of our long-term growth. Crop Science's strategy is built on three cornerstones: leading the way in innovation, increasing customer centricity and promoting and further developing sustainable farming practices.



See also A 1.3

To lead the way in innovation and develop holistic solutions, we aim to build on our expertise in the integration of seed technology with chemical and biological crop protection. In so doing, we support our customers with improved and innovative solutions tailored to specific local requirements. Innovative technologies are increasingly being applied in research and development in order to enhance our product portfolio. Examples here include new breeding technologies to improve yields or computational life sciences for the collection, processing and analysis of extensive research and development data as the basis for faster and more customer-focused development.

Another major part of our strategy is customer centricity along the entire value chain, which is coupled with the continuous optimization of distribution. We aim to offer our customers integrated solutions for the most important crops. In response to the increasing digitization of agriculture, we plan to develop a proprietary digital platform and specific data models in the area of digital farming so that we can give farmers more customized and sustainable agronomic recommendations for improving their yields. We are also seeking to support smallholder farmers in developing and emerging economies with specially tailored and sustainable solutions that help them optimize their agricultural production methods and improve their standard of living.



[www.bayer.com/
foodchain](http://www.bayer.com/foodchain)

In line with our commitment to sustainable agriculture, we promote and improve corresponding farming practices. Moreover, we are steadily expanding our successful food chain partnerships. In these projects, Crop Science works with all participants in the food chain to sustainably safeguard and increase yields, and to satisfy the quality criteria in the food chain. With the Bayer Forward Farming initiative, we cooperate with farmers to develop and promote innovative solutions for the respective crops and facilitate sustainable agriculture. We plan to establish model operations known as "ForwardFarms" in all major agricultural markets by 2018.



See also A 1.3

Cooperation is crucial to the implementation of these strategic priorities. To find innovative and sustainable solutions to the challenges facing the agricultural industry, we maintain numerous collaborations and partnerships with leading research institutes and partners from the public and private sectors.

On September 14, 2016, as the logical next step in our evolution as a Life Science company, we signed a binding agreement to acquire Monsanto Company. Monsanto's shareholders approved the merger at an extraordinary shareholders' meeting held on December 13, 2016. Subject to receipt of the required regulatory approvals, successful closing of the transaction is anticipated by the end of 2017. Together we would be able to offer a broader portfolio of innovative products customized to serve farmers' many needs and individual requirements. In the medium to long term, the combined enterprise would be able to bring innovations to the market faster and provide its customers with better solutions and an optimized product offering on the basis of agricultural analysis and supporting digital farming applications.

Animal Health

Driven by an increasing world population and higher incomes, the animal health market remains very attractive. In the companion animals segment, we are benefiting from growing pet ownership rates. In the farm animals segment, moreover, the aspiration to adopt Western lifestyle habits is leading to higher meat consumption.

In the companion animals business, Animal Health has a strong position in the field of parasiticides. To safeguard and further expand this position, we are focusing on maintaining the strong performance of the Seresto™ collar, opening up new distribution channels and leveraging the brand equity of the Advantage™ product family.

In the farm animals business, we are focusing on parasiticides and anti-infectives for the treatment of infectious diseases. We are striving to develop new options for the prevention and treatment of diseases in livestock. In this connection, we recently launched the innovative, nonantibiotic immunostimulant Zelnate™. Additionally, we strengthened our antiparasitics business in the United States with the acquisition in January 2017 of the Cydectin™ endectocide portfolio.



See also A 1.3

Covestro

As a global supplier of high-tech polymer materials and associated application solutions for many areas of modern life, Covestro supplies key industry sectors such as the automotive, construction and electronics industries. Driven by macro trends such as climate change, the diminishing availability of fossil resources, the expanding global population, urbanization and increasing mobility, the company is seeking to achieve profitable growth in the long term. Through its products – alongside polycarbonates especially raw materials for polyurethanes, coatings, adhesives and sealants as well as speciality products – Covestro aims to help master these challenges in line with its vision “To make the world a brighter place.” It operates efficient, safe and environmentally friendly production facilities and processes that are capable of serving the anticipated growth in demand. Covestro intends to further optimize cost structures and efficiency throughout the company.

Targets and key performance indicators

Our strategy is aimed at achieving economic growth balanced with our responsibility for the environment and society. We measure our progress in this on the basis of ambitious Group targets along the value chain. These targets are in the areas of growth and profitability, innovation, sustainability and employees.

In this way, we aim to make clear the challenges we have identified in our core business in the context of sustainable development, and at the same time to highlight the continuous improvements we are committed to making throughout the Group. The current status of our progress in these areas is documented in the following table and the respective chapters.

Bayer Group Targets¹

Target	Target attainment (as of 2016)	New or adjusted target
 Increase in Group sales (Fx & portfolio adj.); forecast issued in February 2016: low-single-digit percentage increase to more than €47 billion	3.5% increase to €46.8 billion	Low- to mid-single-digit percentage increase (Fx & portfolio adj.) to more than €49 billion
Increase in EBITDA before special items; forecast issued in February 2016: mid-single-digit percentage increase	10.2% increase	Mid-single-digit percentage increase
Increase in core earnings per share; forecast issued in February 2016: mid-single-digit percentage increase	7.3% increase	Mid-single-digit percentage increase

 Group: increase in R&D investment to €4.5 billion (2016)	€4.7 billion	Increase in R&D investment to €4.8 billion (2017)
Pharmaceuticals: transition of 10 new molecular entities (NMEs) into development (2016)	12 new molecular entities (NMEs) transferred	Transition of 10 new molecular entities (NMEs) into development (2017)
Consumer Health: transition of 20 consumer-validated concepts into early development (2016)	30 new concepts transferred	Transition of 25 consumer-validated concepts into early development (2017)
Crop Science: transfer of 3 new molecular entities (NMEs), plant traits or biologics into confirmatory technical proof-of-concept field studies (2016)	Start of field studies on 4 new molecular entities (NMEs) and 1 new plant trait	Transfer of 3 new molecular entities (NMEs), plant traits or biologics into confirmatory technical proof-of-concept field studies

See A 1.3 for more information

 Supplier management		
Evaluation of all strategically important suppliers (2017)	98%	Target unchanged
Evaluation of all potentially high-risk suppliers with significant Bayer spend (2020)	83%	Target unchanged
Development and establishment of a new sustainability standard for our supply base (2020)	In implementation	Target unchanged

See A 1.4.2.1 for more information

¹ All targets other than "Growth and Profitability" and R&D investment targets do not include Covestro.

A 1.2.1/1 continued

Bayer Group Targets¹

Target	Target attainment (as of 2016)	New or adjusted target
Resource efficiency		
Improvement of 10% in energy efficiency (2020); reference value 2012: 8.86 MWh/t	6.77 MWh/t (24% improvement)	Improvement of 10% in energy efficiency (2020); reference value 2015: 143 kWh/€1,000 external sales
Reduction of 15% in specific greenhouse gas emissions (2020); reference value 2012: 1.88 t CO ₂ /t	1.54 t CO ₂ /t (-18%)	Reduction of 20% in specific greenhouse gas emissions (2020); new reference value (2015): 54.5 kg CO ₂ /€1,000 external sales
Establishment of water management at all sites in water-scarce areas (2017)	95%	Target unchanged

See A 1.4.3.3 for more information

Safety

Reduction of 35% in occupational safety incident rate (Recordable Incident Rate – RIR) (2020); reference value 2012: 0.50	RIR 0.40 (-20%)	Target unchanged
Reduction of 30% in process and plant safety incidents (Loss of Primary Containment Incident Rate – LoPC-IR) (2020); reference value 2012: 0.21	LoPC-IR 0.17 (-19%)	Target unchanged

See A 1.4.3.2 for more information

Product stewardship

Conclusion of assessment of hazard potential of all substances (>99%) used in quantities exceeding one metric ton per annum (2020)	66%	Target unchanged
------------------------------------------------------------------------------------------------------------------------------------	-----	------------------

See A 1.4.3.1 for more information

Compliance

Annual compliance training for virtually 100% of Bayer managers	97%	Target unchanged
-----------------------------------------------------------------	-----	------------------

See A 4.2 for more information

**Employees**

Continuous improvement in employee engagement; reference value 2012: 85%	87%	Target unchanged
Increase in the proportion of women in senior management to 35% (2020); reference value 2010: 21%	31%	Target unchanged
Increase in the proportion of senior managers from outside the European Union, the United States or Canada to 25% (2020); reference value 2013: 18%	21%	Target unchanged

See A 1.4.1 for more information

¹ All targets other than "Growth and Profitability" and R&D investment targets do not include Covestro.

1.2.2 Management Systems

One of the prime objectives of the Bayer Group is to achieve profitable growth in order to steadily increase the enterprise value and sustain the company as a going concern. Economic planning and management for the company takes place within a framework for the divisions determined by the Board of Management in the course of the strategic management process and translated into specific targets during operational planning. Continuous monitoring of business developments complements the planning and management process, and key management and performance indicators are regularly updated. This process also involves tracking the implementation of the strategic objectives and adopting countermeasures in the event of deviations from the budget. Moreover, the Board of Management uses targets and performance indicators to steer the company's sustainable alignment.

We use the following indicators to plan, manage and monitor the development of our business.

Operational management indicators



See also A 2.4

The main parameters in economic management within the Bayer Group at the operational level are figures for sales, earnings and tied-up capital, which therefore also significantly affect short-term variable compensation.

Growth is measured primarily in terms of the change in sales after adjusting for currency and portfolio effects (Fx & p. adj.) in order to reflect the operational business development of the Group and the divisions. A key measure of profitability at the Group and division levels is EBITDA before special items. The EBITDA margin before special items, which is the ratio of EBITDA before special items to sales, serves as a relative indicator for the internal and external comparison of operational earning power. Another important profitability indicator for the Bayer Group is core earnings per share, which is the core net income divided by the weighted average number of shares.

New value-based indicator: return on capital employed



See also A 2.2.3

At the strategic level, Bayer introduced the return on capital employed (ROCE) for fiscal 2016. This indicator of value-based performance replaces the cash value added (CVA) and cash flow return on investment (CFROI). The periodic capital return is measured by comparing ROCE with the weighted average cost of capital. This supports the management in evaluating long-term business development.

Management of the Covestro segment

The principal indicators used for internal management in the Covestro segment are core volume growth, return on capital employed (ROCE) and free operating cash flow. These indicators also serve as the basis for short-term incentive awards to all Covestro employees. For management at Group level, however, the indicators used by Covestro are converted into those defined for Bayer above.

1.2.3 Sustainability Management



www.bayer.com/unsdg



U.N. Global Compact:
see Glossary

To us, sustainability means safeguarding our future viability and, as part of corporate strategy, is integrated into everyday procedures. We underline our mission as a company that acts sustainably through our commitment to the U.N. Global Compact and the Responsible Care™ initiative, and through our active global involvement in leading initiatives such as the World Business Council for Sustainable Development (WBCSD). Bayer is committed to the U.N. Sustainable Development Goals (SDGs) and released a position outlining the company's stance on these in 2016. Our innovations, products and services make a contribution to overcoming some of the biggest global challenges, including the SDGs of zero hunger and good global health care in particular.

Clear responsibilities and structures defined

As part of Bayer's corporate strategy, sustainability is firmly established at Board level. Responsibility for the Group's sustainable orientation lies with the Board of Management member responsible for Human Resources, Technology and Sustainability in his role as Chief Sustainability Officer, and with the Corporate Health, Safety & Sustainability function introduced in 2016. Operational implementation is effected with the help of nonfinancial targets and performance indicators throughout the value chain. It is based on a clear definition of responsibilities in the corporate structure and the identification of key areas of activity using a materiality analysis. Corporate policies ensure our sustainability principles are firmly established in business operations and are implemented through management systems, committees and processes. The ongoing review and revision of directives and regular internal audits ensure that our management systems are continuously improved and aligned to the specific respective requirements.

Covestro has established its own sustainability organization that functions according to a similar system and comparable processes to those at Bayer. The following information in this chapter does not include Covestro unless otherwise indicated.

A 1.2.3/

Structure of Sustainability Management

Sustainability management		
Organization	Major areas of activity	Steering, measurement and documentation
<ul style="list-style-type: none"> > Member of the Board of Management responsible for Human Resources, Technology and Sustainability > Corporate Health, Safety & Sustainability function > Group committees focusing on sustainability and HSEQ issues 	<ul style="list-style-type: none"> > Product and process innovation > Access to Medicine > Sustainable food supply > Employee relations and development > Business ethics > Product stewardship > Safety > Environmental protection / resource efficiency > Supplier management > Stakeholder engagement / partnering > Societal engagement 	<ul style="list-style-type: none"> > Group policies on, for example, <ul style="list-style-type: none"> – human rights – compliance – sustainable development – responsible marketing > Targets / indicators > HSEQ management systems and audits > Opportunity and risk management > Integrated Annual Report with independent auditing
Commitment to standards and organizations such as WBCSD, GRI, U.N. Global Compact, Responsible Care		

Materiality analysis and areas of activity updated

We regularly analyze what the major stakeholders expect and require and match this against our own assessment. This enables us to identify at an early stage the latest developments along with sustainability-related opportunities and risks, which we can then incorporate into our strategy. After Covestro became independent and Bayer realigned itself as a Life Science company, we examined our areas of activity in 2016. This involved reviewing the issues in our last materiality analysis and assessing their relevance in view of the reorganization. Selected internal and external stakeholders evaluated the relevance to Bayer of the issues identified in respect of sales, costs, risk and reputation. The results were entered into a materiality matrix in line with the internal and external perspectives. The next step was to condense the issues relevant to Bayer, leading to 11 areas of activity. The Board of Management approved the entire process. The following graphic shows our areas of activity and their assignment to the stages of the value chain.



www.bayer.com/policies



[www.bayer.com/
materiality](http://www.bayer.com/materiality)



[www.bayer.com/
areas-of-activity](http://www.bayer.com/areas-of-activity)

Areas of Activity Along the Value Chain

Areas of activity	Value chain stages	Research, development, innovation	Procurement and supply chain	Production	Logistics	Distribution and marketing	Use
Product and process innovation		☒		☒			
Access to Medicine		☒				☒	
Sustainable food supply		☒		☒		☒	
Employee relations and development		☒		☒	☒	☒	
Business ethics		☒		☒	☒	☒	☒
Product stewardship		☒		☒	☒	☒	☒
Safety		☒		☒	☒		
Environmental protection / resource efficiency		☒		☒	☒	☒	☒
Supplier management			☒				
Stakeholder engagement / partnering		☒		☒	☒	☒	☒
Societal engagement		☒			☒		



GRI: see Glossary



www.bayer.com/gri

The content index of the Global Reporting Initiative (GRI) with the corresponding U.N. Global Compact principles and the key GRI aspects assigned to our areas of activity can be found in the augmented version of the Annual Report. There we indicate whether we are able to exert influence within or outside the company. An overview of our areas of activity, their definitions, the corresponding Group targets and the assigned GRI aspects is available on our sustainability website.

Stakeholder dialogue promotes acceptance and business success

As a company, Bayer is a part of society and of public life. Ongoing and systematic dialogue with our stakeholders is therefore particularly important to us. Their expectations and viewpoints affect public acceptance of Bayer and thus our commercial success. They enable us to recognize trends and developments in society and our markets at an early stage and provide input for the continuing development of our business activities, risk management and reporting. We take the wide-ranging requirements of our stakeholders seriously and consider them in our business operations. The open dialogue with them also enables us to build trust in our products and the social value of our services. We distinguish four main stakeholder groups with which we interact.

A 1.2.3/3

Stakeholder Dialogue: Our Most Important Interest Groups

Bayer			
Partners	Financial market participants	Social interest groups	Regulators
<ul style="list-style-type: none"> > Customers > Suppliers > Employees > Associations > Universities / schools 	<ul style="list-style-type: none"> > Investors > Banks > Rating agencies 	<ul style="list-style-type: none"> > General public > NGOs > Local communities > Competitors 	<ul style="list-style-type: none"> > Lawmakers > Politicians > Authorities

▼ Online Annex: A 1.2.3-1

1.3 Focus on Innovation

- > Excellence in research and development
- > Groundbreaking technologies in the Life Sciences
- > Global open innovation network

Innovation is a cornerstone of our mission “Science For A Better Life” and a core element of our strategy. We define innovations as new solutions that generate added value for our customers and society. Our activities focus on innovative products based on our strong research and development competencies. They are accompanied by process, service and business model innovation.



With our innovative solutions, we are responding to the global challenges in medical care and the need to safeguard an adequate food supply. Here we focus on three key elements: excellence in research and development, the application of groundbreaking technologies, and open innovation.



Group target 2016:
increase in R&D investment to €4.5 billion;
see also A 1.2.1

Excellence in research and development

The success of our company is based on excellence in research and development (R&D). The know-how and skills of our employees are our most valuable resource in this endeavor. We develop new molecules and technologies in the research-intensive fields of medicine and modern agriculture and invest continuously in research and development projects.

We maintain a global network of research and development locations, where more than 15,000 scientists are employed. The focus of the research projects is determined by the R&D strategies of our segments. In 2016, we increased our research and development investment by 9.8% (Fx adj.) to €4,666 million. We plan to invest around €4.8 billion in research and development in 2017.

Research and Development Expenses in 2016

	R&D expenses		R&D expenses before special items		Share of R&D expenses		R&D expenses before special items		R&D employees	
	€ million		€ million		%		% of sales		FTE	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Pharmaceuticals	2,450	2,787	2,402	2,736	57.3	59.7	15.7	16.7	8,003	7,934
Consumer Health	250	259	232	234	5.8	5.6	3.8	3.9	347	331
Crop Science	1,082	1,164	1,082	1,156	25.3	24.9	10.7	11.7	5,073	5,631
Animal Health	134	140	134	140	3.1	3.0	9.0	9.2	285	308
Reconciliation	96	55	96	55	2.2	1.2	8.7	5.2	40	9
Life Sciences	4,012	4,405	3,946	4,321	93.7	94.4	11.6	12.4	13,748	14,213
Covestro	262	261	261	261	6.3	5.6	2.2	2.2	1,005	1,016
Group	4,274	4,666	4,207	4,582	100	100	9.1	9.8	14,753	15,229

2015 figures restated

Patents protect Bayer's intellectual property

Globally reliable protection of intellectual property rights is particularly relevant for an innovation company like Bayer. We therefore endeavor to obtain patent protection for our products and technologies in the major markets depending on the legal framework. At the end of 2016, we owned approximately 50,800 valid patent applications and patents relating to some 5,000 protected inventions worldwide. ▶ [Online Annex: A 1.3-1](#)

Groundbreaking technologies in the Life Sciences

With our strategic innovation unit, the Bayer Lifescience Center (BLSC), we focus on new groundbreaking technologies. In May 2016, Bayer and ERS Genomics, Ireland, signed an agreement giving Bayer access to ERS's CRISPR-Cas9 genome-editing patents. The agreement granted Bayer rights for defined research applications of this technology in selected strategic areas. In August 2016, Casebia Therapeutics, a company established by Bayer and CRISPR Therapeutics in March 2016, launched operations in Cambridge, Massachusetts, and San Francisco, California, United States. The goal of Casebia Therapeutics is to develop new, trend-setting therapeutics to treat blood diseases, blindness and congenital heart disease. In December 2016, Bayer and Verasant Ventures established the company BlueRock Therapeutics, which will be active in the area of regenerative medicine. The company plans to develop highly efficient therapies based on induced pluripotent stem cells (iPSCs) to cure various cardiovascular diseases, neurological disorders and diseases of the central nervous system.



See the segment sections for details

www.innovate.bayer.com**Global open innovation network**

Partnerships are integral to our innovation strategy. That is why we work within a network of alliances with start-ups, academic institutes, industry, suppliers and other partners. Our open innovation network spans all parts of the company along the value chain. Our open innovation portal offers a platform for collaborations in all parts of the company. We also invest in venture capital funds that finance life science start-up companies, among other projects. ▶ [Online Annex: A 1.3-2](#)

Pharmaceuticals

Pharmaceuticals focuses on indications with high medical need in the areas of cardiovascular disease, oncology, gynecology, ophthalmology and hematology. We conduct research and development activities at several locations, mainly in Germany, the United States, Japan, China, Finland and Norway.

In line with our targets for 2016 we transferred 12 new molecular entities from our research pipeline into preclinical development in the reporting year. We define a new molecular entity (NME) as a new chemical or biological substance that has not been in development to date. In preclinical trials these substances are examined further in various models with respect to their suitability for clinical trials and linked "first-in-man" studies. In 2016, we conducted clinical trials with several drug candidates from our research and development pipeline. We strengthened products that were already on the market through life cycle management activities to further improve their application and / or expand their spectrum of indications.

Progress in clinical Phase II projects

The following table shows our most important drug candidates currently in Phase II of clinical testing:

A 1.3/2

Research and Development Projects (Phase II)¹

Projects	Indication
Anetumab ravidansine (mesothelin ADC)	Cancer
Ang2 antibody + afibbercept	Serious eye diseases ²
BAY 1142524 (chymase inhibitor)	Heart failure
BAY 2306001 (IONIS-FXIRx)	Prevention of thrombosis ³
Copanlisib (PI3K inhibitor)	Recurrent / resistant non-Hodgkin lymphoma (NHL)
Molidustat (HIF-PH inhibitor)	Renal anemia
Neladenoson bialanate (BAY 1067197)	Chronic heart failure
PDGFR-beta + afibbercept	Wet age-related macular degeneration ²
Radium-223 dichloride	Breast cancer with bone metastases
Radium-223 dichloride	Cancer, various studies
Regorafenib	Cancer
Riociguat	Diffuse systemic sclerosis
Riociguat	Cystic fibrosis
Rivaroxaban	Secondary prevention of acute coronary syndrome (ACS) ⁴
Vilaprisan (S-PRM)	Symptomatic uterine fibroids ⁵
Vilaprisan (S-PRM)	Endometriosis

¹ As of January 31, 2017

² Sponsored by Regeneron Pharmaceuticals, Inc.

³ Sponsored by Ionis Pharmaceuticals, Inc.

⁴ Sponsored by Janssen Research & Development, LLC

⁵ Based on positive Phase II study data, the decision was taken to initiate Phase III studies.

The nature of drug discovery and development is such that not all compounds can be expected to meet the predefined project goals. It is possible that any or all of the projects listed above may have to be discontinued due to scientific and / or commercial reasons and will not result in commercialized products. It is also possible that the requisite U.S. Food and Drug Administration (FDA), European Medicines Agency (EMA) or other regulatory approvals will not be granted for these compounds. Moreover, we regularly review our research and development pipeline so that we can give priority to advancing the most promising pharmaceuticals projects.

Below are the most significant changes that occurred in 2016 compared with the previous year:

In March 2016, we expanded our existing cooperation with Regeneron Pharmaceuticals, Inc., United States, to jointly develop a combination therapy of the angiopoietin2 (Ang2) antibody nesvacumab and afibbercept for the treatment of serious eye diseases. Two ongoing Phase II clinical studies are evaluating the combination therapy as a single intravitreal injection in patients with wet age-related macular degeneration or diabetic macular edema.



Bayer worldwide; see also A 1.1.1/1



Group target 2016:
transition of 10 new
molecular entities
(NMEs) into
development;
see also A 1.2.1

Also in March 2016, the study involving BAY 1007626, or progestin IUS (contraception), was discontinued. Clinical development of roniciclib (cancer) was discontinued. Bayer does not intend to pursue the development of refametinib (cancer) and the project will be returned to Ardea Biosciences, Inc., United States.

In May 2016, we terminated our Phase II study investigating riociguat (tradename: Adempas™) in patients with pulmonary hypertension associated with idiopathic interstitial pneumonia (PH-IIP) following the recommendation of an independent data monitoring committee (DMC).

We also will not further pursue the development of BAY 98-7196 + anastrozole (intravaginal ring) for the indication endometriosis.

In September 2016, our partner Regeneron Pharmaceuticals, Inc., United States, published the first data from a clinical Phase II study investigating the treatment of wet age-related macular degeneration with rinucumab, a PDGFR- β antibody, in combination with aflibercept (tradename: Eylea™). Although the study failed to meet its primary endpoint, a statistically significant improvement in visual acuity after 12 weeks, Regeneron will, however, continue the study as planned. Further data will be analyzed after 28 weeks and following the conclusion of the trial (after 52 weeks). Bayer will then examine the available data and decide on the next steps.

Progress in clinical Phase III projects

The following table shows our most important drug candidates currently in Phase III of clinical testing:

A 1.3/3

Research and Development Projects (Phase III)¹

Projects	Indication
Amikacin Inhale	Pulmonary infection
BAY 1841788 (ODM-201, AR antagonist)	Nonmetastatic castration-resistant prostate cancer
BAY 1841788 (ODM-201, AR antagonist)	Metastatic hormone-sensitive prostate cancer
Ciprofloxacin DPI	Non-cystic fibrosis bronchiectasis
Copanlisib (PI3K inhibitor)	Various forms of non-Hodgkin lymphoma (NHL)
Damoctocog alfa pegol (BAY 94-9027, long-acting rFVIII)	Hemophilia A
Finerenone (MR antagonist)	Diabetic kidney disease
Radium-223 dichloride	Combination treatment of castration-resistant prostate cancer
Regorafenib	Colon cancer, adjuvant therapy
Rivaroxaban	Prevention of major adverse cardiac events (MACE)
Rivaroxaban	Anticoagulation in patients with chronic heart failure ²
Rivaroxaban	Long-term prevention of venous thromboembolism
Rivaroxaban	Prevention of venous thromboembolism in high-risk patients after discharge from hospital ²
Rivaroxaban	Embolic stroke of undetermined source (ESUS)
Rivaroxaban	Peripheral artery disease (PAD)
Tedizolid	Pulmonary infection
Vericiguat (BAY 1021189, sGC stimulator)	Chronic heart failure ³

¹ As of January 31, 2017

² Sponsored by Janssen Research & Development, LLC

³ Sponsored by Merck & Co., Inc., United States

The nature of drug discovery and development is such that not all compounds can be expected to meet the predefined project goals. It is possible that any or all of the projects listed above may have to be discontinued due to scientific and/or commercial reasons and will not result in commercialized products. It is also possible that the requisite U.S. Food and Drug Administration (FDA), European Medicines Agency (EMA) or other regulatory approvals will not be granted for these compounds. Moreover, we regularly review our research and development pipeline so that we can give priority to advancing the most promising pharmaceuticals projects.

Below are the most significant changes that occurred in 2016 compared with the previous year:

In the first quarter of 2016, we decided to focus our development activities for finerenone on the indication of diabetic kidney disease. A study in the indication of chronic heart failure will therefore not be carried out.

In May 2016, a clinical Phase III study investigating regorafenib (tradename: **Stivarga™**) in unresectable liver cancer reached its primary endpoint, a statistically significant improvement of overall survival. The study investigated regorafenib in patients with hepatocellular carcinoma whose disease had further progressed during prior treatment with sorafenib (tradename: **Nexavar™**). Based on these data, we submitted regorafenib for marketing authorization for the treatment of unresectable liver cancer in Europe, Japan and the United States in the third quarter of 2016.

In June 2016, we agreed with Orion Corporation, Espoo, Finland, to expand the global clinical development program for the novel androgen receptor (AR) antagonist BAY-1841788 (ODM-201).

A new clinical Phase III study is evaluating BAY-1841788 in men with newly diagnosed metastatic hormone-sensitive prostate cancer (mHSPC) who are starting first-line hormone therapy.

In June 2016, we formed a new research partnership with the U.S. National Surgical Adjuvant Breast and Bowel Project (NSABP), a leading clinical trials cooperative group. A clinical Phase III study will investigate regorafenib as a single agent for adjuvant treatment following completion of standard adjuvant chemotherapy in patients with advanced but not yet metastatic colon cancer.

In September 2016, a new clinical Phase III trial was initiated to evaluate vericiguat, a soluble guanylate cyclase (sGC) stimulator, in patients suffering from chronic heart failure with reduced ejection fraction. The development and commercialization of vericiguat are part of the worldwide strategic collaboration between Bayer and Merck & Co., Inc., United States (through a subsidiary), in the field of sGC modulation.

In February 2017, the Phase III COMPASS study with Bayer's rivaroxaban in patients with coronary or peripheral artery disease showed overwhelming efficacy and met its primary endpoint early.

Clinical trials are an essential tool for determining the efficacy and safety/tolerability of new developmental products before they can be used to diagnose or treat diseases. The benefits and risks of new medicinal products must always be scientifically proven and well documented. All clinical trials at Bayer satisfy strict international guidelines and quality standards, as well as the respective applicable national laws and standards. ↴ **Online Annex: A 1.3-3**

Filings and approvals

We regularly evaluate our research and development pipeline in order to prioritize the most promising pharmaceutical projects. Following the completion of the required studies with a number of these drug candidates, we submitted applications to one or more regulatory agencies for approvals or approval expansions. The most important drug candidates in the approval process are:

A 1.3/4

Main Products Submitted for Approval¹

Projects	Indication
Regorafenib	Europe, Japan, U.S.A.: second-line treatment for unresectable liver cancer
Rivaroxaban ²	U.S.A.; secondary prophylaxis of acute coronary syndrome (ACS)

¹ As of January 31, 2017

² Submitted by Janssen Research & Development, LLC

In February 2016, Bayer received approval from the European Commission for **Kovaltry™** (Bay 81-89-73) for the treatment of hemophilia A in patients of all age groups. Kovaltry™ is an unmodified recombinant factor VIII product that in clinical trials has demonstrated efficacy and tolerability as an on-demand therapy and for prophylactic use two or three times per week by hemophilia A patients. In March 2016, Kovaltry™ was approved by the U.S. Food and Drug Administration (FDA) and the Japanese Ministry of Health, Labour and Welfare (MHLW).

In March 2016, the Japanese MHLW granted marketing authorization for **Xofigo™** (radium-223 dichloride) for the treatment of adult patients with castration-resistant prostate cancer and bone metastases.

In May 2016, the U.S. Food and Drug Administration (FDA) approved **Gadavist™ / Gadovist™** (active ingredient: gadobutrol) as the first contrast agent for use with magnetic resonance angiography (MRA) to evaluate known or suspected supra-aortic or renal artery disease in patients of all ages.

In September 2016, the U.S. Food and Drug Administration (FDA) approved our new low-dose levonorgestrel-releasing intrauterine system with the brand name **Kyleena™**. The new system releases the lowest daily hormone dose in an intrauterine system for up to five years of effective protection against pregnancy. It uses the smallest T-shaped body available today for implantation in the uterus for the purpose of contraception with active ingredient-releasing systems. In October 2016, furthermore, we successfully completed the corresponding decentralized registration procedure for the European Union. On this basis, it is expected that the health authorities of the E.U. member states will grant national marketing authorizations in the coming months.

In November 2016, an expansion of indications was filed for **Stivarga™** (active ingredient: regorafenib) in the United States, Japan and Europe. The filings pertain to the second-line treatment of patients with unresectable hepatocellular carcinoma. Stivarga™, an oral multikinase inhibitor, is already approved under this brand name in numerous countries for the treatment of metastatic colorectal cancer and unresectable or metastatic gastrointestinal stromal tumors. The U.S. Food and Drug Administration (FDA) granted priority review status to regorafenib in the registration process for the expansion of indications (supplemental New Drug Application, sNDA). The Japanese Ministry of Health, Labour and Welfare (MHLW) granted priority review status for the registration filing in January 2017.

Cooperations

We augment our own research capacities through collaborations and strategic alliances with external industrial and academic research partners. In this way we gain access to complementary technologies and external innovation potential. The following table shows examples of the main collaborations:

A 1.3/5

Main Cooperations in 2016

Partner	Cooperation objective
Broad Institute	Strategic partnership in the field of genome and drug research in cardiology aimed at using findings from human genetics to develop new cardiovascular therapies and in the field of oncology to identify and develop active ingredients that target tumor-specific gene alterations
German Cancer Research Center (DKFZ)	Strategic partnership for the development of new therapeutic options in oncology, especially in immunotherapy
Evotec AG	Collaboration to identify development candidates for the treatment of endometriosis and kidney diseases
ImmunoGen Inc.	Cooperation in the field of antibody-drug conjugates (ADCs) for novel tumor therapies
Janssen Research & Development, LLC of Johnson & Johnson	Development of Xarelto™ (rivaroxaban)
Merck & Co., Inc.	Development and marketing collaboration in the field of soluble guanylate cyclase (sGC) modulation
MorphoSys AG	Development of antibody-drug conjugates using MorphoSys's HuCAL technology
Orion Corporation	Development of ODM-201 for the treatment of patients with prostate cancer
Regeneron Pharmaceuticals Inc.	Development of Eylea™ (aflibercept) to treat various eye diseases
	Development of a combination therapy of rinucumab, a PDGFR-beta (beta-type platelet derived growth factor receptor) antibody, and aflibercept for the treatment of wet age-related macular degeneration
	Development of a combination therapy of the angiopoietin2 (Ang2) antibody nesvacumab and aflibercept for the treatment of serious eye diseases

Further examples are shown in the augmented version. ↴ [Online Annex: A 1.3-4](#)

Consumer Health

Our development activities for nonprescription (OTC) products focus primarily on the areas of dermatology, dietary supplements, pain relief, gastrointestinal complaints, allergy relief and cold symptoms, as well as foot and sun care products. Developments aligned to the desires and needs of consumers range from new formulations, delivery forms and solutions for specific customer requirements to new packaging designs, technical applications (apps, Custom Fit Kiosk for Dr. Scholl's™ products) and medical devices. Consumer Health maintains a global network of research and development facilities, with sites in the United States, France, Germany and China.



See also A 1.3
"Global open innovation network"



Bayer worldwide; see also A 1.1.1/1





See also A 1.1.2



Group target 2016:
transition of
20 consumer-validated
concepts into early
development

Transitioning of current prescription medicines to OTC status (Rx-to-OTC switches) forms an integral part of our innovation strategy designed to offer new self-care solutions to consumers. In 2016, we were able to realize 30 new consumer-validated concepts and thus exceeded the target we had set.

In 2016, we introduced a number of new product line extensions for existing brands in various markets, including as follows:

The April 2016 expansion of our Claritin™ portfolio in the United States included ClariSpray™, a 24-hour nasal spray for treatment of allergy symptoms.

We began marketing Aleve™ Direct Therapy in the United States in June 2016, thereby expanding our range of analgesic products. This medical device for transcutaneous electrical nerve stimulation is used to help relieve lower back pain and tension.

We expanded our Alka-Seltzer™ product family in the United States in July 2016 to include another cold medicine in the Alka-Seltzer Plus™ line.

We launched the new 2-phase system for Elevit™ (Elevit™1 and Elevit™2) in Germany in October 2016. These two complementary products for the healthy development of babies are specially tailored to the increased nutrient requirements of women in the conception and pregnancy phases.

Crop Science



Bayer worldwide; see
also A 1.1.1/1



Crop Science maintains a global network of research and development facilities. While research is carried out centrally at a few dedicated sites, development of crop protection products as well as plant breeding and trait development activities take place both at these sites and at numerous field testing and breeding stations in all regions. Our scientists working across the areas of seed traits, seed technology, seed breeding, agricultural chemistry and biologics closely collaborate as part of our integrated research approach. This optimally combines complementary technical expertise from chemical and biological research and development.

To develop better agronomic recommendations for farmers, we develop, for example, digital products and services that help them with analyses and the evaluation of conditions in the field and provide them with extensive geographical information that enables better decision-making for mastering a variety of challenges.

At **Crop Protection**, we pursue the goal of identifying and developing innovative, safe and sustainable active ingredients for use as insecticides, fungicides, herbicides and crop efficiency products by foliar and soil application as well as seed treatment. Here, we use research methods such as high-throughput screening and computational life sciences for the identification and optimization of new chemical and microbial leads. In addition, we expand the area of applications for our active ingredients and their performance through new mixtures and through the development of innovative formulations.

In **Seeds** we are conducting research to optimize plant traits and are developing new varieties in cotton, oilseed rape / canola, soybeans, rice, wheat and vegetables. Our researchers are working both on increasing the yield potential of crops and on enhancing the quality of the crop. Examples include altering the profile of rapeseed / canola oil or enhancing the properties of cotton fibers. We are also targeting the development of plants that deliver higher yields under occasionally adverse climatic conditions. Further areas of focus include developing new herbicide tolerance and insect resistance traits based on novel modes of action, and improving disease tolerance.

Environmental Science further develops substances either from our own agricultural portfolio or from external partners for professional uses in non-agricultural areas. This includes solutions for controlling pests such as cockroaches or rodents in public areas and the food industry, or to control weeds on roads or railways. In the area of vector control, we develop solutions with resistance-breaking properties for controlling mosquitoes that can transmit malaria, dengue fever or Zika.

Research and development pipeline

Our product pipeline contains numerous new crop protection products, seed varieties and enhanced products (life cycle management). We estimate the combined peak sales potential of products with launch dates between 2015 and 2020 to be more than €5 billion. In 2016, we launched confirmatory technical proof-of-concept field studies for four active ingredients and one new crop trait, thus exceeding our Group target. A new plant trait is a specific characteristic that has not yet been available or offered at Bayer for the crop plant in question. The following table shows selected new products that are expected to be launched by 2020.

↗
Group target 2016:
transfer of 3 new molecular entities (NMEs),
plant traits or biologics
into confirmatory technical
proof-of-concept
field studies;
see also A 1.2.1

A 1.3/6

Product Innovation Pipeline¹

Market launch	Product group	Indication / crop	Product / plant trait
2017	Biological crop protection	Insecticide	BioAct™ Liquid
2017	Seeds	Cotton	Glytol TwinLink Plus™ (dual herbicide tolerance and insect resistance)
2017	Seeds	Rice	Pest resistance and disease tolerance (native traits)
2017	Seeds	Rice	Flood tolerance (native trait)
2017	Seeds	Soybeans	Balance™ GT (dual herbicide tolerance)
2018	Seeds	Oilseed rape / canola	Dual herbicide tolerance
2018	Seeds	Rice	Salt tolerance (native trait)
2019	Chemical crop protection	Insecticide	Tetraniliprole
2019	Chemical crop protection	Fungicide	Tiviant™
2019	Seeds	Oilseed rape / canola	Herbicide tolerance
2019	Seeds	Oilseed rape / canola	New oil profile (native trait)
2019	Seeds	Rice	Dual disease tolerance (native trait)
2019	Seeds	Soybeans	Triple herbicide tolerance
2020	Seeds	Oilseed rape / canola	Dual herbicide tolerance

¹ Planned market launch of selected new products

As of January 30, 2017

New products and registrations

In 2016, Crop Science received marketing authorization in certain countries for new mixtures and formulations, as well as for expanded indications for existing products. For example, we were granted authorization to market the herbicide indaziflam and its core brand Alion™ in Brazil and the new herbicide mixture DiFlexx™ Duo in corn in the United States. The herbicide active ingredient triafamone and its Council™ formulations were approved in Japan. We also received further marketing authorizations and the approval of expanded indications for the biological fungicide Serenade™ ASO in various countries and for the nematicide Velum™ prime in southern Europe and Africa.

In July 2016, furthermore, the European Commission approved the dual herbicide tolerance trait Balance™ GT in soybeans for food and feed uses. Balance™ GT is owned by MS Technologies and is being codeveloped through a joint development agreement between that company and Bayer. The launch of soybeans with this new trait is planned for 2017, pending approval by the regulatory authorities.

Major success can be achieved with vegetables and many broad-acre crops using conventional and molecular plant breeding methods. As vegetables are intended especially to be marketed and eaten fresh, merchants and consumers have particularly strict requirements and expectations regarding their taste, appearance, nutrient content and shelf life. We continuously launch new vegetable seed varieties with these quality traits. In addition, we launch numerous new broad-acre crop varieties every year.

Environmental Science expanded its product range for forestry in Indonesia, Argentina and Brazil by launching the herbicide Esplanade™ F. Furthermore, the two new products Derigo™ and Pistol™ Flexx supplemented our portfolio for vegetation control in noncrop areas. We are continuously expanding our range of products for the maintenance of golf courses by developing and introducing various innovative solutions such as the nematicide Indemify™ and the fungicide Exteris™ in the United States. We are also supporting professional pest control around the world by expanding the Maxforce™ range of insecticides.

Cooperations



See also A 1.3

"Global open innovation network"

A 1.3/7

Crop Science: Important Cooperations

Partner	Cooperation objective
CSIRO	Increase in wheat yields by means of native plant traits – discovery, validation and integration
Elemental Enzymes	Use of microbes to improve soil health and thereby increase crop productivity
GRDC	Herbicide Innovation Partnership for the discovery and development of innovative weed management solutions
IVCC	Joint development of new substances to control mosquitoes that transmit diseases such as malaria and dengue fever
Targenomix	Development and application of systems biology approaches to achieve a better understanding of metabolic processes in plants
Embrapa	Cooperation on several R&D objectives in various areas of relevance for agriculture in Brazil, e.g. Asian soybean rust
Jülich Research Center	Research collaboration focused on phenotyping for plant breeding, research into plant traits and the development of biologicals
Planetary Resources International	Decision-making aids for farmers that enable more targeted deployment of crop protection products in fields using satellite technology

Further details on our research partnerships are contained in [Online Annex: A 1.3-5](#)

Animal Health

At Animal Health we focus our research and development activities on antiparasitics, antibiotics, medicines to treat noninfectious disorders and nonantibiotic alternatives for infectious diseases. We endeavor to improve the health and well-being of companion and farm animals through innovations that also include digital solutions. Here Animal Health also pursues the "one health" concept: we offer animal health products that reduce the risk of transmission of disease pathogens to humans, such as endoparasiticides for cats and dogs or ectoparasiticides to protect especially against fleas and ticks. Through our initiative focusing on companion vector-borne diseases (CVBD) and with the leading global scientists who participate in this initiative, we are setting trends in the establishment of scientific principles and the fight against vector-borne diseases.



www.cvbd.org

Our central research activities are conducted through the Life Sciences platform in conjunction with the research and development department at Pharmaceuticals and in close collaboration with Crop Science.

New products and registrations

In January 2017, the European regulatory authorities approved a new product to protect honey bees against the Varroa mite. Before the product can be marketed, this decision must be implemented in national law.

Cooperations

Animal Health reinforces its business by continually identifying further product development candidates through new and existing collaborations.

In May 2016, we entered into an agreement with BioNTech AG, Germany, to develop novel mRNA vaccines and therapeutics specifically for veterinary medicine applications.

Also in May 2016, we signed a global license agreement with TransferTech Sherbrooke, Quebec, Canada, to advance a novel vaccine candidate developed at Université de Sherbrooke. The new vaccine is intended to help protect dairy cattle from mastitis caused by the bacterium *Staphylococcus aureus*.

Covestro

Innovation is a core element of Covestro's strategy. The company is accounting for current and future needs and trends through systematic innovation management, a strong global presence with major innovation centers and pronounced customer centricity.

With the objective of maintaining and building on its own competitive position, Covestro continuously works to achieve innovations and improvements in products and in production and processing techniques, as well as with respect to business models and processes. The main goals here are to improve the performance of products and processes, increase their cost efficiency and open up new areas of application.

The focus in the Polyurethanes Business Unit (BU) is partly on increasing the flame retardance and insulation properties of the materials it supplies. The business unit is also researching alternatives to petrochemical raw materials. The Polycarbonates BU focuses mainly on reducing the weight of the relevant materials, increasing their energy efficiency and safety, and expanding design options. The Coatings, Adhesives, Specialties BU concentrates on further developing its own technology platforms and the related products in order, for example, to increase their efficiency and sustainability.

Cooperation is integral to the innovation management concept of Covestro. The company closely cooperates with customers, scientific institutions, start-up companies and academic spin-offs.

1.4 Sustainable Conduct

1.4.1 Commitment to Employees and Society

- > Attracting, developing and retaining the best managers and employees
- > Corporate culture: dialogue, diversity, innovation
- > Creating attractive working conditions
- > Wide-ranging societal engagement



Our business success is based to a large extent on the knowledge, skills, commitment and satisfaction of our employees. As a modern international employer, we offer our employees attractive conditions and wide-ranging individual development opportunities. The key to this is our highly effective system of vocational and ongoing training, which we are continuously extending. Alongside professional training, we focus on conveying our corporate values (LIFE) and establishing a

dialogue-oriented corporate culture based on trust, respect for diversity and equality of opportunity. That plays a part in employee satisfaction – along with our responsible approach to structuring working conditions, which includes fair and respectful treatment at work, a transparent, competitive and equitable compensation system, company pension plans, the ability to combine working with family commitments, flexible worktime arrangements and a working environment that fosters health.



Group target:
continuous improvement
in employee satisfaction;
see also A 1.2.1

Our global human resources strategy is designed to help us meet business needs in the future as well. It is adopted by the primary decision-making body of Bayer's HR function, the HR Leadership Team, which also sets binding policies and defines priorities for all regions and organizational units. The HR Leadership Team is led by the Head of Human Resources & Organization. Our Group-wide Employee Survey, which is normally conducted about every two years, and our institutionalized feedback discussions and analyses aim to achieve a steady rise in satisfaction with Bayer as an employer. They enable us to monitor the effectiveness of our activities and make any necessary improvements. Focal areas include strengthening our innovation culture, which provides a trustful basis that encourages creativity, experimentation, collaboration and customer focus in all areas. In the most recent Employee Survey we received an employee satisfaction rating of 87%, thereby achieving our Group target.

As well as promoting our competitiveness, our forward-looking human resources strategy reflects our social responsibility to provide secure employment and stable incomes, and to foster social integration. We are also committed to supporting the general well-being of our employees with a wide range of projects and initiatives in the central areas of health, education and meeting basic social needs.

Employee data

Slight reduction in Group headcount

On December 31, 2016, Bayer employed approximately 115,200 people worldwide (2015: 116,600), a slight decrease from the prior year. In Germany we had some 37,000 employees (2015: approximately 36,600), which was 32.1% of the total Group workforce (2015: 31.4%).

There was a reduction in the number of employees in the Asia/Pacific, Latin America and North America regions, but a slight increase in the Europe/MiddleEast/Africa region. While the headcount in the Consumer Health, Crop Science, Covestro and Pharmaceuticals segments decreased, there was an increase in the number of employees included in the Reconciliation and at Animal Health. The breakdown by function shows fewer employees working in sales and more in R&D. The proportion of women in the workforce was unchanged from the previous year at 37%. Similarly, in 2016 there was no significant change in the age structure compared with the previous year.

On the reporting date, our employees had worked for the Bayer Group for an average of eleven years. The level of voluntary fluctuation (employee-driven terminations) was 4.6% in 2016 (2015: 5.0%), slightly below the previous year's figure. The overall fluctuation rate was 12.3%, a decrease of 1.6 percentage points compared with the previous year. This figure includes all employer- and employee-driven terminations, retirements and deaths. This shows that we were again successful in retaining staff in the company for long periods. Our workforce only includes a small number of employees on temporary contracts and hardly any temporary employees from staffing agencies. More information is contained in ▼ **Online Annex: A 1.4.1-1**

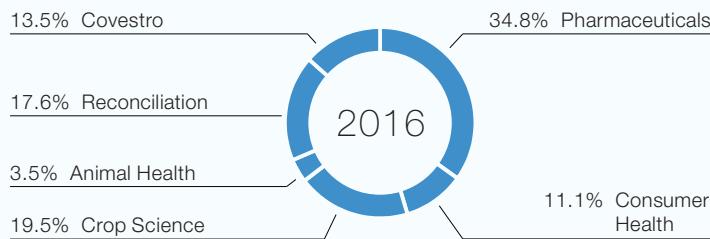
Employee Data

by Region



	2015	2016	Change in %
Total	116,600	115,200	-1.2

by Segment



	2015	2016	Change in %
Europe/Middle East/Africa	58,800	59,500	+1.2
North America	16,000	15,800	-1.3
Asia/Pacific	28,800	27,400	-4.9
Latin America	13,000	12,500	-3.8

by Function



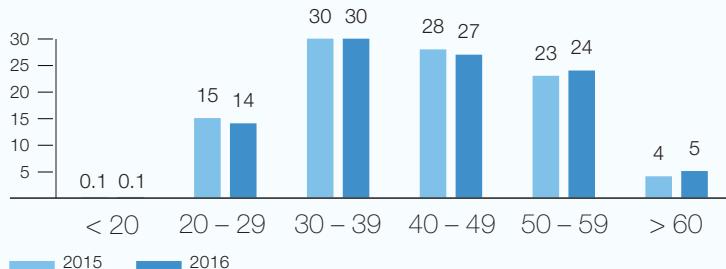
	2015	2016	Change in %
Production	50,600	50,200	-0.8
Marketing and distribution	41,700	40,200	-3.6
R&D	14,700	15,200	+3.4
General administration	9,600	9,600	0.0

by Gender



	Women		Men	
	2015	2016	2015	2016
Europe/Middle East/Africa	22,100	22,300	36,700	37,200
North America	6,200	6,200	9,700	9,600
Asia/Pacific	10,400	10,000	18,500	17,400
Latin America	4,900	4,600	8,100	7,900
Total	43,600	43,100	73,000	72,100

by Age Group in %



Fluctuation in %

	Voluntary		Total	
	2015	2016	2015	2016
In %				
Women	5.8	5.2	13.9	12.9
Men	4.5	4.3	13.9	12.0
Total	5.0	4.6	13.9	12.3

Attracting, developing and retaining the best managers and employees

Employer branding targets both current and prospective employees

Innovations, changing customer requirements and a strong competitive environment are just some of the reasons why we welcome open-minded employees who question the status quo. A professional approach to attracting suitable talents is key to this. In 2016, we established our uniform employer brand "Passion to Innovate | Power to Change" around the world. This expresses what we expect of our employees and, at the same time, what we as a company offer them. We use our employer branding internally to enhance employee identification and externally to position the company on the employment market. In total, the Bayer Group hired 12,012 new employees in 2016.  [Online Annex: A 1.4.1-2](#)

High level of vocational and ongoing training

 www.bayer.com/career
 www.bayer.com/training

Vocational training plays a key role at Bayer in order to meet the need for skilled employees. We provide sound training in more than 20 different occupations and offer more vocational training places than required to meet our needs. In Germany alone, around 1,145 young people embarked on a vocational training course at Bayer in 2016. In addition, Bayer offers trainee programs in Germany in areas such as financial management, human resources and engineering. Furthermore we give young people an opportunity to gain an early insight into a practical work environment. Overall, we provided some 2,800 professional internships for students around the world in 2016.

 A key aim of our personnel development strategy is to create an environment where all employees have the opportunity to develop their full potential. In the spirit of "lifelong learning", we help employees in all fields broaden their knowledge and skills and keep up with the latest changes throughout their working lives. Support ranges from knowledge sharing and peer learning to programs that take up new trends and perspectives. On average, employees at our significant locations of operation received 22.1 hours of vocational and ongoing training in 2016.

 [Online Annex: A 1.4.1-3](#)

Development Dialogue and feedback on performance

 **31,000**
Development Dialogues were held in 2016.

The aim of the Development Dialogue is to define possible perspectives for further career development as a basis for a development plan that fosters employees' personal strengths and addresses areas in which they would like to develop further. Some 31,000 Development Dialogues were held and documented in 2016.

 **63%**
of all Bayer employees take part in performance feedback.

Specific and differentiated feedback forms the basis for positive personal development. Bayer encourages a culture of candid feedback to help employees achieve their individual goals within the framework of corporate targets. This is supported by our Group-wide performance management system, which includes obligatory feedback discussions where employees receive meaningful feedback from their supervisors on fulfillment of their professional and behavioral objectives. This assessment also determines the level of their variable compensation. In 2016, this system covered about 63% of our total workforce. Of the participants 45% were female and 55% male.

Wide-ranging career opportunities

 **1,000**
Bayer employees on international assignments

Thanks to our wide-ranging business activities, we offer employees throughout the Group good opportunities for development. Vacancies throughout the Bayer Group, from nonmanagerial right up to senior management level, are advertised via a globally accessible platform. In 2016, around 11,700 vacancies in 63 countries were posted here. International assignments are also an important element in employee development. Around 1,000 employees around the world participated in international assignments in 2016.

Corporate culture: dialogue, diversity, innovation

Ethical standards established

Fairness and respect are central elements of our corporate culture. That includes observing Group-wide standards of conduct and protecting employees from discrimination, harassment and retaliation. These standards are set forth in the corporate policy on Fairness and Respect at Work.

Communication at all levels

We involve our employees in business processes through active dialogue and further develop employee communication formats. The previously separate intranet sites for different countries and companies have been combined in a single platform covering all employee needs. Informing staff promptly and extensively about upcoming changes, in compliance with the applicable national and international regulations, is very important to us. We engage in open and trustful dialogue with employee representatives. ▶ **Online Annex: A 1.4.1-4**

Diversity and internationality are hallmarks of Bayer

A diverse employee structure is vital for our company's competitiveness. By embracing diversity we improve our understanding of changing markets and consumer groups, gain access to a broader pool of talented people and benefit from the enhanced innovative and problem-solving abilities that are demonstrably associated with high cultural diversity. Mutual understanding and a gender and cultural balance, especially at management level, are important success factors. We have an inclusive approach: diversity is integrated into all relevant human resources processes and driven forward by the management. ▶ **Online Annex: A 1.4.1-5**

Overall, the Bayer Group employs people from around 150 different nations. Around 21% of our senior managers come from outside Western Europe, the United States and Canada. We aim to increase this to 25% by 2020 in accordance with our Group target. At our significant locations of operation we hired 390 employees for senior management, 70% of whom are employed in their country of origin.

Group-wide, Bayer had raised the proportion of women at senior management level to around 29% by the end of 2016 (2015: 28%). Without Covestro the proportion was 31%. Our aim is to raise this to 35% by 2020. ▶ **Online Annex: A 1.4.1-6**

Creating attractive working conditions

Competitive compensation and variable pay

Our compensation system combines a basic salary reflecting performance and responsibility with elements based on the company's success, plus extensive additional benefits. Adjustments based on continuous benchmarking make our compensation internationally competitive.

We attach great importance to equal pay for men and women, providing fair and competitive compensation and informing our employees transparently about the overall structure of their compensation. ▶ **Online Annex: A 1.4.1-7**

Our compensation concept also includes variable one-time payments. More than €1,400 million is earmarked for bonus awards to employees for 2016 under the Group-wide short-term incentive (STI) program. In many countries, employee stock programs enable our staff to purchase Bayer shares at a discount. We also offer senior managers throughout the Group "Aspire," a uniform long-term compensation program based on the development of the share price.

Our personnel expenses for continuing operations amounted to €11,357 million in 2016 (2015: €11,176 million). The change was mainly due to salary adjustments and higher employee bonuses, which together outweighed currency effects.



Diversity: see Glossary



Group target 2020:
increase in the proportion of senior managers from outside the European Union, the United States or Canada to 25%; see also A 1.2.1



Group target 2020:
increase the proportion of women in senior management to 35%;
see also A 1.2.1



Short-term incentive program: see Glossary



See also Note 12 to
B Consolidated Financial Statements



See also Note 25 to
B Consolidated Financial
Statements

Alongside attractive compensation for their work, Bayer contributes to the financial security of its present and former employees after their retirement. The present value of total pension obligations at the end of 2016 was €28,995 million. Personnel expenses in 2016 included pension expenses of €1,064 million. Payments of €1,131 million were made in 2016 to current retirees.

A 1.4.1/2

Personnel Expenses and Pension Obligations					
€ million	2012	2013	2014	2015	2016
Personnel expenses	9,194	9,430	9,693	11,176	11,357
of which pension expenses	681	897	834	1,060	1,064
Pension obligations ¹	22,588	20,682	27,771	26,809	28,995
Pension benefits paid	887	925	942	997	1,131

2015 figures restated; figures for 2012–2014 as last reported

¹ Present value of defined benefit obligations for pensions and other post-employment benefits

Work-life balance

Present and future employees attach great importance to achieving a balance between employment and their personal and family lives. In many countries our commitment in this area goes well beyond the statutory requirements. We offer our employees flexible working hours and support in child care and caring for close relatives.

In 2015, Bayer introduced uniform conditions for short-term mobile working in Germany through a new General Works Agreement with the Works Council. In addition, employees in Germany can convert part of their salary into free time through the “BayZeit” long-term account. There are similar programs in other countries as well.

In 2016, the Bayer Group had some 10,700 part-time employees, in particular in Europe. This figure represents 9% of the total headcount. [Online Annex: A 1.4.1-8](#)

Bayer enables both men and women to take parental leave. Since national parental leave regulations vary widely from country to country, we only compile data for our significant locations of operation. These represent a selection of countries in which we generate around 81% of our sales. 1,621 women and 687 men at these locations took parental leave in 2016. By the end of the year, around 1,583 employees on parental leave had returned to work. [Online Annex: A 1.4.1-9](#)

The General Works Agreement on caring for close relatives helps Bayer employees in Germany to combine working with their role as carers. [Online Annex: A 1.4.1-10](#)

Initiatives to promote health and ensure safe working conditions

Our occupational health management activities include many regular preventive programs, ranging from ergonomic workplaces and stress management to incentive systems to promote healthy behavior. [Online Annex: A 1.4.1-11](#)

We aim to provide employees in all countries with access to affordable and targeted health offerings such as regular medical check-ups, sports programs, rehabilitation and on-site medical care. We also ensure safe working conditions and thus an environment where our employees can work without fear and undertake international business travel without risk. Our employee representatives are included in operational health management and are actively involved in its development.

[Online Annex: A 1.4.1-12](#)

Social responsibility for employees worldwide

More than 70% of Bayer employees worldwide are included in a Bayer pension plan. The benefits provided depend on the legal, fiscal and economic conditions in each country, employee compensation and years of service. Nearly all employees worldwide either have statutory health insurance or can obtain health insurance through the company.

70%

of Bayer employees have a company pension plan.

A 1.4.1/3

Health Insurance and Pension Coverage

%	Health insurance ¹		Pension plans ²	
	2015	2016	2015	2016
Europe / Middle East / Africa	98	98	85	86
North America	93	99	99	100
Asia / Pacific	95	96	39	39
Latin America	95	99	54	57
Total	96	98	72	74

2015 figures restated

¹ Government or employer- / employee-funded² Programs to supplement statutory pension plans

Our social responsibility is also reflected in our approach to restructuring, which includes efforts to take account of our employees' interests. In Germany, which remains Bayer's largest operational base with 37,000 employees, business-related dismissals are excluded through the end of 2020 for a large proportion of employees under an agreement with the employee representatives.

In 2016, the working conditions for around 61% of our employees worldwide were governed by collective or company agreements. At various country companies, the interests of the workforce are represented by elected employee representatives who have a right to be consulted on certain personnel-related decisions. The contractually agreed working hours of our employees do not exceed 48 hours a week in any country.  [Online Annex: A 1.4.1-13](#)

Our understanding of our role as a socially responsible company includes a commitment to helping disadvantaged people. We employ some 2,600 people with disabilities in 29 countries. That is around 2% of our total workforce. 36% are female and 64% male. Most employees with disabilities work for our companies in Germany, where they made up 5.1% of the workforce in 2016.

Global respect for human rights

Bayer fully supports human rights and has set out its stance in a binding global policy. We are committed to respecting and fostering human rights within our sphere of influence and to reporting transparently on the results of our activities in this area. Alongside working conditions in the Bayer Group, this centers on our expectation that human rights will be respected at all stages in the supply chain, as detailed in our Supplier Code of Conduct. In addition, our LIFE values and Corporate Compliance Policy commit all employees around the world to fair and lawful conduct toward staff, colleagues, business partners and customers. We are a founding member of the U.N. Global Compact and respect the Universal Declaration of Human Rights and a range of globally recognized declarations applicable for multinational corporations.  [Online Annex: A 1.4.1-14](#)

In 2016, around 87% of our employees received training in the main aspects of our Human Rights Position, in training sessions totaling 220,000 hours. That included training for internal and external security staff. The compliance organizations at Group and country level monitor compliance with the relevant corporate policies. If there are signs of violation, employees can contact their Compliance Officer at any time, anonymously if required. Alternatively, they can contact the Group-wide compliance hotline.

2,600people with
disabilities work for
the Bayer Group.

See also A 1.4.2.1



See also A 4.2

Societal engagement

Bayer's societal engagement focuses on people working innovatively in the areas of education & science and health & social needs who are committed to achieving a lasting improvement in living conditions. This also extends to a further focus area – sports & culture – although our involvement in professional soccer does not form part of our social sponsorship activities.



See also

Online Annex A 1.2.1-1

Our Access to Medicine (ATM) activities give patients in developing countries and the Emerging Markets access to our products.

Bayer's foundation work centers on two globally active foundations that are linked to the company – the Bayer Science & Education Foundation for Life Sciences, education and medicine, and the Bayer Cares Foundation for social innovations and social commitment. An interdisciplinary committee chaired by the member of the Bayer Board of Management responsible for Innovation holds responsibility for the strategic orientation and coordination of our societal engagement. The Group-wide donation allocation and management policies form the basis for our foundation and donation activities. A large number of the initiatives are implemented in collaboration with partner organizations such as non-governmental organizations. An independent panel made up of internal and external judges decides how foundation funding is allocated. Covestro is responsible for its own social commitment activities. Donations are allocated on the basis of internal Covestro regulations.

In 2016, we invested (incl. Covestro) a total of around €48 million (2015: €51 million) in charitable activities worldwide. This was aimed at improving the quality of life at the company's various locations and contributing to solving social challenges.

More information on Bayer's societal engagement can be found in [Online Annex: A 1.4.1-15](#)

1.4.2 Responsibility in Value Creation



- > Sustainability criteria consistently anchored in the supply chain
- > Strengthening efficiency and flexibility in production and logistics
- > Ethical action shapes dialogue and partnership with our customers

We aim to offer our customers innovative products and high-quality solutions. This requires us to efficiently and responsibly steer processes at all value creation stages: in procurement, in production, in logistics and in distribution.

Our supply chain is designed at both a global and regional level according to clear, sustainability-oriented criteria and standards. We not only examine and evaluate our suppliers' sustainability performance, but also offer them support through partnership-based cooperation and training measures. In this way, we are able to implement our requirements together with our suppliers in the face of serious challenges such as eliminating child labor.

We continuously work at our production sites to react more rapidly to market developments and to achieve our ambitious quality and safety objectives through increased flexibility and the expansion of capacities. To achieve this, we invest continuously in our global production network. We steer our logistics services in equal measure according to quality, safety and environmental aspects.

Our partnership with our customers is shaped by responsibility. We integrate them at an early stage into our processes and address their needs with regard to the use of our products. We systematically analyze their satisfaction with our performance and safeguard our long-term business success by deriving optimization measures from this analysis.

1.4.2.1 Procurement and Supplier Management

The procurement organization supplies the company with goods and services around the world. We exert influence on society and the environment as a result of our procurement activities and supplier relationships. Not just economic, but also ethical, ecological and social principles are therefore anchored in our Procurement policy, which is binding for all employees.

Procurement (excluding Covestro) has been organized since 2016 as a corporate function that acts centrally on behalf of all segments. Synergies can be leveraged by pooling know-how and procurement volumes. Our procurement activities are directed by the Procurement Leadership Team, which acts as the highest decision-making body for procurement issues. The team is led by the Head of Procurement, who reports directly to the Chief Financial Officer. Covestro has its own procurement organization. Unless explicitly stated otherwise, all information hereafter with the exception of the Group targets includes Covestro.

Procurement operates according to uniformly established procurement and supplier management processes. Long-term contracts and active supplier management for strategically important goods and services are important elements here. Thus we not only minimize procurement-specific risks such as supply bottlenecks or significant price fluctuations, but also safeguard the company's competitiveness and ensure smooth production processes.

We procured goods and services in 152 countries during the reporting period. Procurement spend from transactions with approximately 110,900 suppliers amounted to some €21.8 billion. In 2016, our procurement spend in Germany, the United States and Switzerland accounted for nearly 68% of our expenditures in OECD countries, which in turn made up about 54% of the Bayer Group's global procurement spend. Brazil, India and China together accounted for about 66% of expenditures in the non-OECD countries or about 13% of the total spend. An online table contains information about Bayer's procurement volumes and supplier shares based on the regional origin of goods and services. ▼ [Online Annex: A 1.4.2.1-1](#)

Bayer purchases locally wherever possible in order to adequately react to the requirements of our sites and strengthen regional economies. In 2016, this applied to 71% of our procurement spend at our main business locations, and also 71% of procurement spend in all countries worldwide. An overview of the main procurement products in 2016 can be found online. ▼ [Online Annex: A 1.4.2.1-2](#)

The use of renewable raw materials plays only a subordinated role at Bayer for portfolio reasons. We primarily use renewable raw materials when it makes technical, economic and ecological sense to do so. ▼ [Online Annex: A 1.4.2.1-3](#)

Bayer sustainability requirements defined in its Supplier Code of Conduct

Bayer regards adherence to sustainability standards within its supply chain as a crucial factor in the value chain and an important lever for minimizing risks. A four-step process is thus established throughout the Group to improve sustainability practices in the supply chain comprising the elements awareness-raising, supplier nomination, sustainability performance evaluation and development. It is defined in a special instruction and centrally steered by a sustainability team whose management reports to the Procurement Leadership Team.



www.covestro.com/en/company/procurement/overview

€ 21.8

billion

Bayer's procurement
spend in 2016



Local procurement:
see Glossary

Our sustainability requirements are established in Bayer's Supplier Code of Conduct. Based on the principles of the U.N. Global Compact and our Human Rights Position, it establishes the basic foundation for this cooperation. For this reason, not just economic standards, but also ethical and environmental, social and governance (ESG) standards apply for the selection and evaluation of new and existing suppliers. The Code of Conduct is integrated into electronic ordering systems and contracts throughout the Bayer Group. Furthermore, our standard supply contracts contain clauses that authorize Bayer to verify suppliers' compliance with our sustainability requirements.

Evaluating the sustainability performance of our suppliers

↗
Group target 2017:
evaluation of all strategically important suppliers

Group target 2020:
evaluation of all potentially high-risk suppliers with significant Bayer spend; see also A 1.2.1

⌚
www.tfs-initiative.com
www.pscinitiative.org

↗
Group target 2020:
development and establishment of a new sustainability standard for our supply base; see also A 1.2.1

Bayer verifies the observance of the Code requirements by our suppliers through online assessments and on-site audits. Suppliers are selected for these evaluations based on a combination of country and material risks as well as strategic importance in accordance with our Group targets. By 2017, Bayer plans to evaluate all strategically important suppliers according to sustainability-relevant criteria (target attainment as of 2016: 98%). This group includes suppliers with a major influence on business in terms of, for example, procurement spend and long-term collaboration prospects (3-5 years). By 2020, we also aim to evaluate all those suppliers with a significant procurement spend (> €1 million p.a.) that are regarded as potentially high-risk suppliers (target attainment as of 2016: 83%).

Bayer carries out the online assessments together with an established provider of sustainability performance evaluations (EcoVadis). The assessment criteria comprise the areas environment, labor practices and human rights, ethics and sustainable procurement. On-site audits are carried out by independent external auditors. Audits are based on the criteria of the Together for Sustainability (TfS) initiative and the Pharmaceutical Supply Chain Initiative (PSCI). In both initiatives, Bayer works together with other companies to standardize sustainability assessments and audits of suppliers in the same industry and to leverage synergies by sharing information. In line with our Group target, we plan to develop and introduce a sustainability standard for our suppliers by 2020. In addition, Bayer auditors evaluate suppliers with regard to sustainability aspects focusing on health, safety and environmental protection.

The number of our supplier assessments and audits, as well as further review processes, is summarized in an online overview. ↘ [Online Annex: A 1.4.2.1-4](#)

The online assessments and on-site audits are analyzed and documented so that – in the event of unsatisfactory results – specific improvement measures can be defined with the suppliers. In 2016, this applied above all to the categories Ethics, Sustainable Procurement and Health and Safety. In 2016, 24 suppliers (3% of those evaluated) posted a critical result (assessment level low). These suppliers were requested by Bayer to rectify the identified weaknesses on the basis of specific action plans. Overall some 400 of our suppliers improved their sustainability performance in 2016. Details on the assessments can be found online. ↘ [Online Annex: A 1.4.2.1-5](#)

📋
Conflict minerals:
see Glossary

Additional verification processes were established for the fulfillment of further international regulations. This applies, for example, to regulations that require companies to disclose the origin of certain raw materials such as so-called conflict minerals. ↘ [Online Annex: A 1.4.2.1-6](#)

Training measures and dialogue on the issue of sustainability

We support our procurement employees in the implementation of our procurement processes and sustainability requirements with targeted Group-wide training measures. In the reporting period, 244 procurement employees completed training courses explaining the EcoVadis sustainability assessment process. We also offer our suppliers a wide range of development and dialogue opportunities in order to familiarize them with Bayer's sustainability requirements.

↘ [Online Annex: A 1.4.2.1-7](#)

Tackling child labor in the seed supply chain

A key challenge for sustainable supplier management in the Group is to counter child labor in the seed supply chain of the Crop Science segment. Our position on this is unequivocal and includes a strict ban on child labor. We therefore also obligate our suppliers along our value chain to strictly refrain from employing children. For many years, Bayer has taken systematic action to prevent child labor in the cotton, rice and vegetable seed supply chain in India, Bangladesh and the Philippines through its Child Care Program and conducts inspections locally. In 2016, Bayer for the first time also inspected external producers of vegetable seed in China and Thailand. No cases of child labor were identified. In addition, Bayer continues to raise awareness of the issue among its suppliers and their local environment and clearly communicates its requirements.

▼ Online Annex: A 1.4.2.1-8

Thanks to a stringent monitoring system, which is supported by local educational initiatives, there are now only very few instances of child labor among our contractors, which we nonetheless closely track and immediately put a stop to.

The Child Care Program Advisory Council, comprised of international experts and recognized professionals, supports Bayer in the protection of children's rights and the objective of seed production without child labor. We measure the success of our comprehensive program using the indicator "Child labor incidence as a percentage of total monitorings of laborers."

▼ Online Annex: A 1.4.2.1-9

1.4.2.2 Production and Logistics

Production according to high quality, safety and environmental standards

Bayer operates production facilities at more than 140 sites in 39 countries. The safe and responsible operation of our facilities and the comprehensive safety of our employees and the people who live near our sites are of utmost importance to Bayer. Bayer also places great importance on protecting the environment and using materials and energy efficiently. We use our HSEQ management systems to steer these processes. Our commitment to environmental protection, health and safety extends beyond the scope of legal requirements. For capital expenditure projects exceeding €10 million, it particularly includes factoring in environmental aspects and performing a voluntary ecological assessment. In the case of acquisitions, we examine whether the applicable environmental and occupational safety regulations and fundamental employee rights are complied with at the production sites in question. Group policies additionally stipulate that new production sites must not be set up in areas that are statutorily protected with regard to natural characteristics, biodiversity or other factors. ▼ Online Annex: A 1.4.2.2-1

Pharmaceuticals and Consumer Health

Both segments operate their own production sites around the world at which active ingredients are manufactured and at which formulation and packaging services are performed for the product portfolio.

Both Pharmaceuticals and Consumer Health continuously invest in their global production networks. Production capacities for the manufacture of hemophilia A products are being established at the Wuppertal and Leverkusen sites in Germany through the perennial and currently biggest capital expenditure program of Pharmaceuticals with a total volume of €720 million. The Beijing site in China is also being considerably expanded with a capital expenditure volume of some €100 million. Consumer Health's biggest investment project, also with a volume of around €100 million, comprises the modification and expansion of its production sites in China.



www.bayer.com/child-care



See also A 1.4.3.2 and 1.4.3.3



Bayer worldwide:
see also A 1.1.1/1



€720 million

is being invested in production capacities for hemophilia medicines.

A 1.4.2.2/1

Strategic Investments in Property, Plant and Equipment at Pharmaceuticals and Consumer Health

2016

Pharmaceuticals	Production capacities for new rFactor VIII therapies in Wuppertal and Leverkusen, Germany
	Expansion of R&D laboratory capacities in Wuppertal, Germany
	Modernization of research facilities in Berlin, Germany
	Modernization of site infrastructure in Wuppertal and Leverkusen, Germany
	Expansion of production capacities in Beijing, China
	Expansion of Quality Control Biologics in Berkeley, California, United States
Consumer Health	Reconstruction and expansion of production site in Majinpu, China

2015	
Pharmaceuticals	Production capacities for new rFactor VIII therapies in Wuppertal, Germany
	Expansion of R&D laboratory capacities in Wuppertal, Germany
	Modernization of research facilities in Berlin, Germany
	Modernization of site infrastructure in Wuppertal and Leverkusen, Germany
	Expansion of production capacities in Beijing, China
	Expansion of Quality Control Biologics in Berkeley, California, United States
Consumer Health	-



Bayer worldwide:
see also A 1.1.1/1



€ 2.4 billion

was invested by
Crop Science between
2013 and 2016 in the
production of crop
protection products
and seed.

Crop Science

The products of Crop Science are mainly produced at the segment's own production sites. Numerous decentralized formulation and filling sites enable the company to quickly react to the needs of local markets. At these sites the active ingredients are processed according to local requirements and application areas. Packaging of the products also takes place in these facilities. Production of seeds takes place at locations close to our customers in Europe, Asia, and North and South America at our own farms or under contract.

We invested some €2.4 billion overall in property, plant and equipment between 2013 and 2016 to satisfy increased demand for crop protection products and seed. In addition to the expansion of production capacities, this included expansion of our research and development facilities. Here the focus was on the United States and Germany and on our network of breeding stations for various crops in Europe, North and Latin America.

A 1.4.2.2/2

Strategic Investments in Property, Plant and Equipment at Crop Science

2016

	Capacity expansions for herbicides in the United States and Germany
	Construction of a production facility for insecticides in Dormagen, Germany
	Expansion of production capacities for fungicides in Dormagen, Germany
	Expansion of R&D facilities in Monheim, Germany
	Establishment of breeding stations for various plant species worldwide
	Expansion of R&D facilities in Raleigh, North Carolina, United States

2015	
	Capacity expansions for herbicides in the United States and Germany
	Construction of production facilities for insecticides in Vapi, India, and Dormagen, Germany
	Expansion of production capacities for fungicides in Dormagen, Germany
	Expansion of R&D facilities in Monheim, Germany
	Establishment of breeding stations for various plant species worldwide
	Expansion of R&D facilities in Raleigh, North Carolina, United States

Animal Health

We procure the active ingredients for our Animal Health products both from internal sources within Bayer and external suppliers worldwide. Our globally marketed animal health products are mainly manufactured at the sites in Kiel, Germany, and Shawnee, Kansas, United States.

Covestro

Covestro's network includes eight world-scale production sites. We also operate several production facilities in selected countries for the formulation and supply of customized polycarbonate granule compounds and the manufacture of semi-finished products (polycarbonate sheets). Covestro also operates regional production facilities for derivatives of the Coatings, Adhesives, Specialties Business Unit and for functional films made of polycarbonate or thermoplastic polyurethane. Covestro continuously invests in its global production network:



Bayer worldwide: see also A 1.1.1/1



A 1.4.2.2/3

Strategic Investments in Property, Plant and Equipment at Covestro

2016

- Capacity expansion of MDI facility in Brunsbüttel, Germany
- Start-up of a production line for CO₂-based polyols in Dormagen, Germany
- Continuation and finalization of capital expenditure projects from 2014
 - Doubling of production capacity for polycarbonate in Shanghai, China
 - Doubling of production capacity for the aliphatic isocyanate HDI in Shanghai, China

2015

- Construction of a production line for CO₂-based polyols in Dormagen, Germany
- Continuation of capital expenditure projects from 2014
 - Doubling of production capacity for polycarbonate in Shanghai, China
 - Doubling of production capacity for the aliphatic isocyanate HDI in Shanghai, China

Efficient logistics concept implemented

Logistics at Bayer comprises not just the transport and warehousing of goods, but in fact the entire steering and monitoring of all flows of goods and logistics data for the Bayer Group. We work continuously to develop logistics concepts that account for safety, environmental and cost aspects in equal measure. Areas of focus in the ecological field include the reduction of energy consumption and CO₂ emissions, for example by minimizing air transport or using logistic concepts that include rail- and waterways.



See also A 1.4.3

With an agile corporate structure, we operate according to management systems and directives with global validity. We use both internal capacities and external logistics partners for storage and transport services. Bayer selects these according to strict safety, environmental and quality criteria. Alongside the Corporate Supply Chain unit, each segment maintains its own logistics activities that are aligned toward the unique circumstances of the respective business model and products.

1.4.2.3 Marketing and Distribution

Our marketing and distribution activities are primarily geared toward acquiring new clients and retaining existing customers over the long term. In this area too, responsible practices are a top priority for Bayer.

Close distribution network and intensive customer dialogue

To consolidate and further build on our position in the different markets, we continuously work to optimize our market- and customer-specific distribution network and customer dialogue. Depending on market conditions, we supply our customers in the health care sector, in agriculture, in industry and in the private sector through wholesalers, specialist retailers or direct sales organizations. We have established our distribution channels at the international, regional and local levels in accordance with demand.

A high level of customer satisfaction is essential for our long-term success. We therefore systematically analyze both the diverse needs and satisfaction of, as well as complaints made by, our customers in the respective segments. We foster partnership and dialogue with our customers with the help of a variety of distribution tools and marketing formats.

▼ [Online Annex: A 1.4.2.3-1](#)

Commitment to ethical conduct

In the development, sale and marketing of our products, we do not tolerate bribery or any other form of improper exertion of influence on our business partners. The corresponding rules of conduct are established in our Corporate Policy "Responsible Marketing & Sales." Furthermore, we are committed to ethical advertising and communication for all our products and services. Our minimum standards are derived from laws and other statutory regulations, industry codes and internal rules.



Compliance: see
Glossary

As part of our compliance management system, we register and investigate any suspected violation of our responsible marketing principles. This applies to complaints both from within the company and as notified to us from outside.



See also A 3.2.1
and A 4.2

Our corporate policy and the respective training programs are implemented decentrally in the segments. ▼ [Online Annex: A 1.4.2.3-2](#)



1.4.3 Safety for People and the Environment

- > High level of product stewardship and risk prevention determines our activities
- > Occupational health and transportation safety further improved
- > More efficient use of energy and water

We are fully aware of our stakeholders' high expectations regarding our products and processes. The quality and safety of our products, the safe and responsible operation of our facilities and the comprehensive protection of our employees and the people who live near our sites are of the utmost importance to us. Bayer also considers environmental protection and the responsible use of natural resources to be extremely important.

Responsibility for health, safety, environmental protection and quality (HSEQ) lies with the Group Board of Management. Group-wide HSEQ management systems are in place and incorporated into the business processes. Responsibility for steering and control lies with the two new corporate functions, "Health, Safety & Sustainability" and "Quality," which stipulate responsibilities and framework conditions, among other things, through corporate policies, targets and key performance indicators (KPIs).

Operational responsibility lies with the corresponding line organizations of the segments, which steer HSEQ independently with management systems, committees and working groups. All relevant HSEQ performance indicators from our production sites are compiled in a Group-wide Bayer site information system (BaySIS). The continuous review and revision of policies by the corporate functions, regular mandatory internal audits and external certification processes ensure that the systems at all production sites effectively meet the specific requirements in each case.

The excellent performance of our HSEQ management systems for the areas of health, safety, environmental protection and quality also reduces running costs by avoiding damage and disruptions to work and production.

Standards and certifications

Bayer's HSEQ management systems are based on recognized international standards. Regular upkeep of the management systems and appropriate training and certification also underpin our commitment to the chemical industry's Responsible Care™ initiative and in particular the guidelines of the Responsible Care Global Charter.

With regard to HSE management system coverage based on energy consumption, around 95% of all our production sites had an HSE management system audited by Bayer in 2016. Some 97% of our business activities were certified externally to at least one internationally recognized standard. A Group-wide certification plan aims to achieve virtually complete coverage in accordance with external standards in both environmental and occupational safety management by 2017. One hundred percent coverage is not feasible owing to the frequent changes in our site portfolio.

A 1.4.3/1

Standards and Certifications

in % of business activities based on energy consumption	2012	2013	2014	2015	2016
Certification to external standards					
ISO 14001 certification / EMAS validation	84	84	91	93	94
OHSAS 18001 ¹ certification	30	30	34	80	86
ISO 50001 ² certification	-	-	40	47	49
Degree of coverage with certification to at least one of the above standards	89	90	95	93	97
HSE management systems internally audited by Bayer	99	99	94	96	95

¹ The rise in 2015 is due to the increased OHSAS 18001 certification of Covestro sites.

² Group values determined from 2014 onward

Quality management

The Quality function ensures uniform quality standards across all segments and functions along with the continuous improvement of all quality-related processes. The quality requirements derived from regulatory requirements, permits and authorizations, relevant standards of nongovernmental organizations and industry associations and customer expectations are regularly reviewed and integrated into an internal quality management system.

Our segments have quality management systems based on sector-specific international standards. Group-wide, coverage with this kind of certification is over 98% based on energy consumption. ▾ [Online Annex: A 1.4.3-1](#)

1.4.3.1 Product Stewardship

We consider product stewardship to mean that our products satisfy the highest quality standards and are safe for people, animals and the environment when properly used. All substances and finished products undergo extensive testing and evaluation in the interest of product safety. We assess possible health and environmental risks along the entire value chain and implement the appropriate measures to mitigate risks based on this.

We strictly observe the legal requirements, and our voluntary commitment and internal standards go beyond these in many areas. This is steered by the Corporate Health, Safety & Sustainability function, which is responsible for implementing the related policies and maintaining the HSE management systems.



<https://echa.europa.eu/regulations/reach>

Implementing statutory requirements

Extensive legal regulations apply to all Bayer products. Chemical substances are subject to the European chemicals regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) and the CLP regulation (Regulation on Classification, Labelling and Packaging of Substances and Mixtures). The classification and labeling of chemicals enables users in the European Union to become informed about the risks associated with chemicals. ▼ [Online Annex: A 1.4.3.1-1](#)



Biocides: see Glossary

Before any product is introduced to the market, we assess it to determine whether it is safe. Furthermore, the end products from our Life Science segments – such as pharmaceuticals, crop protection products and biocides – are subject to specific approval/authorization procedures.



www.icca-chem.org/responsible-care

Voluntary commitment by Bayer

Since 1994, Bayer has supported the voluntary Responsible Care™ initiative of the chemical industry and the associated Responsible Care™ Global Charter. We cover all main elements of the charter at all Group sites with our HSEQ management systems. We are also actively involved in the further development of scientific risk assessment through our work in associations and initiatives. ▼ [Online Annex: A 1.4.3.1-2](#)

We continuously evaluate our substances' properties already at the research and development stage. The development of products with undesirable properties is discontinued in application of the precautionary principle. ▼ [Online Annex: A 1.4.3.1-3](#)



Group target 2020:
assessment of the
hazard potential
of all substances
> 1 metric ton p.a.;
see also A 1.2.1

In Europe we operate under strict legal requirements. We voluntarily apply comparable standards around the world, independent of the respective national legislation. In this way we are ensuring that substance assessments comparable to those established under REACH will also be applied at all non-European Bayer sites. We support this through our Group target for product stewardship: by 2020, we will assess the hazard potential of all substances of our Life Sciences (> 99%) used in quantities exceeding one metric ton per annum. By the end of 2016 we had assessed 66% of these substances. The applicable assessment steps and measures are established in our Corporate Policy "Substance Information and Availability."

We carry out risk assessments for chemicals according to recognized scientific methods such as those described in the Guidance on Information Requirements and Chemical Safety Assessment of the ECHA (European Chemicals Agency). Should the analysis reveal that it is not safe to use a certain chemical, we take the steps to mitigate risks.

Product information for safe use

We pay special attention to our customers in the safe handling and use of our products. Bayer compiles safety data sheets for all products regardless of whether or not these are legally required. We offer suitable packaging information for all end consumer products, an example being package inserts for pharmaceuticals.

▼ [Online Annex: A 1.4.3.1-4](#)

In accordance with the respective product safety and information obligations, all segments compile product information both for raw materials and for intermediates or end products. IT systems enable worldwide access to this information, including as regards product labeling.

Risk assessment of products on the market

Our stewardship also involves the monitoring of all products that are already available on the market. We have established processes throughout the company aimed at addressing inquiries on product safety or problems with our products. This feedback is consistently accounted for in our risk assessment, which also covers substances that are regarded as potentially high-risk by regulatory authorities and independent institutions.

Responsible use of biotechnology

We currently use biotechnological methods in pharmaceutical product development and production and in the area of crop protection. At Pharmaceuticals, the products involved include Betaferon™/Betaseron™, Eylea™ and Kogenate™, while at Animal Health this concerns Zelnate™ – a nonantibiotic immunostimulant product. Further biotechnologically manufactured active ingredients are undergoing clinical development. Plant biotechnology can improve and secure crop yields and the stress tolerance of plants.

For Bayer, safety is a priority in the use of biotechnology. In addition to legal and regulatory requirements, Bayer has formulated a corporate policy on the responsible use of gene technology. We provide our stakeholders with comprehensive information about our products and services in accordance with our Corporate Policy “Responsible Marketing & Sales.” ▶ [Online Annex: A 1.4.3.1-5](#)

Our commitment to preserving biodiversity

We take into account influences on biodiversity throughout the entire value chain and have established our principles in our own position. There we commit ourselves to the United Nations Convention on Biological Diversity and the associated Nagoya Protocol, which regulates access to genetic resources and the balanced and fair sharing of the arising benefits. Crop Science commits itself through an internal policy to ensure that Bayer only acquires and uses genetic resources in harmony with international and national legislation. ▶ [Online Annex: A 1.4.3.1-6](#)

Commitment to animal welfare

Animal studies are legally required and essential from a scientific viewpoint to assess the safety and efficacy of our products. We aim to minimize the use of study animals and to employ alternative methods whenever possible. We respect all legal requirements pertaining to animal welfare, compliance with which is verified through both regulatory authorities and internal audits. Bayer's principles on animal welfare and animal studies apply in countries without special legislation. Bayer's Global Animal Welfare Committee monitors compliance with these guidelines within the Bayer Group and in external studies. Our principles also apply to both the research institutes we commission and our suppliers, whose compliance with our animal welfare requirements we regularly monitor. ▶ [Online Annex: A 1.4.3.1-7](#)



www.animalstudies.bayer.com

Protection against product counterfeiting

Counterfeit medicines and crop protection products harbor substantial risks for patients and consumers. Product counterfeiting can only be addressed internationally through a joint approach by industry, associations, governmental agencies and nongovernmental organizations. Bayer consistently advocates the strengthening and expansion of existing laws and provisions aimed at the identification and confiscation of illegal products. We want to additionally protect customers and products through extensive measures of our own. ▶ [Online Annex: A 1.4.3.1-8](#)

The most important regulatory authorities for Bayer are:

- the U.S. Food and Drug Administration (FDA)
- the European Medicines Agency (EMA)
- the Pharmaceuticals and Medical Devices Agency Japan (PMDA)
- the China Food and Drug Administration (CFDA)



Pharmacovigilance:
see Glossary

Pharmaceuticals and Consumer Health

Benefit-risk management for pharmaceuticals and medicinal products

The Pharmaceuticals and Consumer Health segments continuously assess the medical benefit-risk profile of their pharmaceuticals and medicinal products throughout their entire product life cycle. The efficacy, safety and tolerability of pharmaceuticals are studied in Phases I-III of preclinical and clinical development. The documentation submitted to the regulatory authorities contains the results of these studies and a comprehensive benefit-risk assessment. It is essential for a new pharmaceutical or medicinal product to satisfy regulatory safety requirements if it is to receive marketing authorization. According to these regulations, the segments continue to compile safety-relevant information in a dedicated database following market launch. This information is continuously assessed and the benefit-risk balance regularly evaluated by medical experts of various disciplines in the global Pharmacovigilance Department. In this process, Bayer works closely with the regulatory and supervisory authorities at international and national levels. Further safety-relevant information is compiled using Post-Authorization Safety Studies (PASS) conducted after approval. The results are entered into the PASS registry in compliance with E.U. pharmacovigilance legislation. ▶ [Online Annex: A 1.4.3.1-9](#)

Analysis of residues of pharmaceuticals in the environment

Active pharmaceutical ingredients can enter the environment through human or animal excreta, through improper disposal or during production. Surface waters are particularly relevant here. Pharmaceuticals and Consumer Health carry out their own ecotoxicological investigations of pharmaceutical residues and degradation products to assess the potential environmental impact of these products. In connection with the approval process for human and veterinary pharmaceuticals in Europe and the United States, an environmental risk assessment takes place for all new active ingredients. Based on currently available information, the existing concentrations of individual active pharmaceutical ingredients in drinking water do not have any relevant adverse effects on human health. This subject is dealt with in particular by a WHO report on pharmaceuticals in drinking water published in 2012 that comes to the conclusion that traceable effects on human health through the current extent of exposure via drinking water are highly improbable. We are following the discussion and actively participating in the stakeholder dialogue.

Bayer complies worldwide with all statutory requirements regarding wastewater thresholds at its production sites. In line with the regulatory requirements, these are reviewed by supervisory authorities and external consultants and also at regular intervals through audits by internal experts.

To further reduce or completely avoid traces of pharmaceuticals entering the environment, we are taking our own measures in production. In addition, as part of the Eco-Pharmaco-Stewardship initiative of European pharmaceutical associations, we have adopted their methods for the risk assessment of pharmaceutical traces in production wastewater. Bayer has reviewed its production sites according to these methods and, where necessary, taken site-specific measures aimed at a further reduction. We are also participating actively in various research projects to develop reduction measures. ▶ [Online Annex: A 1.4.3.1-10](#)

Crop Science

Focusing on product safety

Product safety and environmental compatibility play a central role in the development of crop protection products and technologies so that they are harmless to people and animals and can be used without constituting an unjustifiable ecological burden. For this they require official authorization, which is regulated by numerous international and national laws and provisions. The requirements for marketing authorization, particularly as pertains to the environment, have risen sharply in recent years. Crop Science satisfies all the regulatory requirements of the countries in which our products are sold.

In tests required by law, Crop Science already examines the products during the development phase with regard to their mode of action, their (eco)toxicological properties and the extent of potential remaining trace concentrations in plants and the environment. Each new crop protection active ingredient and each new technology must undergo these studies and tests to ensure that the active ingredient can be applied effectively as a product and that its use or that of the relevant technology is safe for people, animals and the environment.

Furthermore, Bayer has made a voluntary commitment to market only those crop protection products whose active ingredients are registered in at least one OECD country. In its sale and application of crop protection products and technologies, Crop Science observes the International Code of Conduct on Pesticide Management of the United Nations Food and Agriculture Organization (FAO). We implement all major aspects of responsible product handling in our Product Stewardship Program, which is based on the principles of our Product Stewardship Policy.

▼ [Online Annex: A 1.4.3.1-11](#)

Bayer Bee Care: strengthening bee health

As a Life Science company, we know how important healthy bees are as pollinators for sustainable food production and are aware of the key role they play in ecosystems. Promoting the health of pollinators and sustainable agriculture is of tremendous importance for our business. Within our Bee Care Program, we combine all activities in the area of pollinator health and safety. We operate Bee Care Centers in Germany and the United States for this purpose and have also established a global Bee Care network. ▼ [Online Annex: A 1.4.3.1-12](#)



www.becare.bayer.com

Involving customers and partners

The application of crop protection products requires the greatest possible care. We therefore support our customers and partners worldwide in the proper and safe handling of our seed and crop protection products. Targeted training measures particularly for farmers and dealers are designed to improve safety for users and thus also the environment and consumers. The objective is to increase the scope of our training activities worldwide. ▼ [Online Annex: A 1.4.3.1-13](#)

Users of our products can contact Crop Science through a range of communication channels should they have complaints or feedback or wish to report any incidents. These include direct contact with our sales staff; our standard hotline, which is printed on all our product packaging; and, in Germany for example, the “Agrar Telefon” expert hotline.

Animal Health

Safety standards for animal health products

In line with the statutory requirements, strict safety and quality standards also apply to animal health products, animal feed and feed additives. Within the scope of the approval/authorization procedures, Animal Health carries out detailed studies in order to ensure the safety of its products for the treated animals, people and the environment alike. A particular focus lies on monitoring veterinary pharmaceutical safety and on activities aimed at responsible product use.

▼ [Online Annex: A 1.4.3.1-14](#)

Covestro

Comprehensive assessment of health, safety and environmental risks

The safe handling and use of our products are of utmost importance. Besides statutorily required safety information, therefore, Covestro provides additional information such as safety summaries within the scope of the Global Product Strategy (GPS) of the International Council of Chemical Associations (ICCA). Covestro complies with all regulatory requirements for the protection of consumer health, including the use of the chemical bisphenol A. The company makes available both GPS information and product safety assessments through the “Product Safety First” internet portal. ▼ [Online Annex: A 1.4.3.1-15](#)



www.productsafetyfirst.covestro.com

1.4.3.2 Safety

Safety management and the continuous development of a safety culture are a cornerstone of corporate responsibility in the Bayer Group. Preventing accidents and incidents in day-to-day work, when operating production facilities, and on work-related travel and transportation routes where people or the environment may suffer harm or damage has top priority for us. Responsibility for safety is defined through appropriate directives such as our Corporate Policy "Safety at the Bayer Group." Our safety management is based on four pillars:



Occupational health and safety

Safeguarding the occupational health and safety of our employees, and of the employees of contractors and suppliers on our company premises and under the supervision of Bayer, is one of our core tasks. This entails preventing work-related accidents and occupational illnesses, assessing potential hazards, ensuring comprehensive risk management and creating a healthy working environment. The rate of occupational injuries has been falling for several years. Intensive training once again contributed to this success in 2016.



See also A 1.4.1



Group target 2020:
reduction of 35% in
occupational safety
incident rate (RIR);
see also A 1.2.1

The basis of our reporting on occupational injuries is the Recordable Incident Rate (RIR), which covers all injuries to employees requiring medical treatment that goes beyond simple first aid. This includes injuries both with and without lost workdays. In 2016, the RIR rate dropped to 0.39 cases per 200,000 hours worked, corresponding to 489 occupational injuries worldwide. This means that, in statistical terms, one recordable incident occurred for almost every 516,000 hours worked. We were also able to improve with respect to our Group target (RIR excl. Covestro). The Lost Time Recordable Incident Rate (LTRIR), which exclusively records reportable injuries with lost workdays, was higher than in the previous year. ▶ [Online Annex: A 1.4.3.2-1](#)

Regrettably, four people lost their lives in work-related accidents in 2016. Two Bayer employees were killed in traffic accidents and two contractor employees died after falling from heights, including from scaffolding. All the fatalities occurred in India.

A 1.4.3.2/2

Recordable Occupational Injuries

	2012	2013	2014	2015	2016
Occupational injuries without lost workdays (RIR ¹)	0.49	0.47	0.43	0.42	0.39
Occupational injuries without lost workdays (RIR ¹) Life Sciences	0.50	0.49	0.44	0.43	0.40
Occupational injuries with lost workdays (LTRIR ²)	0.27	0.26	0.22	0.21	0.23
Fatal injuries (total)	2	2	4	2	4
of which Bayer employees	2	1	3	2	2
of which contractor employees ³	–	1	1	–	2

¹ RIR = Recordable Incident Rate² LTRIR = Lost Time Recordable Incident Rate³ Employees working for third parties whose accidents occurred on our company premises and under Bayer supervision

An overview of the recordable incident rates (RIRs) in the regions can be found online.

▼ Online Annex: A 1.4.3.2-2

As in previous years, we hardly recorded any accidents involving contact with chemicals in 2016. A significant proportion of our accidents and injuries have behavior-linked causes. Our Behavioral Safety Program launched by the Group Board of Management is addressing this problem.

▼ Online Annex: A 1.4.3.2-3

Process and plant safety

We aim to design and operate our processes and facilities in such a way that they do not pose any inappropriate risks to employees, the environment or the community. To improve the safety of our production facilities and processes worldwide, Bayer is continually working to further develop the safety culture, the expertise of employees and the relevant standards for assessing risks. The corresponding Corporate Policy “Process and Plant Safety” updated in 2016 specifies globally harmonized procedures and standards. This is regularly reviewed to take into account changes in legislation, new procedures and additional quality assurance processes.

▼ Online Annex: A 1.4.3.2-4

The central Bayer competence center for process and plant safety in Leverkusen, Germany, the regional centers in Asia and the United States, and plant safety experts at all production sites work together in a global network. ▼ Online Annex: A 1.4.3.2-5

A globally standardized KPI – Loss of Primary Containment (LoPC) – applies as an early indicator for plant safety incidents and is integrated into Group-wide safety reporting. LoPC refers to the leakage of chemical substances or energy in amounts above defined thresholds from their primary containers, such as pipelines, pumps, tanks or drums. The LoPC Incident Rate (LoPC-IR) indicates the number of LoPC incidents per 200,000 hours worked. In 2016, the LoPC-IR was 0.32 (2015: 0.22). Bayer’s LoPC reporting is based on the standards of the European Chemical Industry Council (CEFIC), which apply throughout Europe. ▼ Online Annex: A 1.4.3.2-6

A 1.4.3.2/3

Rate of Plant Safety Incidents (LoPC-IR)

	2012	2013	2014	2015	2016
Loss of Primary Containment Incident Rate (LoPC-IR) ¹	0.38	0.35	0.23	0.22	0.32
LoPC-IR ¹ Life Sciences	0.21	0.16	0.13	0.11	0.17

¹ Number of LoPC incidents per 200,000 working hours

Group target 2020:
reduction of 30% in
process and plant
safety incidents;
see also A 1.2.1

As part of its Group-wide crisis management, Bayer operates a global early warning system – the Bayer Emergency Response System.  [Online Annex: A 1.4.3.2-7](#)

Transportation safety

Great importance is attached to transportation safety within the Bayer safety culture. This applies both to the transportation of our products on public routes, particularly of hazardous goods, and to processes such as loading, unloading, classification, labeling, packaging and selecting the right logistics partners. These are decided on using a defined procedure, and their fulfillment of safety and quality standards is assessed. The implementation of a dedicated corporate policy ensures that all materials are handled in line with applicable regulations and the potential hazard they pose. As part of our voluntary Responsible Care activities, transportation safety instructions are also drawn up for nonhazardous materials and corresponding distribution safety audits performed. Our transportation safety management is an integral part of HSE management and is implemented by a network of experts and users with practical experience.

 [Online Annex: A 1.4.3.2-8](#)

In total, well over three million transport movements took place in 2016. Bayer aims to minimize the number of incidents through preventive measures. Despite our extensive safety precautions and training activities, residual risks can result in transport incidents. These include accidents that cause personal injury or significant damage to property and environmental impact resulting from the release of substances or leakage of hazardous goods. They are recorded in detail and assessed based on defined criteria. The 12 transport incidents in 2016 were mainly traffic accidents. Detailed information and explanations about transport incidents are available online.

 [Online Annex: A 1.4.3.2-9](#)

1.4.3.3 Environmental Protection

We meet our responsibility to protect the environment in many different ways. We are continuously working to reduce the environmental impact of our business activities and develop product solutions that benefit the environment. For us, an efficient approach to raw materials and energy makes both ecological and economic sense. Our measures help reduce environmental impact and at the same time cut the costs associated with materials, energy, emissions and disposal.

We use many means to make our production processes more resource-friendly and lower the emissions they generate. In line with our claim we are also committed to minimizing wastewater pollution. Systematic waste management and recycling activities reduce the amount of materials to be disposed of.

Responsibilities and framework conditions are stipulated at Group level, e.g. by corporate policies, targets and key performance indicators (KPIs). We use certified HSEQ management systems to control operational implementation. Our environmental standards apply worldwide.

Energy consumption

Total energy consumption slightly higher than last year

In 2016, the Group's total energy consumption rose by 1.6% to 84.5 petajoules. In calculating the total energy consumption, we differentiate between primary energy consumption – mainly of fossil fuels for our own generation of electricity and steam – and secondary energy consumption, which reflects the purchase of electricity, steam and refrigeration energy and the use of process heat. Primary energy consumption rose in 2016 by 1.0% and secondary energy consumption by 2.2%. This increase in energy requirements is due to increased production activities at the Leverkusen and Krefeld-Uerdingen sites in Germany.

A 1.4.3.3/1

Energy Consumption in the Bayer Group¹

TJ	2012	2013	2014	2015	2016
Primary energy consumption for the in-house generation of electricity & steam	49,047	47,582	45,572	42,996	43,424
Natural gas	30,411	29,796	31,580	28,813	27,552
Coal	15,954	15,094	12,611	12,755	13,420
Liquid fuels	656	416	421	350	465
Waste	1,005	1,282	833	1,523	1,800
Other ²	1,021	994	127	(445)	187
Secondary energy consumption	34,137	33,266	39,745	40,186	41,070
Electricity ³	25,849	25,560	27,177	25,977	28,070
Steam	(121)	(801)	3,579	4,694	3,576
Steam from waste heat (process heat)	9,144	9,146	9,639	9,974	10,010
Refrigeration energy	(735)	(639)	(650)	(459)	(586)
Total energy consumption	83,184	80,848	85,317	83,182	84,494
Total energy consumption Life Sciences	28,481	27,972	26,288	24,677	26,243

¹ Energy consumption is netted which may result in negative values.

² E.g. hydrogen

³ The proportion of primary energy sources used in generating the electricity consumed depends on the respective national electricity mix.

Energy efficiency target of Life Science areas achieved and newly formulated

We measure energy efficiency based on the relationship between energy consumption in megawatt hours (MWh) and manufactured sales volume (in metric tons). With a reduction of 0.5%, the manufactured sales volume of the Life Sciences was about the same level as the previous year, while energy consumption rose by around 6.3%, mainly at our service company Currenta, which serves among other functions as the energy provider for Bayer and third parties. As a result, our energy efficiency deteriorated by around 6.8% compared with the previous year.

A 1.4.3.3/2

Energy Efficiency

in MWh/t	2012	2013	2014	2015	2016
Energy efficiency of Life Sciences	8.86	8.54	7.62	6.34	6.77

In line with our Group target, we are endeavoring to improve energy efficiency by 10% by 2020 compared to 2012. With an increase in energy efficiency of almost 24% compared with the base year 2012, we had achieved this target by the end of 2016.

On account of Covestro becoming legally independent, the magnitude of our manufactured sales volume and also our energy requirement has significantly fallen. For that reason, when calculating our energy efficiency in the future we want to use a more appropriate reference value for our product portfolio. With effect from reporting year 2017, we shall indicate energy efficiency for our Life Science areas Pharmaceuticals, Consumer Health, Crop Science and Animal Health as the relationship between the energy we use and our external sales, instead of the manufactured sales volume. For that reason, we have adjusted our previous target so that it is now to improve our energy efficiency by 10% by 2020 compared with the base year of 2015.



Group target 2020:
improvement of 10%
in energy efficiency;
see also A 1.2.1

Combined heat and power processes account for high proportion of in-house energy generation

Around 90% of our own energy generation comes from highly efficient combined heat and power processes. In addition, we purchase electricity on the market – through energy exchanges, for example. The electricity and heat generated and purchased are used in our own production facilities and third-party facilities (especially of Lanxess Deutschland GmbH as the other shareholder of our service company Currenta). The proportion of renewable energies is determined by the energy mix of our energy suppliers. We comment in detail on these issues in our CDP Report.



CDP: see Glossary



[www.bayer.com/
CDP-Climate](http://www.bayer.com/CDP-Climate)

Air emissions

At Bayer, air emissions are caused mainly by the generation and consumption of electricity, steam and process heat. Thanks to the various measures in our Bayer Climate Program – such as introducing energy management systems and production / process innovations – we have achieved a significant reduction in emissions over the past 10 years, which goes hand in hand with an improvement in energy efficiency. We have documented our successful reduction of greenhouse gas (GHG) emissions in the CDP reports and in 2016 received an excellent rating, the leadership status with the highest score of A.

As a Life Science company too, we want to continue helping to protect the climate on several levels. This includes reducing our production-related emissions with ambitious targets relating to energy efficiency and cutting specific greenhouse gas emissions. In the future, we will be focusing more on lowering emissions in nonproduction areas. These include our vehicle fleet (Sustainable Fleet initiative), looking into increased use of electric vehicles (electric mobility programs), further developing our information and communication technologies (Green IT) in terms of environmental aspects and investigating potential ways to lower greenhouse gas emissions along the value chain. ▶ **Online Annex: A 1.4.3.3-1**

Transparency on greenhouse gas emissions



GHG Protocol:
see Glossary

Bayer reports all Group greenhouse gas emissions in line with the requirements of the Greenhouse Gas Protocol (GHG Protocol). Direct emissions from our own power plants, waste incineration plants and production facilities (Scope 1) and indirect emissions from the procurement of electricity, steam and refrigeration energy (Scope 2) are determined at all production locations and relevant research and administrative sites.

Since 2015, we have reported in line with the updated GHG Protocol guideline for Scope 2, which states that indirect emissions must be reported according to both the location-based and the market-based methods.

A 1.4.3.3/3

Group Greenhouse Gas Emissions ¹	2012	2013	2014	2015	2016
Million metric tons of CO ₂ equivalents					
Total direct emissions ²	4.24	4.09	4.02	4.41	4.30
of which from Life Sciences ³	0.75	0.73	0.69	0.91	0.73
Total indirect emissions ⁴ according to the location-based method	4.71	4.85	5.03	4.94	5.00
of which from Life Sciences ³	0.88	0.89	0.90	0.88	0.88
Total indirect emissions ⁴ according to the market-based method	4.72	4.91	5.53	5.30	5.57
of which from Life Sciences ³	0.93	0.93	0.96	0.92	0.93
Total greenhouse gas emissions according to the market-based method⁵	8.96	9.00	9.55	9.71	9.87
of which from Life Sciences ³	1.68	1.66	1.65	1.83	1.66
Specific greenhouse gas emissions from Life Sciences ³ (t CO ₂ e/t) according to the market-based method ^{5,6}	1.88	1.83	1.72	1.69	1.54

¹ Portfolio-adjusted in accordance with the GHG Protocol

² In 2016, 84.21% of emissions were CO₂ emissions, 15.38% N₂O emissions, just under 0.37% partially fluorinated hydrocarbons and 0.04% methane.

³ Excluding Currenta

⁴ Typically, CO₂ in incineration processes accounts for over 99% of all greenhouse gas emissions. When determining indirect emissions, our calculations are therefore limited to CO₂ and indicate direct emissions in CO₂ equivalents.

⁵ The market-based method of the new Scope 2 GHG Protocol most reliably reflects the indirect emissions and the success of emissions reduction measures, so we used emissions volumes calculated using this method when calculating the total and specific greenhouse gas emissions.

⁶ Specific Group emissions are calculated from the total volume of direct emissions, indirect emissions calculated using the market-based method of the new Scope 2 GHG Protocol and emissions from the vehicle fleet, divided by the manufactured sales volume of the segments in metric tons. Quantities attributable to the supply of energy to external companies are deducted from the direct and indirect emissions.

In line with the GHG Protocol, in our energy balance we include all greenhouse gas (GHG) emissions from the conversion of primary energy sources into electricity, steam or refrigeration energy, even though a significant proportion of our direct emissions comes from the generation of energy that is delivered to other companies. Consequently, our absolute figures for greenhouse gas emissions are higher than the actual emissions resulting from Bayer's business activities alone.

In 2016, we recorded a slight increase of 1.7% in total GHG emissions in the Group, although those of the Life Sciences without Currenta fell by 9.5%. Direct emissions diminished across the Group by 2.4%, mainly due to the sale of the chemical park infrastructure at the site in Institute, West Virginia, United States. Indirect emissions (market-based method) rose by 5.1%. This was essentially due to enhanced energy requirements as a result of increased production activities at the Chempark Leverkusen, Dormagen and Krefeld-Uerdingen sites in Germany. We were again able to reduce the specific greenhouse gas emissions (total emissions divided by the manufactured sales volume) of our Life Sciences (here excluding Currenta). With a reduction of 18% compared with 2012 levels, we have already achieved our previous Group target of reducing specific greenhouse gas emissions by 15% by the year 2020.

As with the calculation method for our energy efficiency, we are also intending to change our reporting of specific greenhouse gas emissions from 2017 onward. We are planning to indicate these as the relationship between the greenhouse gas emissions of our Life Sciences and our external sales instead of the manufactured sales volume. We have thus adjusted our Group target accordingly and are looking to achieve a 20% reduction in specific greenhouse gas emissions by 2020 compared with 2015. This new target more adequately reflects our contribution to climate protection and takes into account our new corporate orientation as a Life Science company.

The reporting of all relevant indirect emissions from the value chain is bindingly regulated by the GHG Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard. Following a thorough examination, Bayer has identified nine essential Scope 3 categories, which we report on in detail in the CDP Report.

In 2016, the Bayer Group was involved in European emissions trading with 18 plants in total. The greenhouse gas emissions of these plants amounted to approximately 2.32 million metric tons of CO₂ equivalents.

Other direct emissions into the air reduced

Emissions of ozone-depleting substances (ODS) fell by 23.0% in 2016. Emissions of volatile organic compounds (VOCs) excluding methane decreased by 30.5%. Background details about this development and other direct emissions are provided online. ▶ [Online Annex A 1.4.3.3-2](#)

Higher number of environmental incidents

The number of environmental incidents – i.e. incidents that result in the release of substances into the environment – increased from two to three in 2016. Factors that determine whether there is a reporting obligation include, in particular, the nature and quantity of the substance, the amount of damage caused and any consequences for nearby residents. In accordance with our internal voluntary commitment, we report any leakage of substances with a high hazard potential from a quantity of 100 kg upward. Details of environmental incidents in 2016 can be found online.

◀ [Online Annex: A 1.4.3.3-3](#)

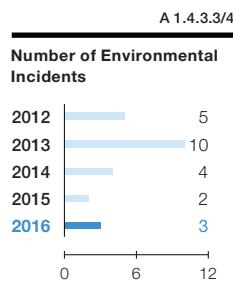
Use of water and emissions into water

Effective water management at sites in water-scarce areas

Clean water in sufficient quantities is essential for supplying our production sites and the surrounding areas. In the future too, industrial water usage must not lead to local problems such as a shortage of water for the people living in the area. Our Water Position commits us to compliance with international and local legislation to protect water resources and use them efficiently.

↗
Group target 2020:
reduction of 15% in
specific greenhouse
gas emissions;
see also A 1.2.1

⌚
[www.bayer.com/
CDP-Climate](http://www.bayer.com/CDP-Climate)





Group target 2017: establishment of water management at all sites in water-scarce areas; see also A 1.2.1

We used the WBCSD Global Water Tool™ to identify all Bayer sites that are located in regions affected or threatened by water shortage. In line with our Group target, these sites are to establish a water management system that takes the local conditions sufficiently into account by 2017. This involves analyzing their water usage, quality and discharge data annually along with site-specific initiatives using a method developed at Bayer. During the evaluation in 2015, specific measures were agreed to initiate more effective water management at the sites where there is room for improvement. The analysis in the reporting year revealed that the proportion of sites examined that have effective water management has increased from around 58% (2015) to 95% (2016).

▼ Online Annex: A 1.4.3.3-4



CDP: see Glossary



[www.bayer.com/
CDP-Water](http://www.bayer.com/CDP-Water)

Bayer supports the CEO Water Mandate of the U.N. Global Compact with the goal of working with key stakeholders to develop sustainable strategies for water usage. In our annual response to the CDP Water Disclosure, we report in detail on our water usage, the company-specific water footprint and the associated opportunities and risks. This represents a progress report for the CEO Water Mandate.

Water use

In 2016, total water use in the Group fell by 4.8% to around 330 million cubic meters. Some 79% of all water used by Bayer is cooling water that is only heated and does not come into contact with products. It can be returned to the water cycle without further treatment in line with the relevant official permits. At our production facilities, we endeavor to use water several times and to recycle it. Water is currently recycled at 36 sites, accounting for 42% of the total water use. The various forms of recycling include closed cooling cycles, reuse of treated wastewater and recirculation of steam condensates as process water. A total of around 11.8 million cubic meters of water was reused in 2016. A graphic showing the Bayer Group's water statistics is available in

▼ Online Annex: A 1.4.3.3-5

The amounts of water from each source have remained at a comparable level since 2012.

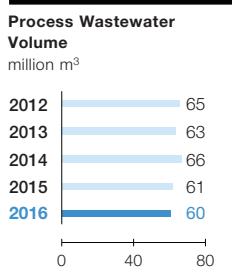
▼ Online Annex: A 1.4.3.3-6

Wastewater treatment benefits environment

All wastewater is subject to strict controls before it is discharged into the various disposal channels. The total quantity of wastewater, including process and sanitary wastewater, was 60 million cubic meters in 2016, which is 3.1% down on 2015. 78.5% of Bayer's wastewater worldwide was purified in wastewater treatment plants (Bayer or third-party facilities). Following careful analysis, the remaining volume was categorized as environmentally safe according to official provisions. Part of it was used to water gardens and agricultural land.

The goal is to minimize our emissions into wastewater. For this reason, in 2016, alternative means were applied, for example, for the disposal of 0.148 million cubic meters of product-containing wastewater such as incineration, distillation or chemical treatment. Discharges of phosphorus into wastewater fell by 14.2%, due among other reasons to reduced production volumes at the Kaohsiung site in Taiwan. All other emissions into water were lower than last year or at the same level.

A 1.4.3.3/5



A 1.4.3.3/6

Emissions into Water

1,000 metric tons	2012	2013	2014	2015	2016
Phosphorus	0.15	0.11	0.10	0.10	0.09
Nitrogen	0.70	0.69	0.76	0.56	0.57
TOC ¹	1.42	1.53	1.20	1.16	1.14
Heavy metals	0.0098	0.0091	0.0063	0.0064	0.0054
Inorganic salts	1,048	946	845	927	931
COD ²	4.25	4.58	3.59	3.48	3.42

¹ Total organic carbon² Chemical oxygen demand; calculated value based on TOC figures (TOC x 3 = COD)**Waste and recycling**

Systematic waste management minimizes material consumption and disposal volumes. Safe disposal channels with separation according to the type of waste and economically expedient recycling processes serve this purpose. Production fluctuations and building refurbishment/land remediation work also influence waste volumes and recycling paths.

Higher volumes of waste

In 2016, the total volume of waste generated rose by 1.9% and the volume of nonhazardous waste by 3.1%, in particular due to demolition work at the Crop Science site in Institute, West Virginia, United States. With regard to hazardous waste generated, the volume from the power plant at the Chempark Leverkusen site rose by 1% owing to the recent categorization of fluidized bed ash as hazardous waste.

A 1.4.3.3/7

Waste Generated¹

1,000 metric tons	2012	2013	2014	2015	2016
Total waste generated	1,014	899	896	940	958
Hazardous waste ²	603	467	487	541	547
of which hazardous waste from production	397	417	442	488	507

¹ Waste generated by Bayer only² Definition of hazardous waste in accordance with the local laws in each instance

The volume of waste disposed of rose by 2.2% in total. The volume proportions for the three main types of disposal (landfill, incineration and recycling) have remained similar over the past five years. ▼ **Online Annex: A 1.4.3.3-7**

Recycling potential realized

In addition to satisfying economic and environmental criteria, the recycling and treatment of our materials also has to comply with legal requirements. This results in restrictions, in particular in the areas of pharmaceuticals and crop protection. Throughout the Group, we make use of opportunities for recycling within the framework of legal regulations.

▼ **Online Annex: A 1.4.3.3-8**

2. Report on Economic Position

2.1 Overview of Business Performance



Group targets 2016:
growth and profitability;
see also A 1.2.1

A 2.1.1/1

2.1.1 Target Attainment 2016



	Forecast 2016 ¹	Adjusted forecast 2016 ²	Target attainment
Group sales	Low-single-digit percentage increase ³	Unchanged	3.5% increase ³
	More than €47 billion	€46 – 47 billion	€46.8 billion
EBITDA before special items	Mid-single-digit percentage increase	High-single-digit percentage increase	10.2% increase
Core earnings per share	Mid-single-digit percentage increase	High-single-digit percentage increase	7.3% increase

¹ Issued in February 2016 ²Issued in October 2016 ³Currency- and portfolio-adjusted

Record operating performance

2.1.2 Economic Position of the Bayer Group

The Bayer Group had a very successful year in 2016 – both strategically and operationally. We achieved a new record in terms of operating performance. Sales improved by 3.5% on a currency- and portfolio-adjusted basis and EBITDA before special items increased by a substantial 10.2%. Pharmaceuticals again showed a convincing performance, with pleasing sales and earnings growth. This was chiefly attributable to the continued strong development of our key growth products Xarelto™, Eylea™, Xofigo™, Stivarga™ and Adempas™. Consumer Health increased sales but earnings declined. Despite a persistently difficult market environment, sales and EBITDA before special items of Crop Science were constant. Animal Health posted sales gains but earnings were at the prior-year level. Overall, sales and earnings of our Life Science businesses continued to develop positively. Covestro saw strong earnings growth due to lower raw material costs, while sales were level year on year. Core earnings per share of the Bayer Group increased by 7.3%. We thus met our full-year forecasts for these key data, some of which were raised in October 2016.

2.1.3 Key Events

On September 14, 2016, Bayer signed a definitive merger agreement with Monsanto Company, headquartered in St. Louis, Missouri, United States, for US\$128 per share. This represents a transaction value of around US\$66 billion. At a special meeting on December 13, 2016, Monsanto's stockholders approved the company's merger with a wholly owned subsidiary of Bayer AG. The agreed acquisition reinforces our leadership position as a Life Science company and is a major strategic step forward for our Crop Science business. The transaction is subject to customary closing conditions, including receipt of required approvals from the relevant antitrust and other authorities. We expect closing of the transaction by the end of 2017.

2.1.4 Economic Environment

Global economy remains weak

The global economy grew somewhat more slowly in 2016 than in the previous year. The pace of growth in the United States was much slower, especially as a result of restrained investment activity. The economy in Europe also clouded somewhat, despite low interest rates. This was due particularly to the uncertainty surrounding the schedule and shape of the United Kingdom's exit from the European Union. The Emerging Markets once again registered solid growth that was down only slightly against the previous year.



See also A 2.2.2

A 2.1.4/1

Economic Environment

	Growth ¹ 2015	Growth ¹ 2016
World	+ 2.8%	+ 2.5%
European Union	+ 2.2%	+ 1.9%
of which Germany	+ 1.5%	+ 1.8%
United States	+ 2.6%	+ 1.6%
Emerging Markets ²	+ 4.0%	+ 3.8%

2015 figures restated

¹ Real GDP growth, source: IHS Global Insight

² Including about 50 countries defined by Global Insight as Emerging Markets in line with the World Bank

As of February 2017

Currency development

Sales and EBITDA before special items of the Bayer Group in 2016 were impacted by negative currency effects of approximately €900 million (–0.9%) and about €15 million (–0.1%), respectively. Sales and EBITDA before special items of our Life Science businesses included negative currency effects of around €750 million (–2.1%) and about €10 million (+0.1%), respectively.

A 2.1.4/2

Currency Development Life Sciences

€ million	2015	2016	Delta Fx effect on sales	Delta Fx effect on clean EBITDA	Of which delta Fx effect from hedging
CAD	1.42	1.47	(75)	(15)	37
CNY	6.97	7.36	(133)	26	80
GBP	0.73	0.82	(123)	10	54
JPY	134.28	120.06	228	43	(36)
RUB	67.23	73.79	(73)	(85)	(31)
USD	1.11	1.11	9	162	171
All currencies			(755)	8	329

Source: Bloomberg, annual average closing rates

While hedging transactions had a negative effect on earnings of €308 million in 2015, they made a positive contribution of €21 million in 2016. This represents a year-on-year increase of €329 million in the effect of hedging transactions on earnings. Sales, on the other hand, were impacted by conversion to currencies which appeared weaker. The margin for our Life Science businesses gained 0.6 percentage points from these opposing effects.

2.2 Earnings; Asset and Financial Position of the Bayer Group

2.2.1 Earnings Performance of the Bayer Group

See also A 2.4

A 2.2.1/1

Bayer Group Summary Income Statements						
€ million	Q4 2015	Q4 2016	Change %	2015	2016	Change %
Net sales	11,285	11,820	+ 4.7	46,085	46,769	+ 1.5
Cost of goods sold	(5,397)	(5,395)	0.0	(21,040)	(20,295)	- 3.5
Selling expenses	(3,320)	(3,537)	+ 6.5	(12,272)	(12,474)	+ 1.6
Research and development expenses	(1,256)	(1,313)	+ 4.5	(4,274)	(4,666)	+ 9.2
General administration expenses	(566)	(685)	+ 21.0	(2,092)	(2,256)	+ 7.8
Other operating income (+) and expenses (-)	175	(101)		(166)	(36)	- 78.3
EBIT¹	921	789	- 14.3	6,241	7,042	+ 12.8
Financial result	(164)	(252)	+ 53.7	(1,005)	(1,155)	+ 14.9
Income before income taxes	757	537	- 29.1	5,236	5,887	+ 12.4
Income taxes	(166)	(119)	- 28.3	(1,223)	(1,329)	+ 8.7
Income after income taxes (total)	583	507	- 13.0	4,098	4,826	+ 17.8
of which attributable to non-controlling interest	(30)	54		(12)	295	
of which attributable to Bayer AG stockholders (net income)	613	453	- 26.1	4,110	4,531	+10.2

2015 figures restated

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

Group sales up 3.5% (Fx & portfolio adj.)

Sales of the Bayer Group rose by 3.5% (Fx & portfolio adj.) to €46,769 million (reported: +1.5%) in 2016, including €4,809 million in Germany. Our Life Science businesses contributed to this performance, growing sales by 4.7% (Fx & portfolio adj.) to €34,943 million.

Sales of Pharmaceuticals advanced by an encouraging 8.7% (Fx & portfolio adj.) to €16,420 million. This development continued to be driven primarily by our key growth products. Consumer Health also raised sales by 3.5% (Fx & portfolio adj.) to €6,037 million. Despite a weak market environment, Crop Science posted sales of €9,915 million to match the prior-year level (Fx & portfolio adj.: +0.1%). Sales of Animal Health rose by 4.8% (Fx & portfolio adj.) to €1,523 million. Covestro sales were level year on year at €11,826 million (Fx & portfolio adj.: 0.0%).

A 2.2.1/2

Changes in Sales				
%	Life Sciences		Group	
	2015	2016	2015	2016
Volume	+ 5.1	+ 3.9	+ 4.4	+ 4.2
Price	+ 0.6	+ 0.8	- 1.7	- 0.7
Currency	+ 5.0	- 2.2	+ 5.8	- 2.0
Portfolio	+ 5.0	0.0	+ 3.6	0.0
Total	+ 15.7	+ 2.5	+ 12.1	+ 1.5

2015 figures restated

The cost of goods sold fell by 3.5% to €20,295 million in 2016, mainly due to lower raw material costs at Covestro. The ratio of the cost of goods sold to total sales therefore declined year on year to 43.4% (2015: 45.7%). The selling expenses of €12,474 million (+ 1.6%) amounted to 26.7% of sales (2015: 26.6%). Research and development (R&D) expenses rose by 9.2% to €4,666 million, mainly due to higher R&D investment at Pharmaceuticals. The ratio of R&D expenses to sales was 10.0% (2015: 9.3%). General administration expenses climbed by 7.8% to €2,256 million, due especially to the establishment of administrative functions at Covestro. The ratio of general administration expenses to total sales therefore increased to 4.8% (2015: 4.5%). The substantially lower balance of other operating expenses and other operating income of minus €36 million (2015: minus €166 million) resulted mainly from positive effects from derivatives to hedge planned sales.

EBITDA before special items considerably improved

EBITDA before special items of the Bayer Group moved forward by 10.2% to €11,302 million (2015: €10,256 million). Pharmaceuticals improved EBITDA before special items by 13.8% to €5,251 million (2015: €4,616 million). This substantial increase in earnings was largely due to the good development of business, particularly for our key growth products. Consumer Health saw a decline in EBITDA before special items by 3.1% to €1,411 million. Favorable business development and cost synergies only partly offset the higher cost of goods sold and negative currency effects of about €65 million. EBITDA before special items of Crop Science came in at the prior-year level, up 0.6% to €2,421 million. A positive currency effect of about €140 million and higher selling prices stood against lower volumes, higher research and development expenses and higher impairment losses on trade accounts receivable in particular. EBITDA before special items of Animal Health was also level with the previous year with a change of 0.6%, while Covestro registered a substantial 19.6% increase in EBITDA before special items to €1,984 million.

+10.2%

growth in EBITDA
before special items

Depreciation, amortization and special items

Depreciation, amortization and impairment losses were 12.3% higher in 2016 at €3,743 million (2015: €3,332 million), comprising €2,235 million (2015: €1,802 million) in amortization and impairments on intangible assets and €1,508 million (2015: €1,530 million) in depreciation and impairments on property, plant and equipment. A total of €566 million (2015: €136 million) in impairments constituted special items. EBITDA for the reporting year amounted to €10,785 million. In 2016, the following special effects were taken into account in calculating EBIT and EBITDA before special items:



See also A 2.4

A 2.2.1/3

Special Items Reconciliation¹

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Before special items	1,037	1,376	7,060	8,130	1,916	2,179	10,256	11,302
Pharmaceuticals	(190)	(310)	(299)	(558)	(136)	(152)	(241)	(167)
Consumer Health	(55)	(199)	(237)	(292)	(52)	(38)	(234)	(115)
Crop Science	301	(39)	222	(143)	295	(37)	222	(141)
Animal Health	(19)	(5)	(64)	(7)	(8)	(4)	(30)	(6)
Reconciliation	(9)	(34)	(109)	(88)	(9)	(34)	(109)	(88)
Restructuring	(9)	(34)	(76)	(83)	(9)	(34)	(76)	(83)
Litigations	–	–	(32)	(5)	–	–	(32)	(5)
Revaluation of other receivables	–	–	(1)	–	–	–	(1)	–

A 2.2.1/3 (continued)

Special Items Reconciliation¹

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Total special items Life Sciences	28	(587)	(487)	(1,088)	90	(265)	(392)	(517)
Covestro	(144)	–	(332)	–	(128)	–	(291)	–
Total special items	(116)	(587)	(819)	(1,088)	(38)	(265)	(683)	(517)
of which cost of goods sold	(169)	(193)	(440)	(412)	(144)	(53)	(363)	(93)
of which selling expenses	(118)	(221)	(198)	(317)	(107)	(39)	(183)	(99)
of which research and development expenses	(51)	(18)	(67)	(84)	(9)	(17)	(23)	(50)
of which general administration expenses	(43)	(69)	(203)	(185)	(43)	(69)	(203)	(185)
of which other operating income/ expenses	265	(86)	89	(90)	265	(87)	89	(90)
After special items	921	789	6,241	7,042	1,878	1,914	9,573	10,785

2015 figures restated

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."**EBIT**

See also A 2.4

+12.8%
growth in EBIT

EBIT increased by 12.8% in 2016 to €7,042 million, including special charges of €1,088 million (2015: €819 million). These mainly comprised €561 million for impairment losses on intangible assets, charges of €242 million in connection with efficiency improvement programs and €100 million in costs for the integration of acquired businesses. Further special charges of €94 million were related to provisions for litigations, while €86 million were connected with the agreed acquisition of Monsanto. EBIT before special items rose by 15.2% to €8,130 million (2015: €7,060 million).

Net income increased by 10.2%

Including a financial result of minus €1,155 million (2015: minus €1,005 million), income before income taxes was €5,887 million (2015: €5,236 million). The financial result comprised items including net interest expense of €548 million (2015: €455 million), interest cost of €294 million (2015: €287 million) for pension and other provisions, and currency hedging costs of €193 million (2015: €254 million). After tax expense of €1,329 million (2015: €1,223 million), income after income taxes was €4,826 million (2015: €4,098 million). Including income after income taxes from discontinued operations and income attributable to noncontrolling interest, net income for 2016 amounted to €4,531 million (2015: €4,110 million; +10.2%).

Core earnings per share increased by 7.3%

See also A 2.2.4

Earnings per share (total) rose by 9.5% to €5.44, while core earnings per share from continuing operations increased by 7.3% to €7.32. In November 2016, Bayer placed €4 billion in mandatory convertible notes without granting subscription rights to existing stockholders of the company. According to IAS 33.23, the weighted average number of shares increases as soon as the notes contract is signed, and this increase must be taken into account in calculating undiluted and diluted earnings per share. The new weighted average number of shares is based on the minimum conversion price of €90, which determines the maximum conversion ratio.

A 2.2.1/4

Core Earnings per Share¹

€ million	Q4 2015	Q4 2016	2015	2016
EBIT (as per income statements)	921	789	6,241	7,042
Amortization and impairment losses/loss reversals on intangible assets	529	724	1,802	2,235
Impairment losses/loss reversals on property, plant and equipment	55	14	115	35
Special items (other than amortization and impairment losses/loss reversals)	38	265	683	517
Core EBIT	1,543	1,792	8,841	9,829
Financial result (as per income statements)	(164)	(252)	(1,005)	(1,155)
Special items in the financial result	(120)	(61)	(150)	(105)
Income taxes (as per income statements)	(166)	(119)	(1,223)	(1,329)
Special items in income taxes	(39)	–	(39)	–
Tax effects related to amortization, impairment losses/loss reversals and special items	(149)	(294)	(755)	(838)
Income after income taxes attributable to noncontrolling interest (as per income statements)	30	(54)	12	(295)
Above-mentioned adjustments attributable to noncontrolling interest	(39)	(3)	(39)	(13)
Core net income from continuing operations	896	1,009	5,642	6,094
Shares				
Weighted average number of shares	826,947,808	849,167,808	826,947,808	832,502,808
€				
Core earnings per share from continuing operations	1.08	1.19	6.82	7.32
Core earnings per share from discontinued operations	–	0.10	0.13	0.41
Core earnings per share from continuing and discontinued operations	1.08	1.29	6.95	7.73

2015 figures restated

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."Business development in the fourth quarter ▶ **Online Annex: A 2.2.1-1****2.2.2 Business Development by Segment****Pharmaceuticals****Market growth below the prior-year level**

In 2016, growth in the pharmaceuticals market slowed to 6% (2015: 10%). Growth in demand weakened particularly in the United States, but also in Europe and Japan. The pace of growth held steady in Asian and Latin American markets.

A 2.2.2/1

Key Data – Pharmaceuticals

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Sales	3,986	4,275	+ 7.3	+ 7.1	15,308	16,420	+ 7.3	+ 8.7
Change in sales								
Volume	+ 9.2%	+ 7.2%			+ 9.1%	+ 9.0%		
Price	– 0.6%	– 0.1%			0.0%	– 0.3%		
Currency	+ 0.2%	+ 0.2%			+ 4.6%	– 1.4%		
Portfolio	0.0%	0.0%			– 0.4%	0.0%		
			Reported	Fx adj.			Reported	Fx adj.
Sales by region								
Europe/Middle East/Africa	1,618	1,684	+ 4.1	+ 6.0	5,981	6,417	+ 7.3	+ 9.7
North America	972	1,107	+ 13.9	+ 12.6	3,937	4,194	+ 6.5	+ 6.7
Asia/Pacific	1,121	1,203	+ 7.3	+ 3.6	4,319	4,775	+ 10.6	+ 8.6
Latin America	275	281	+ 2.2	+ 8.0	1,071	1,034	– 3.5	+ 11.0

A 2.2.2/1 (continued)

Key Data – Pharmaceuticals

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
EBITDA ¹	949	1,065	+ 12.2		4,375	5,084	+ 16.2	
Special items	(136)	(152)			(241)	(167)		
EBITDA before special items¹	1,085	1,217	+ 12.2		4,616	5,251	+ 13.8	
EBITDA margin before special items ¹	27.2%	28.5%			30.2%	32.0%		
EBIT	569	606	+ 6.5		3,028	3,389	+ 11.9	
Special items	(190)	(310)			(299)	(558)		
EBIT before special items¹	759	916	+ 20.7		3,327	3,947	+ 18.6	
Net cash provided by operating activities	911	1,326	+ 45.6		3,157	3,368	+ 6.7	

2015 figures restated; Fx & p adj. = currency- and portfolio-adjusted; Fx adj. = currency-adjusted

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."**+8.7 %**

growth in sales at Pharmaceuticals (Fx & portfolio adj.)

Significant increase in sales

Sales of Pharmaceuticals rose by an encouraging 8.7% (Fx & portfolio adj.) to €16,420 million in 2016, driven mainly by our key growth products. Xarelto™, Eylea™, Stivarga™, Xofigo™ and Adempas™ posted total combined sales of €5,413 million (2015: €4,231 million). The Pharmaceuticals business expanded noticeably in all regions.

A 2.2.2/2

Best-Selling Pharmaceuticals Products

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx adj.			Reported	Fx adj.
Xarelto™	650	836	+ 28.6	+ 27.9	2,252	2,928	+ 30.0	+ 30.8
of which U.S.A.	122	161	+ 32.0	+ 32.6	393	489	+ 24.4	+ 24.5
Eylea™	354	426	+ 20.3	+ 20.9	1,228	1,625	+ 32.3	+ 33.0
of which U.S.A. ¹	0	0	.	.	0	0	.	.
Kogenate™ / Kovaltry™	286	288	+ 0.7	+ 0.4	1,155	1,166	+ 1.0	+ 1.1
of which U.S.A.	92	106	+ 15.2	+ 13.7	370	394	+ 6.5	+ 6.0
Mirena™ product family	226	268	+ 18.6	+ 17.2	968	1,043	+ 7.7	+ 8.8
of which U.S.A.	141	178	+ 26.2	+ 23.4	639	701	+ 9.7	+ 9.3
Nexavar™	231	224	- 3.0	- 3.7	892	870	- 2.5	- 1.6
of which U.S.A.	84	80	- 4.8	- 6.6	324	312	- 3.7	- 4.0
Betaferon™ / Betaseron™	190	185	- 2.6	- 2.9	824	734	- 10.9	- 9.9
of which U.S.A.	84	94	+ 11.9	+ 10.2	394	386	- 2.0	- 2.1
YAZ™ / Yasmin™ / Yasminelle™	168	159	- 5.4	- 4.5	706	678	- 4.0	+ 0.1
of which U.S.A.	25	21	- 16.0	- 14.7	134	128	- 4.5	- 4.4
Adalat™	152	147	- 3.3	0.0	633	624	- 1.4	+ 2.7
of which U.S.A.	1	0	.	.	4	1	.	.
Aspirin™ Cardio	131	135	+ 3.1	+ 5.8	524	538	+ 2.7	+ 7.4
of which U.S.A.	0	0	.	.	0	0	.	.
Glucobay™	142	123	- 13.4	- 9.8	523	515	- 1.5	+ 3.3
of which U.S.A.	1	1	.	.	2	3	.	.
Avalox™ / Avelox™	85	81	- 4.7	- 0.2	379	353	- 6.9	- 2.0
of which U.S.A.	(2)	1	.	.	2	5	.	.
Gadavist™ / Gadovist™	79	88	+ 11.4	+ 11.0	290	346	+ 19.3	+ 19.7
of which U.S.A.	21	24	+ 14.3	+ 14.5	86	104	+ 20.9	+ 20.5

A 2.2.2/2 (continued)

Best-Selling Pharmaceuticals Products

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx adj.			Reported	Fx adj.
Xofigo™	69	90	+ 30.4	+ 29.7	257	331	+ 28.8	+ 29.3
of which U.S.A.	47	59	+ 25.5	+ 25.7	182	225	+ 23.6	+ 23.6
Ultravist™	83	80	- 3.6	- 1.9	318	316	- 0.6	+ 3.5
of which U.S.A.	2	2	.	- 2.5	6	6	.	+ 1.2
Stivarga™	77	77	.	- 2.2	313	275	- 12.1	- 11.7
of which U.S.A.	43	42	- 2.3	- 6.9	181	142	- 21.5	- 22.0
Total best-selling products	2,923	3,207	+ 9.7	+ 10.0	11,262	12,342	+9.6	+11.3
Proportion of Pharmaceuticals sales	73%	75%			74%	75%		
Total best-selling products in U.S.A.	661	769			2,717	2,896		

Fx adj. = currency-adjusted

¹ Marketing rights owned by Regeneron Pharmaceuticals Inc., U.S.A.

Sales by product

- Sales of **Xarelto™** increased substantially in 2016, due particularly to expanded volumes in Europe and Japan. We also posted significant gains for our license revenues – recognized as sales – in the United States, where Xarelto™ is marketed by a subsidiary of Johnson & Johnson.
- We once again recorded strong growth with our eye medicine **Eylea™**, due especially to the successful development of business in Europe, Canada and Japan.
- Sales of the blood-clotting medicines **Kogenate™/Kovaltry™** increased slightly, mainly because of the successful introduction of Kovaltry™ in the United States.
- The considerable increase in sales of the hormone-releasing intrauterine devices of our **Mirena™** product family (Mirena™, Jaydess™/Skyla™ and Kyleena™) resulted particularly from the positive development in prices in the United States and from the introduction of the new low-dose product Kyleena™.
- We registered a slight decline in sales of our cancer drug **Nexavar™** that was chiefly attributable to higher competitive pressure in the United States.
- The decline in sales of our multiple sclerosis treatment **Betaferon™/Betaseron™** resulted mainly from weaker business performance in Europe and the United States.
- Currency-adjusted sales of our **YAZ™/Yasmin™/Yasminelle™** line of oral contraceptives were level with the previous year. Higher demand in China and Russia stood against weaker business development in Europe, Brazil and the United States.
- Sales of **Adalat™**, our product to treat hypertension and coronary heart disease, rose slightly compared with the previous year; this was due especially to expanded volumes in China.
- The increase in sales of **Aspirin™ Cardio** for the secondary prevention of heart attacks was owed mostly to an improved business situation in China and Latin America.
- Business with our diabetes treatment **Glucobay™** expanded; here we benefited from continuing high demand in China.
- Sales of our antibiotic **Avalox™/Avelox™** fell slightly. The weak development of business in Canada and Europe was only partly offset by higher demand in China.
- We once again posted strong growth in sales of our MRI contrast agent **Gadavist™/Gadovist™** that was attributable particularly to the significant expansion of volumes in Japan and the United States.
- Sales of our cancer drug **Xofigo™** advanced substantially, due particularly to the positive development of business in the United States and Europe.
- Our X-ray contrast agent **Ultravist™** posted an increase in sales that resulted mainly from higher volumes in Latin America and Europe.
- Sales of our cancer drug **Stivarga™** were well below the prior-year level, due especially to stronger competition in the United States.

+28.6%growth in sales of
our key growth products
(Fx adj.)

- > Sales of **Adempas™** to treat hypertension came in at €254 million (2015: €181 million; Fx adj. +39.3%) and included the proportionate recognition of the one-time payment resulting from the sGC collaboration with Merck & Co., United States, as was previously the case. Business developed especially positively in the United States.

Earnings

In 2016, we raised **EBITDA before special items** by 13.8% to €5,251 million. The substantial growth in earnings was largely attributable to our very good business development. Significantly higher investments in research and development and negative currency effects of around €65 million had an opposing effect.

EBIT of Pharmaceuticals increased by 11.9% to €3,389 million, including special charges of €558 million (2015: €299 million). These resulted particularly from charges of €401 million associated with **Essure™**, mainly for impairment losses on intangible assets. Further charges were associated with accounting measures of €88 million in connection with litigations and charges of €69 million for efficiency enhancement programs.

A 2.2.2/3

Special Items¹ Pharmaceuticals

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Restructuring	(132)	(51)	(174)	(69)	(120)	(51)	(158)	(67)
Litigations	(2)	(89)	(16)	(88)	(2)	(89)	(16)	(88)
Integration costs	–	–	(2)	–	–	–	(2)	–
Impairment losses/ impairment loss reversals	(43)	(170)	(43)	(401)	(1)	(12)	(1)	(12)
Divestitures	–	–	3	–	–	–	3	–
Revaluation of other receivables	(13)	–	(67)	–	(13)	–	(67)	–
Total special items	(190)	(310)	(299)	(558)	(136)	(152)	(241)	(167)

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

The sales and earnings performance by quarter is described in **Online Annex: A 2.2.2-1**

Consumer Health

Market growth weaker than in the prior year

In 2016, global development of the Consumer Health market was below the prior-year level at 4% (2015: 5%). Reasons for this included particularly the low rate of transitioning prescription medicines to over-the-counter status (Rx-to-OTC switch), a weaker cold season and reduced demand in the Emerging Markets.

A 2.2.2/4

Key Data – Consumer Health

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Sales	1,506	1,539	+ 2.2	+ 4.4	6,076	6,037	– 0.6	+ 3.5
Changes in sales								
Volume	+ 6.8%	+ 1.5%			+ 3.0%	+ 0.6%		
Price	+ 3.0%	+ 2.9%			+ 3.1%	+ 2.9%		
Currency	– 1.2%	– 2.2%			+ 2.7%	– 4.1%		
Portfolio	+ 0.2%	0.0%			+ 34.3%	0.0%		

A 2.2.2/4 (continued)

Key Data – Consumer Health

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Sales by region								
Europe / Middle East / Africa	490	499	+ 1.8	+ 2.7	1,955	1,918	- 1.9	+ 1.5
North America	630	649	+ 3.0	+ 1.6	2,635	2,627	- 0.3	- 0.1
Asia / Pacific	188	194	+ 3.2	+ 3.2	738	781	+ 5.8	+ 8.1
Latin America	198	197	- 0.5	+ 18.7	748	711	- 4.9	+ 17.1
EBITDA¹	333	334	+ 0.3		1,222	1,296	+ 6.1	
Special items	(52)	(38)			(234)	(115)		
EBITDA before special items¹	385	372	- 3.4		1,456	1,411	- 3.1	
EBITDA margin before special items ¹	25.6%	24.2%			24.0%	23.4%		
EBIT	194	68	- 64.9		768	695	- 9.5	
Special items	(55)	(199)			(237)	(292)		
EBIT before special items¹	249	267	+ 7.2		1,005	987	- 1.8	
Net cash provided by operating activities	140	221	+ 57.9		816	874	+ 7.1	

2015 figures restated; Fx & p adj. = currency- and portfolio-adjusted; Fx adj. = currency-adjusted

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."**Sales up year on year**

Sales of Consumer Health rose by 3.5% (Fx & portfolio adj.) in 2016 to €6,037 million. We achieved significant gains in Latin America and Asia / Pacific on a currency-adjusted basis, and Europe / Middle East / Africa contributed to sales growth with a slight increase. Sales in North America came in at the prior-year level.



growth in sales at
Consumer Health
(Fx & portfolio adj.)

A 2.2.2/5

Best-Selling Consumer Health Products

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx adj.			Reported	Fx adj.
Claritin TM ¹	134	122	- 9.0	- 12.6	627	605	- 3.5	- 2.6
Aspirin TM	128	126	- 1.6	+ 0.5	473	463	- 2.1	+ 2.4
Aleve TM	105	115	+ 9.5	+ 8.6	413	416	+ 0.7	+ 2.1
Bepanthen TM / Bepanthol TM	85	90	+ 5.9	+ 6.2	355	362	+ 2.0	+ 9.2
Canesten TM	66	64	- 3.0	+ 10.0	267	269	+ 0.7	+ 13.4
Alka-Seltzer TM product family	81	87	+ 7.4	+ 7.7	251	253	+ 0.8	+ 2.2
Dr. Scholl's TM ¹	62	55	- 11.3	- 11.7	253	235	- 7.1	- 6.9
One A Day TM	65	67	+ 3.1	+ 1.7	211	222	+ 5.2	+ 5.3
Coppertone TM ¹	8	17	+ 112.5	+ 96.0	217	219	+ 0.9	+ 1.4
Elevit TM	43	48	+ 11.6	+ 10.4	162	182	+ 12.3	+ 17.2
Total	777	791	+ 1.8	+ 2.2	3,229	3,226	- 0.1	+ 3.2
Proportion of Consumer Health sales	52%	51%			53%	53%		

Fx adj. = currency-adjusted

¹ Trademark rights and distribution only in certain countries outside the European Union**Sales by product**

- Business with our antihistamine **ClaritinTM** receded overall. Sales in Asia / Pacific were down against the strong prior year due to intensified competition and to price controls for prescription medicines in Japan. The gratifying increase in the United States due to a product line extension with ClariSprayTM only partly offset this effect.
- Sales of our analgesic **AspirinTM** increased moderately. The gains in the United States and Latin America more than offset declines in Europe that resulted from a weak cold season. Including business with AspirinTM Cardio, which is reported under Pharmaceuticals, sales climbed by 5.0% (Fx adj.) to €1,001 million (2015: €997 million).

- › We registered a slight increase in sales of our analgesic **Aleve™** that resulted from very favorable development in the United States, where we benefited from the addition of Aleve Tens™ to our product portfolio.
- › Sales of our **Bepanthen™/Bepanthol™** wound healing and skin care products advanced strongly, especially in Europe and particularly in France, Germany and Russia.
- › We achieved significant growth with our skin and intimate health brand **Canesten™** thanks to expanded volumes in all regions. Business developed especially well in Germany, due primarily to Canesten Gyn™.
- › The **Alka-Seltzer™** family of products to treat gastrointestinal complaints and cold symptoms registered slight growth that was mainly attributable to a product line extension in the United States.
- › Sales of our **Dr. Scholl's™** foot care products declined due to higher competitive pressure and a weak market environment in the United States.
- › We recorded pleasing sales development in the United States with our **One A Day™** vitamin product, largely as the result of product line extensions and the expansion of our distribution channels.
- › Sales of our sunscreen product **Coppertone™** were up slightly against the previous year. Higher demand in Asia/Pacific and Latin America more than offset declines in the United States.
- › Business with our prenatal vitamin **Elevit™** saw particularly strong development. We posted double-digit-percentage growth rates in Asia/Pacific and Europe/Middle East/Africa.

Earnings

In 2016, **EBITDA before special items** declined by 3.1% to €1,411 million. Earnings were diminished by a higher cost of goods sold and negative currency effects of approximately €65 million. These factors were partly compensated by the positive development of sales and cost synergies.

EBIT of Consumer Health decreased by 9.5% to €695 million due to special charges of €292 million (2015: €237 million). These included €160 million for impairment losses on intangible assets (Triderm™ and Citracal™), €100 million for the integration of acquired businesses and €32 million for efficiency enhancement measures.

A 2.2.2/6

Special Items¹ Consumer Health

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Restructuring	(4)	(9)	(5)	(32)	(1)	(8)	(2)	(15)
Integration costs	(50)	(30)	(225)	(100)	(50)	(30)	(225)	(100)
Impairment losses/ impairment loss reversals	–	(160)	–	(160)	–	–	–	–
Revaluation of other receivables	(1)	–	(7)	–	(1)	–	(7)	–
Total Special Items	(55)	(199)	(237)	(292)	(52)	(38)	(234)	(115)

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

The sales and earnings performance by quarter is described in **Online Annex: A 2.2.2-2**

Crop Science

Persistently weak market environment

Overall, the global **seed and crop protection market** contracted slightly by around 1% in 2016 (2015: -2%). Whereas there was a small increase in demand for high-quality seed, sales of crop protection products decreased worldwide.

Positive growth momentum in 2016 came from the North America and Eastern Europe regions. Market volumes decreased in Latin America, due especially to macroeconomic developments, unfavorable weather conditions and high inventories of crop protection products, particularly in Brazil.

A 2.2.2/7

Key Data – Crop Science

€ million	Q4 2015		Q4 2016		Change %		2015		2016		Change %	
	Reported	Fx & p adj.	Reported	Fx & p adj.	2015	2016	Reported	Fx & p adj.	2015	2016	Reported	Fx & p adj.
Sales	2,405		2,404		0.0	-1.6	10,128		9,915		-2.1	+0.1
Change in sales												
Volume	+ 5.8%	- 0.4%					+ 1.3%		- 1.3%			
Price	- 0.4%	- 1.2%					+ 0.4%		+ 1.4%			
Currency	+ 5.1%	+ 1.6%					+ 6.9%		- 2.3%			
Portfolio	+ 0.7%	0.0%					+ 0.7%		+ 0.1%			
			Reported	Fx adj.			Reported	Fx adj.			Reported	Fx adj.
Sales by region												
Europe / Middle East / Africa	470	431	- 8.3	- 7.0	3,368	3,290	- 2.3	+ 1.8				
North America	438	527	+ 20.3	+ 18.5	2,570	2,616	+ 1.8	+ 3.9				
Asia / Pacific	365	384	+ 5.2	+ 2.5	1,530	1,548	+ 1.2	+ 2.7				
Latin America	1,132	1,062	- 6.2	- 8.6	2,660	2,461	- 7.5	- 6.9				
EBITDA¹	642	314	- 51.1		2,628	2,280	- 13.2					
Special items	295	(37)			222	(141)						
EBITDA before special items¹	347	351	+ 1.2		2,406	2,421	+ 0.6					
EBITDA margin before special items ¹	14.4%	14.6%			23.8%	24.4%						
EBIT	491	153	- 68.8		2,094	1,755	- 16.2					
Special items	301	(39)			222	(143)						
EBIT before special items¹	190	192	+ 1.1		1,872	1,898	+ 1.4					
Net cash provided by operating activities	175	622	.	.	749	2,071	+ 176.5					

2015 figures restated; Fx & p adj. = currency- and portfolio-adjusted; Fx adj. = currency-adjusted

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

Sales level year on year

Crop Science posted sales of €9,915 million (Fx & portfolio adj. +0.1%) in 2016. At Crop Protection / Seeds, we matched the prior-year level despite a persisting weak market environment, particularly in Latin America. Environmental Science posted gratifying sales growth.

Since the conclusion in May 2016 of an agreement to divest the consumer business of Environmental Science, these activities are reported retrospectively for 2015 and 2016 under discontinued operations. Environmental Science therefore now comprises only the business for professional users. The divestiture was closed at the start of October 2016.

Sales by Business Unit

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Crop Protection/Seeds	2,230	2,224	-0.3	-1.8	9,548	9,317	-2.4	-0.2
Crop Protection	2,009	1,965	-2.2	-3.1	8,271	7,961	-3.7	-1.5
Herbicides	650	599	-7.8	-8.5	2,830	2,693	-4.8	-2.2
Fungicides	677	679	+0.3	-0.9	2,911	2,961	+1.7	+4.0
Insecticides	430	386	-10.2	-11.4	1,596	1,357	-15.0	-13.3
SeedGrowth	252	301	+19.4	+18.7	934	950	+1.7	+4.1
Seeds	221	259	+17.2	+10.4	1,277	1,356	+6.2	+8.3
Environmental Science¹	175	180	+2.9	+1.1	580	598	+3.1	+4.5

2015 figures restated; Fx & p adj. = currency- and portfolio-adjusted

¹ Environmental Science now comprises only the business for professional users. The key data and prior-year figures are restated accordingly.

Sales by region

- Sales in the **Europe/Middle East/Africa** region improved by 1.8% (Fx adj.) to €3,290 million. SeedGrowth registered gains, due particularly to higher demand for products to treat cereal seed. We also slightly expanded business at Herbicides, while sales at Insecticides and Fungicides came in at the prior-year level. Sales of vegetable seed developed positively, as did sales at Environmental Science.
- In the **North America** region, we posted a 3.9% (Fx adj.) increase in sales to €2,616 million. Sales at SeedGrowth developed very positively thanks to increased demand for products to treat corn and cereal seed. Sales at Fungicides increased as well. We also achieved strong, double-digit-percentage growth with soybean seeds. By contrast, we registered a substantial decline in sales of Insecticides resulting from weak demand. Sales at Environmental Science increased slightly.
- Sales in **Asia/Pacific** increased by 2.7% (Fx adj.) year on year to €1,548 million. Our Fungicides business saw positive development particularly in Australia and India. Sales of vegetable seeds increased by a double-digit percentage. Business at Herbicides receded slightly, as did sales of Environmental Science.
- Sales in **Latin America** declined by 6.9% (Fx adj.) to €2,461 million. Business was held back by the persisting weak market environment in Brazil, particularly at Insecticides, Herbicides and SeedGrowth. Lower pest pressure had an additional negative impact on Insecticides. We recorded gains in sales at Fungicides and Seeds. Business at Environmental Science expanded by a double-digit percentage.

Earnings

In 2016, **EBITDA before special items** of Crop Science was level year on year at €2,421 million (2015: €2,406 million; +0.6%). A positive currency effect of around €140 million and higher selling prices compensated lower volumes, increased spending on research and development and higher impairment losses recognized on inventories and receivables.

EBIT decreased by 16.2% to €1,755 million, including special charges of €143 million (2015: special gains of €222 million), primarily in connection with the agreed acquisition of Monsanto and efficiency improvement measures.

A 2.2.2/9

Special Items¹ Crop Science

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Restructuring	–	(5)	–	(51)	–	(3)	–	(49)
Litigations	303	4	285	(1)	303	4	285	(1)
Acquisition costs	–	(34)	–	(86)	–	(34)	–	(86)
Divestitures	–	(4)	(50)	(5)	(6)	(4)	(50)	(5)
Revaluation of other receivables	(2)	–	(13)	–	(2)	–	(13)	–
Total	301	(39)	222	(143)	295	(37)	222	(141)

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."The sales and earnings performance by quarter is described in **Online Annex: A 2.2.2-3****Animal Health****Ongoing market growth**

In 2016, the Animal Health market continued to develop positively with growth of 5% (2015: 5%). The dynamic performance in the first half of the year was driven especially by the market for companion animal parasiticides in the United States and Europe. In the second half of the year, the market environment for the farm animal business clouded slightly.

A 2.2.2/10

Key Data – Animal Health

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Sales	319	329	+ 3.1	+ 3.1	1,490	1,523	+ 2.2	+ 4.8
Change in sales								
Volume	+ 2.7%	– 1.0%	–	–	+ 4.0%	+ 2.6%	–	–
Price	+ 0.3%	+ 4.1%	–	–	+ 0.5%	+ 2.2%	–	–
Currency	+ 3.0%	0.0%	–	–	+ 8.6%	– 2.6%	–	–
Portfolio	0.0%	0.0%	–	–	0.0%	0.0%	–	–
			Reported	Fx adj.			Reported	Fx adj.
Sales by region								
Europe / Middle East / Africa	91	84	– 7.7	– 3.3	447	445	– 0.4	+ 3.8
North America	122	129	+ 5.7	+ 4.1	587	621	+ 5.8	+ 6.0
Asia / Pacific	67	79	+ 17.9	+ 13.4	285	300	+ 5.3	+ 5.6
Latin America	39	37	– 5.1	– 2.6	171	157	– 8.2	+ 1.8
EBITDA¹	33	34	+ 3.0		317	343	+ 8.2	
Special items	(8)	(4)	–	–	(30)	(6)	–	–
EBITDA before special items¹	41	38	– 7.3		347	349	+ 0.6	
EBITDA margin before special items ¹	12.9%	11.6%	–	–	23.3%	22.9%	–	–
EBIT	14	25	+ 78.6		254	313	+ 23.2	
Special items	(19)	(5)	–	–	(64)	(7)	–	–
EBIT before special items¹	33	30	– 9.1		318	320	+ 0.6	
Net cash provided by operating activities	43	85	+ 97.7		348	193	– 44.5	

2015 figures restated; Fx & p adj. = currency- and portfolio-adjusted; Fx adj. = currency-adjusted

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

+4.8%

growth in sales at Animal Health (Fx & portfolio adj.)

Sales growth particularly in the United States

Sales of Animal Health in 2016 increased by 4.8% (Fx & portfolio adj.) to €1,523 million. The North America and Asia/Pacific regions developed especially positively due to higher demand. We also registered currency-adjusted sales growth in Europe/Middle East/Africa and Latin America.

A 2.2.2/11

Best-Selling Animal Health Products

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx adj.			Reported	Fx adj.
Advantage™ product family	105	102	-2.9	+0.3	547	535	-2.2	+0.1
Seresto™	15	28	+86.7	+75.3	113	174	+54.0	+55.4
Drontal™ product family	30	31	+3.3	+2.6	122	128	+4.9	+7.2
Baytril™	33	34	+3.0	-0.9	120	113	-5.8	-5.0
Total	183	195	+6.6	+6.8	902	950	+5.3	+7.3
Proportion of Animal Health sales	57%	59%			61%	62%		

Fx adj. = currency-adjusted

+55.4%

growth in sales of Seresto™ (Fx adj.)

Sales by product

- › Currency-adjusted sales of our **Advantage™** family of flea, tick and worm control products were level with the previous year. Positive development in Europe/Middle East/Africa and Asia/Pacific stood against slight declines in North America.
- › We achieved very strong sales growth with our **Seresto™** flea and tick collar that resulted chiefly from increased demand in the United States and Europe.
- › Business with our **Drontal™** line of wormers benefited particularly from higher volumes in the United States and Asia/Pacific.
- › Sales of our antibiotic **Baytril™** fell in North America because of a difficult market environment and generic competition. Gains in Asia/Pacific and Latin America were not sufficient to offset this development.

Earnings

In 2016, **EBITDA before special items** was steady year on year, increasing 0.6% to €349 million. Positive earnings contributions from volume and price increases stood against higher selling expenses and an increased cost of production. A negative currency effect of around €10 million additionally diminished earnings.

EBIT of Animal Health increased by a substantial 23.2% to €313 million, including special charges of €7 million (2015: €64 million).

A 2.2.2/12

Special Items¹ Animal Health

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Restructuring	(19)	(5)	(64)	(7)	(8)	(4)	(30)	(6)
Total special items	(19)	(5)	(64)	(7)	(8)	(4)	(30)	(6)

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

The sales and earnings performance by quarter is described in **Online Annex: A 2.2.2-4**

Covestro

Positive development in main customer industries

In 2016, Covestro's **main customer industries** (automotive, construction, electrical and electronics, and furniture) continued to develop positively.

A 2.2.2/13

Key Data – Covestro

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Sales	2,774	2,997	+ 8.0	+ 8.6	11,982	11,826	- 1.3	0.0
Change in sales								
Volume	+ 1.8%	+ 4.0%			+ 2.6%	+ 5.3%		
Price	- 12.4%	+ 4.6%			- 7.7%	- 5.3%		
Currency	+ 4.7%	- 0.6%			+ 7.9%	- 1.3%		
Portfolio	0.0%	0.0%			0.0%	0.0%		
			Reported	Fx adj.			Reported	Fx adj.
Sales by region								
Europe / Middle East / Africa	1,132	1,104	- 2.5	- 2.6	4,928	4,761	- 3.4	- 3.3
North America	672	671	- 0.1	- 1.6	2,885	2,740	- 5.0	- 5.3
Asia / Pacific	798	1,038	+ 30.1	+ 32.2	3,377	3,619	+ 7.2	+ 9.8
Latin America	172	184	+ 7.0	+ 12.2	792	706	- 10.9	- 1.8
EBITDA¹	129	373	+ 189.1		1,368	1,984	+ 45.0	
Special items	(128)	-			(291)	-		
EBITDA before special items¹	257	373	+ 45.1		1,659	1,984	+ 19.6	
EBITDA margin before special items ¹	9.3%	12.4%			13.8%	16.8%		
EBIT	(79)	203	.		635	1,304	+ 105.4	
Special items	(144)	-			(332)	-		
EBIT before special items¹	65	203	.		967	1,304	+ 34.9	
Net cash provided by operating activities	603	678	+ 12.4		1,452	1,824	+ 25.6	

2015 figures restated; Fx & p adj. = currency- and portfolio-adjusted; Fx adj. = currency-adjusted

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

Sales level year on year

Sales of Covestro were level year on year in 2016, at €11,826 million (Fx & portfolio adj. 0.0%).

Selling prices receded overall, due primarily to lower raw material prices. Volumes were above the level of the prior year overall.

A 2.2.2/14

Sales by Business Unit

€ million	Q4 2015	Q4 2016	Change %		2015	2016	Change %	
			Reported	Fx & p adj.			Reported	Fx & p adj.
Polyurethanes	1,382	1,541	+ 11.5	+ 12.2	6,084	5,926	- 2.6	- 1.2
Polycarbonates	759	832	+ 9.6	+ 10.7	3,169	3,297	+ 4.0	+ 5.8
Coatings, Adhesives, Specialties	477	481	+ 0.8	+ 0.8	2,092	2,039	- 2.5	- 1.8
Other Covestro business	156	143	- 8.3	- 9.0	637	564	- 11.5	- 11.5
Total	2,774	2,997	+ 8.0	+ 8.6	11,982	11,826	- 1.3	0.0

Fx & p adj. = currency- and portfolio-adjusted

Sales by business unit

- At **Polyurethanes**, lower selling prices overall were not fully offset by higher volumes and led to a 1.2% (Fx & portfolio adj.) decline in sales to €5,926 million.
- Polycarbonates** improved sales by 5.8% (Fx & portfolio adj.) to €3,297 million, with appreciable volume growth more than compensating for lower selling prices.
- Sales of **Coatings, Adhesives, Specialties** fell by 1.8% (Fx & portfolio adj.) to €2,039 million, primarily because of lower selling prices.

Earnings

In 2016, **EBITDA before special items** increased by a substantial 19.6% to €1,984 million. Positive earnings contributions from reductions in raw material prices and higher volumes outweighed lower selling prices and a negative currency effect of around €20 million.

Compared with the previous year, Covestro more than doubled **EBIT** to €1,304 million (+105.4%). No special items were recorded (2015: special charges of €332 million).

A 2.2.2/15

Special Items¹ Covestro

€ million	EBIT Q4 2015	EBIT Q4 2016	EBIT 2015	EBIT 2016	EBITDA Q4 2015	EBITDA Q4 2016	EBITDA 2015	EBITDA 2016
Restructuring	(143)	–	(329)	–	(127)	–	(288)	–
Revaluation of other receivables	(1)	–	(3)	–	(1)	–	(3)	–
Total special items	(144)	–	(332)	–	(128)	–	(291)	–

¹ For definition see Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

The sales and earnings performance by quarter is described in [Online Annex: A 2.2.2-5](#)

Business Development by Region

More information on sales by region can be found in [Online Annex: A 2.2.2-6](#)

2.2.3 Value-Based Performance

New value-based indicator: ROCE

Starting with fiscal 2016, Bayer decided to replace its previous value-based metrics – cash value added (CVA) and cash flow return on investment (CFROI) – by the return on capital employed (ROCE). The change was made in light of the much lower complexity and greater external popularity of the ROCE. Using this indicator therefore increases transparency and facilitates both communication and external comparability. The ROCE indicates the capital return over a specified period, setting economic profit against the capital used to generate it (capital employed). The ROCE is compared to the weighted average cost of capital (WACC), which corresponds to the return expected by the providers of equity and debt. If the ROCE is in line with the WACC, the expected return for the period has been achieved. If it exceeds the WACC, return expectations have been exceeded, and therefore value has been created.

Calculation of ROCE

ROCE is the ratio of net operating profit after tax (NOPAT) to the average capital employed.

 See also A 2.4

NOPAT is determined by deducting from EBIT the income taxes thereon, which are based on a historical average tax rate of 24%. The capital employed is an indicator of the capital used in the company's operations. Based on carrying amounts, it is calculated by subtracting from operational assets the liability items that are largely non-interest-bearing, such as trade accounts payable, or would distort the operational capital base. To reflect the change in the capital employed during the year, an average figure is determined from the amounts at the end of the previous year and the end of the year under report. For the components of the capital employed, see also Chapter 2.4.

Calculating the cost of capital

In 2016, the capital cost rate (WACC = weighted average cost of capital) for the Bayer Group was applied uniformly for the Life Sciences for the first time. The WACC is based on an after-tax approach and was calculated at the beginning of the year as the weighted average of the equity and debt cost rates. The cost of equity is the return expected by stockholders, computed from capital market information. The debt capital cost rate we use to calculate the WACC is based on the financing terms for ten-year Eurobonds issued by industrial companies with an "A–" credit rating. The WACC for 2016 was 7.5% for the Bayer Group and for the Life Sciences. Covestro, however, determined a WACC of 6.9% for its business. In the context of impairment testing, moreover, individual capital cost factors are used for the reporting segments which explicitly take account of segment-specific parameters (see Note [4]).

Value-based business development

Bayer's ROCE in 2016 amounted to 11.0%, exceeding the cost of capital by 3.5 percentage points. It is thus an indicator for value creation. Also when measured in terms of the previous value-based steering parameters, Bayer showed positive value creation with a CFROI of 11.8%, which exceeded the cost of capital, and a positive CVA of €2,761 million.

All segments except Consumer Health exceeded the WACC in 2016 despite negative special items in all of the Life Science segments (see also Chapter 2.2.2). In Consumer Health, the acquisition of the consumer care business of Merck & Co., Inc., United States, in 2014 led to a significant increase in the capital employed. This, together with the integration costs and special charges incurred in 2016, is currently diminishing ROCE as an indicator of periodic capital return.

7.5%

Capital cost rate for the
Bayer Group in 2016

ROCE in 2016 of

11.0%

Value-Based Performance by Segment

€ million	Pharmaceuticals		Consumer Health		Crop Science		Animal Health		Life Sciences ¹		Covestro		Group	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
EBIT	3,028	3,389	768	695	2,094	1,755	254	313	5,606	5,738	635	1,304	6,241	7,042
Taxes ²	(727)	(813)	(184)	(167)	(503)	(421)	(61)	(75)	(1,346)	(1,377)	(152)	(313)	(1,498)	(1,690)
NOPAT	2,301	2,576	584	528	1,591	1,334	193	238	4,260	4,361	483	991	4,743	5,352
Average capital employed	15,969	15,859	14,761	15,220	9,749	10,316	404	375	40,975	42,306	6,822	6,471	47,797	48,777
ROCE	14.4%	16.2%	4.0%	3.5%	16.3%	12.9%	47.8%	63.5%	10.4%	10.3%	7.1%	15.3%	9.9%	11.0%
WACC	7.9%	7.5%	7.9%	7.5%	7.3%	7.5%	7.9%	7.5%	7.6%	7.5%	6.9%	6.9%	7.6%	7.5%

2015 figures restated

¹ including Reconciliation

² 24% on EBIT; based on historical average of tax rates

2.2.4 Asset and Financial Position of the Bayer Group

Financial management of the Group

The financial management of the Bayer Group is conducted by Bayer AG. Capital is a global resource, generally procured centrally and distributed within the Group. The foremost objectives of our financial management are to help bring about a sustained increase in corporate value and to ensure the Group's liquidity and creditworthiness. This involves optimizing the capital structure and effectively managing risks. The management of currency, interest-rate, commodity price and default risks helps to reduce the volatility of our earnings.



See also A 1.2.2

The contracted rating agencies assess Bayer as follows:

A 2.2.4/1

Rating	Long-term rating	Short-term rating
S & P Global Ratings	A-	A-2
Moody's	A3	P-2

These credit ratings reflect the company's high solvency and ensure access to a broad investor base for financing purposes. As a result of the agreed acquisition of Monsanto, both S&P Global Ratings and Moody's are reviewing the possibility of a downgrade. Bayer continues to aim for an investment-grade credit rating after the successful closing of the Monsanto acquisition and is aiming for the single "A" rating category in the long term.

As a matter of principle, we pursue a prudent debt management strategy to ensure flexibility, drawing on a balanced financing portfolio. This is fundamentally based on bonds in various currencies, syndicated credit facilities, bilateral loan agreements and a global commercial paper program.



See also A 3.2.2

We use financial derivatives to hedge against risks arising from business operations or financial transactions, but do not employ contracts in the absence of an underlying transaction. It is our policy to diminish default risks by selecting trading partners with a high credit standing. We closely monitor the execution of all transactions, which are conducted in accordance with Group policies.

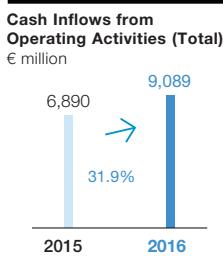
Liquidity and Capital Expenditures of the Bayer Group

A 2.2.4/2

Bayer Group Summary Statements of Cash Flows			
€ million	2015	2016	Change %
Net cash provided by (used in) operating activities, continuing operations	6,836	8,259	+ 20.8
Net cash provided by (used in) operating activities, discontinued operations	54	830	.
Net cash provided by (used in) operating activities (total)	6,890	9,089	+ 31.9
Net cash provided by (used in) investing activities (total)	(2,762)	(8,729)	.
Net cash provided by (used in) financing activities (total)	(3,974)	(350)	+ 91.2
Change in cash and cash equivalents due to business activities	154	10	- 93.5
Cash and cash equivalents at beginning of period	1,853	1,859	+ 0.3
Change due to exchange rate movements and to changes in scope of consolidation	(148)	30	.
Cash and cash equivalents at end of period	1,859	1,899	+ 2.2

2015 figures restated

A 2.2.4/3



Net cash provided by operating activities

The net cash provided by operating activities (total) rose by 31.9% to €9,089 million due to a significant improvement in EBIT, a sharp decrease in additional cash tied up in working capital, and the cash inflow from the sale of the Diabetes Care business. The net cash provided by operating activities in continuing operations increased by 20.8% to €8,259 million.

Net cash used in investing activities

The net cash outflow for investing activities in 2016 amounted to €8,729 million. Cash outflows for property, plant and equipment and intangible assets were 2.4% higher at €2,578 million (2015: €2,517 million) and included €835 million (2015: €777 million) at Pharmaceuticals, €215 million (2015: €148 million) at Consumer Health, €757 million (2015: €721 million) at Crop Science, €37 million (2015: €41 million) at Animal Health and €415 million (2015: €508 million) at Covestro. Cash outflows for noncurrent and current financial assets, especially for the short-term investment of the cash inflows from the mandatory convertible notes, amounted to €6,335 million (2015: €370 million). Inflows from interest and dividends totaled €89 million (2015: €106 million).



See also A 1.4.2.2

Net cash provided by (used in) financing activities

In 2016 there was a net cash outflow of €350 million for financing activities, including net loan repayments of €730 million (2015: €2,929 million). Net interest payments were 21.8% higher at €794 million (2015: €652 million). The cash outflow for dividends amounted to €2,126 million (2015: €1,869 million). The net cash inflow from the issuance of the mandatory convertible notes amounted to €3,952 million, reported as a €3,300 million capital contribution and a €652 million borrowing. In 2015, the stock market flotation of Covestro resulted in a cash inflow of €1,490 million.

Liquid assets and net financial debt



See also A 2.4

Net Financial Debt¹

€ million	Dec. 31, 2015	Dec. 31, 2016	Change %
Bonds and notes / promissory notes	15,547	15,991	+ 2.9
of which hybrid bonds ²	4,525	4,529	+ 0.1
Liabilities to banks	2,779	1,837	-33.9
Liabilities under finance leases	474	436	-8.0
Liabilities from derivatives ³	753	587	-22.0
Other financial liabilities	369	730	+ 97.8
Receivables from derivatives ³	(350)	(313)	-10.6
Financial liabilities	19,572	19,268	- 1.6
Cash and cash equivalents	(1,859)	(1,899)	+ 2.2
Current financial assets ⁴	(264)	(5,591)	.
Net financial debt	17,449	11,778	- 32.5

¹ Net financial debt is not defined in the International Financial Reporting Standards and is calculated as shown in this table.

² Classified as debt according to IFRS

³ These include the market values of interest-rate and currency hedges of recorded transactions.

⁴ These include short-term loans and receivables with maturities between 3 and 12 months outstanding from banks and other companies as well as available-for-sale financial assets that were recorded as current on initial recognition.

In 2016, net financial debt of the Bayer Group decreased by €5,671 million. Cash inflows from operating activities and the issuance of the mandatory convertible notes were set against cash outflows for dividends and negative currency effects.

Net financial debt includes three subordinated hybrid bonds with a total volume of €4,529 million, 50% of which is treated as equity by Moody's and S & P Global Ratings. The hybrid bonds thus have a more limited effect on the Group's rating-specific debt indicators than senior debt.

On November 22, 2016, Bayer issued €4,000 million in mandatory convertible notes. After deducting transaction costs and recognition of deferred taxes, €3,491 million was allocated to capital reserves and €652 million to other financial liabilities.

Asset and Capital Structure of the Bayer Group

A 2.2.4/5

Bayer Group Summary Statements of Financial Position

€ million	Dec. 31, 2015	Dec. 31, 2016	Change %
Noncurrent assets	50,096	51,791	+ 3.4
Current assets	23,624	30,437	+ 28.8
Assets held for sale	197	10	- 94.9
Total current assets	23,821	30,447	+ 27.8
Total assets	73,917	82,238	+ 11.3
Equity	25,445	31,897	+ 25.4
Noncurrent liabilities	31,492	31,804	+ 1.0
Current liabilities	16,868	18,537	+ 9.9
Provisions directly related to assets held for sale	112	—	- 100.0
Total current liabilities	16,980	18,537	+ 9.2
Liabilities	48,472	50,341	+ 3.9
Total equity and liabilities	73,917	82,238	+ 11.3

Increases in total assets and equity

Total assets as of December 31, 2016, rose by €8.3 billion to €82.2 billion. The increase of €1.7 billion in noncurrent assets to €51.8 billion mainly resulted from an increase in deferred taxes, while other intangible assets declined. Total current assets rose by €6.6 billion to €30.4 billion, primarily due to cash inflows from the issuance of the mandatory convertible notes. Equity advanced by €6.5 billion to €31.9 billion. Net income of €4.5 billion (2015: €4.1 billion) and an increase of €3.5 billion in the capital reserves resulting from the issuance of the mandatory convertible notes were set against a negative effect of €0.8 billion (2015: positive effect of €0.8 billion) – recognized outside profit or loss – from changes in post-employment benefit obligations, and the dividend payment of €2.1 billion (2015: €1.9 billion). The equity ratio (equity coverage of total assets) as of December 31, 2016, was 38.8% (2015: 34.4%). Liabilities rose by €1.9 billion compared with December 31, 2015, to €50.3 billion. Trade accounts payable and other liabilities increased, while financial liabilities declined. The net defined benefit liability for pensions and other post-employment benefits increased by €0.3 billion to €11.1 billion. Losses of €0.8 billion from the reevaluation of the net obligations for defined benefit plans for pensions and other post-employment benefits stood against the contribution by Bayer AG of 4.9% of the outstanding Covestro shares with a value of €0.3 billion to Bayer Pension Trust e.V. and the contribution by Covestro of bonds with a value of €0.5 billion.

Balance sheet and financial indicators are described in [Online Annex: A 2.2.4-1](#)

2.3 Earnings; Asset and Financial Position of Bayer AG

Bayer AG performs important management functions for the Group.

As the parent company of the Bayer Group, Bayer AG – represented by its Board of Management – performs the principal management functions for the entire Group. These include strategic planning, resource allocation, executive management and financial management. With the reorganization at the beginning of 2016, the three divisions at Bayer AG also assumed responsibility for managing the operational business. The financial statements of Bayer AG are prepared in accordance with the German Commercial Code (HGB) and Stock Corporation Act (AktG).

2.3.1 Earnings Performance of Bayer AG

A 2.3.1/1

Bayer AG Summary Income Statements according to the German Commercial Code

€ million	2015	2016
Net sales	86	390
Cost of goods sold	(88)	(353)
Gross profit	(2)	37
Selling expenses	(3)	(39)
Research and development expenses	–	(46)
General administration expenses	(324)	(666)
Other operating income	13	48
Other operating expenses	(86)	(227)
Operating income	(402)	(893)
Income from investments in affiliated companies – net	2,444	4,647
Interest expense/income – net	(484)	54
Other financial income – net	409	163
Non-operating income	2,369	4,864
Income taxes	(606)	(371)
Income after taxes/net income	1,361	3,600
Withdrawal from other retained earnings/allocation to other retained earnings	706	(1,367)
Distributable profit	2,067	2,233

Significant improvement in net income

The former subsidiaries Bayer HealthCare AG and Bayer Technology Services GmbH were merged into Bayer AG with effect from January 1, 2016. For this reason the operating result, in particular, has only limited comparability with the prior year with respect to both its total amount and the individual components. It came in well below the 2015 level, at minus €893 million. Taking into account the 2015 operating results of the two merged companies totaling minus €199 million, the reference figure for 2015 was minus €601 million. On this basis the operating result therefore declined by €292 million in 2016. Of the latter amount, €198 million was attributable to the first-time recognition by Bayer AG of provisions for impending losses from sales and licensing agreements transferred to Bayer AG effective January 1, 2017, with the businesses leased from Bayer Pharma AG and Bayer CropScience AG. The provisions for the same purpose established by the two subsidiaries were correspondingly reversed and recognized in profit or loss. Other components of the decline in earnings were expenses for various projects, also in connection with the planned acquisition of Monsanto Company, which increased by €74 million.

Income from investments in affiliated companies increased by €2,203 million to €4,647 million. Bayer Pharma AG made the largest contribution to the operating result with significantly improved income of €3,011 million (2015: €1,793 million). The growth in earnings was due to substantial sales increases for the high-margin products Xarelto™ and Adempas™ along with higher income from investments in affiliated companies, lower net interest expense and an improvement in the currency position. Income of Bayer CropScience AG came in slightly ahead of 2015 at €1,017 million (2015: €964 million) despite the absence of the prior year's one-time gains from a patent litigation. Earnings growth was due to an improvement in the gross operating result and a substantial net exchange gain. Significant effects of profit-and-loss transfer agreements were the transfer of a €50 million (2015: €118 million) loss from Bayer Business Services GmbH and income of €204 million (2015: €149 million) from Siebte Bayer VV GmbH, which receives regular dividend income from a U.S. subsidiary that handles export business in the United States for Bayer Health Care LLC. Apart from profit and loss transfers there was also income of €329 million in 2016 from investments in affiliated companies, including €91 million from Covestro AG, and gains of €130 million from retirements of such investments.

Bayer AG had net interest income of €54 million in 2016, a significant improvement from the net interest expense of €484 million in the previous year. This was almost entirely due to a gain from the measurement of pension provisions and other noncurrent provisions for personnel commitments. Interest-related actuarial gains and fund asset growth overcompensated the expenses for the unwinding of discount on these provisions by €303 million. The net expenses in 2015 amounted to €276 million. Of the remaining €249 million (2015: €208 million) balance of interest expenses and income, €53 million (2015: minus €29 million) was attributable to Group companies and €196 million (2015: €179 million) to third parties, with the creditors of the bonds and commercial paper programs accounting for €189 million (2015: €228 million).

Other financial income and expenses yielded a positive balance of €163 million (2015: €409 million). The decrease was mainly due to the absence of the one-time gain of €217 million incurred in the prior year from the settlement by Covestro Deutschland AG of compensation claims with respect to pension entitlements of former employees. Gains from charging on to other subsidiaries the pension expenses for retirees who remained with Bayer AG following the hive-downs of operating businesses in 2002 and 2003 were substantially lower at only €4 million (2015: €178 million). The decrease was due to the decline in pension expenses, the interest portion of which was reflected in interest expense while the remainder was reflected in other financial income and expenses. Fees for granted credit facilities, which in 2016 pertained mainly to the financing of the planned acquisition of Monsanto, amounted to €57 million (2015: €22 million). Set against this was the result of the translation of foreign currency receivables and payables and the measurement of the relevant derivatives. This amounted to €179 million (2015: €6 million).

Distributable profit of

€2,233 million

Income before income taxes greatly exceeded the prior-year level at €3,971 million (2015: €1,967 million). Tax expense nonetheless declined from €606 million to €371 million due to the absence of the previous year's tax effects resulting from the formation of the Covestro Group and a higher proportion of tax-free income from investments in affiliated companies. After deduction of taxes, net income was €3,600 million (2015: €1,361 million). An allocation of €1,367 million was made to other retained earnings, giving a distributable profit of €2,233 million.

The Board of Management and Supervisory Board will propose to the Annual Stockholders' Meeting on April 28, 2017, that the distributable profit be used to pay a dividend of €2.70 per share (826,947,808 shares) on the capital stock of €2,117 million entitled to the dividend.

2.3.2 Asset and Financial Position of Bayer AG

A 2.3.2/1

Bayer AG Summary Statements of Financial Position according to the German Commercial Code		
€ million	Dec. 31, 2015	Dec. 31, 2016
ASSETS		
Noncurrent assets		
Intangible assets, property, plant and equipment	31	58
Financial assets	43,737	49,112
	43,768	49,170
Current assets		
Receivables from subsidiaries	3,159	4,055
Remaining receivables, inventories, other assets	380	2,818
Cash and cash equivalents, marketable securities	629	803
	4,168	7,676
Total assets	47,936	56,846

A 2.3.2/1 (continued)

Bayer AG Summary Statements of Financial Position according to the German Commercial Code

€ million	Dec. 31, 2015	Dec. 31, 2016
EQUITY AND LIABILITIES		
Equity	15,032	16,565
Provisions	2,356	1,905
Other liabilities		
Bonds and notes, liabilities to banks	7,203	6,673
Payables to subsidiaries	22,752	31,146
Remaining liabilities	593	557
	30,548	38,376
Total equity and liabilities	47,936	56,846

Significant increase in total assets – higher financial debt

The asset and liability structure of Bayer AG is dominated by its role in managing the subsidiaries and financing corporate activities as the parent company of the Bayer Group. This is primarily reflected in the high level of investments in affiliated companies and of the receivables from, and payables to, Group companies.

Total assets of Bayer AG rose by €8.9 billion in 2016 to €56.8 billion. Of the increase, noncurrent assets accounted for €5.4 billion and current assets for €3.5 billion. Property, plant and equipment and intangible assets increased – mainly due to the mergers effected at the start of the year – by €26 million to €58 million, but remained of secondary importance. Financial assets increased by €5.4 billion to €49.1 billion, principally as a result of capital increases at subsidiaries. Investments in affiliated companies continued to account for by far the largest item in total assets, amounting to 84.8% (2015: 89.5%).

Receivables from subsidiaries amounted to €4.1 billion (2015: €3.2 billion), while payables to subsidiaries totaled €31.2 billion (2015: €22.8 billion). These amounts accounted for 7.2% of total assets and 54.9% of total equity and liabilities, respectively. The other receivables reflected in current assets (including deferred charges) increased to €2.8 billion (2015: €0.4 billion), mainly due to investments of €1.9 billion in commercial paper. Cash and cash equivalents also rose due to higher bank deposits, increasing by €174 million to €803 million.

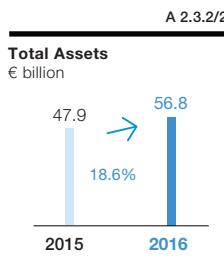
Bayer AG had equity of €16.6 billion (2015: €15.0 billion). The increase represents the excess of the €3,600 million net income for 2016 over the €2,067 million dividend payment for 2015. The equity ratio declined to 29.1% (2015: 31.4%) due to the disproportionate growth in total assets.

Provisions were lower by €0.5 billion at €1.9 billion. The main reason for the decrease was a €665 million decline in pension provisions to €897 million. This was largely the result of higher fund assets, but was also partly attributable to changes in actuarial assumptions regarding the future development of employee compensation and pensions and to a higher discount rate. Provisions for taxes decreased by €123 million to €541 million, while miscellaneous provisions rose by €337 million to €467 million. The main factors here were impending losses from the businesses taken over from Bayer Pharma AG and Bayer CropScience AG by way of business leases as of January 1, 2017, and higher personnel commitments resulting from the mergers with Bayer HealthCare AG and Bayer Technology Services GmbH.

Other liabilities rose by €7.8 billion to €38.4 billion (net of deductible receivables). Financial debt, in particular, increased by €6.2 billion, partly due to the financing for the planned acquisition of Monsanto Company. Whereas external debt in the form of bonds and commercial paper was reduced by €0.6 billion and €0.3 billion, respectively, borrowings from Group companies increased by €7.0 billion. Total financial debt at year end 2016 was €36.5 billion (2015: €30.3 billion). After deduction of cash and cash equivalents of €0.8 billion (2015: €0.6 billion), net debt rose by €6.0 billion to €35.7 billion (2015: €29.7 billion).



See also A 2.3.2/1



See also "About this Report" and Note 2 to B Consolidated Financial Statements

2.4 Alternative Performance Measures Used by the Bayer Group

The Combined Management Report and the consolidated financial statements of the Bayer Group are prepared according to the applicable financial reporting standards. In addition to the disclosures and metrics required by these standards, Bayer publishes alternative performance measures (APMs) that are not defined or specified in these standards and for which there are no generally accepted reporting formats. Bayer determines APMs to enable the comparison of performance indicators over time and against those of other companies in its industry sector. These APMs are calculated by making certain adjustments to items in the statement of financial position or the income statement prepared according to the applicable financial reporting standards. Such adjustments may result from differences in calculation or measurement methods, nonuniform business activities or special factors affecting the information value of these items. The APMs determined in this way apply to all periods and are used both internally for business management purposes and externally by analysts, investors and rating agencies to assess the company's performance. Bayer determines the following APMs:

- > Change in sales (reported, currency-adjusted, currency- and portfolio-adjusted)
- > EBIT
- > EBITDA
- > EBIT before special items
- > EBITDA before special items
- > EBITDA margin before special items
- > Core earnings per share
- > Net financial debt
- > Return on capital employed (ROCE)
- > Net operating profit after tax (NOPAT)
- > Capital employed
- > Total operating performance
- > Value creation
- > Cost of materials / other expenses
- > Other balance sheet and financial indicators

▼ Online Annex: A 2.4-1

The **(reported) change in sales** is a relative indicator. It shows the percentage by which sales varied from the previous year.

The **currency-adjusted or currency- and portfolio-adjusted change in sales** shows the percentage change in sales excluding the impact of exchange rate effects and disregarding the acquisitions and divestitures material to each business entity. Exchange rate effects are generally calculated on the basis of the functional currency valid in the respective country. Exceptions exist in Brazil and Argentina, primarily at Crop Protection, where the respective functional currencies are restated in U.S. dollars for business reasons.

EBIT (earnings before interest and taxes) serves to present a company's operating result while eliminating the effects of differences among local taxation systems and different financing activities. EBIT is calculated as follows:

A 2.4/1

Reconciliation to EBIT

Income before income taxes
+/- Financial result (net income/loss from investments accounted for using the equity method, financial income and expenses)
= EBIT

EBITDA stands for earnings before interest, taxes, depreciation and amortization. This performance indicator neutralizes the effects of the financial result along with distortions of operational performance that result from divergent depreciation and amortization methods and the exercise of measurement discretion. EBITDA is EBIT plus the amortization of intangible assets and the depreciation of property, plant and equipment, plus impairment losses and minus impairment loss reversals, recognized in profit or loss during the reporting period.

A 2.4/2

Reconciliation to EBITDA

EBIT
+/- Depreciation and amortization/impairment losses/impairment loss reversals on property, plant, equipment and intangible assets (as per Statements of Cash Flows)
= EBITDA

EBIT before special items and **EBITDA before special items** show the development of the operational business irrespective of the effects of special items, i.e. special effects for the company with regard to their nature and magnitude. These may include litigations, restructuring, integration costs, impairment losses and impairment loss reversals. EBIT before special items and EBITDA before special items are each determined by adding special charges and subtracting special gains.

The **EBITDA margin before special items** is a relative indicator used by Bayer for internal and external comparisons of operational performance. It is the ratio of EBITDA before special items to net sales.

Core earnings per share (core EPS) is an APM based on the **earnings per share (EPS)** for the Group as defined in IAS 33. Core earnings per share are determined by neutralizing effects of the purchase price allocations for acquisitions and other special factors to enable a comparison of performance over time. In an intermediate step, further APMs – **core EBIT** and **core net income** – are calculated. Core earnings per share are then calculated by dividing core net income per share by the weighted average number of shares in circulation during the year.



See also A 2.2.1

A 2.4/3

Reconciliation to Core Earnings per Share

EBIT (as per Income Statements)
+/- Amortization/impairment losses/impairment loss reversals on intangible assets
+/- Impairment losses/impairment loss reversals on property, plant and equipment
+/- Special items (excluding depreciation and amortization/impairment losses/impairment loss reversals)
= Core EBIT
+/- Financial result (as per Income Statements)
+/- Special items in the financial result
+/- Income taxes (as per Income Statements)

A 2.4/3 (continued)

Reconciliation to Core Earnings per Share

+/- Special items in income taxes

+/- Tax effects relating to depreciation and amortization/impairment losses/impairment loss reversals and special items

+/- Income after income taxes attributable to noncontrolling interest (as per Income Statements)

+/- Portion of the above-mentioned adjustments attributable to noncontrolling interest

= **Core earnings from continuing operations**

/ Weighted average number of shares

= **Core earnings per share from continuing operations (core EPS)**

See also A 2.2.3

As core earnings per share are calculated for each interim reporting period, core earnings per share for the fiscal year or for each interim reporting period up to the respective closing date may deviate from the cumulated core earnings per share for the individual interim reporting periods.

Core earnings per share from continuing or discontinued operations are similarly determined. Core earnings per share form the basis of the Bayer Group's dividend policy.



See also A 2.2.4

Net financial debt is an important financial management indicator for the Bayer Group and is used both internally and externally in assessing its liquidity, capital structure and financial flexibility. This metric is calculated as follows:

A 2.4/4

Reconciliation to Net Financial Debt

Bonds and notes/promissory notes

+ Liabilities to banks

+ Liabilities under finance leases

+ Liabilities from derivatives¹

+ Other financial liabilities

- Receivables from derivatives¹= **Financial liabilities**

- Cash and cash equivalents

- Current financial assets²= **Net financial debt**

¹ These include the market values of interest-rate and currency hedges of recorded transactions.

² These include short-term loans and receivables with maturities between 3 and 12 months outstanding from banks and other companies as well as available-for-sale financial assets that were recorded as current on initial recognition.

The **return on capital employed (ROCE)** is the ratio of **net operating profit after tax (NOPAT)** to the average **capital employed**. NOPAT represents the operating result after taxes and is calculated by subtracting income taxes from EBIT. Income taxes are calculated by multiplying EBIT by a uniform tax rate of 24%, which is based on a historical average of tax rates. The capital employed by Bayer is the total carrying amount of operational noncurrent and current assets, minus liabilities that are largely non-interest-bearing in character or would distort the capital base. An average value, calculated from the values at the end of the prior year and of the reporting year, is used to depict the change in capital employed during the year. The components of the capital employed are as follows:

A 2.4/5

Components of capital employed

€ million	Dec. 31, 2015	Dec. 31, 2016
Goodwill	16,054	16,312
Other intangible assets	15,171	13,567
Property, plant and equipment	12,369	13,114
Other financial assets ¹	67	58
Inventories	8,493	8,408
Trade accounts receivable	9,888	10,969
Other receivables ¹	2,042	1,701
Deferred tax assets ¹	1,295	2,596
Claims for income tax refunds	509	676
Gross capital employed	65,888	67,401
Other provisions ¹	(6,713)	(7,039)
Trade accounts payable	(5,909)	(6,410)
Other liabilities ¹	(2,272)	(2,695)
Financial liabilities ¹	(13)	–
Deferred tax liabilities ¹	(804)	(1,252)
Income tax liabilities	(1,320)	(1,307)
Capital employed	48,857	48,698
Average capital employed 2016		48,777

2015 figures restated

¹ Selected items of the component: nonoperative or non-interest-bearing items eliminated within capital employed

The **total operating performance** is the sum of net sales, other operating income, financial income and the net income/loss from investments accounted for using the equity method. It is divided between depreciation, amortization, impairment losses and impairment loss reversals, the cost of materials/other expenses and value added. **Value added** is defined as the sum of EBIT plus personnel expenses and tax expenses not related to income taxes, and the financial result plus interest expense. The **cost of materials/other expenses** includes all expenses except depreciation, amortization, impairment losses and impairment loss reversals as well as those incorporated in the value added.

3. Report on Future Perspectives and on Opportunities and Risks

3.1 Future Perspectives

3.1.1 Economic Outlook

A 3.1.1/1

Economic Outlook

	Growth ¹ 2016	Growth forecast ¹ 2017
World	+ 2.5%	+ 2.8%
European Union	+ 1.9%	+ 1.6%
of which Germany	+ 1.8%	+ 1.9%
United States	+ 1.6%	+ 2.3%
Emerging markets ²	+ 3.8%	+ 4.0%

Growth 2016 restated

¹ Real growth of gross domestic product, source: IHS Global Insight² Including about 50 countries defined by IHS Global Insight as emerging markets in line with the World Bank

As of February 2017

Slight increase in the pace of global economic development

The global economy will probably grow somewhat more quickly overall in 2017 than in the previous year. In the United States, particularly, we expect better economic development than in 2016. Private consumption will likely remain a key growth driver, as employment and disposable income will probably continue to increase. Positive stimulus will presumably also come from corporate investment. We expect a slight decline in growth in the European Union. Against the background of important elections in a number of countries, uncertainty over the future political development in Europe in particular is likely to hamper growth. In addition, there are unknowns associated with the United Kingdom's exit from the European Union. On the other hand, we expect the expansionary monetary policy of the European Central Bank to have a continued positive impact. Economic output in the Emerging Markets will probably pick up overall compared with the previous year. We expect strong growth in China but at a slightly slower pace. Supported by rising raw material prices, Brazil and Russia will likely return to the growth zone after severe recession.

Moderate to declining industry forecasts

A 3.1.1/2

Economic Outlook for the Segments

	Growth ¹ 2016	Growth forecast ¹ 2017
Pharmaceuticals market	+ 6%	+ 4%
Consumer health market	+ 4%	+ 3-4%
Seeds and crop protection market	- 1%	+ 1%
Animal health market	+ 5%	+ 5%

¹ Bayer's estimate; except pharmaceuticals. Source for pharmaceuticals market: IMS Health. IMS Market Prognosis.

Copyright 2016. All rights reserved; currency-adjusted; 2017 data provisional

As of February 2017

We expect growth in the **pharmaceuticals market** to decline to 4% in 2017. This expectation is based on the assumption of continued positive stimulus from the United States. We anticipate low-single-digit percentage growth in Europe.

We also anticipate that growth of the **consumer health market** in 2017 will be roughly level with the previous year, at 3 to 4%. We expect similar market conditions to 2016.

We predict that the environment for the world **seed and crop protection market** will remain volatile in 2017 after a weak prior year. Growth stimuli are expected to come from Latin America, the Asia/Pacific region and Eastern Europe. In North America and Western Europe, on the other hand, the pace of growth will presumably lag behind global development. Overall we anticipate a slight recovery in the market as a whole.

Based on the continued positive development of innovative products in the **animal health market**, we expect the growth trend to continue in 2017. In the companion animals business, a positive performance is expected particularly in the United States and Europe. In the farm animals business, we expect the pace of growth in the Emerging Markets to pick up again slightly.

For 2017, Covestro expects a continuation of the growth trend in its **main customer industries** construction, electrical engineering & electronics, and furniture. However, growth in the automotive industry will likely be far weaker than in the previous year.

3.1.2 Corporate Outlook

The following forecast is based on the current business development, taking into account the potential risks and opportunities. It is based on the exchange rates at the closing date on December 31, 2016, including rates of US\$1.05 to the euro. A 1% appreciation (depreciation) of the euro against all other currencies would decrease (increase) sales on an annual basis by some €300 million and EBITDA before special items by about €80 million.

The Board of Management expects the positive development of the Bayer Group to continue in fiscal 2017. Sales of the Bayer Group including Covestro are targeted to increase to more than €49 billion. This corresponds to a low- to mid-single-digit percentage increase on a currency- and portfolio-adjusted basis. EBITDA before special items is forecast to grow by a mid-single-digit percentage. We aim to grow core earnings per share from continuing operations by a mid-single-digit percentage as well. It should be noted that only 64% of Covestro will be reflected for the full year 2017. In addition, it should be noted that the weighted average number of shares has increased following the placement of the mandatory convertible notes in November 2016.

Sales to rise to more than €49 billion in 2017 after €46.8 billion in 2016



See also A 2.4

Sales and earnings forecast by segment

We plan sales of approximately €37 billion for the **Life Science** businesses. This corresponds to a mid-single-digit percentage increase on a currency- and portfolio-adjusted basis. EBITDA before special items is targeted to rise by a mid- to high-single-digit percentage.

At **Pharmaceuticals**, we expect sales of more than €17 billion. This corresponds to a mid-single-digit percentage increase on a currency- and portfolio-adjusted basis. We plan to raise sales of our key growth products Xarelto™, Eylea™, Stivarga™, Xofigo™ and Adempas™ to more than €6 billion. We expect a high-single-digit percentage increase in EBITDA before special items. We aim to improve the EBITDA margin before special items.

In the **Consumer Health** segment, we expect sales to come in at more than €6 billion. In line with anticipated market development, we plan to grow sales by a low- to mid-single-digit percentage on a currency- and portfolio-adjusted basis. We expect EBITDA before special items to increase by a low- to mid-single-digit percentage.

For **Crop Science** we are assuming sales of more than €10 billion. This corresponds to a low-single-digit percentage increase on a currency- and portfolio-adjusted basis. We expect EBITDA before special items to be at the prior-year level.

In the **Animal Health** segment, we expect a currency- and portfolio-adjusted increase in sales by a low- to mid-single-digit percentage. We plan to raise EBITDA before special items by a high-single-digit percentage.

For the **Reconciliation**, we expect sales of around €1 billion in 2017. We plan EBITDA before special items in the region of minus €0.2 billion.

For 2017, **Covestro** is budgeting a sales increase. EBITDA after adjustment for special items should be on or above the prior-year level.

Development of further key data

In 2017, we expect to take special charges in EBITDA in the region of €0.5 billion for the Bayer Group as a whole. Most of this amount is accounted for by costs in connection with the agreed acquisition of Monsanto and with restructuring and efficiency improvement measures. We aim to increase research and development spending to €4.8 billion. Capital expenditures will amount to about €2.5 billion for property, plant and equipment and around €0.4 billion for intangible assets. Depreciation and amortization are estimated at about €2.9 billion, including €1.4 billion in amortization of intangible assets. We also predict a financial result of around minus €1.4 billion. The effective tax rate is likely to be about 23%. Excluding capital and portfolio measures, net financial debt is targeted to be around €10 billion at the end of 2017.

Net financial debt is targeted to improve to around €10 billion.

Outlook for Bayer AG

On the basis of the business operating leases with Bayer Pharma AG and Bayer CropScience AG that came into effect at the start of 2017, the operational business of these two entities has been transferred to Bayer AG. As a result, the sales of these two entities now accrue to Bayer AG, for which we are predicting sales of more than €14 billion. The budgeted positive earnings of the Pharmaceuticals and Crop Science segments in 2017 will also accrue directly to Bayer AG as a result of the business operating leases. In addition, the earnings of most major Bayer subsidiaries in Germany are transferred directly to Bayer AG under profit and loss transfer agreements. Also, specific intra-company dividend measures ensure the availability of sufficient distributable income. Business development at Bayer AG is subject in principle to the same risks and opportunities as that of the Bayer Group. On account of the interdependencies between Bayer AG and its subsidiaries, the outlook for the Bayer Group thus largely also reflects the expectations for Bayer AG. Therefore, the forecast for the Bayer Group outlined above applies equally to Bayer AG. In the coming year, based on these factors, we expect Bayer AG to report a distributable profit that will again enable our stockholders to adequately participate in the Bayer Group's earnings.

3.2 Opportunity and Risk Report

3.2.1 Group-wide Opportunity and Risk Management System

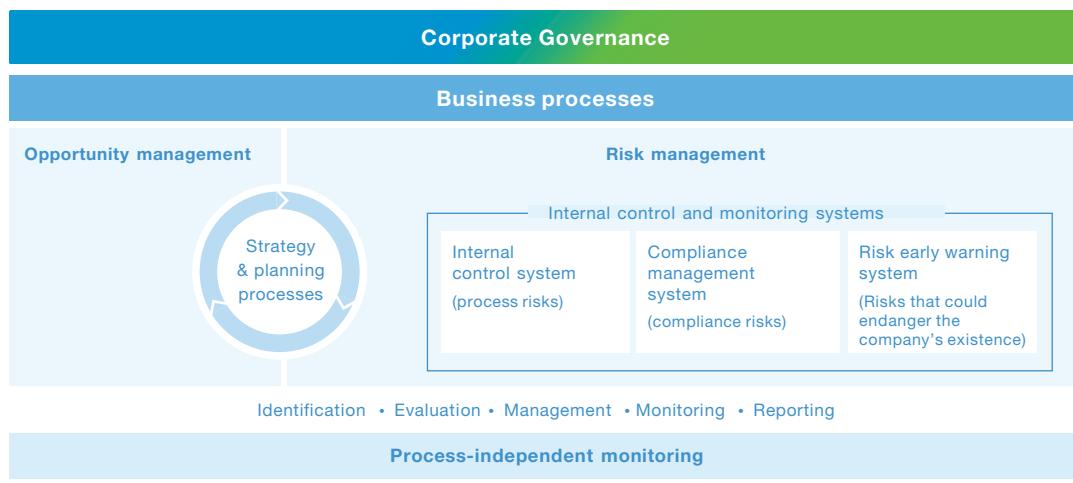
As a global enterprise with a diversified portfolio, the Bayer Group is constantly exposed to a wide range of internal or external developments and events that could significantly impact the achievement of our financial and nonfinancial objectives. Rooted in our strategy and planning processes, opportunity and risk management is an integral part of corporate management at Bayer. We regard opportunities as positive deviations, and risks as negative deviations, from projected or target values for potential future developments. Opportunity and risk management at Covestro has a similar structure to that of Bayer.

Structure of opportunity and risk management

The opportunities and risks the Bayer Group encounters vary in terms of their nature, the organizational level concerned and the time horizon. Different processes, methods and IT systems are therefore employed to identify, evaluate, manage and monitor risks and report on them. The principles underlying the various systems are documented in Group policies. While there are still named owners and coordinators at the management level, overall responsibility for the effectiveness and appropriateness of the systems lies with the Chief Financial Officer.

A 3.2.1/1

Corporate Governance



From identification to monitoring

Bayer continuously identifies opportunities and risks by observing macroeconomic, industry-specific, regional and local developments and analyzing trends. The opportunities and risks identified are then evaluated. We attempt to avoid or mitigate risks by taking appropriate countermeasures, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable. We consciously accept and bear manageable and controllable risks that stand in a reasonable relation to the anticipated opportunities – as an aspect of general entrepreneurial risk.

We have established and documented specific processes to manage financial opportunities and risks. One component is financial planning, which serves as the basis for determining the liquidity risk and the future foreign currency and interest-rate risks and includes all Group companies that are relevant from a cash flow perspective. Financial planning covers a twelve-month planning horizon and is regularly updated.

Opportunity management

We identify opportunities as part of the annual strategic planning cycle, during which the segments analyze internal and external factors that may positively affect the development of our business. These may be factors of a social, economic or environmental nature. The core phase of our strategic planning process normally takes place in the first half of the year and starts with a comprehensive analysis of the markets. The segments build on this by analyzing their respective market environments to identify their opportunities. They base these analyses on different time periods to take into account the fact that trends may affect developments over the short, medium or long term.

Risk management

To enable the Board of Management and the Supervisory Board to monitor material business risks as required by law, the Bayer Group has implemented an internal control system, a compliance management system and a risk early warning system. Covestro's risk management also comprises these three components. ICS-related matters are regularly reported to the Chief Financial Officer of Covestro AG, who also chairs Covestro's Compliance Committee and Corporate Risk Committee. The three systems in place at Bayer are described on the next page.

Internal control system for (Group) accounting and financial reporting

(Report pursuant to Sections 289, Paragraph 5 and 315, Paragraph 2, No. 5 of the German Commercial Code)

As part of the comprehensive risk management system, Bayer has an internal control system (ICS) in place for the (Group) accounting and financial reporting process. This process comprises defined structures and workflows implemented throughout the organization. The purpose of our ICS is to ensure proper and effective accounting and financial reporting in accordance with Section 289, Paragraph 5 and Section 315, Paragraph 2, No. 5 of the German Commercial Code. The ICS is designed to guarantee timely, uniform and accurate accounting for all business processes and transactions based on applicable statutory regulations, accounting and financial reporting standards and the internal Group policies that are binding upon all consolidated companies. Risks are identified and evaluated, and steps are taken to counter them. Mandatory ICS standards such as system-based and manual reconciliation processes and functional separation have been derived from these frameworks and promulgated throughout the Group by the Risk Management function on behalf of the Chief Financial Officer of Bayer AG. The management of each Group company holds responsibility for implementing the ICS standards at the local level. Using Bayer's shared service centers, the Group companies prepare their financial statements locally and transmit them with the aid of a standard Group data model that is based on the Group accounting policy. This ensures the regulatory compliance of the consolidated financial statements. The Board of Management has confirmed the effective functioning of the internal control system for accounting and financial reporting and the relevant criteria for the 2016 fiscal year. However, it should be noted that an internal control system, irrespective of its design, cannot provide absolute assurance that material misstatements in the financial reporting will be avoided or identified.

Compliance management system



See also A 4.2

Our compliance management system is aimed at ensuring lawful, responsible and sustainable conduct by our employees. It is designed to identify potential violations in advance and systematically prevent their occurrence. The compliance management system thus contributes significantly to the integration of compliance into our operating units and their processes. Bayer has implemented an integrated compliance management system for material risk areas worldwide to strengthen the systematic and preventive identification and evaluation of risks. Risks are identified both from the bottom up via the country organizations and from the top down via the global functions, taking global, local and business-specific aspects into account. Additionally, compliance risks are identified by performing a trend analysis based on compliance cases reported from around the world. The findings are discussed by the local business units, the local compliance functions and representatives of the central functions at a round table and are entered into a Group-wide compliance risk management database.

Risk early warning system

We have established a process known as BayRisk as an early warning system pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act to identify at an early stage any developments that are material and/or could endanger the company's continued existence. The process owner is the risk management department, which reports directly to the Chief Financial Officer. This establishes a consistent framework and uniform standards for the risk early warning system throughout the Group. The segments, service companies and central functions are included in this system so that corporate risks are captured as fully as possible. The early identification, evaluation, management and reporting of risks is the responsibility of named risk officers.

The BayRisk database maps the Group's risks – together with the respective countermeasures – that exceed defined, annually updated financial value thresholds as well as risks that are materially relevant for the company but from a financial point of view may not be directly or reliably quantifiable, if at all. The risk portfolio is reviewed three times a year. Significant changes are documented and reported to the Chief Financial Officer. A report on the risk portfolio is submitted to the Supervisory Board once a year.

Process-independent monitoring

The effectiveness of our management systems is audited and evaluated at regular intervals by Internal Audit, which has an independent and objective audit function focused on compliance with laws and internal policies. Risks in the areas of occupational health and safety, plant safety, environmental protection and product quality are assessed by dedicated HSEQ audits.

During the audit of the annual financial statements, the external auditor assesses the fundamental suitability of the early warning system to identify at an early stage any risks that could endanger the company's continued existence. A report on the internal control and monitoring systems and their effectiveness is presented annually to the Supervisory Board. Any weaknesses identified in the internal control system must be reported to the Board of Management and the Supervisory Board. The audit outcomes are used in the continuous improvement of our management and business processes.

3.2.2 Opportunity and Risk Status

We classify the risks identified by the risk early warning system as high, medium or low – depending on the potential loss or damage and the probability of occurrence – according to the following matrix.

A 3.2.2/1

Risk Rating Matrix According to Financial Criteria

Cumulative impact (€ million)	Likelihood of occurrence		
	Low	Medium	High
> 1,250	H	H	H
500 – 1,250	M	M	H
< 500	L	L	L

H = high risk, M = medium risk, L = low risk

Here we report the risks classified as "medium" or "high" along with the material opportunities identified by our opportunity management. In addition, we report significant risks that from a financial point of view may not be directly or reliably quantifiable, if at all. Comparable risks existing in different parts of the company are aggregated in some cases. The order in which the risks are listed does not imply any order of importance. The opportunities and risks described may apply to all segments unless otherwise indicated. The impact on the Bayer Group of risks attaching to Covestro is affected by the size of Bayer's shareholding. Comprehensive information on Covestro's opportunity and risk status is provided in the current opportunity and risk report forming part of the management report of Covestro AG.

Corporate environment

Ethical conduct is a matter of essential importance for society. The Bayer Group is dedicated to sustainable development in all areas of its commercial activity. This voluntary commitment is reflected in our responsible corporate governance.



See also A 1.2

Opportunities arising from macrotrends

The increase in quality of life and life expectancy is leading to a heightened focus on the medical care needs of elderly patients. Our concentration on certain partly age-related diseases such as cancer or chronic cardiovascular disorders harbors opportunities for us. In response to the growing demand for innovative health care products to treat age-related diseases, Bayer's Pharmaceuticals segment is concentrating its research and development activities on relevant therapeutic areas such as oncology and cardiology.

The opportunities for our agricultural businesses arise from global population growth and the increasing demand for food. In addition, consumer behavior in some regions is shifting toward higher demand for food products of animal origin. Agricultural productivity therefore needs to increase in view of declining per-capita acreages, the challenges presented by climate change, and increasing pesticide resistance. We expect the demand for high-value seed and crop protection products to rise in light of the need to produce sufficient food and animal feed to meet the growing demand in spite of limited acreages. In response, Crop Science is developing processes to more effectively protect plants against climatic and environmental stress and raise crop yields, for example.

Economic environment

There is a risk that our growth could be impeded by increasing global cost pressure on health care systems. The prices of pharmaceutical products are subject to regulatory monitoring and control in many markets, and government reimbursement systems often favor less expensive generic medicines over branded products. In addition, in some markets, major health care providers can exert substantial pressure on prices. Price controls and pricing pressure reduce earnings from our pharmaceutical products and may occasionally make the market launch of a new product unprofitable. As a result, it may be necessary to choose indirect marketing options in order to provide access to pharmaceuticals. We expect the current extent of regulatory controls and pricing pressure to persist or increase. A further factor is that our Life Science businesses operate in highly competitive markets. Corporate mergers, along with business practices such as aggressive pricing strategies – not only in the field of generic competition – may adversely affect our earnings.

However, the pressure on health care systems also presents us with opportunities in the area of nonprescription medicines. Patients are sometimes directed toward non-reimbursable, non-prescription medicines, some of which are manufactured in Bayer's Consumer Health segment. Moreover, the consumption of health products is increasing due to the aging population.

Modern agricultural methods, the application of certain classes of crop protection products and the use of genetic engineering are repeatedly the subject of intense public debate. This political opinion-forming may yield legislative and regulatory decisions that significantly limit the use of our products or even result in voluntary or mandated product withdrawals. In addition, decisions by the European Union, for example, also affect agricultural imports from other parts of the world and therefore our business in those regions. For these reasons we are engaged in a constant dialogue with interest groups and regulators to promote a scientifically founded, rational and responsible discussion and decision-making process.

In the Crop Science segment, risks may arise from seasonal fluctuations in the weather, market volatility for agricultural products and our customers' financial situations, for example. These may adversely affect both our crop protection and our seeds businesses.

The current global consolidation process in the seeds and crop protection industry could greatly alter our future competitive environment. We are responding to this trend with acquisitions, collaborations and the expansion of in-house research and development capacities.

Negative economic developments generally have an adverse effect on the sales markets for Covestro's products, usually leading to lower sales volumes and a drop in the company's operational earnings. The extent of these effects on volumes and the operating result also depend on capacity utilization in the industry, which in turn varies according to the supply-demand ratio for industry-specific products. A decline in demand leads to lower sales volumes and ultimately to lower capacity utilization, which adversely impacts margins.

Further opportunities and risks may arise if the future economic development of our markets varies from our estimates. If macroeconomic development is out of line with forecasts, this may positively or negatively impact our sales and earnings expectations.

Continuous analysis of the economic and regulatory environment and of economic forecasts enables us to pursue the opportunities we identify and address risks. We also closely monitor political developments in key markets.

Innovation

We believe that our innovation strength holds opportunities both for the continued development of our brands and for the expansion of the research pipeline in all of our businesses. In the Pharmaceuticals segment, opportunities are inherent in the digitization taking place along the entire value chain – from new, time-saving and efficiency-enhancing research and development methods to new technologies that give us access to innovative business models. In Consumer Health, digital platforms for products and services are opening up new potential for us alongside the conventional business with nonprescription medicines. In the Crop Science segment, the digitization of agriculture presents a major opportunity for achieving greater efficiency and sustainability. We also rely on networking, both within the company and with external partners, to boost our innovation strength. This stimulates the development of new products in the long term. Despite all our efforts, we cannot assure that all of the products we are currently developing or will develop in the future will achieve planned approval/registration or commercial success. For example, a drug candidate may fail to meet trial endpoints. The Bayer Group seeks to counter this risk by way of holistic portfolio management in order to estimate the probability of success and prioritize its development projects.

There is steady growth in public and regulatory expectations with regard to the safety and efficacy of chemical, biological and pharmaceutical products so we continue to anticipate increasing regulatory requirements for clinical or (eco)toxicological studies, for example. This leads to higher product development costs and longer timeframes. Projects are set up to coordinate the proper implementation of new regulatory requirements.

Acquisitions

Where it appears strategically advantageous, we supplement our organic growth by acquiring companies or parts of companies. The integration of new businesses has contributed to our success in the past and will result in opportunities in the future as well. However, failure to successfully integrate a newly acquired business or unexpectedly high integration costs, for example, could jeopardize the achievement of qualitative or quantitative targets and adversely impact earnings. In the course of due diligence and throughout the subsequent integration process, we seek to identify and classify the potential risks of an acquisition target such as compliance with applicable environmental regulations and occupational health and safety standards at production sites.

In connection with the acquisition of Monsanto, the merger agreement provides for payment by Bayer of a US\$2 billion reverse break fee including, in particular, in the event that the necessary antitrust approvals are not granted by June 14, 2018, and Bayer or Monsanto therefore terminates



See also A 3.1



See also A 1.3



See also A 1.2



See also A 3.2.3

the merger agreement. Further risks that may arise in connection with the agreed acquisition of Monsanto are described in Chapter 3.2.3.

Collaborations

We have collaborations in place along the value chain of our products. Suboptimum performance by collaboration partners may affect the development, manufacture or marketing of our products and services and adversely impact our business. In some countries, for example, the marketing rights for certain pharmaceutical products are held by third parties. Inadequate performance by these marketing partners could adversely affect the development of our sales and costs. Therefore, we have established an Alliance Management unit to monitor the most important collaborations and provide relevant support to the operational functions.

Patent protection



See also Note 32 to
B Consolidated Financial
Statements

Patents protect our intellectual property. The Bayer Group, now as in the past, has a portfolio that largely consists of patent-protected products. When our products are successfully commercialized, some of the profits can be used to continue investing in research and development. Due to the long period of time between the patent application and the market launch of a product, Bayer generally only has a few years in which to earn an adequate return on its investment in research and development. This makes effective and reliable patent protection all the more important. Generic manufacturers, in particular, attempt to contest patents prior to their expiration. Sometimes a generic version of a product may even be launched "at risk" prior to the issuance of a final patent decision. We are currently involved in legal proceedings to enforce patent protection for our products. When a patent defense is unsuccessful, or if one of our patents expires, our prices are likely to come under pressure because of increased competition from generic products entering the market. Legal action by third parties for alleged infringement of patent or proprietary rights by Bayer may impede or even halt the development or manufacturing of certain products or require us to pay monetary damages or royalties to third parties. Our patents department regularly reviews the patent situation in collaboration with the respective operating units and monitors for potential patent infringements so that legal action can be taken if necessary.



See also A 1.4.3.1

Products and product stewardship

Bayer evaluates the potential health and environmental risks of a product along the entire value chain. Despite extensive studies prior to approval or registration, it is possible that products could be partially or completely withdrawn from the market due to the occurrence of unexpected side effects or other factors. Such a withdrawal may be voluntary or result from legal or regulatory measures. Furthermore, the presence of traces of unwanted genetically modified organisms in agricultural products and/or foodstuffs cannot be entirely excluded. Potential payments of damages in connection with the above risks may have a substantial negative impact on our earnings. Our businesses counter these risks through their organizational and operational structure in the areas of pharmaceutical and crop protection product safety and testing. In addition, Crop Science has a comprehensive stewardship program in place. Stewardship refers to the responsible and ethical management of products over their entire life cycles.

Another risk we face is that of illegal trading in counterfeit medicines and crop protection products by criminal third parties. In most cases, the composition and the quality of counterfeit products do not correspond to those of the original products. In addition, the fact that no local regulatory authority is involved in assuring the quality of the manufacturing or distribution process precludes any official product recall. Products originating from illegal third-party manufacturing not only endanger patients, users, animals and the environment, but also jeopardize the good reputation of our company and products and undermine our competitive position. Bayer actively assists authorities' efforts to combat product counterfeiting by adopting preventive measures and prosecuting offenders.

Procurement and production

Our Supplier Code of Conduct includes legal and ethical standards to which Bayer attaches the utmost importance. Violations of the Code may also harm our company's reputation. On the basis of supplier assessments and audits, we verify whether our partners along the supply chain actually comply with our Code of Conduct.

We attach great importance not only to product safety but also to protecting our employees and the environment. Risks associated with the manufacturing, filling, storage or shipping of products are mitigated by means of integrated HSEQ management. The materialization of such risks may result in personal injury, property and environmental damage, loss of production, business interruptions and/or liability for compensation payments.

Despite all precautions, operations at our sites may be disrupted by natural disasters, fires or explosions, sabotage or supply shortages for our principal raw materials or intermediates. This also applies to external partners along the value chain. Disruption may also result from possible regulatory or legislative changes in the respective countries. If we are unable to meet demand for our products, sales may undergo a structural decline. We counter this risk by distributing production for certain products among multiple sites or by building up safety stocks. Furthermore, an emergency response system based on the respective Corporate Policy has been implemented at all our production sites as a mandatory component of our HSEQ management.

Employees

Skilled and dedicated employees are essential for the company's success. There is keen competition among companies for highly qualified personnel, particularly in countries with full employment and in the emerging economies of Asia and Latin America. If we are unable to recruit a sufficient number of employees in these countries and retain them within Bayer, this could have significant adverse consequences for the company's future development. Based on our analysis of future requirements, we design appropriate employee recruitment and development measures. In addition, our employee diversity policy enables us to tap the full potential of the employment market. In times of considerable strategic and organizational change at Bayer, deliberate and transparent change management forms an integral part of our human resources management, enabling us to constantly motivate our employees.

Information technology

Business and production processes and the internal and external communications of the Bayer Group are increasingly dependent on global IT systems. A significant technical disruption or failure of IT systems could severely impair our business and production processes. Technical precautions such as data recovery and continuity plans are defined and continuously evolved in close cooperation with our internal IT organization. The confidentiality of internal and external data is of fundamental importance to Bayer. A loss of data confidentiality, integrity or authenticity could lead to manipulation and/or the uncontrolled outflow of data and know-how. We have measures in place to counter this risk, including an authorization system. Furthermore, a committee has been established to determine the fundamental strategy, architecture and safety measures for the Bayer Group. Through these measures, we aim to provide optimum protection based on state-of-the-art technology.



See also A 1.4.2.1,
A 1.4.2.2



[www.bayer.com/
en/supplier-code-of-
conduct.aspx](http://www.bayer.com/en/supplier-code-of-conduct.aspx)



See also A 1.4.1



See also A 3.2.1, A 4.2
and Note 32 to
B Consolidated Financial
Statements

Law and compliance

The Bayer Group is exposed to risks from legal disputes or proceedings to which we are currently a party or which could arise in the future, particularly in the areas of product liability, competition and antitrust law, anticorruption law, patent law, tax law and environmental protection. Investigations of possible legal or regulatory violations, such as potential infringements of antitrust law or certain marketing and/or distribution methods, may result in the imposition of civil or criminal penalties – including substantial monetary fines – and/or other adverse financial consequences, harm Bayer's reputation and ultimately hamper our commercial success. Bayer has established a global compliance management system to ensure the observance of laws and regulations.

Tax risks

Bayer AG and its subsidiaries operate worldwide and are thus subject to many different local tax laws and regulations. Bayer Group companies are regularly audited by the tax authorities in various countries. Amendments to tax laws and regulations, legal judgments and their interpretation by the tax authorities, and the findings of tax audits in these countries may result in higher tax expense and payments, thus also influencing the level of tax receivables, tax liabilities and deferred tax assets and liabilities.

Financial opportunities and risks

The Bayer Group sees financial opportunities in the market prices it can command, and is exposed to financial risks in the form of liquidity, credit and market price risks, as well as risks resulting from pension obligations.

Liquidity risk

Liquidity risks result from the possible inability of the Bayer Group to meet current or future payment obligations due to a lack of cash or cash equivalents. The liquidity risk is determined and managed by the Finance department as part of our same-day and medium-term liquidity planning. The Bayer Group holds sufficient liquidity to ensure the fulfillment of all planned payment obligations at maturity. In addition, a reserve is maintained for unbudgeted shortfalls in cash receipts or unexpected disbursements. The amount of this liquidity reserve is regularly reviewed and adjusted as necessary according to circumstances. Liquidity is mainly ensured through overnight and term deposits. Credit facilities also exist with banks. These include, in particular, an undrawn €3.5 billion syndicated credit facility. Additionally, credit facilities totaling €1.5 billion are available to the Covestro Group.

Credit risks

Credit risks arise from the possibility that the value of receivables or other financial assets of the Bayer Group may be impaired because counterparties cannot meet their payment or other performance obligations. The maximum default risk is reduced by existing collateral, especially our global credit insurance programs.

Positive and negative fair values of derivative financial instruments may be netted when certain conditions are fulfilled. To manage credit risks from trade receivables, the respective invoicing companies appoint credit managers who regularly analyze customers' creditworthiness. Some of these receivables are collateralized, and the collateral is used according to local conditions. It includes credit insurance, advance payments, letters of credit and guarantees. We generally agree reservation of title with our customers. Credit limits are set for all customers. All credit limits for debtors where total exposure is €10 million or more are evaluated by local credit management and submitted to the Group-wide risk committee of the Finance function. Credit risks from financial transactions are managed centrally in the Finance department. To minimize risks, financial transactions are only conducted within predefined exposure limits and with banks and other partners that preferably have investment-grade ratings. All risk limits are based on methodical models, and adherence to them is continuously monitored.



See also Note 22 to
B Consolidated Financial
Statements

Opportunities and risks resulting from market price changes

Opportunities and risks resulting from fluctuating exchange and interest rates in the market are managed by the Finance function. Risks are avoided or mitigated through the use of derivative financial instruments. The type and level of currency and interest-rate risks are explained using sensitivity analyses based on hypothetical changes in risk variables (such as interest curves) to determine the potential effects of market price fluctuations on equity and earnings. The assumptions used in the sensitivity analyses reflect our view of the changes in currency exchange and interest rates that are reasonably possible over a one-year period. These assumptions are regularly reviewed.



See also Note 30.3 to
B Consolidated Financial
Statements

Foreign currencies

Foreign currency opportunities and risks for the Bayer Group result from changes in exchange rates and the related changes in the value of financial instruments (including receivables and payables) and of anticipated payment receipts and disbursements in the functional currency. Receivables and payables in liquid currencies from operating activities and financial items are generally fully exchange-hedged through forward exchange contracts and cross-currency interest-rate swaps. Anticipated exposure from planned payment receipts and disbursements in the future is hedged according to the rules agreed between the Board of Management, the Finance function and the operating units. Hedging takes place through forward exchange contracts and currency options.

Sensitivities were determined on the basis of a hypothetical adverse scenario in which the euro depreciates by 10% against all other currencies compared with the year-end exchange rates. In this scenario, the estimated hypothetical loss of cash flows from derivative and nonderivative financial instruments would have diminished earnings and equity (other comprehensive income) as of December 31, 2016, by €380 million (December 31, 2015: €303 million). Of this amount, €174 million is related to the U.S. dollar, €58 million to the Chinese renminbi, €57 million to the Japanese yen and €33 million to the Canadian dollar. Currency effects on anticipated exposure are not taken into account. Derivatives used to hedge anticipated currency exposure that are designated for hedge accounting would have diminished other comprehensive income by €365 million.

Interest rates

Interest-rate opportunities and risks result for the Bayer Group through changes in capital market interest rates, which in turn could lead to changes in the fair value of fixed-rate financial instruments and changes in interest payments in the case of floating-rate instruments. Interest-rate opportunities and risks are managed over a target duration established by management for Bayer Group debt. This target duration is subject to regular review. Interest-rate swaps are concluded to achieve the target structure for Bayer Group debt. A sensitivity analysis based on our net floating-rate receivables and payables position at year end 2016, taking into account the interest rates relevant for our receivables and payables in all principal currencies, produced the following result: a hypothetical increase of one percentage point in these interest rates (assuming constant currency exchange rates) as of January 1, 2016, would have raised our interest expense for the year ended December 31, 2016, by €31 million (December 31, 2015: €29 million).

Financial risks associated with pension obligations

The Bayer Group has obligations to current and former employees related to pensions and other post-employment benefits. Changes in relevant measurement parameters such as interest rates, mortality and salary increase rates may raise the present value of our pension obligations. This may lead to increased costs for pension plans or diminish equity due to actuarial losses being recognized as other comprehensive income in the statement of comprehensive income. A large proportion of our pension and other post-employment benefit obligations is covered by plan assets including fixed-income securities, shares, real estate and other investments. Declining or even negative returns on these investments may adversely affect the future fair value of plan assets. Both these effects may negatively impact the development of equity and/or earnings and/or may necessitate additional payments by our company. We address the risk of market-related



See also Note 25 to
B Consolidated Financial
Statements

fluctuations in the fair value of our plan assets through balanced strategic investment, and we constantly monitor investment risks in regard to our global pension obligations.

3.2.3 Planned Acquisition of Monsanto

On September 14, 2016, Bayer signed a definitive merger agreement with Monsanto Company, St. Louis, Missouri, United States, under which Bayer will acquire all outstanding shares of Monsanto Company. On December 13, 2016, the shareholders of Monsanto Company approved the transaction by the necessary majority. In order to prepare the future integration of the Monsanto business, Bayer has initiated a project which will carefully plan the integration process in all business areas so that integration can be achieved after all regulatory approvals have been received. This process will include risk management applying our existing methods. The integration process will start after the transaction is closed, which we currently expect before the end of 2017. Bayer is experienced in successfully integrating acquisitions from a business, geographical and cultural perspective, and in so doing remains committed to its strong culture of innovation, sustainability and social responsibility.

Opportunities

 See also A 1.2.1 for
Crop Science strategy

Following the successful integration of the Monsanto business, we see additional opportunities for combining our complementary innovative expertise.

The range and depth of our research and development activities should make it possible to optimize the various technologies so that we can accelerate the time-to-market of enhanced innovations. This optimized product offering to customers in the agriculture sector should contribute to improving their yields and productivity and contribute to greater sustainability in farming.

Risks

On account of the magnitude and importance of the acquisition, material risks related to the transaction are listed below. These risks have not been selected on the basis of the BayRisk process described in Chapter 3.2.1 because Bayer and Monsanto remain separate, independent companies. Instead they have been identified and estimated by the central risk management function based on the information available. The list of risks therefore makes no claim to completeness, nor does the order in which they are listed imply any order of importance.

Requirements for closing

At the present time the possibility cannot be excluded that the planned acquisition will be delayed or not take place at all. The transaction is still subject to the customary requirements for closing, including clearance by the relevant antitrust and other authorities. The necessary approvals may be refused or could be tied to certain divestiture actions or other commitments required by regulators of Bayer and / or Monsanto. Such measures could adversely affect our current or future business, financial position, share price or dividend payments. Furthermore, Bayer may not be able to effect commitments in a timely manner, or at all, or on economically viable terms.

The merger agreement also provides for payment by Bayer of a US\$2 billion reverse break fee including, in particular, in the event that the necessary antitrust approvals are not granted by June 14, 2018, and Bayer or Monsanto therefore terminates the merger agreement.

Strategic or operational objectives may not be met

Our strategic, synergistic and other operational objectives regarding the acquisition and integration of the Monsanto business are based on assumptions and estimates we have made that may prove inaccurate, including Monsanto's earning potential and cost structure, the synergy and innovation potentials of both companies and future economic developments and market changes. In addition, difficulties may arise in connection with the acquisition and integration of the Monsanto business that adversely impact our current business or may prevent the expected benefits of the acquisition from being fully realized. These include the retention of key employees, important customers, suppliers, partners, licensors or contacts to other stakeholders, unexpected challenges in developing and successfully executing a strategy for the combined business, and risks resulting from management being distracted from the operational business by the agreed transaction. Combining businesses, processes and workforces as intended while retaining multiple corporate locations could be more complex than expected, partly in view of different corporate cultures and divergent internal control and compliance systems. The achievement of expectations in terms of the tax and accounting treatment of the transaction will be subject to a future detailed review. In light of this, unexpectedly high transaction and integration costs along with further risks and/or charges cannot be ruled out. It is also possible that we may be forced to recognize an impairment loss on the intangible assets of Monsanto and the goodwill of Crop Science if unforeseen difficulties were to arise during the integration, if the Monsanto business were to fail to develop as expected or if other business developments affecting Crop Science were to occur that have not been anticipated.

Changes in risk profile

We believe we may face increased or additional risks as a consequence of acquiring and integrating the Monsanto business. However, these risks cannot yet be definitively identified at the present time. Among the possible consequences of taking over the Monsanto business are potential downgrades in sustainability ratings and increased exposure to public criticism.

Risks from the financing of the planned acquisition

We are also exposed to certain risks from the financing of the planned acquisition. These mainly result from the need to refinance the original acquisition financing, the increase in debt and the possible credit rating downgrade by the rating agencies. Risks also arise from the development of the USD/EUR exchange rate and the interest rate level, as well as from potential difficulties in refinancing the transaction with equity capital to the extent planned.

3.2.4 Overall Assessment of Opportunities and Risks by the Board of Management

In the opinion of the Board of Management, based on the current evaluations, none of the risks described above endanger the company's continued existence. Nor could we identify any risk interdependencies that could combine to endanger the company's continued existence. We note a tendency for risks to shift toward a higher evaluation level. This is partly due to the increased sales and earnings expectations for our products. Based on our product portfolio, our know-how and our innovation strength, we are convinced that we can take advantage of the opportunities resulting from our entrepreneurial activity and successfully master the challenges resulting from the risks stated above.

No risks that could endanger the company's existence

The Board of Management and the Supervisory Board have compiled a complete Corporate Governance Report, which is available on the Bayer AG website at www.bayer.com/en/Corporate-Governance.aspx

4. Corporate Governance Report

- > Conformance with the recommendations of the German Corporate Governance Code
- > Comprehensive compliance system ensures ethical behavior
- > New, simplified compensation structure for the Board of Management in effect



See also C
Governance Bodies

Corporate governance comprises the entire system of managing and supervising an enterprise. The Board of Management and the Supervisory Board of Bayer AG are committed to a responsible and transparent style of management and supervision aimed at increasing the company's value over the long term. The Corporate Governance Report conforms with the recommendations of the German Corporate Governance Code and includes all the information and explanations required by Section 289, Paragraph 4; Section 289a; and Section 315, Paragraphs 4 and 5, of the German Commercial Code.

4.1 Declaration by Corporate Management pursuant to Section 289a and Section 315, Paragraph 5, of the German Commercial Code

The declaration on corporate governance for Bayer AG and the Bayer Group pursuant to Section 289a of the German Commercial Code forms part of the Combined Management Report. The information provided pursuant to Section 289a and Section 315, Paragraph 5, of the German Commercial Code is unaudited pursuant to Section 317, Paragraph 2, Sentence 3, of the German Commercial Code.

Declaration concerning the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act

In 2016, the Board of Management and the Supervisory Board of Bayer AG again issued a declaration that they fully complied with the recommendations of the German Corporate Governance Code in the past and intend to maintain full compliance in the future.

Information on corporate governance practices

Objectives for the composition of the Supervisory Board

The Supervisory Board should be composed in such a way that its members together possess the necessary expertise, skills and professional experience to properly perform their duties. In view of Bayer AG's global operations, the Supervisory Board has set itself the goal of always having several members with international business experience or an international background. A further objective concerning the composition of the Supervisory Board is that, absent special circumstances, a member should not hold office beyond the end of the next Annual Stockholders' Meeting following his or her 72nd birthday. With a view to avoiding potential conflicts of interest, the Supervisory Board has set itself the goal that more than half of the stockholder representatives be independent. In addition, the Supervisory Board aims for at least three quarters of its total membership (stockholder and employee representatives) to be independent. The Supervisory Board assesses the independence of its members according to the recommendation contained in Section 5.4.2 of the German Corporate Governance Code. In assessing independence, the Supervisory Board also considers the criteria given in the recommendation of the European Commiss-

The declaration issued in December 2016 concerning the German Corporate Governance Code is published on the Bayer website along with previous declarations: www.bayer.com/corp-gov

sion of February 15, 2005.¹ Finally, the Supervisory Board has set a standard limit on the duration of any person's membership of the Supervisory Board in line with the recommendation in Section 5.4.1, Paragraph 2 of the Code. Absent special circumstances, no person should remain a member of the Supervisory Board for more than three full terms of office. For members of the Supervisory Board serving at the time the standard limit was introduced (September 2015) who have already exceeded this limit or will exceed it by the end of their current term of office, the limit will be applied with effect from the conclusion of their current term of office.

The stated objectives refer to the Supervisory Board as a whole unless otherwise determined. However, since the Supervisory Board can only nominate candidates for election as stockholder representatives, it can only take the objectives into account in these nominations. The objective for Supervisory Board elections held after January 1, 2016, is that neither women nor men account for less than 30% of the membership.

Implementation status of the objectives

The Supervisory Board has several members with international business experience or an international background. The objective that a member should step down from the Supervisory Board at the Annual Stockholders' Meeting following his or her 72nd birthday – absent special circumstances – is being met. Two members of the Supervisory Board were previously members of the company's Board of Management: Werner Wenning was Chairman of the Board of Management until 2010, and Prof. Dr. Wolfgang Plischke was a member of the Board of Management until 2014. However, neither Werner Wenning nor Prof. Dr. Wolfgang Plischke has any personal or business relationship with the company or a governance body of the company that in the opinion of the Supervisory Board gives rise to a material conflict of interest of a more than temporary nature.

There are no indications of any possible lack of independence in the case of the other Supervisory Board members. Thus the Supervisory Board considers all of its members to be independent. The proportion of women is currently 25% on the Supervisory Board as a whole and 30% among the stockholder representatives. The election of new employee representatives to the Supervisory Board with effect from the end of the 2017 Annual Stockholders' Meeting and the election of stockholder representatives by the 2017 Annual Stockholders' Meeting will result in an increase in the proportion of women on the Supervisory Board as a whole to at least 30%.

Objectives regarding the proportion of women on the Board of Management and the first two management levels

The Supervisory Board aims to ensure that there is at least one woman serving on the company's Board of Management. This corresponded to a share of 12.5% for the eight-member Board that existed at the beginning of the year, or about 14.3% for the seven-member Board now serving. The Board of Management has set objectives of 20% women on the first management level and 28% women on the second management level. These objectives are to be attained by June 30, 2017.

In the future, there should be at least one woman on the Board of Management.

Securities transactions by members of governance bodies

Members of the Board of Management or Supervisory Board and persons with whom they have close relationships are legally obligated to report own-account transactions in shares or debt securities of Bayer AG, associated derivatives or other associated financial instruments to Bayer AG and the German Federal Financial Supervisory Authority (BaFin) as soon as the total volume of their transactions within a calendar year has reached the €5,000 threshold. The transactions reported to Bayer AG in 2016 were duly published and can be viewed on the company's website.



<https://www.bayer.com/en/disclosure-of-securities-transactions.aspx>

¹ Annex 2 to the recommendation of the European Commission of February 15, 2005, on the role of nonexecutive or supervisory directors of listed companies and on the committees of the (supervisory) board (2005/162/EC)

The Board of Management and Supervisory Board members' total holdings in Bayer AG shares or associated financial instruments, as reported to the company, on the closing date for the financial statements were equivalent to less than 1% of the issued shares.

Description of the procedures of the Board of Management and Supervisory Board and the composition and procedures of their committees

▼ [Online Annex: A 4.1-1](#)

The Report of the Supervisory Board in this Annual Report provides details about the work of the Supervisory Board and its committees.

4.2 Compliance



www.bayer.com/compliance

Bayer manages its businesses responsibly and in compliance with the statutory and regulatory requirements of the countries in which it operates. We define compliance as legally and ethically impeccable conduct by all employees in their daily work, because the way they carry out their duties affects our company's reputation. We do not tolerate any violation of laws, codes of conduct or internal regulations. Compliance is essential for our long-term economic success. Covestro has established its own compliance organization and an internal audit department with systems and processes similar to those at Bayer. This chapter does not include compliance information for Covestro.



www.covestro.com/en/company/corporate-compliance

Global Corporate Compliance Policy

The Board of Management is unreservedly committed to compliance, and Bayer will forgo any business transaction that would violate the compliance principles in force throughout the Bayer Group. These principles are enshrined in our Corporate Compliance Policy, which was revised in 2016. The new version is currently being rolled out to Bayer companies in all countries.

▼ [Online Annex: A 4.2-1](#)

Every employee is required to observe these rules and to immediately report any violation of the Corporate Compliance Policy. This general reporting requirement does not apply in France due to peculiarities of national law.

Bayer's senior managers serve as role models and therefore have a vital part to play in implementing the Corporate Compliance Policy. They may lose their entitlement to variable compensation components and be subject to further disciplinary measures if violations of applicable law or internal regulations have occurred in their sphere of responsibility. Compliant and lawful conduct also factors into the performance evaluations of all managerial employees.



Corruption Perceptions Index: see Glossary

Adherence to the Corporate Compliance Policy is among the subjects covered in all audits conducted by Bayer's Internal Audit. The planning of these audits follows a function- and risk-based approach that also takes a corruption perceptions index into account. The largest companies, which together account for about 80% of Group sales, are generally subjected to on-site audits at three-year intervals. A total of 171 compliance audits were completed in 2016, of which 36 were preventive or incident-related audits. The head of Internal Audit and the Group Compliance Officer regularly attend the meetings of the Audit Committee of the Supervisory Board, presenting a summary of conducted audits and their outcomes at least once a year.

Established compliance organization

The Bayer Group's compliance organization is headed by the Group Compliance Officer, who regularly reports directly to the Chairman of the Board of Management and to the Audit Committee of the Supervisory Board. A central compliance department supports the Group Compliance Officer in steering and implementing the Group-wide compliance activities. This department is

staffed with specialized compliance business partners whose responsibilities include establishing business- and industry-specific standards in the divisions, Group functions and service companies. In addition, at least one compliance business partner is available at each site to answer questions from all employees regarding lawful and ethical behavior in business-related situations.

The mission and goals of Bayer's compliance organization are set forth in a Compliance Charter. This relies on early prevention and forms the basis for proactive, risk-based collaboration within the company. For compliance to continue developing as a permanent, active part of Bayer's corporate culture, it needs to remain firmly anchored in all units and in all work processes. The Group-wide compliance management system is based on partnerships with the operational business and features dialogue, transparency and continuous improvement. It also includes the systematic punishment of compliance violations.

Compliance violations can be reported – anonymously if desired – via a compliance hotline that has been set up worldwide and which is also accessible to the general public. In 2016 the compliance organization received a total of 220 reports in this way (including 159 anonymous reports), with 9 reports coming from Germany and 211 from other countries. Alternatively, suspected compliance violations may also be reported to the respective compliance functions in Germany or the country organizations, or to Internal Audit. All cases are recorded according to uniform criteria throughout the Group and dealt with under the rules set forth in Bayer's Policy on the Management of Compliance Incidents.  [Online Annex: A 4.2-2](#)

Comprehensive compliance training and communications

Group-wide training programs tailored to requirements and target groups, along with extensive communications activities, help to further raise the employees' awareness for compliance issues and the risks involved. At the same time, this training familiarizes them both with the Corporate Compliance Policy and with statutory regulations. We have set a Group target requiring all Bayer's managerial employees worldwide to complete at least one compliance training program each year. In 2016, this was achieved by 33,659 employees or around 97% of Bayer managers.

 [Online Annex: A 4.2-3](#)



See also A 3.2.1



Group target: annual compliance training for close to 100% of Bayer managers; see also A 1.2.1

4.3 Compensation Report

The Compensation Report describes the essential features of the compensation packages for the members of the Board of Management and the Supervisory Board of Bayer AG and explains the compensation the individual members were granted or received for the 2016 fiscal year. The report complies with the requirements of the applicable financial reporting standards for publicly traded companies (German Commercial Code [HGB], German Accounting Standards [DRS] and the International Financial Reporting Standard [IFRS]) as well as with the recommendations contained in the current version of the German Corporate Governance Code.

4.3.1 Compensation of the Board of Management

Adjustment of the compensation system effective January 1, 2016

The compensation system for the Board of Management of Bayer AG is aligned to the corporate strategy and geared toward performance-driven, sustainable corporate governance and an appropriate compensation structure and level. The compensation structure in the Bayer Group is, in principle, the same for the Board of Management as for all other managerial employees. The nature and appropriateness of the compensation system for the members of the Board of Management are determined by the full Supervisory Board on the proposal of the Human Resources Committee of the Supervisory Board, regularly reviewed and adjusted as necessary. All of the assessment criteria recommended in Section 4.2.2 of the German Corporate Governance Code are taken into account. An independent compensation consultant has confirmed that the compensation is appropriate and on a customary level.

The compensation of the Board of Management is linked to the sustained growth of corporate value.

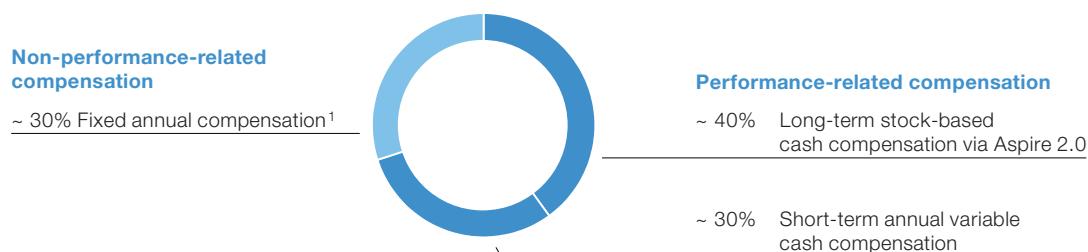
Upon conducting a comprehensive review of the compensation system at the end of 2015, the Supervisory Board identified a need for adjustments, mainly in light of the Group's new divisional structure, which came into effect on January 1, 2016, the enlargement of the Board of Management by three new members with operational responsibilities, and the target positioning in relation to the other DAX companies. The adjusted compensation system for the members of the Board of Management was approved by a large majority at the Annual Stockholders' Meeting on April 29, 2016.

Compensation structure simplified to enhance transparency

Under the new compensation structure for the Board of Management of Bayer AG, the previous ratio of the non-performance-related components (about 30%) to the performance-related variable components (about 70%) is basically unchanged. The compensation components under the new system are as follows, assuming 100% target attainment by a member of the Board of Management:

A 4.3.1/1

Compensation Structure Based on 100% Target Attainment



¹ Excluding fringe benefits and pension entitlements

The structure of the non-performance-related components is the same as before. The adjustments mainly concern the performance-related variable components. These now comprise a variable annual cash payment (STI = short-term incentive) based on target attainment, which is paid out entirely in cash in the following year, and a long-term variable cash payment (LTI = long-term incentive). The system for the new LTI program was also adjusted and is based on stockholder return. The individual performance-related components are capped upon payment. There is also a cap on the total cash compensation. This amounts to 1.8 times the respective target compensation and is determined annually when the fixed compensation is set.

The members of the Board of Management also receive pension entitlements for themselves and their surviving dependents.

Non-performance-related components

Fixed annual compensation

The level of the non-performance-related, fixed annual compensation takes into account the functions and responsibilities assigned to the members of the Board of Management as well as market conditions. The fixed annual compensation is regularly reviewed by the Supervisory Board in light of the consumer price indexes and adjusted if necessary. It is paid out in twelve monthly installments.

Fringe benefits

This component mainly includes perquisites such as a company car with driver or the use of the company carpool, payments toward the cost of security equipment, and the reimbursement of the cost of annual health screening examinations. Fringe benefits are reported at cost or the amount of the pecuniary advantage gained.

Performance-related components

Short-term variable cash compensation

The short-term variable cash compensation (STI) depends on the company's business success in the respective year. The level of the STI is determined by the target attainment for three subcomponents – the Group component, the divisional component and the individual performance component – each of which is given a one-third weighting in the performance evaluation. The performance evaluation takes into account both positive and negative developments. As part of the adjustment of the compensation system starting in 2016, the individual target parameters for the STI were adjusted to the new organizational structure of the Group and the payment of the STI was simplified. The entire amount of the STI is now paid out in cash in the second quarter of the following year. The previous 50:50 split of the STI into a cash payment and a grant of virtual Bayer shares blocked for three years has been abolished. The STI continues to be capped at a total of 200%.

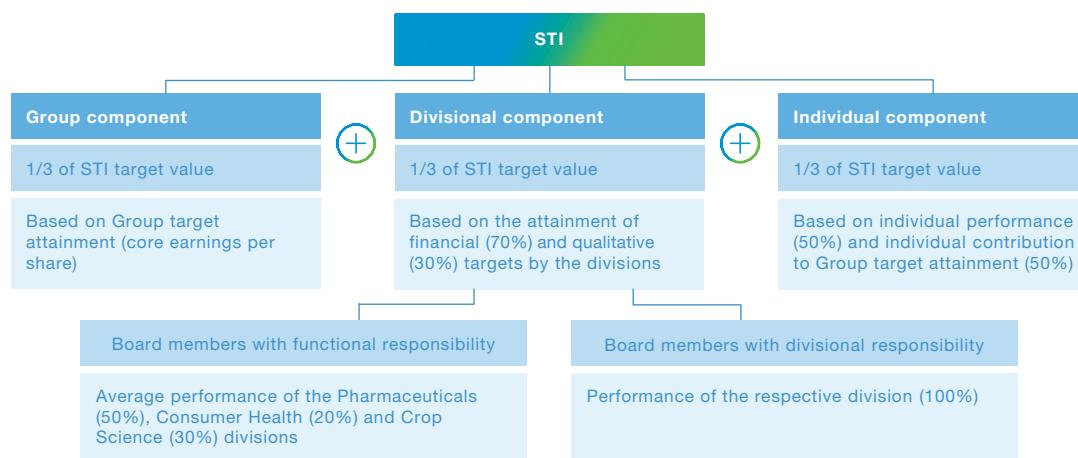
The compensation structure provides for both non-performance-related and performance-related components.

The individual target parameters of the three subcomponents of the STI for 2016 are calculated as follows:

- The Group component continues to be based on the core earnings per share of the Group and remains capped at 200%.
- The divisional component is incentivized based on the average performance of the divisions and remains capped at 300%. For the members of the Board of Management with functional responsibility, this component is based on the average performance of the divisions, weighted as follows: Pharmaceuticals 50%, Consumer Health 20%, Crop Science (including Animal Health) 30%. For the Board members with divisional responsibility, however, this one-third of the STI is incentivized entirely on the basis of the respective division's earnings. Covestro is not included in the divisional component as it has become legally and economically independent. The assessment of divisional performance comprises a 70% component linked to the attainment of financial targets in relation to the EBITDA margin before special items and divisional sales growth, and a 30% component based on the attainment of qualitative goals in areas such as innovative progress, safety, compliance and sustainability.
- The target attainment criteria for the individual performance component have been made more precise. Now, 50% of this component relates to the duties and resulting personal targets of the respective member of the Board of Management and 50% to his or her individual contribution to the attainment of the Group targets. The individual targets for the members of the Board of Management are determined annually by the Supervisory Board, which also assesses their attainment.

A 4.3.1/2

Short-Term Variable Cash Compensation (STI) Components



Long-term stock-based cash compensation (LTI)

Members of the Board of Management are eligible to participate in the annual tranches of the long-term stock-based compensation program “Aspire” on condition that they purchase a certain number of Bayer shares – determined for each individual according to specific guidelines – as a personal investment and hold them for as long as they continue in the service of the Bayer Group.

A new version of Bayer’s “Aspire” program (Aspire 2.0) was introduced in fiscal 2016 as part of the adjustment of the compensation system for the Board of Management. The target amounts for the new Aspire 2.0 tranche issued in 2016 are based on a contractually agreed target percentage of the fixed annual compensation. The starting value is also partly determined by the individual STI payment factor for the Board member concerned for the year prior to the issuance of the respective tranche. The cash payment amounts are determined after four years based on the average share price calculated over the last 30 trading days of the fiscal year, the performance of Bayer stock relative to the EUROSTOXX 50 and the dividends paid in the meantime (total stockholder return approach). The cap for Aspire 2.0 is 250%, compared to 300% under the predecessor program. Thus the new compensation system maintains consistency between the Board of Management and other management levels, except that for the Board of Management an additional performance measure has been included in the LTI program in the form of the comparison to the EUROSTOXX 50 mentioned above.

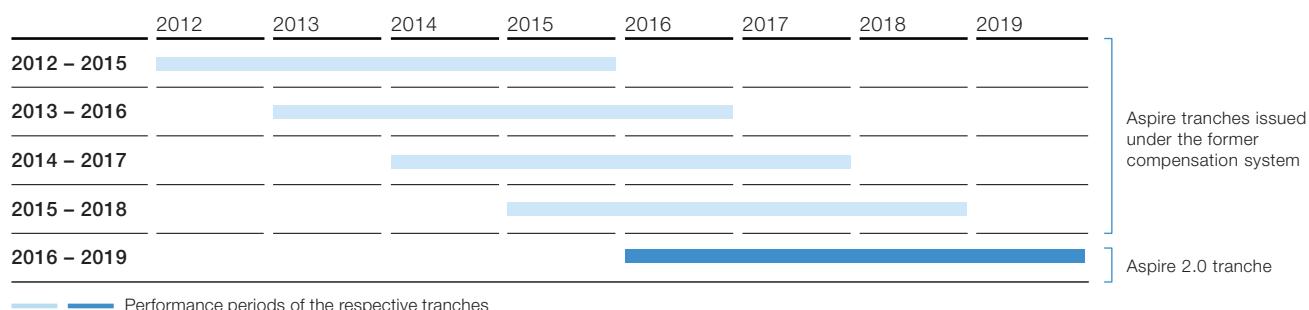


The payout / performance matrix according to the absolute and relative development of Bayer’s share price is explained at www.investor.bayer.com/en/stock/stock-programs/aspire/

The payments made under the tranches of the Aspire program issued in the years up to 2015 continue to be based until their expiration on the Aspire Target Opportunity, which is a contractually agreed percentage of fixed annual compensation. Depending on the performance of Bayer stock, both in absolute terms and relative to the EURO STOXX 50 benchmark index, participants are granted an award of between 0% and a maximum 300% of their individual Aspire Target Opportunity at the end of the respective performance periods.

A 4.3.1/3

Tranches of the Aspire Program



— Performance periods of the respective tranches

Aspire tranches issued under the former compensation system

Aspire 2.0 tranche

When a member of the Board of Management retires, current Aspire tranches may be shortened, thus reducing their value, depending on the duration of the member’s active service on the Board of Management during the first year of the tranche.

Share Ownership Guidelines

As a condition for receiving payments under the LTI program, members of the Board of Management must meet certain requirements regarding their personal investment in Bayer stock. Starting in 2016, they are required to build a position in Bayer shares to the value of 75% of their fixed annual compensation within four years and hold these shares until the end of their service on the Board of Management. The Board of Management members must provide documentary evidence of their compliance with this obligation, first at the end of the four-year position-building period and then yearly thereafter. In the event of significant changes in fixed annual compensation, the value to which shares must be held is adjusted accordingly.

Pension entitlements (retirement and surviving dependents' pensions)

The annual pension entitlement for members of the Board of Management is based on contributions. Each year Bayer provides a hypothetical contribution amounting to 42% (33% up to 2015) of the respective fixed annual compensation. This percentage is comprised of a basic contribution of 6% and a matching contribution of 36% (27% up to 2015), which is four times (three times up to 2015) the member's personal contribution of 9%. The increase in the matching contribution effective from 2016 was made to bring the contribution-based company pension plan into line with market conditions. The total annual contribution is converted into a pension module according to the annuity table for the applicable tariff of the Rheinische Pensionskasse VVaG pension fund. The annual pension entitlement upon retirement is the total amount of the accumulated pension modules including an investment bonus. The investment bonus is determined annually based on the net return on the assets of the Rheinische Pensionskasse VVaG minus the minimum return on the contributions that is guaranteed under the tariff and approved by the German Financial Supervisory Authority (BaFin). Future pension payments are annually reviewed and adjusted to take into account the development of consumer prices.

In addition, special individual arrangements exist for the following members of the Board of Management:

- Werner Baumann – has been granted a vested entitlement to an annual pension of €200 thousand starting on his 60th birthday. This is subject to a prorated reduction in the event that his term of office ends prior to his 60th birthday under certain conditions.
- Dr. Marijn Dekkers – is entitled to receive either a lifelong monthly annuity or a capital sum after leaving the Bayer Group, though not before the age of 60. He has opted for payment of a lifelong monthly annuity.
- Kemal Malik – has been granted a vested entitlement to an annual pension of €80 thousand starting on his 65th birthday. This is subject to a prorated reduction in the event that his term of office ends prior to his 65th birthday under certain conditions.
- Erica Mann – has the option to receive either a lifelong monthly annuity or a capital sum when her pension benefits fall due.

Certain assets are administered by Bayer Pension Trust e.V. under a contractual trust arrangement (CTA) to cover pension entitlements resulting from direct commitments in Germany. This provides substantial additional security – beyond the benefits from the Pension Insurance Association – for the respective pension entitlements of the members of the Board of Management in Germany.

Benefits upon termination of service on the Board of Management**Post-contractual noncompete agreements**

Post-contractual noncompete agreements exist with the members of the Board of Management, providing for compensatory payments to be made by the company for the two-year duration of these agreements. The compensatory payment amounts to 100% of the average fixed compensation for the twelve months preceding their departure.

Change of control

Agreements exist with the members of the Board of Management providing for severance indemnity in certain circumstances in the event of a change in control. The amount of any possible severance indemnity in the case of early termination of service on the Board of Management as a result of a change in control is limited to the value of three years' compensation in line with the recommendation in Section 4.2.3 of the German Corporate Governance Code. Such payments do not exceed the compensation payable for the remaining term of the service contract.

Unfitness for work

In the event of temporary unfitness for work, members of the Board of Management continue to receive the contractually agreed compensation. Bayer AG may early terminate the service contract if the Board member has been continuously unfit for work for at least 18 months and is likely to be permanently incapable of fully performing his or her duties (permanent incapacity to work). A disability pension is paid in the event of contract termination before the age of 60 due to permanent incapacity to work. For the members appointed to the Board of Management prior to 2013, the disability pension, like the retirement pension, amounts to at least 15% of the final fixed compensation and can increase with continuing service on the Board of Management up to a maximum of 60%. For members of the Board of Management appointed in 2013 or thereafter, the amount of the disability pension under the service contract corresponds to the entitlement accrued on the date of contract termination, taking into account a fictitious period of service between that date and the member's 55th birthday, where applicable.

Compensation of the Board of Management in 2016

Compensation structure
adapted to new organizational structure

The aggregate compensation for the members of the Board of Management in 2016 totaled €28,445 thousand (2015: €17,918 thousand), comprising €7,049 thousand (2015: €4,662 thousand) in non-performance-related components and €21,396 thousand (2015: €13,256 thousand) in performance-related components. The pension service cost amounted to €2,887 thousand (2015: €1,847 thousand).

Changes in the membership of the Board of Management in 2016 were as follows:

- Effective January 1, 2016, Dr. Hartmut Klusik succeeded Michael König as the member of the Board of Management responsible for Human Resources, Technology and Sustainability.
- In addition to the existing functions, three further functions were created effective January 1, 2016, which bear special responsibility for the newly defined operating divisions of the Group. The following new members were appointed to the Board of Management:
 - Dieter Weinand, responsible for the Pharmaceuticals Division
 - Erica Mann, responsible for the Consumer Health Division
 - Liam Condon, responsible for the Crop Science Division
- The Board of Management service contract of Dr. Marijn Dekkers was early terminated by mutual agreement effective April 30, 2016.
- Werner Baumann was appointed Chairman of the Board of Management of Bayer AG in succession to Dr. Dekkers effective May 1, 2016.

As of December 31, 2016, the Board of Management of Bayer AG consisted of seven members.

The following table shows the total compensation of the individual members of the Board of Management who served in 2015 and/or 2016 according to the German Commercial Code:

A 4.3.1/4

Board of Management Compensation (German Commercial Code)

	Fixed annual compensation		Fringe benefits		Short-term variable cash compensation ¹		Long-term variable cash compensation based on virtual Bayer shares (50% STI) ²		Long-term stock-based cash compensation (Aspire) ³		Aggregate compensation		Pension service cost ⁴		
					€ thousand		No. of shares						€ thousand		
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	
Serving members of the Board of Management as of December 31, 2016															
Werner Baumann (Chairman) ⁵	906	1,285	47	47	1,237	2,329	10,377	1,237	—	262	1,983	3,689	5,644	227	764
Liam Condon	—	800	—	44	—	1,106	—	—	—	—	1,624	—	3,574	—	330
Johannes Dietsch	725	750	44	83	917	978	7,698	917	—	210	1,522	2,813	3,333	220	318
Dr. Hartmut Klusik	—	750	—	140	—	1,053	—	—	—	—	1,522	—	3,465	—	316
Kemal Malik	725	775	40	35	917	1,050	7,698	917	—	210	1,573	2,809	3,433	222	318
Erica Mann	—	750	—	182	—	798	—	—	—	—	1,522	—	3,252	—	219
Dieter Weinand	—	800	—	34	—	1,274	—	—	—	—	1,623	—	3,731	—	240
Former members															
Dr. Marijn Dekkers ⁶	1,374	475	40	99	1,995	475	16,739	1,995	—	398	964	5,802	2,013	967	382
Michael König	725	—	36	—	917	—	7,698	917	—	210	—	2,805	—	211	—
Total	4,455	6,385	207	664	5,983	9,063	50,210	5,983	—	1,290	12,333	17,918	28,445	1,847	2,887

¹ In line with the change in the compensation system for the members of the Board of Management, the entire amount of the STI is paid out in cash, starting with the STI for 2016. The 50:50 split of the STI into a cash payment and a grant of virtual Bayer shares blocked for three years was last made for 2015.

² The long-term variable cash compensation based on virtual Bayer shares was discontinued as of 2016.

³ Fair value at grant date; the figure for 2016 includes the new Aspire 2.0 tranche. For Dr. Marijn Dekkers, 4/12 of the grant amount for Aspire 2.0 is shown.

⁴ Including company contribution to Bayer-Pensionskasse VVaG, Rheinische Pensionskasse VVaG and to a pension fund outside Germany

⁵ The increased variable compensation for Werner Baumann in 2015 resulted mainly from his temporary duties as head of Bayer HealthCare in addition to his primary responsibilities as a member of the Board of Management.

⁶ Dr. Marijn Dekkers additionally received a severance payment of €4,341 thousand. This puts him in the same position as if he had held office until December 31, 2016, and had then retired.

Fixed annual compensation

The fixed annual compensation of the members of the Board of Management was adjusted in 2016. The total fixed annual compensation of all the members was €6,385 thousand (2015: €4,455 thousand).

Short-term variable cash compensation

The total short-term variable cash compensation for all the members of the Board of Management in 2016 totaled €9,063 thousand (2015: €5,983 thousand) after deduction of the solidarity contribution. Provisions of €8,588 thousand (2015: €5,983 thousand) were established for payment of this compensation component to the members of the Board of Management serving as of December 31, 2016. The solidarity contribution is made by all employees of the companies covered by the respective agreements with the employee representatives to help safeguard jobs at the German sites. For 2016 it amounted to 0.27% (2015: 0.20%) of each person's STI award.

Long-term variable cash compensation based on virtual Bayer shares

This compensation component was not present in 2016 following the adjustment of the compensation system for the Board of Management effective January 1, 2016.

The conversion of 50% of the STI into virtual Bayer shares took place for the last time in 2015 and was based on an average price of €119.17. The aggregate compensation for 2015 according to



See also description of the new compensation system

the German Commercial Code includes long-term variable cash compensation of €5,983 thousand based on virtual Bayer shares. The aggregate compensation for 2016 according to the IFRS also includes a change of minus €1,275 thousand (2015: €556 thousand) in the value of existing entitlements.

Provisions of €7,777 thousand (2015: €18,663 thousand) existed as of December 31, 2016, for the future cash disbursements to currently serving members of the Board of Management based on the virtual Bayer shares granted in previous years. This amount also contains the dividends attributable to the respective prior years.

Long-term stock-based cash compensation (Aspire)

The long-term stock-based cash compensation under the Aspire program is included in the aggregate compensation according to the German Commercial Code at its fair value of €12,333 thousand (2015: €1,290 thousand) at the respective grant date.

The aggregate compensation according to the IFRS includes the fair value of the partial entitlement earned in the respective year. Grants of stock-based compensation with a four-year performance period are therefore expensed at their respective fair values over four years starting with the grant year. The stock-based compensation according to the IFRS also includes the change in the value of existing entitlements under ongoing Aspire tranches granted in prior years.

A 4.3.1/5

Board of Management Compensation – Aspire Program (IFRS)

€ thousand	Serving members of the Board of Management as of December 31, 2016								Former members		
	Werner Baumann (Chairman)	Liam Condon	Johannes Dietsch ³	Dr. Hartmut Klusik	Kemal Malik ³	Erica Mann	Dieter Weinand	Dr. Marijn Dekkers	Michael König ³	Total	
Stock-based compensation entitlements earned in the respective year ¹	2016	715	506	413	414	431	848	369	1,521	–	5,217
Change in value of existing entitlements ²	2015	597	–	225	–	263	–	–	980	265	2,330
	2016	(120)	(83)	(57)	(47)	(98)	(165)	(69)	(284)	–	(923)
Total	2016	595	423	356	367	333	683	300	1,237	–	4,294
	2015	668	–	246	–	311	–	–	1,088	289	2,602

¹ The newly earned entitlements are derived from the 2013 – 2016 (2015: 2012 – 2015) tranches of the Aspire program because this compensation was or is being earned over a four-year period. They are stated at their prorated fair values in 2015 and 2016, respectively.

² This line shows the change in the value of the entitlements already earned in 2013, 2014 and 2015 (2015: 2012, 2013 and 2014).

³ The Aspire entitlements earned in 2015 and 2016 and the value changes for Liam Condon, Johannes Dietsch, Dr. Hartmut Klusik, Kemal Malik, Erica Mann, Dieter Weinand and Michael König relate in part to Aspire tranches granted to them before they joined the Board of Management but not yet fully earned.

Provisions of €7,288 thousand (2015: €7,110 thousand) were established for the Aspire entitlements of the members of the Board of Management serving as of December 31, 2016. Of this amount, €302 thousand relates to the tranches issued up to 2015 and €2,314 thousand to the 2016 tranche.

Pension entitlements

The pension service cost recognized for the members of the Board of Management in 2016 according to the German Commercial Code was €2,887 thousand (2015: €1,847 thousand), while the current service cost for pension entitlements recognized according to the IFRS was €3,902 thousand (2015: €2,891 thousand). The following table shows the service cost and the settlement or present value of the pension obligations attributable to the individual members of the Board of Management.

Pension Entitlements (German Commercial Code and IFRS)

€ thousand	German Commercial Code				IFRS			
	Pension service cost ¹		Settlement value of pension obligation as of December 31 ²		Current service cost for pension entitlements		Present value of defined benefit pension obligation as of December 31	
	2015	2016	2015	2016	2015	2016	2015	2016
Serving members of the Board of Management as of December 31, 2016								
Werner Baumann (Chairman)	227	764	7,022	7,452	385	1,054	10,131	12,429
Liam Condon	–	330	–	2,151	–	487	–	3,860
Johannes Dietsch	220	318	2,681	2,854	355	431	3,995	4,882
Dr. Hartmut Klusik	–	316	–	4,533	–	399	–	6,782
Kemal Malik	222	318	516	1,990	372	438	1,700	2,507
Erica Mann	–	219	–	7,199	–	288	–	7,232
Dieter Weinand	–	240	–	468	–	322	–	735
Former members								
Dr. Marijn Dekkers ³	967	382	11,014	–	1,418	483	14,106	–
Michael König ⁴	211	–	2,371	–	361	–	3,559	–
Total	1,847	2,887	23,604	26,647	2,891	3,902	33,491	38,427

¹ Including company contribution to Bayer-Pensionskasse VVaG, Rheinische Pensionskasse VVaG and a pension fund outside Germany

² The pension obligations of foreign subsidiaries and Bayer pension funds are included at present value according to IFRS.

³ Dr. Marijn Dekkers stepped down from the Board of Management as of midnight on April 30, 2016.

⁴ Michael König stepped down from the Board of Management as of midnight on December 31, 2015.

The difference between the pension service cost according to the German Commercial Code and the service cost for pension entitlements according to the IFRS arises from the difference in the valuation principles used in calculating the settlement value according to the German Commercial Code and the present value of the defined benefit pension obligation according to the IFRS.

Benefits upon termination of service on the Board of Management

It was agreed with Dr. Marijn Dekkers that he be granted benefits of €4,341 thousand according to the German Commercial Code and €4,542 thousand according to the IFRS in light of the mutually agreed early termination effective April 30, 2016, of his service contract, which originally ran until December 31, 2016. These comprise the fixed compensation, the short-term variable compensation components, Aspire and the pension service cost, each for the period May 1, 2016, through December 31, 2016. Dr. Dekkers' entitlements under the company pension plan and the Aspire program were set at the levels they would have reached if he had been eligible to participate until December 31, 2016. The fixed compensation and the short-term variable compensation component, together amounting to €1,900 thousand, were paid in May 2016. The payments from the Aspire tranches will be made upon expiration of each tranche based on the respective Aspire program parameters. The post-contractual noncompete agreement with Dr. Marijn Dekkers was rescinded without compensation when his service contract was extended in June 2014 in line with previous practice in a similar case.

It was agreed with Michael König that he be granted benefits of €1,131 thousand in connection with the mutually agreed early termination effective December 31, 2015, of his service contract, which originally ran until March 31, 2016. These benefits comprise fixed compensation, short-term variable compensation components, Aspire and the pension service cost – each for the period January 1 through March 31, 2016 –, along with the fair value of the accelerated vested portions of the existing Aspire tranches. The fixed compensation and the short-term variable compensation component, together amounting to €375 thousand, were paid in the first half of 2016. The payments from the Aspire tranches will be made upon expiration of each tranche based on the respective Aspire program parameters. In addition, a two-year noncompete agreement ending on December 31, 2017, exists with Michael König under his service contract. The resulting compensatory payment of €725 thousand per year is being made to him in monthly installments.

The aggregate Board of Management compensation according to the IFRS is shown in the following table:

A 4.3.1/7

Board of Management Compensation according to IFRS		
€ thousand	2015	2016
Fixed annual compensation	4,455	6,385
Fringe benefits	207	664
Total short-term non-performance-related compensation	4,662	7,049
Short-term performance-related cash compensation	5,983	9,063
Total short-term compensation	10,645	16,112
Stock-based compensation earned (virtual Bayer shares)	5,983	–
Change in value of existing entitlements to stock-based compensation (virtual Bayer shares)	556	(1,275)
Stock-based compensation (Aspire) earned in the respective year	2,330	5,217
Change in value of existing entitlements to stock-based compensation (Aspire)	272	(923)
Total stock-based compensation (long-term incentive)	9,141	3,019
Service cost for pension entitlements earned in the respective year	2,891	3,902
Total long-term compensation	12,032	6,921
Severance indemnity in connection with the termination of a service contract	1,131	4,542
Aggregate compensation (IFRS)	23,808	27,575

4.3.2 Disclosures Pursuant to the Recommendations of the German Corporate Governance Code

In accordance with the recommendations of the German Corporate Governance Code, the following tables show the compensation – including fringe benefits – granted for 2016, indicating the target values and the maximum and minimum achievable values for the variable compensation components, along with the allocation of compensation.

A 4.3.2/1

Compensation and Benefits Granted for 2016

Serving members of the Board of Management as of December 31, 2016

€ thousand	Werner Baumann (Chairman)				Liam Condon (Crop Science)				Johannes Dietsch (Finance)			
	Joined Jan. 1, 2010				Joined Jan. 1, 2016				Joined Sept. 1, 2014			
	Target value 2015	Target value 2016	Min. 2016	Max. ¹ 2016	Target value 2015	Target value 2016	Min. 2016	Max. ¹ 2016	Target value 2015	Target value 2016	Min. 2016	Max. ¹ 2016
Fixed annual compensation	906	1,285	1,285	1,285	—	800	800	800	725	750	750	750
Fringe benefits	47	47	47	47	—	44	44	44	44	83	83	83
Total fixed annual compensation	953	1,332	1,332	1,332	—	844	844	844	769	833	833	833
Short-term variable cash compensation ²	849	1,475	0	2,950	—	800	0	1,600	679	750	0	1,500
Long-term variable cash compensation (virtual Bayer shares)²	849	—	—	—	—	—	—	—	679	—	—	—
Long-term stock-based compensation (Aspire)³	362	—	—	—	—	—	—	—	290	—	—	—
2015 (Jan. 1, 2015 – Dec. 31, 2018)	362	—	—	—	—	—	—	—	290	—	—	—
2016 (Jan. 1, 2016 – Dec. 31, 2019)	1,983	0	4,957	—	1,624	0	4,059	—	1,522	0	3,805	—
Total	3,013	4,790	1,332	9,239	—	3,268	844	6,503	2,417	3,105	833	6,138
Service cost/benefit expense	227	764	764	764	—	330	330	330	220	318	318	318
Total compensation	3,240	5,554	2,096	10,003	—	3,598	1,174	6,833	2,637	3,423	1,151	6,456

A 4.3.2/1 (continued)

Compensation and Benefits Granted for 2016

Serving members of the Board of Management as of December 31, 2016

€ thousand	Dr. Harmut Klusik (Human Resources, Technology & Sustainability)				Kemal Malik (Innovation)				Erica Mann (Consumer Health)			
	Joined Jan. 1, 2016				Joined Feb. 1, 2014				Joined Jan. 1, 2016			
	Target value 2015	Target value 2016	Min. 2016	Max. ¹ 2016	Target value 2015	Target value 2016	Min. 2016	Max. ¹ 2016	Target value 2015	Target value 2016	Min. 2016	Max. ¹ 2016
Fixed annual compensation	—	750	750	750	725	775	775	775	—	750	750	750
Fringe benefits	—	140	140	140	40	35	35	35	—	182	182	182
Total fixed annual compensation	—	890	890	890	765	810	810	810	—	932	932	932
Short-term variable cash compensation ²	—	750	0	1,500	679	775	0	1,550	—	750	0	1,500
Long-term variable cash compensation (virtual Bayer shares)²	2015 (Jan. 1, 2016 – Dec. 31, 2018)	—	—	—	679	—	—	—	—	—	—	—
2016 (Jan. 1, 2017 – Dec. 31, 2019)	—	—	—	—	—	—	—	—	—	—	—	—
Long-term stock-based compensation (Aspire)³	2015 (Jan. 1, 2015 – Dec. 31, 2018)	—	—	—	290	—	—	—	—	—	—	—
2016 (Jan. 1, 2016 – Dec. 31, 2019)	—	1,522	0	3,805	1,573	0	3,932	—	1,522	0	3,806	—
Total	—	3,162	890	6,195	2,413	3,158	810	6,292	—	3,204	932	6,238
Service cost/benefit expense	—	316	316	316	222	318	318	318	—	219	219	219
Total compensation	—	3,478	1,206	6,511	2,635	3,476	1,128	6,610	—	3,423	1,151	6,457

A 4.3.2/1 (continued)

Compensation and Benefits Granted for 2016

€ thousand	Serving members of the Board of Management as of December 31, 2016								Former members					
	Dieter Weinand (Pharmaceuticals)				Dr. Marijn Dekkers				Michael König					
	Joined Jan. 1, 2016	Stepped down April 30, 2016			Stepped down Dec. 31, 2015			Target value 2015	Target value 2016	Min. 2016	Max. 2016	Target value 2015	Target value 2016	Min. 2016
Fixed annual compensation	–	800	800	800	1,374	475	475	475	725	–	–	–	–	–
Fringe benefits	–	34	34	34	40	99	99	99	36	–	–	–	–	–
Total fixed annual compensation	–	834	834	834	1,414	574	574	574	761	–	–	–	–	–
Short-term variable cash compensation ²	–	800	0	1,600	1,477	475	0	950	679	–	–	–	–	–
Long-term variable cash compensation (virtual Bayer shares)²	–	–	–	–	1,477	–	–	–	679	–	–	–	–	–
2015 (Jan. 1, 2016 – Dec. 31, 2018)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2016 (Jan. 1, 2017 – Dec. 31, 2019)	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Long-term stock-based compensation (Aspire)³	–	–	–	–	550	–	–	–	290	–	–	–	–	–
2015 (Jan. 1, 2015 – Dec. 31, 2018)	–	–	–	–	550	–	–	–	290	–	–	–	–	–
2016 (Jan. 1, 2016 – Dec. 31, 2019)	–	1,623	0	4,058	964	0	2,410	–	–	–	–	–	–	–
Total	–	3,257	834	6,492	4,918	2,013	574	3,934	2,409	–	–	–	–	–
Service cost/benefit expense ³	–	240	240	240	967	382	382	382	211	–	–	–	–	–
Total compensation	–	3,497	1,074	6,732	5,885	2,395	956	4,316	2,620	–	–	–	–	–

¹ The maximum achievable variable compensation shown here does not yet take into account the caps applicable. Payments in a single year are limited to 1.8 times the target compensation (see Chapter 4.3.1 "Compensation structure").

² Following the change in the compensation system for the Board of Management effective January 1, 2016, the entire amount of the STI for 2016 will be paid out in cash in the second quarter of 2017. The 50:50 split of the STI into a cash payment and a grant of virtual Bayer shares was made for the last time for 2015.

³ The Aspire tranche for 2016 is subject to the new system for Bayer's Aspire program (see Chapter 4.3.1). The cap for this new long-term compensation program is 250%.

A 4.3.2/2

Allocation of Compensation for 2015 and 2016

€ thousand	Serving members of the Board of Management as of December 31, 2016								Dr. Hartmut Klusik (Human Resources, Technology & Sustainability)				
	Werner Baumann (Chairman)				Liam Condon (Crop Science)		Johannes Dietsch (Finance)		Dr. Hartmut Klusik (Human Resources, Technology & Sustainability)				
	Joined Jan. 1, 2010	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Fixed annual compensation	906	1,285	–	800	725	750	–	–	–	–	–	750	–
Fringe benefits	47	47	–	44	44	83	–	–	–	–	–	140	–
Total	953	1,332	–	844	769	833	–	–	–	–	–	890	–
Short-term variable cash compensation	–	1,237	–	–	–	917	–	–	–	–	–	–	–
for 2015 ¹	–	1,237	–	–	–	917	–	–	–	–	–	–	–
for 2016	–	–	2,329	–	1,106	–	978	–	–	–	–	1,053	–
Long-term cash compensation (virtual Bayer shares)	–	–	–	–	–	–	–	–	–	–	–	–	–
2011 (Jan. 1, 2012 – Dec. 31, 2014)	1,307	–	–	–	–	–	–	–	–	–	–	–	–
2012 (Jan. 1, 2012 – Dec. 31, 2015)	–	1,747	–	–	–	–	–	–	–	–	–	–	–
Long-term stock-based cash compensation (Aspire)	–	769	–	–	–	297	–	–	–	–	–	–	–
2011 (Jan. 1, 2011 – Dec. 31, 2014) ²	769	–	–	–	–	297	–	–	–	–	–	–	–
2012 (Jan. 1, 2012 – Dec. 31, 2015)	–	789	–	–	–	–	301	–	–	–	–	–	–
Total	4,266	6,197	–	1,950	1,983	2,112	–	–	–	–	–	1,943	–
Service cost/benefit expense ³	227	764	–	330	220	318	–	–	–	–	–	316	–
Total compensation	4,493	6,961	–	2,280	2,203	2,430	–	–	–	–	–	2,259	–

A 4.3.2/2 (continued)

Allocation of Compensation for 2015 and 2016

	Serving members of the Board of Management as of December 31, 2016						Former members			
	Kemal Malik (Innovation)		Erica Mann (Consumer Health)		Dieter Weinand (Pharmaceuticals)		Dr. Marijn Dekkers	Michael König		
	Joined Feb. 1, 2014	Joined Jan. 1, 2016	Joined Jan. 1, 2016	Stepped down April 30, 2016	Stepped down Dec. 31, 2015					
€ thousand	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Fixed annual compensation	725	775	—	750	—	800	1,374	475	725	—
Fringe benefits	40	35	—	182	—	34	40	99	36	—
Total	765	810	—	932	—	834	1,414	574	761	—
Short-term variable cash compensation										
for 2015 ¹	917	—	—	—	—	—	1,995	—	—	—
for 2016	—	1,050	—	798	—	1,274	—	475	917	—
Long-term cash compensation (virtual Bayer shares)										
2011 (Jan. 1, 2012 – Dec. 31, 2014)	—	—	—	—	—	—	2,841	—	—	—
2012 (Jan. 1, 2012 – Dec. 31, 2015)	—	—	—	—	—	—	—	3,039	—	—
Long-term stock-based cash compensation (Aspire)										
2011 (Jan. 1, 2011 – Dec. 31, 2014) ²	384	—	—	—	—	—	1,459	—	191	—
2012 (Jan. 1, 2012 – Dec. 31, 2015)	—	364	—	—	—	—	—	1,495	—	—
Total	2,066	2,224	—	1,730	—	2,108	7,709	5,583	1,869	—
Service cost/benefit expense ³	222	318	—	219	—	240	967	382	211	—
Total compensation	2,288	2,542	—	1,949	—	2,348	8,676	5,965	2,080	—

¹ The increased variable compensation for Werner Baumann in 2015 resulted mainly from his temporary duties as head of Bayer HealthCare in addition to his primary responsibilities as a member of the Board of Management.

² The payments to Johannes Dietsch, Michael König and Kemal Malik from the 2011 Aspire tranche related to vesting periods that began before they joined the Board of Management. The tranches were not yet fully vested at the dates on which they joined the Board of Management. The same applies to the payments in 2016 from the 2012 Aspire tranche for Johannes Dietsch and Kemal Malik.

³ The total service cost is the service cost in accordance with HGB plus contributions to pension funds.

4.3.3 Compensation of the Supervisory Board

The Supervisory Board is compensated according to the relevant provisions of the Articles of Incorporation.

The members of the Supervisory Board receive fixed annual compensation of €120,000 plus reimbursement of their expenses.

In accordance with the recommendations of the German Corporate Governance Code, additional compensation is paid to the Chairman and Vice Chairman of the Supervisory Board and for chairing and membership of committees. The Chairman of the Supervisory Board receives fixed annual compensation of €360,000, the Vice Chairman €240,000. These amounts also cover membership and chairmanship of committees. The other members receive additional compensation for committee membership. The chairman of the Audit Committee receives an additional €120,000, the other members of the Audit Committee €60,000 each. The chairmen of the remaining committees receive €60,000 each, the other members of those committees €30,000 each. No additional compensation is paid for membership of the Nominations Committee. A Supervisory Board member who is a member of more than two committees receives compensation only for the two committees with the highest compensation. If changes are made to the Supervisory Board and/or its committees during the year, members receive compensation on a prorated basis. The members of the Supervisory Board also receive an attendance fee of €1,000 each time they personally attend a meeting of the Supervisory Board or a committee. The attendance fee is limited to €1,000 per day.

The members of the Supervisory Board have pledged to purchase Bayer shares.

The members of the Supervisory Board have given a voluntary pledge that they will each purchase Bayer shares for 25% of their pretax fixed compensation, including any additional compensation for committee membership, and hold these shares for as long as they remain members of the Supervisory Board. This does not apply to members who are prevented from purchasing shares due to a service or employment contract with a company or who transfer at least 85% of their fixed compensation to the Hans Böckler Foundation in accordance with the rules of the German Trade Union Confederation or whose service or employment contract with a company requires them to transfer such compensation to that company. If less than 85% of the fixed compensation is transferred, the voluntary pledge applies to the portion not transferred. By voluntarily pledging to invest in and hold Bayer shares, the Supervisory Board members reinforce their interest in the long-term, sustainable success of the company.

Compensation of the Supervisory Board in 2016

The following table shows the components of each Supervisory Board member's compensation for 2016.

A 4.3.3/1

Compensation of the Members of the Supervisory Board of Bayer AG in 2016

€ thousand	Fixed compensation		Attendance fee		Total	
	2015	2016	2015	2016	2015	2016
Members of the Supervisory Board serving as of December 31, 2016						
Dr. Paul Achleitner	180	180	5	5	185	185
Dr. Simone Bagel-Trah	120	120	4	5	124	125
Dr. Clemens Börsig	120	120	4	5	124	125
André van Broich	129	150	6	5	135	155
Thomas Ebeling	120	120	4	4	124	124
Johanna W. (Hanneke) Faber ¹	–	81	–	2	–	83
Dr. Thomas Fischer	180	180	9	9	189	189
Reiner Hoffmann	180	127	5	5	185	132
Yüksel Karaaslan	135	150	6	5	141	155
Petra Kronen	150	150	6	4	156	154
Frank Löllgen	19	173	1	8	20	181
Prof. Dr. Wolfgang Plischke ¹	–	162	–	5	–	167
Sue H. Rataj	120	120	5	5	125	125
Petra Reinbold-Knape	130	180	5	5	135	185
Michael Schmidt-Kiessling	120	120	5	4	125	124
Dr. Klaus Sturany	240	240	9	9	249	249
Werner Wenning (Chairman)	360	360	11	9	371	369
Heinz Georg Webers	60	120	3	5	63	125
Prof. Dr. Otmar D. Wiestler ²	49	150	3	4	52	154
Oliver Zühlke (Vice Chairman)	195	240	9	9	204	249
Members who left the Supervisory Board in 2015 and 2016						
Dr. Helmut Panke ³	180	59	8	4	188	63
Prof. Dr. Dr. Ernst-Ludwig Winnacker ³	137	59	6	2	143	61
Peter Hausmann ⁴	125	–	5	–	130	–
Thomas de Win ⁵	119	–	4	–	123	–
Total	3,168	3,361	123	118	3,291	3,479

¹ Member of the Supervisory Board since April 30, 2016

² Prof. Wiestler has received compensation for his membership of the Supervisory Board since September 1, 2015. Previously, his office as Chairman of the Management Board of the German Cancer Research Center precluded his acceptance of this compensation.

³ Member of the Supervisory Board until April 29, 2016

⁴ Member of the Supervisory Board until June 30, 2015

⁵ Vice Chairman and member of the Supervisory Board until June 30, 2015

In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Bayer Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation in 2016 was €939 thousand (2015: €741 thousand).

No compensation was paid or benefits granted to members of the Supervisory Board for personally performed services such as consultancy or agency services. The company has purchased insurance for the members of the Supervisory Board to cover their personal liability arising from their service on the Supervisory Board.

4.3.4 Further Information

Advances or loans to Members of the Board of Management or Supervisory Board

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of December 31, 2016, nor at any time during 2016 or 2015.

Pension payments to former members of the Board of Management or their surviving dependents

We currently pay retired members of the Board of Management a monthly pension equal to a maximum of 80% of the fixed compensation received immediately prior to retirement. The pensions paid to former members of the Board of Management or their surviving dependents are reassessed annually and adjusted, taking into account the development of consumer prices. The pensions paid to former members of the Board of Management or their surviving dependents in 2016 totaled €12,800 thousand (2015: €13,416 thousand). These benefits are paid in addition to any amounts they receive under previous employee pension arrangements. The present value of the defined benefit pension obligation for former members of the Board of Management and their surviving dependents according to the IFRS amounted to €188,850 thousand (2015: €172,767 thousand), while the settlement value of the pension obligation according to the German Commercial Code amounted to €149,948 thousand (2015: €148,632 thousand).

4.4 Takeover-Relevant Information

Explanatory report pursuant to Sections 289, Paragraph 4 and 315, Paragraph 4 of the German Commercial Code (HGB)

The capital stock of Bayer AG amounted as of December 31, 2016, to €2,117 million, divided into 826,947,808 no-par registered shares. The capital stock and the number of shares were thus unchanged from the end of the previous year. Each share confers one voting right. A small number of shares may be subject to temporary trading restrictions, such as retention periods, in connection with employee stock participation programs. We received no notifications in 2016 of direct or indirect holdings of shares in Bayer AG that exceed 10% of the capital stock. The company thus is not in possession of any notifications of holdings that exceed 10% of the capital stock.



See also
www.bayer.com/ownership-structure

The appointment and dismissal of members of the Board of Management are subject to the provisions of Sections 84 and 85 of the German Stock Corporation Act, Section 31 of the German Codetermination Act and Section 6 of the company's Articles of Incorporation. Pursuant to Section 84, Paragraph 1 of the German Stock Corporation Act, the members of the Board of Management are appointed and dismissed by the Supervisory Board. Since Bayer AG falls within the scope of the German Codetermination Act, the appointment or dismissal of members of the Board of Management requires a majority of two thirds of the votes of the members of the Supervisory Board on the first ballot pursuant to Section 31, Paragraph 2 of that act. If no such majority is achieved, the appointment is resolved pursuant to Section 31, Paragraph 3 of the Codetermination Act on a second ballot by a simple majority of the votes of the members of the Supervisory Board. If the required majority still is not achieved, a third ballot is held. Here again, a simple ma-

jority of the votes suffices, but in this ballot the Chairman of the Supervisory Board has two votes pursuant to Section 31, Paragraph 4 of the Codetermination Act. Under Section 6, Paragraph 1 of the Articles of Incorporation of Bayer AG, the number of members of the Board of Management is determined by the Supervisory Board but must be at least two. The Supervisory Board may appoint one member of the Board of Management to be the Chairman of the Board of Management pursuant to Section 84, Paragraph 2 of the German Stock Corporation Act and Section 6, Paragraph 1 of the Articles of Incorporation.

Any amendments to the Articles of Incorporation are made pursuant to Section 179 of the German Stock Corporation Act and Sections 10 and 17 of the Articles of Incorporation. Under Section 179, Paragraph 1 of the German Stock Corporation Act, amendments to the Articles of Incorporation require a resolution of the Stockholders' Meeting. Pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act, this resolution must be passed by a majority of three quarters of the voting capital represented at the meeting, unless the Articles of Incorporation provide for a different majority. However, where an amendment relates to a change in the object of the company, the Articles of Incorporation may only specify a larger majority. Section 17, Paragraph 2 of the Articles of Incorporation of Bayer AG utilizes the scope for deviation pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act and provides that resolutions may be passed by a simple majority of the votes cast or, where a capital majority is required, by a simple majority of the capital represented. Pursuant to Section 10, Paragraph 9 of the Articles of Incorporation, the Supervisory Board may resolve on amendments to the Articles of Incorporation that relate solely to their wording.

Provisions of the Articles of Incorporation concerning Authorized Capital I and Authorized Capital II are entered in the commercial register of Bayer AG. With the approval of the Supervisory Board and until April 28, 2019, the Board of Management may use the Authorized Capital I to increase the capital stock by up to a total of €530 million. New shares may be issued against cash contributions and/or contributions in kind, but capital increases against contributions in kind may not exceed a total of €423 million. If the Authorized Capital I is used to issue shares in return for cash contributions, stockholders must normally be granted subscription rights. The Board of Management may only exclude stockholders' subscription rights to a volume of shares issued out of the Authorized Capital I that did not represent more than 20% of the existing capital stock at the time the respective resolution was adopted by the Annual Stockholders' Meeting on April 29, 2014. Absent a further resolution on the exclusion of stockholders' subscription rights, the Board of Management also may only exclude stockholders' subscription rights to a volume of shares issued under other authorizations regarding capital measures (Authorized Capital II, bonds with warrants or convertible notes, purchase and disposal of own shares) that did not represent more than 20% of the existing capital stock at the time the respective resolution was adopted by the Annual Stockholders' Meeting on April 29, 2014.

With the approval of the Supervisory Board and until April 28, 2019, the Board of Management is authorized to increase the capital stock by up to €212 million in one or more installments by issuing shares out of the Authorized Capital II against cash contributions. The stockholders must normally be granted subscription rights. However, the Board of Management is authorized, with the approval of the Supervisory Board, to exclude subscription rights for stockholders provided the volume of shares issued out of the Authorized Capital II against cash contributions does not exceed 10% of the capital stock existing at the time this authorization is registered or at the time the new shares are issued and the issue price of the new shares is not significantly below the market price of the already listed shares.

Conditional capital of €212 million exists in connection with an authorization – valid through April 28, 2019 – to issue bonds with warrants or convertible notes, profit-sharing rights or profit participation bonds (collectively referred to as "bonds") with a total face value of €6 billion, €4 billion of which has already been used for mandatory convertible notes. The Board of Management may, with the consent of the Supervisory Board and under certain conditions, exclude the bond subscription rights that would otherwise be granted to stockholders. One of the conditions is that the

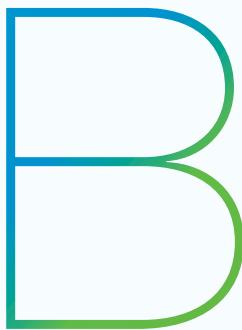
total volume of shares required to service the bonds exceed neither 10% of the capital stock that existed at the time the respective resolution was adopted by the Annual Stockholders' Meeting on April 29, 2014 nor 10% of the capital stock existing at the time this authorization is exercised. Any other shares issued without granting subscription rights to the stockholders in direct or analogous application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act shall be credited against this 10% limit.

Further, by resolution of the Annual Stockholders' Meeting on April 29, 2014, the Board of Management is authorized to purchase and dispose of own shares representing up to 10% of the capital stock existing at the time the resolution was adopted. The authorization to purchase own shares also includes the purchase of own shares using put or call options (derivatives) up to a volume of 5% of the capital stock existing at the time the resolution was adopted or at the time the authorization is exercised. This authorization also expires on April 28, 2019.

A material agreement that is subject to the condition precedent of a change of control pertains to the undrawn €3.5 billion syndicated credit facility arranged by Bayer AG and its U.S. subsidiary Bayer Corporation. This facility is available until December 2020. The participating banks are entitled to terminate the credit facility in the event of a change of control at Bayer and demand repayment of any loans that may have been granted under this facility up to that time. A similar clause is contained in the agreement on a syndicated credit facility granted to Bayer subsidiary Bayer World Investments B.V., Netherlands, in 2014 and guaranteed by Bayer AG. The facility still amounts to US\$900 million (as of December 31, 2016) and matures in May 2018. A similar clause is also contained in the agreement on a syndicated credit facility in the original amount of US\$56.9 billion granted to Bayer US Finance II LLC in September 2016, which is also guaranteed by Bayer AG. This as yet undrawn facility serves to finance the planned acquisition of Monsanto. Pursuant to the agreement, this credit facility was reduced in November 2016 by the US\$4.2 billion net proceeds from the issuance of mandatory convertible notes, to US\$52.7 billion. The mandatory convertible notes were issued by Bayer Capital Corporation B.V., guaranteed by Bayer AG and mature in November 2019. The terms on which holders may convert the notes into shares before the maturity date are more favorable in the event of a change of control than they would be otherwise.

The terms of the nominal €3.4 billion (as of December 31, 2016) in notes issued by Bayer in the years 2006 to 2014 under its existing Debt Issuance Programme also contain a change-of-control clause. Holders of these notes have the right to demand the redemption of their notes by Bayer AG in the event of a change of control if Bayer AG's credit rating is downgraded within 120 days after such change of control becomes effective. The terms of the US\$7 billion bond in 144A/Reg S format issued in October 2014 also contain a clause to this effect. The outstanding amount of this bond is US\$6.5 billion.

Agreements exist for the members of the Board of Management in compliance with Section 4.2.3 of the German Corporate Governance Code to cover the eventuality of a takeover offer being made for Bayer AG. Under these agreements, payments promised in the event of early termination of the service contract of a Board of Management member due to a change of control are limited to the value of three years' compensation and may not compensate more than the remaining term of the contract.



Consolidated Financial Statements

The complete Consolidated Financial Statements of the Bayer Group are available under "Annual Report 2016 – Augmented Version" at www.bayer.com/financialstats16

Bayer Group Consolidated Income Statements

B 1

€ million	Note	2015	2016
Net sales	[7]	46,085	46,769
Cost of goods sold		(21,040)	(20,295)
Gross profit		25,045	26,474
Selling expenses	[8]	(12,272)	(12,474)
Research and development expenses	[9]	(4,274)	(4,666)
General administration expenses		(2,092)	(2,256)
Other operating income	[10]	1,109	898
Other operating expenses	[11]	(1,275)	(934)
EBIT¹		6,241	7,042
Equity-method loss	[13.1]	(9)	(26)
Financial income		371	151
Financial expenses		(1,367)	(1,280)
Financial result	[13]	(1,005)	(1,155)
Income before income taxes		5,236	5,887
Income taxes	[14]	(1,223)	(1,329)
Income from continuing operations after income taxes		4,013	4,558
Income from discontinued operations after income taxes	[6.3]	85	268
Income after income taxes		4,098	4,826
of which attributable to noncontrolling interest	[15]	(12)	295
of which attributable to Bayer AG stockholders (net income)		4,110	4,531
€			
Earnings per share	[16]		
From continuing operations	[16]		
Basic		4.87	5.12
Diluted		4.87	5.12
From discontinued operations	[16]		
Basic		0.10	0.32
Diluted		0.10	0.32
From continuing and discontinued operations	[16]		
Basic		4.97	5.44
Diluted		4.97	5.44

2015 figures restated

¹ For definition see Combined Management Report, Chapter 2.4 "Alternative Performance Measures Used by the Bayer Group."

Bayer Group Consolidated Statements of Comprehensive Income

B 2

€ million	Note	2015	2016
Income after income taxes		4,098	4,826
of which attributable to noncontrolling interest	[15]	(12)	295
of which attributable to Bayer AG stockholders		4,110	4,531
Remeasurements of the net defined benefit liability for post-employment benefit plans	[25]	1,216	(1,036)
Income taxes	[14]	(430)	228
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans		786	(808)
Other comprehensive income that will not be reclassified subsequently to profit or loss		786	(808)
Changes in fair values of derivatives designated as cash flow hedges	[30.3]	(266)	58
Reclassified to profit or loss		304	3
Income taxes	[14]	(25)	(16)
Other comprehensive income from cash flow hedges		13	45
Changes in fair values of available-for-sale financial assets	[20]	(5)	65
Reclassified to profit or loss		1	–
Income taxes	[14]	(2)	(8)
Other comprehensive income from available-for-sale financial assets		(6)	57
Changes in exchange differences recognized on translation of operations outside the eurozone		748	703
Reclassified to profit or loss		–	(58)
Other comprehensive income from exchange differences		748	645
Other comprehensive income relating to associates accounted for using the equity method		(20)	(14)
Other comprehensive income that may be reclassified subsequently to profit or loss		735	733
Effects of changes in scope of consolidation		–	–
Total other comprehensive income¹		1,521	(75)
of which attributable to noncontrolling interest		33	(10)
of which attributable to Bayer AG stockholders		1,488	(65)
Total comprehensive income		5,619	4,751
of which attributable to noncontrolling interest		21	285
of which attributable to Bayer AG stockholders		5,598	4,466

2015 figures restated

¹ Total changes recognized outside profit or loss

Bayer Group Consolidated Statements of Financial Position

B 3

€ million	Note	Dec. 31, 2015	Dec. 31, 2016
Noncurrent assets			
Goodwill	[17]	16,096	16,312
Other intangible assets	[17]	15,178	13,567
Property, plant and equipment	[18]	12,375	13,114
Investments accounted for using the equity method	[19]	246	584
Other financial assets	[20]	1,092	1,281
Other receivables	[23]	430	583
Deferred taxes	[14]	4,679	6,350
		50,096	51,791
Current assets			
Inventories	[21]	8,550	8,408
Trade accounts receivable	[22]	9,933	10,969
Other financial assets	[20]	756	6,275
Other receivables	[23]	2,017	2,210
Claims for income tax refunds		509	676
Cash and cash equivalents		1,859	1,899
Assets held for sale and discontinued operations	[6.3]	197	10
		23,821	30,447
Total assets		73,917	82,238
Equity			
Capital stock		2,117	2,117
Capital reserves		6,167	9,658
Other reserves		15,981	18,558
Equity attributable to Bayer AG stockholders		24,265	30,333
Equity attributable to noncontrolling interest		1,180	1,564
		25,445	31,897
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	[25]	10,873	11,134
Other provisions	[26]	1,740	1,780
Financial liabilities	[27]	16,513	16,180
Income tax liabilities		475	423
Other liabilities	[29]	1,065	957
Deferred taxes	[14]	826	1,330
		31,492	31,804
Current liabilities			
Other provisions	[26]	5,045	5,421
Financial liabilities	[27]	3,421	3,401
Trade accounts payable	[28]	5,945	6,410
Income tax liabilities		923	884
Other liabilities	[29]	1,534	2,421
Liabilities directly related to assets held for sale and discontinued operations	[6.3]	112	–
		16,980	18,537
Total equity and liabilities		73,917	82,238

Bayer Group Consolidated Statements of Changes in Equity

B 4

€ million	Capital stock	Capital reserves	Retained earnings incl. net income	Exchange differences	Fair-value measurement of securities
Dec. 31, 2014	2,117	6,167	12,974	(1,172)	30
Equity transactions with owners					
Capital increase					
Dividend payments			(1,861)		
Other changes			582	(155)	
Other comprehensive income			776	705	(6)
Income after income taxes			4,110		
Dec. 31, 2015	2,117	6,167	16,581	(622)	24
Equity transactions with owners					
Capital increase ¹			3,491		
Dividend payments			(2,067)		
Other changes			129	53	
Other comprehensive income			(781)	614	57
Income after income taxes			4,531		
Dec. 31, 2016	2,117	9,658	18,393	45	81

¹ The capital increase resulted from the issuance of mandatory convertible notes in the amount of €4,000 million on November 22, 2016.

After deduction of €48 million in transaction costs and recognition of €191 million in deferred taxes, €3,491 million was allocated to capital reserves and €652 million to financial liabilities.

B 4 continued

€ million	Cash flow hedges	Revaluation surplus	Equity attributable to Bayer AG stockholders	Equity attributable to non-controlling interest	Equity
Dec. 31, 2014	(36)	26	20,106	112	20,218
Equity transactions with owners					
Capital increase					
Dividend payments			(1,861)	(8)	(1,869)
Other changes		(5)	422	1,055	1,477
Other comprehensive income	13		1,488	33	1,521
Income after income taxes			4,110	(12)	4,098
Dec. 31, 2015	(23)	21	24,265	1,180	25,445
Equity transactions with owners					
Capital increase			3,491		3,491
Dividend payments			(2,067)	(58)	(2,125)
Other changes	(4)		178	157	335
Other comprehensive income	45		(65)	(10)	(75)
Income after income taxes			4,531	295	4,826
Dec. 31, 2016	22	17	30,333	1,564	31,897

Bayer Group Consolidated Statements of Cash Flows

B 5

€ million	Note	2015	2016
Income after income taxes		4,013	4,558
Income taxes		1,223	1,329
Financial result		1,005	1,155
Income taxes paid		(1,699)	(2,092)
Depreciation, amortization and impairments		3,332	3,743
Change in pension provisions		(221)	(285)
(Gains) losses on retirements of noncurrent assets		(105)	(44)
Decrease (increase) in inventories		(191)	(3)
Decrease (increase) in trade accounts receivable		(1,059)	(552)
(Decrease) increase in trade accounts payable		400	452
Changes in other working capital, other noncash items		138	(2)
Net cash provided by (used in) operating activities from continuing operations		6,836	8,259
Net cash provided by (used in) operating activities from discontinued operations		54	830
Net cash provided by (used in) operating activities	[33]	6,890	9,089
Cash outflows for additions to property, plant, equipment and intangible assets		(2,517)	(2,578)
Cash inflows from sales of property, plant, equipment and other assets		193	111
Cash inflows from divestments		2	(18)
Cash inflows from (outflows for) noncurrent financial assets		(26)	(690)
Cash outflows for acquisitions less acquired cash		(176)	2
Interest and dividends received		106	89
Cash inflows from (outflows for) current financial assets		(344)	(5,645)
Net cash provided by (used in) investing activities	[34]	(2,762)	(8,729)
Capital contributions		–	3,300
Proceeds from shares of Covestro AG		1,490	–
Dividend payments		(1,869)	(2,126)
Issuances of debt		16,620	15,190
Retirements of debt		(19,549)	(15,920)
Interest paid including interest-rate swaps		(812)	(853)
Interest received from interest-rate swaps		160	59
Cash outflows for the purchase of additional interests in subsidiaries		(14)	–
Net cash provided by (used in) financing activities	[35]	(3,974)	(350)
Change in cash and cash equivalents due to business activities		154	10
Cash and cash equivalents at beginning of year		1,853	1,859
Change in cash and cash equivalents due to changes in scope of consolidation		5	3
Change in cash and cash equivalents due to exchange rate movements		(153)	27
Cash and cash equivalents at end of year		1,859	1,899

2015 figures restated

Responsibility Statement

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

Leverkusen, February 14, 2017

Bayer Aktiengesellschaft

The Board of Management



Werner Baumann
Chairman



Liam Condon



Johannes Dietsch



Dr. Hartmut Klusik



Kemal Malik



Erica Mann



Dieter Weinand

Independent Auditor's Report

To Bayer AG, Leverkusen

Report on the Audit of the Consolidated Financial Statements

Audit Opinion on the Consolidated Financial Statements

We have audited the consolidated financial statements of Bayer AG, Leverkusen, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at December 31, 2016, and the consolidated income statement, the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from January 1, to December 31, 2016, and notes to the consolidated financial statements, including a summary of significant accounting policies.

According to § (Article) 322 Abs. (paragraph) 3 Satz (sentence) 1 zweiter Halbsatz (second half sentence) HGB ("Handelsgesetzbuch": German Commercial Code), we state that, in our opinion, based on the findings of our audit, the accompanying consolidated financial statements comply, in all material respects, with IFRS, as adopted by the EU, and the additional requirements of German commercial law pursuant to § 315a Abs. 1 HGB, and give a true and fair view of the net assets and financial position of the Group as at December 31, 2016, as well as the results of operations for the financial year from January 1 to December 31, 2016, in accordance with these requirements.

According to § 322 Abs. 3 Satz 1 erster Halbsatz HGB, we state that our audit has not led to any reservations with respect to the propriety of the consolidated financial statements.

Basis for Audit Opinion on the Consolidated Financial Statements

We conducted our audit in accordance with § 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW), and additionally considered the International Standards on Auditing (ISA). Our responsibilities under those provisions and standards, as well as supplementary standards, are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements" section of our report. We are independent of the Group entities in accordance with the provisions under German commercial law and professional requirements, and we have fulfilled our other German ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1 to December 31, 2016. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon, and we do not provide a separate audit opinion on these matters.

In our view, the key audit matters were as follows:

- ① Change in segment reporting
- ② Impairment of goodwill and intangible assets with indefinite useful lives
- ③ Financial instruments – Issuance of mandatory convertible notes
- ④ Financial instruments – Accounting treatment of hedging transactions
- ⑤ Accounting treatment of the discontinued operation "Diabetes Care"
- ⑥ Accounting treatment of legal risks stemming from product-related disputes
- ⑦ Adjusting EBITDA and earnings per share for non-recurring items

Our presentation of these key audit matters has been structured as follows:

- ① Matter and issue
- ② Audit approach and findings
- ③ Reference to further information

① Change in segment reporting

① As part of the organizational and strategic restructuring of the Bayer Group following the spin-off of the former MaterialScience subgroup, which has been listed under the name Covestro AG since the 2015 financial year, the Bayer Group's internal reporting structure was reorganized. Since the internal reporting structure is used as a basis for determining the reportable segments under IFRS 8, the revised reporting structure consequently resulted in a change in the Bayer Group's segment reporting. From our point of view, this matter was of particular importance because, in the context of capital market communications, segment reporting has a special significance and the change in the segment structure also affects other accounting-related areas.

② During our audit we, among other procedures, considered the internal reporting and its sub-categorization of the individual reporting units and the changes in presentation, and reconciled this structure to the presentation used in the segment reporting. Moreover, we examined the method applied for the reallocation of goodwill and questioned the decision-makers on the Board of Management about the allocation of resources. We were able to satisfy ourselves that the changes in segment reporting applied by management were consistent with the reorganization of the internal reporting structure.

③ The Company's disclosures about the change of the internal reporting structure in connection with the organizational and strategic restructuring of the Bayer Group are contained in section 5 of the notes to the consolidated financial statements.

② Impairment of goodwill and intangible assets with indefinite useful lives

① An amount of EUR 16,312 million (20% of consolidated total assets) is reported under the line item "Goodwill" in the consolidated financial statements. Intangible assets with indefinite useful lives amounting to EUR 760 million (1% of consolidated total assets) are reported under "Other intangible assets." The Company allocates goodwill to strategic business units or groups of strategic business units within the Bayer Group. As part of the regular impairment testing of goodwill and intangible assets with indefinite useful lives the carrying amounts of the Company's strategic business units or intangible assets with indefinite useful lives are compared against their respective recoverable amount. In general, the recoverable amount is calculated on the basis of the fair value less costs to sell. This is based on the present value of future cash flows since, as a rule, market values are not available for the individual business units. The present value is calculated using discounted cash flow models on the basis of the Bayer Group's three-year operating plan prepared by management and approved by the Supervisory Board and extrapolated on the basis of assumptions about long-term growth rates. The discount rate used is the weighted average cost of capital for the relevant reporting segment. The result of this measurement depends to a large extent on management's assessment of future cash inflows of the respective strategic business unit and the discount rate used, and is therefore subject to considerable uncertainty. Against this background and due to the underlying complexity of the measurement models, this matter was of particular importance during our audit.

② As part of our audit, we, among other things, reviewed the method used for performing impairment tests and assessed the calculation of the weighted average cost of capital. We satisfied ourselves as to the appropriateness of the future cash inflows used in the measurement by, inter alia, comparing this data with the current budgets in the three-year plan prepared by management and approved by the Supervisory Board, and reconciling them against general and sector-specific market expectations. We also satisfied ourselves that the costs of the corporate functions reported in the "Corporate Functions and Consolidation" segment in the segment reporting were properly taken into consideration when testing the respective strategic business units for impairment. With the knowledge that even relatively small changes in the discount rate applied can have material effects on the recoverable amount calculated in this way, we also focused our testing in particular on the parameters used to determine the discount rate applied, and

evaluated the measurement model. Furthermore, due to the materiality of goodwill, we also performed our own sensitivity analyses for the strategic business units (comparison of carrying and recoverable amounts) and determined that the respective goodwill was sufficiently covered by the discounted future cash flows. Overall, we consider the measurement inputs and assumptions used by management to be in line with our expectations.

③ The Company's disclosures pertaining to goodwill and intangible assets with indefinite useful lives are contained in sections 4 and 17 of the notes to the consolidated financial statements.

③ Financial instruments – Issuance of mandatory convertible notes

① On November 22, 2016, the Bayer Group placed mandatory convertible notes amounting to EUR 4.0 billion, excluding the pre-emptive subscription rights of the Company's existing shareholders. The mandatory convertible notes are issued in denominations of EUR 100,000 by Bayer Capital Corporation B.V. under the subordinate guarantee of Bayer AG. The notes carry a fixed coupon of 5.625% p.a. until maturity. The coupon is payable annually in arrears on the respective coupon payment date. At maturity in 2019, the notes will automatically convert into ordinary shares of Bayer AG (these shares will either already exist or will stem from a conditional capital increase). The conversion ratio will be calculated on the basis of the share price on the conversion date. Both the "Minimum Conversion Price" and the "Maximum Conversion Price" were fixed upon conclusion of the agreement. In addition to the mandatory conversion upon maturity, the issuer may exercise its right to early conversion at any time during the "Conversion Period." In the case of an early conversion, the issuer must deliver shares at the "Maximum Conversion Ratio." Upon initial recognition, the present value of the coupon payments (taking into account the expected coupon payment dates) was recognized as a financial liability, and the difference to the fair value of the instrument as a whole was recognized as equity. Of the mandatory convertible notes, EUR 3.3 billion was recognized as capital reserves and EUR 0.7 billion as financial liabilities. Since the classification of mandatory convertible notes as debt or partially as equity and partially as debt impacts the Bayer Group's capital structure (and thus the credit quality as well as the cost of capital for new loans), this matter was of particular importance during our audit.

② As part of our audit, we critically assessed the terms and conditions for the issuance of the mandatory convertible notes and evaluated whether the mandatory convertible bond constitutes a contract within the meaning of IAS 32.13 that must be recognized in Bayer AG's consolidated financial statements as a financial liability and as an equity instrument in accordance with IAS 32.28. For the equity component, we, inter alia, assessed to what extent the requirements under IAS 32.16 were met and whether the substance of the contractual terms and conditions of the mandatory convertible notes suffice to classify the notes as equity (IAS 32.16 in conjunction with IFRIC Update, January 2014). We evaluated the obligation to make ongoing coupon payments in accordance with IAS 32.16 in conjunction with IAS 32.19 in order to determine to what extent Bayer AG does not have a right to avoid delivering cash to settle a contractual obligation, thus giving rise to a financial liability. Ultimately, the mandatory convertible notes represent a compound financial instrument that must be broken down into an equity component and a liability component upon initial recognition. Therefore, the obligation to make ongoing coupon payments must be classified as a financial liability whereas the obligation to redeem, i.e. convert, the notes must be classified as an equity component.

③ The Company's disclosures pertaining to the accounting treatment of the mandatory convertible notes are contained in sections 24 and 27 of the notes to the consolidated financial statements.

④ Financial instruments – Accounting treatment of hedging transactions

① The companies of the Bayer Group use a number of different derivative financial instruments to hedge against currency, commodity price and interest rate risks associated with ordinary business activities. Management's hedging policy is documented in corresponding internal guidelines and serves as the basis for these transactions. Currency risks arise primarily from revenue, sales and procurement transactions (in particular commodities) and financing denominated in foreign currencies. Interest rate hedges are entered into for the purpose of achieving a sensible ratio of variable and fixed interest rate exposures. Derivative financial instruments are recognized at fair value as of the balance sheet date. The positive fair value of the derivative financial instruments used as hedges amounts to EUR 683 million as of the balance sheet date and the negative fair value amounts to EUR 819 million. If the financial instruments used by the Bayer Group are effective hedges of future cash flows in the context of hedging relationships in accordance with the requirements of IAS 39, the effective portion of the changes in fair value are recognized over the duration of the hedging relationships directly in equity until the maturity of the hedged cash flows. As of the balance sheet date, a cumulative EUR 61 million were recognized outside profit or loss as expenses and income before taxes on income. We believed that these matters were of particular importance due to the high complexity and number of transactions as well as the extensive accounting and reporting requirements under IAS 39.

② As a part of our audit and together with the help of our internal specialists from Corporate Treasury Solutions, we, among other things, assessed the contractual and financial parameters and reviewed the accounting treatment, including the effects on equity and profit or loss, of the various hedging transactions. Together with these specialists, we also assessed the Company's internal control system with regard to derivative financial instruments, including the internal activities to monitor compliance with the hedging policy. Furthermore, we also used market data to review the measurement method applied to measure the fair value of the financial instruments. In addition, we also obtained bank confirmations in order to assess the completeness of and to examine the fair values of the recorded transactions. With regard to the expected cash flows and the assessment of the effectiveness of hedges, we essentially retrospectively assessed past hedge levels. We verified that hedges were accounted for and measured in accordance with the provisions of IAS 39.

③ The Company's disclosures pertaining to the accounting treatment of hedging transactions are contained in sections 4 and 30 of the notes to the consolidated financial statements.

⑤ Accounting treatment of the discontinued operation "Diabetes Care"

① During the financial year, as part of optimizing its portfolio and on the basis of a share and asset purchase agreement dated June 10, 2015 with Panasonic Healthcare Holdings Co., Ltd., Tokyo, Japan, the Company disposed of its global Diabetes Care business for approximately EUR 1 billion on January 4, 2016. The business will continue to operate as an independent enterprise under the name Ascensia Diabetes Care ("ADC"). Until such a time that ADC has established its own, appropriate and functioning infrastructure, Bayer Group companies – for a transition period of up to two years – will act, among other things, as a distributor for ADC in various countries and provide ADC with accounting services. The Diabetes Care business generated revenue of EUR 573 million in financial year 2016. The business activities of the Diabetes Care business were presented as a discontinued operation in the consolidated financial statements of Bayer AG in accordance with the provisions of IFRS 5. The assets, liabilities, expenses and income from this discontinued operation are calculated and allocated in accordance with the share and asset purchase agreement. In our view, this matter was of particular importance during our audit due to the complexity of the underlying agreement and the inherent risk that not all of the assets and liabilities transferring to ADC as part of the sale would be identified.

② As part of our audit, we, among other things, conducted an in-depth review of the provisions of the underlying share and asset purchase agreement. We assessed the Bayer Group's plan for identifying and recognizing the assets and liabilities that will transfer to ADC in accordance with the share and asset purchase agreement, and reconciled this with the underlying agreement. In identifying those assets and liabilities that are assigned to the Diabetes Care business and that will transfer to ADC in 2016 in accordance with the share and asset purchase agreement, we reviewed whether management's actions were in line with the underlying plan and whether all of the relevant assets and liabilities had been identified. We also assessed and reviewed the determination of the income and expenses that are to be assigned to the discontinued operation "Diabetes Care" and that must be recognized separately in the income statement and in the notes to the financial statements in accordance with IFRS 5. We found that the assets, liabilities, income and expenses of the discontinued operation "Diabetes Care" were appropriately recognized in the consolidated financial statements in accordance with the provisions of IFRS 5.

③ The Company's disclosures pertaining to the discontinued operation "Diabetes Care" are contained in section 6.3 of the notes to the consolidated financial statements.

6 Accounting treatment of legal risks stemming from product-related disputes

① Bayer Group entities are involved in court and out-of-court proceedings with authorities, peers and other parties. This gives rise to legal risks, in particular in the area of product liability, competition and anti-trust law, patent law, tax law and environmental protection.

As of January 23, 2017, 100 claims had been asserted against Bayer Group in the United States of America both in and out-of-court, with regard to Yasmin™/YAZ™ products. Several attorneys general in U.S. states are reviewing allegations that consumer protection provisions had been violated and one attorney general has brought legal action against Bayer Group. Furthermore, class action lawsuits are pending in Canada and Israel and claims are known to have been asserted in other countries. Against the background of the pending and expected product liability lawsuits in connection with Mirena™, as of January 23, 2017, approximately 2,600 (previous year: 3,500) users of Mirena™ had brought action against the Bayer Group in the United States of America. Furthermore, as of January 23, 2017, approximately 16,400 (previous year: 4,300) users of Xarelto™ had asserted claims for compensatory and punitive damages against the Bayer Group in the United States of America. As of January 23, 2017, in Canada 10 lawsuits had also been brought against the Bayer Group in connection with Xarelto™; in each of those lawsuits, the plaintiffs were applying for class action status. As of January 23, 2017, approximately 3,700 users of Essure™ had brought action against the Bayer Group in the United States of America, and two lawsuits had been filed in Canada; in each of those lawsuits, the plaintiffs were applying for class action status.

The evaluation whether or not a provision should be recognized to cover the risks stemming from a pending legal dispute, and if so, in what amount, is shaped to a high degree by estimates and assumptions made by management. In the light of this background and due to the high monetary amount of the asserted claims, we considered the aforementioned product-related disputes of the Bayer Group to be of particular importance.

② As part of our audit, we, among other things, assessed the process established by the Company to ensure that a legal dispute is recorded, its outcome is assessed, and the dispute is accounted for. Furthermore, we also hold regular meetings with the Company's legal department in order to receive updates on current developments and the reasons for the corresponding assessments. The development of material legal disputes, including management's assessments as to their potential outcome, is provided to us by the company in writing. As of the balance sheet date, we also obtained external legal confirmations that support management's risk assessments with regard to the product-related disputes discussed under ① above. In connection with these product-related disputes, we reviewed management's assessments on the basis of the grounds of the claims asserted against the Bayer Group, and we agree with the assessments taken by management.

③ The Company's disclosures relating to the aforementioned legal disputes are contained in section 32 of the notes to the consolidated financial statements.

7 Adjusting EBITDA and earnings per share for non-recurring items

① For the Bayer Group's management and analysis purposes, EBITDA (earnings before interests, taxes, depreciation and amortization) is used and adjusted for special items (by their nature and amount of specific effects). Adjustments to EBITDA in the amount of EUR 517 million have been reported in the consolidated financial statements of the Bayer AG. The adjusted EBITDA is used for capital market communication as a core financial performance indicator. Furthermore, the adjusted EBITDA is used as a target achievement measure for the annual performance-related remuneration of the Bayer Group's employees. The adjustments to EBITDA were of particular importance during our audit, because the applied adjustments are based on the Bayer Group's internal accounting guidelines and there is a risk of bias in management's judgment.

② We reviewed the calculation of underlying EBITDA and critically assessed the special items identified by the management. Based on the knowledge obtained during the audit and the information provided to us by management, we examined at the same time whether the adjustments had been applied in accordance with the definition and approach presented in the segment reporting disclosures. We were able to satisfy ourselves that the adjustments applied to EBITDA by management were in line with the segment reporting disclosures and had been applied consistently.

③ The Company's disclosures about the adjustments to and determination of EBITDA are presented under section 5 of the notes to the consolidated financial statements.

Other Information

Management is responsible for the other information. The other information comprises

- > the Corporate Governance Report according to section 3.10 of the German Corporate Governance Code,
- > the Corporate Governance Statement pursuant to § 289a HGB and § 315 Abs. 5 HGB, as well as
- > other parts of the annual report of Bayer AG, Leverkusen, for the financial year ended on December 31, 2016, which were not subject of our audit.

Our audit opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information, and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance

for the Consolidated Financial Statements

Management is responsible for the preparation of the consolidated financial statements, which comply with IFRS, as adopted by the EU, and the additional German legal requirements applicable under § 315a Abs. 1 HGB, and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. Furthermore, management is responsible for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our audit opinion on the consolidated financial statements. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW), under additional consideration of the ISA, will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with § 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW), under additional consideration of the ISA, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or the group management report or, if such disclosures are inadequate, to modify our audit opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the net assets and financial position as well as the results of operations of the Group in accordance with IFRS, as adopted by the EU, and the additional German legal requirements applicable under § 315a Abs. 1 HGB.
- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an audit opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our report on the audit of the consolidated financial statements unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Report on the Audit of the Group Management Report

Audit Opinion on the Group Management Report

We have audited the group management report of Bayer AG, Leverkusen, which is combined with the Company's management report, for the financial year from January 1 to December 31, 2016.

In our opinion, based on the findings of our audit, the accompanying group management report as a whole provides a suitable view of the Group's position. In all material respects, the group management report is consistent with the consolidated financial statements, complies with legal requirements and suitably presents the opportunities and risks of future development.

Our audit has not led to any reservations with respect to the propriety of the group management report.

Basis for Audit Opinion on the Group Management Report

We conducted our audit of the group management report in accordance with § 317 Abs. 2 HGB and German generally accepted standards for the audit of management reports promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management and Those Charged with Governance for the Group Management Report

Management is responsible for the preparation of the group management report, which as a whole provides a suitable view of the Group's position, is consistent with the consolidated financial statements, complies with legal requirements, and suitably presents the opportunities and risks of future development. Furthermore, management is responsible for such policies and procedures (systems) as management determines are necessary to enable the preparation of a group management report in accordance with the German legal requirements applicable under § 315 Abs. 1 HGB and to provide sufficient and appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the group management report.

Auditor's Responsibilities for the Audit of the Group Management Report

Our objective is to obtain reasonable assurance about whether the group management report as a whole provides a suitable view of the Group's position as well as, in all material respects, is consistent with the consolidated financial statements as well as the findings of our audit, complies with legal requirements, and suitably presents the opportunities and risks of future development, and to issue an auditor's report that includes our audit opinion on the group management report.

As part of an audit, we examine the group management report in accordance with § 317 Abs. 2 HGB and German generally accepted standards for the audit of management reports promulgated by the IDW. In this connection, we draw attention to the following:

- › The audit of the group management report is integrated into the audit of the consolidated financial statements.
- › We obtain an understanding of the policies and procedures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these policies and procedures (systems).
- › We perform audit procedures on the prospective information presented by management in the group management report. Based on appropriate and sufficient audit evidence, we hereby, in particular, evaluate the material assumptions used by management as a basis for the prospective information and assess the reasonableness of these assumptions as well as the appropriate derivation of the prospective information from these assumptions. We are not issuing a separate audit opinion on the prospective information or the underlying assumptions. There is a significant, unavoidable risk that future events will deviate significantly from the prospective information.
- › We are also not issuing a separate audit opinion on individual disclosures in the group management report; our audit opinion covers the group management report as a whole.

Responsible Auditor

The auditor responsible for the audit is Eckhard Sprinkmeier.

Essen, February 15, 2017

PricewaterhouseCoopers
Aktiengesellschaft
Wirtschaftsprüfungsgesellschaft

Dr. Peter Bartels
Wirtschaftsprüfer
(German Public Auditor)

Eckhard Sprinkmeier
Wirtschaftsprüfer
(German Public Auditor)



Further Information

Governance Bodies

Supervisory Board

Members of the Supervisory Board held offices as members of the supervisory board or a comparable supervising body of the corporations listed (as at December 31, 2016, or the date on which they ceased to be members of the Supervisory Board of Bayer AG) and as shown attended the meetings of the Supervisory Board and committees to which he or she belonged:

Werner Wenning

Leverkusen, Germany
(born October 21, 1946)
Chairman of the Supervisory Board
effective October 2012
Chairman of the Supervisory Board
of Bayer AG
Memberships on other
supervisory boards:
• E.ON SE (Chairman)
(until June 2016)
• Henkel Management AG
• Siemens AG (Vice Chairman)
Memberships in comparable
supervising bodies of German or
foreign corporations:
• Henkel AG & Co. KGaA
(Member of the Shareholders'
Committee)
Attendance at Supervisory Board
and committee meetings: 19 of 19

Oliver Zühlke

Solingen, Germany
(born December 11, 1968)
Vice Chairman of the Supervisory
Board effective July 2015
Member of the Supervisory Board
effective April 2007
Chairman of the Bayer Central
Works Council

Memberships on other supervisory
boards:

- Bayer Pharma AG
(until January 2017)

Attendance at Supervisory Board
and committee meetings: 10 of 12

Dr. Paul Achleitner

Munich, Germany
(born September 28, 1956)
Member of the Supervisory Board
effective April 2002
Chairman of the Supervisory Board
of Deutsche Bank AG
Memberships on other supervisory
boards:
• Daimler AG
• Deutsche Bank AG (Chairman)
Memberships in comparable
supervising bodies of German or
foreign corporations:
• Henkel AG & Co. KGaA
(Member of the Shareholders'
Committee)
Attendance at Supervisory Board
and committee meetings: 13 of 13

Dr. rer. nat. Simone Bagel-Trah

Düsseldorf, Germany
(born January 10, 1969)
Member of the Supervisory Board
effective April 2014
Chairwoman of the Supervisory
Board of Henkel AG & Co. KGaA
and Henkel Management AG
and of the Shareholders' Committee
of Henkel AG & Co. KGaA
Memberships on other
supervisory boards:
• Henkel AG & Co. KGaA
(Chairwoman)
• Henkel Management AG
• Heraeus Holding GmbH
Memberships in comparable
supervising bodies of German or
foreign corporations:
• Henkel AG & Co. KGaA
(Chairwoman of the
Shareholders' Committee)
Attendance at Supervisory Board
meetings: 5 of 5

Dr. Clemens Börsig

Frankfurt am Main, Germany
(born July 27, 1948)
Member of the Supervisory Board
effective April 2007

Member of various supervisory
boards
Memberships on other supervisory
boards:

- Daimler AG
- Linde AG

Memberships in comparable
supervising bodies of German or
foreign corporations:
• Emerson Electric Co.
• Istituto per le Opere di
Religione (Member of the
Board of Superintendence)
(until May 2016)

Attendance at Supervisory Board
meetings: 5 of 5

André van Broich

Dormagen, Germany
(born June 19, 1970)
Member of the Supervisory Board
effective April 2012
Chairman of the Works Council
of the Dormagen site
Memberships on other supervisory
boards:
• Bayer CropScience AG
(until January 2017)
Attendance at Supervisory Board
and committee meetings: 7 of 7

Thomas Ebeling

Muri bei Bern, Switzerland
(born February 9, 1959)

Member of the Supervisory Board
effective April 2012

Chief Executive Officer of
ProSiebenSat.1 Media SE

Memberships in comparable
supervising bodies of German or
foreign corporations:

- Lonza Group AG

Attendance at Supervisory Board
meetings: 5 of 5

Johanna W. (Hanneke) Faber

Amstelveen, Netherlands
(born April 19, 1969)

Member of the Supervisory Board
effective April 2016

Chief E-Commerce and Innovation
Officer and Member of the
Executive Committee of Koninklijke
Ahold Delhaize N.V.

Attendance at Supervisory Board
meetings: 3 of 3

Dr.-Ing. Thomas Fischer

Krefeld, Germany
(born August 27, 1955)

Member of the Supervisory Board
effective October 2005

Chairman of the Managerial
Employees Committee of Covestro
Deutschland AG

Memberships on other supervisory
boards:

- Covestro AG
- Covestro Deutschland AG

Attendance at Supervisory Board
and committee meetings: 9 of 9

Reiner Hoffmann

Wuppertal, Germany
(born May 30, 1955)

Member of the Supervisory Board
effective October 2006

Chairman of the German Trade
Union Confederation

Attendance at Supervisory Board
meetings: 5 of 5

Yüksel Karaaslan

Hohen Neuendorf, Germany
(born March 1, 1968)

Member of the Supervisory Board
effective April 2012

Chairman of the Bayer Group
Works Council

Vice Chairman of the Bayer Central
Works Council

Chairman of the Works Council
of the Berlin site

Memberships on other supervisory
boards:

- Bayer Pharma AG
(Vice Chairman)
(until January 2017)

Attendance at Supervisory Board
and committee meetings: 8 of 8

Petra Kronen

Krefeld, Germany
(born August 22, 1964)

Member of the Supervisory Board
effective July 2000

Chairwoman of the Central Works
Council of Covestro

Chairwoman of the Works Council
of Covestro of the Uerdingen site

Memberships on other supervisory
boards:

- Covestro AG (Vice Chairwoman)
- Covestro Deutschland AG
(Vice Chairwoman)

Attendance at Supervisory Board
and committee meetings: 7 of 8

Frank Löllgen

Cologne, Germany
(born June 14, 1961)

Member of the Supervisory Board
effective November 2015

North Rhine District Secretary of
the German Mining, Chemical and
Energy Industrial Union

Memberships on other supervisory
boards:

- IRR-Innovationsregion
Rheinisches Revier GmbH
- Evonik Industries AG

Attendance at Supervisory Board
and committee meetings: 8 of 8

Dr. rer. nat. Helmut Panke

Munich, Germany
(born August 31, 1946)

Member of the Supervisory Board
until April 2016

Member of various supervisory
boards

Memberships in comparable
supervising bodies of German or
foreign corporations:

- Microsoft Corporation
- Singapore Airlines Limited

Attendance at Supervisory Board
and committee meetings: 4 of 4

Prof. Dr. Wolfgang Plischke

Aschau im Chiemgau, Germany
(born September 15, 1951)

Member of the Supervisory Board
effective April 2016

Independent consultant

Memberships in comparable
supervising bodies of German or
foreign corporations:

- Evotec AG (Chairman)

Attendance at Supervisory Board
and committee meetings: 6 of 6

Dr. Klaus Sturany*

Ascona, Switzerland
(born October 23, 1946)

Member of the Supervisory Board
effective April 2007

Member of various supervisory
boards

Memberships on other supervisory
boards:

- Hannover Rück SE
(Vice Chairman)

Memberships in comparable
supervising bodies of German or
foreign corporations:

- Sulzer AG (until April 2016)

Attendance at Supervisory Board
and committee meetings: 9 of 9

Heinz Georg Webers

Bergkamen, Germany
(born December 27, 1959)

Member of the Supervisory Board
effective July 2015

Chairman of the Bayer European
Forum

Chairman of the Works Council of
the Bergkamen site

Memberships on other supervisory
boards:

- Bayer Pharma AG
(until January 2017)

Attendance at Supervisory Board
meetings: 5 of 5

Prof. Dr. Dr. h.c. Otmar D. Wiestler

Berlin, Germany
(born November 6, 1956)

Member of the Supervisory Board
effective October 2014

President of the Helmholtz
Association of German Research
Centres

Attendance at Supervisory Board
and committee meetings: 7 of 7

Prof. Dr. Dr. h.c. mult. Ernst-Ludwig Winnacker

Munich, Germany
(born July 26, 1941)

Member of the Supervisory Board
until April 2016

Professor-Emeritus of Ludwig-
Maximilians University Munich

Memberships on other supervisory
boards:

- Medigene AG (until August
2016)
- Wacker Chemie AG

Attendance at Supervisory Board
and committee meetings: 3 of 3

Michael Schmidt-Kießling

Schwelm, Germany
(born March 24, 1959)

Member of the Supervisory Board
effective April 2012

Chairman of the Works Council
of the Elberfeld site

Attendance at Supervisory Board
meetings: 4 of 5

Board of Management

Standing committees of the Supervisory Board of Bayer AG (as at December 31, 2016)

Presidial Committee / Mediation Committee

Wenning (Chairman), Achleitner, Reinbold-Knape, Zühlke

Audit Committee

Sturany* (Chairman), Fischer, Löllgen, Plischke, Wenning, Zühlke

Human Resources Committee

Wenning (Chairman), Achleitner, Karaaslan, Kronen

Nominations Committee

Wenning (Chairman), Achleitner

Innovation Committee

Plischke (Chairman), van Broich, Reinbold-Knape, Wenning, Wiestler, Zühlke

Members of the Board of Management held offices as members of the supervisory board or a comparable supervising body of the corporations listed (as at December 31, 2016):

Werner Baumann

(born October 6, 1962)

Chairman
(effective May 2016)

Member of the Board of Management effective
January 1, 2010, appointed until April 30, 2021

- Bayer CropScience AG (Chairman) (until April 2016)
- Bayer Pharma AG (until April 2016)

Dr. Hartmut Klusik

(born July 30, 1956)

Member of the Board of Management effective
January 1, 2016, appointed until December 31, 2018

Labor Director

- Bayer HealthCare AG (Chairman) (until July 2016)
- Bayer Pharma AG (Chairman) (until February 2017)
- Bayer Technology Services GmbH (Chairman) (until July 2016)
- Currenta Geschäftsführungs-GmbH (Chairman)

Liam Condon

(born February 27, 1968)

Member of the Board of Management effective
January 1, 2016, appointed until December 31, 2018

Johannes Dietsch

(born January 2, 1962)

Member of the Board of Management effective
September 1, 2014, appointed until August 31, 2017

- Bayer Business Services GmbH (Chairman)
- Bayer CropScience AG (Chairman) (May 2016 until February 2017)
- Covestro AG
- Covestro Deutschland AG

Kemal Malik

(born September 29, 1962)

Member of the Board of Management effective
February 1, 2014, appointed until January 31, 2022

Erica Mann

(born October 11, 1958)

Member of the Board of Management effective
January 1, 2016, appointed until December 31, 2018

Dieter Weinand

(born August 16, 1960)

Member of the Board of Management effective
January 1, 2016, appointed until December 31, 2018

- Board of Directors of HealthPrize Technologies LLC

Chairman of the Board of Management until April 2016

Dr. Marijn Dekkers

(born September 22, 1957)

- Board of Directors of General Electric Company
- Chairman of Unilever N.V.

* Expert member pursuant to Section 100, Paragraph 5 of the German Stock Corporation Act (AktG)

Organization Chart

C 1



Werner Baumann
Chairman



Johannes Dietsch
Finance



Hartmut Klusik*
Human Resources, Technology
& Sustainability



Kemal Malik
Innovation

M. Arnold
Corporate Office

M. Baum
Risk Management

A. Günther
Human Resources
& Organization

A. Bouchon
Bayer Lifescience Center

T.-P. Hausner
Strategy

B.-P. Bier
Accounting & Taxes

P.-G. Heiden
Corporate Quality

M. Lessl
Corporate Innovation and
Research & Development

O. Maier¹
Investor Relations

V. Hahn
Regional Coordination

R. Heumann
Corporate Supply Chain

M. Preuss
Communications and
Public Affairs

G. Harnier
Law, Patents & Compliance

G. Hilken
Currenta

F. Rittgen
Mergers, Licencing & Acquisitions

D. Hartert
Business Services

A. Knors
Engineering & Technology

R. Schwarz
Internal Audit

P. Müller
Finance

K. van Laak
Corporate Health, Safety
& Sustainability

M. Vehreschild
Country & Functional Excellence

G. Schildmeyer
Corporate Controlling

C. Pörtner
Corporate Technology
& Manufacturing

T. Udesen
Procurement

^{*} Labor Director

¹ From March 1, 2017

² Europe/Middle East/Africa

³ Asia/Pacific

⁴ Until March 31, 2017; J. Koelink from April 1, 2017

C 1 continued



Dieter Weinand
Pharmaceuticals



Erica Mann
Consumer Health



Liam Condon
Crop Science

C. Brunn
Commercial Operations
Americas

A. Busch
Drug Discovery

W. Carius
Product Supply

M. Devoy
Chief Medical Officer

R. Franzen
Commercial Operations EMEA²

S. Guth
Strategic Marketing

W. Jiang
Commercial Operations
China & APAC³

R. LaCaze
Oncology

J. Möller
Development

H. Prinz
Commercial Operations
Japan

J. Triana
Finance

N. Bartner
Commercial Operations
North America

S. Davies
Division Operations

O. Mauroy-Bressier
Finance

J. Ohle
Commercial Operations
International

J. O'Mullane
Innovation & Development

F. Reiff
Strategic Marketing

R. Spoor⁴
Product Supply

L. Yuen
Commercial Operations
China

J. Applegate
Environmental Science

D. Backhaus
Product Supply

M. Dawkins
Post Merger Integration

M. Kremer
Crop Strategies & Portfolio
Management

T. Menne
Digital Farming

B. Naaf
Business Affairs
& Communications

A. Percy
Research & Development

M. Reichardt
Agricultural Commercial
Operations

M. A. Schulz
Finance

F. Terhorst
Pre-Merger Planning

D. Ehle
Animal Health

Glossary

A

APM is the abbreviation for alternative performance measure; see A 2.4 for more information.

B

Biocides are substances and products that control pests such as insects, mice and rats, as well as algae, fungi and bacteria.

C

CDP is a nonprofit organization that works on behalf of institutional investors to compile annual rankings of detailed environmental data, especially in respect of greenhouse gas emissions (CDP-Climate) and water management (CDP-Water), from the top 500 publicly listed companies in the world. According to CDP, more than 800 investors representing fund assets of around US\$100 trillion currently draw on this information for their investment decisions.

Conflict minerals are those mined in conflict regions. They include tin, tungsten and tantalum ores, gold or their derivatives. Armed conflicts over the control of these resources occur particularly in the eastern part of the Democratic Republic of Congo and neighboring countries.

Continuing operations Sales and earnings reporting for continuing operations pertains only to business operations that are expected to remain in the company's portfolio for the foreseeable future; opposite of discontinued operations.

(Corporate) compliance comprises the observance of statutory and company regulations on lawful and responsible conduct.

Corporate governance comprises the long-term management and oversight of the company in accordance with the principles of responsibility and transparency. The German Corporate Governance Code sets out basic principles for the management and oversight of publicly listed companies.

Corruption Perceptions Index (CPI) Since 1995, NGO Transparency International has produced an annual index of countries – 176 in 2016 – by the perceived level of public-sector corruption. The CPI ranks countries according to the extent to which public servants and politicians are believed to engage in bribery and to grant or accept undue advantage.

Credit default swaps (CDS) are tradable insurance contracts used to hedge against the default of a borrower.

D

Debt Issuance Program (DIP) Formerly the multi-currency European Medium Term Notes (EMTN) program, DIP is a documentation platform that enables Bayer to flexibly issue notes in various currencies and with different maturities.

Diversity designates the variation within the workforce in terms of gender, origin, nationality, age, religion, sexual orientation and physical capability.

F

Foreign exchange Claims for payments in foreign currencies traded on foreign exchanges, usually in the form of balances with foreign banks or bills of exchange or checks payable abroad; banknotes and coins denominated in foreign currencies are not considered to be foreign exchange.

G

GHG protocol The Greenhouse Gas Protocol is an internationally recognized tool for recording, quantifying and reporting greenhouse gas emissions. Its standards cover all emissions within a company's value chain. Bayer aligns itself to the Corporate Standard for direct (Scope 1) and indirect (Scope 2) greenhouse gas emissions and also to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard, which covers further indirect emissions along the value chain. Dual reporting was introduced in 2015 with the updating of the GHG guidelines for Scope 2. Indirect emissions have now to be reported using both the location-based and the market-based methods. The location-based method uses regional or national average emissions factors, while the market-based method applies provider- or product-specific emissions factors based on contractual instruments.

Global commercial paper program Commercial paper (CP) issued under Bayer's program is a short-term, unsecured debt instrument normally issued at a discount and redeemed at nominal value. It is a flexible way of obtaining short-term funding on the capital market. Bayer's commercial paper program allows the company to issue commercial paper on both the U.S. and European markets.

GRI (Global Reporting Initiative) is a nonprofit organization that works to promote the dissemination and optimization of sustainability reporting. The GRI guidelines are considered the most frequently used and internationally most recognized standard for sustainability reporting. These guidelines are evolved in a multi-stakeholder process. GRI was established in 1997 by Ceres (Coalition for Environmentally Responsible Economies) and UNEP (United Nations Environment Programme).

GxP is a collective term for all guidelines that govern "good working practice" and are particularly relevant for the fields of medicine, pharmacy and pharmaceutical chemistry. The "G" stands for "Good" and the "P" for "Practice," while the "x" in the middle is replaced by the respective abbreviation for the specific area of application – such as Good Manufacturing Practice (GMP), Good Laboratory Practice (GLP), Good Clinical Practice (GCP) or Good Agricultural Practice (GAP). These guidelines are established by institutions such as the European Medicines Agency or the U.S. Food and Drug Administration.

H

HSEQ stands for health, safety, environment and quality.

Hybrid bond A hybrid bond is a corporate bond with equity-equivalent properties, usually with either no maturity date or a very long maturity. Due to its subordination, it has a lower likelihood of repayment than a normal bond in the event of issuer bankruptcy.

I**ILO core labor standards**

The eight core labor standards of the ILO (International Labour Organization) that define the minimum requirements for humane working conditions are internationally recognized "qualitative social standards." They represent universal human rights that are deemed valid in all countries regardless of their economic development status.

Innovative Medicine Initiative (IMI) is a public-private partnership developed by the European Commission and the European Federation of Pharmaceutical Industries and Associations (EFPIA) with the goal of promoting biomedical research in Europe. IMI finances research projects aimed at overcoming the major bottlenecks in the research and development of new pharmaceuticals. The partnership provides funding to project participants from academic institutes, small and medium-sized businesses, patient organizations and other institutions. The pharmaceutical industry contributes to these projects by donating capacities and resources.

L

Life Sciences This term describes Bayer's activities in health care and agriculture and comprises the Bayer Group excluding its legally independent subsidiary Covestro. It refers to the businesses of the Pharmaceuticals, Consumer Health and Crop Science divisions and the Animal Health business unit.

Local procurement means that the procuring (Bayer) company is located in the same country as the supplier.

N

Neonicotinoids are a chemical class of systemic insecticides.

O

OTC (over-the-counter) designates the business with nonprescription medicines.

P

Pharmacovigilance is defined as the science of, and activities related to, the identification, assessment, comprehension and prevention of side effects or other problems associated with pharmaceutical products.

Phase I-IV studies are clinical phases in the development of a drug product. The active ingredient candidate is generally tested in healthy subjects in Phase I, and in patients in Phases II and III. The studies test the therapeutic tolerability and efficacy of active ingredients in a specific indication. Phase IV studies are conducted following the approval of a new drug product to monitor its safety and efficacy over an extended period of time. The studies are subject to strict legal requirements and documentation procedures.

Price / cash flow ratio The price / cash flow ratio is the ratio of the share price to gross cash flow per share. It shows how long it would take for the company's cash flow to cover the share price.

Price / earnings ratio This is the ratio of the current share price to earnings per share (EPS). A high price/earnings ratio indicates that the market assigns a high value to the stock in the expectation of future earnings growth.

R

3RS principle (replace, reduce, refine) Replace: prior to each project, Bayer checks whether an approved method is available that does not rely on animal studies and then applies it. Reduce: if no alternative method exists, only as many animals are used as are needed to achieve scientifically meaningful results based on statutory requirements. Refine: Bayer ensures that animal studies are performed in a way that minimizes any suffering.

Reconciliation The reconciliation records, on the one hand, those business activities not assigned to any other segment ("All Other Segments"), including particularly the services provided by Business Services, Technology Services and Currenta. It also includes "Corporate Functions and Consolidation," which largely comprises Bayer holding companies and the Bayer Lifescience Center.

S

Short-Term Incentive program (STI program) is a variable income component for all managerial staff.

Significant locations of operation A selection of countries that accounted for more than 80% of total Bayer Group sales in 2016 (United States, Germany, China, Brazil, Japan, France, Canada, Italy, Mexico, U.K., India, Spain, Australia, Russia, Switzerland, Poland, Turkey, Argentina and Belgium)

Syndicated credit facility

Credit line agreed with a group of banks; generally used for extensive financing requirements, such as when making an acquisition, to increase available liquidity or as security for the issuance of debt instruments. The credit facility can be utilized and repaid flexibly, either in full or in portions, during its term.

U**United Nations Global Compact (UNGCG)**

The United Nations Global Compact is the most far-reaching and important responsible corporate governance initiative in the world. Based on ten universal principles in the areas of human rights, labor, environment and anticorruption, the UNGC pursues the vision of an inclusive and sustainable global economy that benefits people, communities and markets everywhere. By committing to the UNGC, companies agree to document each year their efforts to uphold the ten principles.

V

Vector control describes methods for the avoidance or targeted control of organisms that transmit pathogens triggering infectious diseases. Vectors include blood-sucking insects such as the Anopheles mosquito, which can transfer malaria parasites, for example.

W

Working capital is the difference between short-term current assets and short-term liabilities; it is calculated by deducting short-term liabilities from current assets (excluding cash and cash equivalents). In the statement of cash flows, the change in working capital is one of the variables used to assess a company's financial health. The objective of working capital management is to reduce working capital by minimizing the "financing gap" caused by the time lapse between the disbursement of funds (= payment for necessary raw materials) and the receipt of funds for the finished product.

Five-Year Summary

€ million	2012	2013	2014	2015	2016
Bayer Group					
Sales	39,741	40,157	41,339	46,085	46,769
EBITDA ¹	6,916	7,830	8,315	9,573	10,785
EBITDA before special items ¹	8,280	8,401	8,685	10,256	11,302
EBITDA margin before special items ¹	20.8%	20.9%	21.0%	22.3%	24.2%
EBIT ¹	3,928	4,934	5,395	6,241	7,042
EBIT before special items ¹	5,639	5,773	5,833	7,060	8,130
Income before income taxes	3,176	4,207	4,414	5,236	5,887
Net income (from continuing and discontinued operations)	2,403	3,189	3,426	4,110	4,531
Earnings per share (from continuing and discontinued operations) (€) ¹	2.91	3.86	4.14	4.97	5.44
Core earnings per share (from continuing operations) (€) ¹	5.30	5.61	5.89	6.82	7.32
Net cash provided by operating activities (from continuing and discontinued operations)	4,530	5,171	5,810	6,890	9,089
Net financial debt	7,022	6,731	19,612	17,449	11,778
Capital expenditures as per segment table	2,012	2,155	2,484	2,511	2,578
Bayer AG					
Total dividend payment	1,571	1,737	1,861	2,067	2,233
Dividend per share (€)	1.90	2.10	2.25	2.50	2.70
Innovation					
Research and development expenses	3,013	3,406	3,537	4,274	4,666
Ratio of R&D expenses to sales – Pharmaceuticals (%)	14.5	15.8	15.6	16.0	17.0
Ratio of R&D expenses to sales – Crop Science (%)	9.3	9.8	10.3	10.7	11.7
Employees in research and development	12,900	13,509	13,900	14,753	15,229
Employees					
Number of employees ² (Dec. 31)	110,000	112,400	117,400	116,600	115,200
Personnel expenses (including pension expenses) (€ million)	9,194	9,430	9,693	11,176	11,357
Proportion of women in senior management (%)	23	25	26	28	29
Proportion of employees with health insurance (%)	94	95	96	96	98
Fluctuation (voluntary / total) (%)	- / 14.1	5.5 / 14.0	4.8 / 11.4	5.0 / 13.9	4.6 / 12.3
Hours of vocational and ongoing training per employee	-	17.8	18.0	20.0	22.1
Safety & Environmental Protection					
Recordable Incident Rate (RIR) for Bayer employees	0.49	0.47	0.43	0.42	0.39
Loss of Primary Containment Incident Rate (LoPC-IR) ³	0.38	0.35	0.23	0.22	0.32
Total energy consumption (terajoules)	83,184	80,848	85,317	83,182	84,494
Energy efficiency (MWh/t) ⁴	8.86	8.54	7.62	6.34	6.77
Total greenhouse gas emissions (CO ₂ equivalents in million t) ⁵	8.96	9.00	9.55	9.71	9.87
Specific greenhouse gas emissions (CO ₂ equivalents in t / manufactured sales volume in t), according to the market-based method ⁶	1.88	1.83	1.72	1.69	1.54
Hazardous waste generated (thousand t)	603	467	487	541	547
Water use (million m ³)	384	361	350	346	330

2015 figures restated; figures for 2012-2014 as last reported

¹ For definitions of the indicators see Chapter 2.4.

² Employees calculated as full-time equivalents (FTEs)

³ Number of incidents per 200,000 working hours in which chemicals leak from their primary container, such as pipelines, pumps, tanks or drums

⁴ Quotient of total energy consumption and manufactured sales volume; Life Sciences only

⁵ Direct emissions from power plants, waste incinerators and production plants and indirect emissions from external supplies of electricity, steam and refrigeration (according to the market-based method); portfolio-adjusted in accordance with the GHG Protocol

⁶ Life Sciences without Currenta

Financial Calendar

Q1 2017 Interim Report	April 27, 2017
Annual Stockholders' Meeting 2017	April 28, 2017
Planned dividend payment date	May 4, 2017
Q2 2017 Interim Report	July 27, 2017
Q3 2017 Interim Report	October 26, 2017
2017 Annual Report	February 28, 2018
Q1 2018 Interim Report	May 3, 2018
Annual Stockholders' Meeting 2018	May 25, 2018

Masthead

Publisher Bayer AG, 51368 Leverkusen, Germany	Editor Jörg Schäfer, Tel. +49 214 30 39136 email: joerg.schaefer@bayer.com	Investor Relations Peter Dahlhoff, Tel. +49 214 30 33022 email: peter.dahlhoff@bayer.com
Date of publication Wednesday, February 22, 2017	Sustainability & Business Stewardship Dagmar Jost, Tel. +49 214 30 75284 email: dagmar.jost@bayer.com	English edition Currenta GmbH & Co. OHG Language Service ISSN 0343 / 1975

For fast and easy access to our online services, there's no need to copy down the internet addresses.
Simply scan the codes below with your smartphone and an appropriate app:



Annual Report online
Available at:
bayer.com/ar16



**Annual Stockholders'
Meeting 2017**
Information available at:
bayer.com/asm



Other publications
Overview available at:
bayer.com/publications

Bayer on the internet: www.bayer.com

Combined Management Report and consolidated financial statements produced in-house with firesys.



The paper this report is printed on is derived from sources managed in line with social, economic and ecological principles and therefore bears the seal of the Forest Stewardship Council® (FSC Mix Credit).

The inside section was produced using 100% recycled fibers – as guaranteed by the E.U. Ecolabel certification (paper reg. no. FR/011/003).

Cautionary Statements Regarding Forward-Looking Information

Certain statements contained in this Annual Report may constitute "forward-looking statements." Actual results could differ materially from those projected or forecast in the forward-looking statements. The factors that could cause actual results to differ materially include the following: uncertainties as to the timing of the transaction; the possibility that the parties may be unable to achieve expected synergies and operating efficiencies in the merger within the expected time-frames or at all and to successfully integrate Monsanto's operations into those of Bayer; such integration may be more difficult, time-consuming or costly than expected; revenues following the transaction may be lower than expected; operating costs, customer loss and business disruption (including, without limitation, difficulties in maintaining relationships

with employees, customers, clients or suppliers) may be greater than expected following the announcement of the transaction; the retention of certain key employees at Monsanto; risks associated with the disruption of management's attention from ongoing business operations due to the transaction; the conditions to the completion of the transaction may not be satisfied, or the regulatory approvals required for the transaction may not be obtained on the terms expected or on the anticipated schedule; the parties' ability to meet expectations regarding the timing, completion and accounting and tax treatments of the merger; the impact of indebtedness incurred by Bayer in connection with the transaction and the potential impact on the rating of indebtedness of Bayer; the effects of the business combination of Bayer and Monsanto, including the combined company's future financial condition, operating results, strategy and plans; other fac-

tors detailed in Monsanto's Annual Report on Form 10-K filed with the SEC for the fiscal year ended August 31, 2016 and Monsanto's other filings with the SEC, which are available at <http://www.sec.gov> and on Monsanto's website at www.monsanto.com; and other factors discussed in Bayer's public reports which are available on the Bayer website at www.bayer.com. Bayer and Monsanto assume no obligation to update the information in this communication, except as otherwise required by law. Readers are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof.

Legal Notice

The product names designated with ™ are brands of the Bayer Group or our distribution partners and are registered trademarks in many countries.

