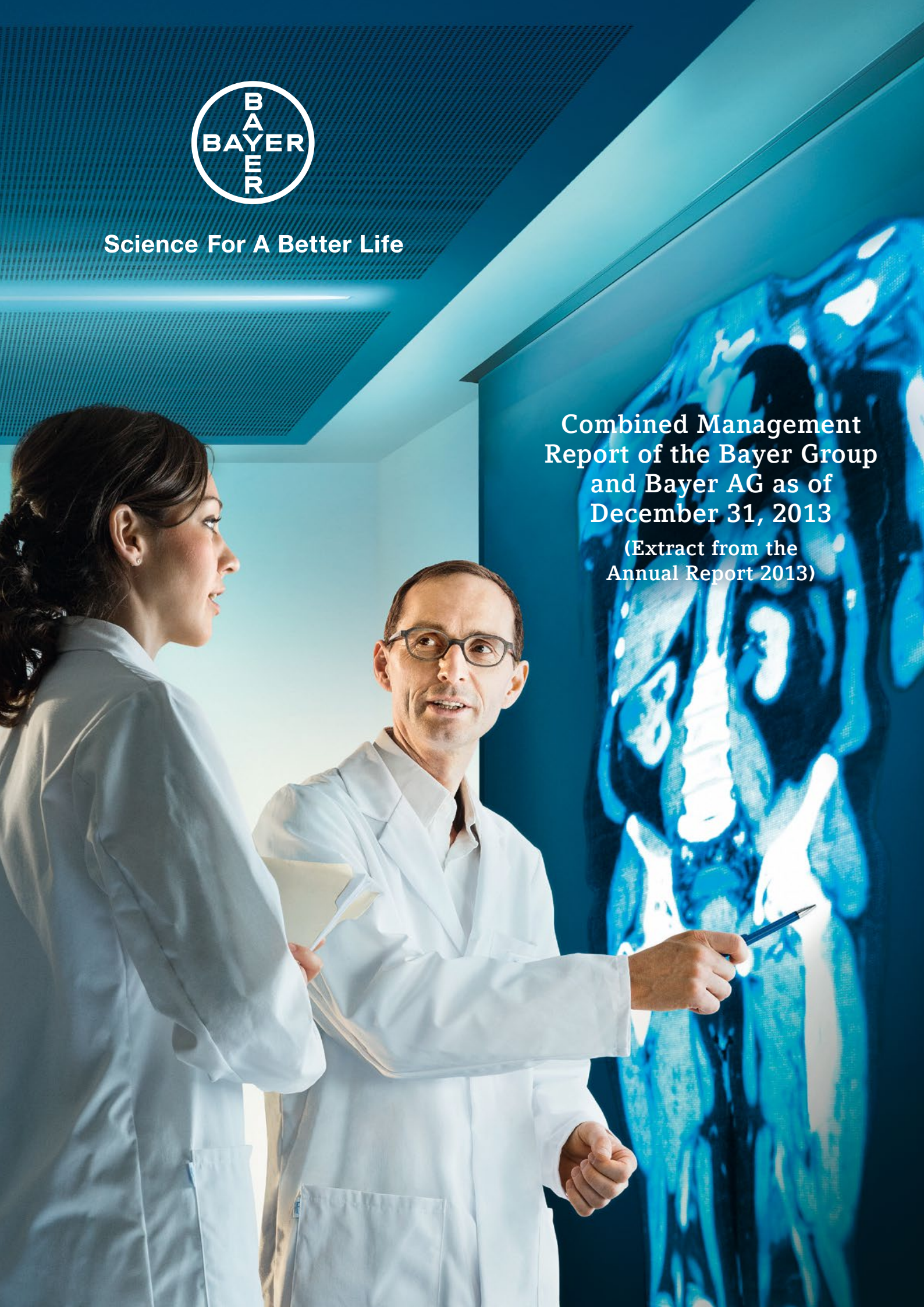


Combined Management Report of the Bayer Group and Bayer AG as of December 31, 2013

(Extract from the Annual Report 2013)

01

Combined Management Report

of the Bayer Group and Bayer AG as of December 31, 2013

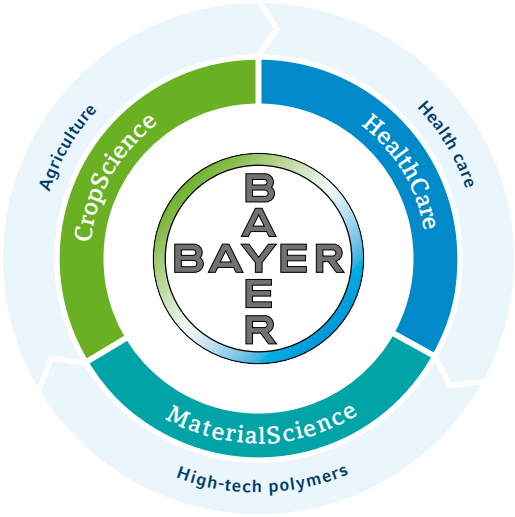
For direct access to a chapter, simply click on its name.

Fundamental Information About the Group

1. Bayer at a Glance

1.1 Corporate Profile

The Bayer Group [Graphic 3.1.0]



Bayer is a global enterprise with core competencies in the areas of health care, agriculture and high-tech polymer materials.

Bayer AG, Leverkusen, Germany, acts as a strategic management holding company. It defines the values, goals and strategies of the entire Group. It is also responsible for resource allocation and managerial appointments. Led by Bayer AG, the HealthCare, CropScience and MaterialScience subgroups independently manage their business operations in line with preset objectives.

Bayer HealthCare is one of the leading companies in the area of prescription medicines and consumer products. This subgroup researches, develops, manufactures and markets products to improve the health of people and animals.

Bayer CropScience is one of the world's leading research-intensive companies in the agricultural industry, offering a broad range of innovative chemical and biological products for improving plant health, along with high-value seeds. It also provides extensive customer service to support modern, sustainable agriculture. A further focus is on non-agricultural applications.

Bayer MaterialScience is a renowned supplier of high-tech polymers and develops innovative product solutions for a wide variety of everyday uses. Products holding leading positions on the world market account for a large proportion of its sales.

The holding company and subgroups are supported in their activities by the three service companies Bayer Business Services, Bayer Technology Services and Currenta.

The Bayer Group in 2013 [Graphic 3.1.1]

Total	Sales	Employees	R&D expenditures	Bayer AG and no. of fully consolidated companies
	40,157 (39,741) (€ million)	**113,200** (110,000)	**3,190** (3,013) (€ million)	**289** (290)

North America
- **9,680** (9,576) (€ million)
- **15,200** (15,300)
- **812** (588) (€ million)
- **40** (46)

Europe
- **15,086** (14,722) (€ million)
- **53,600** (52,300)
- **2,153** (2,198) (€ million)
- **150** (144)

Latin America/Africa/Middle East
- **6,768** (6,684) (€ million)
- **16,400** (16,200)
- **51** (41) (€ million)
- **44** (45)

Asia/Pacific
- **8,623** (8,759) (€ million)
- **28,000** (26,200)
- **174** (186) (€ million)
- **55** (55)

2012 in parentheses

Today, the Bayer Group comprises around 290 consolidated companies in 73 countries throughout the world. We have corporate locations in close proximity to our customers and markets worldwide, invest locally and offer attractive jobs.

Our Mission

"BAYER: SCIENCE FOR A BETTER LIFE"

Bayer is a world-class innovation company. Our scientific successes are intended to help improve people's lives. At the same time, our innovations form the basis for sustainable and profitable business activity.

Our products are helping to address some of today's biggest challenges, including global population growth, an aging society and the need to make efficient – and, wherever possible, sustainable – use of natural resources.

- We are improving people's quality of life by preventing, alleviating or curing diseases.
- We are helping to provide an adequate supply of high-quality food, feed and renewable plant-based raw materials.
- And our high-tech polymer materials are making significant contributions to factors such as energy and resource efficiency in the areas of mobility, construction and home living.

We have laid the foundations for achieving these goals in over more than 150 years of successful business activity, and are the only global company to combine expertise in human, animal and plant health and in high-tech polymer materials. Our focus on innovation is the key to maintaining or achieving leadership positions in all of our markets.

Our Values

A central role is played by our LIFE values, which guide us in fulfilling our mission "Bayer: Science For A Better Life." **LIFE** stands for **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 within the enterprise across national boundaries, management hierarchies and cultural differences.

1.2 Group Strategy

In line with our mission "Bayer: Science For A Better Life," we aim to improve people's quality of life. For this endeavor, we focus on our core competency of developing and successfully commercializing innovative products and solutions based on scientific knowledge.

OUR OBJECTIVE: PROFITABLE GROWTH

Our corporate strategy is aligned toward profitable growth that will sustainably increase corporate value. We place special importance on developing new products and solutions that create significant value for customers and patients, and on serving the Emerging Markets, particularly those of Asia and Latin America. In this way we are giving more and more customers access to our products and establishing a solid basis for further growth.

OUR SUCCESS IS BASED ON INNOVATION

Bayer is a world-class innovation company that is steadily opening up new, attractive market segments in fast-growing and research-driven areas. Apart from the Life Sciences – the health care and agriculture businesses –, a further focus of our activities is on high-tech polymer materials. Our success is based on the development of new molecules, technologies, processes and business models. In the long term we expect additional growth impetus to come from interdisciplinary research at the interfaces between human, animal and plant health. We are convinced that such research can leverage significant synergies.

We plan to continue playing leading roles in our business areas and to reinforce the strong positions we already hold. A strategic focus of our investment is on expansion in the Life Sciences. We aim to drive organic growth in these businesses through investment in research and development and through targeted acquisitions and collaborations. At MaterialScience we intend to defend the leading positions we hold in our market segments. We are also continuing to adjust business processes to changing market conditions in order to improve profitability. We are investing heavily to deliver organic growth in all areas of activity. Bayer plans to spend a total of some €18 billion for research and development and for property, plant and equipment between 2014 and 2016.

ACTING SUSTAINABLY

Sustainable business practices are essential to the Group's future viability. We therefore endeavor to balance our economic objectives with social and ecological requirements in the development, manufacturing and marketing of our products. We aim to gain broad social acceptance for our activities through responsible business practices and by taking into account the expectations of relevant stakeholders.

OUR EMPLOYEES ARE OUR MOST CRUCIAL RESOURCE

Motivated employees are especially important for the successful development of our business. Bayer embraces a performance- and development-oriented corporate culture, coupled with a pronounced sense of social responsibility. We encourage human and cultural diversity within the company, placing special importance on pleasant work environments, flexible working conditions and excellent vocational and advanced training opportunities. We offer attractive career prospects and aim to continue attracting the most talented people to support our company's successful and sustainable development.

1.3 Targets and Performance Indicators

To consistently implement our strategy, we have set ambitious economic, social and ecological targets and measure their attainment in terms of selected performance indicators.

Bayer Business Targets [Graphic 3.1.2]

// Profitable Growth
Approx. 5% increase in Group sales (Fx & portfolio adj.) in 2014 to approx. €41 billion – €42 billion (expected negative currency effects of approx. 2%)
Low- to mid-single-digit percentage increase in EBITDA before special items in 2014 (expected negative currency effects of approx. 5%, approx. minus €450 million)
Mid-single-digit percentage increase in core earnings per share in 2014 (expected negative currency effects of approx. 6%)
// Innovation
Group: Increase in R&D investment for the Bayer Group to approx. €3.5 billion in 2014
HealthCare: Transition of more than 10 new molecular entities (NMEs) into development in 2014
CropScience: Transfer of at least six new molecular entities (NMEs) or traits into confirmatory technical proof-of-concept field studies in 2014
MaterialScience: Improvement of production process technology to achieve better energy efficiency
// Sustainability
Supplier management Evaluation of all strategic suppliers by 2017 and of all potential high-risk suppliers with significant Bayer spend by 2020, and development and establishment of a new sustainability standard for our supply base by 2020
Resource efficiency Improvement in Group-wide energy efficiency of 10% and reduction in Group-wide specific greenhouse gas emissions of 20% by 2020 (based on 2012), and establishment of a water management system at all sites in water-scarce areas by 2017
Safety Reduction in occupational safety incidents of 35% and in transport incidents and incidents relevant to process and plant safety of 30% (all by 2020 based on 2012)
Product stewardship Conclusion of assessment of hazard potential for substances used in quantities exceeding one metric ton per annum by 2020
Compliance Conducting of precautionary risk assessments in all three subgroups by 2015 and annual compliance training for all Bayer managers from 2015
// Employees
Continuous improvement in employee engagement; increase in the proportion of women in senior management to 30% and in the proportion of managers from outside the European Union, the United States or Canada to 25% by 2015

The new non-financial targets replace the existing set of sustainability targets for 2015 and are explained in detail in the online annex, which also includes definitions and KPIs. The forecast for further key financial data is given in Chapter 20 "Future Perspectives."

See Chapter 20

ONLINE ANNEX: 3-1.3-1

NEW NON-FINANCIAL TARGETS

With the first integrated Annual Report, we have adopted a new program of non-financial targets based on the Group strategy. This enables us to highlight the challenges we see in our core business within the context of sustainable development and identify the continuous improvements we are endeavoring to make throughout the Group. This is achieved through clearly defined targets and indicators along the value chain. These are used to monitor our progress in Innovation, Supplier Management, Resource Efficiency, Safety, Product Stewardship, Compliance and Employees.

The targets are largely based on the old "Targets 2015" program. We have also conducted our own materiality analyses on the basis of stakeholder expectations and benchmarks. Table 3.1.0-1 shows all the new target categories and definitions in detail.

PREVIOUS TARGETS FOR 2015

In 2010 the Bayer Group set ambitious non-financial targets with "Targets 2015." We have reported on annual progress in achieving the targets as part of our sustainability communications.

At the end of 2013 we met the targets in the categories Product Stewardship and Process and Plant Safety in full. We have defined new targets for both categories. Our previous Research & Development target is being continued with an absolute value. In the categories Compliance, Supplier Management, Diversity, Safety and Climate Protection, we have – for the most part – made good progress over the last few years. The definitions of targets for these categories are being continued with a partial change of focus in the new target program. However, despite good reduction results, our emission reduction targets for volatile organic compounds (VOC) and ozone depleting substances (ODS) will no longer be part of the new program as, due to reasons of materiality, we will be focusing on the areas of Water and Energy in the future. This is the case for the Waste category as well. We will still be continuing to report on the indicators for waste, ODS and VOC. Spending and projects in the area Social Commitment also remain part of our reporting.

In Table 3.1.0-2, we give a detailed overview of the completed "Targets 2015" program.

New Non-Financial Target Program [Table 3.1.0-1]

Definition of target	Target value	Target year	Explanations of target
INNOVATION			
Group Increase in R&D investment	€3.5 billion	2014	R&D investments include expenditures for research and development in the HealthCare, CropScience and MaterialScience subgroups and at Bayer Technology Services.
HealthCare Transition of more than 10 new molecular entities (NMEs) into development	>10 new molecular entities	2014	A new molecular entity is a chemical or biological substance that has not yet been developed at Bayer for a specific indication.
CropScience Transfer of at least six new molecular entities (NMEs) or traits into confirmatory technical proof-of-concept field studies	≥6 new molecular entities or plant traits	2014	A new molecular entity is a chemical or biological substance that has not yet been developed at Bayer for a specific indication. A new plant trait is a specific characteristic that has not yet been available or offered at Bayer for the crop plant in question.
MaterialScience Improvement of production process technology to achieve better energy efficiency			This innovation target supports the achievement of the resource efficiency targets.

New Non-Financial Target Program [Table 3.1.0-1]

Definition of target	Target value	Target year	Explanations of target
SUPPLIER MANAGEMENT			
Increase in evaluation coverage of strategic suppliers	100% Reference year: 2013*	2017	Strategic suppliers for Bayer are those with a major influence on business in terms of procurement spend, sales and long-term collaboration prospects (3–5 years). Sustainability performance is evaluated in assessments and audits.
Increase in evaluation coverage of potential high-risk suppliers with significant Bayer spend	100% Reference year: 2013*	2020	Risk definition is based on a country- and material-based approach. We define significant procurement spend as >€1 million p.a.
Development and establishment of a new sustainability standard for our supply base		2020	The sustainability standard for our suppliers is to be driven forward in tandem with relevant industry initiatives. We are currently working with the "Together for Sustainability" initiative and the Pharmaceutical Supply Chain Initiative. Among other objectives, the goal is to standardize and share sustainability assessments of suppliers in the same industry.
RESOURCE EFFICIENCY			
Improvement in Group-wide energy efficiency	+10% Reference year: 2012 Reference value: 3.50 MWh/t	2020	Energy efficiency at Bayer is defined as the quotient of energy consumption in MWh per t manufactured sales volume.
Reduction in Group-wide specific greenhouse gas emissions	–20% Reference year: 2012 Reference value: 0.98 t CO_2/t	2020	Specific greenhouse gas emissions: measured in CO_2 equivalents per t manufactured sales volume
Establishment of a water management system at all sites in water-scarce areas	100%	2017	We define water management as part of environmental management systems as specified in ISO 14001, for example. We use the WBCSD Global Water Tool™ to define water-scarce areas and differentiate activity levels and local targets.
SAFETY			
Reduction in occupational safety incident rate among the Bayer workforce	–35% Reference year: 2012 Reference value: RIR of 0.49	2020	The basis is the number of injuries with and without lost workdays per 200,000 working hours, summarized as RIR (Recordable Incident Rate). Until the end of 2015, we will continue reporting on our success in achieving our LTRIR (Lost Time Recordable Incident Rate) target, which covers only occupational injuries with lost workdays per 200,000 working hours. The 2015 target is an LTRIR of 0.21.
Reduction in transport incidents	–30% Reference year: 2012 Reference value: 6	2020	Transport incidents relate to both our own transports and those we commission and pay third parties to perform on our behalf.
Reduction in process and plant safety incidents	–30% Reference year: 2012 Reference value: 0.38	2020	The key indicator is the number of incidents in which chemicals leak from their primary container, such as pipelines, pumps, tanks or drums, designated as LoPC (Loss of Primary Containment). We use the associated rate (LoPC Incident Rate) to determine the number of LoPC incidents per 200,000 working hours in areas relevant to plant safety.

New Non-Financial Target Program [Table 3.1.0-1 (continued)]

Definition of target	Target value	Target year	Explanations of target
PRODUCT STEWARDSHIP			
Completion of assessment of hazard potential for substances used in quantities exceeding one metric ton p.a.	>99% Reference year: 2013*	2020	This globally harmonized Bayer standard also covers assessment of such substances that are not subject to the REACH Regulation (No. 1907/2006). If no relevant datasets are generated within the scope of REACH, substance information and the ability to provide data on key substance properties are to be determined to ensure and document responsible handling of the substances (including substance characteristics, purity, intended use, toxicological data).
COMPLIANCE			
Conducting of precautionary risk assessments in all three subgroups	100%	2015	Risk assessments are based on the integrated compliance management method developed by Ernst & Young.
From 2015 compliance training for all Bayer managerial staff	> 99%	annually	Managers will participate in specific training courses depending on the risk area.
EMPLOYEES			
Continuous increase in employee engagement (determined using an employee survey)	Current reference year: 2012 Current reference value: 85%	every two years	We measure employee engagement in line with the Towers Watson engagement system. Engagement looks at how strongly an employee identifies with/feels attached to his/her company by supporting corporate values and objectives, for example.
Increase in the proportion of women in senior management	30% Reference year: 2010 Reference value: 21%	2015	Senior managers are managers in the five highest management grade levels.
Increase in the proportion of senior managers who do not come from the E.U., the United States or Canada	25% Reference year: 2013*	2015	Senior managers are managers in the five highest management grade levels.

* reference value will be specified in 2014; calculation of values for 2013 not yet complete

Targets 2015*: Development of Targets since the Start of the Program and Final Documentation [Table 3.1.0-2]

	2010 (Start)	2011	2012	2013	Final documentation
MANAGEMENT & CORPORATE GOVERNANCE					
Compliance Extend compliance training to 100% of all Bayer managers	61% of all Bayer managers	90% of all Bayer managers	From 2012 focus on new Bayer managers; >90% of all Bayer managers trained	Continued focus on new Bayer managers; >90% of all Bayer managers trained	From 2012 the focus was on new Bayer managers to continually increase the coverage rate and come closer to the target. We are extending the previous target as part of the new target program.
Supplier Management Inform all suppliers with purchase-order-relevant volumes about Bayer Supplier Code of Conduct	Launch of the Supplier Code of Conduct at the end of 2009 – gradual integration into all electronic ordering systems	As a fixed element of our supplier selection and evaluation process, the Supplier Code of Conduct ist legally binding and integrated into all electronic ordering systems and contracts throughout the Group.	As a fixed element of our supplier selection and evaluation process, the Supplier Code of Conduct ist legally binding and integrated into all electronic ordering systems and contracts throughout the Group.	As a fixed element of our supplier selection and evaluation process, the Supplier Code of Conduct ist legally binding and integrated into all electronic ordering systems and contracts throughout the Group.	Target achieved. The Bayer Supplier Code of Conduct is an established part of the supplier selection and evaluation process and is contractually integrated into electronic ordering systems and agreements throughout the Group.
Assess the sustainability performance of suppliers representing ≥75% of the total procurement volume and ≥75% of the procurement volume from risk areas	Approx. 50% coverage of the procurement volume in risk countries, proportion of total procurement volume not yet assessed completely at this stage	25% of the total procurement volume and 56% of the procurement volume from risk areas covered	Focus on process quality and efficiency. Nonetheless, approx. 25% of the total procurement volume and a good 50% of the procurement volume from risk areas are covered.	34% of the total procurement volume and 51% of the procurement volume from risk areas are covered.	Checking of suppliers' sustainability performance has been expanded considerably in the last few years. The "Together for Sustainability" initiative and the Pharmaceutical Supply Chain Initiative have contributed to this. The lower coverage in risk areas in 2013 compared to previous years is explained by the increased procurement from non-OECD countries, resulting in a changed ratio in the database. These targets are being incorporated into the new target program in a slightly modified form, and the target achievement level increased.
Annually audit the sustainability performance of at least 10% of the suppliers from risk areas or at least 15 suppliers	Initial pilot audits	15 suppliers	17 suppliers	41 suppliers	Target achieved. The number of audits has risen continuously in the last few years.

Targets 2015*: Development of Targets since the Start of the Program and Final Documentation [Table 3.1.0-2 (continued)]

	2010 (Start)	2011	2012	2013	Final documentation
INNOVATION & PRODUCT STEWARDSHIP					
Research & Development Maintain or increase R&D spending in relation to sales	€3 billion (8.7%)	€2.9 billion (8.0%)	€3.0 billion (7.6%)	€3.2 billion (7.9%)	The level of R&D spending was maintained at around the same level in the evaluation period. This target is being continued with an absolute target value.
Product Stewardship Roll out Global Product Strategy (GPS) in another 10 countries with different national languages	Implementation started	In five countries in the relevant national languages	In 10 countries in three other languages (via new "Product Safety First" website)	Target already achieved in 2012	Target achieved. GPS is available via the "Product Safety First" website in the E.U. and 14 other countries and in seven languages.
EMPLOYEES					
Diversity Increase the proportion of women in senior management to approaching 30%	21%	22%	23%	25%	Positive upward trend in the proportion of women in senior management. The target will remain part of the new target program until 2015.
Occupational Safety Reduce the number of occupational injuries with lost workdays to ≤ 0.21 LTRIR**	0.34	0.31	0.27	0.26	The target has been raised once again and remains part of the new target program.

Targets 2015*: Development of Targets since the Start of the Program and Final Documentation [Table 3.1.0-2 (continued)]

	2010 (Start)	2011	2012	2013	Final documentation
ECOLOGY					
Climate Protection Reduce specific greenhouse gas emissions*** in the Group by 35% (direct and indirect emissions in relation to manufactured sales volume in t) between 2005 and 2020; target based on figures defined in 2005: 0.79 t CO_2 equivalents per t manufactured sales volume	1.09 t CO_2e per t manufactured sales volume	0.95 t CO_2e per t manufactured sales volume	0.98 t CO_2e per t manufactured sales volume	1.00 t CO_2e per t manufactured sales volume	In 2013 greenhouse gas emissions Group-wide remained at around the same level as in the previous years at approx. one t CO_2e per t manufactured sales volume. We are incorporating the reduction target into the new target program.
Emissions Reduce other relevant emissions: ozone depleting substances (ODS) –70%, ODS target based on 2010: 6.2 t; volatile organic compounds (VOC) –50%; VOC target based on 2010: 0.1218 kg/t manufactured sales volume	ODS: 20.77 t; VOC: 0.2436 kg/t	ODS: 16.32 t; VOC: 0.2457 kg/t	ODS: 16.28 t; VOC: 0.2316 kg/t	ODS: 15.65 t; VOC: 0.2047 kg/t	Reductions were achieved in both categories in the last few reporting years. Since 2010 ODS have fallen by almost 25% and VOC by around 16%. The ODS/VOC targets are not being continued, but the relevant figures will continue to be reported.
Waste Reduce specific hazardous waste from production to 2.5% in relation to manufactured sales volume	3.12%	3.23%	3.54%	3.77%	This target is not being achieved. Due to changes in process steps, mainly in the CropScience subgroup, additional “hazardous” production waste is being generated, for example during synthesis of active ingredients in the form of by-products that do not allow further processing or use. Reducing hazardous production waste remains a key factor for our product and process development. We will be reporting further on the relevant quantities. Because of a change in essential relevance, the previous target will no longer be part of the new target program.

Targets 2015*: Development of Targets since the Start of the Program and Final Documentation [Table 3.1.0-2 (continued)]

	2010 (Start)	2011	2012	2013	Final documentation
Process and Plant Safety					
Implement the Bayer-wide initiative to increase process and plant safety; systematic process and plant safety training for approx. 26,000 employees worldwide by the end of 2012	Start of implementation of initiative; staging of the first Process and Plant Safety Symposium with 100 Bayer experts from 14 countries	Pilot training programs at the sites in Wuppertal-Elberfeld, Germany (HealthCare), Hürth-Knapsack, Germany (CropScience) and Map Ta Phut, Thailand (MaterialScience); 3,700 employees trained; training materials developed in around 20 languages	26,000 employees trained; further development of the Group Regulation "Process and Plant Safety"	Further development of teaching materials for the long-term continuation of the training programs using both traditional and web-based training; anchoring of the training program in the HSEQ management systems of the subgroups	A large number of measures (training courses, symposia, Group regulations, standardized risk assessments etc.) raised awareness of process and plant safety worldwide. The target has been achieved. The initiative is being continued and remains part of our reporting on safety.
SOCIAL COMMITMENT					
Focus our global commitment further on scientific education, fostering talent, cutting-edge research, health care and, in Germany, additionally on recreational, youth and disabled sports	Analysis of global commitment in terms of our core business areas; review of funding programs to check support of business strategy	Further internationalization and alignment of scholarship awards to the company's mission; allocation of funds on an even greater multinational basis, focusing on core areas, and sponsoring programs that consistently support the business strategy	In the selection of projects, the focus was on those countries in which Bayer is represented and on issues that are of relevance to our subgroups and their areas of business.	Further concentration on countries in which Bayer is represented and on areas that are of relevance to the Group's business strategy	In the selection of projects, the focus was continuously on those countries in which Bayer is represented and on issues that are of relevance to our subgroups and their areas of business. This target is not part of the new target program. We will be reporting further on sponsorship spending and fields.

* unless indicated otherwise
** LTRIR = Lost Time Recordable Incident Rate
*** Specific Group emissions are calculated from the total volume of direct and indirect emissions of the subgroups, including from the vehicle fleet, divided by the manufactured sales volume of the three subgroups. Quantities attributable to the supply of energy to external companies are deducted from the direct and indirect emissions. At MaterialScience the by-products sodium hydroxide solution and hydrochloric acid generated during production are not included in the production volume as they will occur in much smaller amounts in the future, thanks to measures aimed at enhancing energy efficiency. Trade products are also not included.

1.4 Internal Management System

The economic planning and steering for the business units is carried out within a framework laid down by the Board of Management that is refined during the strategic planning process. Operational planning then translates this framework into specific, measurable targets. 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.

KEY INDICATORS

One of the prime objectives of the Bayer Group is to steadily increase enterprise value. We use the following steering parameters to plan, steer and monitor the development of our business:

The key performance indicators at the strategic level are cash value added (CVA), which is a value-based steering parameter, and cash flow return on investment (CFROI). These indicators support management in its decision-making, especially in the areas of strategic portfolio optimization and the allocation of resources for acquisitions and capital expenditures. (See Chapter 16.4 "Value Management" for further details.)

See Chapter 16.4

The principal economic steering parameters within the Bayer Group at the operational level are sales and earnings figures. With regard to earnings, special attention is paid to EBITDA (earnings before financial result, taxes, depreciation and amortization) 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. (See Chapter 16.2 "Calculation of EBIT(DA) Before Special Items" for further details.)

See Chapter 16.2

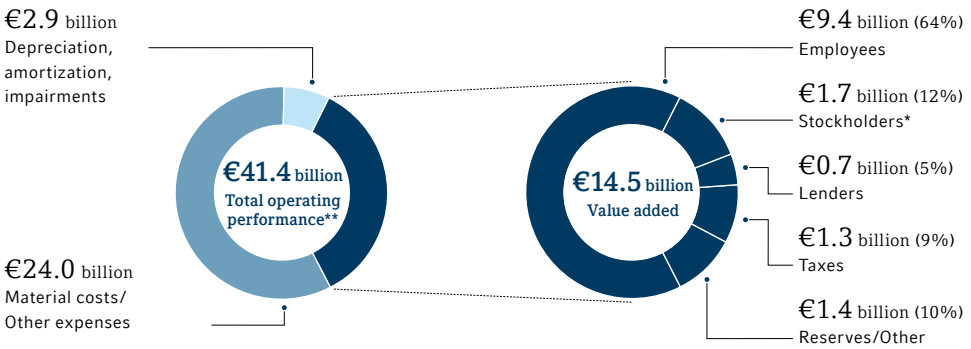
Targets and performance indicators are defined and established in areas such as supplier management, safety and product stewardship to align the Group toward sustainability. Working closely with the subgroups, Bayer AG has implemented management systems to steer the Group's sustainable development.

1.5 Value Creation

The value added statement shows Bayer's contribution to public and private incomes and is a measure of the value the company's business activities create for its 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 and amortization.

The total operating performance of the Bayer Group in 2013 was €41.4 billion. Value added increased by 9% to €14.5 billion. Of the value added, €9.4 billion (64%) was distributed to employees, €1.7 billion (12%) to stockholders, €0.7 billion (5%) to lenders and €1.3 billion (9%) to governments. The remainder was allocated to reserves.

Bayer Group Value Added [Graphic 3.1.3]



* Bayer AG dividend proposal for 2013
** total operating performance = sales + other operating income + financial income/equity-method income (loss)

In addition to direct cash flows, the company creates value for its stakeholders in various ways, focusing on innovative products and solutions that add value to our core businesses. We operate production sites throughout the world, invest locally 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 also support public infrastructure through regional taxes.

1.6 Corporate Environment

Bayer's business activities are impacted by economic and social conditions. At the same time, Bayer contributes to shaping these conditions.

ECONOMIC ENVIRONMENT

Global economic growth in 2013 was at the previous year's level. The crisis in a number of European countries continued to hamper development, especially as a result of ongoing national budget consolidation and high unemployment. However, the trend was positive – over the course of the year, the European economy grew slightly again after several quarters of recession. Economic output continued to increase in the United States, albeit at a slower pace than in the previous year. The biggest contribution to global growth again came from the emerging markets. The global economy also received a positive stimulus from the highly expansionary monetary policy that continued in the industrialized countries.

Economic Environment [Table 3.1.1]

	Growth* in 2012	Growth* in 2013
World	+2.6%	+2.5%
European Union	–0.3%**	+0.1%
of which Germany	+0.7%	+0.4%
United States	+2.8%**	+1.9%
Emerging markets***	+4.8%**	+4.7%

* real GDP growth, source: Global Insight; source for Germany: Federal Statistical Office
** revised
*** including about 50 countries defined by Global Insight as emerging markets in line with the World Bank as of February 2014

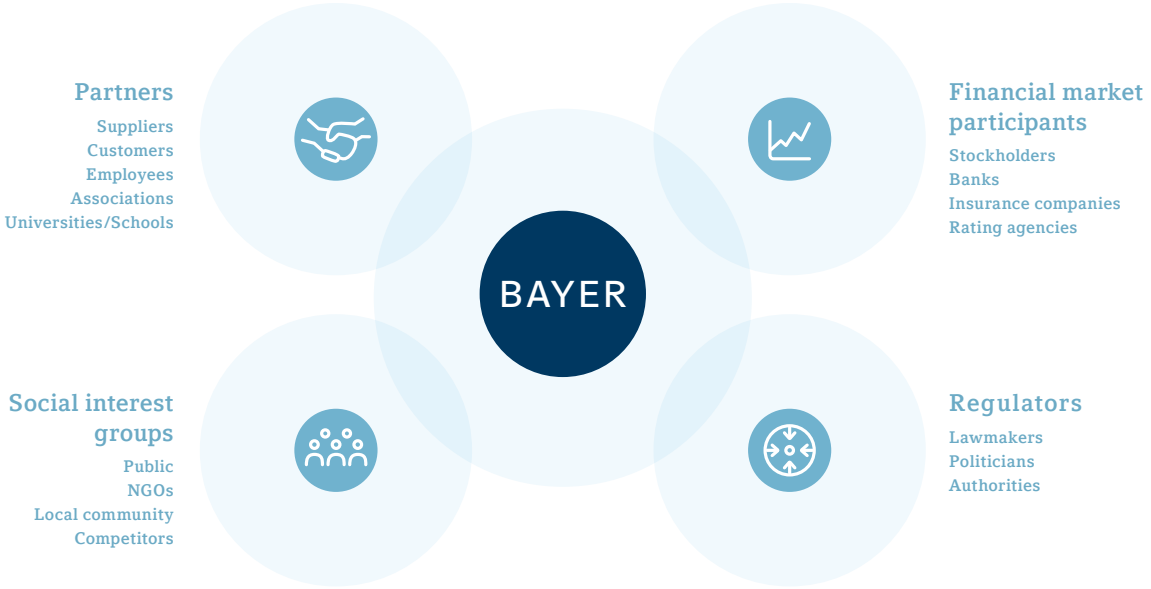
See Chapter 4

See Chapter 4 for more information on the business environments of our subgroups.

SOCIAL ENVIRONMENT

As a commercial enterprise, Bayer is part of society, and the company's business activity is therefore closely linked to the social environment. The influence of stakeholders on our business activity has steadily increased in recent years. Their expectations regarding sustainable development affect public acceptance of the company and thus our commercial success. We take the wide-ranging requirements of our stakeholders seriously and consider them wherever possible in our business activities. Evaluating these expectations and requirements provides significant impetus for the continued development of our activities, our risk management and our reporting. At the same time, open dialogue with our stakeholders gives us an opportunity to demonstrate the value that our products and services hold for society. This is of growing importance for the success of our business model.

Stakeholder Dialogue at Bayer: Our Most Important Interest Groups [Graphic 3.1.4]



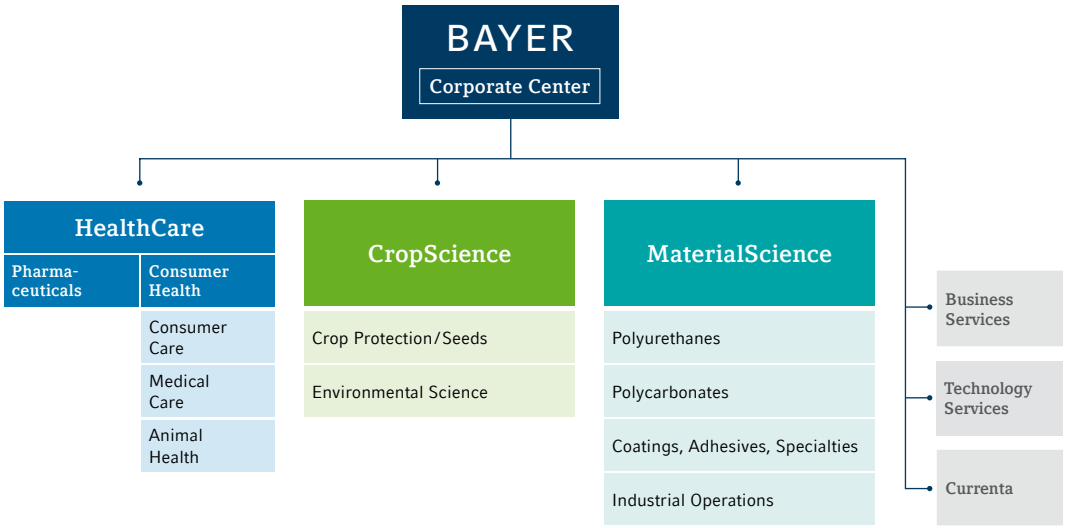
Read more about Bayer's commitment to its stakeholders in Chapter 6 "Sustainability."

See Chapter 6

2. Corporate Structure

Bayer AG, headquartered in Leverkusen, Germany, is the strategic management holding company for the Bayer Group. Business operations are conducted by the HealthCare, CropScience and MaterialScience subgroups, supported by our three service companies.

Bayer Group Structure [Graphic 3.2.1]

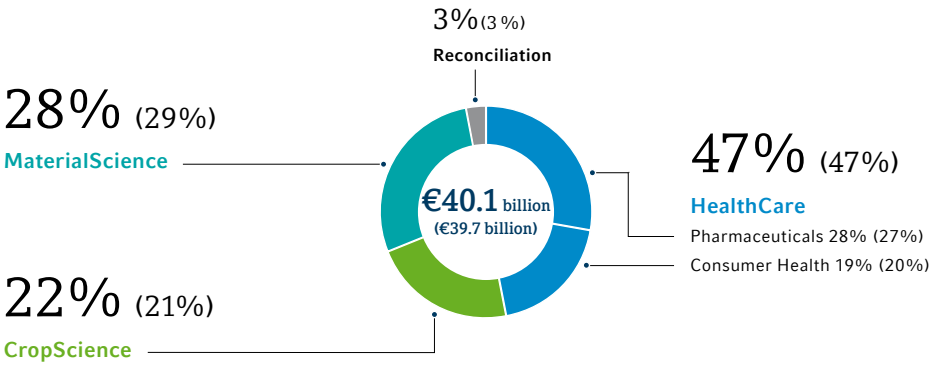


The globally operating **HealthCare** subgroup is divided into two reporting segments: Pharmaceuticals and Consumer Health. The **Pharmaceuticals** segment focuses on prescription products, especially for women's healthcare and cardiology and also on specialty therapeutics in the fields of oncology, hematology and ophthalmology. Our **Consumer Health** segment includes the Consumer Care, Medical Care and Animal Health divisions. The main focus of the Consumer Care Division is on non-prescription medicines, dietary supplements and dermatology products. The Medical Care Division comprises the Diabetes Care business unit, which markets blood glucose monitoring systems, and the Radiology & Interventional business unit, which offers contrast-enhanced diagnostic imaging equipment along with the necessary contrast agents, as well as mechanical systems for treating constricted or blocked blood vessels. The products of the Animal Health Division are destined for use in farm and companion animals.

CropScience has businesses in seeds, crop protection and non-agricultural pest control. It is organized into two operating segments: Crop Protection/Seeds and Environmental Science. Crop Protection/Seeds markets a portfolio of high-value seeds and traits along with chemical and biological pest management solutions, at the same time providing extensive customer service to the agriculture industry. Environmental Science focuses on non-agricultural applications, with a broad portfolio of pest control products and services for areas ranging from the home and garden sector to forestry.

MaterialScience develops, manufactures and markets high-tech polymer materials including polyurethane raw materials, polycarbonates, coating and adhesive raw materials and functional films. This subgroup also manufactures and markets selected inorganic basic chemicals. MaterialScience is organized into the Polyurethanes, Polycarbonates, and Coatings, Adhesives, Specialties business units, and the Industrial Operations area.

Share of Sales by Segment 2013 [Graphic 3.2.2]



2012 in parentheses

Our subgroups are supported by the Business Services, Technology Services and Currenta service companies, which are reported in the reconciliation under "All Other Segments." The reconciliation also includes the Corporate Center and consolidation effects.

Key Data by Subgroup and Segment [Table 3.2.1]

	Sales		EBIT		EBITDA before special items*	
	Full Year 2012	Full Year 2013	Full Year 2012	Full Year 2013	Full Year 2012	Full Year 2013
	€ million	€ million	€ million	€ million	€ million	€ million
HealthCare	**18,604**	**18,924**	**2,205**	**3,260**	**5,119**	**5,334**
Pharmaceuticals	10,798	11,188	1,104	2,031	3,232	3,490
Consumer Health	7,806	7,736	1,101	1,229	1,887	1,844
CropScience	**8,383**	**8,819**	**1,556**	**1,729**	**2,025**	**2,248**
MaterialScience	**11,491**	**11,238**	**581**	**435**	**1,263**	**1,072**
Reconciliation	**1,263**	**1,176**	**(414)**	**(490)**	**(127)**	**(253)**
Group	**39,741**	**40,157**	**3,928**	**4,934**	**8,280**	**8,401**

2012 figures restated
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."

3. Strategies of the Subgroups

See Chapter 1.2

The subgroups' strategies are outlined below (for the Bayer Group strategy, see Chapter 1.2).

HEALTHCARE

The health care sector worldwide is in a state of flux driven by the rise in life expectancy, growing demand for health care products particularly in the emerging markets, greater patient and consumer influence on health-related decisions, and increasing insistence that the health care industry demonstrate the value added by new therapies. In addition, health systems everywhere need to find ways to curb rising costs while safeguarding and improving health care quality and access.

Our strategy in this environment is aimed at achieving above-average, profitable and sustainable growth. To this end, our focus is on innovation and on further strengthening our position in the Emerging Markets.

In our largest segment in terms of sales – **Pharmaceuticals** – we aim to become a leader in cardiovascular health and defend our market position in women's healthcare. In the area of specialty therapeutics, we aim to strengthen or defend our respective market positions. To achieve our growth targets, we are focusing particularly on Xarelto™, Eylea™, Stivarga™, Xofigo™ and riociguat (approved in the United States and Japan under the trademark Adempas™), whose market introduction is continuing in additional countries. We plan to steadily expand the indications for these medicines through comprehensive study programs and make them available to additional patient groups.

Innovative products for profitable and sustainable growth

We intend to step up our investment in research and development. First, for example, we plan to drive forward the development of five drug candidates in cardiology, oncology and gynecology. We are also conducting research in the therapeutic area of hematology. Complementing this work is common mechanism research in areas such as ophthalmology and inflammation.

In addition, we are selectively expanding and supplementing our product portfolio through licensing agreements and acquisitions. In June 2013, we acquired the U.S. company Conceptus, Inc., whose product Essure™ rounds out our contraception portfolio with the only approved non-surgical permanent birth control method.

The focus on certain therapeutic areas is supplemented by tailored measures in key markets such as the United States, Japan, Germany, Brazil and China.

We are developing concepts to facilitate access to our products, especially in developing and emerging countries, as part of our "Access to Medicine" (ATM) strategy.

ONLINE ANNEX: 3-3-BHC-1

In the area of hormonal contraception, we collaborate in family planning programs with international development partners. We support the World Health Organization (WHO) in the fight against neglected tropical diseases and tuberculosis and also offer patient access programs in some markets where large segments of the population cannot currently benefit from innovative medicines.

TARGETED FAMILY PLANNING

As the world market leader in oral contraceptives, the Pharmaceuticals Division has many years of expertise in the field of hormonal contraception. We have been supporting family planning programs of national and international organizations for 50 years. Our support represents a significant contribution toward achieving the United Nations Millennium Development Goals, including that of improving maternal health. Self-determined family planning also supports the struggle against poverty and strengthens women's role in society. We provide a broad range of hormonal contraception methods for family planning programs: apart from oral contraceptives, we offer monthly and three-monthly injections and the contraceptive implant Jadelle™, a reversible long-term contraceptive method that is effective for up to five years.
In 2013 we provided the following quantities of oral contraceptives, injections and implants to family planning programs in developing countries. CYP* (couple-years of protection) is the number of couples for whom one year of contraception is provided.

Jadelle™:

- 3 million packs (10.5 million CYPs)
  - oral contraceptives: 130 million cycle packs (8.7 million CYPs)
  - injections: 9.2 million (1.7 million CYPs)

The total of 20.9 million CYPs represents a 10% increase over the previous year.

THE BAYER-USAID CONTRACEPTIVE SECURITY INITIATIVE

At the same time, we are looking for new ways to improve the availability of our contraceptives. In 2009, for example, we launched the Contraceptive Security Initiative (CSI) jointly with USAID and introduced an oral contraceptive, Microgynon™ Fe, to the African market at a reduced price. The CSI aims to complement subsidized aid programs by making oral contraceptives available mainly to middle-class couples. The supply price is adjusted such that pharmacies can offer the products at prices that match the financial resources of middle-income women and couples. At the same time, we cover our costs and can thus provide a continuous supply beyond the five-year term of the agreement. As local wholesalers and pharmacists benefit from sales, CSI has the effect of generating national income and thus further reducing dependence on charitable support. Since December 2010 the initiative has been successively introduced in Ethiopia, Uganda, Tanzania, Rwanda, Ghana, Kenya and Malawi; four more countries are scheduled to join the program by the end of 2014.

THE JADELLE™ ACCESS PROGRAM

Since January 2013, a partnership between HealthCare and the U.S.-based Bill & Melinda Gates Foundation has been improving access to our contraceptive implant Jadelle™. Under this agreement, we have reduced the price for our Jadelle™ implant, which was prequalified by the WHO in September 2009, by more than half, and up to 27 million women in the world's poorest countries can gain access to this efective, long-acting reversible contraceptive by 2018. In 2013 the program won the CIPS (Chartered Institute of Purchasing & Supply) Annual Award for "Best International Procurement Project of the Year."

* All CYPs are determined using the MSI Impact Calculator (Version 1.2) and the calculation basis of the U.S. Agency for International Development (USAID). Example for oral contraceptives: 1 CYP = approx. 15 cycle packs

TACKLING NEGLECTED TROPICAL DISEASES

Many diseases that primarily affect the poorest sections of the population can only be tackled through a substantial international effort. In 2012 13 pharmaceutical companies – including Bayer HealthCare – therefore joined with the governments of the United States, the United Kingdom and the United Arab Emirates, the Bill & Melinda Gates Foundation, the World Bank and several global health organizations to launch the largest ever campaign designed to combat neglected tropical diseases. The goal of the "London Declaration on Neglected Tropical Diseases" is to contain or, if possible, eliminate 10 of these tropical diseases by 2020. The various companies' commitments reflect their respective areas of expertise. For more than 10 years we have supported the WHO by providing medicines to treat African sleeping sickness and Chagas' disease free of charge.

We are providing the WHO with up to one million tablets of Lampit™ (active ingredient: nifurtimox 120 mg) per year, along with US$300,000 for logistics and distribution, to combat **Chagas' disease.** We are also currently developing a smaller nifurtimox tablet with a lower active ingredient content (30 mg) to simplify the treatment of children with Chagas' disease.

Since 2002 we have supported the WHO in the fight against **African sleeping sickness** – also known as human African trypanosomiasis (HAT) – by providing 10,000 ampoules of Germanin™ per year free of charge to combat a form of the disease that mainly occurs in eastern and southern Africa. West African sleeping sickness, the most widespread form, can be treated since 2009 with a combination therapy (NECT) using two active ingredients – nifurtimox from Bayer and eflornithine from Sanofi. Following completion of the clinical studies, the new treatment was included in the WHO List of Essential Medicines. Bayer has been supplying the WHO with 400,000 nifurtimox tablets per year for the combination therapy since 2009. The rate of new infections has declined since then.

Currently some 70% of all registered cases of HAT worldwide occur in the Democratic Republic of the Congo. In 2013 we therefore increased our commitment to the fight against African sleeping sickness, setting up a project for an initial term of three years during which we will provide €100,000 per year for the mobile intervention teams deployed by the WHO in DR Congo to tackle local outbreaks. With the help of these teams, people in remote areas are gaining better access to diagnosis and treatment. This also represents a major step toward achieving the target set by the London Declaration on Neglected Tropical Diseases of eradicating African sleeping sickness by 2020.

NEW TREATMENTS FOR TUBERCULOSIS

The current six- to eight-month standard therapy for tuberculosis (TB) is based on four drugs that were discovered more than 30 years ago and often have to be administered under the direct supervision of health care professionals. The long period makes consistent treatment more difficult to achieve, and the number of resistant strains of bacteria is therefore increasing. The available medicines are not effective against the multi-drug-resistant TB (MDR-TB) caused by resistant bacteria. As part of the WHO's STOP-TB partnership, we have therefore provided our Avalox™/Avelox™ (active ingredient: moxifloxacin) antibiotic at a reduced price for an emergency aid program to combat MDR-TB since 2011.

16 countries have joined the program since December 2011. A total of around 1.3 million moxifloxacin tablets were supplied to six countries (China, Georgia, Armenia, Haiti, Russia and Indonesia) in 2013. This quantity of the drug enables the treatment of a good 2,450 MDR-TB patients for the minimum treatment period of 18 months. Since 2005 we have also been collaborating with the U.S.-based Global Alliance for TB Drug Development (TB Alliance) on a broadly based clinical trial program investigating the efficacy and tolerability of moxifloxacin as part of a combination therapy to shorten the treatment period for pulmonary tuberculosis. The results of this trial are currently being evaluated. We have committed to file for registration of moxifloxacin to treat TB and provide the drug at a reduced price if the trial outcome is positive.

PROGRAMS FOR IMPROVED DRUG ACCESS

In certain countries where large segments of the population do not have access to innovative medicines – such as India and China, but also in the United States – patient access programs are established for selected products. These programs, jointly run with partners from local health authorities and non-governmental organizations, help to fill existing treatment gaps by making available innovative products for cancer treatments, for instance, or therapeutic options for patients with chronic diseases such as multiple sclerosis or hemophilia, for example. Some of the programs go beyond the supply of medicines and provide patient and family support, medical personnel and access to the necessary diagnostic facilities. The programs are developed on a local or regional basis to optimally meet specific patient needs.

Our **Consumer Health** segment includes non-prescription medicines, dermatology products, blood glucose meters, medical devices and contrast agents, as well as pharmaceutical and grooming products for livestock and companion animals.

The goal of the Consumer Care Division is to become the market leader for over-the-counter (OTC) medicines. We aim to achieve this mainly by exploiting the organic growth potential of proven brands such as Aspirin™, Aleve™, Bepanthen™/Bepanthol™ and Canesten™. In addition, we are investing heavily in the Emerging Markets of Eastern Europe, Latin America and Asia. We are also utilizing external growth opportunities in the form of acquisitions or product inlicensing, an example being the acquisition in July 2013 of Steigerwald Arzneimittelwerk GmbH, Darmstadt, Germany, a company specializing in non-prescription herbal medicines.

In the Medical Care Division, we continue to focus on our competitive positions in the core areas of diabetes management, contrast agents and medical devices. In the Diabetes Care business unit, we are expanding our range of products and services by developing new blood glucose monitoring systems to help people with diabetes better manage the disease. In the Radiology & Interventional unit, our core focus is in the areas of contrast agents, contrast agent injection systems, and thrombectomy and atherectomy systems. We are also developing new software and IT solutions to optimize contrast agent and radiation dosage management.

The Animal Health Division is among the world's major producers of veterinary pharmaceuticals. We aim to strengthen our position through organic growth, acquisitions and inlicensing.

CROPSCIENCE

Sustainable agriculture, higher crop yields and improved crop quality are becoming increasingly important in view of the need to ensure adequate food supplies for a growing world population despite the limited amount of arable land and the increased demand for animal feed and renewable raw materials.

CropScience aligns its corporate planning to long-term trends in the markets for agricultural products.

CropScience strategy based on four core elements

The subgroup's strategy for future growth is built on four key elements: enhancing the Crop Protection and Environmental Science portfolio, increasing customer centricity along the entire value chain, leading the way in the area of innovation, and expanding the Seeds business.

We aim to enhance our **Crop Protection** and **Environmental Science portfolios** by adding new and improved products, concentrating on core brands and offering integrated solutions in major crops. We have a significant technology platform for both chemical and biological crop protection, enabling us to offer customers complete solutions from seed treatment through to the harvest. We are investing substantially in our production capacities to meet rising demand for our products.

Another major part of our strategy is to strengthen **customer centricity along the entire value chain** and optimize distribution management. We are also steadily expanding the successful business model of food chain partnerships in the form of collaborations with food processors and retailers. This supports our objective of sustainably increasing our customers' productivity. In these partnership projects, CropScience works with all participants in the food chain to safeguard and increase yields and improve the quality of harvested produce.

To **lead the way in innovation**, we aim to build on our expertise in the integration of seed technology and chemical and biological crop protection so that we can develop holistic solutions.

Another key element in our strategy is the **expansion of our Seeds business**. We plan to further strengthen our positions in our established crops – cotton, oilseed rape/canola, rice and vegetables – and plan to build significant positions in soybeans and wheat. For example, we intend to gain long-term access to high-quality breeding material through acquisitions, inlicensing and partnerships and to steadily expand our existing breeding expertise.

MATERIALSCIENCE

MaterialScience helps to address global challenges

MaterialScience, with its high-tech polymer materials and application solutions, is helping to address the challenges posed by population growth, the depletion of fossil resources, climate change, greater mobility and increasing urbanization. We are continuing to develop our product portfolio, which mainly comprises components for polyurethane foams, high-tech polycarbonate plastics and raw materials for coatings and adhesives. In addition to product innovations, we are working on new or improved, eco-friendly production processes that also bring cost benefits for ourselves and our partners.

Against this background, MaterialScience is targeting long-term, profitable growth. We aim to sustainably earn a premium on our capital costs and thus help to increase corporate value. We intend to safeguard or expand our leading competitive positions in world markets in a challenging environment. This applies particularly to emerging economies such as China, India, Brazil and Russia.

We take sustainability principles fully into account in our business processes. We want our products to benefit both the environment and society. We aim to continue our steady investment in process technology in order to increase safety, mitigate environmental impacts and raise efficiency.

In the **Polyurethanes (PUR) business unit**, we intend to safeguard our strong position on the world market as an integrated raw material and systems supplier, mainly for rigid and flexible foams. Demand is expected to continue increasing in the coming years. The uses for polyurethane foams include insulations for buildings and refrigerated appliances. These materials thus help to reduce energy consumption and greenhouse gas emissions. They also ensure added comfort in many areas of everyday life. In line with our objective of achieving cost leadership, we are concentrating on further increasing efficiency at our production facilities, partly through the use of the latest process technologies. At our site in Dormagen, Germany, for example, we are erecting a large-scale, state-of-the-art facility for toluene diisocyanate (TDI), a key precursor for flexible foams. In the rigid foam sector, we are further expanding our capacities in Shanghai, China, for the precursor diphenylmethane diisocyanate (MDI) to service the demand in Asia.

The global market for polycarbonates is focused on Asia, which accounts for more than 60%. The **Polycarbonates (PCS) business unit** has several large production facilities for this high-tech plastic in the region. To safeguard our position in the world market, we plan to gradually increase production capacity in Shanghai. We also aim to further improve the efficiency of our plants worldwide. This particularly lightweight and stable polymer material is used in the automotive and consumer electronics industries and other sectors due to its versatility.

The focus of the **Coatings, Adhesives, Specialties (CAS) business unit** is on the production of polyurethane-based raw materials for coatings and adhesives. Here we aim to maintain our excellent position in our core business and open up new, related growth areas. Our chemical expertise and years of experience in formulation development make us a preferred development partner and supplier of customized solutions for many new coating and adhesive applications that offer not only attractive design options, but also provide effective mechanical protection.

4. Economic Environments of the Subgroups

See Chapter 1.6

The economic environments in which the subgroups operate are outlined below. (The economic environment for the Bayer Group as a whole is described in Chapter 1.6 "Corporate Environment.")

Economic Environments of the Subgroups [Table 3.4.1]

	Growth* in 2012	Growth* in 2013
HealthCare		
Pharmaceuticals	+ 3%	+ 3%
Consumer Care	+ 4%	+ 5%
Medical Care	0%**	−2%
Animal Health	+ 4%	+ 3%
CropScience		
Seed and crop protection market	>10%	≥5%
MaterialScience (Main customer industries)		
Automotive industry	+ 6%	+ 3%
Construction industry	+ 2%	+ 3%
Electrical/electronics industry	+ 3%	+ 4%
Furniture market	+ 5%	+ 3%

* Bayer's estimate, excluding pharmaceuticals market, source: IMS Health. IMS Market Prognosis. Copyright 2014. All rights reserved, currency-adjusted; 2013 data provisional
** revised
as of Febrary 2014

HEALTHCARE

Growth in the **pharmaceuticals market** was based mainly on increased demand in the emerging economies. In the United States and a number of European countries, growth continued to be impeded by restrictive health policies.

The **consumer care market** expanded somewhat faster than in the previous year, mainly due to continuing high demand for non-prescription medicines in the emerging markets. A strong cold season in the first half of 2013 facilitated market growth in North America and Europe. The slight downturn in the **medical care market** was due to a weaker diabetes care market, while the market for contrast agents and medical equipment (Radiology & Interventional business unit) was flat year on year. The **animal health market** expanded at a slightly slower pace than in the previous year.

CROPSCIENCE

The **seed and crop protection market** continued its dynamic development in 2013. Farmers benefited from a positive market environment due to persistently low inventory levels for most agricultural commodities. This in turn led to strong demand for high-value seeds and for crop protection products.

Growth in the global seed and crop protection market last year was again driven by Latin America, particularly Brazil and Argentina. In North America, we also registered above-average growth rates in 2013 despite persisently cold weather and a drought at the beginning of the year. In Asia/Pacific, too, the positive overall market trend continued in 2013 with slightly higher growth than in the previous year. The Chinese and Indian crop protection markets displayed the strongest growth momentum in the region. In Europe, on the other hand, growth rates were below the world market average, mainly as a result of the late start to the season and adverse weather conditions in northern Europe. Growth rates were moderate in the Mediterranean countries but higher than average in Eastern Europe.

MATERIALSCIENCE

Global development in the **principal customer industries** of importance to MaterialScience (automotive, construction, electrical/electronics and furniture) was at a generally low level in 2013 as expected due to the continuing economic weakness in the eurozone and the downturn in Asia.

The **automotive industry** registered considerably weaker global growth compared with the previous year. Volumes continued to decline in Europe as a result of ongoing weak demand in nearly all countries. Growth momentum also slowed in North America. The very dynamic trend continued in China, however, while growth in the other Asian countries slowed.

Growth in the global **construction sector** improved compared with the previous year. While construction investment in the United States showed signs of recovering and growth in the principal Asian countries remained stable, demand in Western Europe again declined.

The global **electrical/electronics industry** again posted robust growth in 2013. While the previous year's solid growth rates persisted in North America and Asia, slight growth was recorded in Europe (mainly driven by the Eastern European countries), following the downward trend in the prior year.

Global development of the **furniture industry** was weaker in 2013 than the year before. The pace of growth in Asia slowed due to weaker domestic and export demand. Austerity programs and consumer reticence in Europe caused the sector to shrink once again, though at a much slower rate than the year before.

5. Research, Development, Innovation

With strong and efficient research and development (R&D), a focus on growth areas and the Emerging Markets, and a national and international network of outstanding partners, we are creating the foundation for innovation and thus the company's future success. In 2013 a total of €3,190 million (2012: €3,013 million) was spent on research and development. This was equivalent to 7.9% (2012: 7.6%) of sales. The number of employees working in research and development worldwide was 13,700.

ONLINE ANNEX: 3-5-1

For our leading experts in research and development, we offer targeted career advancement opportunities through our Expert Career initiative. In addition, the 120-member Expert Club – headed by the member of the Board of Management responsible for research – promotes the sharing of best practices among scientific experts from different subgroups.

We also ensure that special contributions by individuals or employee groups are announced and honored. For example, we bestow research awards such as the Otto Bayer Medals, which are presented every two years to teams of scientists for outstanding achievements.

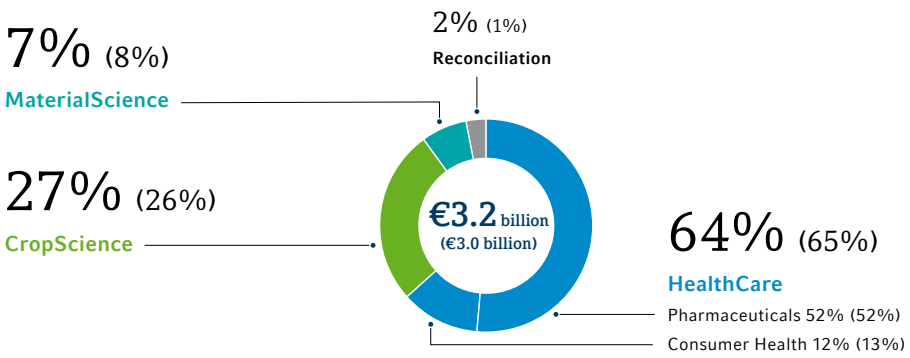
Employees use the Bayer Group's suggestion system, known as the Bayer Ideas Pool, mainly to propose improvements to methods or processes. In 2013 the employees once again displayed their commitment to the company by making numerous valuable suggestions for potential improvements. Altogether some 4,800 ideas were submitted to the Bayer Ideas Pool. Of these, 51% were implemented, resulting in savings totaling more than €4 million by year end from the proposals implemented in 2013. We paid out a total of over €1 million in special employee bonuses for the suggestions implemented.

Research collaborations with external partners from academia and industry form an integral part of our innovation strategy. These collaborations and alliances with leading universities, public research institutes and partner companies are supplemented by incubators, crowdsourcing and science hubs in Asia and the United States to tap into external innovative potential using the **open innovation** approach. Some of our collaborations are supported by public funding.

ONLINE ANNEX: 3-5-2

In Germany alone, Bayer participated in more than 100 publicly funded projects in 2013, receiving a total of about €8 million in grants. This is equivalent to roughly 0.3% of our annual R&D expenses.

Research and Development Expenses 2013 [Graphic 3.5.1]



2012 figures in parentheses

Reliable, global protection of intellectual property rights is essential for an innovation company like Bayer. At the end of 2013, we owned approximately 67,400 valid patent applications and patents worldwide relating to some 8,700 protected inventions.

ONLINE ANNEX: 3-5-3

The term of a patent is normally 20 years. Since it takes an average of 12 years to develop a new medicine, for example, only eight years of patent protection generally remain following the product's approval. In most cases it would be impossible to cover the substantial costs incurred in the research and development of innovative medicines or of new indications or dosage forms for existing drugs without patent protection. We are therefore committed to protecting both the international patent system and our own intellectual property worldwide. You can read more about this topic in our political positions: WWW.ANNUALREPORT2013.BAYER.COM/POLITICAL-POSITION-IP.

WWW.ANNUAL-REPORT2013.BAYER.COM/POLITICAL-POSITION-IP

To support the development of intellectual property rights (IPR) and copyright in China, Bayer sponsors the IPR chair at Tongji University in Shanghai. As well as arranging law studies for more than 100 students, the chair works with Bayer – supported by the Chinese Patent Office – to organize an annual IPR forum dealing with issues related to the protection of intellectual property.

STRENGTHENING RESEARCH IN THE LIFE SCIENCES

Bayer is the only global company simultaneously researching improvements in human, animal and plant health. Systematic and intensive collaboration among researchers from both Life Science subgroups is providing new impetus. In this context, researchers from HealthCare and CropScience are collaborating on projects involving central biological processes such as gene regulation or energy metabolism. The joint use of technology platforms is being expanded. These projects have been supported since 2012 by Bayer's internal "Life Sciences Fund" and are mostly implemented together with external partners.

HEALTHCARE

in 2013 we spent €2,040 million (2012: €1,955 million) for research and development in the Pharmaceuticals and Consumer Health segments. This amounted to 63.9% of R&D spending in the Bayer Group and was equivalent to 10.8% (2012: 10.5%) of HealthCare sales. At the end of 2013, some 7,800 employees of HealthCare were working in research and development.

Research and development expenses in the **Pharmaceuticals** segment amounted to €1,654 million (2012: €1,561 million), or 14.8% (2012: 14.5%) of segment sales. Drug discovery in the Pharmaceuticals segment focuses on the areas of cardiology, oncology, gynecological disorders and hematology. Complementing this work is common mechanism research in areas such as ophthalmology and inflammation. We conduct research activities at four centers, of which two are located in Germany and two in the United States. Work in Berlin and Wuppertal, Germany, mainly focuses on the discovery, optimization and development of new active substances. Research is also carried out at these sites in the fields of drug metabolism, pharmacokinetics, toxicology and clinical pharmacology. Our research and development activities in the Mission Bay district of San Francisco and in Berkeley, California, United States, are concentrated on biologicals and hematology. We also operate innovation centers in Beijing, China, and Singapore, through which we coordinate our research partnerships in Asia.

We conducted clinical trials with several drug candidates from our research and development pipeline during 2013 to drive the development of new substances for treating diseases with a high unmet medical need. 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.

We have recently launched five innovative medicines on the market. Of special importance is our anticoagulant Xarelto™ (active ingredient: rivaroxaban). In the area of oncology, Stivarga™ (active ingredient: regorafenib) is approved for the treatment of advanced colorectal cancer and gastrointestinal stromal tumors (GIST) in some countries, and approvals are pending in others. In 2013 we received marketing authorization for Xofigo™ (active ingredient: radium-223 dichloride) in the treatment of bone metastases in prostate cancer patients. Other promising products recently launched include Eylea™ (active ingredient: aflibercept) to treat various eye diseases. Riociguat, a new substance to treat different forms of pulmonary hypertension, was approved in the U.S. and Japan in 2013 under the trade name Adempas™. In addition, we strengthen our products through life-cycle management to improve their value for patients and/or expand their indications.

The most important drug candidates in the approval process are:

Products Submitted for Approval*

[Table 3.5.1]

	Indication
Aflibercept	E.U.; treatment of diabetic macular edema
Aflibercept	Japan; treatment of myopic choroidal neovascularization
FC-Patch Low	E.U.; contraceptive patch
Octocog alfa** (recombinant Factor VIII)	U.S.A.; prophylaxis in adult patients with hemophilia A
Regorafenib	E.U.; treatment of metastatic and/or unresectable gastrointestinal stromal tumors
Riociguat	E.U.; treatment of pulmonary hypertension (CTEPH)
Riociguat	E.U.; treatment of pulmonary hypertension (PAH)
Rivaroxaban***	U.S.A.; secondary prophylaxis of acute coronary syndrome
Sorafenib	E.U., Japan; treatment of thyroid cancer

* as of February 11, 2014
** octocog alfa = active ingredient of Kogenate™
*** submitted by Janssen Research & Development, LLC

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

Research and Development Projects (Phases II and III)*

[Table 3.5.2]

	Indication	Status
Amikacin inhale	Treatment of pulmonary infection	Phase III
BAY 94-9027 (rFVIII mutein)	Treatment of hemophilia A	Phase III
Ciprofloxacin DPI	Treatment of pulmonary infection	Phase III
LCS-16 (ULD LNG Contraceptive System)	Intrauterine contraception, duration of use: up to 5 years	Phase III
Prasterone**	Treatment of vulvovaginal atrophy	Phase III
Regorafenib	Treatment of refractory liver cancer	Phase III
Regorafenib	Treatment of colorectal cancer following surgical removal of liver metastases	Phase III
Rivaroxaban	Prevention of major adverse cardiac events (MACE)	Phase III
Rivaroxaban	Anti-coagulation in patients with chronic heart failure***	Phase III
Sodium deoxycholate****	Injection for reduction of submental fat	Phase III
Sorafenib	Treatment of breast cancer	Phase III
Sorafenib	Treatment of liver cancer, adjuvant therapy	Phase III
Sorafenib	Treatment of kidney cancer, adjuvant therapy	Phase III
Tedizolid	Treatment of complicated skin infections and pneumonia	Phase III

Research and Development Projects (Phases II and III)* [Table 3.5.2 (continued)]

	Indication	Status
Copanlisib (PI3k inhibitor)	Treatment of recurrent/resistant non-Hodgkin's lymphoma	Phase II
BAY 85-8501 (neutrophil elastase inhibitor)	Lung diseases	Phase II
BAY 1021189 (sGC stimulator)	Chronic heart failure	Phase II
BAY 1067197 (partial adenosine A1 agonist)	Heart failure	Phase II
Finerenone (MR antagonist)	Chronic heart failure	Phase II
Finerenone (MR antagonist)	Diabetic nephropathy	Phase II
Molidustat (HIF-PH inhibitor)	Anemia	Phase II
Radium-223 dichloride	Treatment of bone metastases in cancer	Phase II
Refametinib (MEK inhibitor)	Cancer therapy	Phase II
Regorafenib	Cancer therapy	Phase II
Riociguat	Pulmonary hypertension (IIP)	Phase II
Riociguat	Raynaud's phenomenon	Phase II
Riociguat	Diffuse systemic sclerosis	Phase II
Sorafenib	Cancer therapy	Phase II

* as of February 11, 2014
** prasterone = Vaginorm
*** conducted by Janssen Research & Development, LLC
**** sodium deoxycholate = ATX-101
The nature of drug discovery and development is such that not all compounds can be expected to meet the pre-defined 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 Food and Drug Administration (FDA), European Medicines Agency (EMA) or other regulatory approvals will not be granted for these compounds.

We regularly evaluate our research and development pipeline in order to prioritize the most promising pharmaceutical projects.

Xarelto™ (active ingredient: rivaroxaban) has been approved for more indications than any of the other new oral anticoagulants. Xarelto™ is registered in the following indications in the United States and Europe:

- prevention of venous thromboembolism (VTE) in adult patients after elective hip or knee joint replacement surgery
- prevention of stroke and systemic embolism in adult patients with non-valvular atrial fibrillation (AF) and one or more risk factors
- treatment of deep vein thrombosis (DVT) and pulmonary embolism (PE) in adults
- prevention of recurrent DVT and PE in adults

In May 2013, Xarelto™ was additionally approved by the European Commission for the prevention of atherothrombotic events after acute coronary syndrome (ACS) in patients with elevated cardiac biomarkers in combination with standard antiplatelet therapy. In January 2014, the Cardiovascular and Renal Drugs Advisory Committee of the U.S. Food and Drug Administration (FDA) voted against the approval of Xarelto™ for the treatment of ACS. The FDA will consider the Advisory Committee's recommendations in its review of the application for approval of rivaroxaban in this indication but is not bound by them. Xarelto™ is marketed in the U.S. by Janssen Pharmaceuticals, Inc., a subsidiary of Johnson & Johnson.

Beyond the already approved indications, rivaroxaban is also being investigated in other cardiovascular disorders. Ongoing clinical Phase III trials include COMPASS and COMMANDER-HF. The aim of the COMPASS study is to investigate the potential of rivaroxaban in the prevention of major adverse cardiac events. The COMMANDER-HF study is evaluating the potential additional benefit of rivaroxaban in combination with standard therapy in reducing the risk of mortality, myocardial infarction and stroke in patients with chronic heart failure and significant coronary heart disease.

Xarelto™ is approved in more than 125 countries worldwide across all indications, its approval status varying from country to country.

Rivaroxaban was discovered by HealthCare and jointly developed with Janssen Research & Development, LLC.

Riociguat is the first member of a new class of vasodilating agents known as soluble guanylate cyclase (sGC) stimulators. Administered in tablet form, riociguat is currently being investigated as a new approach for the treatment of various forms of pulmonary hypertension. Based on the Phase III studies CHEST-1 and PATENT-1, we submitted riociguat in February 2013 for marketing approval in the United States and the European Union for the treatment of inoperable chronic thromboembolic pulmonary hypertension (CTEPH) and pulmonary arterial hypertension (PAH). We received the first approval in the indication CTEPH in September 2013 in Canada. In October 2013, following priority review, the FDA approved riociguat in the U.S. under the trade name Adempas™ for use in CTEPH and PAH. In January 2014, we received approval for Adempas™ for the treatment of CTEPH in Japan, and in the European approval process, the European Committee for Medicinal Products for Human Use (CHMP) recommended that riociguat be approved to treat CTEPH and PAH. A final decision from the European Commission is expected in the first half of 2014.

Stivarga™ (active ingredient: regorafenib) is a novel, oral multikinase inhibitor. It inhibits various signal pathways that are responsible for tumor growth. Stivarga™ was approved in the United States in 2012 for the treatment of patients with metastatic colorectal cancer (mCRC). The Japanese Ministry of Health, Labour and Welfare (MHLW) approved the product in this indication in March 2013. In August 2013, the product was approved in the European Union.

In February 2013, the FDA approved Stivarga™ to treat patients with locally advanced, unresectable or metastatic gastrointestinal stromal tumors (GIST) who have been previously treated with imatinib and sunitinib. In August 2013, Stivarga™ was approved by the Japanese MHLW for the treatment of GIST. In September 2013, the product was submitted for approval in this indication in the European Union.

Regorafenib is a compound developed by Bayer and co-promoted by Bayer and Onyx Pharmaceuticals, Inc., a subsidiary of Amgen Inc., in the United States. In 2011, we signed an agreement with Onyx under which that company receives a royalty on any future global sales of Stivarga™ in oncology.

Xofigo™ (active ingredient: radium-223 dichloride), a cancer drug jointly developed with Algeta ASA, Norway, received FDA approval in May 2013 to treat adult patients with castration-resistant prostate cancer (CRPC) with symptomatic bone metastases and no known visceral metastases. In November 2013, the product was approved in this indication in the European Union. In the United States, Xofigo™ is co-promoted with Algeta US, LLC.

We are jointly developing and commercializing our cancer drug **Nexavar™** (active ingredient: sorafenib) with Onyx Pharmaceuticals, Inc., United States. The successful active ingredient sorafenib, which targets both cancer cells and the vascular system of the tumor, has been registered for the treatment of advanced renal cell carcinoma since 2005 and hepatocellular carcinoma since 2007. We plan to develop the product beyond these two therapeutic areas with a broadly based life-cycle management program. Based on the clinical Phase III DECISION study, we submitted sorafenib to the European Medicines Agency (EMA) and the FDA in June 2013 for regulatory approval in the treatment of locally advanced or metastatic differentiated thyroid cancer refractory to radioactive iodine. The FDA granted this approval in November 2013 following a priority review. In September 2013, sorafenib was submitted to the Japanese MHLW for marketing authorization for the treatment of thyroid cancer. Sorafenib is also being investigated in Phase III registration studies as an adjuvant therapy following curative tumor resection in patients with renal cell carcinoma or hepatocellular carcinoma. We are also conducting Phase III registration studies in breast cancer.

Eylea™ (active ingredient: aflibercept) is our joint developmental project with Regeneron Pharmaceuticals, Inc., United States. Aflibercept blocks the natural growth factor VEGF (vascular endothelial growth factor), thus preventing the abnormal formation of new blood vessels that tend to leak blood. The medication is administered directly into the eye. Regeneron Pharmaceuticals holds exclusive rights in the United States, where Eylea™ is approved for the treatment of wet age-related macular degeneration (AMD) and treatment of macular edema secondary to central retinal vein occlusion (CRVO). Bayer markets the product outside the United States. Eylea™ has been approved since 2012 in Europe, Japan, Australia and additional countries for the treatment of wet AMD. In August 2013, the European Commission approved Eylea™ for the treatment of visual impairment due to macular edema secondary to central retinal vein occlusion (CRVO). In November 2013, Eylea™ was approved by the Japanese MHLW for the treatment of CRVO.

The first regulatory submissions in two further indications were made in November 2013: we applied to the EMA for approval of aflibercept in the treatment of diabetic macular edema (DME) and to the Japanese MHLW for approval in the treatment of choroidal neovascularization caused by pathologic myopia (mCNV).

In the area of hematology, a clinical Phase II/III trial with the developmental substance **BAY 86-6150** did not show the desired results and was discontinued ahead of schedule in May 2013. The trial investigated the efficacy and safety of the substance in people with hemophilia A and hemophilia B in whom antibodies to coagulation factors had developed.

We are not currently pursuing approval for the oral contraceptive **YAZ™ Flex Plus** in the United States.

New drug candidates for diseases with a high medical need

Five new drug candidates currently in clinical Phase I or II trials are at the focus of our early-stage development and are to be transitioned to Phase III trials as quickly as possible. Finerenone, a next-generation oral non-steroidal mineralocorticoid receptor antagonist, is being developed for use in cardiology. Finerenone is currently in clinical Phase IIb development for the treatment of worsening chronic heart failure and diabetic nephropathy. The second drug candidate in cardiology is an oral soluble guanylate cyclase (sGC) stimulator (BAY 1021189). A Phase IIb study in patients with worsening chronic heart failure began in November 2013. A Phase IIb program with the investigational new drug molidustat is under initiation for the treatment of cardiorenal syndrome in patients with anemia associated with chronic kidney disease and/or end-stage renal disease. In oncology, copanlisib, a novel, intravenous phosphatidylinositol-3 kinase (PI3K) inhibitor, was selected for accelerated development. We have also progressed toward the development of new treatment options for patients with gynecological diseases: sPRM (BAY 1002670) is a novel oral progesterone receptor modulator that shows promise in the long-term treatment of women with symptomatic uterine fibroids.

Some of our pipeline candidates are being developed for the treatment of serious, very rare diseases – also known as orphan diseases. For example, regorafenib was designated by the regulatory authorities as an orphan drug for the treatment of patients with gastrointestinal stromal tumors (GIST).

Bayer regards research into cancer stem cells as promising and is active in this area together with U.S.-based OncoMed Pharmaceuticals, Inc. Cancer stem cells are present in tumors and have typical characteristics of stem cells, such as self-renewal and differentiation potential. Cancer stem cells are those considered responsible for the genesis, metastasis and recurrence of cancer. However, Bayer is not active in the area of conventional stem cell research, which examines adult or embryonic stem cells.

Research and development expenditures in the **Consumer Health** segment amounted to €386 million (2012: €394 million), or 5.0% (2012: 5.0%) of segment sales.

In our **Consumer Care** Division, research and development activities at the product development centers in Morristown, New Jersey, United States, and Gaillard, France, focus on developing non-prescription (over-the-counter = OTC) products, medical skincare products and nutritional supplements to market maturity. Aligned to end consumers, our development strategies are geared toward expanding and improving our brand portfolio through new products, packaging and delivery forms. We also work to achieve reclassification of current prescription medicines as OTC products. We introduced a number of new product line expansions to various markets in 2013. They included new delivery forms and uses for existing brands such as Canesten™ and Bepanthen™/Bepanthol™.

The research and development activities of our **Medical Care** Division focus on blood glucose monitoring and the continuing development of contrast agents and medical equipment used in the diagnosis or treatment of various diseases.

At our two U.S. research and development locations for the Diabetes Care business unit – Tarrytown, New York, and Mishawaka, Indiana – we are focusing on strengthening our product lines and expanding into further attractive segments of the diabetes market. In 2013 we again launched a number of innovative products in key markets to meet the specific needs of people with diabetes. Examples included the Contour™ Next and Contour™ Link blood glucose meters in Europe and the new Contour™ Plus platform in selected markets in Europe, Africa and the Middle East.

The aim of our research and development activities in the area of contrast agents and medical equipment (Radiology & Interventional business unit) is to steadily improve our contrast agents and our contrast injection, thrombus removal and other vascular intervention systems in order to build on our leadership position. Our research and development centers are located near Pittsburgh, Pennsylvania, and Minneapolis, Minnesota, in the United States; in Berlin, Germany; and in Sydney, Australia. In 2013 we worked to expand the capabilities of our informatics product offerings by developing new software and informatics to improve contrast agent and radiation dose management.

In our **Animal Health** Division, we focus our research and development activities on antiparasitics, antibiotics and medicines to treat non-infectious disorders. We operate R&D centers in Germany, the United States, New Zealand and Brazil. Our central research activities are conducted in Monheim, Germany, as part of our Life Sciences platform in conjunction with pharmaceutical research and in close collaboration with our researchers at CropScience. We reinforce the business through numerous external collaborations and by inlicensing product development candidates.

OPEN INNOVATION

Strategic cooperation in research and development

We gain access to complementary technologies and external innovation potential through strategic collaborations with partners. Our **Pharmaceuticals** segment works with various partners during the individual development stages of a medicine. A number of examples are listed below:

Pharmaceuticals Cooperation Partners [Table 3.5.3]

Partner	Cooperation objective
Algeta ASA	Codevelopment of radium-223 dichloride for the treatment of castration-resistant prostate cancer patients with bone metastases
Amgen Research GmbH	Access to BiTE™ antibodies for developing novel tumor therapies
Ardea Biosciences Inc.	Codevelopment of oncological products based on MEK (mitogen-activated ERK kinase) inhibitors
BioInvent International AB	Access to antibody library with antibody inlicensing option
Broad Institute	Strategic partnership in oncology to discover and develop active substances that specifically target tumor-specific gene mutations
Compugen Ltd.	Collaboration for the research and development of new immunotherapy approaches in oncology
German Cancer Research Center	Strategic partnership for the development of new therapeutic options in oncology and immunotherapy
Dyax Corp.	Access to antibody library with the option to inlicense antibodies for the development and commercialization of novel tumor therapies
EndoCeutics Inc.	Development of prasterone to treat vaginal atrophy and female sexual dysfunction
Evotec AG	Research collaboration to identify and validate development candidates in endometriosis
ImmunoGen Inc.	Cooperation in the field of antibody-drug conjugates (ADCs) for novel tumor therapies
Inception 4, Inc.	Research into new approaches for the treatment of various eye diseases
Janssen Research & Development, LLC of Johnson & Johnson	Development of Xarelto™ (rivaroxaban)
Ludwig Boltzmann Institutes	Research into lung vascular disease, especially pulmonary hypertension, and search for ways to treat heartmuscle weakness.
Nektar Therapeutics	Codevelopment of a targeted antibiotic inhalation therapy for lung infections (amikacin inhale)
Novartis AG	Development of a targeted antibiotic inhalation therapy for lung infections (ciprofloxacin DPI)
OncoMed Pharmaceuticals Inc.	Discovery and development of novel anti-cancer stem cell therapeutics
Onyx Pharmaceuticals Inc. of Amgen Inc.	Codevelopment of Nexavar™ (sorafenib) for various types of cancer
Peking University	Research cooperation and establishment of a joint research center
Prometheus Laboratories Inc.	Development of diagnostic in-vitro assays for personalized medicine
Qiagen Manchester Ltd.	Development of diagnostic tests in personalized oncology treatment
Regeneron Pharmaceuticals Inc.	Development of Eylea™ (aflibercept) to treat various eye diseases Development of a PDGFR-beta antibody for ophthalmology
Seattle Genetics Inc.	Cooperation in the field of antibody-drug conjugates (ADCs) for novel tumor therapies
Trius Therapeutics Inc. of Cubist Pharmaceuticals	Codevelopment of tedizolid to treat a range of infections
Tsinghua University	Research cooperation and establishment of a joint research center

In 2008 we entered into a strategic alliance with the German Cancer Research Center (DKFZ) in Heidelberg, Germany, focusing on the identification and early development of new therapeutic approaches for cancer. This collaboration is designed to turn new scientific findings about cancer into new medicines or therapies as quickly as possible. A total of 26 projects have been initiated so far that relate to biological target identification for drug discovery or to early drug discovery. In April 2013, we expanded the collaboration to include immunotherapy. The first projects in this field began in June 2013.

Also in June 2013, we concluded a new licensing agreement with Seattle Genetics, Inc., United States, in the area of antibody-drug conjugates (ADCs). Under this agreement, we will receive worldwide rights to utilize Seattle Genetics' special ADC technology for antibodies to several protein targets in the field of oncology.

In August 2013, we signed a collaboration and licensing agreement with Compugen Ltd., Israel, pertaining to the research, development, and commercialization of antibody-based therapeutics for cancer immunotherapy.

In September 2013, we entered into a strategic alliance with the Broad Institute, Cambridge, Massachusetts, United States, in the area of oncogenomics and drug discovery. The goal of this five-year collaboration is to jointly discover and develop therapeutic agents that selectively target cancer genome alterations.

In November 2013, we entered into a collaboration with Inception Sciences, Inc. and Versant Ventures, both in the United States, to conduct early research in the area of ophthalmology. The goal of the new alliance is to develop innovative treatment options for patients with eye diseases, such as wet age-related macular degeneration and geographic atrophy. This work will focus on a novel target and pathway and will be carried out by Inception 4, Inc., United States.

In January 2014, we signed an agreement with Regeneron Pharmaceuticals, Inc., United States, to jointly develop an innovative antibody to the platelet-derived growth factor receptor beta (PDGFR-beta) as a potential combination therapy with Eylea™ (aflibercept) for the treatment of wet AMD. The first clinical studies in this indication are scheduled to start in early 2014.

In January 2014, Bayer and Peking University, Beijing, China, signed a collaboration agreement on a three-year strategic partnership to promote translational research for drug discovery. Under this agreement, the two partners will establish a joint research center at Peking University.

Since 2009, we have operated the internet platform "Grants4Targets," through which researchers at universities, other research institutions or start-up companies can propose biological targets for study in collaboration with Bayer. In 2013 we expanded this platform to include two further initiatives – "Grants4Leads" and "Grants4Apps": "Grants4Leads" gives chemists and pharmacists the opportunity to submit biologically active molecules as leads for collaboration with Bayer. This program adds a chemical component to the biology-oriented Grants4Targets initiative. "Grants4Apps" is a portal for proposing IT solutions designed to enable a wide range of applications in the area of health care. Unlike the first two platforms, which are important for early research, "Grants4Apps" looks for applications that can be used from the research stage right through to commercialization. The program saw a very successful rollout in 2013, with 22 grants already awarded.

In 2012, we opened the CoLaborator™, a new center in the Mission Bay district of San Francisco with laboratory facilities for bioscience startup companies. With this incubator concept, the scientists benefit both from the laboratory infrastructure and from the expertise of the Bayer researchers, which can facilitate the professional, goal-oriented design of development programs, for example. At the same time, we aim to be the first contact point for young companies in their search for possible cooperation partners. A second CoLaborator™ is currently being established at the Berlin site.

CROPSCIENCE

In 2013, CropScience invested €857 million (2012: €779 million) in research and development, which was 26.9% of R&D spending in the Bayer Group and equivalent to 9.7% (2012: 9.3%) of CropScience sales.

CropScience maintains a global network of research and development facilities employing some 4,700 people. Our largest R&D sites for chemical and biological crop protection products are located in Monheim and Frankfurt am Main, Germany; Lyon, France; and Davis, California, United States. The major research centers of the Seeds unit, which focuses on improving seed through seed technology and breeding, are located in Ghent, Belgium; Haelen, Netherlands; and Morrisville/Raleigh, North Carolina, United States. While research is carried out centrally at a small number of sites, our development and plant breeding activities take place both at these sites and at numerous field testing stations across the globe. This ensures that future active substances and crop varieties can be tested according to specific regional requirements.

In **Crop Protection/Seeds**, our scientists working in the areas of seed technology, agricultural chemistry and biologics are closely collaborating as part of our integrated research approach. This bundles the technical expertise acquired in chemical and biological research and field development, aligning it to our long-term research objectives and business strategies for the various crops.

In the Crop Protection unit, we identify and develop innovative, safe and sustainable products for use in agriculture as insecticides, fungicides, herbicides or seed treatments. In the fields of chemistry, biology and biochemistry, modern technologies such as high-throughput screening and bioinformatics play an important role in identifying new chemical lead structures. Collaborations with external partners complement our own activities.

In January 2013, CropScience acquired the German agrochemical company Prophyta Biologischer Pflanzenschutz GmbH. The transaction enables CropScience to further expand its research and product pipeline in the area of biological crop protection. The acquisition is also intended to promote the development of a leading technology platform for biological products and strengthen the fruit and vegetables business.

We are broadening the range of uses for our active ingredients by developing new mixtures or innovative formulations of products already on the market so that they can be applied in additional crops or be made easier to handle.

In mid-2014 we will combine our U.S. research and development activities in vegetable seeds and biological crop protection products at a new, integrated site in West Sacramento, California. Our goal is to better exploit the potential of our global research and development capacities by merging and expanding activities.

We plan to launch several more new products based on biological and chemical crop protection mechanisms in the coming years. For example, in 2014 we plan to introduce an insecticide to control nematodes under the Verango™ and Velum™ trademarks. In 2015 we expect to launch a further insecticide under the Sivanto™ brand, a new insecticide class to control sucking insects, and begin marketing the herbicide Council™ and a biological fungicide.

Research in our Seeds unit is devoted to optimizing plant traits. We are developing new varieties in our existing core crops – cotton, oilseed rape/canola, rice and vegetables. We have now expanded our research activities to include two new core crops – wheat and soybeans. Our work focuses on improving the agronomic traits of these crops. Our researchers are working to increase the quality and yield potential of crop plants – for example, by improving the profile of rapeseed (canola) oil or enhancing the properties of cotton fibers. We are also targeting the development of plants that have high tolerance against external stress factors such as drought and can better utilize water. Further areas of focus include developing new herbicide tolerance technologies based on alternative modes of action, and improving insect resistance and disease tolerance. To do this we employ modern breeding techniques ranging from marker-assisted breeding to plant biotechnology methods.

In March 2013, CropScience acquired the soybean seed producer Wehrtec Tecnologia Agricola Ltda. and the soybean business of Agricola Wehrmann Ltda., both headquartered in Brazil. This transaction strengthens the research and development activities of CropScience in soybeans and contributes to the development of varieties tailored to the requirements of Brazilian soybean growers.

Also in March 2013, CropScience and Syngenta filed for approval of a new herbicide-tolerance soybean trait in various countries. The application is currently being reviewed by the regulatory authorities in the United States, Canada, and major soybean-importing regions, including the European Union. This trait gives soybean plants tolerance toward the three active ingredients mesotrione, glufosinate-ammonium (Liberty™) and isoxaflutole, and is an important new way to combat difficult-to-control weeds. Its estimated launch date is between 2015 and 2020.

In April 2013, CropScience and Monsanto Company, U.S.A., entered into licensing agreements for next-generation technologies in the field of plant biotechnology. Monsanto will provide CropScience with a royalty-bearing license to herbicide tolerance technologies in soybeans in the United States and Canada. In addition, CropScience will receive a royalty-bearing license to an insect-resistance technology in soybeans in Brazil with an option on a royalty-bearing license in other Latin American countries. CropScience will grant Monsanto licenses to evaluate technologies for corn rootworm control and herbicide tolerance.

In December 2013, CropScience acquired the start-up company FN Semillas S.A., headquartered in Argentina. Closing of this acquisition remains subject to regulatory approvals. FN Semillas S.A. specializes in the breeding, production and marketing of improved soybean seeds in Argentina. This acquisition marks CropScience's entry into the Argentinian market for soybean seeds.

In 2013 we also successfully launched Roundup-Ready™ hybrid canola seed in Australia and began marketing an oilseed hybrid in India. Here we introduced our mustard seed to the market.

Our proprietary glyphosate herbicide tolerance technology GlyTol™ has been available in FiberMax™ cotton seed varieties in the United States since 2011. In 2014, we plan to launch a new combination of insect resistance and herbicide tolerance for cotton containing both TwinLink™ and GlyTol™ technology, which will offer farmers integrated pest and weed control.

In the coming years we plan to market numerous new hybrid rice and canola varieties with improved stress and insect resistance under the Arize™ and InVigor™ trademarks.

With many crops, such as vegetables, major success can be achieved using conventional plant breeding methods. As vegetables are mostly intended to be marketed and eaten fresh, merchants and consumers have particularly strict requirements regarding their appearance, nutrient content, taste and shelf life. We are launching a succession of new vegetable seed varieties that satisfy these requirements.

Our integrated product pipeline for crop protection and seed technology contains more than 25 individual projects, along with numerous new seed varieties and improved products, that have estimated launch dates between 2011 and 2016. We believe these products have a combined peak sales potential in excess of €4 billion. Crop Protection plans to have launched around 10 products during this period. In our Seeds business, we plan to bring some 15 projects to market maturity for the broad-acre crops of cotton, oilseed rape/canola, rice, wheat and soybeans, along with several hundred new vegetable varieties, over the same period.

In **Environmental Science**, we evolve chemically and biologically based solutions for consumers and professional users by tailoring substances from our Crop Protection unit or external partners for use in non-agricultural scenarios. Current development projects include insect gels and baits, herbicides, fungicides and products for the control of disease-transmitting insects.

In 2013 Environmental Science expanded its range of biological solutions by adding to the Natria™ product line for the Bayer Garden™ business in the United States and Europe, and launched Harmonix™ Insect Control, the first biological insecticide for professional pest control, in the United States. The launch of Marengo™ for use on ornamental plants in the United States broadened our range of herbicides based on the active substance indaziflam. The golf course business was strengthened by the market launch of the fungicide Interface™ in the United Kingdom and South Korea and the herbicide Specticle G™ in the United States. The product range for professional pest control was expanded in numerous countries to include a new formulation of the insecticide Maxforce™.

ONLINE ANNEX: 3-5-BCS-1

On the European market we offer a mild weed control product based on fatty acids derived from palm oil. As the production of palm oil is often associated with social and ecological problems, Bayer joined the Round Table for Sustainable Palm Oil (RSPO) in 2012. This underscores our commitment to responsible materials procurement. Bayer purchases GreenPalm certificates, which support the production of sustainable palm oil.

OPEN INNOVATION

CropScience is part of a global network of research and industry partners from diverse segments of the agriculture industry, chemical and biological research, and the food industry. These cross-industry partnerships enable us to better understand and do justice to the needs of our customers over the long term. An example is the partnership between CropScience and the U.K.-based Innovative Vector Control Consortium (IVCC), which we extended by three years in 2012. We are cooperating with IVCC to develop new substances for use against mosquitoes that transmit diseases such as malaria and dengue fever.

ONLINE ANNEX: 3-5-BCS-2

Malaria, for example, remains one of the most dangerous tropical diseases and is the leading cause of mortality in children under the age of five. Bayer has played an active role in the fight against malaria for more than 50 years. We estimate that indoor and outdoor insect sprays and larvicides from CropScience provided protection for up to 70 million people against malaria and for up to 30 million people against dengue fever in 2013. Dengue is currently the fastest-spreading mosquito-borne disease in tropical regions.

CropScience is a leading producer of indoor insecticide sprays to control malaria mosquitoes. Over the past three years, the Environmental Science product Ficam™ has played a particularly important role in controlling mosquitoes resistant to pyrethroids.

In 2013 these activities reached an important milestone: The World Health Organization issued a recommendation for a new, long-acting and thus more cost-effective, deltamethrin-based spray insecticide that offers a possible alternative to the older insecticide DDT (dichlorodiphenyltrichloroethane) for indoor use. It is planned to introduce the product in selected Sub-Saharan African countries and other malaria-endemic areas in 2014 as soon as the respective national approvals have been obtained.

CropScience also maintained its wheat research collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia. This strategic collaboration, which began in 2009, is aimed at raising wheat yields and thus boosting global wheat production in the long term.

However, it is a long way from the breeding, cultivation and protection of crop plants to the production of healthy food products with a good shelf life and their distribution to retailers. Special mention should therefore be made of our food chain partnerships, in which CropScience supports all the players in the food chain – from farmers and food processors to importers, exporters, wholesalers and retailers. CropScience has initiated food chain partnership projects for over 40 crops in more than 30 countries, mainly in Asia, Latin America and Europe. Our experts advise farmers on sustainable growing methods – from seed selection and the controlled, eco-friendly use of crop protection products to the transparent monitoring of production.

Our cooperation with partner organizations in joint projects is now an internationally successful business model for all participants in the food chain. Small farmers in developing and emerging economies draw particular benefit from the improved production and marketing structures. In 2013 we continued to expand our partnerships in Latin America. An example is the project in Chile in which we work together with Walmart and lettuce growers to ensure the traceable production of lettuces. In Peru we are currently collaborating with PepsiCo and potato farmers to ensure sustainable potato chip production that conserves natural resources, creates value for developing communities and makes potato-growing more efficient by optimizing the use of crop protection products.

MATERIALSCIENCE

In 2013, MaterialScience spent €208 million (2012: €241 million) for research and development. The subgroup thus accounted for roughly 6.5% of the Bayer Group's R&D expenses. The ratio of R&D expenses to sales in the subgroup itself was 1.9% (2012: 2.1%). In addition, MaterialScience spent €97 million (2012: €115 million) on joint development projects with customers.

A total of about 1,100 people were employed in research and development in 2013, many of them at Innovation Centers in Leverkusen, Germany, and Pittsburgh, Pennsylvania, United States, or the new facility for the Asia/Pacific region that opened in Shanghai, China, in 2013. This increase in our local presence is aimed at bringing research and development even closer to our customers in the Emerging Markets.

Our activities in the **Polyurethanes (PUR)** business unit focus partly on the continuing development of polyurethane rigid foam as a highly efficient insulating material for buildings and refrigerated appliances. Our principal goal in this respect is to further improve the material's insulating and flame retardancy properties. Among the most recent innovations is an especially fine-pored foam with up to 10% lower thermal conductivity than conventional polyurethane rigid foam.

Our research and development activities are also directed toward meeting the growing demand for added comfort. Our innovative solutions in this area include viscoelastic polyurethane flexible foam that is increasingly being used in furniture and mattresses.

We have made significant progress in recent years in the area of process development. We are currently working with carbon dioxide as a new source of carbon for polyurethanes to make us less dependent on petrochemical raw materials. In 2013 we completed the "Dream Production" research project in this field. We also pressed ahead with plans for the commercial exploitation of this new technology.

Our research and development activities in the **Polycarbonates (PCS)** business unit are geared to the development of new products – mainly for the automotive and electrical/electronics industries – that help to reduce weight, improve energy efficiency and safety, and increase design freedom.

Materials we have developed and introduced for the consumer electronics sector include extra lightweight, glass-fiber-reinforced materials for ultramobile laptop computers and other applications.

For the automotive industry, we are developing not only lightweight solutions but also materials and systems for high-quality, individual car interior designs. Here the "DirectCoating/DirectSkinning" technology co-developed by MaterialScience enables the efficient manufacture of coated components in a single production step. We also offer sustainable solutions for car bodies, laptop housings and other items using recycled plastics.

In the **Coatings, Adhesives, Specialties (CAS)** business unit, we are driving the development of raw materials for high-performance polyurethane coatings, adhesives and sealants. These are used in areas such as renewable energies, mobility and infrastructure facilities, as well as for textiles and sporting goods.

Our development activities are directed toward eco-friendly products that consume less resources and can be more efficiently applied. Here we are concentrating on low-solvent, solvent-free and waterborne systems. The use of renewable raw materials is also playing an increasingly important role. In addition to the conventional application areas, we aim to open up lucrative market segments by continuously evolving our product and technology portfolio.

Our activities in Functional Films center on products based on polycarbonates or thermoplastic polyurethanes, into which holographic functions can also be incorporated for attractive markets such as 3D flat screens.

OPEN INNOVATION

In line with the open innovation approach, MaterialScience collaborates with external scientific institutions and with academic spin-offs and start-up companies. These collaborations are mainly based in Europe, the United States, China or Japan. They focus on areas such as renewable raw materials and energies, and new composite materials for lightweight construction.

Our partners include RWTH Aachen University in Germany, with which we jointly operate the CAT Catalytic Center, as well as Tongji University in China and several institutes of the Chinese Academy of Science. In the United States, too, we support research activities at renowned universities such as Pennsylvania State University, Case Western Reserve University, Carnegie Mellon University, Virginia Polytechnic Institute and State University. Key areas here include functional materials, renewable raw materials and fundamental subjects such as new crosslinking mechanisms for polymers.

In the scientific field, we take either a leading or an advisory role in numerous publicly funded projects, as in the area of "sustainable chemistry" in the German research cluster SusChemSys and in the program run by the German Federal Ministry of Education and Research aimed at using CO_2 as a building block for plastics. We also participate in industry associations and other specialist bodies such as the German Chemical Society (GDCh), the DECHEMA Society for Chemical Engineering and Biotechnology in Germany and the American Chemical Society.

Our innovation capability is also spurred by collaborations with customers or other industry sectors. Examples here include the "future_bizz" corporate network or "CLIB2021," which is concerned with renewable raw materials. We aim to work with the best partners from the industry sectors that are important to us in order to combine competencies and turn them into innovations.

BAYER TECHNOLOGY SERVICES

Technology Services supports all Bayer subgroups with technology platforms

Bayer Technology Services is an important innovation partner to the subgroups in the areas of technological development, plant construction and production. All Bayer subgroups work closely with this service company worldwide on technology solutions, particularly in the fields of process technology, engineering, and the safe and efficient operation of production facilities.

ONLINE ANNEX: 3-5-4

Together with the subgroups, Technology Services is developing process technology, biotechnology and systems biology platforms to support the research, development and production of new products and applications, with the focus on open innovation. Development activities at the INVITE research center, a collaborative venture with Dortmund Technical University, include work on new flexible, modular production concepts. At the Joint Research Center on Computational Biomedicine, a collaboration with RWTH Aachen, computer-assisted models and methods for investigating fundamental biological mechanisms are researched and developed for clinical use together with Aachen University Hospital.

6. Sustainability

To us, sustainability basically means future viability and it forms an integral part of our business strategy. We are convinced that we can only achieve lasting commercial success if we balance economic growth with ecological and social responsibility.

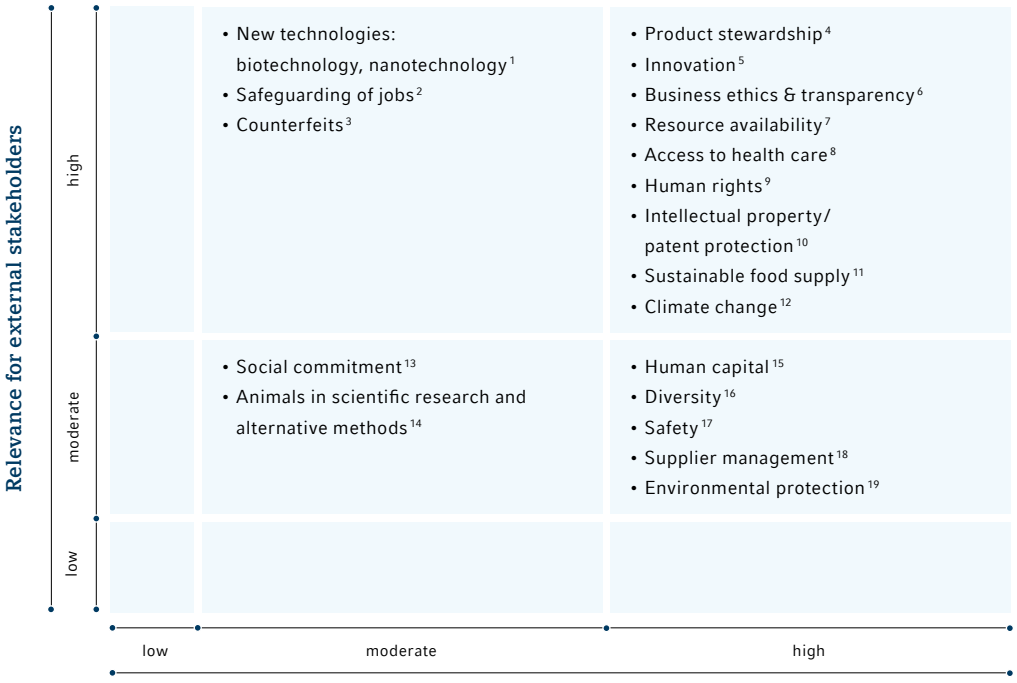
Responsible business practices are the foundation of the Bayer Group's sustainable alignment. We can identify and mitigate risks at an early stage by implementing this alignment in the areas of compliance (e.g. anti-corruption and responsible marketing), human resources policy, product stewardship, health, environmental protection and safety, and supplier management. This is one of the key requirements for society's acceptance of our business. On this basis, we aim to contribute to overcoming global challenges with our innovations, and in so doing develop additional business opportunities.

In addition, we identify opportunities and risks by analyzing the expectations of important stakeholders. We match these up with our own assessment, thereby deriving the relevant fields of action for Bayer. We document the findings in a materiality matrix.

ONLINE ANNEX: 3-6-1

The analysis takes place through regular dialogue with and surveys of external and internal stakeholders. Within the context of a stakeholder process, we examined, restructured and refocused the existing materiality matrix in 2011 together with an international think tank. This process involved external surveys, internal workshops, benchmarking and analyses. We are planning a new materiality analysis for 2014.

Essential Fields of Action [Graphic 3.6.0-1]



[1] New technologies: managing risks & opportunities
[2] Commitment to job security
[3] Fighting health risks posed by counterfeits
[4] Product safety, REACH, monitoring impact of endocrines and active ingredients in the environment, HCFCs and withdrawal of WHO Class I products
[5] Innovation to meet customer and societal needs
[6] Incl. compliance, integrity, anticorruption, responsible marketing & sales practices
[7] Promoting energy efficiency, efficient resource use (e.g. water, energy) and switch to renewables where possible
[8] Facilitating greater access to health care through R&D, differentiated pricing, patent protection, collaboration etc.
[9] Respect and promotion of human rights throughout the value chain, incl. the abolition of child labor
[10] Safeguarding IP while providing access to products and innovations
[11] Contributing to sustainable food production, supply and availability
[12] Climate protection through mitigation & adaptation
[13] Social investment and social volunteering programs
[14] Reduced use of animals where possible, commitment to welfare of animals as part of scientific R&D process
[15] Comprises employee training & development, remuneration, benefits, recruitment, retention
[16] Ensuring a sound diversity of gender, ethnic background etc. of employees
[17] Ensuring occupational, process & plant and transportation safety
[18] Promoting fair and constructive relations and influencing sustainable behavior in the supply chain, incl. ESG performance and human rights
[19] Reducing environmental impacts of products and processes on water, air, soil, supporting biodiversity

Our stakeholder engagement, i.e. the integration of different target groups, provides an important basis and is necessary for better mutual understanding.

ONLINE ANNEX: 3-6-2

As a socially engaged, globally active company, we know that this understanding can only be achieved through open and transparent dialogue with all relevant stakeholder groups. We view a systematic stakeholder dialogue not only as an important foundation for acceptance, but also above all as a basic condition for enabling us to understand and analyze the viewpoints and expectations of our stakeholders at an early stage. We aim to create trust in our work, and take the views of our stakeholders seriously.

We seek targeted dialogue both with stakeholders who are directly impacted by our business activity and with those who for their part directly or indirectly exert influence on our operations. We divide the main stakeholders with whom we interact into four groups: partners, financial market participants, regulators and a wide variety of social interest groups. Below we give an overview of our engagement with the various stakeholder groups relevant to us, drawing on selected examples from 2013.

STAKEHOLDER DIALOGUE AT BAYER

Bayer considers itself a part of society and of public life. Society's acceptance and appreciation of our corporate activities are therefore essential to our reputation and business success.

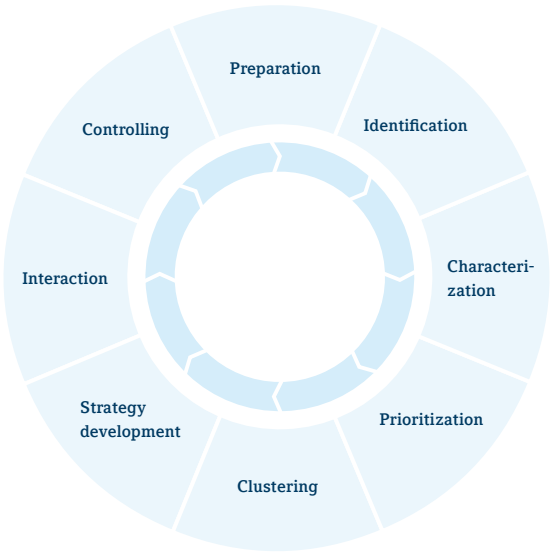
The influence of stakeholders has grown continually over the last few years. We are therefore seeking interaction with players relevant to us at local, national and international level.

In doing so, we evaluate various trends, opinions and suggestions to take these into account as far as possible in our commercial decision-making processes. The same applies when our assessments differ from those of our stakeholders and thus harbor a certain potential for conflict. Against this backdrop we have to find some flexibility in our decision-making through constructive discussions with representatives of our stakeholder groups. This approach helps us to identify social and market trends early, avoid risks, assess our contribution and thereby set focus areas for our activities.

At Bayer, we systematically involve our stakeholders using the stakeholder engagement process, which is set out in a manual for our employees. This process describes how – throughout the Group and on a project-by-project basis – stakeholder groups can be identified, their expectations charted and dialogue with them steered. The engagement process requires regular review and needs to be reflected against social trends. The focus is on objectives, personal commitment and an adequate consideration of the needs of target groups, as well as efficiency and effectiveness.

To ensure the long-term acceptance and appreciation of our corporate activities, we plan to link our stakeholder engagement even more closely to corporate strategy in the future. In the second half of 2012, we therefore launched a project whose initial phase includes a review of our current stakeholder engagement. As well as various workshops – including at top management levels – this involved conducting comprehensive benchmarking and best practice analyses. Based on the results from these, previous stakeholder activities and our experience with the Stakeholder Check (a tool for identifying and evaluating stakeholders in connection with new investment projects), we developed a new concept that concentrates on stakeholder engagement in investment projects and new product launches. We are currently conducting training in our subgroups to test the concept in practice and develop it further.

Stakeholder Engagement Process [Graphic 3.6.0-2]



Our current stakeholder activities range from targeted dialogue locally, nationally and internationally at both Group and subgroup level, through active participation in committees and specialist workshops, to comprehensive information programs and involvement in international initiatives and collaborations. We believe that stakeholder engagement is only successful when we adapt the form the dialogue takes to the individual stakeholder situation. Our stakeholder dialogue therefore includes both communication with the individual target groups and also issue-related multi-stakeholder events. We use surveys to determine which issues are particularly important to our stakeholder groups. For 2014 we are planning a review of the most significant issues for us, involving relevant stakeholders in the process. The next major Group-wide employee survey is scheduled for 2014.

We distinguish between four stakeholder groups with whom we have most interaction – partners, financial market participants, regulators and a wide variety of social interest groups. Selected examples from 2013 are elaborated on below to provide an insight into our involvement with the various stakeholder groups relevant to us.

OUR PARTNERS: CUSTOMERS, SUPPLIERS, EMPLOYEES, ASSOCIATIONS, UNIVERSITIES AND SCHOOLS

Customers

Our conduct toward customers is shaped in particular by a sense of responsibility. The long-term success of our company is essentially dependent on both the provision of innovative products, and a partnership-based relationship with our customers together with a high level of satisfaction on their part. In our view, products that satisfy customer demands while at the same time providing a benefit to society are the key to sustainability and business success. Our diversified business means that our products and customer structures vary greatly. The three Bayer subgroups have therefore put in place both specific systems for measuring customer satisfaction and their own complaint management systems.

HealthCare's divisions maintain their own active dialogues with target groups that vary significantly due to their portfolios. The sales organizations of the divisions carry out various satisfaction studies – for example with physicians from different disciplines, or with pharmacists and other partners in the health care system. Furthermore, customer studies are carried out and systematically evaluated so that we can better understand the needs of patients, health care staff, hospitals, wholesalers, and public and private payers.

However, different legal requirements apply for prescription medicines than for non-prescription or medicinal products. This makes the conditions under which customer satisfaction data are gathered in the health sector correspondingly complex. For example, patients may not be surveyed directly about the effects and side effects of prescription medicines. HealthCare therefore conducts primary market and data research.

The Global Market Research function in the Pharmaceuticals segment initiated a study in 2012 to evaluate the satisfaction of approximately 3,000 physicians in six countries. The second phase, which includes another six countries, was launched in 2013.

As the link to German customers, Bayer Vital, HealthCare's distribution company in Germany, tracks key success parameters relating to customer service issues. These include, for example, the observance of delivery dates and/or specifications on the part of external logistics companies, complaints concerning orders or deliveries and telephone availability. In this connection, various performance indicators were defined that provide information about availability and are analyzed.

At Animal Health, the methods for measuring customer satisfaction are dependent on the market segment. The division also carries out market research projects on specific disease-related issues and measures satisfaction with its own products.

Feedback and answers to questions about HealthCare products and services are made available online by the relevant business units and country organizations. In Germany, these include Bayer Vital and HealthCare Germany with the website www.gesundheit.bayer.de/de/service/kundenservice/index.php, in German only.

To enable it to ensure optimal service in the long term, the customer service center has a quality management system certified to ISO 9001:2008.

CropScience investigates the satisfaction of its customers using standardized surveys as part of its commercial excellence activities, among other tools. In addition, CropScience plans to completely overhaul its internal customer relationship management (CRM) processes by the end of 2014. The goal is to come to a new understanding of CRM that concentrates less on technical aspects but rather is more consistently aligned to customer requirements. Alongside the farmers, this new approach also focuses on distribution channels and disseminators in both complex, developed markets and smaller ones. A centralized, global CRM platform will also standardize core processes.

At MaterialScience, four regional Supply Chain Centers serve as the central link to the customer. This enables the pooling of all information streams from order acceptance to dispatch planning, delivery and complaint acceptance in the Europe/Middle East/Africa, Latin America, NAFTA and Asia/Pacific regions. Through the online information platform BayerONE, MaterialScience customers can check the status of their orders at any time.

The subgroup's supply, production and delivery processes are certified to DIN ISO 9001 and are regularly audited both internally and externally.

Customer satisfaction data are systematically compiled at MaterialScience, too. To ensure optimal quality of service, customers are surveyed, their complaints systematically evaluated in the global complaints management system, and the supplier evaluations performed by customers analyzed in detail. A new complaints management system was introduced in 2013 to enable complaints to be processed better and more quickly. The customer satisfaction analyses are conducted separately by the individual business units. The results flow directly into quality management and the continuous improvement process.

Suppliers

Procurement of products and services in differentiated markets and locations represents a particular challenge for our procurement organization. Dialogue with our suppliers is essential to ensure smooth production routines and should bring transparency into the business relationships and help build up reliable relations. Our goal is to enable our suppliers to better understand the principles of our procurement policy and our requirements, particularly as regards sustainability. In return, we would like to know more about the suppliers' situation, so as to be able first to identify obstacles and second to develop innovative solutions together. To this end, we again arranged numerous initiatives and events with our suppliers worldwide in the reporting year.

Together with other companies, we are active in the "Together for Sustainability" (TfS) initiative for greater sustainability in the supply chain. The newly developed website offers, for example, online training courses in various aspects of sustainability.

In 2013 HealthCare held Supplier Days in the Chinese cities of Shanghai and Beijing that focused particularly on sustainability. The Pharmaceutical Supply Chain Initiative (PSCI), assisted by HealthCare, held the first capability building conference for suppliers, focusing on occupational safety, in Rome, Italy, in May 2013. In July 2013, MaterialScience presented sustainability issues at a regional Supplier Day in Shanghai, China. Bayer's Indian national company again organized a local Supplier Day in Mumbai, India, in October 2013. During this event, the BayBuy Awards are presented every year, which include recognition of the most sustainable suppliers in India.

In September 2013, we introduced the Bayer Safety Award for contractors. This newly established prize for exceptional safety work is based on an initiative on the part of Procurement and HSEQ (Health, Safety, Environmental Protection, Quality) and is to be awarded for the first time in 2014.

In December 2013, the second Group-wide global town hall meeting of the Procurement Community took place at the Leverkusen site in Germany. Live transmission enabled colleagues at international sites also to take part. The town hall meeting provided the opportunity to put questions about sustainability in the supply chain directly to the relevant subgroup heads of procurement and to find out about current developments in supplier management.

Employees

The expertise and commitment of our employees safeguard our business success. To sustain such success, the Bayer Group needs a modern human resources and talent management organization with competitive structures and processes. This includes regularly providing up-to-date information to our workforce, as well as involving our employees through active and targeted dialogue.

Examples of Employee Dialogue [Table 3.6.0-1]

ACTIVE EMPLOYEE DIALOGUE AT ALL LEVELS	
CEO blog "What's important to me": intranet blog by Dr. Marijn Dekkers, Chairman of the Bayer Board of Management	Ongoing
"Bayer Talk" with the Chairman of the Board of Management	Once a year
Town hall meetings followed by a question-and-answer session	Quarterly with Chairman of the Board of Management Dr. Dekkers from company headquarters, broadcast to all Bayer sites worldwide, and at unspecified intervals in the subgroups and service companies as well
Global Leadership Conferences with workshops	At least once a year
Global employee surveys	Regularly, every 18 months; the next will be in March 2014
FORUMS FOR THE EXCHANGE OF INFORMATION ABOUT CHANGES IN THE COMPANY	
Information meetings for managerial employees	Regularly at company headquarters for the holding company and at all subgroups and service companies
Employee assemblies	Regularly, at unspecified intervals, at least once a year at German sites
European Forum: discussion between the Board of Management and Bayer employee representatives from all European countries where Bayer has sites	Once a year
DISCUSSIONS ON PERFORMANCE, MOTIVATION AND DEVELOPMENT PERSPECTIVES	
Mandatory feedback discussions as part of the Bayer Performance Management Process and the Bayer Development Dialogue	Ongoing
360° feedback for managers	Optionally on request as part of the Development Dialogue
EXAMPLES OF ISSUE-SPECIFIC DIALOGUES AND EVENTS FOR DIFFERENT EMPLOYEE GROUPS	
W11 dialogues: national and international stakeholders in discourse with Bayer's top management	Regularly, at unspecified intervals
Expert Club Meeting: exchange of experiences on the theme of innovation among the scientific network of experts comprising Bayer scientists from the R&D units and the member of the Board of Management responsible for Innovation, Technology & Sustainability	At least once a year
Process and Plant Safety Symposium with approximately 100 Bayer experts from around the world and international experts	Every two years
Global Safety Day	Every September
Continuing education events in the areas of compliance, human rights, sustainability in procurement, and diversity	Ongoing (see Online Annex 3-7-5)
Regular discourse in the global Public & Governmental Affairs Community on political developments and framework conditions relevant to the Group	Regularly
"Meet HR" series – staff from the HR department meet personally with employees to discuss key issues in more detail	Regularly in Germany, international roll-out launched
All subgroups hold issue-specific employee events worldwide.	Ongoing
MEDIA FOR EMPLOYEES	
Bayer Group publications: print and online	Employee magazines; intranet; numerous newsletters and occasion-related mailings, brochures, presentations, social media
Print and online media by the subgroups and service companies for their employees	Employee magazines; intranet; newsletters and occasion-related mailings, social media

Associations, universities, scientific institutions and schools

Alongside its business activities, Bayer is also an active member of numerous national, European and international associations and their committees, such as the Federation of German Industries (BDI), the German Chemical Industry Association (VCI), the German Equities Institute (DAI), the European Chemical Industry Council (CEFIC), BusinessEurope and the International Council of Chemical Associations (ICCA). Bayer also currently chairs econsense, German industry's sustainable development forum.

The Bayer subgroups are also involved in their respective trade associations, such as HealthCare in the European Federation of Pharmaceutical Industries and Associations (EFPIA), CropScience in the European Crop Protection Association (ECPA) and MaterialScience in PlasticsEurope. Along with general issues pertaining to particular areas, product stewardship and sustainability play an important role in many working groups.

Furthermore, scientists from our company maintain constant contact with renowned research institutions, support partnership projects in the public and private sectors (e.g. in rice cultivation with the International Rice Research Institute), hold teaching positions at universities around the world (e.g. in Germany and China) and regularly invite scientists and university and school students to various events, such as symposia on health issues and research days for schoolchildren. We also consider this involvement to be an investment in the next generation. As a research-oriented company, we are heavily dependent on well-trained and talented individuals and on society's acceptance of technology.

You can find more information on our comprehensive activities in dialogue with school and university students in Chapter 13 "Social Commitment."

REGULATORS: LEGISLATORS, AUTHORITIES, POLITICIANS

The underlying conditions in which our company operates are shaped by authorities, legislators and politicians. Our political stakeholders include, in particular, political parties, ministries, subordinate authorities, foundations and political interest groups that have a decisive influence on the framework conditions in which our business operates. At the same time, they have an interest in industry's expertise and economic contribution. Our active participation in political decision-making processes is not only democratically legitimate, it is also explicitly called for by essential players, for example through committees and expert and working groups.

Our current dialogues with authorities and ministries at local, national and international level include targeted discussions and active involvement in specialist workshops and cooperation projects.
It is vital to have a trusting collaboration with these institutions, as they play a key role in shaping the framework conditions for our business, through legislative decisions or permits, for example. Owing to the economic importance of the industry, representatives of political parties and institutions also have a keen interest in the expertise of and dialogue with representatives from our company, one example being the parliamentary evenings that the Foundation for World Population organizes together with HealthCare.

Lobbying

In its Group Regulation "Code of Conduct for Responsible Lobbying," Bayer sets out clear and binding rules for its involvement in political matters, aiming to ensure transparency in collaborations with the representatives of political institutions. Within the Group, the Public and Governmental Affairs Committee is responsible for the strategic planning of Bayer's political work. This especially includes dealing with specific political questions, as well as developing the company's political positions.
In 2013 Bayer's political lobbying again focused on the acceptance of products and technologies in society, fostering and recognizing innovation, sustainable health care systems, chemicals and energy policy, and climate protection.

WWW.BAYER.COM/EN/POLITICAL-PRINCIPLES.ASPX

For more on our political principles see WWW.BAYER.COM/EN/POLITICAL-PRINCIPLES.ASPX

Our liaison offices in Berlin, Brussels, Washington, Moscow, São Paulo and Beijing are key points of contact between our company and the political arena. In 2013 we spent €0.8 million on our liaison office in Berlin. That figure comprises personnel, operating and project costs. Bayer was one of the first companies in the life sciences sector to allow itself to be entered in the European Commission's lobby register and discloses the relevant costs of its lobby work at E.U. level (approximately €2.8 million in 2013). In accordance with our Bayer Group Regulation "Code of Conduct for Responsible Lobbying," we enter ourselves in every transparency register set up by governments, regardless of whether entry is voluntary or legally required, as in Austria since the start of 2013. Should a similar initiative be introduced in Germany, Bayer will participate in such a register there, too.

In the United States, Bayer discloses its lobbying costs in several public databases. In keeping with our Group Regulation, we have committed not to make any direct donations to political parties, politicians or candidates for political office. However, some associations to which we belong make donations on their own initiative, in compliance with statutory regulations. In the United States, companies are legally prohibited from donating to political candidates directly. However, some of our employees there utilize the opportunity to support candidates for parliamentary office by making private donations of their own funds via the Bayer Corporation Political Action Committee (BayPac). Political action committees in the United States are state-regulated, legally independent employee groups. Consequently, such donations are not donations made by the company. The BayPac contributions are regularly reported to the U.S. Federal Election Commission and can be viewed on its website.

FINANCIAL MARKET PARTICIPANTS: INVESTORS, BANKS, INSURANCE COMPANIES, RATING AGENCIES

Intensive dialogue with the capital market is a high priority for Bayer. In our dealings with analysts, investors and rating agencies, we aim to increase the market value of the company and contribute to achieving an appropriate credit rating. These efforts are focused on ensuring a comprehensive, consistent and prompt exchange of information between the company and the various members of the financial community. The top priority of our work in this area is to achieve a fair valuation of Bayer.

We further intensified our investor relations activities, such as broker conferences, "Meet Management" conferences, roadshows and field trips in the past year. Bayer was present in a total of 25 financial centers in 2013. You can find out more under "Investor Information."

We also regularly exchange ideas with analysts and investors from the field of sustainable investments. For example, we took part in a conference on Sustainable Responsible Investment (SRI) in 2013, and discussed inquiries from sustainability-focused financial market players in specific telephone conferences.

SOCIAL INTEREST GROUPS: NON-GOVERNMENTAL ORGANIZATIONS, PUBLIC, LOCAL COMMUNITY, COMPETITORS

Non-governmental organizations (NGOs)

Bayer is involved in a variety of projects, thematic initiatives and specialist conferences at a national and international level to play an active role in the common task of shaping sustainable development. This also includes collaboration with non-governmental organizations and international organizations on various global issues such as nutrition (e.g. Society for International Cooperation), climate protection (e.g. U.N. Global Compact's "Caring for Climate" initiative) or the following example in the area of family planning.

International Dialogue on Population and Sustainable Development: The issues of population and sustainable development have been the subject of increased debate around the world since the United Nations Millennium Development Goals were first formulated in 2001. HealthCare works toward achieving these development goals as a private-sector partner, maintaining close contact with governments and non-governmental organizations. To promote networking between the various players and provide a forum for discussing reproductive health issues, HealthCare since 2002 has organized together with a number of development policy organizations a series of conferences entitled "International Dialogue on Population and Sustainable Development." The partner organizations include the non-governmental organization International Planned Parenthood Federation (IPPF), the German Society for International Cooperation (GIZ) and, the German Foundation for World Population (DSW).

The goal of this international conference is to share experiences and opinions, discuss strategies and – based on the results of the conference – draw up recommendations to assist political decision-makers. Held annually in Berlin, the themes for this two-day event are decided jointly with the various partners and protagonists. In 2013 the participants discussed the future prospects for a strong young generation. To satisfy the need for intensive exchange and for the largest possible participation, the format of the event has changed over the years. The spectrum now ranges from panel discussions and expert meetings to interactive stakeholder forums. The establishment of the "World Café of Possibilities" created an additional discussion forum that involves the participants even more intensively.

Public / local community

The communities near our sites play a key role in our success. For this reason, we endeavor to be recognized at all of our sites as a reliable partner and attractive employer that meets its social responsibility.

MaterialScience: In spring 2013 a citizens' forum was launched in connection with the planned MaterialScience carbon monoxide pipeline between the Dormagen and Krefeld-Uerdingen sites in Germany. The goal of this was to further intensify the sharing of information and dialogue with the local communities around the pipeline. Headed by an external communications agency, this round table should provide a platform for exchanging and explaining facts and information about the project. In doing so, Bayer is emphasizing the importance of objective and expert discussion. The aim of the CO Dialogue Forum is to be fair to all stakeholders as far as possible – including those who are opposed to the project. More information is available online at WWW.PIPELINE.BAYER.DE (in German only).

Public debate is also focusing on another, existing pipeline that supplies production facilities at the Leverkusen site with carbon monoxide from Dormagen. MaterialScience has been operating this pipeline with CO since 2002. It is part of a pipeline bundle, running mainly on the left bank of the Rhine and crossing beneath the Rhine to the Leverkusen site in what is known as a culvert. The pipeline is approved by the authorities, is continually monitored and regularly inspected. Chemical park operator Currenta and MaterialScience informed the public about this in its presentation of the planned construction of a new culvert. As part of a project at the Dormagen site in Germany lasting several years, MaterialScience is building a new large-scale plant for the production of the chemical toluene diisocyanate (TDI). The company has pursued an active information policy since the start of planning at the end of 2008. This includes an open dialogue with the relevant stakeholders. During the permit process, MaterialScience thus sought dialogue on numerous occasions with environmental groups, politicians, residents, citizens' groups and media representatives among others. After submitting the permit documents to the Cologne district authority, MaterialScience held an information week in May 2011 to provide information about the current status of the project. In February 2012, the Cologne district authority issued MaterialScience with early planning permission. The final approval was granted at the beginning of 2013, with start-up now scheduled for the second half of 2014.

Our information policy includes regular news releases on the project's progress. MaterialScience has also set up a special website WWW.MATERIALSCIENCE.BAYER.DE/EN/PROJECTS-AND-COOPERATIONS/TDI-PROJECT.ASPX containing detailed information about the construction project. This site can also be used to ask questions.

& WWW.MATERIALSCIENCE.BAYER.DE/EN/PROJECTS-AND-COOPERATIONS/TDI-PROJECT.ASPX

CropScience: The safety of its production facilities is also of vital importance to CropScience. As part of the "Safety dialogue," experts at the Dormagen site explain to interested citizens what safety measures the companies based at the CHEMPARK site there undertake. CropScience also regularly uses forums, print media, and personal discussions with citizens' initiatives, representatives of the church communities and the regional press to keep its neighbors at the Frankfurt-Hoechst and Knapsack sites in Germany informed.

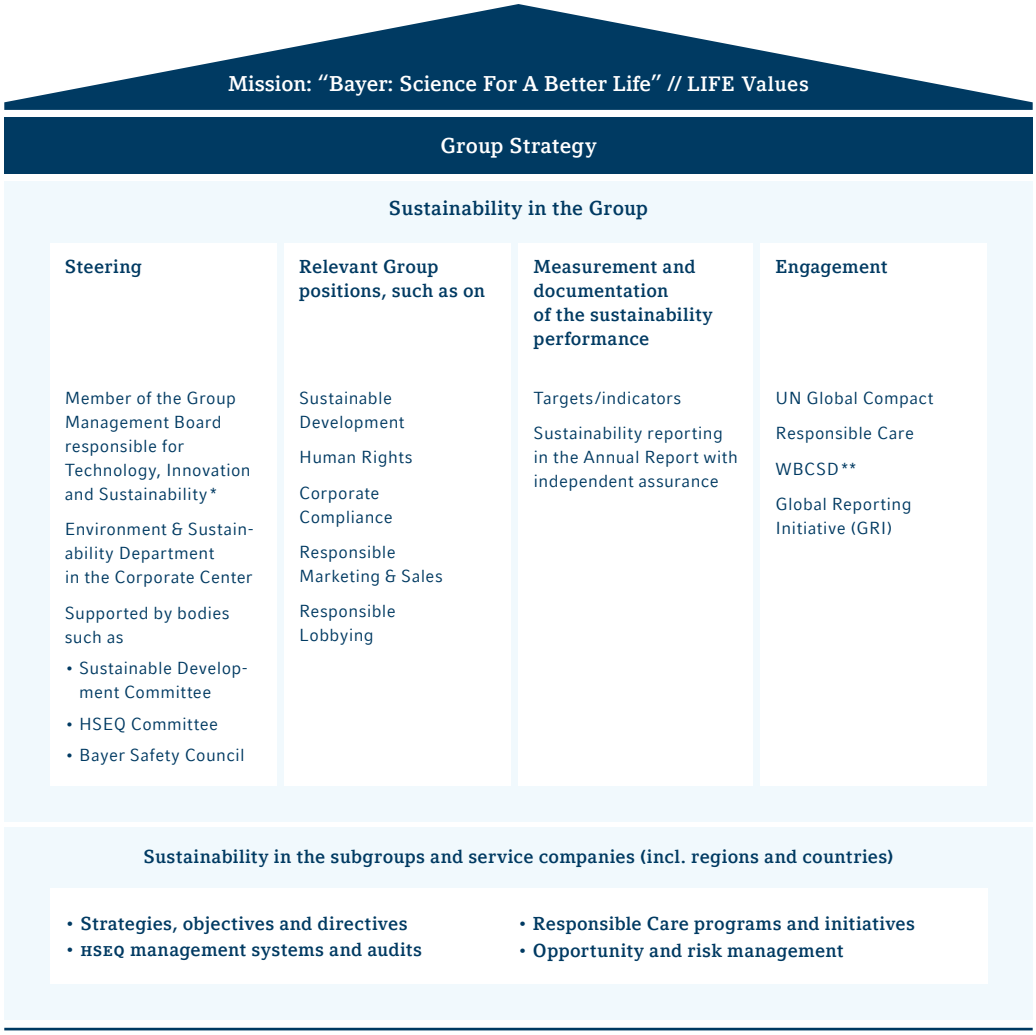
Currenta: Local dialogue at the Lower Rhine sites (Dormagen, Krefeld-Uerdingen, Leverkusen) is supported by the new Currenta neighborship offices, which opened in mid-2013.

SUSTAINABILITY MANAGEMENT AND STEERING

Responsibility for steering and aligning our Group-wide sustainability strategy lies with the Group Management Board member responsible for Innovation, Technology and Sustainability in his function as Chief Sustainability Officer of the Bayer Group, and with the Group Sustainable Development Committee chaired by the Head of Environment & Sustainability in the Corporate Center.

ONLINE ANNEX: 3-6-3

Integration of Sustainability at Bayer [Graphic 3.6.0-3]



* from April 30, member of the Group Management Board responsible for Human Resources, Technology and Sustainability
** World Business Council for Sustainable Development

The committee identifies and evaluates sustainability-relevant opportunities and risks for our company, sets targets, draws up initiatives, management systems and regulations and is responsible for monitoring.

Targets and indicators help us to operationalize our strategy and make it measurable. In 2013 we adopted an ambitious program of non-financial objectives that comprises both new and further developed sustainability targets along the value chain (see Chapter 1.3 "Targets and Performance Indicators"). This replaces our previous program of targets for 2015, whose degree of achievement is elaborated on in detail online.

See Chapter 1.3

Internal Group regulations ensure the implementation of our sustainability principles in business operations. These principles are realized through corresponding management systems, regulations and processes at the subgroup level.

ONLINE ANNEX: 3-6-4

The internal Bayer Group regulations include above all the "Sustainable Development Policy," our "Human Rights Position," the "Corporate Compliance Policy," our "Supplier Code of Conduct," the "Responsible Marketing & Sales Policy," our "Directive on Process and Plant Safety," and positions, for example, on the key issues of climate, water and biodiversity.

www.annual-report2013.bayer.com/en/commitment-sustainability

To underline our mission as a sustainably operating company, we have committed to internationally recognized sustainability initiatives such as the U.N. Global Compact and the Responsible Care™ initiative, and we participate globally in leading (industry) forums such as the World Business Council for Sustainable Development (WBCSD).

7. Employees

Employee Data [Table 3.7.1]

	Dec. 31, 2012	Dec. 31, 2013
	in FTE	in FTE
Employees by region		
Europe	52,300	53,600
North America	15,300	15,200
Asia/Pacific	26,200	28,000
Latin America/Middle East/Africa	16,200	16,400
Employees by corporate function		
Production	45,700	45,800
Marketing and distribution	42,300	44,500
Research and development	12,900	13,700
General administration	9,100	9,200
Total	**110,000**	**113,200**
Apprentices	2,500	2,500
	%	%
Proportion of women in senior management	23	25
Proportion of full-time employees with contractually agreed working time not exceeding 48 hours per week	100	100
Proportion of employees with health insurance	94	95
Proportion of employees eligible for a company pension plan or company-financed retirement benefits	70	72
Proportion of employees covered by collective agreements on pay and conditions	53	55

2012 figures restated
The number of employees on either permanent or fixed-term contracts is stated in full-time equivalents, with part-time employees included on a pro-rated basis in line with their contractual working hours.

SUSTAINABLE HUMAN RESOURCES POLICY

Bayer pursues a sustainable human resources policy. The objectives and principles are based on our corporate values, known by the acronym LIFE, which are valid throughout the world. LIFE stands for Leadership, Integrity, Flexibility and Efficiency. These values encapsulate the core elements of our corporate culture, which combines a strong focus on performance and development with a high degree of social responsibility. At the same time, they are a simple and practical guide for employees in their work. The LIFE values are therefore firmly integrated into our global performance management system, which covered more than 77,000 employees, i.e. about two-thirds of our workforce, in 2013. Participation is mandatory for all managerial employees, which means they are assessed partly according to how well they apply the four corporate values in the pursuit of their career goals. This factor can therefore affect their compensation. Of the employees whose performance was assessed regularly using this system, 40% were female and 60% were male.

EMPLOYEE DATA

On December 31, 2013 Bayer had 113,200 employees worldwide, 107,700 of whom had permanent employment contracts, while 5,500 had temporary contracts.

ONLINE ANNEX: 3-7-1

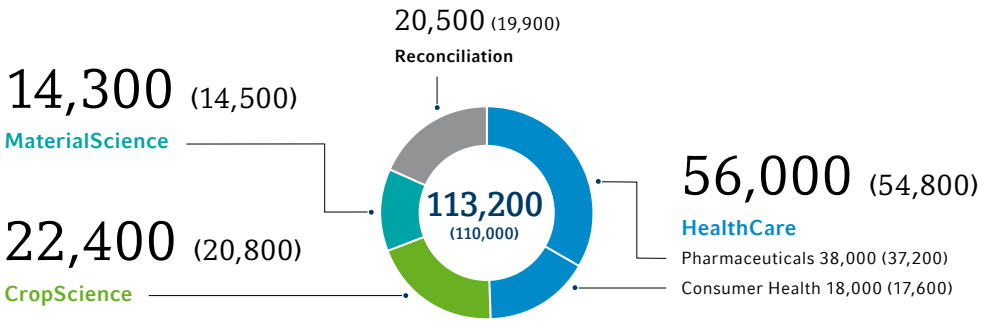
Employees* by Employment Status, Region and Gender in 2013 [Table 3.7.1-1]

	Permanent employees			Temporary employees		
	Women	Men	Total	Women	Men	Total
Europe	18,400	32,400	50,800	1,400	1,400	2,800
North America	5,700	9,300	15,000	100	100	200
Asia/Pacific	9,200	17,200	26,400	400	1,200	1,600
Latin America/Africa/Middle East	5,800	9,700	15,500	400	500	900
Total	**39,100**	**68,600**	**107,700**	**2,300**	**3,200**	**5,500**

* The number of employees on either permanent or fixed-term contracts is stated in full-time equivalents (FTE), with part-time employees included on a pro-rated basis in line with their contractual working hours.

Thus the headcount showed a slight increase of 2.4% from the prior year. In Germany we had 35,300 employees (2012: 34,600), who made up 31.2% of the Group workforce. HealthCare had 56,000 employees, CropScience 22,400 and MaterialScience 14,300. The remaining 20,500 employees, reported in the reconciliation, worked for the service companies or Bayer AG. In addition there were 2,500 (2012: 2,500) apprentices on the closing date who are not included in the Group total.

Employees by Segment [Graphic 3.7.1]



2012 figures restated
2012 figures in parentheses

In 2013 the Group-wide fluctuation rate, which includes employer- and employee-driven terminations, retirements and deaths, was unchanged at around 14%.

ONLINE ANNEX: 3-7-2

Employee Fluctuation* [Table 3.7.1-2]

	Women	Men	Total
	%	%	%
Region			
Asia/Pacific	21.8	16.7	18.5
Europe	10.7	9.1	9.7
Latin America/Africa/Middle East	16.7	15.2	15.8
North America	20.0	18.4	19.0
Total	**15.4**	**13.1**	**14.0**

* headcount

On a small scale, we also use personnel from staffing agencies in certain circumstances.

ONLINE ANNEX: 3-7-3

To enable us to respond flexibly to short-term personnel requirements caused, for example, by fluctuations in the order situation, temporary projects or long-term illness, in Germany we use personnel from staffing agencies. We only work with agencies whose employees are covered by a valid collective bargaining agreement entered into by organizations that belong to the German trade union confederation (DGB). In this way, we make sure that they receive the collectively agreed rates of pay. The proportion of temporary staff employed in Germany varies between 1% and 3% of the total workforce. Personnel from staffing agencies do not play a significant role at Group companies outside Germany either. Separate global data are not available.

TALENT MANAGEMENT AND FEEDBACK CULTURE

We are convinced that systematic people development is exceptionally important for the future success of our company. Group-wide talent management, in other words measures and tools to further our employees' professional and personal development, is therefore a key element in our human resources policy. The basic principle is that every employee has his or her own individual strengths and talents that deserve recognition and development in the workplace.

Vacancies in the Bayer Group, from non-managerial right up to senior management level, are advertised via a globally accessible platform. In 2013 we posted over 9,900 vacancies in 61 countries via this platform.

We believe regular feedback is necessary for the continuous development of our employees and our organization and that it helps us adapt to changing requirements. Alongside our performance management system, we use 360° feedback. This insight from colleagues and business associates is designed to foster the performance and leadership behavior of our employees and support their professional development.

Our most important feedback tool at the corporate level is our Group-wide employee survey. Every two years, this gives us competent feedback from our employees on our strategy, culture and working conditions. Since the last survey in 2012, we have launched a variety of initiatives and improvements worldwide to overcome the shortcomings identified in specific areas. The next employee survey is scheduled for spring 2014.

ONLINE ANNEX: 3-7-4

Many of the initiatives introduced throughout the world in 2013 aim to improve the feedback culture in specific organizational units and involve employees more closely in decision-making processes. The spectrum ranges from a new target picture for the 4,900 employees at Bayer Business Services through programs to recognize outstanding achievements by employees, and the introduction of home offices, to new information and dialogue offerings in many areas of the company and innovative video blogs for members of the field force.

Our Development Dialogue is an ideal link between feedback, which is based on the present situation, and long-term career planning. Employees discuss their strengths and development needs, career expectations and aspirations with their direct supervisor with the objective of agreeing on a personal development plan to enable them to realize their potential within the company.

Once a year our managers are required to conduct the Development Dialogue with their employees – last year this was done nearly 24,000 times throughout the Group. The results are documented in our global employee portal.

ADVANCING KNOWLEDGE AND LEADERSHIP SKILLS

Fostering our employees' "lifelong learning" is a central element of both people development and the management of demographic change at Bayer. Our aim is to empower all employees to continuously refresh and expand their knowledge and skills in all phases of their working lives.

ONLINE ANNEX: 3-7-5

Our education and training activities comprise a wide range of work-related programs that enable employees to broaden and update their specialist knowledge and abilities or acquire new skills, for example by learning a language or acquiring leadership competencies. In addition, the goal of the Bayer Academy, which launched its first modules in 2013, is to provide systematic training for managers throughout the Bayer Group and to harmonize function-related continuing education and training worldwide and make it available to all employees.

Examples of Continuing Education [Table 3.7.1-3]

BAYER ACADEMY	
Leadership training, general management training	Global/Group-wide
KNOWLEDGE AND SKILLS TRAINING IN SPECIFIC AREAS	
Introduction to the company	
Leadership skills	
Communication, working methods and project management	
Business administration and law	
Marketing, sales and customer focus	
Languages and intercultural skills	
Information technology and SAP	
Research, production and technology	Global/Group-wide
GROUP FOCUSES	
Corporate compliance, anticorruption	
Human rights	
Changes in technology (Personalized Workplace Program)	
Supplier management/Supplier Code of Conduct	Global/Group-wide
SUBGROUP PROGRAMS	
Occupational safety (PEGASUS)	
Fit in Production (FIP)	Global/subgroup-wide
CONTINUING EDUCATION OFFERINGS FOR EMPLOYEES OUTSIDE WORKTIME	Local/national

At the heart of our employee training concept is the Bayer Academy, within which the extensive range of continuing education opportunities is systematically organized. The Academy's Group-wide roll-out began in 2013. It comprises two principal areas, a Leadership & General Management Academy for managers and various functional academies focusing on a wide range of topics and corporate functions. The functional academies are geared specifically to the continuous professional development of our employees. In many countries, including important Emerging Markets such as China and Brazil, national versions of the Bayer Academy are already fully operational.

ONLINE ANNEX: 3-7-6

The aim of the Leadership Academy introduced in 2013 is to place management training on a systematic footing and establish a common understanding of leadership throughout the Bayer Group. In the first year, more than 2,500 employees worldwide attended the management training seminars run by the Leadership Academy.

Functional academies harmonize function-specific ongoing training offerings across the Bayer Group and make them available to all employees in the function. The academy concept therefore also provides impetus for the internationalization of our ongoing training programs and for sharing knowledge and experience within functions. One good example is the new Bayer HR Academy for human resources professionals, which started operating in November 2013.

Our management training also addresses important subject areas.

› ONLINE ANNEX: 3-7-7

To strengthen the Leadership component of LIFE and promote performance orientation in the company, we have developed a Group-wide training program called "Enhancing Performance & Feedback Culture (EPFC)". This is designed to support our managers in regularly giving their employees candid and constructive feedback on their work and conduct. The goal is to establish a true feedback culture throughout the enterprise that promotes individual strengths, addresses existing deficits and thus enhances employees' personal and professional development over the long term. EPFC training is mandatory for employees with personnel responsibility and has now been completed by almost 13,000 managers worldwide. Two years after its introduction, there has been a clear increase in the ability and willingness of our managers to give a differentiated evaluation of their employees' capabilities in the annual Performance Management Process.

Innovation ranks alongside feedback and diversity as part of our corporate culture. A new workshop format, "Leading Innovation," has therefore been added to our management training on aspects of strategic corporate development to foster individual innovative capability. Since the introduction of this series of workshops in 2012, it has been used to train approximately 570 members of the Group Leadership Circle and other selected managers in the strategies and methods of effective innovation management.

Harmonization of our employee training concept in the Bayer Academy also helps us to better report on participation rates. We currently compile data on the main training activities in the twelve largest countries through our global training reporting system. Last year, employees in these countries received between eight and 42 hours of continuing education and training according to need. The average was 17.8 hours per employee across these twelve countries, with women taking an average 23.3 hours of training and men 18.5 hours. These averages do not include figures for the United States or Japan as statutory regulations preclude differentiation by gender in these countries.

EMPLOYEE COMPENSATION AND BENEFITS

An important principle of our human resources policy is linking employees' compensation to their performance and enabling them to share in the company's success. Regular benchmarking against competitors and a globally standardized system help us to set basic salaries in line with the demands and responsibilities of each position. These salaries are supplemented by performance-related compensation components and extensive ancillary benefits. We attach great importance to avoiding gender-based inequality, providing fair compensation worldwide and informing our employees transparently about the overall structure of their compensation.

› ONLINE ANNEX: 3-7-8

Our compensation system does not differentiate between men and women. At Bayer, individual salaries are based on each employee's personal and professional abilities and the level of responsibility assigned to them. At managerial level, this is based on uniform evaluation of all positions throughout the Group using the internationally recognized Hay method. In areas of the Group and jobs that fall within the scope of binding collective bargaining agreements, there are no differences in pay based on gender either. This also applies for the compensation of apprentices.

In the Emerging Markets and developing countries, too, compensation is aligned to local market conditions. In keeping with our Human Rights Position, our aim is to pay our employees adequate salaries that ensure they and their families have an appropriate standard of living. In all Emerging Markets where Bayer has a significant presence, the lowest salary paid by Bayer is at least in line with the applicable minimum wage and in most cases higher.

To provide a transparent overview of their compensation, including all additional benefits provided by the company and employer pension and social insurance contributions, some 29,000 employees worldwide now receive an extensive annual compensation and benefits statement containing all relevant information. We intend to extend this service to employees in a total of 17 major countries in the coming year.

Under our Group-wide Short-Term Incentive program alone, variable one-time payments totaling more than €650 million are earmarked for our employees for 2013. In addition, various employee stock programs enable our staff to purchase shares in Bayer at a discount. In many countries, such employee stock programs are included in our extensive range of ancillary benefits, giving employees an additional opportunity to share in the company's business success. We also offer senior and middle managers throughout the Group uniform stock-based compensation programs known as "Aspire" (see Note [26.6] to the consolidated financial statements). These are based on ambitious earnings targets and – in the case of Group Leadership Circle members – require an appropriate personal investment in Bayer stock. In 2013 our personnel expenses amounted to €9,430 million (2012: €9,194 million). The increase was mainly due to higher employee bonuses and salary adjustments.

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ONLINE ANNEX: 3-7-9

Personnel Expenses and Pension Obligations [Table 3.7.1-4]

	2009	2010	2011	2012	2013
	€ million	€ million	€ million	€ million	€ million
Personnel expenses	7,776	8,099	8,726	9,194	9,430
of which pension and social security contributions	1,490	1,623	1,672	1,823	1,845
Pension obligations*	15,931	17,699	19,310	22,588	20,682

2012 figures restated
* present value of defined-benefit obligations for pensions and other post-employment benefits

HUMAN RIGHTS AND SOCIAL RESPONSIBILITY

Our social responsibility as a company and an employer is rooted in an unreserved commitment to support and foster human rights in our sphere of influence. Bayer's Human Rights Position is set out in a binding Group-wide regulation. We respect the United Nations' Declaration of Human Rights and are a founding member of the UN Global Compact. Bayer's mission statement, LIFE values and Corporate Compliance Policy commit all employees around the world to fair and lawful conduct toward staff, colleagues, business partners and customers.

To enhance our employees' awareness of the importance of human rights in their day-to-day activities, in 2013 we organized a variety of training seminars on the main aspects of our Human Rights Position. Courses were offered in some 80 countries and were attended by approximately 90,000 employees, more than 75% of our workforce.

The compliance organizations at the Group and country levels monitor compliance with the relevant directives. If there are signs of violation, employees can contact their Compliance Officer at any time, anonymously if required. For further details see Chapter 18.3 "Compliance."

See Chapter 18.3

Our social responsibility is also reflected in our approach to necessary changes and restructuring measures. In Germany, which remains the company's largest operational base with 35,300 employees, business-related dismissals are excluded through the end of 2015 for a large proportion of employees under an agreement with the employee representatives.

The reduction of 700 positions at Bayer MaterialScience worldwide in the next four years, which was announced in September 2013, will also be undertaken in a socially compatible manner wherever possible, for example by utilizing natural fluctuation and avoiding business-related dismissals.

Full and timely information for employees is provided on significant operational changes in compliance with the relevant national and international obligations.

ONLINE ANNEX: 3-7-10

The Human Resources and Communications departments work together closely to ensure timely communication of far-reaching changes through a wide range of carefully coordinated media. In Germany we combine providing timely information to the employee representatives in the Economics Committee of the company concerned with coordinating and jointly deciding on the proposed communication measures.

Our human resources policy also includes ensuring a high level of social protection. For example, nearly all employees either have statutory health insurance or can obtain health insurance through the company. 72% of employees also have access to a company pension plan. In 2013, we once again expanded or improved the quality of the benefits provided for employees in many countries.

ONLINE ANNEX: 3-7-11

In 2013 we achieved further improvements for our employees in the Czech Republic, Hong Kong, Bangladesh, Morocco, the Central American countries and Mexico in the scope and terms of their health insurance.

We also introduced company pension plans in a further four countries and adjusted the terms of the established pension plans in favor of the employees in four European countries and one Asian country.

Health Insurance and Pension Plans by Region [Table 3.7.2]

	Health insurance*		Pension plans**	
	2012	2013	2012	2013
	%	%	%	%
Region				
Asia/Pacific	90	92	35	39
Europe	97	99	86	87
Latin America/Africa/Middle East	94	94	52	55
North America	92	89	96***	97
Total	**94**	**95**	**70*** **	**72**

* government- or employer/employee-funded
** programs to supplement statutory pension plans
*** 2012 figures restated: the figures for North America and the total we published in our Annual Report 2012 were too low. This was due to subsequent report updates from the United States resulting from a divergent understanding of what had to be reported under "Company Pensions."

The working conditions for 55% of our employees are governed by collective or company agreements. The contractually agreed working hours of our employees do not exceed 48 hours a week in any country. At many smaller 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. China is a good example of the continuous expansion of the consultation with labor unions in the Bayer Group.

ONLINE ANNEX: 3-7-12

At our companies there, elected councils representing nearly 10,000 employees are in place. This means that more than 90% of our employees in China are now represented by the local union.

In 2013 we stepped up our collaboration with the union in China and extended information rights of employee representatives. In the future, quarterly meetings will be held with employee representatives at our six largest companies in this country. Union representatives are consulted before the introduction of major ancillary wage benefits. The local management has also given an undertaking to inform employee representatives in advance of any planned capacity adjustments and restructuring activities. For two companies, formal collective agreements were concluded with the union in 2013. Negotiations on similar collective agreements for three other Bayer companies in China should be completed in the near future.

Percentage of Employees Covered by Collective Agreements, by Region [Table 3.7.3]

	Percentage of employees covered by collective agreements, especially on compensation and working conditions*		Percentage of full-time employees with contractually agreed working weeks of max. 48 hours	
	2012	2013	2012	2013
	%	%	%	%
Region/Area				
Asia/Pacific	15	24	100	100
Europe	87	88	100	100
Latin America/Africa/Middle East	46	45	100	100
North America	5	5	100	100
Total	**53**	**55**	**100**	**100**

* collective or company agreement

Our understanding of our role as a socially responsible company includes a commitment to helping disadvantaged individuals. We employ a total of 2,800 people with disabilities in 28 countries. Most of them work for our companies in Germany, where they made up 4.5% of the workforce in 2013. More than 32% of the 1,600 disabled employees there were female. In the year under review we received public accolades in Germany and the U.K. for our initiatives to support people with disabilities and disadvantaged young people, some of which have been running for many years.

ONLINE ANNEX: 3-7-13

In 2013 the U.K. Department of Work and Pensions' "Double Tick" symbol for exemplary integration of disabled people was awarded to our site in Newbury. This accreditation rewards Bayer's voluntary commitment to implement a defined list of measures for the employment and support of people with disabilities.

In Germany, our program to help disadvantaged school leavers prepare for vocational training celebrated its 25th anniversary. Bayer has been running this special one-year program for socially and educationally disadvantaged young people since 1988. More than 1,600 youngsters have completed the program over the years, and 80% of them subsequently enrolled for vocational training in science or technology. In 2013 Bayer accepted another 137 young people into this highly acclaimed program.

DIVERSITY AND INTERNATIONALITY

Workforce diversity is vital for our company's future competitiveness. This is particularly true for our management. Diversity improves our understanding of changing markets and consumer groups, gives us access to a broader pool of talented employees, and enables us to benefit from the enhanced innovative and problem-solving abilities that are demonstrably associated with a high cultural diversity within the company. We pursue this aim especially in the emerging countries of Asia and Latin America, where we intend to significantly increase the proportion of local people among our managerial employees in the medium term. Of the members of our Group Leadership Circle, in which 31 nationalities are currently represented, around 67% come from the country in which they are employed. The Bayer Group currently employs people from 144 countries.

Special training for members of the management team is one focus of our activities to achieve greater employee diversity.

ONLINE ANNEX: 3-7-14

Since 2012 a workshop format has been used to raise the awareness of senior managers and their management teams of the strategic benefits of diversity. The workshop outcomes are consolidated in an action plan for each organizational unit.

We also want to empower our managers to form teams that incorporate the principles of diversity and to lead them successfully across the cultural divide. To this end a new seminar on "Leading Across Cultures and Genders" was launched worldwide in 2013. It was attended by some 670 managers from all levels.

Training for senior management members is supported by supplementary initiatives in the countries and subgroups. Since last year, diversity and inclusion officers in the Middle East have been driving forward local initiatives.

Another focus of our diversity strategy is on improving the gender balance, especially in management. We view a male/female ratio of between 30 to 70 and 70 to 30 as acceptable and have therefore set ourselves the voluntary target of raising the proportion of women on the five highest management levels throughout the Group toward 30% by 2015. Women currently account for 25% of employees in this management segment worldwide, while men account for 75%. Since we set this target in 2010, the proportion of women in managerial positions has therefore risen by 4 percentage points. The ratio of female to male employees in the Bayer Group as a whole was 36.5% to 63.5%.

ONLINE ANNEX: 3-7-15

Bayer Group Workforce Structure*

[Table 3.7.3-1]

	Women	Men	Total
Senior management	2,200	6,800	9,000
Junior management	9,600	15,400	25,000
Skilled employees	29,600	49,600	79,200
Total	**41,400**	**71,800**	**113,200**
Apprentices	800	1,800	2,600

*number of employees converted into full-time equivalents (FTE)

Our employees' lifestyles are as diverse as the people themselves. Flexible worktime arrangements help employees to balance their employment with their personal or family lives by helping them to better plan their leisure time, enabling working parents to make equal use of career opportunities in the company and helping the growing number of employees who also care for close relatives. Bayer offers its employees a variety of such opportunities in all countries. We continued to expand our range of employee benefits in this area worldwide in 2013.

ONLINE ANNEX: 3-7-16

A General Works Agreement concluded in Germany in 2013 means that employees at the large Group companies who care for close relatives will in the future receive support well in excess of the statutory provisions. This includes extensive professional advice and 10 days' paid leave of absence for any sudden urgent need for nursing care in the family. Bayer employees can also decide to switch to part-time work to look after a needy relative for up to three years and reduce contractual working hours by up to 50% of full-time employment.

In 2013 the Bayer Group had 7,850 part-time employees, around 6.8% of the total headcount.

ONLINE ANNEX: 3-7-17

Percentage of Part-Time Employees by Region [Table 3.7.3-2]

	Women	Men	Total
	%	%	%
Region			
Asia/Pacific	4.7	0.8	2.2
Europe	21.3	7.5	12.8
Latin America/Africa/Middle East	0.2	0.0	0.1
North America	1.9	0.2	0.8
Total	**11.9**	**3.8**	**6.8**

By the end of 2013 around 77% of employees in Germany who took statutory parental leave or participated in the company's more far-reaching "Family & Career" program over the past five years had returned to work. Of the returnees, roughly 60% were women and 40% were men. Since parental leave regulations vary widely from country to country, we only compile data for Germany.

ONLINE ANNEX: 3-7-18

The next table shows the number of employees who have returned after the standard statutory parental leave program and the Bayer "Family & Career" model since 2009. It also shows the number of male and female returnees and of employment contract terminations at the end of employees' parental leave. It covers all employees in Germany who have taken parental leave since January 1, 2009.

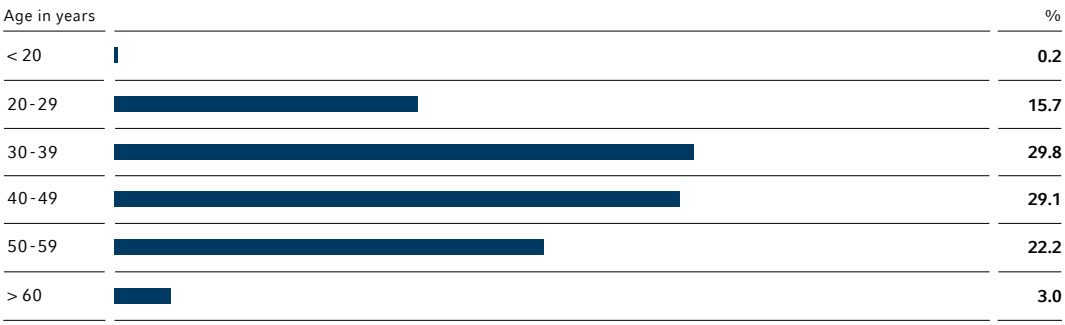
Employees Returning from Parental Leave Using Germany as an Example [Table 3.7.3-3]

	%	Absolute
Total no. of employees who have taken parental leave since 2009	**100**	**2,361**
Returnees by 2013	77.3	1,824
Women	61.5	1,453
Returned	65.5	951
Terminated	7.3	106
Men	38.5	908
Returned	96.2	873
Terminated	0.8	7

MANAGING DEMOGRAPHIC CHANGE AND RECRUITING YOUNG PEOPLE

Demographic change, in other words, the steady reduction in the birth rate and the aging population, is a challenge for many industrialized countries. Economically, it involves both opportunities and risks. We have prepared forecasts of the age structure of the workforce in the entire Bayer Group up to 2020 in order to assess the impact of this issue on our company. Currently, we are not facing an acute shortage of skilled staff. Nevertheless, we are already addressing the foreseeable consequences of demographic change by stepping up our activities to recruit staff, especially from the younger generation, retain knowledge in the company and foster the health of our employees worldwide.

Employees by Age Group [Graphic 3.7.2]



Bayer endeavors to appeal to the most talented people worldwide and to retain employees for long periods by providing good development opportunities, a modern working environment and competitive compensation. In 2013 we again attracted more than 4,900 academically qualified specialists and managers worldwide. We recruited approximately 660 university graduates in Germany, 520 in Russia, about 420 in Brazil and more than 340 in India. In 2013 we hired more than 19,400 new people across all occupations throughout the Group.

ONLINE ANNEX: 3-7-19

New Hires by Region* [Table 3.7.3-4]

	Women	Men	Total
Region			
Asia/Pacific	2,668	4,109	6,777
Europe	3,050	3,332	6,382
Latin America/Africa/Middle East	1,093	1,669	2,762
North America	1,256	2,265	3,521
Total	**8,067**	**11,375**	**19,442**

*converted into full-time equivalents (FTE)

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Our success in recruiting employees is attributable to our attractiveness as an employer, which was once again confirmed by numerous awards in 2013, and proactive recruiting activities at the local level.

ONLINE ANNEX: 3-7-20

Bayer has longstanding contact with leading universities in almost all countries in order to raise talented students' awareness of the wide-ranging opportunities it offers. In China, for example, we currently cooperate with more than 40 universities and offer up to 500 students a year an opportunity to undertake internships in all areas of the company. In addition, we offer students in China training programs, scholarships and technical support for their dissertations.

In recent years, we have steadily extended our collaboration with universities in Brazil as part of our recruiting strategy. Around 260 students in this country now take part in our trainee and internship program. These activities pay off: in 2013 Brazilian students ranked us among their 100 "dream employers," while upcoming health care professionals see us as the second most attractive company in the country. In Canada, our internship program was rated by the Talent Egg online portal as one of the best in the country. In Turkey, we enabled more than 110 students to do their mandatory internships in various parts of our company. Overall, we offered more than 2,900 demanding professional internships to students around the world in 2013.

Alongside hiring university graduates, Bayer's training programs for young people are among the most important steps the company takes to guard against a possible shortage of specialists due to demographic change. Once again in 2013, more than 900 young people entered training programs for more than 30 occupations at Bayer's sites in Germany. At the same time, we aim to utilize and develop the potential of older employees even more effectively. Passing on knowledge from the older to the younger generation is the aim of the Bayer Senior Experts Network, known as BaySEN for short. Together with our extensive on-the-job training offering, we thus ensure that the knowledge of our employees is up-to-date and is shared across generations.

Group-wide we offer our employees a wide variety of benefits to promote their health. These range from medical checkups and on-site medical services to sports opportunities inside and outside the company and the provision of advice and reintegration assistance after recovery from an illness. In this way we also contribute significantly to maintaining long-term employability, which is of growing importance as many countries are raising the retirement age in light of demographic change. In 2013, we once again launched a wide range of additional initiatives to maintain and improve the health of our employees.

ONLINE ANNEX: 3-7-21

Group-wide initiatives to foster employees' health and maintain their employability in view of the rise in the retirement age include the 2010 General Works Agreement on lifetime working and demographic change in Germany. This innovative agreement contains measures to reduce the workload of older shift workers, ease the return to work after long-term illness and an extensive health screening program for all employees. Including the collectively agreed contribution to the demographic change fund, in 2013 we increased the funding available for measures under this agreement to €8 million per year.

The type and scope of the health promotion programs offered by Bayer Group companies worldwide varies depending on national health care provision and access to it. In many countries, preventive health care measures are a discretionary benefit provided by the company, while in others they are required by law. Preventive programs are often organized in cooperation with external physicians or organizations. The following examples from 2013 are only a small selection of the very broad global offering.

In 2013 **HealthCare's** country organizations continued to increase the quality and number of health care programs. For example, talks and advisory events on a range of health issues were held at many sites in Germany. In July, the "Heart LIFE" program was launched in Socorro, Brazil, to raise employees' awareness of cardiovascular diseases and highlight preventive measures. This pilot project is to be extended to further sites in 2014. In collaboration with a health insurer in Finland, we launched health coaching for employees who are already suffering health problems or who have high health risks in order to help them mitigate individual risk factors.

In 2013 **CropScience** also introduced numerous measures and initiatives to foster the general health of employees. Topics such as nutrition, addiction prevention, fitness and relaxation were addressed through special programs at many sites worldwide.

Health checks were also offered at many sites, for example on Bayer Safety Day or special health days, and sometimes as part of company-wide health weeks. Examples in 2013 were Ecuador, Brazil and Australia.

Very extensive occupational health programs were offered at many **MaterialScience** sites in 2013. At its locations in the Lower Rhine region of Germany, MaterialScience conducted a health survey to make more targeted use of occupational health management measures in the areas of exercise, relaxation skills for shift workers and stress management. The three MaterialScience sites in Shanghai organized a comprehensive program of events on women's health in 2013.

The "B Well" program in the United States is an integrated health and wellness program for all Bayer employees. It helps employees play an active role in promoting their health. In 2013 the focus was on preventive health screening and personal advice, supplemented by programs on stress prevention, weight management, exercise and preventing diabetes.

8. Procurement and Production

SUPPLIER MANAGEMENT

Bayer's procurement volume in 2013 was approximately €18.7 billion (2012: €18.1 billion). Goods and services were procured from some 107,000 (2012: some 101,000) suppliers in approximately 138 (2012: 125) countries and recorded in the Group-wide reporting system. To cover specific requirements as efficiently as possible, each subgroup procures direct and production-related materials itself, while indirect and non-production-related goods and services are sourced in each case by the organizational unit that is their major user within the Bayer Group. Our Group-wide procurement strategy and application of the major-user principle enable us to realize synergy potentials in the form of standardization, volume pooling and streamlining of negotiations.

The procurement volume in Germany, the United States and Japan in 2013 accounted for nearly 67% of the expenditures in the countries of the OECD (Organisation for Economic Co-operation and Development), or about 54% of the Bayer Group's total procurement spend. Brazil, India and China together accounted for about 72% of the expenditures in the non-OECD countries or about 14% of the total spend.

ONLINE ANNEX: 3-8-1

Number of Suppliers and Procurement Spend by Economic Region [Table 3.8.0-1]

	Suppliers	Spend
	%	%
OECD countries	71	81
Non-OECD countries	29	19

Procurement Spend in OECD and Non-OECD Countries [Table 3.8.0-2]

	%	%	%	%
	Germany	United States	Japan	Other
OECD countries	27.4	21.3	5.7	26.3
	China	Brazil	India	Other
Non-OECD countries	9.0	2.6	2.4	5.3

Sustainability in procurement

Bayer regards adherence to sustainability standards within the supply chain as a crucial factor in the value chain. By acting responsibly in collaboration with our suppliers, we aim to minimize risks and create stable, long-term business relationships with our partners. It is also an important strategic lever for Bayer in safeguarding both its global competitiveness and the supply of materials and services. For this reason, the company applies not just economic standards, but also environmental, social and corporate governance (ESG) standards in choosing new suppliers or continuing its relationships with existing ones. These standards are defined in Bayer's Supplier Code of Conduct, which generally forms the basis for our collaboration with suppliers. It is legally binding and integrated into electronic ordering systems and contracts throughout the Group. The Supplier Code of Conduct is based on the principles of the U.N. Global Compact and our Human Rights Position.

ONLINE ANNEX: 3-8-2

To participate in IT-based bidding processes, suppliers must give a binding assurance before submitting an offer in our supplier management system that they acknowledge Bayer's Supplier Code of Conduct. This creates an important foundation for a business relationship aligned to sustainability principles.

Sustainability assessments and audits of our suppliers

We track our suppliers' adherence to the Code of Conduct by monitoring their sustainability performance. This is done partly on the basis of on-site audits and partly through online supplier assessments carried out by a leading web-based platform for sustainability performance monitoring (EcoVadis). The assessments are based on a web-based, modular questionnaire completed by the supplier, coupled with accompanying verification documents and 360° screening. Suppliers are selected for these assessments based on a combination of country and material risks and procurement volume.

To leverage synergies in the monitoring of suppliers' sustainability performance, we participate in two industry initiatives – the "Pharmaceutical Supply Chain Initiative" (PSCI) and "Together for Sustainability" (TfS), an initiative of the chemical industry that was co-founded by Bayer. The focus of these initiatives is on standardizing sustainability aspects in the relevant industries. Assessments and audits are also exchanged among the members, giving us access to additional evaluations of suppliers that also work with Bayer.

ONLINE ANNEX: 3-8-3

In both initiatives, sustainability assessments and audits of suppliers are exchanged through IT platforms. This minimizes the administrative burden for both suppliers and the member companies.

Members of the TfS initiative initiated a total of over 1,850 assessments and successfully completed 150 audits during the one-year pilot phase from July 2012 through June 2013. In the PSCI initiative, the first joint pilot audit program was successfully completed and evaluated in 2013. Both initiatives focus not only on performing audits, but also on providing support and training for suppliers.

Benefits from the production network

Under the Bayer Audit Program, we carry out supplier audits together with an external, independent partner, applying the standard of the respective industry initiatives in which we participate in order to benefit from synergies. We also obtain further audits of Bayer suppliers on an exchange basis as part of our collaboration with the members of the PSCI and TFS initiatives. In addition, Bayer auditors perform inspections focusing on health, safety, environmental protection and sustainability. An overview of the number of supplier assessments and audits can be found online.

ONLINE ANNEX: 3-8-4

Supplier Assessments [Table 3.8.0-3]

Bayer assessments via the EcoVadis platform	278
Assessments* by TfS** members of suppliers that also work for Bayer	107
National assessments by Indian country company	243

* assessments exchanged via the EcoVadis platform as part of TfS initiative
** Together for Sustainability (TfS)

Supplier Audits [Table 3.8.0-4]

Bayer audits with external auditors	41
Audits* by TfS** members of suppliers that also work for Bayer	7
Audits* by PSCI** members of suppliers that also work for Bayer	2
HSE***/sustainability audits by Bayer auditors	97

* audits exchanged as part of TfS and PSCI initiatives
** Together for Sustainability (TfS)/Pharmaceutical Supply Chain Initiative (PSCI)
*** Health, Safety, Environmental Protection

All assessment and audit results are thoroughly analyzed and documented. If deficiencies are found, the company develops action plans together with the respective suppliers to ensure that they observe social, ethical and environmental standards in the future. Where improvement needs have been identified, we work together continuously with our suppliers to achieve these improvements. As a result, we did not have to terminate any supplier relationship in 2013 for reasons related to sustainability performance.

Our assessments and audits accounted for 34% of the total procurement volume in the Bayer Group with regard to sustainability performance and 51% of the procurement volume in high-risk areas, which are defined by a combination of country and material risk.

Sustainability training for purchasers and suppliers

Training for purchasers in the Bayer Group includes attending courses on sustainability aspects of procurement and our Code of Conduct. In 2013 we completely revised the training course on our sustainability assessment process via our collaboration platform.

› ONLINE ANNEX: 3-8-5

Our purchasers are thoroughly trained in the EcoVadis assessment process, with 243 purchasers attending the training course in 2013. The subgroups also provide their respective purchasers with supplementary information. For example, HealthCare has initiated a sustainability roadshow for various local purchasing units. The purchasing and quality functions in Brazil, India and China received extensive training in the supplier evaluation process. MaterialScience held both a global and a China-specific procurement meeting to provide information on sustainability.

We also offer training courses for our suppliers. Both the information material and the range of courses were updated and extended in 2013.

› ONLINE ANNEX: 3-8-6

The TfS initiative offers e-learning courses to provide suppliers with general information on the initiative and the audit process. The PSCI initiative likewise promotes continuing supplier development by means of the comprehensive information provided on the PSCI website, and by organizing training events and conferences on subjects such as occupational safety.

As part of the training and information program for suppliers, Bayer's company in India presents its BayBuy Awards at an annual Supplier Day. The awards for India's most sustainable suppliers are based on the national sustainability assessments.

The Supplier Days organized by HealthCare and MaterialScience at various locations in China in 2013 focused on sustainability.

Tackling child labor in the supply chain

For Bayer, responsible corporate governance includes recognizing and respecting human rights both internally and within our external sphere of influence. This includes the supply chain. Our Human Rights Position is unequivocal and includes a strict ban on child labor. We obligate our suppliers along our supply chain not to employ children. Particularly when working with suppliers in developing countries or emerging markets, we take care that they are not using child labor – which is still widespread in these regions.

For many years, CropScience has taken systematic action to prevent child labor in the seed supply chain in India through its Child Care Program. Teams from Bayer visit the fields used in cotton seed production at least six times each season in order to determine the age of the workers there. A separate organizational unit is responsible for this. Thanks to this stringent monitoring system, there are now only very few instances of child labor at our contractors, and we are closely tracking these cases. In India we have also carried out systematic field monitoring in vegetable seed production since 2009 and in the production of hybrid rice seed since 2010.

ONLINE ANNEX: 3-8-7

The table shows how cotton seed production has developed since the main 2009/2010 season, based on the results of field monitoring.

Field Monitoring Results: Production of Cotton Seed in India [Table 3.8.0-5]

	Season*								
	Kharif 2009/2010	Rabi 2009/2010	Kharif 2010/2011	Rabi 2010/2011	Kharif 2011/2012	Rabi 2011/2012	Kharif 2012/2013	Rabi 2012/2013	Kharif**** 2013/2014
Standing acres**	1,683	172	2,152	335	2,771	542	3,857	389	3,618
Monitored acres***	10,575	1,052	13,856	2,276	17,427	3,564	24,161	2,433	20,991
Labor details									
Total laborers monitored	35,826	3,902	43,150	7,198	52,979	12,128	82,192	9,253	60,422
Proven child labor cases	22	2	14	0	18	0	21	0	18
Adult laborers	35,804	3,900	43,136	7,198	52,961	12,128	82,171	9,253	60,404
Child labor incidence per monitored acre	0.002	0.002	0.001	0	0.001	0	0.001	0	0.001
Child laborers as a percentage of total laborers	0.06%	0.05%	0.03%	0%	0.03%	0%	0.03%	0%	0.03%

* Kharif growing cycle: cultivation in the rainy season (summer) and harvest in the fall/Rabi growing cycle: cultivation in the fall and harvest in winter
** 1 acre = 4,046.86 m²
*** cumulated depiction of the area under cultivation monitored on the basis of control inspections performed (at least 6 per season)
**** as of Dec. 31, 2013

Suppliers who show that they are strictly observing our ban on child labor receive a bonus from Bayer along with training in agricultural efficiency. Graduated sanctions are applied for non-compliance. These range from written warnings to termination of the contract in the case of repeated non-compliance. Once a year, the audit firm Ernst & Young (India) conducts unannounced inspections of randomly selected farms. The two indicators highlighted in the table are used to measure the success of our extensive package of measures.

We regard school attendance not only as essential for children's development but also as a tool to drive the elimination of child labor. As an important part of the child protection program, our "Learning for Life" initiative consists of projects aimed at ensuring that children and young people get a proper education. Between 2005 and the end of June 2013, the "Learning for Life" educational programs benefited more than 5,500 children and young people.

The Child Care Program has received broad public recognition. It is a multi-disciplinary project involving management, specialists from the Child Care Team, and staff from the seed production team and Corporate Communications, who play a key role in raising awareness for this issue.

MATERIAL AND RAW MATERIAL INPUTS

As the subgroups' business activities and therefore the materials they use differ fundamentally, each subgroup organizes the procurement of the materials needed for its own production operations. Sustainability considerations are important when procuring raw materials, an example being the purchase of renewables or minerals from conflict areas.

ONLINE ANNEX: 3-8-8

Renewables so far have played only a secondary role in Bayer's use of raw materials. We are using them more intensively when it makes technical, economic and ecological sense to do so.

At HealthCare, some hormones are synthesized by way of certain sterols or phytosterols generated as byproducts of the manufacture of vegetable oils from soybeans, canola or sunflowers. Palm oil or palm kernel oil is not used due to its low sterol content. We also purchase various steroids produced from diosgenin, which is mainly derived from yam root grown in China and other countries. In the fermentation process, we also use raw materials such as water, glucose, yeast, soybean starch, castor oil and corn steep water. Extracts of plant leaves (Centella asiatica) are used in some Consumer Care products. This plant is widely found in Asia and is not an endangered species.

MaterialScience is experimenting with the replacement of petroleum-based raw materials as part of its innovation and cooperation projects. For example, the subgroup is testing a biotechnological process that is based on the conversion of biomass by microorganisms and can supply material for the production of plastics. The use of carbon dioxide as a raw material for polyurethanes has already been successfully implemented at the pilot plant level – and the first results of an independent ecological assessment give grounds for optimism.

At the international level, companies are increasingly obligated to disclose the origin of certain raw materials used in their products. "Conflict minerals" from the Congo region are one example. Bayer is currently investigating whether minerals from this region – such as tin, tungsten and tantalum ores or gold – could have found their way into our products through the supply chain. In parallel with these efforts, we are working on a special process for systematically investigating and evaluating potential suppliers of such minerals.

HEALTHCARE

The Product Supply unit of HealthCare steers the subgroup's entire supply chain, from raw material procurement to manufacturing to product shipment, utilizing a global production network consisting of its own sites and those of subcontractors. The manufacturing of pharmaceutical products is subject to extraordinarily stringent quality standards. These standards are known collectively as "Good Manufacturing Practices" (GMP). Compliance with these requirements is regularly audited by internal experts, regulatory authorities and external consultants.

The **Pharmaceuticals** segment generally procures the starting materials for the active ingredients of its prescription pharmaceuticals from external suppliers. To prevent supply bottlenecks and mitigate major price fluctuations, these starting materials and the intermediates we do not produce ourselves are generally purchased under global contracts and/or from a number of suppliers we have audited and approved.

Our active ingredients are manufactured primarily at the sites in Wuppertal and Bergkamen, Germany, and Berkeley, California, United States. These substances are processed into finished products and packaged worldwide. Our medicines come in a wide range of delivery forms including solids such as tablets, coated tablets or powders; semi-solids such as ointments or creams; and liquid pharmaceuticals such as those used in injections or infusions. Our hormonal contraceptives are supplied as sugar- or film-coated tablets or used in intrauterine systems (coils), for example. Formulating and packaging takes place in Berlin, Leverkusen and Weimar, Germany; Garbagnate, Italy; Beijing, China; São Paulo, Brazil; and Turku, Finland. Our hemophilia drug Kogenate™ is manufactured by a biotechnological process at Berkeley, California, United States. Pharmaceuticals that we do not produce ourselves due to the use of special technologies are generally purchased under global contracts from suppliers we have audited and approved. For example, Betaferon™/Betaseron™ for the treatment of multiple sclerosis is produced by a contract manufacturer.

For the Consumer Care Division of the **Consumer Health** segment, we produce certain active substances, such as acetylsalicylic acid and clotrimazole, in La Felguera, Spain. The principal raw materials we purchase from third parties are naproxen, citric acid, ascorbic acid, other vitamins and paracetamol. To minimize business risks, we diversify our raw material procurement sources worldwide and conclude long-term supply agreements. Among the division's production sites are the facilities in Myerstown, Pennsylvania, United States; Cimanggis, Indonesia; Lerma, Mexico; Bitterfeld-Wolfen and Grenzach-Wyhlen, Germany; Madrid, Spain; and Segrate, Italy.

The Diabetes Care products (such as blood glucose meters) of our Medical Care Division are mainly procured from original equipment manufacturers. Material prices and availability are covered in most cases by long-term contracts. We hold strategic reserves of certain materials and finished products so that we can supply our customers consistently and reliably. The contrast agents for diagnostic imaging procedures are produced mainly in Berlin, Germany. Medical devices such as contrast agent injectors and mechanical systems for treating constricted or blocked blood vessels are manufactured at the U.S. sites near Pittsburgh, Pennsylvania, and in Minneapolis, Minnesota. Most of the materials and components needed to manufacture our medical devices are procured from external suppliers. The availability, quality and price stability of the materials are ensured by way of long-term agreements, careful choice of suppliers and active supplier management.

The Animal Health Division procures the pharmaceutical active ingredients for its veterinary medicines both from within the Bayer Group and from external suppliers throughout the world. Our animal health products are manufactured mainly at the sites in Kiel, Germany, and Shawnee, Kansas, United States, and marketed worldwide.

CROPSCIENCE

Global procurement and production network for seeds and crop protection products at CropScience

CropScience, too, manages procurement and production as a single organizational unit. This enables an integrated supply chain from raw material purchase through end-product manufacture to warehousing, followed by a two- or three-step distribution system depending on local market conditions.

Our principal procurement countries, representing the bulk of our procurement volume, are centrally managed. This enables us to operate efficiently in procurement markets and optimize our cost position. We mainly procure supplies of important raw materials on the basis of long-term supply agreements to minimize procurement risks such as supply shortages or substantial price fluctuations. Regular sustainability and quality audits of our suppliers ensure compliance with internal and external standards.

Crop Protection and Environmental Science products are mainly manufactured at our own production sites and formulating facilities. Among the largest are the facilities in Dormagen, Knapsack and Frankfurt am Main, Germany; Kansas City, Missouri, United States; and Vapi, India. Our network of decentralized formulation and filling sites enables us to respond rapidly to local market needs. At these sites the active ingredients are processed into herbicides, fungicides, insecticides, seed treatment products and Environmental Science products according to local requirements and application areas. Packaging of the products also takes place in these facilities.

Production in the Seeds business unit takes place at locations close to our customers in Europe, Asia, and North and South America at our own farms or under contract.

Investment in our global production network is continuing in order to create capacities for new products and technologies and to improve manufacturing processes. We plan to significantly increase our capital investment to meet the steadily rising demand in a competitive and timely manner. In September 2013, we therefore announced an increase in our capital expenditure budget. We now intend to invest some €2.4 billion in property, plant and equipment between 2013 and 2016.

MATERIALSCIENCE

Procurement at MaterialScience is globally steered by the Procurement & Trading unit. Worldwide procurement and trading processes are centrally managed to leverage synergies within MaterialScience.

Key raw materials for our MaterialScience products are petrochemical feedstocks such as benzene, toluene and phenol. We purchase these materials on the procurement markets, mainly under supply agreements. The operation of our production facilities also requires large amounts of energy, mostly in the form of electricity or steam. In steam and electricity generation, we aim for a balanced diversification of fuels and a mix of external procurement and captive production to minimize the price fluctuation risk.

The principal production facilities of MaterialScience are at Dormagen, Krefeld and Leverkusen, Germany; Shanghai, China; and Baytown, Texas, United States. These supply all the subgroup's business units and are centrally managed by the Industrial Operations unit. Further major production sites are located at Antwerp, Belgium; Brunsbüttel, Germany; Map Ta Phut, Thailand; and Tarragona, Spain. Each of these sites is managed by the respective business unit.

World-scale facilities reduce costs for commodities

In the field of commodities, we endeavor to reduce costs by operating high-capacity production facilities that enable us to supply our markets on an international basis. We maintain a relatively large number of production facilities in selected countries to serve our differentiated businesses. These facilities include systems houses, where we formulate and supply customized polyurethane systems, and plants where we compound polycarbonate granules to meet specific customer requirements or manufacture semi-finished products (polycarbonate sheets). We also operate regional production facilities for functional films made of polycarbonate or thermoplastic polyurethane.

9. Products, Distribution and Markets

Bayer does not tolerate legal violations in the marketing of its products. Responsible marketing means acting ethically and morally and adhering to sustainability principles. This involves communicating with our target groups in a transparent, consistent and reliable manner. We are also committed to regularly evaluating the properties of our products and acting on our findings where necessary. Our Group directive on "Responsible Marketing & Sales" was already adopted by all subgroups in 2012 and has been integrated into the relevant regulations. With distribution activities decentrally organized due to the diversity of Bayer's business portfolio, the directive's ongoing implementation and the respective training programs took place in a variety of ways in 2013.

HEALTHCARE

Broad product portfolio in the Pharmaceuticals segment

Our **Pharmaceuticals** segment supplies prescription products. Our range of cardiovascular products includes the anticoagulant Xarelto™, Adalat™ to treat hypertension and coronary heart disease, and Aspirin™ Cardio for secondary prevention of heart attacks. The product portfolio in women's healthcare comprises contraceptives such as YAZ™/Yasmin™/Yasminelle™, Mirena™ and the Essure™ procedure. We also offer specialty pharmaceuticals that are mainly prescribed by specialist physicians, including Kogenate™ for people with hemophilia A, Betaferon™/Betaseron™ to treat multiple sclerosis, the cancer drugs Nexavar™, Stivarga™ (regorafenib) and Xofigo™ (radium-223 dichloride), the eye medicine Eylea™ (aflibercept), and riociguat (approved in the United States and Japan under the trademark Adempas™) to treat two forms of pulmonary hypertension. Our pharmaceutical products are primarily distributed through wholesalers, pharmacies and hospitals. Co-promotion and co-marketing agreements serve to optimize our distribution network. For example, we cooperate with Janssen Pharmaceuticals, Inc. in the United States in the marketing of Xarelto™.

Consumer Health segment: focus on non-prescription products

The portfolio of our **Consumer Health** segment mainly comprises non-prescription products. The Consumer Care Division specializes in over-the-counter (OTC) medicines – those available without a prescription – and is among the leading suppliers in the OTC market with a portfolio covering all the major therapeutic areas. Our offering includes the pain relievers Aspirin™ and Aleve™ and the OTC medical skincare products Bepanthen™/Bepanthol™ and Canesten™. The product range also includes nutritionals such as One A Day™, Supradyn™, Berocca™ and Redoxon™, antacids such as Talcid™, and cough-and-cold products such as Alka-Seltzer Plus™ and White & Black™. We also offer prescription dermatology products. The division's sales and distribution channels are generally pharmacies, with supermarket chains and other large retailers also playing a significant role in certain important markets such as the United States.

In the Medical Care Division we offer blood glucose monitoring devices such as the single-strip Contour™ system and the multi-strip Breeze™ system. We also market the Contour™ USB meter, which features integrated diabetes management software and direct plug-in to computers. Outside Europe, these products are generally sold to consumers through pharmacies, drugstores, mass merchants, hospitals or wholesalers. In Europe, they are sold mainly through pharmacies. We are among the principal players in the market for blood glucose meters and are also the world's leading supplier of contrast agent injection systems for diagnostic and therapeutic medical procedures in X-ray, computed tomography and magnetic resonance imaging. We are among the leading companies in the field of mechanical systems for removing thrombi from blood vessels, offering service products for these systems in addition. Examples from our portfolio of contrast agents for diagnostic imaging are Ultravist™, Gadovist™/Gadavist™ and Magnevist™. Our products are marketed to cardiologists, radiologists and vascular surgeons in hospitals and out-patient clinical sites through a global direct sales organization, supplemented in some cases by local distributors.

The Animal Health Division offers an extensive portfolio of pharmaceuticals, nutritionals, grooming products and hygiene products for farm and companion animals. Our innovative Advantage™ family of products to protect dogs and cats from parasite infestation gives our company the number two position in the parasiticides market. The newly developed Seresto™ collar replaces conventional dog and cat collars with a modern system for controlled release of the active ingredient and reinforces our leading market position. Other important products include Baytril™ for the control of infectious diseases, Drontal™ and Drontal™ Plus wormers, and Baycox™ to treat coccidiosis in livestock. The integration of the prod-

uct portfolio we acquired in 2013 from Teva Animal Health Inc., United States, is progressing with the relaunch of companion and farm animal products in the U.S. market. Depending on local regulatory frameworks, animal health products may be available to end users on a veterinarian's prescription or prescription-free from veterinarians, pharmacies or retail stores.

Responsible business practices at HealthCare

In marketing its medicines, HealthCare applies strict standards and observes the relevant international industry codes. This includes all codes of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) and of regional associations such as the European Federation of Pharmaceutical Industries and Associations (EFPIA) concerning relations with health care professionals and patient organizations. These codes include rules governing the distribution of advertising materials and product samples, cooperation with health care and pharmacy professionals under speaker and consultancy agreements, and scientific studies. HealthCare has also undertaken to implement the EFPIA transparency code. The codes apply to prescription medicines. There are also local laws and codes applicable to all medicines.

ONLINE ANNEX: 3-9-BHC-1

The IFPMA code applies not only to prescription medicines but also to over-the-counter products that are directly advertised to health care professionals. Since 2012 the IFPMA code has also included basic principles for cooperation with patient groups. HealthCare views the IFPMA code as a global minimum standard. The EFPIA Code of Conduct for cooperation with patient organizations mandates universal transparency and requires that these organizations' independence not be compromised by the provision of support to patient organizations. Under the code, donations to health care professionals or organizations must be disclosed on a publicly accessible website. This information must be published for the first time by June 30, 2016, and must include the relevant donations made in the 2015 calendar year.

These local codes generally serve to bring the provisions of the global or regional codes mentioned above into line with local laws. In the event of discrepancies among the rules we have committed to respect, HealthCare always observes the more stringent requirement.

We regard the WHO's Ethical Criteria for Medicinal Drug Promotion as the minimum standard for the advertising of pharmaceutical products. We also observe national ethical standards, which usually are also enshrined in industry codes at the local level, an example being that of the association "voluntary self-regulation for the Pharmaceutical Industry (FSA). The provisions of our Group-wide Corporate Compliance Policy, the Responsible Marketing & Sales Policy, and the Directive on Integrity & Responsibility in Communications and Marketing also apply.

HealthCare has summarized the key requirements for compliant and ethical conduct in globally valid HealthCare Compliance Manuals that set minimum standards for all activities.

ONLINE ANNEX: 3-9-BHC-2

Specifically, the minimum global standard for responsible marketing and ethically acceptable dealings with important stakeholders such as officials, health care professionals and patient organizations is established by the Manual for Human Pharmaceuticals and Consumer Care Businesses, the Manual for Medical Devices Business and the Manual for Animal Health.

The global training program for the compliance manuals launched in 2012 was continued in 2013. The training materials are now available in eight languages. There are also web-based and personalized compliance training courses for which employees can enroll via the intranet. These web-based programs were honored with the Brandon Hall Excellence in Learning Award 2013, receiving the silver medal in the "Best in Compliance Training" category. Additional support and information are available for employees in conjunction with all training courses.

As part of our compliance management system, we register and investigate any suspected violation of our responsible marketing principles. This includes complaints received from either inside or outside the company.

CROPSCIENCE

Integrated product portfolio at CropScience

CropScience offers a comprehensive range of products and services for agriculture in the areas of seed breeding, crop protection and plant traits. It also supplies products for non-agricultural pest and weed control. These are commercialized according to local market conditions. Our business is subject to the growing seasons for the relevant crops and the resulting sales cycles.

CropScience markets its products in more than 120 countries. In the coming years we intend to continue expanding our business, particularly in the Emerging Markets, by deploying innovative, leading-edge technologies in order to meet the increasing global demand for high-quality food and feed.

The marketing and distribution activities of the Crop Protection/Seeds operating segment are aligned to our product range.

The Crop Protection business is based on a broad portfolio of highly effective herbicides, fungicides, insecticides and seed treatment products with chemical or biological modes of action. Our innovation capability and long years of experience with crop protection products have placed us among the global leaders in this market. The activities of the Seeds unit are focused on cotton, oilseed rape/canola, rice, soybeans and vegetables. We market high-value seeds based on our own research and breeding expertise. In our core crops, we have achieved strong market positions and are internationally represented.

Our Crop Protection products are marketed through a two- or three-step distribution system, either via wholesalers or directly to retailers. We also sell products directly to customers in selected markets where farmers and market conditions require this mode of distribution.

Our seeds are sold to growers, plant raisers, specialist retailers and the processing industry. Plant traits developed using modern breeding methods are either incorporated into our own seed varieties or licensed to other seed companies.

The products of our Environmental Science operating segment are based on both proprietary and inlicensed active ingredients and designed for non-agricultural uses. We market pest control and plant care products both to private customers in the home and garden sector and to professional users in the green industry (including for public parks and golf courses), forestry, infrastructure (such as railroad tracks and roads), professional pest control and public health (vector control to combat malaria and dengue fever). CropScience is among the world's leading suppliers of products and solutions for such non-agricultural uses. The Environmental Science products are mainly sold through wholesalers and specialist retailers. Much of our business in the area of vector control is transacted in response to tendering by government agencies and non-governmental organizations.

CropScience follows the International Code of Conduct on the Distribution and Use of Pesticides issued by the Food and Agriculture Organization of the United Nations (FAO). This forms the basis for CropScience's expanded Product Stewardship Policy, which satisfies the requirements of the Group's position on responsible marketing and sales. Training materials to explain this Group position have been distributed throughout the global organization and are posted on the Bayer intranet.

ONLINE ANNEX: 3-9-BCS-1

In Germany, responsible marketing had already been a focus of all training programs by the end of 2012, with other countries following suit in 2013. In parallel with the training courses on compliance, the topic of responsibility marketing and sales has formed an integral part of the Marketing & Sales Excellence training programs at CropScience since the fall of 2012.

MATERIALSCIENCE

One of the world's largest polymer companies, MaterialScience is a manufacturer and supplier of precursors for rigid and flexible foams, plastic granules, and raw materials for coatings and adhesives. The subgroup holds leading competitive positions in these product groups. We also manufacture and market plastic sheets, functional films and selected inorganic basic chemicals. Some of these chemicals serve as raw materials for the manufacture of our products. Others are generated as by-products of our production and sold to external customers.

Our products are used mainly in the automotive, construction, electrical/electronics, furniture, wood, textile, sports and leisure goods, medical equipment and chemical industries.

Rigid or flexible polyurethane foams based on our diphenylmethane diisocyanate (MDI), toluene diisocyanate (TDI) or polyether (PET) raw materials have found a broad range of applications in a variety of industries. Automotive uses include the manufacture of car seats and components. These foams are used in the construction industry and the refrigeration chain as insulating materials, and in the furniture industry for cushioning and mattresses.

Our polycarbonates are marketed as granules (Makrolon™), sheet, films and blends (APEC™, Bayblend™). Their uses include electrical appliance housings, CDs/DVDs, roof structures and automotive headlamps.

The Coatings, Adhesives, Specialties business unit manufactures raw materials for car and commercial vehicle coatings and for footwear and textile adhesives, for example. Specialties include films used in ID and credit cards, along with raw materials for cosmetic and medical products.

We market our products mostly through regional and local distribution channels, making increasing use of e-commerce platforms for order processing. We also work with trading houses and local distributors who are responsible for business with small customers. Major customers with global operations are serviced directly by our key account managers.

In the marketing of our products, we also take into account all the requirements of the Group's position on responsible marketing and sales. The importance of observing antitrust law and preventing corruption is regularly emphasized in training programs, internal communications and discussions with management.

ONLINE ANNEX: 3-9-BMS-1

The third major training focus at MaterialScience in 2013 regarding responsible marketing and sales was product liability. A total of 77 training courses were held worldwide to inform some 1,700 employees working in the areas of sales and marketing, quality management, development and production.

10. Product Stewardship

We assess the possible health and environmental risks of a product along the entire value chain. This starts with research and development and continues through production, marketing and use by the customer through to disposal.

At issue here are not just the safe handling and use of our products, but also the transparent communication and transfer of product safety information. Product stewardship involves both compliance with statutory requirements and voluntary commitment. Here, we also take into account the precautionary principle as explained by the United Nations and the European Commission.

ONLINE ANNEX: 3-10-1

The precautionary principle describes the preventive use of protective measures against risks, should sufficient scientific information not be available. It is a possible tool for consumer protection and risk management. It is explained in Principle 15 of the Rio Declaration of the United Nations Conference on Environment and Development (1992) and in the communication from the European Commission (COM 2000/1). This principle is applied whenever there is scientific uncertainty in a given area and sufficient evidence also exists that there could be a sustainable impact on people or the environment. We support the application of the precautionary principle according to the stipulations of the European Commission. These measures should be proportionate – i.e. they should meet the chosen level of protection; be applicable without discrimination, in other words comparable situations should not be treated in different manners; be consistent with similar measures undertaken previously; and be examined to determine which costs and benefits are associated with the application of the precautionary principle. The measures undertaken are reviewed as soon as new scientific data are available for the particular situation.

Since 1994 Bayer has supported the voluntary Responsible Care™ initiative of the chemical industry, which was globalized in 2006 with the introduction of the Responsible Care Global Charter. We cover all main elements of the charter with our HSEQ (health, safety, environmental protection and quality) management systems and activities. We are also actively involved in the further development of scientific risk assessment through associations and initiatives.

ONLINE ANNEX: 3-10-2

International associations such as the European and international chemical industry associations (CEFIC/ICCA) and the OECD (Organisation for Economic Co-operation and Development), as well as initiatives such as the ECETOC (European Centre for Ecotoxicology and Toxicology of Chemicals) or the EPAA (European Partnership for Alternative Approaches to Animal Testing), work to evolve the scientific assessment of chemicals, research new test methods and monitor the implementation of statutory regulations. Bayer actively accompanies these efforts in its association activities. We are also involved in the Long-Range Research Initiative of the ICCA and endorse the goals of the WHO and E.U. action plans for improving health and environmental protection, for example with the further development of human biomonitoring through an alliance with the German Chemical Industry Association (VCI) and the German Federal Ministry of the Environment.

IMPLEMENTATION OF REGULATIONS AND VOLUNTARY PROGRAMS PERTAINING TO CHEMICALS

Since 2007 we have operated in accordance with the European chemicals regulation REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). It affects all our activities as manufacturer, importer and user. To adequately address the scope and complexity of the REACH requirements, we have approved Group-wide and subgroup-specific regulations. The registration obligation under REACH applies irrespective of marketing activities for all substances that we produce or import in quantities of more than one metric ton.

ONLINE ANNEX: 3-10-3

We observe the required registration phases for substances that have been used for a longer period of time. The final registration phase will end on June 1, 2018. Substances registered already during the first two phases are now being evaluated by the regulatory authorities. In the future this could result, for example, in additional testing requirements, new risk management measures or inclusion in the authorization procedure.

A number of Bayer substances are also affected by the REACH authorization process, which restricts the use of particularly hazardous substances or can lead to their replacement or prohibition.

The authorities monitor the implementation of REACH through regular inspections. So far none of the inspections at Bayer has resulted in complaints. As we also use many products from other manufacturers, we maintain close contacts with our suppliers and ensure that they confirm compliance with REACH for these products.

Our Group Regulation "Substance Information and Its Availability" extends beyond the scope of legal requirements. In this way we are ensuring that substance assessments comparable to those established under REACH will also be applied at Bayer sites that are not subject to this European regulation.

At the same time, we are implementing the Globally Harmonized System (GHS) for the classification and labeling of chemicals, which came into force in the European Union (E.U.) in 2009. The purpose of this regulation is to achieve a globally standardized system for classifying chemicals and labeling them appropriately on packaging and in safety data sheets.

We also support the Global Product Strategy (GPS), a voluntary commitment by the chemical industry initiated by the International Council of Chemical Associations (ICCA). Its objective is to improve knowledge about chemical products, especially in emerging and developing countries, and thus increase safety in the handling of these products. The ICCA has established an information portal through which summarized details on products (GPS Safety Summaries) are made available. GPS is of particular relevance for MaterialScience.

In accordance with the respective product safety and information obligations, all subgroups compile product information on raw materials, intermediates or end products. To ensure worldwide access to this information, our subgroups use corresponding IT systems, including for product labeling.

PRODUCT STEWARDSHIP IN THE USE OF BIOTECHNOLOGY

Product development in our Pharmaceuticals and Crop Protection businesses makes use of biotechnological methods. Biotechnology has already gained significant importance in pharmaceutical product development. The HealthCare products Betaferon™/Betaseron™, Kogenate™ and Eylea™ are manufactured by a biotechnological process.

Plant biotechnology can help to improve crop yields, yield security and the stress tolerance of plants without the need for an increased input of resources through both genetic engineering and non-genetic engineering methods.

Safety is Bayer's top priority in the use of biotechnology too. Beyond our observance of all relevant legal provisions, we have formulated a Bayer Group Regulation "Position on the Responsible Use of Gene Technology" and specific regulations for the subgroups and service companies.

ONLINE ANNEX: 3-10-4

Before any product reaches market maturity, we subject it to a stringent approval procedure to determine whether it is safe for human health, animals and the environment.

HealthCare has established strict safety measures for handling and for research & development in its "Biological Safety" regulation and its "Requirements for the safe handling of biological agents" procedure.

In 2013 CropScience maintained its focus on product stewardship for customers both within and outside the company through its activities in the context of the industry's Excellence Through Stewardship Program. Product stewardship and quality management processes are the top priority in all activities connected to plant biotechnology.

We provide our stakeholders with comprehensive, transparent and reliable information about our products and services in accordance with our Bayer Group Regulation "Responsible Marketing & Sales."

FOCUSING ON ANIMAL WELFARE

During research into new active pharmaceutical ingredients, animal studies are prescribed and only replaceable to a certain extent. They are essential from a scientific viewpoint to assess the effects of our products, especially on people, but also on nature and the environment. In our handling of animals, we respect all legal requirements pertaining to animal welfare. Should animal studies be required to evaluate our substances, Bayer observes the so-called 3Rs principle:

- Replace: prior to each project, we check whether a recognized method is available that does not rely on animal studies and apply it.
- Reduce: in case no alternative method exists, only as many animals are used as are needed to achieve scientifically meaningful results based on statutory requirements.
- Refine: we make sure animal studies are performed in a way that is as gentle on the animals as possible.

www.animalstudies.bayer.com

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: 3-10-5

Bayer's Global Animal Welfare Committee monitors the observance of our principles on animal welfare and animal studies within the Bayer Group and in external studies. In 2011 this body – comprised of the animal welfare officers at our research sites and further Bayer experts – began defining performance indicators. Within this context, we each year analyze aspects such as the number of animals used, the number of animals at contract research organizations (CROs), the breakdown according to species and the ratio of regulatorily required studies to exploratory studies. Other indicators such as the number and quality of audits performed at our suppliers and CROs have been initiated and are being internally evaluated. We have begun with the establishment of an internal Bayer database that combines all information about our own animal studies and the evaluation of our cooperation partners. Bayer participates in several European consortia that aim to reduce the number of animal studies or improve their validity: we are active, for example, in the European Partnership for Alternative Approaches to Animal Testing (EPAA); we also help to implement the Safety Sciences for Medicines (SafeSciMET) program and are involved in the leadership of the eTOx project and the MARCAR project of the Innovative Medicines Initiative (IMI). Furthermore, we support the Foundation for the Promotion of Alternate and Complementary Methods to Reduce Animal Testing (SET).

PROTECTION AGAINST PRODUCT COUNTERFEITING

Illegal trade with counterfeit medicines and crop protection products is on the rise worldwide. Counterfeit products in the areas of health care and nutrition put patients and consumers at risk. Substandard products also cause considerable financial damage for both producers and users.

Industry, associations, governmental agencies and non-governmental organizations must join together to fight product counterfeiting. Bayer continuously advocates the strengthening and expansion of existing laws and provisions aimed at the identification and confiscation of illegal products. We undertake a wide range of measures to inform our customers about both the danger posed by, and the insufficient effectiveness of, counterfeit products.

ONLINE ANNEX: 3-10-6

Counterfeit pharmaceuticals rank near the top of the E.U.'s customs statistics. The number of investigations in Germany increased by 39% in 2012 compared with the previous year, and has risen by an even more substantial 100% since 2010. In close cooperation with the authorities, Bayer works to protect the health of patients, customers and users. The focus is on education and information to ensure the reliable identification of our original products, as well as on legal steps aimed at minimizing illegal trade.

Through the internet platform "Beware of Counterfeits," HealthCare informs patients about the risks of counterfeit pharmaceuticals and provides patients with tips on how they can protect themselves.

Bayer participates in the Pharmaceutical Industry Initiative to Combat Crime (PIICC) of Interpol to counteract pharmaceutical counterfeiting through global prosecution and the elimination of related criminal networks.

We also support the establishment of a pan-European system for the verification of pharmaceutical packaging that satisfies the requirements of the E.U. Falsified Medicine Directive. We participate in the SecurPharm project in Germany.

According to an estimate by Europol from 2012, illegal products account for 25% of the crop protection market in some E.U. member states. CropScience provides information and anti-counterfeiting training materials (manuals, workshops, etc.) to retailers, farmers and authorities. In 2013 training courses were conducted in the Middle East, in several E.U. countries and in other regions at which Bayer warned of the dangers of product counterfeiting. In this connection, we also support initiatives by global and regional association committees such as the Anti-Counterfeiting Expert Group of the European Crop Protection Association (ECPA) and the Anti-Counterfeiting Steering Committee of the industry association CropLife International (CLI).

CropScience works together intensively with national and international authorities, thus frequently enabling the confiscation of counterfeit products. In 2013 we further intensified our cooperation with the European authorities to support them in their investigation into criminal networks that place illegal and counterfeit crop protection products onto the European market. CropScience works together with shipping companies and European ports of entry to prevent the transport of counterfeit products by more closely inspecting freight and customers, among other measures. Most counterfeit products originate in Asia and reach the trade market through central European cargo ports. With our support, substantial quantities of illegal products were confiscated by the port authorities again in 2013. CropScience also carries out its own inspections of suspicious goods shipments. In the reporting year, legal action was successfully taken four times against sellers of counterfeit parallel imports in Germany alone.

HEALTHCARE

BENEFIT-RISK MANAGEMENT FOR MEDICINAL PRODUCTS AND MEDICAL DEVICES

HealthCare continuously assesses the medical benefit-risk balance of its pharmaceuticals and medical devices throughout their entire life cycle. For this process, experts from various disciplines form cross-functional Safety Management Teams (SMTs). These teams jointly evaluate the available benefit and risk data along with other relevant information on the product in order to identify possible safety risks at an early stage and assess the medical benefit-risk balance. The evaluation also makes use of external databases so as to ensure as broad a base of data as possible. Should significant risks be identified, HealthCare immediately takes measures to minimize them, such as updating the product information for patients and physicians.

ONLINE ANNEX: 3-10-BHC-1

Further tools in risk minimization programs can include targeted information, e.g. patient education brochures, and training measures for health care providers and patients. SMTs compile medical benefit-risk data and information and produce detailed safety risk management plans. These plans are updated as soon as relevant new benefit-risk data become available. Implementation of risk minimization activities is coordinated by local SMTs in the country organizations.

The Global Pharmacovigilance unit of HealthCare pools safety-relevant information on our products in the company's own pharmacovigilance database on an ongoing basis. This information is continuously updated and evaluated by experts. In this process, Bayer works closely with the responsible regulatory and oversight authorities at an international, national and regional level. These include the U.S. Food and Drug Administration (FDA), the European Medicines Agency (EMA) and Germany's Federal Institute for Drugs and Medical Devices (BfArM).

HealthCare's quality and risk management functions make further contributions to increased safety. We examine external and internal quality assurance requirements for our products through systematic internal inspections – not just in research and development, but also in production. These inspections also cover institutes sub-contracted by us and our suppliers. Through our safety risk management system, drug product risks are systematically identified and assessed, and the necessary steps initiated. Countries and regions receive continuous support to help them comply with regulatory requirements for pharmaceuticals.

www.annual-report2013.bayer.com/clinical-trials

Scientific publications by our researchers satisfy recognized international standards that we have undertaken to observe in our Good Publication Policy. We base the implementation of all clinical studies on the Good Clinical Practice guidelines of the World Health Organization (WHO) and on the guidelines of the International Conference on Harmonization (ICH). We disclose the methods and results of clinical trials.

ANALYSIS OF PHARMACEUTICAL TRACE AMOUNTS IN THE ENVIRONMENT

Active pharmaceutical ingredients can enter the environment through human excreta or livestock excrement, improper disposal by users or residues in wastewater from pharmaceutical production.

To assess the potential environmental impact of our pharmaceutical products, HealthCare carries out ecotoxicological investigations of the environmental behavior of trace amounts and degradation products. These assessments are contained in the dossiers submitted to the European regulatory authorities for both veterinary and human pharmaceuticals. It must be demonstrated during the approval procedure that no significant risk exists for the environment when the drug products are used correctly.

Internal company wastewater standards are in place to ensure that no risk to the environment results from the release of traces of active ingredients in wastewater from production sites. The company aims to define specific threshold values that must be met by all HealthCare production sites worldwide.

Measurements carried out by authorities and scientific institutes have revealed that the concentration of individual active pharmaceutical ingredients from human or veterinary medicines present in drinking water is lower than the level that would have pharmacological effects in humans. On the basis of our current knowledge, the presence of individual active pharmaceutical ingredients in bodies of water or drinking water does not pose any risk to humans. This is confirmed by the WHO Report on Pharmaceuticals in Drinking Water published in 2012.

ONLINE ANNEX: 3-10-BHC-2

At the scientific level, HealthCare participates in projects aimed at further researching and reducing pharmaceutical residues in the environment:

Within the PILLS project concluded at the end of 2012, HealthCare and its European partners examined the extent to which new purification technologies at so-called point sources are able to completely eliminate pharmaceutical residues. The project partners demonstrated that the construction of wastewater treatment facilities at hospitals featuring special purification technology can further reduce the active ingredient content in wastewater. However, the cost of this purification technology currently remains substantial. The E.U.-sponsored successor project noPILLS therefore examines whether it is possible to address the problem at a lower cost directly at the point of entry. noPILLS also focuses on studying the influence on consumer behavior, for example, with regard to the disposal of expired drug products. Bayer is a member of the Scientific Advisory Board of noPILLS too.

In Germany, HealthCare participates in the "Risk Management of Emerging Compounds and Pathogens in the Water Cycle" (RISKWA) initiative sponsored by the German Ministry for Education and Research. HealthCare is a member of the steering committee.

SAFETY AND QUALITY STANDARDS AT ANIMAL HEALTH

In line with the statutory requirements, strict quality standards apply to all Animal Health product classes. Safety and quality standards comparable to those governing human medicine apply for veterinary pharmaceuticals such as parasiticides, anthelmintics or antibiotics. Within the scope of the approval procedures, Animal Health carries out studies in order to minimize the environmental impact of the products' use.

We train veterinarians, farmers and private users in the responsible use of our products. In this context, we also support the European Platform for the Responsible Use of Medicines in Animals, which brings together various partner organizations from politics, industry and society.

CROPSCIENCE

Safety is the top priority with products from CropScience. We analyze already prior to the development of a product whether the envisaged solution is compatible with our sustainability approach. During the development phase, we examine the products in stringent tests that are monitored by the authorities. At issue here are an active ingredient's toxicological properties on the one hand and on the other hand the question of how significant the remaining trace amount of a crop protection product is following proper application to the plants. Before a product is introduced to the market, we conduct numerous further safety tests with regard to its use and environmental behavior, depending on the product area.

CropScience allowed the sale of all remaining WHO Class I insecticide formulations for leaf and soil applications and seed treatments to expire at the end of 2012. All insecticides affected were replaced by modern, targeted and more environmentally friendly formulations.

CropScience observes the International Code of Conduct on the Distribution and Use of Pesticides of the United Nations Food and Agriculture Organization (FAO). The principles of this code cover the entire life cycle of a product, from its development to its application and beyond. 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: 3-10-BCS-1

Even beyond its core business, CropScience participates specifically in projects aimed at added product stewardship. We are a member of the Better Sugarcane Initiative, which works to promote sustainable sugarcane cultivation in Brazil, and the International Sustainability & Carbon Certification organization, which is working to establish a system for certifying biomass and bioenergy. We also take part in the Round Table for Responsible Soy, which works to promote sustainable soybean production, as well as in the Round Table for Sustainable Palm Oil Production, an organization that promotes sustainable cultivation methods for the production of palm oil.

RESPONSIBILITY FOR CUSTOMERS AND PARTNERS

The application of crop protection products requires the greatest possible care. Supporting our customers and partners in the proper and safe handling of the products is therefore a focus of product stewardship at CropScience. We address farmers and dealers particularly through numerous programs worldwide. Targeted workshops are aimed at enabling effective application of our products and ensuring the safety of users, the environment and consumers. Furthermore, we provide our customers with handbooks explaining the safe use, storage and disposal of all of our products.

ONLINE ANNEX: 3-10-BCS-2

CropScience concentrated its training activities in 2013 on the Asia and Latin America regions. In India, for example, the subgroup has been organizing general training and information events, through which 600 farmers receive training in good agricultural practice. They learn how they can enhance the growth of their produce, use crop protection products effectively and safely, and thus increase the quality of the goods they produce. The smallholders are also shown new ways of marketing their products and thus increasing their profits.

Promoting agricultural development is often a more effective way to fight hunger and poverty than other forms of support. Higher incomes in turn enable farmers in countries such as India to improve their standard of living and invest more in their children's education and their own businesses. Value is created for society as a result of the increased production of high-quality food. With these measures, we contribute to sustainable agricultural development.

In Latin America, we combined all our activities dealing with product safety measures within our AgroVida program. This comprises various initiatives with which we have been continuously increasing the farmers' safety awareness and specialist expertise since the 1990s. Safety training offerings for farmers play a role here, for example. In 2013 we trained some 20,000 farmers in the Andean region and approximately 3,700 farmers in the Central America and Caribbean region (excluding Mexico). We also carried out safety training measures in numerous African countries in 2013.

Bayer supports industry's efforts in various countries to establish a cross-company waste disposal concept for used packaging and containers. In anticipation of such a solution, Bayer also established its own disposal systems.

In the area of water pollution control, we offer customers a biological purification system, Phytobac™. This is intended to prevent the discontinuous discharge of crop protection active ingredients in the disposal of residual liquids that are generated during the filling and cleaning of spraying devices. In Europe, there are already around 2,500 Phytobac™ facilities. It is planned to introduce this system in Asia and Latin America as well.

Furthermore, we also work to improve technical solutions to minimize risks associated with the use of our products: in Europe, for example, we drove forward the optimization of sowing machines to provide better protection for users and the environment. The goal here was primarily to restrict the spread of dust.

The company's range of continuing education programs for product stewardship is rounded out by internal employee training measures. Our aforementioned Product Stewardship Policy also provides information on all principles for the responsible handling of our products, combined with specific instructions for use for our employees and those who work with our products.

BEE HEALTH AND CROP PROTECTION

Crop protection products that benefit farmers, consumers and the environment are necessary to safeguard the nutrition of a growing world population both now and in the future. At the same time, it is essential to protect the pollinators that contribute to a wide variety of healthy foods. In 2013 the debate surrounding the use of certain neonicotinoid crop protection products and the subjective assessment of their impact on bee health had an effect at the political level. As a result, the European Commission restricted the use of a number of products in this active ingredient class for certain applications in Europe. Bayer considers the decision by the European Commission to be scientifically unjustified and legally flawed. The active ingredients in question were extensively examined with regard to their impact on bee health already during the approval procedure. Bayer has appealed the decision by the European Commission in order to ensure legal certainty for approval procedures. Bayer continues to work on behalf of bee health and the responsible use of crop protection products. Within the context of its product stewardship, the company invests in research to minimize the effects of crop protection products on honey bees.

ONLINE ANNEX: 3-10-BCS-3

In 2012 Bayer launched a worldwide bee care program to promote a better understanding of the many factors that can impact bee health. This program included the construction of the first Bayer Bee Care Center at the site of CropScience and HealthCare's Animal Health Division in Monheim, Germany. CropScience's center in Monheim, which opened in June 2012, combines Bayer's extensive knowledge and expertise in bee health under one roof. It also serves as a platform for dialogue with stakeholders who share our interest in promoting bee health worldwide. Following the success of this facility, a second Bayer Bee Care Center will open in 2014 that will deal specifically with bee health

issues in North America. The North America center will be located at the U.S. headquarters of CropScience at Research Triangle Park near Raleigh, North Carolina, United States, and will bring together important technological, scientific and academic resources.

There is broad consensus among scientists who work in the area of bee health that the spread of the difficult-to-combat Varroa mite presents the main risk to bee health, partly because this pest transmits numerous viral diseases to bees. The Animal Health Division of HealthCare is working with researchers at the Institute for Apiculture in Oberursel, Germany, to develop the Varroa gate – an innovative way to control Varroa mites that is intended to keep this parasite from infesting beehives. However, another important factor that can impact bee health is generally more intensive agriculture in some regions, which limits suitable food sources for bees and breeding places for wild bees.

In addition to the focus on bee health, we assign importance to the product stewardship measures we are developing to accompany the use of our crop protection products. These initiatives include a new conveyor technology in the United States for sowing machines that reduces friction and thus promotes the even flow of seed; the additional labeling of seed sacks; two new technologies developed in Europe to treat exhaust air during sowing; and new, even more stringent quality control standards for seed dressing.

We have also launched an extensive bee monitoring program that is being implemented in five European countries (France, the United Kingdom, Germany, Hungary and Poland). The tests are carried out on winter canola, a crop that is very attractive for bees and is generally treated with neonicotinoid seed dressings. The monitoring includes a scientific study led by an independent research institute that will be implemented at various sites in the above countries and will begin with the sowing of the winter canola in summer 2014. In addition, to illustrate the monitoring activities a network of agricultural demonstration plants is being established in these countries that will come into play in spring 2014. These activities are scheduled to take two to three years.

CropScience remains convinced that neonicotinoids are safe for bees if they are used responsibly and properly. Our view is supported by the analysis of monitoring studies that were carried out by independent institutes in addition to the studies generated in extensive approval procedures. The current findings and many years of safe application of these products in agricultural practice confirm the results of the risk assessments performed by the E.U. member states' regulatory authorities on neonicotinoid seed dressings. These results state that the products are harmless to bee colonies provided they are used according to the product information. We initiated the above additional monitoring study independently of the numerous scientific studies that confirm the safety of neonicotinoids.

MATERIALSCIENCE

The products of MaterialScience satisfy the most stringent of safety requirements. This applies not just to those substances subject to standard review in accordance with the European REACH regulation. Within the context of the voluntary Global Product Strategy (GPS) of the chemical industry, we also assess the substances we use and reduce potential health and environmental risks that could result from our chemicals. The product safety assessments apply to the entire life cycle of a product – from research and procurement through production and logistics to application, disposal and recycling. Our product stewardship does not just end with our company, but also includes suppliers, customers and partners. GPS is accessible at MaterialScience through the "Product Safety First" internet portal, and has been available worldwide in seven languages since 2013. Through this website, we inform customers and other interest groups about our activities and product safety assessments.

ONLINE ANNEX: 3-10-BMS-1

A product safety assessment at MaterialScience takes place in several steps: first, chemicals that are subject to statutory regulations are identified and the corresponding laws compiled. Their risk potential is then examined so as to provide a basis for the effective minimization of risks. Such steps can include proposals for technical measures such as protective clothing, or marketing restrictions. Finally, we produce the legally required material safety data sheets, technical information sheets and labeling for the chemicals.

For especially important products such as MDI, TDI, polycarbonate and polyether, MaterialScience additionally works with associations to draw up environmental product declarations and eco-balances certified according to ISO 14040 and 14044 and based on industry averages.

With regard to substances that come into direct contact with food, MaterialScience is following the scientific discussion about the chemical Bisphenol A (BPA), a feedstock for various plastics. Critics are concerned that health risks could result for users if traces of BPA are released from polymers. As documented by numerous scientifically valid studies, we are convinced that the safety of BPA is ensured in its existing areas of application. This assessment is consistent with evaluations by the responsible regulatory authorities in Europe, the United States, Australia, Japan and other countries. In cooperation with the PlasticsEurope association, we work to make the discussion more objective through being based on scientific analysis.

MaterialScience discontinued its work on carbon nanotubes (CNTs) in 2013 due to strategic considerations. Researchers from MaterialScience had collaborated with external partners in recent years to resolve complex issues related to the safe production of specific carbon nanotubes. Much of the knowledge gleaned has already been made available to other companies and research institutions within the Innovation Alliance for Carbon Nanotubes (Inno.CNT).

11. Safety

Safety management is a keystone of corporate responsibility in the Bayer Group. We consider the prevention of accidents in day-to-day work, in the operation of production facilities, and on work-related travel and transportation routes to be a top priority. Our activities in the areas of health, safety, environmental protection and quality (HSEQ) are geared to ensuring the occupational health and safety of employees, contractors and suppliers on our company premises and under the supervision of Bayer, and the smooth and safe operation of our facilities. In this way, we also reduce running costs by avoiding damage and work disruptions.

At the Group level, responsibilities and framework conditions for HSEQ are regulated through appropriate directives. Operational responsibility lies with the boards of management/executive boards of the respective subgroups and service companies and the corresponding line organizations, who have their own management systems, committees and working groups to steer HSEQ. Continuous review and revision of directives and regular internal audits ensure that our HSEQ management systems meet the specific requirements in each case.

OCCUPATIONAL HEALTH AND SAFETY

The rate of occupational injuries with lost workdays at Bayer has been falling for several years. In 2013 we were once again able to report a reduction in injury figures thanks partly to intensive training and awareness-raising.

We record all injuries to Bayer employees requiring medical treatment that goes beyond simple first aid. These are indicated by the Recordable Incident Rate (RIR), which covers both injuries with lost workdays and those without. In 2013 this rate dropped to 0.47 cases per 200,000 hours worked (2012: 0.49) in the Group. This means that, in statistical terms, one recordable incident occurred for around every 425,000 hours worked.

The rate of recordable occupational injuries with lost workdays (LTRIR, Lost Time Recordable Incident Rate) also fell. In 2013 it stood at 0.26 (2012: 0.27).

Unfortunately, in 2013 we had to report the work-related death of a Bayer employee in Mexico and of a contractor's employee in China.

Occupational Injuries [Table 3.11.1]

	2009	2010	2011	2012	2013
Occupational injuries to Bayer employees with lost workdays (LTRIR*)	0.40	0.34	0.31	0.27	0.26
Recordable occupational injuries to Bayer employees (RIR*)	0.62	0.62	0.56	0.49	0.47
Fatal injuries (total)	4	4	3	2	2
of which Bayer employees	4	4	2	2	1
of which contractor employees**	0	0	1	0	1

* The values up to 2010 were calculated on the basis of the former MAQ values and do not include work-related illnesses.
** employees working for third parties whose accidents occurred on our company premises and under Bayer supervision

The injury figures varied both within individual regions and according to subgroup/service company.

ONLINE ANNEX: 3-11-1

Recordable Occupational Injuries (RIR) to Bayer Employees by Region [Table 3.11.1-1]

	2012	2013
Europe	0.21	0.72
North America	0.56	0.49
Asia/Pacific	0.54	0.20
Latin America/Middle East/Africa	0.53	0.40
Total	**0.49**	**0.47**

The unusually sharp increase in the RIR injury rate in Europe is currently being closely investigated.

Since 2012 workplace-related illnesses have been recorded separately from legally listed occupational diseases and are included in the LTRIR parameter. In the reporting period, six new cases of illness directly attributable to work-related factors were recorded throughout the Group. We report such cases when they have been diagnosed and officially recognized by a medical officer.

As in previous years, we hardly recorded any sector-typical accidents involving contact with chemicals in 2013. The absolute number of injuries declined further. A significant proportion of our work-related accidents and injuries relates to traffic accidents. In the previous year (2012) these were even at the top of our list of injury statistics. As a result, road safety was the focus of many programs and training courses in 2013.

ONLINE ANNEX: 3-11-2

Safety in motorized and non-motorized transport was also a central issue at the HealthCare sites worldwide, along with accidents caused by tripping, slipping and falling, as they account for most occupational injuries with lost workdays at HealthCare. Various measures and campaigns to prevent accidents on the road and on company premises were therefore carried out at many sites in 2013. Dedicated training courses and activities were also used to raise awareness in other areas of occupational safety such as workshops on the safe handling of hazardous substances for employees at various Chinese sites.

Road safety was also a big issue at CropScience in 2013, especially in training sessions for employees in Brazil, Colombia, Chile and Venezuela, and in several Asian countries, where motorcyclists in particular were given instruction. In a monthly "QHSE Update," CropScience publishes up-to-date information and advice for its employees worldwide.

In 2013 MaterialScience once again called on its employees to submit their suggestions for the subgroup's own CEO Safety Award. Measures implementing the winning entries will be rolled out worldwide at MaterialScience in 2014.

On the basis of a 2012 employee survey on HSE (Health, Safety, Environment) performed at Bayer Corporation in North America and at MaterialScience worldwide, all MaterialScience sites drew up action plans by the end of 2013. The goal is further improvement in occupational safety and the corresponding HSE management systems.

At the annual Group-wide Safety Day in September 2013 there was also a particular focus on correct road safety procedures.

PROCESS AND PLANT SAFETY

Through the Group-wide process and plant safety (PPS) initiative, Bayer is continuously working to improve the safety culture and corresponding standards in plants and laboratories and to optimize safety technology.

ONLINE ANNEX: 3-11-3

By the end of 2012, the process and plant safety initiative had provided training to approximately 26,000 production and technology employees and had led to the introduction of a standardized risk assessment including a catalog of measures. Based on the experience gained from these initial training courses, work began in 2013 on preparing teaching materials to enable the long-term continuation of the training program using both traditional and web-based training. To maintain the standard achieved in the long term, the process and plant safety training program will be firmly established in the subgroups' HSEQ management systems.

Further standardized KPIs, such as Loss of Primary Containment (LoPC), were also prescribed for all Bayer plants. LoPC refers to unsafe conditions in production facilities, for example chemicals leaking from their primary container such as pipelines, pumps, tanks or drums. LoPC was introduced as an early indicator. We use the associated rate (LoPC Incident Rate) to determine the number of LoPC incidents per 200,000 working hours in areas relevant to plant safety. The LoPC Incident Rate for 2013 was 0.35 (2012: 0.38).

ONLINE ANNEX: 3-11-4

Every incident reported is carefully analyzed with respect to its causes. The result of the cause analysis is publicized across the Group to heighten the safety awareness of employees. The reporting level is set so low that even material and energy leaks that have no impact on employees, neighbors or the environment are systematically recorded and reported. This approach is in line with our commitment to maintaining the integrity of our facilities at all times. As expected, the evaluations from the first few years have indicated areas where there is room for further improvement in the safety of existing facilities. The introduction of both this parameter and the global training program mentioned above is helping us to raise awareness of the significance of minor leaks and releases.

The Bayer Group Regulation "Process and Plant Safety" stipulates uniform processes and standards. The methods and criteria for identifying and assessing the risks posed to people and the environment by plants and processes underwent further development and were globally standardized.

The Bayer Group's competence center for process and plant safety, together with the Group HSEQ Platform for Process and Plant Safety, is managed by Technology Services. This comprises three regional competence centers, which are located in Leverkusen, Germany; Shanghai, China; and the Baytown and Kansas City sites in the United States.

TRANSPORTATION SAFETY

A central objective of the Board of Management is to make transportation safety a very high priority within the Bayer safety culture. The Bayer Group Regulation "Transportation Safety" specifies procedures that ensure that all transported materials are handled in line with applicable regulations and the materials' hazard potential. Logistics service providers are to be selected following a defined procedure, and their fulfillment of safety and quality standards is to be assessed regularly. The regulation requires every organizational unit concerned to appoint people who will be responsible for implementation.

A Group-wide Transportation Safety Platform has been set up that is chaired by each of the subgroups in turn. In 2013 the focus of the platform's activities lay, for example, on sustainable training tools for transportation safety, reviewing internal instructions and evaluating and selecting our logistics service providers. This was documented in corresponding HSEQ targets. As part of our Responsible Care™ activities, transportation safety instructions are also being drawn up for non-hazardous materials. This goes beyond what is required under transportation legislation.

The transportation safety management of the subgroups is part of the audit system of the Bayer Group detailed in the Bayer Group Regulation "Health, Safety, Environment and Quality (HSEQ) Audits."

We classify critical incidents during the transportation of our products as transport incidents. These include accidents that cause personal injury, significant damage to property, environmental impact through the release of substances or leakage of hazardous materials. We record transport incidents using defined criteria. Assessment is based on the leaked load, graded according to the volume and dangerous goods class, personal injury and blocked transportation routes. We take into account both our own chemical transports and those we commission and pay third parties to perform on our behalf.

In total, well over one million transport movements took place in 2013. Despite extensive safety precautions and training activities, it is unfortunately impossible to prevent transport incidents from occurring altogether. We carefully analyze and evaluate all incidents so that adequate steps can be taken to prevent a recurrence. The number of transport incidents in the reporting period rose from six to 11. All incidents occurred on the road or at sea.

Transport Incidents by Means of Transport [Table 3.11.2]

	2009	2010	2011	2012	2013
Road	8	6	6	6	8
Rail	2	1	1	0	0
Inland waterways	0	1	0	0	0
Sea	0	0	0	0	3
Air	0	0	0	0	0
Pipeline	0	0	0	0	0
Total	10	8	7	6	11

A detailed overview of the transport incidents can be found in Chapter 12.6 "Environmental Incidents." See Chapter 12.6

12. Environmental Protection

Bayer takes its responsibility to protect the environment very seriously. It is constantly working to reduce environmental impact and find innovative solutions that benefit the environment. Our environmental standards apply worldwide.

Eco-efficient processes help cut the costs associated with materials, energy, emissions and disposal. After all, an efficient approach to raw materials and energy is now more than ever an economic imperative too. Ever increasing costs oblige us to take measures to improve resource and energy efficiency that relieve the strain on the environment while also cutting costs.

Our commitment to environmental protection, health and safety extends beyond the scope of legal requirements. It includes factoring in environmental aspects and performing a voluntary ecological assessment for capital expenditure projects exceeding €10 million. In the case of acquisitions we examine prior to the transaction whether the applicable environmental and occupational safety regulations and fundamental employee rights are complied with at the production sites in question.

We are committed to the chemical industry's Responsible Care™ initiative and have set out the basic principles of this commitment in our Bayer Sustainable Development Policy. Certified HSEQ management systems control its operational implementation.

12.1 Energy Consumption

Energy and material consumption and emission levels are highly dependent on the manufactured sales volume. Consequently, this is our reference parameter for evaluating energy and resource efficiency.

In 2013 Bayer's manufactured sales volume fell by 1.4%. The Group's total energy consumption meanwhile was even down 2.8% at 80.8 petajoules. We differentiate between primary energy consumption at our sites – mainly of fossil fuels to generate our own electricity and steam – and secondary energy consumption that reflects the purchase of electricity, steam and refrigeration energy and the use of process heat. Primary energy consumption fell by 3.0% and secondary energy consumption by 2.6%. Alongside the lower manufactured sales volume, an increased drive to improve efficiency also contributed to this disproportionately large decrease. The trend away from a correlation between manufactured sales volume and energy consumption already identified in previous years thus continued in 2013.

The volume of the fossil fuels natural gas, oil and coal consumed decreased in 2013. In the area of secondary energy sources, steam consumption fell significantly but electricity consumption was only slightly below the figure for the previous year. Developments varied according to subgroup and site.

Relationship between Energy Consumption and Manufactured Sales Volume [Table 3.12.1]

	2009	2010	2011	2012	2013
	Terajoules	Terajoules	Terajoules	Terajoules	Terajoules
Primary energy consumption for the in-house generation of electricity & steam (1,000 TJ)	48.1	51.6	50.1	49.0	47.6
Natural gas	29,413	31,847	31,162	30,411	29,796
Coal	16,976	17,801	16,776	15,954	15,094
Liquid fuels	772	532	660	656	416
Waste	(33)	678	515	1,005	1,282
Other*	996	774	983	1,021	994
Secondary energy consumption as steam, electricity and refrigeration energy (net, 1,000 TJ)	29.2	34.1	34.8	34.1	33.3
Electricity**	23,675	25,229	25,475	25,849	25,560
Steam (net from purchase/sale)	(2,092)	722	1,054	(121)	(801)
Steam from waste heat (process heat)	8,273	8,722	9,000	9,144	9,146
Refrigeration energy (net from purchase/sale)	(654)	(595)	(683)	(735)	(639)
Total energy consumption (1,000 TJ)	77.3	85.7	84.9	83.2	80.8
Manufactured sales volume (million metric tons)	8.7	10.4	11.0	11.2	11.1
Energy efficiency (MWh/t)***	4.09	3.77	3.63	3.50	3.44

* e.g. hydrogen
** Secondary energy consumption for electricity is based on the raw material mix of the country concerned.
*** Energy efficiency: quotient of total energy consumption and manufactured sales volume. For MaterialScience, only manufactured sales volumes that also form the basis for calculating MaterialScience-specific emissions are taken into account.

Bayer utilizes primary energy as efficiently as possible and applies cogeneration in more than 90% of its energy generation. The electricity and heat generated 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 (secondary) energy purchased via us is also used at third-party production facilities. Furthermore, we purchase electricity on the market – through electricity exchanges, for example. In the reporting period, the proportion of renewable energies Group-wide was 0.7%. We comment in detail on these issues in the CDP (Carbon Disclosure Project-Climate Change Program) Report.

www.annual-report2013.bayer.com/CDP-climate

12.2 Air Emissions

At Bayer, air emissions are caused mainly by the generation and consumption of energy. Our commitment to greater energy efficiency helps reduce both costs and emissions. In addition, we aim to contribute to climate protection on several levels and have established a Group-wide Climate Program for this purpose.

CLIMATE PROGRAM

For some years, we have been working through our Climate Program to improve resource and energy efficiency, one objective being to reduce greenhouse gas emissions during production operations. We also offer market solutions aimed at protecting the climate and adapting to climate change.

By introducing this Climate Program, Bayer already reduced its specific emissions by around 18% between 2005 and the end of 2013. We have therefore achieved our ambitious medium-term targets. By implementing energy management systems and investing in energy efficiency measures we have also improved the Group's energy efficiency by around 18% over the same period as planned.

See Chapter 1.3

As part of our new package of targets (see Chapter 1.3 "Targets and Performance Indicators"), the existing emissions reduction target will be raised slightly and relate to a more recent base year. This new, ambitious emissions reduction target will be supplemented by an energy efficiency target. Between 2012 and 2020, Bayer intends to cut its specific greenhouse gas emissions by 20% and improve its energy efficiency by 10%.

Alongside aiming to achieve the overall Group climate target, the Bayer Climate Program reflects a commitment to three specific areas:

1. More efficient production: reducing emissions at Bayer's own production facilities by increasing energy efficiency and by developing and utilizing new, innovative technologies.

ONLINE ANNEX: 3-12.2-1

By the end of 2013 MaterialScience had introduced the STRUCTese™ (Structured Efficiency System for Energy) energy management system at 58 particularly energy-intensive facilities across the globe. The annual energy saving amounted to over 1.2 million MWh, while CO_2 emissions were cut by over 360,000 metric tons per annum. German MaterialScience sites that have all implemented STRUCTese™ were successfully recertified to ISO 50001 in 2013.

Innovative production processes also help reduce electricity consumption and greenhouse gas emissions. Using oxygen depolarized cathode (ODC) technology in chlorine production cuts electricity requirements, for example, by 30% compared with the standard process. This was revealed during a two-year test period at a demonstration plant with an annual capacity of 20,000 metric tons of chlorine at the Krefeld-Uerdingen site in Germany. The process has been marketed globally since 2013 so as to raise potential for improved efficiency outside Bayer too. If ODC technology were introduced throughout Germany's chlorine industry, for example, it would cut the country's total electricity consumption by 1%.

A further process innovation is gas phase technology in the manufacture of the polyurethane precursor TDI. This technology uses up to 60% less energy and up to 80% less solvent. Among other things, the process is to be used at a new TDI plant with an annual capacity of 300,000 metric tons that is currently being built at the Dormagen site in Germany at a cost of €250 million.

Partially replacing crude oil with CO_2 in the production of plastics could help conserve resources. In this process, polyol, another precursor required to make polyurethane, can be manufactured with the help of CO_2.

A global review of energy management systems is being performed in our life science businesses with the goal of identifying at which production sites certification to ISO 50001 should be envisaged.

Chemical park operator Currenta started introducing energy management systems at the German sites in Dormagen, Leverkusen and Krefeld-Uerdingen in 2012. Certification to ISO 50001 will be completed by the end of 2015 at the latest.

2. Market solutions: using Bayer products – particularly in the areas of building insulation, lightweight construction and agriculture – to reduce customer emissions. Our products play their part in saving energy and conserving resources in many different ways. They help customers reduce emissions and provide them with solutions for adapting to climate change.

ONLINE ANNEX: 3-12.2-2

Products and solutions from MaterialScience help conserve resources and save energy in a number of key industries and areas of life, at the same time also cutting emissions. Prime examples include lightweight construction in the automotive sector and the insulation of buildings and refrigeration equipment. For instance, a particularly fine-pored rigid polyurethane foam has been developed that can bring about a further significant improvement in the insulating performance of refrigerators and freezers.

MaterialScience is also demonstrating possible applications for insulating materials in the EcoCommercial Building Program – a global network of experts for sustainable construction initiated by the company. It brings together over 80 specialists from a variety of sectors including lighting technology, energy management and renewable energies. The objective is to develop solutions for reducing buildings' energy consumption and using renewable sources to cover the remaining requirements. Bayer itself makes use of the global network to construct its own reference buildings. Such buildings have so far been constructed in Germany, Belgium, the United States, India, China and, most recently, Brazil.

The transparent, high-performance plastic polycarbonate also paves the way for energy-efficient market solutions supporting, for example, energy-saving LED technology that can be used in the automotive industry and for innovative street lights. The latter consume up to 70% less energy than conventional models.

Materials from MaterialScience also play a role in generating renewable energies. The latest development projects include transparent polyurethane coatings for solar cells that require no outer glass panel, thus cutting weight, saving costs and making energy generation more efficient. In the area of wind power, the company has developed a new polyurethane infusion resin for rotor blades that outperform rotors based on the epoxy resins previously used in terms of lightness, fracture toughness and durability.

CropScience's seed and crop protection strategy actively helps reduce specific greenhouse gas emissions per yield. Chemical crop protection products that, for example, specifically increase stress tolerance enable customers to make efficient use of resources so as to boost yields. CropScience has expanded its Tabela project in Indonesia, which focuses on rice cultivation with direct seeding, to an area of 10,000 ha – a 40% increase compared with 2012. Under this initiative, the company is working with international and local partners to demonstrate just what can be achieved through direct seeding of pregerminated rice and with the help of a customized package comprising seeds and crop protection. The benefits include enhanced water efficiency, lower greenhouse gas emissions, higher rice yields and improved incomes for farmers. It is expected that the project will be continuously expanded in the future, with the goal of supporting the sustainability of rice cultivation in Indonesia. The Republic of Indonesia has recognized CropScience's Tabela project as a U.N. Clean Development Mechanism through its responsible body.

The successful continuation of the cooperation with the International Vector Control Consortium (IVCC) in combating malaria through targeted defense against the insects transmitting the disease using technological solutions such as long-lasting insecticides helps fight the growing threat of malaria resulting from climate change.

3. Supporting activities: reducing emissions in non-production areas – such as the vehicle fleet and IT – involving the workforce in the process.

ONLINE ANNEX: 3-12.2-3

Bayer maintains a variety of initiatives to cut costs in the Group's non-production areas by saving energy and fuel. Examples include improvements to the vehicle fleet and in the field of information technology. A new reduction target was implemented in 2013 as part of the Bayer EcoFleet initiative. By 2020 Bayer is planning to reduce the specific CO_2 emissions of the Group's global fleet comprising over 25,000 vehicles to 110 g/km. In the area of communication, Bayer is increasingly using energy-efficient workstation solutions with integrated voice and video functions. Such IT solutions reduce the number of business trips necessary and thus emission levels.

GREENHOUSE GAS EMISSIONS

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 (corresponding to Scope 1 of the GHG Protocol) are determined at all production locations and relevant administrative sites.

In the reporting year, greenhouse gas emissions remained Group-wide at about the same level as the previous year (+0.2%). While direct emissions fell by 3.6%, indirect emissions rose by 4.1% in arithmetical terms. At the site where we consume the most power, Baytown in the United States, the local energy producer has updated the emission factors for electricity and steam procurement, which led to an arithmetical rise in our greenhouse gas emissions.

Specific greenhouse gas emissions for 2013 rose owing to the fall in manufactured sales volume compared to 2012, reaching 1.00 metric ton of CO_2 equivalents per metric ton of sales product.

ONLINE ANNEX: 3-12.2-4

Thanks to their environmentally friendly and resource-efficient combined heat and power (CHP) technology, our power plants convert approximately 80% of the fuel energy used into electricity and heat. Despite this, they cause a significant proportion of the Group's direct greenhouse gas emissions.

It is important to note that, in line with the regulations of the GHG Protocol, we include in our figures all greenhouse gas emissions from the conversion of primary energy sources into electricity, steam or refrigeration energy, even though a significant proportion of direct emissions result from the generation of energy that is supplied to third parties (other companies). Consequently, our absolute figures for greenhouse gas emissions are higher than the actual emissions resulting from Bayer's business activities. The level of specific greenhouse gas emissions is a more meaningful statistic. This indicates only the greenhouse gas emissions for which Bayer is responsible in relation to the manufactured sales volumes of the three Bayer subgroups.

Each year, the waste incineration plants operated by Currenta produce around 1 million metric tons of steam from the incineration of approximately 280,000 metric tons of hazardous waste. Compared to using fossil fuels, this reduces emissions by 200,000 metric tons of CO_2 per year.

Information on subgroup-specific greenhouse gas emissions can be found online.

ONLINE ANNEX: 3-12.2-5

Greenhouse Gas Emissions by Subgroup and Service Company [Table 3.12.2-1]

	Total direct and indirect emissions in million metric tons of CO_2 equivalents				
	2009	2010	2011	2012*	2013*
HealthCare	0.55	0.54	0.54	0.55	0.52
CropScience	1.09	1.09	1.00	0.92	0.95
MaterialScience**	4.83	5.24	4.63	4.89	4.98
Others***	0.02	0.02	0.01	–	–
Currenta****	1.62	1.62	1.97	1.88	1.83
Specific greenhouse gas emissions for MaterialScience (metric tons of CO_2 equivalents per metric ton of manufactured sales volume)*****	1.09	0.96	0.82	0.86	0.89

* Emissions from the Group's vehicle fleet amounting to 0.10 million metric tons of CO_2 equivalents are not assigned to specific subgroups but are reported in the Group direct emissions (see Table 3.12.2 "Group Greenhouse Gas Emissions").

** In collaboration with our energy suppliers we were able to update a large proportion of the conversion factors for calculating emissions. These plant-specific values are increasingly replacing the statistically determined factors of the International Energy Agency (IEA) previously used. This step led to a worsening of MaterialScience's emission reduction (2005–2013) from 27.1% to 23.7%. Bayer does not intend to adjust its targets.

*** Total greenhouse gas emissions for Technology Services and Business Services. These companies' production facilities were incorporated into other subgroups in 2012.

**** The emissions reported for Currenta are attributable to the provision of energy to external companies at the Chempark sites.

***** The by-products sodium hydroxide solution and hydrochloric acid generated during production are not included in the manufactured sales volume. Trade products are also not included.

Group Greenhouse Gas Emissions* [Table 3.12.2]

	Million metric tons of CO_2 equivalents				
	2009	2010	2011	2012	2013
Direct greenhouse gas emissions**	4.57	4.80	4.23	4.24	4.09
Indirect greenhouse gas emissions***	3.53	3.70	3.92	4.12	4.29
Total greenhouse gas emissions	**8.10**	**8.50**	**8.15**	**8.36**	**8.37**
Specific greenhouse gas emissions (metric tons of CO_2 equivalents per metric ton of manufactured sales volume)****	1.23	1.09	0.95	0.98	1.00
Manufactured sales volume (million metric tons)	**8.7**	**10.4**	**11.0**	**11.2**	**11.1**

* portfolio-adjusted in accordance with the GHG Protocol
** In 2013, 89.5% of emissions were CO_2 emissions, 10.0% N_2O emissions, just under 0.5% partially fluorinated hydrocarbons and 0.04% methane.
*** Typically, CO_2 in incineration processes accounts for over 99% of all greenhouse gas emissions. We therefore base our calculation of indirect emissions on CO_2 only.
**** Specific Group emissions are calculated from the total volume of direct and indirect emissions of the subgroups, including from the vehicle fleet, divided by the manufactured sales volume of the three subgroups. Quantities attributable to the supply of energy to external companies are deducted from the direct and indirect emissions. At MaterialScience the by-products sodium hydroxide solution and hydrochloric acid generated during production are not included in the production volume as they will occur in much smaller amounts in the future, thanks to measures aimed at enhancing energy efficiency. Trade products are also not included.

Since 2011 the reporting of all relevant indirect Scope 3 emissions under the GHG Protocol has been bindingly regulated by the Corporate Value Chain Accounting & Reporting Standard. Following a thorough examination Bayer has identified nine material Scope 3 categories, which are reported on in detail in the CDP Report.

ONLINE ANNEX: 3-12.2-6
As part of the Carbon Disclosure Project – Climate Change Program, we will again be publishing a detailed report for 2013 on these emissions that result from the value chain. We take particular account of emissions where there is significant potential for reduction. These include our transport-related emissions resulting from business trips.

In 2013 the Bayer Group was involved in European emissions trading with 10 incineration plants and five chemical production plants. The greenhouse gas emissions of these facilities comprised approx. 2.17 million metric tons of CO_2 (incineration plants) and approx. 0.48 million metric tons of CO_2 equivalents (chemical production plants).

OTHER DIRECT EMISSIONS INTO THE AIR

Emissions of ozone depleting substances (ODS) fell by 3.9%. Emissions of volatile organic compounds excluding methane (VOCs) dropped by around 13%. The main source of emissions remains the CropScience site in Vapi, India, which accounts for over 70% of all VOC emissions. The project initiated there to reduce these emissions is starting to have an impact: VOC emissions have fallen by a further 11%, which is equivalent to 8.8% of the Group total. By 2016 at the latest, a central waste air treatment system will bring together the many different emission streams in Vapi and significantly reduce these emissions. At the HealthCare site in Bergkamen, Germany, targeted organizational and technical improvements led to a reduction of almost 70% in local VOC emissions.

Emissions of Ozone Depleting Substances (ODS)* [Table 3.12.3]

	Metric tons p.a.				
	2009	2010	2011	2012	2013
ODS	**17.5**	**20.8**	**16.3**	**16.3**	**15.7**

* in CFC-11 equivalents

VOC* Emissions [Table 3.12.4]

	2009	2010	2011	2012	2013
VOC in 1,000 metric tons p.a.	2.59	2.54	2.69	2.60	2.27
VOC in kg per metric ton of manufactured sales volume	0.2979	0.2436	0.2457	0.2316	0.2047

* volatile organic compounds excluding methane

Other direct emissions also fell in 2013.

ONLINE ANNEX: 3-12.2-7

Other Important Direct Air Emissions [Table 3.12.4-1]

	2009	2010	2011	2012	2013
	1,000 metric tons p.a.	1,000 metric tons p.a.	1,000 metric tons p.a.	1,000 metric tons p.a.	1,000 metric tons p.a.
CO	1.4	1.4	1.3	1.0	0.9
NO_X	3.5	3.7	3.7	3.1	2.5
SO_X	2.8	2.7	2.3	1.9	1.3
Particulates	0.2	0.2	0.2	0.2	0.2

12.3 Use of Water and Emissions into Water

The continuous availability of clean water in sufficient quantities is essential for our production sites and the surrounding areas. However, this cannot be taken for granted in many parts of the world. We safeguard our water supply under the premises that industrial water usage does not lead to local problems such as a shortage of water for the local population.

www.annual-report2013.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. Our CDP Water Disclosure reports on our water usage and the associated risks.

ONLINE ANNEX: 3-12.3-1

We are currently actively involved in the CEO Water Mandate's working group to develop Corporate Water Disclosure Guidelines. We provide details of our commitment, the measures implemented and the results achieved within the Group in our annual CDP Water Disclosure response, which represents a progress report for the CEO Water Mandate. In this survey initiated by the Carbon Disclosure Project (CDP), 530 institutional investors call on 629 of the world's biggest companies to disclose details of their water management, their company-specific water footprint, and the opportunities and risks they have identified in connection with the use of water.

Based on our company's Water Position, we have established a program for the targeted and ongoing improvement of our water-related operating procedures. This covers both the protection and the efficient use of resources. As part of the Water Disclosure Project we have performed a screening of all environmentally relevant sites with respect to water shortage. Sites located in arid regions that are subject to particular risks when it comes to the availability and quality of water will establish a water management system with regional targets and measures by 2017 (see also Chapter 1.3 "Targets and Performance Indicators"). This will be performed on the basis of the analysis of environmental aspects in existing Bayer environmental management systems. Previous local reduction targets, as established in Spain, New Zealand and Australia, will be taken into consideration.

See Chapter 1.3

Our three subgroups apply specific systems and standards to tackle the respective challenges they face in their usage of water.

ONLINE ANNEX: 3-12.3-2

In its Water Protection Directive, HealthCare commits itself to responsible water usage. For example, new facilities for collecting, treating and using rainwater are under construction at the Bergkamen site in Germany. HealthCare sees itself as duty-bound to continue developing its strategy for dealing with pharmaceutical residues in the environment.

CropScience is a member of the World Business Council for Sustainable Development's Water Programme Leadership Group. At the end of 2012 a pilot project was launched at the Quart de Poblet site in Spain. As part of the European Water Stewardship Programme, this project will evaluate the sustainable use of water and investigate potential for improvement.

MaterialScience regulates the resource-friendly use of water in its HSEQ policy. This policy includes a commitment to handle resources carefully. The company also feels it has a responsibility to continuously improve its contribution to environmental protection and energy efficiency.

WATER CONSUMPTION AND USAGE

In 2013 the Group's water consumption fell by around 23 million m³ or approx. 6%. The biggest reductions were seen at the Chempark Leverkusen site in Germany and the MaterialScience site in Antwerp, Belgium. The gradual closure of production facilities at the CropScience site in Institute, West Virginia, United States, has reduced water consumption there by almost 24 million m³, which corresponds to over 6% of the Group's total water volume. Water was essentially obtained from the same sources as in the previous year.

Net Water Intake by Source [Table 3.12.5]

	2009	2010	2011	2012	2013
Water consumption (million m³ p.a.)	407	474	411	384	361
Proportion from surface water (%)	58	71	65	64	63
Proportion from bore holes/springs (%)	32	25	31	32	33
Proportion from public drinking water supplies (%)	1	3	2	2	3
Proportion from other sources, generally rainwater (%)*	9	1	2	2	2

* Through an optimization in the accounting of water use, it was possible to assign most of the water to the actual sources from 2010 onward, thus reducing the figure for water from other sources.

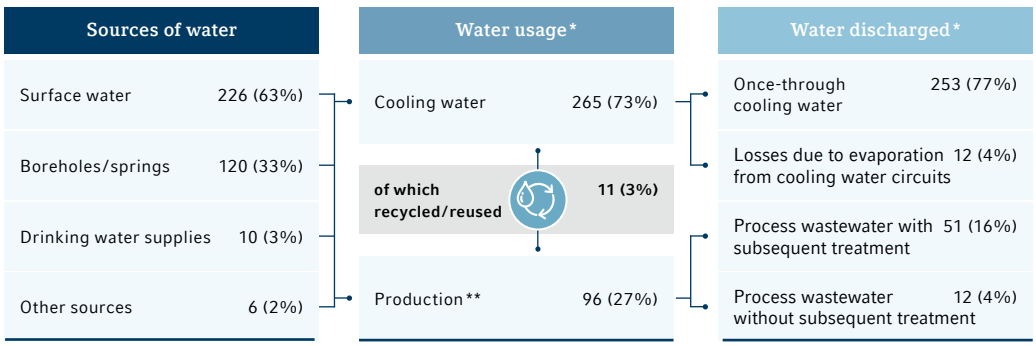
The total volume of once-through cooling water in 2013 was around 253 million m³. This is approximately 12% down on the previous year, which amounts to a reduction of 36 million m³ worldwide. 70% of all water used by Bayer is once-through cooling water. This water is only heated and does not come into contact with products. It can be returned to the water cycle without further treatment in line with the relevant official permits. The main reasons for the reduction in the volume of once-through cooling water are the partial closure of the CropScience site in Institute, West Virginia, United States, and the lower production volume at the MaterialScience site in Antwerp, Belgium.

In our production activities, we endeavor to use water several times and to recycle it. Water is already recycled and reused at 36 sites, e.g. in closed cooling cycles, or through the reuse of treated wastewater or steam condensate recovery as process water. A total of around 11 million m³ of water was reused in the reporting year.

ONLINE ANNEX: 3-12.3-3

The graphic shows the distribution of the different types of water usage within the Bayer Group.

Water Use in the Bayer Group in 2013 (million m³) [Graphic 3.12.2-1]



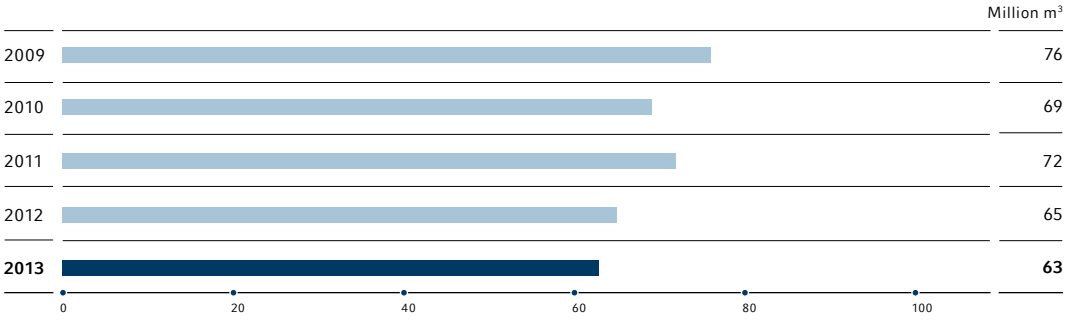
* The differences between volumes of water consumed and water discharged can be explained, for example, by unquantified losses due to evaporation, leaks, quantities of water used as raw materials in products and volumes of condensate generated through the use of steam as a source of energy.

** sum from production processes, sanitary wastewater and rinsing and cleaning processes in production

WASTEWATER AND WASTEWATER DISCHARGES

The total volume of process wastewater fell by around 3.6%. All wastewater is subject to strict monitoring and analysis before it is discharged into disposal channels. 81% of Bayer's process wastewater worldwide is purified in wastewater treatment plants (Bayer or third-party facilities). Following careful analysis, the remaining 19% was categorized as environmentally safe. Part of it contained nutrients and was therefore used to water gardens and agricultural land. The volume of treated wastewater fell by 4% compared to the previous year. Its proportion of the total discharge of water remained at the previous year's level. The decrease in the volume of wastewater not requiring treatment is primarily due to the reduced use of once-through cooling water at the two German Chempark sites in Leverkusen and Krefeld-Uerdingen.

Volume of Process Wastewater (million m³) [Graphic 3.12.1]



Our goal is to minimize emissions into wastewater. In 2013 the amount of nitrogen compounds released into wastewater fell by 2%, and the amount of phosphate discharged decreased by 25%.

In 2013 we recorded an increase of around 8% in total organic carbon (TOC) emissions. The main generators of this were the CropScience sites in Muttenz, Switzerland, and Kansas City, Missouri, United States. The most important reason for this was a considerable increase in production, along with a defect in a heat exchanger in Muttenz.

Emissions into Water [Table 3.12.6]

	Absolute values				
	2009	2010	2011	2012	2013
Phosphorus (1,000 metric tons p.a.)	0.74	0.09	0.08	0.15	0.11
Nitrogen (1,000 metric tons p.a.)	0.64	0.49	0.53	0.70	0.69
Nitrogen (kg per metric ton of manufactured sales volume)	0.0737	0.0474	0.0486	0.0624	0.0620
TOC* (1,000 metric tons p.a. of organically bound carbon)	1.35	1.42	1.50	1.42	1.53
TOC (kg per metric ton of manufactured sales volume)	0.155	0.136	0.137	0.126	0.138
Heavy metals (1,000 metric tons p.a.)	0.0090	0.0114	0.0108	0.0098	0.0091
Inorganic salts (1,000 metric tons p.a.)	726	866	926	1,048	946
COD** (1,000 metric tons p.a.)	4.05	4.26	4.51	4.25	4.58

* total organic carbon
** chemical oxygen demand; calculated value based on TOC figures (TOC x 3 = COD)

12.4 Waste and Recycling

Bayer minimizes material consumption and disposal volumes through systematic waste management. 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.

In 2013 the total volume of waste generated fell by around 11%. The main reason for this was the completion of a major soil remediation project at CropScience's Thane site in India. The site has now been sold. Another soil remediation project, at the HealthCare site in Orizaba, Mexico, was also completed, leading to a further drop in waste volumes.

Waste Generated*

[Table 3.12.7]

	2009	2010	2011	2012	2013
Total waste generated (1,000 metric tons p.a.)	914	807	958	1,014	899
Hazardous waste generated**	375	354	474	603	467
of which hazardous waste from production	302	325	354	397	417
Specific volume of hazardous production waste (%)	3.47	3.12	3.23	3.54	3.77

* only waste generated by Bayer
** definition of hazardous waste in accordance with the local laws in each instance

In line with the general reduction in the volume of waste, the amount of waste disposed of fell by 10.4%. This had no significant effect in 2013 on the distribution of waste among the different disposal channels, however.

ONLINE ANNEX: 3-12.4-1

Waste by Means of Disposal

[Table 3.12.7-1]

	2009	2010	2011	2012	2013
Total volume of waste disposed of* (1,000 metric tons p.a.)	**918**	**809**	**966**	**1,021**	**915**
Proportion removed to landfill (%)	40	32	38	36	32
Proportion incinerated (%)	28	36	33	33	38
Proportion recycled (%)	31	31	28	29	27
Waste that cannot be unambiguously assigned (%)	1	1	1	2	2

* Bayer serves as a certified waste disposal plant operator at various sites. At these locations, Bayer disposes not only of its own waste but also of waste from third parties (companies not belonging to the Bayer Group). For that reason the volume of waste disposed of differs slightly from the volume of waste generated by Bayer.

Hazardous Waste* Generated by Means of Disposal

[Table 3.12.7-2]

	2009	2010	2011	2012	2013
	1,000 metric tons p.a.	1,000 metric tons p.a.	1,000 metric tons p.a.	1,000 metric tons p.a.	1,000 metric tons p.a.
Total volume of hazardous waste generated	**375**	**354**	**474**	**603**	**467**
Amount removed to landfill	89	56	122	175	53
Amount incinerated/recycled	286	298	352	428	414

* only waste generated by Bayer

RECYCLING

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

In the reporting period, the volume of waste recycled was just under 250,000 metric tons (27%) of the total volume of waste disposed of, which is two percentage points down on the previous year. Numerous examples of recycling measures provide proof of Bayer's commitment to recycling.

ONLINE ANNEX: 3-12.4-2

At the Bergkamen site in Germany, HealthCare binds iodine released during the incineration of waste from X-ray contrast medium production and processes it into an iodide solution that can be marketed. This process enabled us to recover and recycle around 220 metric tons of iodine in 2013.

CropScience supports the drawing up of directives on the return of crop protection product packaging in collaboration with national industrial associations. The subgroup is also globally committed to establishing efficient take-back systems with the corresponding reclamation organizations. In 2013, 2,250 metric tons of rinsed primary packaging was collected and, to a great extent, recycled (about 85% of the total volume). The PAMIRA system for the safe and environmentally responsible disposal of crop protection and liquid fertilizer packaging was introduced on a voluntary basis in the 1990s by the crop protection industry and the commercial sector. The amount of packaging taken back in Germany has been steadily growing since 2010. In 2013, 2,666 metric tons of packaging were accepted and passed on for controlled, environmentally responsible recycling.

MaterialScience supports the recycling of its plastic products and items made from them, among other things by working extensively in associations and bodies such as PlasticsEurope's sustainability platform. The subgroup is also a shareholder of BKV GmbH, German industry's competence platform for recycling plastic. In its own production operations, too, MaterialScience uses material recycled from plastic waste. Such high-quality secondary raw materials are used to make certain engineering thermoplastics. Current products include a flame-retardant plastic compound comprising 30% old PET water bottles that is used to make TV housings.

In 2013 MaterialScience also became involved in PlasticEurope's "Zero Pellet Loss" initiative, which aims to prevent plastic granules from being released at any stage in the life cycle of thermoplastic products. In particular, production and logistics processes are to be reviewed.

Currenta has developed a process for the thermal treatment of composite materials. This process destroys all organic, flammable substances, converts the heat released into usable steam and releases the usable precious metals with a recovery rate of up to 99%. Recycling industrial waste, materials from demolitions and chemical waste from the Chempark sites is also part of Currenta's remit. This also involves the inspection of buildings for contamination, the environmentally sound disposal of rubble and the reuse of all recyclable materials. In 2013 Currenta's recycling measures resulted in around 46,000 metric tons of construction materials, 40,000 metric tons of metal and 12,000 metric tons of chemicals such as sulfuric acid, solvents and iodine being returned to the material cycle.

12.5 Biodiversity

A new, Group-wide biodiversity position has applied at Bayer since the beginning of 2013. This incorporates the existing CropScience subgroup position. It takes into account influences on biodiversity along the whole value chain and the sustainable use of raw materials. Particular attention is paid to product innovations that are of specific benefit to biodiversity.

In this position, all subgroups commit themselves to the Convention on Biological Diversity. Under this Convention, the industrialized nations entered into an undertaking in October 2012 to provide developing countries with greater support in implementing international biodiversity goals.

ONLINE ANNEX: 3-12.5-1

CropScience's research and development activities include improving plant health, providing assistance in tackling invasive species, and supporting and implementing measures to promote integrated crop management. Farmers and breeders can use CropScience products to improve their production efficiency with the goal of reducing the area needed for agricultural use, which in turn leaves room for the preservation of valuable ecosystems with a large diversity of species.

Great importance is also attached to the protection of biodiversity as part of the European Union's reform of its Common Agricultural Policy in line with the Convention on Biological Diversity.

Building on the measures initiated as part of the International Year of Biodiversity in 2010, CropScience started a raft of other projects in 2011 and continued them in 2013. The subgroup thus also supports the European Union's Action Plan for Biodiversity in the key areas that we can influence. To protect and encourage pollinating insects, several strips of flowers have been planted in front of and on the grounds of the CropScience site in Monheim, Germany. Under the motto "Blühende Wege" (Areas in bloom), the subgroup is appealing to municipalities, beekeepers and individuals to turn unused strips of grass into feeding areas for bees. The goal is to trigger a dynamic process that will create a network of thriving biotopes throughout Germany. A total of nine sites were supported with special seeds in 2013 and an expansion of the initiative is planned for 2014.

In the Upper Rhine Plain, Germany, a project examining the influence of strips of flowers, beetle banks and other measures on the populations of wild bees and butterflies is already in its fourth year.

The Bayer Forward Farming project earmarked for roll-out throughout Europe was started in 2011 with the goal of demonstrating that it is possible to strike a successful balance between productive agriculture on the one hand and the maintenance and promotion of biodiversity on farmland on the other. Farms in Germany, Belgium, the United Kingdom and France are currently involved, and further activities are planned in the Netherlands and Poland.

HealthCare also attaches great importance to maintaining biological diversity. As a member of the Association of Research-Based Pharmaceutical Companies, it supports the association's position on the U.N. Convention on Biological Diversity. A new biodiversity policy has been in place at HealthCare's sites since June 1, 2013. Among other things, this takes into account that the subgroup concentrates on the chemical synthesis of substances using state-of-the-art technologies in medicinal, combinatorial and computational chemistry. Research on natural substances is not a focal point of its work, accounting for less than 5% of its research activities. If such substances are used during research into new pharmaceuticals, they are first checked with respect to the Convention on Biological Diversity.

A Group-wide directive stipulates that new production sites must not be set up in areas that are protected by statutory requirements of the countries concerned relating to natural characteristics, biodiversity or other factors.

ONLINE ANNEX: 3-12.5-2

Using our global site register, we compared the geographical coordinates of relevant production sites against those of internationally recognized protected areas (ASEAN Heritage, Barcelona Convention, UNESCO-MAB Biosphere Reserve, Wetlands and World Heritage Convention and Ramsar Convention). This analysis showed that three of our sites lie less than three kilometers from protected areas. These are Schorren van de Benenden Schelde, Belgium; the Wadden Sea of Lower Saxony, Germany; and Blesbokspruit, South Africa. For example, we regularly check water usage and discharge at water-intensive sites so as to prevent significant extractions of water and wastewater discharges that could adversely affect the protected areas.

12.6 Environmental Incidents

Bayer uses the term "environmental incidents" to define incidents in the course of our business activities that result in the release of substances into the environment. 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.

Despite extensive safety precautions and training, it is unfortunately impossible to prevent the occurrence of environmental incidents altogether. In 2013 the number of environmental incidents rose from five to 10, and the number of transport incidents from six to 11. Five of these come under both categories. A detailed description of environmental and transport incidents can be found online.

ONLINE ANNEX: 3-12.6-1

Environmental and Transport Incidents [Table 3.12.7-3]

	Environment	Transport	Personal injury
CropScience, India, February 12, 2013 While being transported by ship to India, a big bag containing the product Nativo™ was ripped open owing to the container of another company being inadequately secured. Around 400 kg of the product was dispersed on the ship. The carrier received detailed cleaning and decontamination instructions.	⊗	⊗	No
CropScience, Muskegon, Michigan, United States, February 28, 2013 Methanol gas escaped during routine maintenance. The incident was reported to the authorities, because the locally permitted threshold was exceeded. An accident analysis was performed, the responsible technical staff received appropriate training and the control system was reviewed.	⊗		No
CropScience, Vapi, India, March 13, 2013 A plastic pipe leading to a tank ruptured and 20 m³ of a liquid containing hydrogen chloride (HCl) leaked out. The product was collected and the remnants neutralized.	⊗		No
MaterialScience, Knoxville, Tennessee, United States, April 4, 2013 A fork-lift truck damaged a transport container during loading of the adhesive Desmodur™. Around 225 liters of the product leaked out inside a container and was properly soaked up and disposed of.		⊗	No
MaterialScience, sea route between Brazil and Argentina, April 9, 2013 During routine cleaning of a ship's tank at sea, 500 metric tons of polyol (non-toxic polyurethane precursor) was accidentally mixed with around 10 metric tons of seawater. This resulted in 35 metric tons of polyol being released into the Atlantic Ocean.	⊗	⊗	No
CropScience, Lubbock, Texas, United States, May 8, 2013 One of six hydrogen chloride tanks on a supplier's trailer sprung a leak. The cause was initially unknown. An emergency plan was initiated, with around 100 residents living within a radius of 800 m being evacuated as a precaution. Once the leak had been plugged, they were able to return to their homes. Bayer asked the responsible supplier to perform a detailed investigation to analyze the cause of the incident.	⊗		No
CropScience, Kansas City, United States, May 11, 2013 The actuation of a pressure relief valve resulted in approximately 790 kg of ammonia being released into the atmosphere. The cause was the decomposition of a valve seal. This defect was corrected through the use of another, chemically resistant seal.	⊗		No

Environmental and Transport Incidents [Table 3.12.7-3 (continued)]

	Environment	Transport	Personal injury
MaterialScience, Krefeld-Uerdingen, Germany, June 19, 2013 A residue drain valve in a hydrochloric acid line that connected two tank farms and had a maximum fill volume of approximately 20 m³ developed a defect. The line was not in operation at the time. As a result of hydrostatic pressure, the acid leaked out at the location of the defect. The Fire Department prevented any more serious damage by creating a wall of water. It was possible to drain off a large part of the leaked acid into the in-house sewerage system. The embankment of the adjacent internal rail line was contaminated as a result of this incident and was subsequently decontaminated properly.	⊗		No
MaterialScience, A3 freeway near Neustadt, Germany, June 20, 2013 A traffic accident involving a van and a truck occurred on the A3 freeway. Both vehicles were loaded with Bayer materials. Approximately 3 metric tons of these materials escaped but they were not hazardous. The two injured drivers were taken to hospital and released after a short time. The freeway had to be closed while the debris was cleared away. The regional media visited the scene and reported on the incident.		⊗	Yes
MaterialScience, near Padang, Sumatra, Indonesia, June 26, 2013 A traffic accident resulted in a contractor's truck overturning and plunging down a 200 m cliff. The driver and co-driver were both killed. Around 9 metric tons of polyol (non-toxic polyurethane precursor) escaped.	⊗	⊗	Yes
MaterialScience, Irving, Texas, United States, July 17, 2013 A transport company reported a leak in a 200-liter metal drum filled with Desmodur™. A drum transporter had accidentally collided with and punctured the drum during loading. Approximately 200 l of the product leaked out. No one was injured and no emissions were released into the environment. A specialist company was brought in to clean up and dispose of the product that had leaked.		⊗	No
CropScience, Guatemala, August 3, 2013 A truck loaded with CropScience products collided with an oncoming truck. The truck that was hit overturned and approximately 290 kg of product leaked onto the road, some of it reaching the roadside ditch. The road was closed for 8 hours. The product and the contaminated soil were removed and disposed of. Investigations revealed that the volume and type of product released did not meet the criteria for an environmental incident.		⊗	No
MaterialScience, Ham/Hasselt, Belgium, August 13, 2013 A tire blowout caused a truck loaded with 22.9 metric tons of polyol (no hazardous materials) to overturn and catch fire on the E313 freeway in Belgium. The driver was not injured. No product leaked out thanks to the tank container's special leak protection. The fire was put out and the Belgian police made the truck safe.		⊗	No
CropScience, Brazil, September 15, 2013 A truck loaded with CropScience products collided with an oncoming truck. The loaded truck overturned and a large part of the load fell onto the road. A number of drums were so badly damaged that the product leaked onto the road. All necessary measures were taken to prevent any environmental pollution. The undamaged products were returned to the production site (Belford Roxo) and reprocessed. All waste was transported to a waste incineration plant with the help of a specialist company. The road had to be closed for 5 hours.		⊗	No
MaterialScience, Hürth, Germany, October 29, 2013 The driver of a tanker loaded with 30% hydrochloric acid drove too quickly on the way to a customer. The vehicle tipped on its side. Since the tank and its shell were not seriously damaged, only small amounts of hydrochloric acid (less than 50 l) leaked out. The investigation into the precise damage caused is still under way. The driver suffered minor injuries, and was taken to hospital. Six people (first-aiders) were also taken to hospital because they had breathed in the fumes from the hydrochloric acid.	⊗	⊗	Yes
MaterialScience, Hong Kong, December 3, 2013 While a consignment of polyol (non-toxic polyurethane precursor) was being transported to Hong Kong by sea, a leak was discovered in one of the product containers (a flexi bag). Since the threshold of 1,000 kg for the release of non-hazardous products was slightly exceeded (1,123 kg), we classified this as a transport and environmental incident.	⊗	⊗	No

Of the 16 incidents reported, 10 were environmental incidents and 11 transport incidents. Five incidents fell into both categories, resulting in them (intentionally) being counted twice.

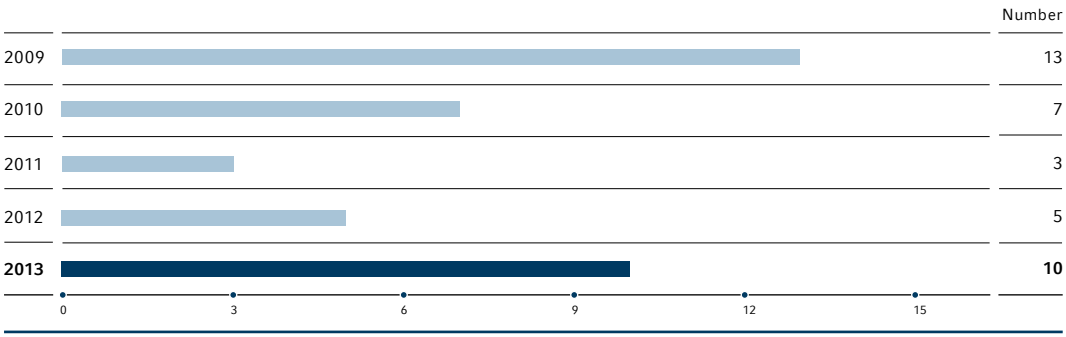
Incidents Observed by Stakeholders

[Table 3.12.7-4]

The following incidents came to the attention of our stakeholders, but are not classed as environmental or transport incidents according to Bayer criteria.

Location of the incident	Description	Comments
HealthCare, Lerma, Mexico, February 24, 2013	Stolen truck	A truck loaded with HealthCare products was stolen at a faked vehicle checkpoint near Guadalajara. The driver, assistant and security personnel reported back the next day. The incident was reported to the local authorities.
HealthCare, Wuppertal, Germany, March 10, 2013	Methanol leak	Approx. 600 l of methanol leaked in a HealthCare plant. The product was soaked up immediately and incinerated as thermal waste. There was no impact outside the plant.
MaterialScience, Caojing, China, May 13, 2013	Fatal workplace injury of a contractor's employee	There was a fatal injury during work at a construction site on the Caojing production location. Heavy metal sheets were being lifted and moved using a crane. During this maneuver, one of the sheets escaped from its binding and injured a construction worker so severely that he later died in hospital. Bayer classified this accident in the "Fatal workplace injury" category and subjected it to a thorough accident investigation.
HealthCare, Bitterfeld, Germany, June 3, 2013	Flooding/disaster alert	The Bayer Bitterfeld site was threatened by floodwater. The company established a temporary Emergency Task Force in Bitterfeld which was in contact with the local community's emergency task force. Appropriate precautions in the plants ensured that this incident had no impact.
MaterialScience, Brunsbüttel, Germany, September 24, 2013	People injured by carbon monoxide	During the start-up of a production facility at the Brunsbüttel production site, carbon monoxide escaped through a leaky underpressure safety feature. Five external employees who were in the immediate vicinity of the leak were taken to the company's Medical Department or to nearby hospitals. They were able to be released the same or the following day. Bayer classified this accident in the "Workplace injury" and "Unsafe plant status (LoPC)" categories, and subjected it to a thorough accident investigation.
HealthCare, Wuppertal, Germany, October 6, 2013	Ruptured water main in the public supply network	There was a ruptured water main on a major public road. Bayer Site Security checked the neighboring construction sites and buildings for possible water ingress. Various kinds of damage were discovered and arrangements made for these to be rectified.
HealthCare, Orizaba Proquina, Mexico, October 23, 2013	Fatal workplace injury of a Bayer employee; explosion and fire in drying area	There was an explosion in a drying area of a facility for intermediates at the Orizaba site. The Fire Department brought the resulting fire under control after a short time. One employee was killed and another taken to hospital with burns as a result of the accident. The public prosecutor opened an investigation to examine the cause and course of the accident. A team of experts from Bayer is also investigating the accident. Bayer classified this accident in the "Fatal workplace injury" category.
HealthCare, Wuppertal, Germany, November 11, 2013	Dripping tank car (water)	A liquid was found to be dripping on public property from a rail tank car hired by HealthCare in Wuppertal that was filled with mixed organic solvents. The Wuppertal municipal Fire Department and the Bayer Safety and Security Control Center were informed. Due to the official tank car signage, it was assumed as a precaution that this was a solvent leak. Tests on the sample taken revealed the leaking liquid to be water, which had probably accumulated as rainwater in the cladding of the tank car.
HealthCare, Chengdu, China, December 25, 2013	Fire on a building site	During welding work, small particles and sparks fell into a container of isoamyl acetate, causing it to ignite. Employees were able to adequately extinguish the fire.
CropScience, Vapi, India, December 27, 2013 – January 2, 2014	Production facilities downtime	The production facilities at CropScience's Vapi site were shut down as part of scheduled downtime. This was due to an inspection of the entire industrial park (12 companies) by the local state authorities. This incident was reported in the local press.

Number of Environmental Incidents [Graphic 3.12.2]



12.7. International Standards and Certifications

To ensure high health, safety, environmental protection and quality (HSEQ) standards throughout the Group, Bayer has established management systems that are aligned to acknowledged international standards and are regularly evaluated and updated. They form an integral part of all our business processes. Regular upkeep of the management systems and appropriate training and certification also demonstrate our commitment to the guidelines of the chemical industry's Responsible Care Global Charter.

With regard to the coverage of our business activities with HSEQ management systems based on energy consumption, around 99% of our production sites had an HSE management system audited internally by Bayer and over 90% of our Group-wide business activities were certified externally to internationally recognized standards in 2013. As part of a Group-wide certification plan, we are seeking to further increase the level of coverage separately for each subgroup by 2017. The goal is for each subgroup to have a coverage based on energy consumption of at least 80% by then. This applies to both environmental and occupational safety management.

Certifications* [Table 3.12.8]

	2011	2012	2013
ISO 14001 certification/EMAS validation	66	84	84
HSEQ management systems based on other external standards**	54	58	67
Certified to OHSAS 18001	27	30	30
HSE management systems audited by Bayer	99	99	99

* % of business activities (based on energy consumption)
** e.g. RCMS (Responsible Care Management System) in the United States or Industria Limpia (Clean Industry) in Mexico

All subgroups also have industry-specific international quality management systems such as ISO 9001, ISO 17025, ISO 13485 or GMP (Good Manufacturing Practice). Group-wide, coverage is over 91%.

In 2012 we started applying ISO 50001, which defines requirements for introducing, implementing, maintaining and improving an energy management system. So far, the MaterialScience sites in Brunsbüttel, Dormagen, Leverkusen and Krefeld-Uerdingen (all Germany) have gained certification. In 2013 CropScience completed the implementation of energy management systems at the Knapsack and Monheim sites in Germany with certification to ISO 50001. Together with the EMAS-certified site in Frankfurt, three of the German sites have thus been prepared to meet the Group's energy efficiency target. HealthCare has started implementing ISO 50001 and the certification process at the Bitterfeld site was completed in 2013. By 2015 the subgroup intends to introduce energy management systems certified to ISO 50001 at all its German production sites. Currenta has also started introducing an energy management system.

13. Social Commitment

€ 50 million
for the development of society

Throughout the world, Bayer is active in a variety of ways in the core fields of education and science, health and social needs, and sports and culture. With its foundations, the Bayer Group promotes cutting-edge research, talented individuals and innovative educational and social projects. In 2013 Bayer provided some €50 million (2012: €49 million) for these activities. As with its business operations, Bayer's social commitment is based on innovation and pioneering spirit.

ONLINE ANNEX: 3-13-1

Expenses for Social Initiatives in 2013 [Table 3.13.0-1]

	€ million	Share of total in %	Share of category in %
Education and science	**14**	**28**	
School projects, focus: natural science and technology	4		30
Medical and clinical research	3		23
Science and research support (e.g. awards, endowed chairs, research funding, symposia)	3		20
Nature and environment, environmental education	2		15
Scholarships for students, talent management programs	2		13
Health and social needs	**17**	**34**	
Health care provision, social medicine, emergency medical care	9		51
Community projects	3		19
Health education, patient groups	3		18
Disaster aid, reconstruction	1		6
Volunteering projects	1		6
Sports and culture	**19**	**38**	
Bayer clubs (sports, leisure, culture)	14		75
Culture incl. Bayer Arts & Culture	5		24
Other sports projects and projects in the communities surrounding the sites	0		1
Total	**50**		

Expenses for Social Initiatives [Table 3.13.1]

Main sponsorship areas	2012	2013
	€ million	€ million
Education and science	13	14
Health and social needs	16	17
Sports and culture	20	19

The Foundation & Donations Management Department within the Corporate Office of Bayer AG is responsible for strategically aligning and coordinating our social commitment, as well as for monitoring and reporting activities. Social initiatives are implemented decentrally.

ONLINE ANNEX: 3-13-2

All project sponsoring is subject to the provisions of a Group-wide donation directive that establishes a framework for its content-related and strategic alignment, as well as the proper handling of the funds. We steer the selection of the projects through allocation guidelines comprising, among other aspects, the indicators "social relevance" and "thematic proximity to the company's fields of expertise." In all activities, we focus on countries in which Bayer is represented and on areas that are of relevance to the company's business strategy. Neither Bayer AG nor other Bayer Group companies make donations to political parties or associations affiliated with them.

EDUCATION AND SCIENCE

The Bayer Science & Education Foundation supports young scientists and renowned researchers across the globe through scientific awards, endowed chairs and research scholarships. In 2013 the foundation approved total funding of €2 million for this purpose.

The international Bayer Early Excellence in Science Award is presented annually in three categories: biology, chemistry and materials. The Bayer foundation presents this award to talented young scientists in the early stages of their academic careers. Further honorary awards presented by the Bayer Science & Education Foundation for scientific achievements include the Otto Bayer Award, the Hansen Family Award and the Bayer Thrombosis Research Award.

Promoting talent and pioneering spirit

Bayer also supports the scientific instruction of young people. We want to help awaken and promote an interest in science, technology and medicine through initiatives for schoolchildren and scholarship programs. In this way, we are helping talented young people at an early age who have the potential to become leading-edge researchers.

ONLINE ANNEX: 3-13-3

The Bayer School Support Program specifically assists teachers near Bayer's German sites who organize scientific and technical instruction in an innovative way. The foundation supported the implementation of such ideas with total funding of €500,000 in 2013.

The international Bayer education initiative "Making Science Make Sense" aims to help elementary school students experience the world of science through target-group-oriented experimental instruction. In 2013 we once again implemented locally specific programs in North and South America, Europe and Asia, some of which involve volunteering activities by our employees.

The Bayer foundation established a total of 100 German scholarships at 22 universities throughout the country, making available €180,000 for this purpose in the reporting period. The foundation accepted 52 students into the international scholarship program in 2013, approving funding of €200,000. In addition, 10 schoolchildren were accepted into the Science Teens Program and 20 physicians from 16 countries were included in the Young Physician Leaders Program. In addition to funding, the Bayer scholarship students also benefit from the opportunity to make valuable contacts at the company.

The Humboldt-Bayer Research Fellowship was initiated in 2013, marking the first time the Alexander von Humboldt Foundation has collaborated with an industrial company. The program gives outstanding young international researchers the opportunity to spend time conducting research in Germany and to engage in intensive exchange with Bayer's science networks. Bayer made available total funding of €500,000 for this purpose.

HEALTH AND SOCIAL NEEDS

We work to improve health services and social conditions in many regions of the world. To achieve this objective, we cooperate with partners within international programs and support local initiatives.

One of the projects Bayer maintains in the area of public health is a collaboration with the Chinese government aimed at promoting advanced training for physicians in rural, medically underserved areas of western China. Supplementing Bayer's economic activities in its core business is the Access to Medicine (ATM) strategy. As part of this program, the company supplies medicines free of charge to combat "neglected" tropical diseases.

To mark the company's 150th anniversary, the Bayer Cares Foundation for the first time supported employees around the world who endeavor to improve living conditions in the communities surrounding the company's sites through their own project ideas.

ONLINE ANNEX: 3-13-4

In its volunteering program, the foundation made available total funding of €680,000 in 2013 for 172 employee and citizen projects in 50 countries. The foundation especially supports measures in its core areas of promoting education and health, and meeting basic social needs. Their goal is to help close supply gaps.

Disaster aid is another area of activity for our social needs foundation. While the company itself provides areas hit by natural disasters with immediate aid in the form of donations of money and goods, the foundation supports sustainable reconstruction projects to help people who find themselves in a state of hardship.

SPORTS AND CULTURE

Bayer has been actively involved in supporting culture and sports for more than a century, thereby making a sustainable contribution to the cultural life and sports opportunities at its sites in Germany. In 2013 the company provided funding of some €13 million for recreational, disabled and competitive sports activities.

ONLINE ANNEX: 3-13-5

Bayer is realigning its charitable sponsorship of sports in the communities near its Lower Rhine sites in Germany. These activities will be gradually concentrated at six major clubs by 2015. Bayer's involvement in professional soccer at Bayer 04 Leverkusen GmbH is not part of its social sports sponsorship activities because it belongs to the company's image advertising.

Report on Economic Position

FISCAL 2013:

Continuous growth in Bayer's Anniversary Year

// Dynamic development in the Life Sciences, MaterialScience below expectations
// Outstanding growth for recently launched pharmaceutical products
// Group sales €40.2 billion (Fx & portfolio adj. +5.1%)
// EBIT €4.9 billion (+25.6%)
// EBITDA before special items €8.4 billion (+1.5%)
// Net income €3.2 billion (+32.7%)
// Core earnings per share €5.61 (+5.8%)
// Forecast for 2014: further growth in sales and earnings

14. Overview of Sales, Earnings and Financial Position

TARGET ATTAINMENT IN 2013

	Forecast issued in February 2013 (calculated at average exchange rates for Q4 2012)	Target attainment (at actual exchange rates for 2013)	Target attainment (calculated at average exchange rates for Q4 2012)
Group sales*	4% – 5% increase to approx. €41 billion	5.1% increase to €40.2 billion	5.1% increase to €41.6 billion
EBITDA before special items	Mid-single-digit percentage increase	1.5% increase	5.6% increase
Core earnings per share	High-single-digit percentage increase	5.8% increase	11.7% increase

* currency- and portfolio-adjusted

FULL YEAR 2013

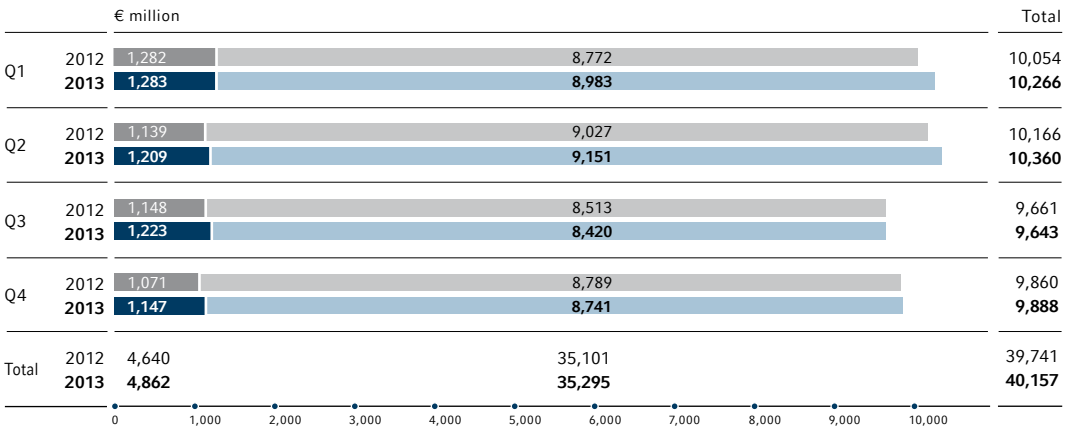
in 2013 we saw continuous growth and met important business objectives. HealthCare posted excellent sales gains for its recently launched pharmaceutical products. CropScience was very successful in a positive environment. In the Life Sciences, we continued to strengthen our businesses through acquisitions. We achieved our operational targets overall despite substantial negative currency effects. The business of MaterialScience continued to be affected by a difficult market situation. We remain optimistic for 2014 and plan to further improve sales and earnings.

Changes in Sales [Table 3.14.1]

	2012	2013
	%	%
Volume	+4.7	+4.3
Price	+0.6	+0.8
Currency	+4.0	−4.4
Portfolio	−0.5	+0.3
Total	**+8.8**	**+1.0**

Group **sales** advanced by 5.1% on a currency- and portfolio-adjusted basis (reported: +1.0%) to €40,157 million (2012: €39,741 million). Sales at HealthCare climbed by 6.8% (Fx & portfolio adj.). CropScience posted a substantial 9.4% sales gain (Fx & portfolio adj.). Sales at MaterialScience were level with the prior year (Fx & portfolio adj. +0.4%).

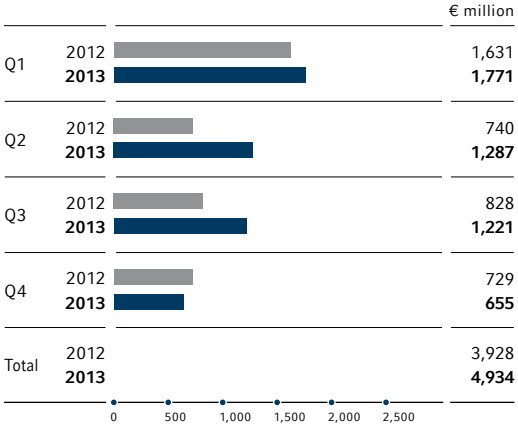
Bayer Group Quarterly Sales [Graphic 3.14.1]



2012 figures restated

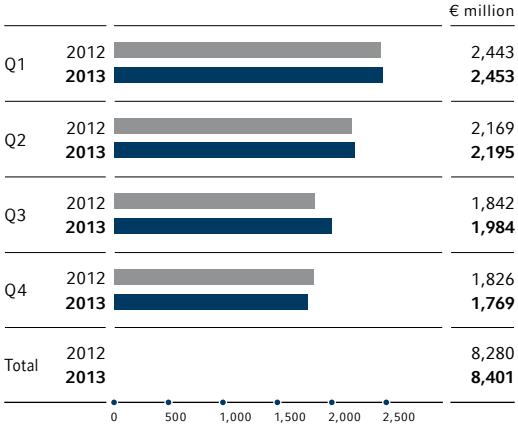
EBIT of the Bayer Group rose by 25.6% to €4,934 million (2012: €3,928 million) after net special charges of €839 million (2012: €1,711 million). The special charges mainly included €358 million in restructuring expenses and €276 million in additional charges related to legal claims. EBIT before special items came in at €5,773 million (2012: €5,639 million). **EBITDA** before special items increased by 1.5% to €8,401 million (2012: €8,280 million). Earnings growth was attributable to good sales development in the Life Science businesses, while MaterialScience saw earnings decline due to market factors. Negative currency effects diminished Group earnings by about €260 million. In addition, expenses for long-term stock-based compensation increased by €70 million in light of the pleasing market performance of Bayer stock. EBITDA before special items at HealthCare advanced by 4.2% to €5,334 million (2012: €5,119 million) as a result of the positive business development in the Pharmaceuticals segment. EBITDA before special items in CropScience rose by 11.0% to €2,248 million (2012: €2,025 million), largely on account of significant volume increases and higher selling prices. EBITDA before special items of MaterialScience fell by 15.1% to €1,072 million (2012: €1,263 million), mainly because of significantly higher raw material costs.

Bayer Group Quarterly EBIT [Graphic 3.14.2]



2012 figures restated

Bayer Group Quarterly EBITDA Before Special Items [Graphic 3.14.3]

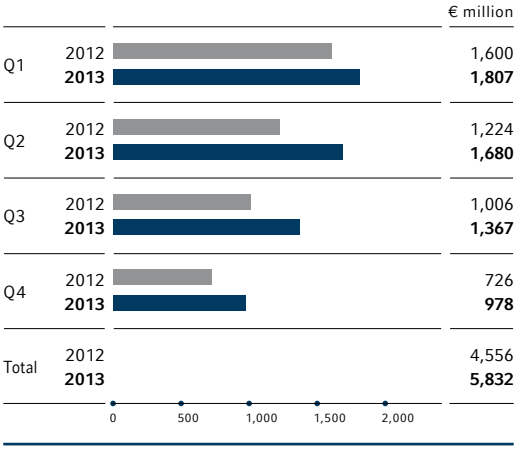


2012 figures restated

After a **financial result** of minus €727 million (2012: minus €752 million), **income before income taxes** amounted to €4,207 million (2012: €3,176 million). After tax expense of €1,021 million (2012: €723 million) and non-controlling interest, **net income** in 2013 came in at €3,189 million (2012: €2,403 million). Earnings per share were €3.86 (2012: €2.91). Core earnings per share advanced by 5.8% to €5.61 (2012: €5.30), calculated as explained in Chapter 16.3 "Core Earnings Per Share."

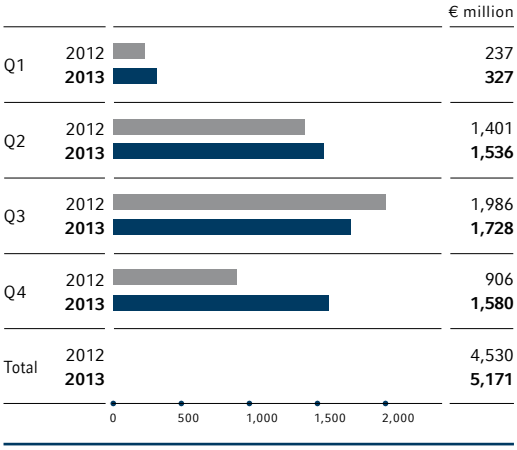
See Chapter 16.3

Gross Cash Flow by Quarter [Graphic 3.14.4]



2012 figures restated

Net Cash Flow by Quarter [Graphic 3.14.5]



2012 figures restated

Gross cash flow climbed by 28.0% in 2013 to €5,832 million (2012: €4,556 million), mainly because of the improvement in EBIT. Cash tied up in working capital increased considerably for business-related reasons. Net cash flow moved ahead by 14.2% to €5,171 million (2012: €4,530 million). Net financial debt fell by €0.3 billion against December 31, 2012, to €6.7 billion. The net defined benefit liability for post-employment benefits – the difference between benefit obligations and plan assets – declined from €9.2 billion at the end of 2012 to €7.3 billion, mainly due to a rise in long-term capital market interest rates.

FOURTH QUARTER OF 2013

Group **sales** in the fourth quarter of 2013 rose by 6.4% (Fx & portfolio adj.) to €9,888 million (reported: +0.3%). Sales of HealthCare gained 7.2% (Fx & portfolio adj.) to €4,939 million (reported: +0.4%). Business in the Pharmaceuticals segment expanded by 11.5% (Fx & portfolio adj.) to €2,975 million (reported: +3.8%), driven by the encouraging development of our recently launched products. Sales at Consumer Health came in slightly ahead of the prior-year quarter at €1,964 million (Fx & portfolio adj. +1.0%; reported: –4.4%). CropScience sales climbed by 12.8% (Fx & portfolio adj.) in the fourth quarter to €1,951 million (reported: +5.1%) as a result of higher volumes. Sales of MaterialScience rose by 1.6% (Fx & portfolio adj.) against the prior-year period, to €2,691 million (reported: –2.5%) thanks to volume increases.

EBIT of the Bayer Group declined by 10.2% in the fourth quarter of 2013, to €655 million (Q4 2012: €729 million). Earnings were diminished by net special charges of €439 million (Q4 2012: €424 million). The special charges mainly included €192 million in restructuring expenses and €182 million in additional charges related to legal claims. Of the latter amount, €155 million related to claims concerning Yasmin™/YAZ™ in the United States. EBIT before special items fell by 5.1% to €1,094 million (Q4 2012: €1,153 million).

EBITDA before special items declined in the fourth quarter of 2013 by 3.1% to €1,769 million (Q4 2012: €1,826 million). Earnings were held back by higher research and development expenses and negative currency effects. In addition, expenses for long-term stock-based compensation increased in light of the pleasing market performance of Bayer stock. HealthCare registered a 1.6% decline in EBITDA before special items to €1,337 million (Q4 2012: €1,359 million), while CropScience posted an 8.1% increase to €319 million (Q4 2012: €295 million). EBITDA before special items at MaterialScience amounted to €248 million (Q4 2012: €264 million), down 6.1% against the prior-year quarter.

The financial result improved in the fourth quarter of 2013 to minus €84 million (Q4 2012: minus €169 million), primarily due to gains from the sale of the shares in Onyx Pharmaceuticals Inc., United States. Income before income taxes amounted to €571 million (Q4 2012: €560 million). After taxes and non-controlling interest, net income came in at €455 million (Q4 2012: €366 million). Earnings per share improved to €0.55 (Q4 2012: €0.45). Core earnings per share rose to €1.10 (Q4 2012: €1.01), calculated as explained in Chapter 16.3 "Core Earnings Per Share."

See Chapter 16.3

Gross cash flow of the Group advanced by 34.7% to €978 million (Q4 2012: €726 million) and net cash flow by 74.4% to €1,580 million (Q4 2012: €906 million). The sharp increase in net cash flow was partly due to lower tax payments. Net financial debt declined by €1.0 billion in the fourth quarter of 2013 to €6.7 billion (September 30, 2013: €7.7 billion), largely thanks to cash inflows from operating activities. The net defined benefit liability for post-employment benefits declined by €0.5 billion against September 30, 2013, to €7.3 billion, mainly due to a rise in long-term capital market interest rates.

Key Data by Subgroup and Segment [Table 3.14.2]

	Sales		EBIT		EBITDA before special items*	
	4th Quarter 2012	4th Quarter 2013	4th Quarter 2012	4th Quarter 2013	4th Quarter 2012	4th Quarter 2013
	€ million	€ million	€ million	€ million	€ million	€ million
HealthCare	**4,921**	**4,939**	**558**	**631**	**1,359**	**1,337**
Pharmaceuticals	2,866	2,975	165	321	835	822
Consumer Health	2,055	1,964	393	310	524	515
CropScience	**1,856**	**1,951**	**247**	**163**	**295**	**319**
MaterialScience	**2,760**	**2,691**	**94**	**70**	**264**	**248**
Reconciliation	**323**	**307**	**(170)**	**(209)**	**(92)**	**(135)**
Group	**9,860**	**9,888**	**729**	**655**	**1,826**	**1,769**

2012 figures restated
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."

15. Business Development by Subgroup, Segment and Region

15.1 HealthCare

Key Data – HealthCare [Table 3.15.1]

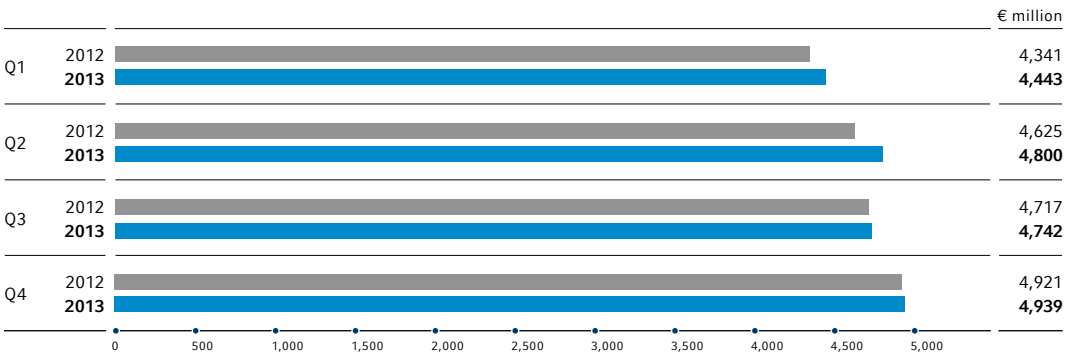
	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**4,921**	**4,939**	**+0.4**	**+7.2**	**18,604**	**18,924**	**+1.7**	**+6.8**
Change in sales								
Volume	+5.3%	+4.7%			+3.7%	+5.9%		
Price	−0.2%	+2.5%			+0.5%	+0.9%		
Currency	+2.4%	−7.7%			+4.5%	−5.7%		
Portfolio	−0.4%	+0.9%			−0.3%	+0.6%		
Sales by segment								
Pharmaceuticals	2,866	2,975	+3.8	+11.5	10,798	11,188	+3.6	+9.4
Consumer Health	2,055	1,964	−4.4	+1.0	7,806	7,736	−0.9	+3.2
Sales by region								
Europe	1,731	1,817	+5.0	+6.5	6,483	6,853	+5.7	+6.8
North America	1,281	1,286	+0.4	+5.5	4,961	5,024	+1.3	+4.7
Asia/Pacific	1,104	1,080	−2.2	+12.5	4,196	4,188	−0.2	+11.1
Latin America/Africa/Middle East	805	756	−6.1	+9.8	2,964	2,859	−3.5	+8.0
EBIT	**558**	**631**	**+13.1**		**2,205**	**3,260**	**+47.8**	
Special items	*(460)*	*(354)*			*(1,582)*	*(713)*		
EBIT before special items*	***1,018***	***985***	***−3.2***		***3,787***	***3,973***	***+4.9***	
EBITDA*	**895**	**1,069**	**+19.4**		**3,866**	**4,858**	**+25.7**	
Special items	*(464)*	*(268)*			*(1,253)*	*(476)*		
EBITDA before special items*	***1,359***	***1,337***	***−1.6***		***5,119***	***5,334***	***+4.2***	
EBITDA margin before special items*	27.6%	27.1%			27.5%	28.2%		
Gross cash flow**	**595**	**840**	**+41.2**		**2,659**	**3,573**	**+34.4**	
Net cash flow**	**1,063**	**959**	**−9.8**		**3,546**	**2,980**	**−16.0**	

2012 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales and Sales by segment; Fx adj.: Sales by region)
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 16.5 "Liquidity and Capital Expenditures of the Bayer Group."

PHOTO // The picture above, taken with a scanning electron microscope, shows a blood clot – magnified about 7,500 times.

Sales of the **HealthCare** subgroup rose by 6.8% (Fx & portfolio adj.) in 2013, to €18,924 million (reported: +1.7%). This encouraging growth was driven by our recently launched pharmaceutical products.

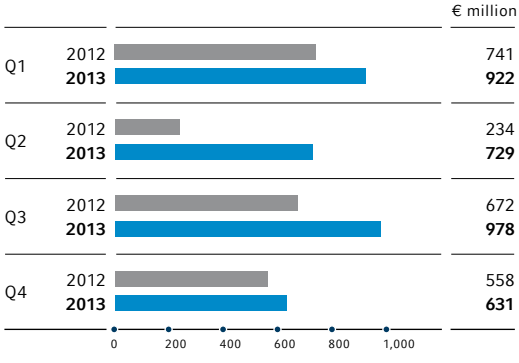
HealthCare Quarterly Sales [Graphic 3.15.1]



2012 figures restated

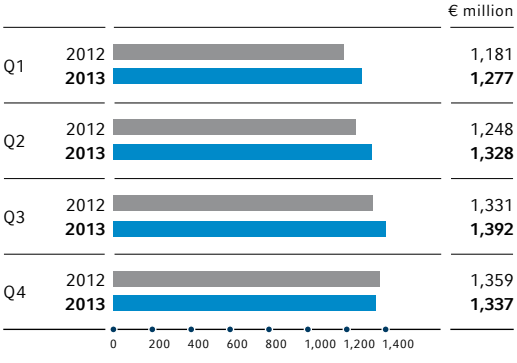
EBIT of the HealthCare subgroup advanced by a substantial 47.8% in 2013 to €3,260 million, mainly because net special charges were much lower at €713 million (2012: €1,582 million). EBIT before special items improved by 4.9% to €3,973 million. **EBITDA** before special items rose by 4.2% to €5,334 million. This was attributable to the gratifying business development in Pharmaceuticals, while earnings in Consumer Care posted a slight decline. Earnings at HealthCare were held back by negative currency effects of about €290 million.

HealthCare Quarterly EBIT [Graphic 3.15.2]



2012 figures restated

HealthCare Quarterly EBITDA Before Special Items [Graphic 3.15.3]



2012 figures restated

The integration of Conceptus, Inc., United States, and Steigerwald Arzneimittelwerk GmbH, Darmstadt, Germany, both acquired in 2013, proceeded on schedule.

PHARMACEUTICALS

Key Data – Pharmaceuticals [Table 3.15.2]

	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**2,866**	**2,975**	**+3.8**	**+11.5**	**10,798**	**11,188**	**+3.6**	**+9.4**
Sales by region								
Europe	988	1,049	+6.2	+7.5	3,677	3,918	+6.6	+7.5
North America	601	663	+10.3	+15.6	2,370	2,540	+7.2	+10.6
Asia/Pacific	775	783	+1.0	+16.6	2,939	3,016	+2.6	+14.9
Latin America/Africa/Middle East	502	480	−4.4	+12.4	1,812	1,714	−5.4	+6.8
EBIT	**165**	**321**	**+94.5**		**1,104**	**2,031**	**+84.0**	
Special items	*(437)*	*(259)*			*(1,223)*	*(521)*		
EBIT before special items*	***602***	***580***	***−3.7***		***2,327***	***2,552***	***+9.7***	
EBITDA*	**392**	**618**	**+57.7**		**2,022**	**3,124**	**+54.5**	
Special items	*(443)*	*(204)*			*(1,210)*	*(366)*		
EBITDA before special items*	***835***	***822***	***−1.6***		***3,232***	***3,490***	***+8.0***	
EBITDA margin before special items*	29.1%	27.6%			29.9%	31.2%		
Gross cash flow**	**228**	**510**	**+123.7**		**1,319**	**2,293**	**+73.8**	
Net cash flow**	**545**	**625**	**+14.7**		**2,262**	**1,853**	**−18.1**	

2012 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales; Fx adj.: Sales by region)
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 16.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **Pharmaceuticals** segment registered dynamic growth in 2013, climbing by 9.4% (Fx & portfolio adj.) to €11,188 million. The increase was driven by our recently launched products Xarelto™, Eylea™, Stivarga™ and Xofigo™, which recorded combined sales of €1,520 million (2012: €368 million). Marketing of Adempas™ (active ingredient: riociguat), our new medicine to treat pulmonary hypertension, commenced in the fall following approvals in North America. Our Pharmaceuticals business posted currency-adjusted sales growth in all regions, and especially in Japan, the United States, Germany and China.

Best-Selling Pharmaceuticals Products [Table 3.15.3]

	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx adj. %	€ million	€ million	%	Fx adj. %
Kogenate™	298	274	−8.1	−2.1	1,182	1,202	+1.7	+6.4
Betaferon™/Betaseron™	329	259	−21.3	−17.6	1,216	1,038	−14.6	−11.6
Xarelto™	131	316	+141.2	+158.9	322	949	+194.7	+210.7
YAZ™/Yasmin™/Yasminelle™	270	219	−18.9	−11.4	1,045	853	−18.4	−12.5
Nexavar™	212	194	−8.5	−1.2	792	771	−2.7	+3.3
Mirena™	135	195	+44.4	+51.6	677	719	+6.2	+10.0
Adalat™	169	157	−7.1	+6.1	670	603	−10.0	−0.9
Aspirin™ Cardio	129	120	−7.0	+1.9	476	452	−5.0	+0.6
Avalox™/Avelox™	123	106	−13.8	−7.6	486	426	−12.3	−8.8
Glucobay™	99	112	+13.1	+19.3	408	423	+3.7	+6.6
Eylea™	14	126	.	.	14	333	.	.
Levitra™	87	69	−20.7	−15.2	307	290	−5.5	−1.2
Cipro™/Ciprobay™	56	42	−25.0	−15.4	229	197	−14.0	−7.8
Stivarga™	31	59	+90.3	100.2	32	197	.	.
Zetia™	57	45	−21.1	+3.9	207	172	−16.9	+5.4
Total	**2,140**	**2,293**	**+7.1**	**+15.9**	**8,063**	**8,625**	**+7.0**	**+13.4**
Proportion of Pharmaceuticals sales	75%	77%			75%	77%		

Fx adj. = currency-adjusted

Xarelto™ became the world leader among the novel oral anticoagulants in terms of sales in 2013 following considerable sales gains, especially in Germany, Japan and France.* Business with Xarelto™ also developed very positively in the United States, where it is marketed by a subsidiary of Johnson & Johnson. Sales of the eye medicine Eylea™ rose substantially, particularly in Japan, Australia and Germany. We successfully introduced our cancer drug Stivarga™ in additional countries, and recorded the first sales of the cancer drug Xofigo™ (2013 sales: €41 million).

Sales of our blood-clotting medicine Kogenate™ rose thanks to higher volumes. The cancer drug Nexavar™ posted currency-adjusted gains, mainly as a result of price increases in the United States. Sales of our hormone-releasing intrauterine device Mirena™ also increased, particularly in light of adjustments to provisions for rebates in the United States and higher volumes in other countries. The oral diabetes treatment Glucobay™ benefited from continuing growth in demand in the Emerging Markets.

Sales of the multiple sclerosis drug Betaferon™/Betaseron™ receded as expected, particularly in the United States due to increased competition there. Business with our YAZ™/Yasmin™/Yasminelle™ line of oral contraceptives was hampered mainly by generic competition in Western Europe and the United States. Business with the antibiotic Avalox™/Avelox™ declined, mainly as a result of lower demand in the United States. Our antibiotic Cipro™/Ciprobay™ registered lower sales, particularly in the United Kingdom, where we had benefited from a government contract in the previous year.

EBIT of the **Pharmaceuticals** segment rose by a substantial 84.0% in 2013, to €2,031 million. The main reason for this – apart from the increase in operational earnings – was the decrease in special charges to €521 million (2012: €1,223 million). The special charges comprised €269 million in charges related to legal claims, including €155 million related to claims concerning Yasmin™/YAZ™ in the United States; €140 million in impairment losses recognized on research projects; €66 million in restructuring charges; and €46 million in expenses for the integration of our Conceptus business. EBIT before special items rose by 9.7% to €2,552 million. We raised **EBITDA** before special items by 8.0% to €3,490 million. This earnings growth was mainly attributable to the good business development and especially to sharp sales increases for our recently launched products, while earnings were diminished by higher selling and R&D expenses and roughly €140 million in negative currency effects.

* as of November 2013; source: internal calculations based on IMS Health MIDAS database – monthly sales November 2013

CONSUMER HEALTH

Key Data – Consumer Health [Table 3.15.4]

	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**2,055**	**1,964**	**−4.4**	**+1.0**	**7,806**	**7,736**	**−0.9**	**+3.2**
Consumer Care	1,055	1,015	−3.8	+0.9	3,853	3,904	+1.3	+5.1
Medical Care	716	653	−8.8	−3.1	2,650	2,526	−4.7	−0.3
Animal Health	284	296	+4.2	+11.6	1,303	1,306	+0.2	+4.5
Sales by region								
Europe	743	768	+3.4	+5.2	2,806	2,935	+4.6	+6.0
North America	680	623	−8.4	−3.5	2,591	2,484	−4.1	−0.7
Asia/Pacific	329	297	−9.7	+2.7	1,257	1,172	−6.8	+2.1
Latin America/Africa/Middle East	303	276	−8.9	+5.6	1,152	1,145	−0.6	+10.0
EBIT	**393**	**310**	**−21.1**		**1,101**	**1,229**	**+11.6**	
Special items	*(23)*	*(95)*			*(359)*	*(192)*		
EBIT before special items*	***416***	***405***	***−2.6***		***1,460***	***1,421***	***−2.7***	
EBITDA*	**503**	**451**	**−10.3**		**1,844**	**1,734**	**−6.0**	
Special items	*(21)*	*(64)*			*(43)*	*(110)*		
EBITDA before special items*	***524***	***515***	***−1.7***		***1,887***	***1,844***	***−2.3***	
EBITDA margin before special items*	25.5%	26.2%			24.2%	23.8%		
Gross cash flow**	**367**	**330**	**−10.1**		**1,340**	**1,280**	**−4.5**	
Net cash flow**	**518**	**334**	**−35.5**		**1,284**	**1,127**	**−12.2**	

2012 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales; Fx adj.: Sales by region)
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 16.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **Consumer Health** segment advanced by 3.2% (Fx & portfolio adj.) in 2013 to €7,736 million. The increase was attributable to the Consumer Care and Animal Health divisions and to gratifying overall development in the Emerging Markets, particularly Russia and Brazil.

Best-Selling Consumer Health Products [Table 3.15.5]

	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx adj. %	€ million	€ million	%	Fx adj. %
Contour™ (Medical Care)	193	179	−7.3	−4.1	722	722	0.0	+2.2
Advantage™ product line (Animal Health)	92	98	+6.5	+12.8	495	487	−1.6	+2.0
Aspirin™ (Consumer Care)	138	120	−13.0	−8.1	494	464	−6.1	−2.5
Ultravist™ (Medical Care)	82	80	−2.4	0.0	322	322	0.0	+2.3
Aleve™ (Consumer Care)	87	82	−5.7	−1.0	323	321	−0.6	+3.3
Bepanthen™/Bepanthol™ (Consumer Care)	67	77	+14.9	+23.6	269	310	+15.2	+20.3
Canesten™ (Consumer Care)	65	61	−6.2	+1.5	250	257	+2.8	+8.4
Gadovist™ / Gadavist™ (Medical Care)	60	55	−8.3	−4.8	209	205	−1.9	−0.2
One A Day™ (Consumer Care)	53	48	−9.4	−3.4	196	176	−10.2	−7.0
Supradyn™ (Consumer Care)	42	43	+2.4	+10.4	146	158	+8.2	+14.3
Total	**879**	**843**	**−4.1**	**+0.9**	**3,426**	**3,422**	**−0.1**	**+3.3**
Proportion of Consumer Health sales	43%	43%			44%	44%		

Fx adj.= currency-adjusted
Total sales of Aspirin™ (including Aspirin™ Complex), also including Aspirin™ Cardio, which is reflected in sales of the Pharmaceuticals segment, decreased by 5.6% (Fx adj. −1.0%) in 2013 to €916 million (2012: €970 million). Total sales of this product in the fourth quarter of 2013 declined by 10.1% (Fx adj. −3.3%) to €240 million (Q4 2012: €267 million).

Sales in the **Consumer Care** Division rose by 5.1% (Fx & portfolio adj.) to €3,904 million. Business with our analgesic Aleve™ expanded on a currency-adjusted basis, mainly due to increased marketing activities in Brazil and price increases in the United States. The skincare product Bepanthen™/ Bepanthol™ registered strong growth in the Emerging Markets, especially Brazil and Russia. The antifungal Canesten™ also developed positively. Sales of the dietary supplement Supradyn™ advanced by a double-digit percentage on a currency-adjusted basis, partly as a result of strong business development in Russia. Business with our analgesic Aspirin™ and the dietary supplement One A Day™ declined, primarily due to lower demand in the United States.

Sales in the **Medical Care** Division were level year on year (Fx & portfolio adj.) at €2,526 million (–0.3%). Business in the United States was hampered particularly by reimbursement pressure and lower prices, while sales developed positively elsewhere. Our Diabetes Care business performed at around the previous year's level in a shrinking overall market. However, we achieved slight currency-adjusted sales gains for the Contour™ line of blood glucose meters, mainly thanks to the launch of Contour™ Next. Sales of contrast agents and medical devices in the Radiology & Interventional business were at the prior-year level on a currency-adjusted basis.

Sales of the **Animal Health** Division rose by 4.5% (Fx & portfolio adj.) to €1,306 million. We slightly raised sales of the Advantage™ line of flea, tick and worm control products due to gratifying development in Europe. We achieved robust sales growth for the Seresto™ flea and tick collar (2013 sales: €31 million), which was also launched in the United States in 2013.

EBIT of the **Consumer Health** segment improved by 11.6% in 2013 to €1,229 million. This increase was attributable to the lower net special charges of €192 million (2012: €359 million). The special charges comprised €138 million in restructuring charges, a €44 million impairment loss recognized on an intangible asset and €30 million in expenses for the integration of acquired businesses. EBIT before special items amounted to €1,421 million (–2.7%). **EBITDA** before special items fell by 2.3% to €1,844 million. Positive earnings contributions from sales growth in the Consumer Care and Animal Health divisions were more than offset by higher selling expenses in the Emerging Markets and roughly €150 million in negative currency effects.

15.2 CropScience

Key Data – CropScience [Table 3.15.6]

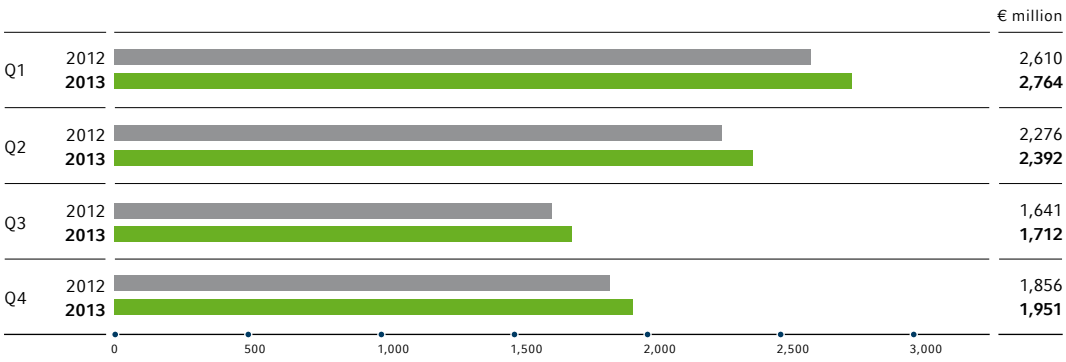
	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**1,856**	**1,951**	**+5.1**	**+12.8**	**8,383**	**8,819**	**+5.2**	**+9.4**
Change in sales								
Volume	+9.0%	+11.8%			+11.6%	+6.8%		
Price	+0.1%	+1.0%			+0.8%	+2.6%		
Currency	+1.9%	−8.2%			+3.8%	−4.7%		
Portfolio	−0.3%	+0.5%			−0.7%	+0.5%		
Sales by operating segment								
Crop Protection/Seeds	1,682	1,797	+6.8	+14.6	7,703	8,168	+6.0	+10.1
Environmental Science	174	154	−11.5	−4.6	680	651	−4.3	+1.3
Sales by region								
Europe	393	411	+4.6	+5.3	2,706	2,799	+3.4	+4.3
North America	287	301	+4.9	+10.5	2,154	2,211	+2.6	+5.0
Asia/Pacific	363	329	−9.4	+4.4	1,386	1,358	−2.0	+7.9
Latin America/Africa/Middle East	813	910	+11.9	+22.3	2,137	2,451	+14.7	+23.6
EBIT	**247**	**163**	**−34.0**		**1,556**	**1,729**	**+11.1**	
Special items	*79*	*(40)*			*13*	*(72)*		
EBIT before special items*	***168***	***203***	***+20.8***		***1,543***	***1,801***	***+16.7***	
EBITDA*	**374**	**282**	**−24.6**		**2,050**	**2,184**	**+6.5**	
Special items	*79*	*(37)*			*25*	*(64)*		
EBITDA before special items*	***295***	***319***	***+8.1***		***2,025***	***2,248***	***+11.0***	
EBITDA margin before special items*	15.9%	16.4%			24.2%	25.5%		
Gross cash flow**	**132**	**228**	**+72.7**		**1,332**	**1,590**	**+19.4**	
Net cash flow**	**105**	**29**	**−72.4**		**899**	**682**	**−24.1**	

2012 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales and Sales by operating segment; Fx adj.: Sales by region)
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 16.5 "Liquidity and Capital Expenditures of the Bayer Group."

PHOTO // The scanning electron micrograph above shows part of the surface of a soybean plant leaf – magnified about 4,500 times.

CropScience raised **sales** in 2013 by 9.4% (Fx & portfolio adj.) to €8,819 million (reported: +5.2%). Thus we succeeded in substantially growing the business despite the late start to the season in the northern hemisphere. Sales in Crop Protection/Seeds developed positively, due to the attractive market environment and especially to an increase in sales of the new Crop Protection products we have launched since 2006 to more than €1,510 million (reported: approx. +30%). Sales in the Seeds unit rose slightly overall despite reduced canola and cotton acreages in North America. The Environmental Science unit also registered a small increase in sales.

CropScience Quarterly Sales [Graphic 3.15.4]



2012 figures restated

Sales in **Crop Protection/Seeds** climbed by 10.1% (Fx & portfolio adj.), to €8,168 million. All of the Crop Protection business units developed positively. Fungicides and Insecticides achieved the largest increases in percentage terms, with Herbicides and SeedGrowth posting encouraging gains. Sales of vegetable seeds also moved ahead.

Sales in **Environmental Science** edged upward by 1.3% (Fx & portfolio adj.) to €651 million. The positive development in products for professional users more than offset the decline in the consumer business.

Sales by Business Units [Table 3.15.7]

	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx & p adj. %	€ million	€ million	%	Fx & p adj. %
Herbicides	451	469	+4.0	+11.5	2,356	2,456	+4.2	+8.3
Fungicides	445	445	0.0	+6.7	1,974	2,195	+11.2	+14.9
Insecticides	424	465	+9.7	+20.1	1,514	1,622	+7.1	+14.1
SeedGrowth	220	247	+12.3	+18.6	897	921	+2.7	+7.1
Crop Protection	1,540	1,626	+5.6	+13.6	6,741	7,194	+6.7	+11.4
Seeds	142	171	+20.4	+25.2	962	974	+1.2	+1.2
Crop Protection/Seeds	**1,682**	**1,797**	**+6.8**	**+14.6**	**7,703**	**8,168**	**+6.0**	**+10.1**
Environmental Science	**174**	**154**	**−11.5**	**−4.6**	**680**	**651**	**−4.3**	**+1.3**

2012 figures restated
Fx & p adj. = currency- and portfolio-adjusted

CropScience achieved currency-adjusted sales increases in all regions.

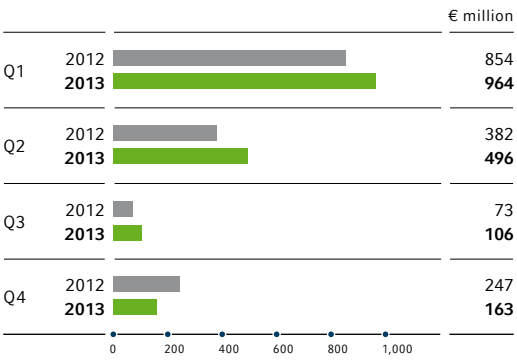
In **Europe**, sales rose by 4.3% (Fx adj.) to €2,799 million, mainly in light of the positive development at Crop Protection/Seeds. Fungicides posted double-digit growth. Both Insecticides and the vegetable seed business developed well, while sales of Herbicides showed only a small increase. Business in SeedGrowth receded overall, partly as a consequence of use restrictions for products containing neonicotinoids. Sales of Environmental Science receded due to the downturn in the consumer business.

Sales in **North America** advanced by 5.0% (Fx adj.) to €2,211 million. This was primarily attributable to the robust business development in SeedGrowth with products for use in corn and soybeans and to positive development in Herbicides. Double-digit growth was also recorded in Fungicides, while sales in the Insecticides unit declined due to lower infestation pressure. Business in Seeds was down against a strong prior year. The positive development of our vegetable seeds business did not fully offset the lower sales of canola and cotton seed, which were due to reduced acreages. Business expanded at Environmental Science.

Sales in the **Asia/Pacific** region advanced by 7.9% (Fx adj.) to €1,358 million, thanks partly to increased sales in Herbicides. Business in Insecticides and Fungicides also expanded. Our Seeds business developed successfully, too, with double-digit growth for vegetable and rice seeds. The region as a whole benefited especially from a significant business improvement in India. Sales in Environmental Science were at the previous year's level.

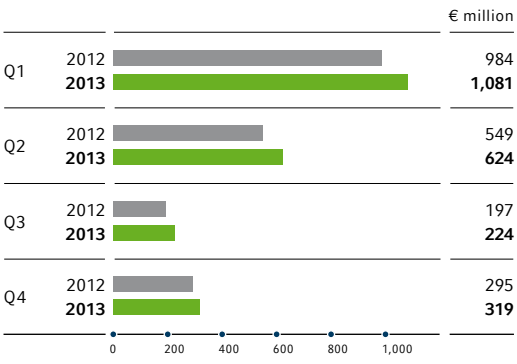
Growth was strongest in **Latin America/Africa/Middle East**, where sales climbed by a substantial 23.6% (Fx adj.) to €2,451 million. We achieved double-digit growth in Crop Protection/Seeds in a very positive market environment. Sales of the Insecticides unit posted particularly good gains, driven by our products for use in soybeans and corn. In Fungicides, products for use in soybeans were especially successful. The SeedGrowth and Herbicides businesses also developed very well. Sales in Seeds advanced in addition, particularly for vegetable and cotton seed. The soybean seed business also developed very well, partly due to acquisitions made in 2013. Brazil and Argentina accounted for a major part of the region's positive sales development. Sales in Environmental Science also moved ahead.

CropScience
Quarterly EBIT [Graphic 3.15.5]



2012 figures restated

CropScience
Quarterly EBITDA Before Special Items [Graphic 3.15.6]



2012 figures restated

EBIT of **CropScience** rose in 2013 by a substantial 11.1%, from €1,556 million in the prior year to €1,729 million after special charges of €72 million (2012: special gain of €13 million). The special charges mainly comprised restructuring expenses in Crop Protection. EBIT before special items advanced by 16.7% to €1,801 million. **EBITDA** before special items moved ahead by 11.0% to €2,248 million. Earnings growth was mainly the result of significant volume increases and higher selling prices, with positive currency effects of some €20 million also contributing to the increase.

15.3 MaterialScience

Key Data – MaterialScience [Table 3.15.8]

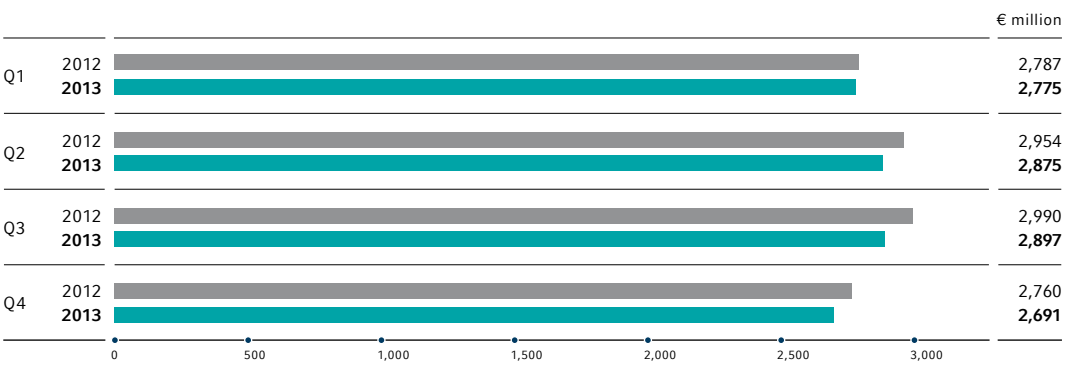
	4th Quarter 2012	4th Quarter 2013	Change		Full Year 2012	Full Year 2013	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**2,760**	**2,691**	**–2.5**	**+1.6**	**11,491**	**11,238**	**–2.2**	**+0.4**
Change in sales								
Volume	+2.6%	+4.1%			+2.4%	+0.6%		
Price	+2.2%	–2.5%			+0.6%	–0.2%		
Currency	+2.2%	–3.6%			+3.9%	–2.4%		
Portfolio	–0.6%	–0.5%			–0.7%	–0.2%		
Sales by business unit								
Polyurethanes	1,473	1,472	–0.1	+4.0	5,987	6,054	+1.1	+3.9
Polycarbonates	668	640	–4.2	–0.9	2,819	2,640	–6.3	–4.5
Coatings, Adhesives, Specialties	451	417	–7.5	–1.1	1,972	1,863	–5.5	–1.9
Industrial Operations	168	162	–3.6	–2.4	713	681	–4.5	–3.6
Sales by region								
Europe	1,027	1,040	+1.3	+1.5	4,403	4,363	–0.9	–0.8
North America	579	561	–3.1	+1.6	2,441	2,424	–0.7	+2.5
Asia/Pacific	771	762	–1.2	+5.2	3,149	3,048	–3.2	+0.9
Latin America/Africa/Middle East	383	328	–14.4	–8.9	1,498	1,403	–6.3	–2.3
EBIT	**94**	**70**	**–25.5**		**581**	**435**	**–25.1**	
Special items	*(1)*	*(18)*			*(32)*	*6*		
EBIT before special items*	***95***	***88***	***–7.4***		***613***	***429***	***–30.0***	
EBITDA*	**265**	**244**	**–7.9**		**1,236**	**1,101**	**–10.9**	
Special items	*1*	*(4)*			*(27)*	*29*		
EBITDA before special items*	***264***	***248***	***–6.1***		***1,263***	***1,072***	***–15.1***	
EBITDA margin before special items*	9.6%	9.2 %			11.0%	9.5 %		
Gross cash flow**	**216**	**217**	**+0.5**		**952**	**887**	**–6.8**	
Net cash flow**	**250**	**545**	**.**		**735**	**977**	**+32.9**	

2012 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales and Sales by business unit; Fx adj.: Sales by region)
* For definition see Chapter 16.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 16.5 "Liquidity and Capital Expenditures of the Bayer Group."

PHOTO // The scanning electron micrograph above shows a cross-section through a flexible polyurethane foam – magnified about 85 times.

The **MaterialScience** subgroup posted **sales** of €11,238 million in 2013, matching the prior-year level on a currency- and portfolio-adjusted basis (+0.4%; reported: –2.2%). There was a slight overall improvement in volumes, with increases in Asia and North America offsetting volume declines in Latin America/Africa/Middle East and Europe. However, selling prices overall were slightly below the prior-year level. Higher prices in North and Latin America roughly compensated for decreases in Asia/Pacific and Europe.

MaterialScience Quarterly Sales [Graphic 3.15.7]



2012 figures restated

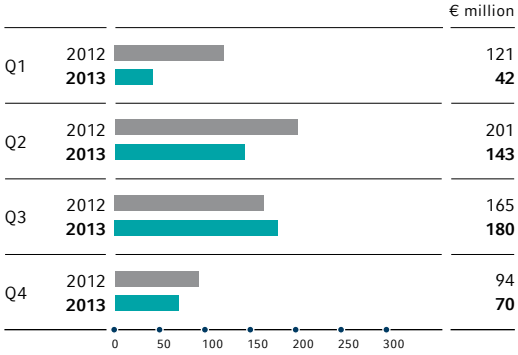
Sales in the **Polyurethanes** business unit rose by 3.9% (Fx & portfolio adj.) to €6,054 million. Volume gains in Asia/Pacific and North America contributed to this increase. Selling prices as a whole were at the prior-year level. Prices for diphenylmethane diisocyanate (MDI) increased, with volumes unchanged from the previous year. Volumes of toluene diisocyanate (TDI) improved significantly, but prices receded. Volumes for polyether (PET) moved somewhat lower, with selling prices at the level of the prior year.

Sales of the **Polycarbonates** business unit receded by 4.5% (Fx & portfolio adj.) to €2,640 million. This decline was mainly due to a drop in volumes in all regions on account of weaker demand. A further factor was the lower level of selling prices in Asia/Pacific caused by market overcapacities.

Sales in the **Coatings, Adhesives, Specialties** business unit fell by 1.9% (Fx & portfolio adj.) to €1,863 million, largely as a result of lower selling prices in Asia/Pacific. Volumes as a whole were flat with the prior year.

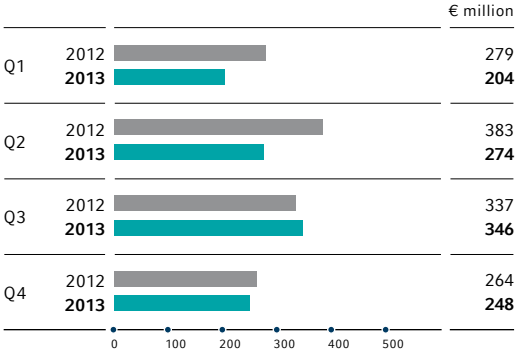
Sales of **Industrial Operations** moved back by 3.6% (Fx & portfolio adj.) to €681 million due to lower overall price levels. Volumes, however, were unchanged.

MaterialScience
Quarterly EBIT [Graphic 3.15.8]



2012 figures restated

MaterialScience
Quarterly EBITDA Before Special Items [Graphic 3.15.9]



2012 figures restated

EBIT of **MaterialScience** receded by 25.1% in 2013 to €435 million. This included a net special gain of €6 million (2012: special charges of €32 million), the €42 million gain from the disposal of parts of our polyester resins business being largely offset by restructuring expenses. EBIT before special items fell by a substantial 30.0% to €429 million. **EBITDA** before special items dropped by 15.1% to €1,072 million. This decline was mainly due to a sharp rise in raw material costs, especially in the first half of the year. Earnings were also diminished by somewhat lower selling prices. These effects were partly offset by a slight rise in volumes, savings from our efficiency improvement measures and positive currency effects of about €10 million. Successful working capital management resulted in a significant improvement in cash flow, to €977 million (2012: €735 million; +32.9%).

15.4 Business Development by Region

Sales by Region and Segment (by Market) [Table 3.15.9]

	Europe				North America				Asia / Pacific				Latin America/Africa/Middle East				Total			
	Full Year 2012	Full Year 2013			Full Year 2012	Full Year 2013			Full Year 2012	Full Year 2013			Full Year 2012	Full Year 2013			Full Year 2012	Full Year 2013		
	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy
HealthCare	**6,483**	**6,853**	**+5.7**	**+6.8**	**4,961**	**5,024**	**+1.3**	**+4.7**	**4,196**	**4,188**	**−0.2**	**+11.1**	**2,964**	**2,859**	**−3.5**	**+8.0**	**18,604**	**18,924**	**+1.7**	**+7.4**
Pharmaceuticals	3,677	3,918	+6.6	+7.5	2,370	2,540	+7.2	+10.6	2,939	3,016	+2.6	+14.9	1,812	1,714	−5.4	+6.8	10,798	11,188	+3.6	+10.1
Consumer Health	2,806	2,935	+4.6	+6.0	2,591	2,484	−4.1	−0.7	1,257	1,172	−6.8	+2.1	1,152	1,145	−0.6	+10.0	7,806	7,736	−0.9	+3.7
CropScience	**2,706**	**2,799**	**+3.4**	**+4.3**	**2,154**	**2,211**	**+2.6**	**+5.0**	**1,386**	**1,358**	**−2.0**	**+7.9**	**2,137**	**2,451**	**+14.7**	**+23.6**	**8,383**	**8,819**	**+5.2**	**+9.9**
MaterialScience	**4,403**	**4,363**	**−0.9**	**−0.8**	**2,441**	**2,424**	**−0.7**	**+2.5**	**3,149**	**3,048**	**−3.2**	**+0.9**	**1,498**	**1,403**	**−6.3**	**−2.3**	**11,491**	**11,238**	**−2.2**	**+0.2**
Group (incl. reconciliation)	**14,722**	**15,086**	**+2.5**	**+3.1**	**9,576**	**9,680**	**+1.1**	**+4.2**	**8,759**	**8,623**	**−1.6**	**+6.9**	**6,684**	**6,768**	**+1.3**	**+10.2**	**39,741**	**40,157**	**+1.0**	**+5.4**

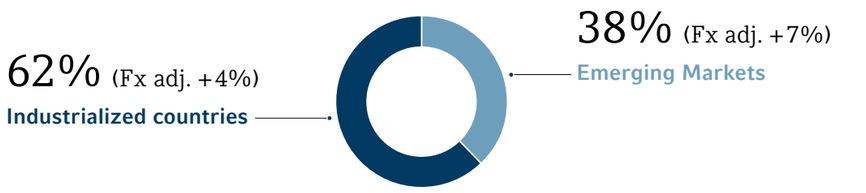
2012 figures restated
yoy = year on year; Fx. adj. = currency-adjusted

15.5 Business Development in the Emerging Markets

The Emerging Markets again accounted for a disproportionately large share of sales growth in 2013. For reporting purposes we have defined the Emerging Markets as Asia (excluding Japan), Latin America, Eastern Europe, Africa and the Middle East.

Sales in these markets rose in 2013 by 7.3% (Fx adj.) to €15,040 million (2012: €14,785 million), with pleasing gains in Latin America, Asia and Eastern Europe. The Emerging Markets accounted for 37.5% of sales (2012: 37.2%).

Sales Development in 2013 [Graphic 3.15.10]



currency-adjusted changes in parentheses

HEALTHCARE

HealthCare raised sales in the Emerging Markets by 8.0% (Fx adj.) in 2013 to €6,236 million (2012: €6,169 million), with the Latin America region posting the highest currency-adjusted growth rate. Here, Argentina and Brazil saw the strongest currency-adjusted increases, especially in sales of our Consumer Care products. The largest increase in absolute terms occurred in China, mainly in light of the continued expansion of our distribution network. We also achieved gratifying sales growth in Russia, primarily in Consumer Care. The Emerging Markets accounted for 33.0% (2012: 33.2%) of total HealthCare sales.

ONLINE ANNEX: 3-15.5-1

In Russia, HealthCare is supporting the ongoing reorganization of the country's health system that forms part of the government's "Pharma 2020" reform program. This program is designed to achieve a 10-year increase in life expectancy by 2020 by improving health care, establishing a government-run health insurance system and modernizing the pharmaceutical industry. Bayer plans to provide assistance with educational and prevention programs.

CROPSCIENCE

CropScience improved sales in the Emerging Markets by 18.2% (Fx adj.) in 2013, to €3,959 million (2012: €3,570 million). Business developed particularly well in Latin America, especially in Brazil and Argentina. We posted encouraging sales gains in Asia and Eastern Europe. Sales in Africa/Middle East also increased. The Emerging Markets' share of total CropScience sales in 2013 was 44.9% (2012: 42.6%).

ONLINE ANNEX: 3-15.5-2

Growing the business in the Emerging Markets, and especially in developing countries, also involves finding solutions to specific local challenges.

CropScience aims to contribute to increased agricultural productivity in Africa and intends to expand its presence there. The subgroup's range of products and services is tailored to the needs of African farmers and includes integrated crop solutions based on improved seed varieties and modern crop protection technologies. We also run product safety programs and provide training in good agricultural practice. We regard public-private partnerships as the key to rural development and affluence in Africa and therefore work together with local governments, farmers' associations, cooperatives, non-governmental organizations, agricultural input suppliers, banks and insurers.

CropScience also aims to help raise living standards in rural areas of India by boosting value added and ensuring it is reinvested in the community. An example is the Model Village Project launched in 2010. The aim of this project is to train farmers in sustainable cultivation methods and show them new ways of irrigating their land in order to improve productivity. Parallel measures are also being taken to improve general living conditions, such as the commissioning of a drinking water purification plant and the launch of health promotion and children's educational programs. The Bayer Prayas Rural Development Association coordinates the activities at the local level in the model villages in the state of Karnataka in southwest India.

MATERIALSCIENCE

In the Emerging Markets, MaterialScience had sales of €4,761 million in 2013 (2012: €4,933 million), down 1.0% year on year (Fx. adj.). Sales fell considerably in Africa/Middle East, especially in Turkey. Sales in Asia were practically flat with the prior year, although business expanded in China. In Latin America, too, sales came in at the previous year's level. In Eastern Europe, however, we posted a slight increase. The Emerging Markets accounted for 42.4% (2012: 42.9%) of total sales at MaterialScience.

ONLINE ANNEX: 3-15.5-3

In cooperation with external partners, MaterialScience is evolving and implementing technical solutions to help low-income people in developing countries and Emerging Markets gain improved access to high-quality, safe and easy-to-build yet affordable housing. These activities currently focus on Asia. The company is mainly contributing its expertise in the field of polyurethane rigid foam for the construction industry.

16. Earnings; Asset and Financial Position of the Bayer Group

16.1 Earnings Performance of the Bayer Group

Bayer Group Summary Income Statements [Table 3.16.1]

	2012	2013	Change
	€ million	€ million	%
Net sales	39,741	40,157	+1.0
Cost of goods sold	19,070	19,347	+1.5
Selling expenses	9,981	10,080	+1.0
Research and development expenses	3,013	3,190	+5.9
General administration expenses	1,866	1,883	+0.9
Other operating income (+) and expenses (–)	(1,883)	(723)	+61.6
EBIT*	**3,928**	**4,934**	**+25.6**
Financial result	**(752)**	**(727)**	**+3.3**
Income before income taxes	**3,176**	**4,207**	**+32.5**
Income taxes	(723)	(1,021)	–41.2
Income after income taxes	**2,453**	**3,186**	**+29.9**
of which attributable to non-controlling interest	50	(3)	–
of which attributable to Bayer AG stockholders (net income)	**2,403**	**3,189**	**+32.7**

2012 figures restated
* EBIT = earnings before financial result and taxes

Sales of the Bayer Group rose to €40,157 million (+1.0%). The increase after adjusting for currency and portfolio effects was 5.1%.

The cost of goods sold increased by 1.5% to €19,347 million, mainly due to higher volumes and a rise in raw material costs at MaterialScience. The ratio of the cost of goods sold to total sales was 48.2% (2012: 48.0%). The selling expenses of €10,080 million (+1.0%) amounted to 25.1% of sales (2012: 25.1%). Research and development (R&D) expenses rose in 2013 by 5.9% to €3,190 million, the increase being attributable to HealthCare and CropScience. The ratio of R&D expenses to sales was slightly higher at 7.9% (2012: 7.6%). General administration expenses, at €1,883 million, were level with the prior year (+0.9%). The ratio of general administration expenses to total sales thus remained unchanged at 4.7%. The negative balance of other operating income and expenses was reduced considerably to minus €723 million (2012: minus €1,883 million), mainly because special charges for accounting measures related to legal claims were lower in 2013 (see also Chapter 16.2 "Calculation of EBIT(DA) Before Special Items").

EBIT climbed by 25.6% in 2013 to €4,934 million.

The financial result improved by 3.3% to minus €727 million. It included €355 million (2012: €252 million) in net interest expense, €297 million (2012: €389 million) in interest cost for pension and other provisions, a €120 million (2012: €69 million) net exchange loss and a €59 million net gain (2012: €23 million net loss) from investments in affiliated companies. Income from investments in affiliated companies included a €77 million gain from the sale of Bayer's interest in Onyx Pharmaceuticals Inc., United States. The net interest position was particularly affected by interest expense in connection with a court proceeding brought by former Schering stockholders. The decrease in pension-related interest cost resulted partly from the effect of lower interest rates on the interest cost for defined benefit plans, which is reported net of the expected return on plan assets.

Tax expense in 2013 increased to €1,021 million as a result of earnings growth (2012: €723 million). Income after income taxes came in at €3,186 million. Income attributable to non-controlling interest fell by €53 million to minus €3 million. The prior-year figure contained minority stockholders' interest in divestiture gains. Bayer Group net income for 2013 was €3,189 million (2012: €2,403 million).

16.2 Calculation of EBIT(DA) Before Special Items

Key performance indicators for the Bayer Group are EBIT before special items and EBITDA before special items. These indicators are reported in order to allow a more accurate assessment of business operations. The special items – comprising effects that are non-recurring or do not regularly recur or attain similar magnitudes – are detailed in the following table. EBITDA, EBITDA before special items and EBIT before special items are not defined in the International Financial Reporting Standards and should therefore be regarded only as supplementary information. EBITDA before special items is a meaningful indicator of operating performance since it is not affected by depreciation, amortization, impairment losses, impairment loss reversals or special items. By reporting this indicator, the company aims to give readers a clear picture of the results of operations and ensure comparability of data over time. 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.

Depreciation, amortization and impairments decreased by 3.1% in 2013 to €2,896 million (2012: €2,988 million), comprising €1,572 million (2012: €1,659 million) in amortization and impairments of intangible assets, impairment loss reversals of €13 million (2012: €21 million) and €1,337 million (2012: €1,350 million) in depreciation and impairments of property, plant and equipment. A total of €268 million (2012: €347 million) in depreciation, amortization and impairments constituted special items. This amount comprised €259 million (2012: €315 million) in impairment losses and €22 million (2012: €48 million) in depreciation and amortization, less €13 million (2012: €16 million) in impairment loss reversals.

Special Items Reconciliation [Table 3.16.2

	EBIT* 4th Quarter 2012	EBIT* 4th Quarter 2013	EBIT* Full Year 2012	EBIT* Full Year 2013	EBITDA** 4th Quarter 2012	EBITDA** 4th Quarter 2013	EBITDA** Full Year 2012	EBITDA** Full Year 2013
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Before special items	**1,153**	**1,094**	**5,639**	**5,773**	**1,826**	**1,769**	**8,280**	**8,401**
HealthCare	**(460)**	**(354)**	**(1,582)**	**(713)**	**(464)**	**(268)**	**(1,253)**	**(476)**
Impairment losses/ impairment loss reversals	16	(55)	(289)	(171)	–	–	–	14
Restructuring	(59)	(109)	(182)	(197)	(47)	(78)	(142)	(145)
Litigations	(455)	(180)	(1,160)	(269)	(455)	(180)	(1,160)	(269)
Integration costs	–	(10)	–	(76)	–	(10)	–	(76)
Adjustments to post-employment benefit entitlements	38	–	49	–	38	–	49	–
CropScience	**79**	**(40)**	**13**	**(72)**	**79**	**(37)**	**25**	**(64)**
Restructuring	(25)	(40)	(83)	(67)	(25)	(37)	(71)	(59)
Litigations	(59)	–	(83)	(5)	(59)	–	(83)	(5)
Divestitures	158	–	158	–	158	–	158	–
Adjustments to post-employment benefit entitlements	5	–	21	–	5	–	21	–
MaterialScience	**(1)**	**(18)**	**(32)**	**6**	**1**	**(4)**	**(27)**	**29**
Restructuring	(6)	(18)	(50)	(36)	(4)	(4)	(45)	(13)
Divestitures	–	–	–	42	–	–	–	42
Adjustments to post-employment benefit entitlements	5	–	18	–	5	–	18	–
Reconciliation	**(42)**	**(27)**	**(110)**	**(60)**	**(41)**	**(27)**	**(109)**	**(60)**
Restructuring	(24)	(25)	(81)	(58)	(23)	(25)	(80)	(58)
Litigations	(29)	(2)	(55)	(2)	(29)	(2)	(55)	(2)
Adjustments to post-employment benefit entitlements	11	–	26	–	11	–	26	–
Total special items	**(424)**	**(439)**	**(1,711)**	**(839)**	**(425)**	**(336)**	**(1,364)**	**(571)**
After special items	**729**	**655**	**3,928**	**4,934**	**1,401**	**1,433**	**6,916**	**7,830**

2012 figures restated
* EBIT = earnings before financial result and taxes
** EBITDA = EBIT plus amortization and impairment losses on intangible assets and depreciation and impairment losses on property, plant and equipment, minus impairment loss reversals

16.3 Core Earnings Per Share

Earnings per share according to IFRS are affected by the purchase price allocation for acquisitions and other special factors. To enhance comparability, we also determine core net income after eliminating amortization and impairments/impairment loss reversals of intangible assets, impairments/impairment loss reversals of property, plant and equipment, and special items in EBITDA including the related tax effects.

From this core net income we calculate core earnings per share in the same way as earnings per share. Core earnings per share form the basis for our dividend policy. Core earnings per share in 2013 rose by 5.8% to €5.61 (2012: €5.30).

Core Earnings per Share [Table 3.16.3]

	4th Quarter 2012	4th Quarter 2013	Full Year 2012	Full Year 2013
	€ million	€ million	€ million	€ million
EBIT (as per income statements)	**729**	**655**	**3,928**	**4,934**
Amortization and impairment losses/loss reversals of intangible assets	327	437	1,637	1,559
Impairment losses/loss reversals on property, plant and equipment	9	21	41	48
Special items (other than amortization and impairment losses/loss reversals)	425	336	1,364	571
Core EBIT	**1,490**	**1,449**	**6,970**	**7,112**
Financial result (as per income statements)	(169)	(84)	(752)	(727)
Special items in the financial result	(73)	(72)	(73)	10
Income taxes (as per income statements)	(156)	(129)	(723)	(1,021)
Tax effects related to amortization, impairment losses/loss reversals and special items	(255)	(266)	(1,024)	(734)
Income after income taxes attributable to non-controlling interest (as per income statements)	(38)	13	(50)	3
Special items in income after income taxes attributable to non-controlling interest	35	–	35	–
Core net income	**834**	**911**	**4,383**	**4,643**
	Shares	Shares	Shares	Shares
Number of issued ordinary shares	**826,947,808**	**826,947,808**	**826,947,808**	**826,947,808**
Core earnings per share (€)	**1.01**	**1.10**	**5.30**	**5.61**

2012 figures restated

The calculation of earnings per share according to IFRS is explained in Note [16] to the consolidated financial statements. Core net income, core earnings per share and core EBIT are not defined in IFRS.

Consolidated Financial Statements Note 16

16.4 Value Management

SYSTEM BASED ON CASH VALUE ADDED

The principal value-based steering parameters in the Bayer Group are the cash value added (CVA) and the cash flow return on investment (CFROI). If the CVA is positive, the respective company or business entity has exceeded the minimum requirements of the equity and debt capital providers and has created value. The CFROI is a ratio indicating the profitability of the Group or of individual business entities and must be compared to the cost of capital.

CALCULATING THE COST OF CAPITAL

Bayer calculates the cost of capital according to the debt/equity ratio at the beginning of the year using the weighted average cost of capital (WACC) formula. The cost of equity capital is the return expected by stockholders, computed from capital market information. The cost of debt capital used in calculating WACC is based on the terms for ten-year Eurobonds issued by industrial companies with an "A–"rating.

To take into account the different risk and return profiles of our principal businesses, we calculate individual capital cost factors after income taxes for each of our subgroups. These were 7.9% (2012: 8.1%) for HealthCare, 7.3% for CropScience (2012: 7.5%) and 6.9% (2012: 7.1%) for MaterialScience. The capital cost factor for the Group in 2013 was 7.6% (2012: 7.8%).

Cost of capital for the Bayer Group

7.6%

GROSS CASH FLOW, CASH VALUE ADDED AND CASH FLOW RETURN ON INVESTMENT AS PERFORMANCE YARDSTICKS

The gross cash flow is the measure of our internal financing capability. Bayer has chosen this parameter because it is relatively free of accounting influences and is therefore a more meaningful performance indicator.

Positive CVA = value created

Taking into account the costs of capital and of reproducing depletable assets, we determine the gross cash flow hurdle. If the gross cash flow hurdle is exceeded, the CVA is positive and thus the required return on equity and debt plus the cost of asset reproduction has been earned.

The CFROI is the difference between the gross cash flow and the cost of reproducing depletable assets, divided by the capital invested. The capital invested is calculated from the statement of financial position and basically comprises the property, plant and equipment and intangible assets required for operations – stated at the historical cost of acquisition or construction – plus working capital, less interest-free liabilities (such as current provisions). To mitigate the effect of fluctuations in the capital invested during the year, the CFROI is computed on the basis of the average capital invested for the respective year.

The gross cash flow hurdle for 2013 was €4,260 million (2012: €4,337 million).

Actual gross cash flow came in at €5,832 million, exceeding the hurdle by 36.9%. Thus the entire cost of capital and asset reproduction costs were earned in 2013. The positive CVA of €1,572 million shows that Bayer exceeded the minimum return and reproduction requirements and created value. The CVA rose by a clear €1,353 million compared with 2012. The CFROI for 2013 amounted to 11.1% (2012: 8.2%).

HealthCare and CropScience exceeded their required returns (including asset reproduction), raised their CVA and helped to increase the value of the Group. At MaterialScience, capital expenditures for new production facilities form the basis for profitable growth in the future. This strategic investment is aligned to medium- and long-term market developments and is currently holding back this subgroup's value management indicators.

Value Management Indicators by Subgroup [Table 3.16.4]

	HealthCare		CropScience		MaterialScience		Bayer Group	
	2012	2013	2012	2013	2012	2013	2012	2013
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Gross cash flow* (GCF)	2,659	3,573	1,332	1,590	952	887	4,556	5,832
Gross cash flow hurdle	2,214	2,109	824	906	1,079	1,060	4,337	4,260
Cash value added (CVA)	445	1,464	508	684	(127)	(173)	219	1,572
Cash flow return on investment (CFROI)	10.3%	14.1%	12.5%	14.2%	5.8%	5.5%	8.2%	11.1%
WACC	8.1%	7.9%	7.5%	7.3%	7.1%	6.9%	7.8%	7.6%
Average capital invested	22,180	22,480	9,203	9,881	10,525	10,371	43,247	43,548

2012 figures restated
Delta cash value added is not listed due to its limited importance.
* For definition see Chapter 16.5 "Liquidity and Capital Expenditures of the Bayer Group."

16.5 Liquidity and Capital Expenditures of the Bayer Group

Bayer Group Summary Statements of Cash Flows [Table 3.16.5]

	2012	2013
	€ million	€ million
Gross cash flow*	**4,556**	**5,832**
Changes in working capital/other non-cash items	(26)	(661)
Net cash provided by (used in) operating activities (net cash flow)	**4,530**	**5,171**
Net cash provided by (used in) investing activities	**(814)**	**(2,581)**
Net cash provided by (used in) financing activities	**(3,783)**	**(2,535)**
Change in cash and cash equivalents due to business activities	**(67)**	**55**
Cash and cash equivalents at beginning of period	**1,771**	**1,698**
Change due to exchange rate movements and to changes in scope of consolidation	(6)	(91)
Cash and cash equivalents at end of period	**1,698**	**1,662**

2012 figures restated
* Gross cash flow = income after income taxes, plus income taxes, plus financial result, minus income taxes paid or accrued, plus depreciation, amortization and impairment losses, minus impairment loss reversals, plus/minus changes in pension provisions, minus gains/plus losses on retirements of noncurrent assets, minus gains from the remeasurement of already held assets in step acquisitions. The change in pension provisions includes the elimination of non-cash components of EBIT. It also contains benefit payments during the year.

OPERATING CASH FLOW

Gross cash flow climbed by 28.0% year on year in 2013 to €5,832 million, mainly on account of the increase in EBIT. While HealthCare and CropScience recorded a business-related increase in cash tied up in working capital, MaterialScience was able to release cash thanks to successful working capital management. Cash flow was impacted by higher charges related to legal claims. Income tax payments were lower at €1,281 million (2012: €1,667 million). Net cash flow of the Group rose by 14.2% to €5,171 million.

INVESTING CASH FLOW

Net cash outflow for investing activities in 2013 amounted to €2,581 million. Cash outflows for property, plant and equipment and intangible assets were 11.8% higher at €2,157 million and included €809 million (2012: €720 million) at HealthCare, €538 million (2012: €376 million) at CropScience and €559 million (2012: €621 million) at MaterialScience. The €1,082 million (2012: €466 million) in outflows for acquisitions mainly related to the acquisition of Conceptus, Inc., United States, and Steigerwald Arzneimittelwerk GmbH, Germany. The cash inflows in 2013 comprised €79 million (2012: €178 million) pertaining to divestitures, mainly income from the sale of the global powder polyester resins business and revenue-based payments received in connection with the sale of the hematological oncology portfolio to Genzyme Corp., United States. Interest and dividends totaling €125 million (2012: €104 million) were also received along with income of €301 million (2012: €1,069 million) from noncurrent and current financial assets.

The principal strategically relevant capital expenditures for property, plant and equipment in the operating segments during the past two years are listed in the following table:

Capital Expenditures for Property, Plant and Equipment [Table 3.16.6]

Segment	Description
CAPITAL EXPENDITURES 2013	
Pharmaceuticals	Consolidation of a number of administrative and business operations in Whippany, New Jersey, U.S.A.
	Expansion of Xarelto™ production capacities in Wuppertal and Leverkusen, Germany
	Expansion of production capacities for biologics in Wuppertal, Germany
Consumer Health	–
CropScience	Capacity expansion and process modifications for the production of fungicides in Germany, Switzerland and the U.S.A. and for related formulation units in France
	Expansion of manufacturing capacities for herbicidal active ingredients in Germany and the U.S.A.
	Establishment of breeding stations for wheat in Europe, North America and Asia/Pacific, for soybeans in North America and Latin America, and for other crops and trait development
MaterialScience	Doubling of production capacities for polycarbonates in Shanghai, China
	Expansion of production capacities for MDI (diphenylmethane diisocyanate) in Shanghai, China
	Construction of a world-scale production complex for TDI (toluene diisocyanate) based on gas-phase phosgenation technology in Dormagen, Germany
	Completion of a multi-purpose facility for the aliphatic isocyanates HDI (hexamethylene diisocyanate) and IPDI (isophorone diisocyanate) in Leverkusen, Germany
CAPITAL EXPENDITURES 2012	
Pharmaceuticals	Consolidation of a number of administrative and business operations in Whippany, New Jersey, U.S.A.
	Establishment of a pilot facility for the production of biomolecules for clinical trials in Wuppertal, Germany
	Production facilities for the formulation and packaging of hormonal solids in Weimar, Germany
	Expansion of Xarelto™ production capacities in Wuppertal and Leverkusen, Germany
Consumer Health	Expansion of production and packaging capacities for effervescents in Cimanggis, Jakarta, Indonesia
CropScience	Capacity expansions and process modifications for the production of fungicides in Germany, and Switzerland
	Establishment of wheat breeding stations in Europe, North America and Australia
	Construction of a greenhouse in Research Triangle Park, North Carolina, U.S.A.
MaterialScience	Construction of a world-scale production complex for TDI (toluene diisocyanate) based on gas-phase phosgenation technology in Dormagen, Germany
	Construction of a multi-purpose facility for the aliphatic isocyanates HDI (hexamethylene diisocyanate) and IPDI (isophorone diisocyanate) and IPDI in Leverkusen, Germany
	Completion of a polyurethanes systems house in Qingdao, China

FINANCING CASH FLOW

Net cash outflow for financing activities in 2013 amounted to €2,535 million, including net loan repayments of €619 million (2012: €1,946 million). The increased use of current financial instruments led to a higher debt turnover ratio.

Net interest payments were 27.8% lower at €338 million (2012: €468 million). The cash outflow for "dividend payments and withholding tax on dividends" amounted to €1,574 million (2012: €1,366 million).

LIQUID ASSETS AND NET FINANCIAL DEBT

Net Financial Debt [Table 3.16.7]

	Dec. 31, 2012	Dec. 31, 2013
	€ million	€ million
Bonds and notes/promissory notes	5,528	4,520
of which hybrid bond	1,364	1,344
Liabilities to banks	2,841	2,302
Liabilities under finance leases	542	382
Liabilities from derivatives	304	310
Other financial liabilities	310	1,516
Positive fair values of hedges of recorded transactions	(456)	(504)
Financial debt	**9,069**	**8,526**
Cash and cash equivalents	(1,698)	(1,662)
Current financial assets	(349)	(133)
Net financial debt	**7,022**	**6,731**

2012 figures restated

Net financial debt of the Bayer Group as of December 31, 2013 was lower than on December 31, 2012, at €6.7 billion. Cash inflows from operating activities were partly offset by outflows for dividends and acquisitions. As of December 31, 2013, the Group had cash and cash equivalents of €1.7 billion (2012: €1.7 billion). Financial liabilities at the end of the reporting period amounted to €8.5 billion (2012: €9.1 billion), with the subordinated hybrid bond issued in July 2005 reflected at €1.3 billion. Net financial debt should be viewed against the fact that Moody's and Standard & Poor's treat 75% and 50%, respectively, of the hybrid bond as equity. Unlike conventional borrowings, the hybrid bond thus only has a limited effect on the Group's rating-specific debt indicators. Our noncurrent financial liabilities declined in 2013 from €7.0 billion to €5.6 billion, while current financial liabilities rose from €2.6 billion to €3.4 billion.

16.6 Asset and Capital Structure of the Bayer Group

Bayer Group Summary Statements of Financial Position [Table 3.16.8]

	Dec. 31, 2012	Dec. 31, 2013	Change
	€ million	€ million	%
Noncurrent assets	32,308	32,289	−0.1
Current assets	19,010	19,028	+0.1
Total assets	**51,318**	**51,317**	**–**
Equity	**18,551**	**20,804**	**+12.1**
Noncurrent liabilities	**19,663**	**16,490**	**−16.1**
Current liabilities	**13,104**	**14,023**	**+7.0**
Liabilities	**32,767**	**30,513**	**−6.9**
Total equity and liabilities	**51,318**	**51,317**	**–**

2012 figures restated

Total assets as of December 31, 2013, were unchanged from the previous year at €51.3 billion. Noncurrent assets were at the prior-year level of €32.3 billion and included goodwill of €9.9 billion (2012: €9.3 billion). The increase in goodwill was mainly the result of acquisitions made in 2013. The decline in other intangible assets and fluctuations in exchange rates had a negative effect. The carrying amount of current assets was also level with the previous year, at €19.0 billion.

Equity was higher by €2.2 billion at €20.8 billion. The factors in this increase included the net income of €3.2 billion and the decline of €1.3 billion – recognized outside profit or loss – in post-employment benefit obligations. The €1.6 billion (2012: €1.4 billion) dividend payment and €0.7 billion (2012: €0 billion) in negative exchange differences had an offsetting effect. Our equity ratio (equity coverage of total assets) as of December 31, 2013 was 40.5% (2012: 36.1%).

Liabilities receded by €2.3 billion compared with December 31, 2012, to €30.5 billion, mainly because of the decline in provisions for pensions and other post-employment benefits.

Net Defined Benefit Liability for Post-Employment Benefits [Table 3.16.9]

	Dec. 31, 2012	Dec. 31, 2013
	€ million	€ million
Provisions for pensions and other post-employment benefits	9,246	7,368
Benefit plan assets in excess of obligation	(27)	(117)
Net defined benefit liability for post-employment benefits	**9,219**	**7,251**

2012 figures restated

The net defined benefit liability for pensions and other post-employment benefits decreased from €9.2 billion to €7.3 billion in 2013, mainly in light of higher long-term capital market interest rates.

Ratios/Indicators [Table 3.16.10]

		2012	2013
Cost of sales ratio (%)	Cost of goods sold / Sales	48.0	48.2
R&D expense ratio (%)	Research and development expenses / Sales	7.6	7.9
Return on sales (%)	Income after income taxes / Sales	6.2	7.9
EBIT margin (%)	EBIT / Sales	9.9	12.3
EBITDA margin before special items (%)	EBITDA before special items / Sales	20.8	20.9
Asset intensity (%)	Property, plant and equipment + intangible assets / Total assets	55.8	56.1
Reinvestment ratio (%)	Capital expenditures* / Depreciation*	119.9	137.5
Liability structure (%)	Current liabilities / Liabilities	40.0	46.0
Gearing	Net debt + pension provisions / Equity	0.9	0.7
Free operating cash flow (€ million)	Net operating cash flow less cash outflows for property, plant and equipment and intangible assets	2,601	3,014
Inventory turnover	Cost of goods sold / Inventories	2.7	2.7
Receivables turnover	Sales / Trade accounts receivable	5.3	5.3
Payables turnover	Cost of goods sold / Trade accounts payable	4.4	4.3
Equity ratio (%)	Equity / Total assets	36.1	40.5
Return on equity (%)	Income after income taxes / Average equity	13.0	16.2
Return on assets (%)	Income before income taxes and interest expense / Average total assets for the year	7.5	9.5

2012 figures restated
* property, plant and equipment

16.7 Financial Management of the Group

The financial management of the Bayer Group is conducted by the strategic management holding company 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, raw material price and default risks helps to reduce the volatility of our earnings.

The contracted rating agencies assess Bayer as follows:

Rating [Table 3.16.11]

	Long-term rating	Outlook	Short-term rating
Standard & Poor's	A–	positive	A–2
Moody's	A3	positive	P–2

These credit ratings reflect the company's high solvency and ensure access to a broad investor base for financing purposes. It remains our goal to achieve and maintain financial ratios that support an A rating in order to maintain our financial flexibility.

We pursue a prudent debt management strategy to ensure flexibility, drawing on a balanced financing portfolio. Chief among these resources are a multi-currency European Medium Term Notes program, syndicated credit facilities, bilateral loan agreements and a global commercial paper program.

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 directives.

Further details of our risk management objectives and the ways in which we account for all the major types of hedged transactions – along with price, credit and liquidity risks as they relate to the use of financial instruments – are given in Chapter 20.3 "Opportunity and Risk Report."

17. Earnings; Asset and Financial Position of Bayer AG

Bayer AG is the parent corporation of the Bayer Group and functions as a management holding company. The principal management functions for the entire Group are performed by the Board of Management of Bayer AG. These include strategic planning, resource allocation, executive management and financial management. The performance of Bayer AG is largely determined by the business performance of the Bayer Group.

The financial statements of Bayer AG are prepared in accordance with the German Commercial Code (HGB) and Stock Corporation Act (AktG).

17.1. Earnings Performance of Bayer AG

Bayer AG Summary Income Statements according to the German Commercial Code [Table 3.17.1]

	2012	2013
	€ million	€ million
Income from investments in affiliated companies – net	1,719	3,542
Interest expense – net	(445)	(315)
Other financial income – net	89	110
Other operating income	87	118
General administration expenses	(228)	(266)
Other operating expenses	(106)	(148)
Income before income taxes	**1,116**	**3,041**
Income taxes	(227)	(543)
Net income	**889**	**2,498**
Withdrawal from/allocation to retained earnings	682	(761)
Distributable profit	**1,571**	**1,737**

In fiscal 2013 Bayer AG's net income increased by €1,609 million to €2,498 million, mainly because of significantly higher income from investments in affiliated companies and a decrease in net interest expense. The main negative effect came from higher income taxes.

Income from investments in affiliated companies posted a large increase of €1,823 million to €3,542 million. The previous year's income was impacted by a one-time charge of €256 million in connection with the extension of the period during which various subsidiaries are assuming the pension fund's long-term statutory obligation to raise pensions. Bayer Pharma AG again made the largest contribution to income from investments in affiliated companies with income of €1,934 million (2012: €1,397 million). This significant improvement was mainly attributable to the good business performance resulting from a higher proportion of high-margin, recently launched products, as well as the non-recurrence of the one-time pension charge. Bayer CropScience AG increased its contribution to earnings by €933 million to €1,379 million (2012: €446 million). This amount included €570 million from the intra-Group sale of seed tech-

nologies. Earnings of the CropScience subgroup were also driven by the positive business development, especially the substantial rise in volumes and an improved product mix. A loss of €20 million (2012: €179 million) was assumed for Bayer MaterialScience AG. However, this was considerably lower than in the previous year, principally because of the impact of extensive cost-cutting programs on operational earnings. Other significant earnings contributions comprised €213 million (2012: €291 million) from a subsidiary that receives foreign dividend income. Bayer Business Services GmbH posted a loss of €74 million (2012: €103 million), and Bayer Technology Services GmbH reported a loss of €30 million (2012: €59 million).

Net interest expense declined by €130 million compared with the previous year, to €315 million, thanks mainly to lower interest rates and also to the restructuring of some debt into lower-interest instruments. Of the net interest expense, €218 million was attributable to transactions with third parties and €97 million to intra-Group transactions.

Other financial income and expenses yielded a positive balance of €110 million (2012: €89 million). This mainly comprised income of €162 million (2012: €183 million) from the subgroups and service companies to cover pension expenses for retirees remaining with Bayer AG following the hive-down of the operating business. The non-interest portion of the corresponding expense, amounting to €26 million (2012: €56 million), is included in other financial expenses; the remainder is reflected in net interest expense. A further charge of €14 million (2012: €33 million) resulted from the translation of foreign currency receivables and payables and from currency derivatives.

General administration expenses relating to Bayer AG's performance of its functions as a holding company amounted to €266 million (2012: €228 million). Miscellaneous operating expenses relating to these functions, net of the respective miscellaneous operating income, came to €30 million (2012: €19 million). The increase in administration expenses was attributable to the higher number of employees and higher performance-related compensation. The other operating expenses include an amount of €14 million for the company's 150th anniversary celebrations.

Pre-tax income increased by €1,925 million to €3,041 million (2012: €1,116 million). Tax expense also increased, by €316 million to €543 million. After deduction of taxes, net income was €2,498 million (2012: €889 million). An allocation of €761 million was made to other retained earnings, leaving a distributable profit of €1,737 million.

The Board of Management and Supervisory Board will propose to the Annual Stockholders' Meeting on April 29, 2014 that the distributable profit be used to pay a dividend of €2.10 per share (826,947,808 shares) on the capital stock of €2,117 million entitled to the dividend for 2013.

17.2 Asset and Financial Position of Bayer AG

Bayer AG Summary Statements of Financial Position according to the German Commercial Code [Table 3.17.2]

	Dec. 31, 2012	Dec. 31, 2013
	€ million	€ million
ASSETS		
Noncurrent assets		
Intangible assets, property, plant and equipment	22	21
Financial assets	34,310	35,300
	34,332	**35,321**
Current assets		
Receivables from subsidiaries	316	1,712
Remaining receivables, other assets	471	455
Cash and cash equivalents, marketable securities	903	972
	1,690	**3,139**
Total assets	**36,022**	**38,460**
EQUITY AND LIABILITIES		
Equity	**13,888**	**14,815**
Provisions	**2,719**	**2,976**
Other liabilities		
Bonds and notes, liabilities to banks	3,188	2,229
Payables to subsidiaries	15,874	16,983
Remaining liabilities	353	1,457
	19,415	**20,669**
Total equity and liabilities	**36,022**	**38,460**

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

Total assets of Bayer AG as of December 31, 2013 were €38.5 billion (2012: €36.0 billion), which was €2.5 billion more than at the start of the year. Non-current assets rose by €1.0 billion and current assets by €1.5 billion.

Property, plant and equipment and intangible assets totaled €21 million (2012: €22 million) and were therefore of secondary importance. Financial assets increased by €1 billion, from €34.3 billion in the previous year to €35.3 million at year end 2013, principally as a result of capital increases at subsidiaries. Investments in affiliated companies continued to account for by far the greater proportion of total assets (89.7%; 2012: 93.0%).

Receivables from subsidiaries amounted to €1.7 billion (2012: €0.3 billion) while payables to subsidiaries totaled €17.0 billion (2012: €15.9 billion). These amounts accounted for 4.5% of total assets and 44.2% of total equity and liabilities, respectively.

Including the deferred charges, the other receivables reflected in current assets declined by €16 million to €455 million (2012: €471 million) and were of only secondary importance in relation to total assets. Cash and cash equivalents were €69 million higher than in the previous year at €972 million (2012: €903 million) due to higher bank deposits.

Bayer AG had equity of €14.8 billion (2012: €13.9 billion), an increase of €0.9 billion. Equity included net income for 2013 of €2,498 million, but was diminished by the €1,571 million dividend payment for 2012. The equity ratio was virtually unchanged at 38.5% (2012: 38.6%) despite the considerable increase in equity, as total assets also increased.

Provisions rose by €0.3 billion to €3.0 billion (2012: €2.7 billion). The greater part of this increase was attributable to a rise of €304 million in tax provisions to €682 million (2012: €378 million). Provisions for other personnel-related obligations, especially performance-related compensation, were increased by €28 million. By contrast, pension provisions decreased by €55 million to €2,162 million (2012: 2,217 million).

Other liabilities rose by €1.3 billion, mainly due to an increase of €1.2 billion in financial debt, and amounted to €20.7 billion (net of deductible receivables; 2012: €19.4 billion). A bond with a nominal volume of €1 billion, issued in 2006, was redeemed at maturity in May 2013. However, a commercial paper program was increased by €795 million, intra-Group debt rose by €1,304 million and other loans were €51 million higher. Net debt was €22.1 billion at year end 2013 (2012: €20.9 billion). After deduction of cash and cash equivalents of €1.0 billion, net debt was higher than in the previous year at €21.1 billion (2012: €20.0 billion).

Report on Corporate Governance

18. Corporate Governance Report

This Corporate Governance Report also constitutes the report pursuant to Section 3.10 of the German Corporate Governance Code.

18.1 Declaration Concerning the German Corporate Governance Code*

*not part of the audited management report

DECLARATION BY THE BOARD OF MANAGEMENT AND SUPERVISORY BOARD
concerning the German Corporate Governance Code (May 13, 2013 version) pursuant to Section 161 of the German Stock Corporation Act**

Under Section 161 of the German Stock Corporation Act, the Board of Management and the Supervisory Board of Bayer AG are required to issue an annual declaration that the company has been, and is, in compliance with the recommendations of the "Government Commission on the German Corporate Governance Code" as published by the Federal Ministry of Justice in the official section of the Federal Gazette (Bundesanzeiger), or to advise of any recommendations that have not been, or are not being, applied and the reasons for this. An annual declaration was last issued in December 2012.

With respect to the past, the following declaration refers to the May 15, 2012 version of the Code. With respect to present and future corporate governance practices at Bayer AG, the following declaration refers to the recommendations in the May 13, 2013 version of the Code.

Pursuant to Section 161 of the German Stock Corporation Act, the Board of Management and Supervisory Board of Bayer AG hereby declare as follows:

1. The company has been in compliance with the recommendations of the Code since issuance of the last annual compliance declaration in December 2012.

2. All the recommendations of the Code are now being complied with in full.

Leverkusen, December 2013

For the Board of Management:

DR. DEKKERS

BAUMANN

For the Supervisory Board:

WENNING

**This is an English translation of a German document. The German document is the official and controlling version, and this English translation in no event modifies, interprets or limits the official German version.

18.2 Governance *

* not part of the audited management report

BAYER IN COMPLIANCE WITH THE RECOMMENDATIONS OF THE GERMAN CORPORATE GOVERNANCE CODE

Bayer has always placed great importance on responsible corporate governance and will continue to do so. In 2013 the company was able to issue a declaration that it had fully complied with the recommendations of the German Corporate Governance Code in the past and continued to do so.

In 2013, the Board of Management and Supervisory Board again addressed the question of compliance with the Corporate Governance Code, particularly in light of the Code amendments of May 13, 2013. The resulting declaration, which is reproduced on the previous page, was issued in December 2013 and posted on Bayer's website along with previous declarations.

DUTIES AND ACTIVITIES OF THE BOARD OF MANAGEMENT

Bayer AG is a strategic management holding company, run by its Board of Management on the Board's own responsibility with the goal of sustainably increasing the company's enterprise value and achieving defined corporate objectives. The Board of Management performs its tasks according to the law, the Articles of Incorporation and the Board's rules of procedure, and works with the company's other governance bodies in a spirit of trust.

The Board of Management defines the long-term goals and the strategies for the Group, its subgroups and its service companies, and sets forth the principles and directives for the resulting corporate policies. It coordinates and monitors the most important activities, defines the portfolio, develops and deploys managerial staff, allocates resources and decides on the Group's financial steering and reporting.

The members of the Board of Management bear joint responsibility for running the business as a whole. However, the individual members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the entire Board. The allocation of duties among the members of the Board of Management is defined in a written schedule.

The entire Board of Management makes decisions on all matters of fundamental importance and in cases where a decision of the entire Board is prescribed by law or otherwise mandatory. The rules of procedure of the Board of Management contain a list of topics that must be dealt with and resolved by the entire Board.

Meetings of the Board of Management are held regularly. They are convened by the Chairman of the Board of Management. Any member of the Board of Management may also demand that a meeting be held. The Board of Management makes decisions by a simple majority of the votes cast, except where unanimity is required by law. In the event of a tie, the Chairman has the casting vote.

According to the Board of Management's rules of procedure and schedule of duties, the Chairman bears particular responsibility for leading and coordinating the Board's work. He represents the company and the Group in dealings with third parties and the workforce on matters relating to more than one part of the company or the Group. He also bears special responsibility for certain departments of the Corporate Center and their fields of activity.

The schedule of duties also assigns particular areas of specialist responsibility to the other members who served on the Board of Management in 2013 with respective responsibility for Finance; Innovation, Technology and Sustainability; and Human Resources. Each of these members also represents certain geographical regions. The responsibilities for specialist areas and regions were redistributed in 2013 upon the change of the member responsible for Human Resources.

No committees of the Board of Management have been set up in view of the small number of members and the role of Bayer AG as a strategic management holding company.

SUPERVISORY BOARD: OVERSIGHT AND CONTROL FUNCTIONS

The role of the 20-member Supervisory Board is to oversee and advise the Board of Management. Under the German Codetermination Act, half the members of the Supervisory Board are elected by the stockholders, and half by the company's employees. The Supervisory Board is directly involved in decisions on matters of fundamental importance to the company, regularly conferring with the Board of Management on the company's strategic alignment and the implementation status of the business strategy.

The Chairman of the Supervisory Board coordinates its work and presides over the meetings. Through regular discussions with the Board of Management, the Supervisory Board is kept constantly informed of business policy, corporate planning and strategy. The Supervisory Board approves the annual budget and financial framework. It also approves the financial statements of Bayer AG and the consolidated financial statements of the Bayer Group, along with the combined management report, taking into account the reports by the auditor.

COMMITTEES OF THE SUPERVISORY BOARD

The Supervisory Board currently has the following committees:

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 Codetermination 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.

Audit Committee: The Audit Committee comprises three stockholder representatives and three employee representatives. The Chairman of the Audit Committee in 2013, Dr. Klaus Sturany, satisfies the statutory requirements concerning the independence and 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 examining the company's financial reporting along with the financial statements of Bayer AG, the consolidated financial statements of the Bayer Group, the combined management report, the proposal for the use of the distributable profit of Bayer AG, and the interim financial statements and management reports of the Bayer Group, all of which are prepared by the Board of Management. On the basis of the auditor's report on the audit of the financial statements of Bayer AG, the consolidated financial statements of the Bayer Group and the combined management report, the Audit Committee develops proposals concerning the approval of the statements by the full Supervisory Board. The Audit Committee is also responsible for the company's relationship with the external auditor. The Audit Committee submits a proposal to the full Supervisory Board concerning the auditor's appointment, prepares the awarding of the audit contract to the audit firm appointed by the Annual Stockholders' Meeting, suggests areas of focus for the audit and determines the auditor's remuneration. It also monitors the independence, qualifications, rotation and efficiency of the auditor.

In addition, the Audit Committee oversees the company's internal control system – along with the procedures used to identify, track and manage risk – and the internal audit system. It also deals with corporate compliance issues and discusses developments in this area at each of its meetings.

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 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.

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.

Detailed information on the work of the Supervisory Board and its committees is provided in the Report of the Supervisory Board on page 32ff. of this Annual Report.

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, its members should not hold office beyond the end of the next Annual Stockholders' Meeting following their 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 and also that at least three quarters of the total Supervisory Board membership (stockholder and employee representatives) be independent. The Supervisory Board assesses the independence of its members according to the recommendation contained in Section 5.4.2 of the the German Corporate Governance Code. In assessing independence, the Supervisory Board also considers the criteria given in the recommendation of the European Commission of February 15, 2005.[1]

Another goal for the composition of the Supervisory Board is to increase the proportion of women on the Supervisory Board to at least 20% in the medium term and for the female membership to be distributed as evenly as possible between the stockholder and employee groups. It is intended to achieve this goal when the entire Supervisory Board is elected in 2017.

The goals described refer to the Supervisory Board as a whole unless resolved otherwise. However, since the Supervisory Board can only nominate candidates for election as stockholder representatives, it can only take the targets into account in these nominations.

Implementation status of the objectives

The Supervisory Board has several members with international business experience and other international connections. The objective that members should step down from the Supervisory Board at the Annual Stockholders' Meeting following their 72nd birthday is fully met. One member of the Supervisory Board, Werner Wenning, was the Chairman of the company's Board of Management until 2010. One member, Ernst-Ludwig Winnacker, has been a member of the Supervisory Board since 1997, and thus has served more than three terms of office. However, neither Mr. Wenning nor Mr. Winnacker 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. The proportion of women on the Supervisory Board is currently 15%. A female candidate has been nominated for election to the Supervisory Board at the 2014 Annual Stockholders' Meeting. If she is elected, this will bring the proportion of women on the Supervisory Board to 20%.

DISCLOSURE OF SECURITIES TRANSACTIONS BY MEMBERS OF THE BOARD OF MANAGEMENT OR SUPERVISORY BOARD

Members of the Board of Management and Supervisory Board and their close relatives are legally required to disclose all transactions involving the purchase or sale of Bayer stock where such transactions total €5,000 or more in a calendar year. Bayer publishes details of such transactions immediately on its website and also notifies the German Financial Supervisory Authority accordingly. This information is provided to the company register for archiving. The following transactions in 2013 were reported to Bayer AG:

[1] Annex 2 to the recommendation of the European Commission of February 15, 2005, on the role of non-executive or supervisory directors of listed companies and on the committees of the (supervisory) board (2005/162/EC)

Securities Transactions by Members of the Board of Management or Supervisory Board [Table 3.18.1]

Date/Place	Security/Right	Financial instrument	ISIN	Transaction	Price/ Currency	Quantity	Total transaction volume
Dec. 27, 2013/ Xetra	Werner Baumann, Board of Management	Shares	DE000BAY0017	Sale	EUR 102.87	4,600	EUR 473,211.20
Nov. 11, 2013/ Xetra	Oliver Zühlke, Supervisory Board	Shares	DE000BAY0017	Sale	EUR 93.88	9	EUR 844.92
Nov. 4, 2013/ Düsseldorf	Michael Schmidt-Kiessling, Supervisory Board	Shares	DE000BAY0017	Sale	EUR 92.40	90	EUR 8,316.00
Aug. 15, 2013/ Xetra	Dr. Marijn Dekkers, Board of Management	Shares	DE000BAY0017	Purchase	EUR 85.96	6,000	EUR 515,760.00
April 23, 2013/ Düsseldorf	Oliver Zühlke, Supervisory Board	Shares	DE000BAY0017	Sale	EUR 79.46	50	EUR 3,973.00
March 6, 2013/ Frankfurt	Oliver Zühlke, Supervisory Board	Shares	DE000BAY0017	Sale	EUR 77.86	20	EUR 1,557.20
March 5, 2013/ Xetra	Werner Wenning, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	297	EUR 22,607.79
March 5, 2013/ Xetra	Dr. Paul Achleitner, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	400	EUR 30,448.20
March 5, 2013/ Xetra	Dr. Clemens Börsig, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	267	EUR 20,324.17
March 5, 2013/ Xetra	Thomas Ebeling, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	267	EUR 20,324.17
March 5, 2013/ Xetra	Dr. Thomas Fischer, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	400	EUR 30,448.20
March 5, 2013/ Xetra	Dr. Klaus Kleinfeld, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	267	EUR 20,324.17
March 5, 2013/ NYSE	Sue H. Rataj, Supervisory Board	Bayer AG American Depositary Receipts (ADR)	US0727303028	Purchase	US$ 101.75	273	US$ 27,777.75
March 5, 2013/ Xetra	Michael Schmidt-Kiessling, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	267	EUR 20,324.17
March 5, 2013/ Xetra	Prof. Dr.-Ing. Ekkehard D. Schulz, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 75.70	500	EUR 37,850.00
March 5, 2013/ Xetra	Dr. Klaus Sturany, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	534	EUR 40,648.35
March 5, 2013/ Xetra	Dr. Helmut Panke, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	267	EUR 20,324.17
March 5, 2013/ Xetra	Prof. Dr. Ernst-Ludwig Winnacker, Supervisory Board	Shares	DE000BAY0017	Purchase	EUR 76.12	267	EUR 20,324.17

Information filed with the company by members of the Board of Management and Supervisory Board shows that, on the closing date for the financial statements, their total holdings of Bayer AG stock or related financial instruments were equivalent to less than 1% of the issued stock.

COMMON VALUES AND LEADERSHIP PRINCIPLES

Bayer has committed itself to the values of Leadership, Integrity, Flexibility and Efficiency, or "LIFE" for short. These values provide guidance to all Bayer employees, both in business dealings and in working together within the company. All employees are obligated to align their work to the LIFE values. This is taken into account in human resources development and the regular performance evaluations.

SYSTEMATIC RISK MANAGEMENT

The established internal control system enables the company to identify any business or financial risks at an early stage and take appropriate action to manage them. This control system is designed to ensure that risks are monitored in a timely manner, all business transactions are properly accounted for, and reliable data on the company's financial position is always available.

When acquisitions are made, we aim to bring the acquired units' internal control systems into line with those of the Bayer Group as quickly as possible.

However, the control and risk management system cannot provide absolute protection against losses arising from business risks or fraudulent actions.

DETAILED REPORTING

To maximize transparency, we provide regular and timely information on the Group's position and significant changes in business activities to stockholders, financial analysts, stockholders' associations, the media and the general public. Bayer complies with the recommendations of the Corporate Governance Code by publishing reports on business trends, financial position, results of operations and related risks four times a year.

In line with statutory requirements, the members of the Group Management Board provide an assurance that, to the best of their knowledge, the financial statements of Bayer AG, the consolidated financial statements of the Bayer Group and the combined management report provide a true and fair view.

The financial statements of Bayer AG, the consolidated financial statements of the Bayer Group and the combined management report are published within 90 days following the end of each fiscal year. During the fiscal year, stockholders and other interested parties are kept informed of developments by means of the half-year financial report and additional interim reports for the first and third quarters. The half-year financial report is voluntarily subjected to an audit review by the auditor, whose appointment by the Annual Stockholders' Meeting also relates specifically to this audit review.

Bayer also provides information at news conferences and analysts' meetings. In addition, the company uses the internet as a platform for timely disclosure of information, including details of the dates of major publications and events, such as the annual report, quarterly financial reports (Stockholders' Newsletters) or the Annual Stockholders' Meeting.

In line with the principle of fair disclosure, all stockholders and other principal target groups are treated equally as regards the communication of valuation-relevant information. All significant new facts are disclosed immediately to the general public. Stockholders also have immediate access to the information that Bayer publishes locally in compliance with the stock market regulations of various countries.

In addition to our regular reporting, we issue ad-hoc statements on developments that otherwise might not become publicly known but have the potential to materially affect the price of Bayer stock.

18.3 Compliance

Bayer manages its business 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 the company's reputation. Bayer does not tolerate any violation of applicable laws, relevant codes of conduct or internal regulations.

The Board of Management is unreservedly committed to corporate compliance and Bayer will forgo any business transaction that would violate our compliance principles. These principles are enshrined in our Corporate Compliance Policy, which is available in 42 languages. This document details our commitment to fair competition, integrity in business dealings including zero tolerance of corruption, the principles of sustainability and product stewardship, the upholding of foreign trade laws and insider trading laws, the separation of business and private interests, proper record-keeping and transparent financial reporting, fair and respectful working conditions, and avoidance of all forms of discrimination. Every employee is required to immediately report any infringement of this policy (except in France where this requirement does not apply due to national law).

Managerial employees have a vital part to play in implementing the Corporate Compliance Policy. As role models, they must help to ensure that this important code of conduct is adhered to in practice. Managers may lose their entitlement to variable compensation components and be subject to disciplinary measures if systematic violations of applicable law entailing loss or damage to Bayer have occurred in their sphere of responsibility and could have been prevented if they had taken appropriate action. Compliant and lawful conduct forms part of the performance evaluations of all managerial employees.

Bayer's Corporate Auditing department regularly verifies adherence to the Corporate Compliance Policy. In 2013, 205 audits, including 52 compliance audits, were performed on the basis of a risk-oriented audit plan that takes potential corruption and other risks into account. Such audits were either preventive or incident-related. Observance of the Corporate Compliance Policy is also a focus of all regular audits. The head of Corporate Auditing regularly attends the meetings of the Audit Committee of the Supervisory Board and provides it with a list of conducted audits and their outcomes at least once a year.

The head of the Bayer Group's compliance organization is the Group Compliance Officer, who reports directly to the Chairman of the Board of Management. The Group Compliance Officer reports regularly to the Audit Committee of the Supervisory Board on any confirmed compliance violations. The subgroups and service companies each have their own compliance officer, who is responsible for ensuring that the respective subgroup or company adheres to Group-wide standards and any further subgroup- or industry-specific standards that may apply. Operational coordination of Group-wide compliance activities is the task of the central Compliance Department, which was expanded in 2013. There are central Compliance Officers in 35 countries and country groups, supported where necessary by further compliance functions. Their role is to advise employees on lawful and ethically correct behavior in business-related situations.

The compliance organization operates in accordance with international standards such as the OECD Recommendations of the Council for Further Combating Bribery of Foreign Public Officials in International Business Transactions.

Compliance is crucial to the success of our business. In 2013 Bayer adopted a Group-wide Compliance Charter to integrate compliance even more closely into all operating units and their work processes with the aim of making the compliance organization an even stronger partner for our operational business. The priority is to prevent compliance violations from occurring. Extensive communication and training activities are designed to help employees develop a permanent awareness of compliance issues and the associated risks.

ONLINE ANNEX: 3-18.3-1

Through our extensive training activities on specific aspects of compliance, we aim to ensure employees are permanently aware of the meaning of compliance, its importance for Bayer, and how they can avoid inadvertently violating compliance principles.

The web-based training program on the Corporate Compliance Policy is an integral part of the official onboarding process for new managers. They are requested to take this training within three months of becoming a manager or joining Bayer. In 2013 it was taken by 2,800 managers, which was about 50% of the managers newly hired or appointed during the year.

The web-based training program entitled "Anti-Corruption" has been translated into 10 languages and adapted for different media formats. It is already available in 78 countries and has been completed by some 55,000 employees, or about 48% of the total workforce.

At the same time, the HealthCare subgroup has developed a separate online training program relating to the compliance manuals for pharmaceutical products and medical devices to provide preventive training about specific compliance risks. These training modules outline the basic rules for responsible and ethically correct dealings with members of the medical professions, the promotion of HealthCare products, non-reciprocal benefits, and the exchange of services with people working in the health care sector and at medical facilities.

In 2013 we again ran an extensive communication campaign about compliance aimed at providing all employees with further information, explaining who is now available to advise them under the new business partnering concept, and raising awareness for compliance-critical situations. A quarterly newsletter for employees is published on the compliance intranet site.

Bayer's intranet site and internal print media reported widely on the new mandatory web-based anti-corruption training program, the setting-up of a new email address for employees' questions relating to compliance, the Compliance Charter, the tasks and structure of the new central global compliance organization, and the new ICM@BAYER project. ICM stands for Integrated Compliance Management, a new Group-wide system through which the systematic, risk-based approach to the identification of compliance risks is to be developed further and mappedin a closed management system. The goal is to move away from an event-driven approach to a preventive one.

Since 2012 Bayer has used short videos depicting typical compliance-critical situations as an additional communication tool. Employees can view these on the compliance website. The films currently available focus on anti-corruption, conflicts of interest and equal opportunities for everyone and show typical key compliance scenarios.

Compliance was also a focus of communication and training activities at the subgroups and service companies in 2013.

We have established hotlines worldwide through which compliance violations – can be reported. This can also be done anonymously. In 2013 the compliance organization registered 72 reports via the central compliance hotline and email address. Of these, 20 were from Germany and 52 from other countries; 58 reports were received by email (24 of them anonymously), 12 by telephone (10 anonymously) and 2 anonymously by regular mail. Suspected compliance violations may also be reported to the Compliance Officers, to Bayer's Corporate Auditing Department or via local hotlines set up by the country organizations. All suspected compliance violations in the Group are recorded according to uniform criteria and processed according to the rules set forth in the Directive on the Management of Compliance Incidents.

18.4 Compensation Report

The Compensation Report describes the essential features of the compensation system for the members of the Board of Management and the Supervisory Board and explains the compensation of the individual members. The report conforms to the requirements of the German Commercial Code including the principles of German Accounting Standard No. 17 (DRS 17). It also complies with the recommendations of the German Corporate Governance Code and the International Financial Reporting Standards (IFRS).

18.4.1 Compensation of the Board of Management

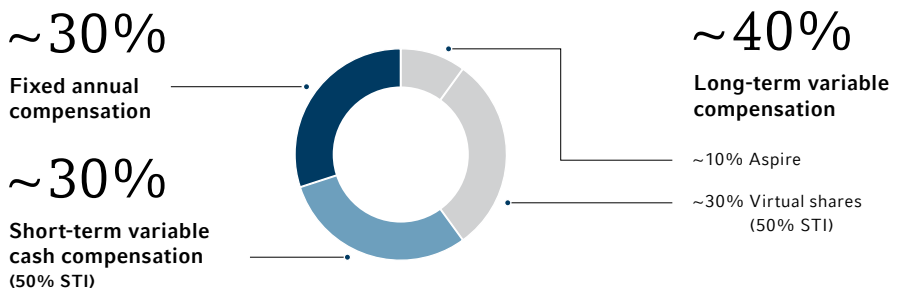
OBJECTIVES

The structure of the compensation system for the Board of Management of Bayer AG is aimed at ensuring performance-oriented corporate governance and a long-term increase in the company's value. The core elements of the system include fixed compensation, which takes into account the tasks and duties of the Board of Management members, and an incentivized component – the short-term incentive (STI) –, which depends on the attainment of the annual corporate performance targets. In addition to the compensation directly related to each year of service, there are two long-term stock-based components that are directly related to the development of Bayer's share price over time and thus are intended to create an incentive for a sustained commitment to the company. The system is also designed to enable the company to successfully compete for highly qualified executives and to ensure statutory and regulatory compliance. Board of Management compensation is in line with the basic principles of the compensation structure for managerial employees in the Bayer Group. The appropriateness of the system and the compensation level are regularly reviewed by the Supervisory Board, which then makes any necessary adjustments.

COMPENSATION STRUCTURE

The compensation paid to the members of the Board of Management includes both non-performance-related and performance-related components. The compensation structure, based on average total annual compensation and 100% target attainment, is as follows:

Board of Management Compensation Structure (German Commercial Code)* [Graphic 3.18.1]



* excluding fringe benefits and pension entitlements

The non-performance-related compensation comprises the fixed annual compensation along with fringe benefits. The performance-related compensation partly comprises a variable component (STI), of which 50% takes the form of short-term variable cash compensation and 50% consists of long-term cash compensation involving a grant of virtual Bayer shares that are retained for three years. The other performance-related compensation component serving as a long-term incentive is the stock-based cash compensation program Aspire. Here, a four-year retention period applies.

The individual performance-related components are capped at the grant date. To comply with the recommendation newly included in the 2013 version of the German Corporate Governance Code, caps have also been agreed for the disbursement of the performance-related components and for the compensation as a whole (total of the annual fixed compensation and the variable components) with effect from the fiscal year 2014. The cap on the total compensation is 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 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 the value assigned to them for tax purposes.

Performance-related components

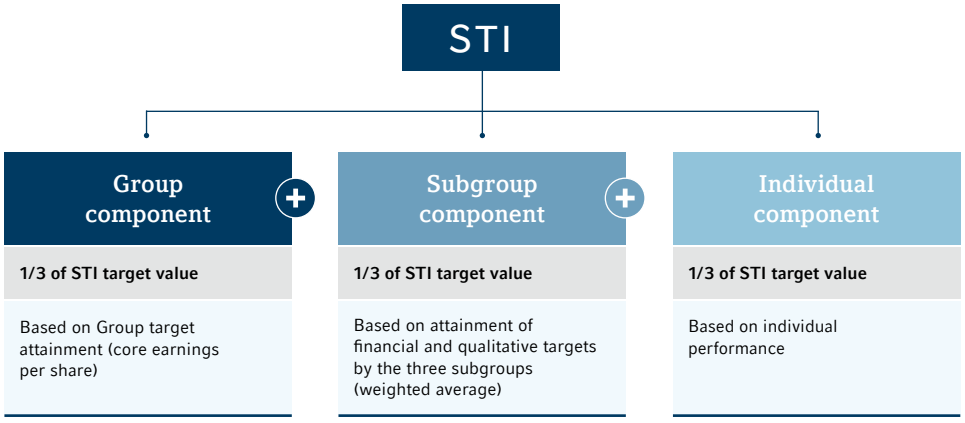
Short-term variable cash compensation

The short-term variable compensation (short-term incentive, or STI) is based on a set percentage of the fixed annual compensation (target value). This amount is adjusted according to the target attainments of the Bayer Group, the subgroups and the individual Board of Management member.

The Group component is determined in relation to core earnings per share of the Group, while the subgroup components are governed by the weighted average target attainments of the HealthCare, CropScience and MaterialScience subgroups. The annual subgroup targets are derived from the respective business strategies and operational priorities. The target attainment for HealthCare and CropScience is mainly based on the comparison of target and actual values for the EBITDA margin before special items and sales growth. At MaterialScience it is measured in terms of the cash flow return on investment (CFROI). Target attainment also takes into account qualitative objectives including safety, compliance and sustainability aspects.

The target attainment for the individual component of the variable compensation is determined by the Supervisory Board. One half of the STI for each year is paid out in the second quarter of the following year, while the other half is granted in the form of virtual Bayer shares.

Short-Term Variable Compensation (STI) Components [Graphic 3.18.2]



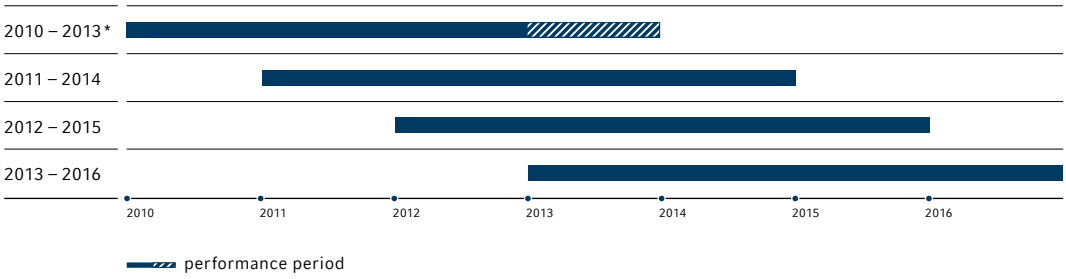
Long-term variable cash compensation based on virtual Bayer shares

Both the number of virtual shares granted and the amount of the payment at the end of a three-year retention period are based on the average official closing price of Bayer shares over the last 30 trading days of the respective year in the Xetra system of the Frankfurt Stock Exchange. A cash payment with respect to the number of virtual shares held is made at the end of the three-year period according to the market price of Bayer shares at that time. In addition, the members of the Board of Management receive an amount equal to the total dividends paid on the equivalent number of real shares during the period. Payment is made in January of the year following the end of the three-year period. This payment is capped at 200% of the amount converted into virtual shares at the beginning of the three-year period. No option exists for the Board of Management members to extend the retention period or defer the payout. When a member leaves the Board of Management, the retention period for two-thirds of each tranche is shortened to two years. If the member leaves during a fiscal year, payment is made immediately with respect to two-thirds of any tranche that has already been retained for more than two years. The remaining one-third of each tranche continues to be subject to the three-year retention period.

Long-term stock-based cash compensation (Aspire I)

Members of the Board of Management are eligible to participate in the annual tranches of the long-term stock-based compensation program Aspire I ("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 for as long as they continue in the service of the Bayer Group. The payments made under this program are based 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 300% of their individual Aspire Target Opportunity for four-year tranches, or between 0% and 200% for three-year tranches, at the end of the respective performance period. The Aspire program was switched from three- to four-year tranches starting in 2010 to increase its long-term incentive effect. For the transition year 2010, a three-year half-tranche was issued in addition to the four-year tranche. Starting in 2011, only tranches with a four-year performance period have been issued. The performance matrix and the respective amounts of the awards depending on the absolute and relative performances of Bayer stock are explained at HTTP://WWW.INVESTOR.BAYER.COM/EN/STOCK/STOCK-PROGRAMS/ASPIRE.

Tranches of the Aspire Program [Graphic 3.18.3]



* three- and four-year tranches of the Aspire program were issued in 2010

When a member of the Board of Management retires, current tranches may be shortened. In this case, tranches up to the one issued in 2011 are shortened on a pro-rated basis according to the duration of the member's active service on the Board of Management during the period of the tranche; tranches issued in 2012 or later are shortened according to the duration of the member's active service on the Board of Management during the first year of the tranche.

Expanded Share Ownership Guidelines

On top of the requirement for participants in the Aspire program to make a personal investment in Bayer shares, the members of the Board of Management have undertaken to comply with expanded Share Ownership Guidelines. These require the Chairman of the Board of Management to build a position in Bayer shares to the value of 150% of his fixed annual compensation, and the other members to the value of 100% of their fixed annual salaries, within four years and to continue to hold them for as long as they remain Board of Management members. Half the number of virtual shares granted to them through conversion of 50% of the STI into virtual shares counts toward this position. The Board of Management members must provide documentary evidence of their compliance with this obligation for the first time at the end of the four-year position-building period and again yearly thereafter. In the event of significant changes in fixed annual compensation, the value to which shares are held must be adjusted accordingly.

Pension entitlements (retirement and surviving dependents' pensions)

The members of the Board of Management appointed prior to 2013 are generally entitled to receive a lifelong company pension after leaving the Bayer Group, though not before the age of 60. This pension is normally paid out in the form of a monthly life annuity. Dr. Dekkers has the option to receive a capital sum in place of an annuity.

The annual pension granted equals at least 15% of final fixed annual compensation. This percentage can increase with continuing service on the Board of Management up to a maximum of 60%, except in the case of a member appointed prior to 2006, who is entitled to a pension of up to 80% of his final fixed annual compensation. The arrangements for surviving dependents basically provide for a widow's pension amounting to 60% of the member's pension entitlement and an orphan's pension amounting to 15% of the member's pension entitlement for each child.

Future pension payments are annually reviewed and adjusted based on the development of consumer prices. Pension rights are suspended if a Management Board member works for a competitor of Bayer AG or of another Group company before the age of 65 without the prior written consent of the Supervisory Board.

The annual pension entitlement for members of the Board of Management appointed in 2013 or thereafter is based on contributions. Bayer provides a hypothetical contribution amounting to 33% of the respective fixed compensation each year. This percentage is comprised of a 6% basic contribution and a 27% matching contribution – three times the member's personal contribution of 9%. 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 (at 62 years of age at the earliest) 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.

The ultimate pension entitlement cannot be precisely determined in advance. It depends on the development of the member's compensation, the number of years of service on the Board of Management and the return on the assets of the Rheinische Pensionskasse VVaG. We currently estimate the achievable total pension entitlement at approximately 45% of a member's annual fixed compensation immediately prior to retirement, with roughly 38% financed by the company and 7% by the member of the Board of Management.

Benefits upon termination of service on the Board of Management

Post-contractual non-compete agreements

Post-contractual non-compete 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. For the members newly appointed to the Board of Management on or after January 1, 2010, the compensatory payment is 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 payments to be made in certain circumstances in the event of a change in control. The amount of any possible severance payments 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 member has been continuously unfit for work for at least 18 months and is likely to be permanently incapable of fully performing his 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 2013

The aggregate compensation of the members of the Board of Management in 2013 totaled €13,563 thousand (2012: €12,997 thousand), comprising €3,956 thousand (2012: €3,541 thousand) in non-performance-related components and €9,607 thousand (2012: €9,456 thousand) in performance-related components. The pension service cost amounted to €1,271 thousand (2012: €1,861 thousand). The performance-related components in 2013 included an additional one-time variable component for Prof. Plischke with a target value of €500 thousand, the exact amount of this payment depending on the target attainment of the HealthCare subgroup (in terms of the EBITDA margin before special items and sales growth). It relates to the additional function as head of the HealthCare subgroup that was temporarily assigned to him and to a subsequent period covering the necessary handover to his successor in this function. This one-time payment, amounting to €771 thousand, does not form part of his pensionable income.

The following changes in the membership of the Board of Management took place in 2013: effective April 1, 2013, Mr. König was appointed to the Board of Management of Bayer AG. Effective June 1, 2013, he succeeded Dr. Pott, who retired as of that date.

The following table shows the compensation components of the individual members of the Board of Management in 2013:

Board of Management Compensation (German Commercial Code) [Table 3.18.2]

	Fixed Annual Compensation		Fringe Benefits		Short-term Variable Cash Compensation		Long-term Variable Cash Compensation Based on Virtual Bayer Shares[1]				Long-term Stock-based Cash Compensation (Aspire)[2]		Aggregate Compensation		Pension Service Cost[3]	
	2012	2013	2012	2013	2012	2013	2012	2012	2013	2013	2012	2013	2012	2013	2012	2013
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	No. of shares[4]	€ thousand	No. of shares[4]	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Dr. Marijn Dekkers (Chairman)	1,271	1,347	35	39	1,702	1,532	24,228	1,702	15,802	1,532	352	382	**5,062**	**4,832**	561	677
Werner Baumann	783	888	44	43	979	881	13,928	979	9,085	881	186	252	**2,971**	**2,945**	1,056	189
Prof. Dr. Wolfgang Plischke[5]	670	710	34	35	783	1,476	11,701	822	7,631	740	186	201	**2,495**	**3,162**	5	6
Michael König	–	533	–	51	0	529	–	–	5,451	529	–	–	–	**1,642**	–	120
Dr. Richard Pott	670	296	34	14	783	294	11,329	796	3,028	294	186	84	**2,469**	**982**	239	279
Total	**3,394**	**3,774**	**147**	**182**	**4,247**	**4,712**	**61,186**	**4,299**	**40,997**	**3,976**	**910**	**919**	**12,997**	**13,563**	**1,861**	**1,271**

[1] fair value at conversion date
[2] fair value at grant date
[3] including company contribution to Bayer-Pensionskasse VVaG
[4] In return for their acceptance of the early change made to the system of variable cash compensation in 2010, Prof. Plischke and Dr. Pott since 2010 have received one additional virtual Bayer share for every 20 virtual Bayer shares resulting from the conversion of 50% of the STI into virtual Bayer shares. This arrangement no longer applies to Dr. Pott under his new service contract effective May 1, 2012.
[5] The short-term variable cash compensation total for Prof. Plischke includes the additional one-time variable payment made to him of €771 thousand.

Fixed annual compensation

The fixed compensation of the members of the Board of Management was adjusted in 2013. The total fixed compensation of all the members was €3,774 thousand (2012: €3,394 thousand).

Short-term variable cash compensation

The total short-term variable cash compensation (short-term portion of the STI) for all the members of the Board of Management in 2013 totaled €4,712 thousand (2012: €4,247 thousand) after deduction of the solidarity contribution and including the additional variable one-time payment for Prof. Plischke. The solidarity contribution is paid by all employees of the companies covered by the respective agreements with the employee representatives to help safeguard jobs at the German sites. For 2013 this contribution amounted to 0.47% (2012: 0.67%) of each member's total STI award.

Long-term variable cash compensation based on virtual Bayer shares

The conversion of 50% of the STI into virtual Bayer shares was based on an average price of €96.96 (2012: €70.26). Prof. Plischke and Dr. Pott each received one additional virtual Bayer share for every 20 virtual Bayer shares resulting from the conversion in return for their acceptance of the early change made to the system of variable cash compensation in 2010. This applies for the duration of the service contract in effect at that time. The additional virtual shares are subject to the same retention period and therefore to the same change in value. This arrangement no longer applied to Dr. Pott under his new service contract that became effective May 1, 2012. The retention period for some of Dr. Pott's virtual shares was shortened pursuant to his service contract upon his retirement. He therefore received a first payment in June 2013.

The long-term variable cash compensation based on virtual Bayer shares that is included in the aggregate compensation according to the German Commercial Code was valued at €3,976 thousand (2012: €4,299 thousand). The aggregate compensation according to the IFRS also includes a change of €5,030 thousand (2012: €3,136 thousand) in the value of existing entitlements.

Provisions of €18,310 thousand (2012: €13,222 thousand) existed as of December 31, 2013, for the future cash disbursements to currently serving members of the Board of Management based on the virtual Bayer shares granted in the respective year. This amount also contains the dividend attributable to the respective prior year.

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 €919 thousand (2012: €910 thousand) at the grant date.

According to the IFRS, the aggregate compensation 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 aggregate compensation according to the IFRS also includes the change in the value of existing entitlements under ongoing Aspire tranches granted in prior years.

Board of Management Compensation – Aspire Program (IFRS) [Table 3.18.3]

		Dr. Marijn Dekkers (Chairman)	Werner Baumann	Prof. Dr. Wolfgang Plischke	Michael König	Dr. Richard Pott	Total
		€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Stock-based compensation entitlements earned in the respective year [1]	**2013**	**1,115**	**679**	**651**	**141**	**339**	**2,925**
	2012	535	322	406	–	744	2,007
Change in value of existing entitlements [2]	**2013**	**703**	**444**	**444**	**87**	**634**	**2,312**
	2012	306	214	338	–	338	1,196
Total	**2013**	**1,818**	**1,123**	**1,095**	**228**	**973**	**5,237**
	2012	841	536	744	–	1,082	3,203

[1] The newly earned entitlements are derived from the 2010, 2011, 2012 and 2013 tranches of the Aspire program because this compensation was or is being earned over three- or four-year periods. They are stated at their pro-rated fair values in 2012 and 2013, respectively.
[2] This line shows the change in the value of the entitlements already earned in 2010, 2011 and 2012 (2012: 2010 and 2011).

Provisions of €6,813 thousand (2012: €3,793 thousand) existed as of December 31, 2013, for the entitlements of the currently serving members of the Board of Management under the Aspire program.

Pension entitlements

The pension service cost recognized for the members of the Board of Management in 2013 according to the German Commercial Code was €1,271 thousand (2012: €1,861 thousand), while the current service cost for pension entitlements recognized according to the IFRS was €1,805 thousand (2012: €2,501 thousand).

The service costs and the settlement or present value of the pension obligations attributable to the individual members of the Board of Management are shown in the following table.

Pension Entitlements (German Commercial Code and IFRS) [Table 3.18.4]

	German Commercial Code				IFRS			
	Pension service cost[1]		Settlement value of pension obligation as of December 31		Service cost for pension entitlements		Present value of defined benefit pension obligation as of December 31	
	2012	2013	2012	2013	2012	2013	2012	2013
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Dr. Marijn Dekkers	561	677	4,354	5,451	637	960	6,282	6,684
Werner Baumann	1,056	189	4,379	4,936	1,600	291	6,888	6,354
Prof. Dr. Wolfgang Plischke	5	6	7,512	7,621	0	0	9,556	8,716
Michael König	–	120	–	1,327	–	185	–	1,719
Dr. Richard Pott	239	279	8,074	0	264	369	10,722	0
Total	**1,861**	**1,271**	**24,319**	**19,335**	**2,501**	**1,805**	**33,448**	**23,473**

[1] including company contribution to Bayer-Pensionskasse VVaG

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 pension benefit obligation according to the IFRS.

In 2012 a contribution was made to Bayer Pension Trust e.V. under a contractual trust arrangement (CTA) to cover direct pension commitments, resulting in a substantial additional security for all direct pension commitments in Germany. In particular, this means that pension commitments not covered by the German Corporate Pension Assurance Association (PSV) are fully and permanently secured. This includes pension commitments toward members of the Board of Management.

The aggregate compensation according to the IFRS is shown in the following table:

Board of Management Compensation according to IFRS [Table 3.18.5]

	2012	2013
	€ thousand	€ thousand
Fixed annual compensation	3,394	3,774
Fringe benefits	147	182
Total short-term non-performance-related compensation	**3,541**	**3,956**
Short-term performance-related cash compensation	4,247	4,712
Total short-term compensation	**7,788**	**8,668**
Stock-based compensation (virtual Bayer shares) earned in the respective year	4,299	3,976
Change in value of existing entitlements to stock-based compensation (virtual Bayer shares)	3,136	5,030
Stock-based compensation (Aspire) earned in the respective year	2,007	2,925
Change in value of existing entitlements to stock-based compensation (Aspire)	1,196	2,312
Total stock-based compensation (long-term incentive)	**10,638**	**14,243**
Service cost for pension entitlements earned in the respective year	2,501	1,805
Total long-term compensation	**13,139**	**16,048**
Aggregate compensation (IFRS)	**20,927**	**24,716**

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18.4.2 Disclosures Pursuant to the Recommendations of the German Corporate Governance Code

The following table lists the compensation and fringe benefits paid for 2013, including the maximum and minimum achievable variable compensation, in line with the recommendations in the May 2013 version of the German Corporate Governance Code.

Compensation and Benefits Granted for 2013 [Table 3.18.6]

	Dr. Marijn Dekkers (Chairman)				Werner Baumann (Finance)					Prof. Dr. Wolfgang Plischke[1] (Technology, Innovation, Sustainability)				Michael König[2] (Human Resources)				Dr. Richard Pott[1] (Strategy, Human Resources)			
	Joined Jan. 1, 2010				Joined Jan. 1, 2010					Joined March 1, 2006				Joined April 1, 2013				Stepped down June 1, 2013			
	Target value 2012	Target value 2013	Min. 2013	Max.[3] 2013	Target value 2012	Target value 2013	Min. 2013	Max.[3] 2013		Target value 2012	Target value 2013	Min. 2013	Max.[3] 2013	Target value 2012	Target value 2013	Min. 2013	Max.[3] 2013	Target value 2012	Target value 2013	Min. 2013	Max.[3] 2013
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand		€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Fixed annual compensation	1,271	1,347	1,347	1,347	783	888	888	888		670	710	710	710	–	533	533	533	670	296	296	296
Fringe benefits	35	39	39	39	44	43	43	43		34	35	35	35	–	51	51	51	34	14	14	14
Total annual fixed compensation	**1,306**	**1,386**	**1,386**	**1,386**	**827**	**931**	**931**	**931**		**704**	**745**	**745**	**745**	**–**	**584**	**584**	**584**	**704**	**310**	**310**	**310**
Short-term variable cash compensation (50% of STI)	1,420	1,448	0	2,896	816	833	0	1,665		653	666	0	1,332	–	500	–	999	653	278	0	555
Long-term stock-based compensation (Aspire) 2012 (Jan. 1, 2012 – Dec. 31, 2015)[4]	498	–	–	–	263	–	–	–		263	–	–	–	–	–	–	–	263	–	–	–
Long-term stock-based compensation (Aspire) 2013 (Jan. 1, 2013 – Dec. 31, 2016)[4]	–	539	0	1,617	–	355	0	1,066		–	284	0	853	–	93	–	278	–	118	0	355
Long-term variable cash compensation (virtual Bayer shares) in 2012 (Jan. 1, 2013 – Dec. 31, 2015)[5]	1,420	–	–	–	816	–	–	–		686	–	–	–	–	–	–	–	664	–	–	–
Long-term variable cash compensation (virtual Bayer shares) in 2013 (Jan. 1, 2014 – Dec. 31, 2016)[5]	–	1,448	0	5,793	–	833	0	3,330		–	699	0	2,797	–	500	0	1,998	–	278	0	–
HealthCare special bonus	–	–	–	–	–	–	–	–		–	500	–	1,500	–	–	–	–	–	–	–	–
Total compensation	**4,644**	**4,821**	**1,386**	**11,692**	**2,722**	**2,952**	**931**	**6,992**		**2,306**	**2,894**	**745**	**7,227**	**–**	**1,677**	**584**	**3,859**	**2,284**	**984**	**310**	**1,220**
Service cost	561	677	677	677	1,056	189	189	189		5	6	6	6	–	120	120	120	239	279	279	279
Total	**5,205**	**5,498**	**2,063**	**12,369**	**3,778**	**3,141**	**1,120**	**7,181**		**2,311**	**2,900**	**751**	**7,233**	**–**	**1,797**	**704**	**3,979**	**2,523**	**1,263**	**589**	**1,499**

[1] including any contractually agreed free shares in connection with the grant of virtual shares
[2] Benefits granted to Mr. König refer solely to compensation for his duties as a member of the Board of Management. The 2013 Aspire tranche was granted to him prior to his appointment to the Board of Management. Its vesting period extends past the date on which he joined the Board of Management.
[3] The caps applicable with effect from 2014 are not yet accounted for in the total of maximum achievable compensation.
[4] capped at 300%
[5] capped at 200%

Allocation of Compensation in/for 2012 and 2013

[Table 3.18.7]

	Dr. Marijn Dekkers (Chairman)		Werner Baumann (Finance)		Prof. Dr. Wolfgang Plischke (Technology, Innovation, Sustainability)		Michael König (Human Resources)		Dr. Richard Pott (Strategy, Human Resources)	
	Joined Jan. 1, 2010		Joined Jan. 1, 2010		Joined March 1, 2006		Joined April 1, 2013		Stepped down June 1, 2013	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Fixed annual compensation	1,271	1,347	783	888	670	710	–	533	670	296
Fringe benefits	35	39	44	43	34	35	–	51	34	14
Total	**1,306**	**1,386**	**827**	**931**	**704**	**745**	**–**	**584**	**704**	**310**
Short-term variable cash compensation for the period Jan. 1. – Dec. 31, 2011	1,420	–	653	–	653	–	–	–	653	–
Short-term variable cash compensation for the period Jan. 1 – Dec. 31, 2012	–	1,702	–	979	–	783	–	–	–	783
Long-term stock-based cash compensation (Aspire) 2009 (Jan. 1, 2009 – Dec. 31, 2011)[1]	–	–	202	–	430	–	–	–	430	–
Long-term stock-based cash compensation (Aspire) 2010 (Jan. 1, 2010 – Dec. 31, 2012)	–	–	–	–	–	253	–	–	–	253
Advance payment of 2/3 of long-term cash compensation (virtual Bayer shares) 2010 (Jan. 1, 2011 – Dec. 31, 2013)	–	–	–	–	–	–	–	–	–	587
Total	**2,726**	**3,088**	**1,682**	**1,910**	**1,787**	**1,781**	**–**	**584**	**1,787**	**1,933**
Service cost/benefit expense	561	677	1,056	189	5	6	–	120	239	279
Total compensation	**3,287**	**3,765**	**2,738**	**2,099**	**1,792**	**1,787**	**–**	**704**	**2,026**	**2,212**

[1] The payment to Mr. Baumann from the 2009 Aspire tranche applied to a vesting period that began before he joined the Board of Management. The tranche was not yet fully vested at the date on which he joined the Board of Management.

18.4.3 Compensation of the Supervisory Board

The Supervisory Board is compensated according to the relevant provisions of the Articles of Incorporation, which were amended effective April 28, 2012 by resolution of the Annual Stockholders' Meeting held on April 27, 2012.

SUPERVISORY BOARD COMPENSATION SYSTEM EFFECTIVE APRIL 28, 2012

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 pro-rated 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 given a voluntary pledge that they will each purchase Bayer shares for 25% of their fixed compensation, including any compensation for committee membership (before taxes), and hold these shares for as long as they remain members of the Supervisory Board. This does not apply to members 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. With respect to the fiscal year 2012, the voluntary pledge applies to the fixed compensation paid for the period from April 28, 2012.

SUPERVISORY BOARD COMPENSATION SYSTEM UNTIL APRIL 27, 2012

Until April 27, 2012, the compensation of the Supervisory Board was based on the relevant provisions of the Articles of Incorporation decided by the Annual Stockholders' Meeting on April 29, 2005. Each member of the Supervisory Board received fixed annual compensation of €60,000 plus reimbursement of their expenses and a variable annual compensation component. The variable component was based on corporate performance in terms of the gross cash flow reported in the consolidated financial statements of the Bayer Group for the respective fiscal year. The members of the Supervisory Board received €2,000 for every €50 million or part thereof by which the gross cash flow exceeded €3.1 billion, but the variable component for each member could not exceed €30,000.

In accordance with the recommendations of the German Corporate Governance Code, additional compensation was paid to the Chairman and Vice Chairman of the Supervisory Board and for chairing and membership of committees. The Chairman of the Supervisory Board received three times the basic compensation, while the Vice Chairman received one-and-a-half times the basic compensation. Members of the Supervisory Board who were also members of a committee received an additional one quarter of the amount, with those chairing a committee receiving a further quarter. However, no member of the Supervisory Board received total compensation exceeding three times the basic compensation. It was agreed that no additional compensation should be paid for membership of the Nominations Committee. If changes were made to the Supervisory Board or its committees during the fiscal year, members received compensation on a pro-rated basis.

COMPENSATION OF THE SUPERVISORY BOARD IN 2013

The following table shows the components of each Supervisory Board member's compensation for 2013.

Compensation of the Members of the Supervisory Board of Bayer AG in 2013 [Table 3.18.8]

	Fixed Compensation		Attendance Fee		Variable Compensation		Compensation for Committee Membership		Total	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Members of the Supervisory Board as of December 31, 2013										
Dr. Paul Achleitner	100	180	2	4	10	–	48	–	160	184
Dr. Clemens Börsig	100	120	3	4	10	–	–	–	113	124
André van Broich	81	120	3	4	–	–	–	–	84	124
Thomas Ebeling	81	120	2	4	–	–	–	–	83	124
Dr. Thomas Fischer	100	180	4	8	10	–	48	–	162	188
Peter Hausmann	100	150	3	4	10	–	28	–	141	154
Reiner Hoffmann	100	180	3	8	10	–	41	–	154	188
Yüksel Karaaslan	81	120	2	4	–	–	–	–	83	124
Dr. Klaus Kleinfeld	100	120	1	4	10	–	–	–	111	124
Petra Kronen	100	150	4	3	10	–	28	–	142	153
Dr. Helmut Panke	100	120	2	3	10	–	–	–	112	123
Sue H. Rataj	81	120	2	3	–	–	–	–	83	123
Petra Reinbold-Knape	81	120	3	3	–	–	–	–	84	123
Michael Schmidt-Kiessling	81	120	2	4	–	–	–	–	83	124
Prof. Dr. Ekkehard D. Schulz	100	180	4	8	10	–	41	–	155	188
Dr. Klaus Sturany	100	240	4	8	10	–	96	–	210	248
Werner Wenning (Chairman effective October 1, 2012)	90	360	2	8	–	–	–	–	92	368
Thomas de Win (Vice Chairman)	192	240	4	7	15	–	14	–	225	247
Prof. Dr. Dr. Ernst-Ludwig Winnacker	100	120	2	4	10	–	–	–	112	124
Oliver Zühlke	100	150	4	4	10	–	20	–	135	154
Members who left the Supervisory Board during 2012										
André Aich	19	–	–	–	10	–	–	–	29	–
Willy Beumann	19	–	–	–	10	–	7	–	36	–
Prof. Dr. Hans-Olaf Henkel	19	–	–	–	10	–	7	–	36	–
Hubertus Schmoldt	19	–	–	–	10	–	7	–	36	–
Dr. Manfred Schneider (Chairman until September 30, 2012)	211	–	3	–	29	–	–	–	243	–
Roswitha Süsselbeck	19	–	–	–	10	–	–	–	29	–
Dr. Jürgen Weber	19	–	–	–	10	–	7	–	36	–

* Further details on the membership of the committees of the Supervisory Board are given under "Further Information," page 337ff.

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 2013 was €727 thousand (2012: €670 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.

18.4.4 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, 2013, nor at any time during 2013 or 2012.

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 of former members of the Board of Management or their surviving dependents have been reassessed annually since January 1, 2009 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 2013 totaled €12,871 thousand (2012: €12,673 thousand). These benefits are in addition to any amounts they receive under previous employee pension arrangements. The present value of the pension obligation for former members of the Board of Management and their surviving dependents at the closing date amounted to €150,148 thousand (2012: €149,746 thousand) according to IFRS and €136,307 thousand (2012: €126,424 thousand) according to the German Commercial Code.

Events After the End of the Reporting Period

19. Events After the End of the Reporting Period

On January 21, 2014, Bayer AG issued three tranches of bonds with a combined nominal volume of €2 billion under the multi-currency European Medium Term Notes program.

HEALTHCARE

On December 19, 2013, Bayer announced its intention to acquire the pharmaceutical company Algeta ASA, Norway. The formal takeover offer at a price of NOK 362 per share in cash was made to Algeta ASA shareholders on January 20, 2014. The offer, which implies an equity value of NOK 17.6 billion (€2.1 billion), is subject to a minimum acceptance level of 90% of the outstanding shares of Algeta ASA by the end of the offer period. The offer period expires at 9:00 a.m. Central European Time on February 24, 2014. If the offer is successful, payment to Algeta shareholders is to be made at the beginning of March 2014.

Report on Future Perspectives and on Opportunities and Risks

20. Future Perspectives

20.1 Economic Outlook

GLOBAL ECONOMY

Economic Outlook [Table 3.20.1]

	Growth* 2013	Growth forecast* 2014
World	+2.5%	+3.3%
European Union	+0.1%	+1.3%
of which Germany	+0.4%	+1.8%
United States	+1.9%	+2.7%
Emerging markets**	+4.7%	+5.3%

* real growth of gross domestic product, source: Global Insight; source for Germany: Federal Statistical Office (2013) / Federal Ministry of Economics and Technology (2014)
** including about 50 countries defined by Global Insight as emerging markets in line with the World Bank as of February 2014

The global economy will probably grow more quickly in 2014 than in the previous year, with positive impetus coming mainly from the industrialized countries, especially the United States. At the same time, the European economy appears to have overcome the recession. The major central banks will likely continue to support global growth overall, although a cautious normalization of monetary policy is expected in the United States.

We anticipate moderate growth in the European Union as a whole, supported in particular by the relatively favorable economic situation in Germany and the United Kingdom. Some southern European countries, however, are likely to see only slight or even negative GDP growth. The economy will continue to be hampered by high unemployment and a lack of international competitiveness in some countries.

The economic recovery in the United States is predicted to continue, buoyed by low energy prices, the recovery in the property market and other factors.

We also expect the emerging countries to grow faster than in the previous year, mainly because their exports are likely to benefit from higher demand from the industrialized countries. China will probably remain among the principal drivers of global economic expansion in 2014, with growth matching the previous year.

Economic Outlook for the Subgroups [Table 3.20.2]

	Growth* 2013	Growth forecast* 2014
HealthCare		
Pharmaceuticals market	+3%	+4%
Consumer Care market	+5%	+4%
Medical Care market	−2%	−2%
Animal Health market	+3%	+4%
CropScience		
Seed and crop protection market	≥5%	≥5%
MaterialScience (main customer industries)		
Automotive industry	+3%	+5%
Construction industry	+3%	+4%
Electrical/electronics industry	+4%	+6%
Furniture market	+3%	+4%

* Bayer's estimate; excluding pharmaceuticals market, source: IMS Health. IMS Market Prognosis. Copyright 2014. All rights reserved; currency-adjusted; 2013 data provisional
as of February 2014

HEALTHCARE

The **pharmaceuticals market** is predicted to grow somewhat faster in 2014 than in the prior year. We expect a further increase in the demand for medicines in the emerging economies. Pharmaceutical sales will probably increase in the United States and a number of European countries, mainly due to the launch of new products – despite a persistently restrictive health policy environment.

Following the strong cold season in the previous year, the **consumer care market** will likely normalize and expand at a somewhat slower pace in 2014. We expect to see further slight shrinkage in the **medical care market** in 2014, with the diabetes care market weakening and the market for contrast agents and medical equipment (Radiology & Interventional business unit) almost reaching the previous year's level. Growth in the **animal health market** in 2014 is forecasted to exceed the previous year in view of favorable economic prospects in important markets.

CROPSCIENCE

Following the dynamic growth in the global **seed and crop protection market** last year, we expect the market environment to remain favorable in 2014 but weaken over the course of the year. Price levels are expected to stay relatively high from a historical perspective, mainly in light of the steady rise in demand for food and feed products. However, prices for agricultural commodities are likely to be lower than in the previous year. As a result, the economic prospects for farmers will likely remain positive, encouraging investment in high-value seed and crop protection products. However, it is also predicted that global inventories for most agricultural commodities will increase. We thus anticipate an overall growth rate in the mid-single digits in 2014, which would be lower than in the preceding year.

We expect Latin America to continue experiencing the strongest growth. This region's seed and crop protection market is mainly characterized by the steady expansion of soybean farming, which accounts for nearly 40% of the cultivated land area. In Asia/Pacific, too, we expect agricultural production to continue expanding, though with markedly lower growth rates than in Latin America. The trend in this region will mainly depend on cereals and rice along with specialty crops such as fruit and vegetables. We see Eastern Europe and parts of Africa as further regions with above-average growth potential, albeit from relatively low levels. In the industrialized regions of the northern hemisphere, however, we expect markets to expand much more slowly than in 2013.

MATERIALSCIENCE

We expect the business climate for our **principal customer industries** to improve during 2014. In North America there are clear stimuli to growth, raising hopes that the economy will continue to stabilize. Distinct recovery trends are also apparent in the emerging economies of Asia. On the other hand, the economic recovery in Western Europe will likely progress at a slower pace, while the development in Latin America involves certain risks.

We expect the **automotive industry** to develop positively in 2014, with the principal growth stimuli coming from Asia and North America because of rising demand. The sector will post a slight expansion in Europe.

The global **construction industry** will probably continue to recover in 2014, mainly as a result of robust investment activity in North America and Asia. Continuing positive development in private housing construction in the United States and stable investment in China and India are likely to contribute to this.

Robust growth is predicted for the global **electrical/electronics industry** in 2014. Demand is forecasted to grow briskly in nearly all market segments, mainly in Asia and especially in China. In Western Europe, however, we expect to see persistently weak growth due to the ongoing debt crisis.

We expect the development of the global **furniture industry** to show regional variations in 2014. The demand for furniture in Europe as a whole will probably show only a slight increase, while there are signs that the market in North America will continue to recover. In Asia we expect to see stable growth.

20.2 Forecast for Key Data

The following forecast is based on the business development described in this report, taking into account the potential risks and opportunities.

BAYER GROUP

Our forecast for fiscal 2014 is based on average exchange rates for the fourth quarter of 2013, including a rate of US$1.36 to the euro. A 1% appreciation (depreciation) of the euro against all other currencies would decrease (increase) sales on an annual basis by some €260 million and EBITDA before special items by about €70 million.

In 2014 we plan to grow sales by about 5% on a currency- and portfolio-adjusted basis. Allowing for expected negative currency effects of about 2% compared to the previous year, Group sales would be approximately €41 billion to €42 billion. We plan to raise EBITDA before special items by a low- to mid-single-digit percentage, allowing for expected negative currency effects of about €450 million or roughly 5%. We aim to increase core earnings per share (calculated as explained in Chapter 16.3 "Core Earnings Per Share") by a mid-single-digit percentage, allowing for expected negative currency effects of around 6%.

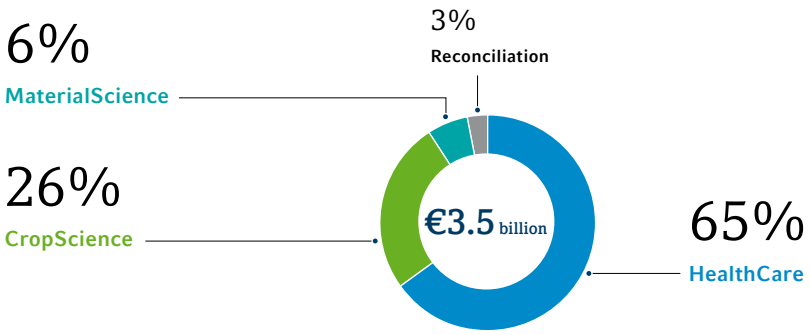
See Chapter 16.3

	Forecast 2014	Currency effects allowed for in the forecast **
Group sales	Approx. 5% increase*	
	Approx. €41 billion to €42 billion	Minus approx. 2%
EBITDA before special items	Low- to mid-single-digit percentage increase	Minus approx. 5% Minus approx. €450 million
Core earnings per share	Mid-single-digit percentage increase	Minus approx. 6%

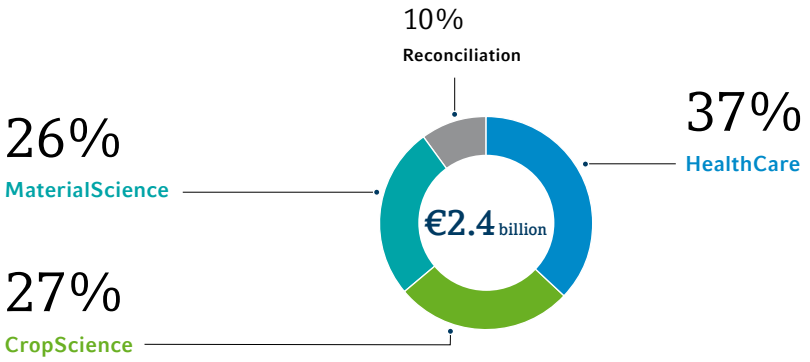
* currency- and portfolio-adjusted
** 2014 calculated at Q4 2013 exchange rates compared to full year 2013 rates

We expect to take special charges of approximately €200 million for restructuring in 2014.

Research and Development Budget 2014 by Subgroup [Graphic 3.20.1]



Capital Expenditure Budget 2014 by Subgroup [Graphic 3.20.2]



We intend to increase our research and development expenses to €3.5 billion in 2014. We have planned capital expenditures of about €2.1 billion for property, plant and equipment and €0.3 billion for intangible assets. Depreciation and amortization are estimated at about €2.6 billion, including €1.3 billion in amortization of intangible assets.

We predict the financial result to come in at around minus €0.8 billion. The effective tax rate is likely to be around 25%. Taking into account the planned acquisition of Algeta ASA, Norway, we expect net financial debt to be below €9 billion at the end of 2014.

HEALTHCARE

The main priority for HealthCare in 2014 continues to be the successful commercialization of the recently launched pharmaceutical products. We expect sales to advance by a mid-single-digit percentage on a currency- and portfolio-adjusted basis. Allowing for expected negative currency effects of about 2%, sales would be approximately €19.5 billion to €20 billion. We predict EBITDA before special items to slightly exceed the prior-year level, allowing for negative currency effects of roughly €250 million.

In the Pharmaceuticals segment, we expect sales to move ahead by a high-single-digit percentage on a currency- and portfolio-adjusted basis. We predict negative currency effects of around 2% compared to 2013. We intend to raise sales of our recently launched products to about €2.8 billion and are planning significantly higher investment in order to continue marketing them successfully. We will also intensify the activities aimed at exploiting the potential of our development pipeline. Additional marketing and R&D expenditures totaling €0.5 billion are planned for 2014. Against this background we expect a low-to mid-single-digit percentage increase in EBITDA before special items, allowing for negative currency effects of about €150 million. The EBITDA margin before special items is expected to be level with the previous year.

In 2016 we plan to achieve an EBITDA margin before special items of at least 33%. We have increased our estimate for the peak sales potential of our recently launched products to at least €7.5 billion.

In the Consumer Health segment, we predict sales to rise by a low- to mid-single-digit percentage on a currency- and portfolio-adjusted basis. We anticipate negative currency effects of around 3% compared to 2013. We expect EBITDA before special items to come in slightly below the level of the prior year, allowing for negative currency effects of about €100 million.

CROPSCIENCE

For 2014 we continue to predict favorable market conditions for our CropScience business, although we will not see quite such a positive environment as in 2013.

We expect to grow faster than the market and raise sales by a mid- to high-single-digit percentage on a currency- and portfolio-adjusted basis. We anticipate negative currency effects of about 3% compared to 2013. We plan to increase EBITDA before special items by a low-single-digit percentage, allowing for negative currency effects of approximately €150 million.

MATERIALSCIENCE

We plan to raise sales in 2014 by a mid-single-digit percentage on a currency- and portfolio-adjusted basis. We predict negative currency effects of about 2% compared to 2013. We anticipate an increase in EBITDA before special items, allowing for negative currency effects of roughly €50 million.

For the first quarter of 2014, we expect sales to increase on a currency- and portfolio-adjusted basis against the prior-year period and EBITDA before special items to gain significantly.

RECONCILIATION

For 2014 we expect sales on a currency- and portfolio-adjusted basis to be level with the previous year. We are planning EBITDA before special items of roughly minus €0.2 billion.

Bayer AG

As the holding company for the Bayer Group, Bayer AG derives most of its income from its subsidiaries. The earnings of the major subsidiaries in Germany are transferred directly to Bayer AG under profit and loss transfer agreements. The earnings of Bayer AG are therefore expected to reflect the positive business development anticipated in the Bayer Group. A concerted dividend policy within the Group ensures the availability of sufficient distributable income. We anticipate that the net interest position will remain steady in light of the continuing low level of interest rates. 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.

20.3 Opportunity and Risk Report

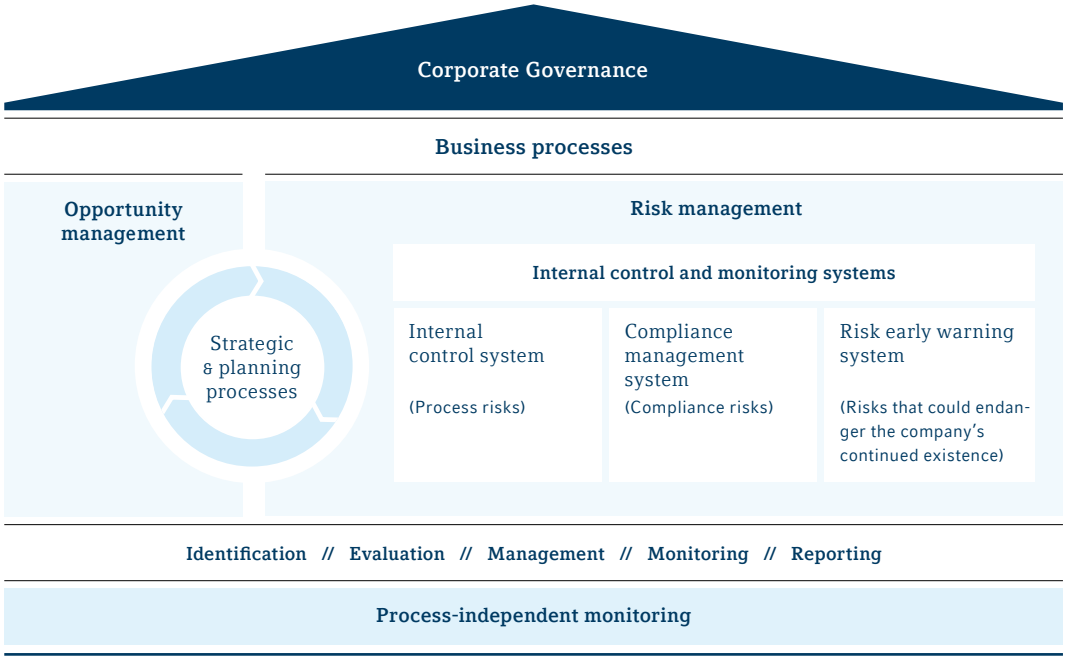
// **Opportunity and risk management integral to Bayer's Group-wide corporate governance system**

// **No risks currently identified that could endanger the Bayer Group's continued existence**

20.3.1 Group-wide Risk Management System

Corporate governance forms the basis for sustainable growth and economic success. One factor for corporate governance is the ability to systematically detect and take advantage of opportunities while identifying any risks to the company's operations at an early stage.

Corporate Governance [Graphic 3.20.3]



The entrepreneurial decisions we make daily in the course of business processes are based on balancing opportunities and risks. We therefore regard risk management as an integral part of our business management system rather than the task of a specific organizational unit. The starting-point for our risk management is our strategy and planning processes, from which relevant external and internal opportunities are derived and risks of an economic, ecological or social nature are identified. Opportunities and risks are identified by observing and analyzing trends along with macroeconomic, industry-specific, regional and local developments. The identified opportunities and risks are subsequently incorporated into the subgroups' strategic and operational planning. 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 calculable and manageable risks commensurate with the anticipated opportunities. Opportunities and risks are continuously monitored using indicators so that changes in the economic or legal environment, for example, can be identified and suitable countermeasures initiated at an early stage if necessary.

To enable the Board of Management and the Supervisory Board to monitor material business risks as required by law, the following systems are also in place: an internal control system ensuring proper and effective financial reporting pursuant to Section 289 Paragraph 5 and Section 315 Paragraph 2 No. 5 of the German Commercial Code; a compliance management system; and a risk early warning system pursuant to Section 91 Paragraph 2 of the German Stock Corporation Act.

Differences exist among these management systems with regard to the processes, methods and IT systems used to identify, evaluate, manage, monitor and report risks depending on the type and level of risk and the time horizon. The principles underlying the various systems are documented in Group directives that are integrated into our central document control process (Margo) and accessible to all employees via the Bayer intranet. Depending on the system, responsibilities are assigned at the management level and coordinators are appointed in the subgroups, service companies and country companies and in the central functions of the Bayer Group. Overall responsibility for the effectiveness and appropriateness of the systems lies with the Chief Financial Officer.

The different systems are described below.

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)

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 directives that are binding upon all consolidated companies.

The ICS is based on the COSO I (Committee of the Sponsoring Organizations of the Treadway Commission) and COBIT (Control Objectives for Information and Related Technology) frameworks and addresses misreporting risks in the consolidated financial statements. 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 Group Accounting and Controlling unit of Bayer AG.

The management of each Group company holds responsibility for implementing the ICS standards at the local level. Using the Group's own shared service centers, the Group companies prepare their financial statements locally and transmit them with the aid of a data model that is standardized throughout the Group and based on the Group accounting directive. This ensures the regulatory compliance of the consolidated financial statements.

The effectiveness of the ICS processes for accounting and financial reporting is evaluated based on a cascaded self-assessment system that starts with the persons directly involved in the processes, then involves the principal responsible managers and ends with the Group Management Board. The system also makes use of internal and external audits. An IT system in use throughout the Group ensures uniform and audit-proof documentation and transparent presentation of all ICS-relevant business processes along with the relevant risks, controls and effectiveness evaluations.

The Group Management Board has confirmed the effective functioning of the internal control system for accounting and financial reporting and the relevant criteria for the 2013 business year. However, it should be noted that an internal control system, irrespective of its design, cannot provide absolute assurance that material misstatements in the accounting will be avoided or identified.

COMPLIANCE MANAGEMENT SYSTEM

Our compliance management system aims to encourage and ensure 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.

In light of the Bayer Group's diversified structure and international alignment, we are active in different industry sectors, markets and geographical regions worldwide, each of which has its own local legislation and industry codes. All significant compliance risks are identified by evaluating cases reported around the world and performing a trend analysis on this basis. New tools were also developed and communicated in 2013 together with the subgroups to enhance the systematic, preventive identification and assessment of risks. Risk identification will be carried out both bottom-up via the country organizations and top-down via the global functions, taking global, local and business-specific aspects into account. In addition, the Corporate Auditing department performed compliance program audits for the first time beginning in mid-2013. These audits proactively evaluate the implementation of the Corporate Compliance Policy in the country organizations.

RISK EARLY WARNING SYSTEM PURSUANT TO SECTION 91 PARAGRAPH 2 OF THE GERMAN STOCK CORPORATION ACT

A process known as BayRisk has been established to enable the early identification of developments that could endanger the company's continued existence, thus satisfying the legal requirements regarding an early warning system for corporate risks pursuant to Section 91 Paragraph 2 of the German Stock Corporation Act. A central unit within the Corporate Center establishes the framework and standards for the design of the Group's early warning system.

The BayRisk process is decentrally organized, with each subgroup, service company or central function being originally responsible for identifying, evaluating, managing and reporting at an early stage any potential developments or events that could prevent our company from sustainably increasing its value. It not only includes risks that could immediately impact our financial targets, but also those that could affect the achievement of qualitative objectives. In the Life Science subgroups, the information required for the BayRisk process is supported by separate enterprise risk management systems. Risk officers are appointed to evaluate, manage and monitor the identified risks according to both financial and non-financial criteria.

Risks are evaluated using estimates of the likelihood that they will materialize, the potential impact and/or their relevance for our external stakeholders. The following matrix illustrates the financial criteria for rating a risk as high, medium or low.

Assessment Matrix According to Financial Criteria [Table 3.20.3]

	Likelihood of occurrence based on a ten-year period		
	Unlikely (< 10%)	Possible (10 – 70%)	Very likely (> 70%)
Accumulated impact (€ million)			
>1,250	H	H	H
500–1,250	M	M	H
<500	L	L	L

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

All significant risks and the respective countermeasures are documented in a Group-wide database. The risk portfolio is reviewed three times a year. Significant changes must be quickly entered in the database and reported directly to the Group Management Board. Details of the risk portfolio form part of a management information system accessible to the members of the Group Leadership Circle. A report on the risk portfolio is submitted to the Audit Committee of the Supervisory Board once a year.

PROCESS-INDEPENDENT MONITORING

The effectiveness of our management systems is monitored and evaluated by Bayer's internal audit department (Corporate Auditing) at regular intervals. Corporate Auditing performs an independent and objective audit function that is designed to verify compliance with laws and directives. The unit also supports the company in achieving its goals by systematically and deliberately evaluating the efficiency and effectiveness of governance and control environments, management systems and the implemented controls, and helping to improve them. The selection of audit targets follows a risk-based approach. Corporate Auditing performs its tasks according to internationally recognized standards and delivers reliable audit outcomes. This is confirmed by a quality assessment undertaken in 2012 by the American Institute of Internal Auditors (IAA). A report is presented annually to the Audit Committee of the Supervisory Board on the internal control system and its effectiveness.

Risks in the areas of occupational health and safety, plant safety, hazard prevention, environmental protection and product quality are assessed through specific HSEQ (health, safety, environment and quality) audits.

In addition, the external auditor, as part of its audit of the annual financial statements, assesses the basic suitability of the early warning system for identifying at an early stage any risks that could endanger the company's continued existence. The auditor regularly reports to the Group Management Board and the Supervisory Board on the identification of any weaknesses in the internal control system.

Audit outcomes are taken into account in the continuous enhancement of our management processes.

20.3.2 Opportunities and Risks

As a global enterprise with a diversified portfolio, the Bayer Group is constantly exposed to a wide range of internal or external developments or events that could significantly impact the achievement of our financial and non-financial objectives.

This chapter outlines both opportunities and risks. Only those risks that are classified in our risk matrix as "medium" or "high" are included. The risks are more highly aggregated here than in our internal documentation. The sequence in which the risks are listed does not imply any order of significance. The opportunities and risks described apply to all subgroups unless otherwise indicated.

ENVIRONMENT

Ethical conduct is a matter of essential importance for society. Many stakeholders evaluate companies according to whether they conduct themselves not just "legally" – but also "legitimately." The Bayer Group is dedicated to sustainable development in all areas of its business activity. Any violations of this voluntary commitment and the resulting adverse media reporting or negative public perception of the company may damage the reputation of the Bayer brand. We counter this risk through responsible corporate governance that is geared toward generating not only economic but also ecological and social benefit.

In the Emerging Markets – particularly Asia and Latin America, and prospectively in Africa – we see opportunities arising out of increasing affluence and the associated growth in demand for pharmaceutical products, for example. Bayer is therefore systematically expanding its business in these regions in particular.

At the same time, however, the risk exists that our growth could be impeded by increasing global cost pressure on health systems. Pharmaceutical products are subject to regulatory price controls in many markets, and government reimbursement systems often favor less expensive generic medicines over branded products. In addition, in some markets, major suppliers in the health care sector 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. We expect the current extent of regulatory controls and market pressures on pricing to persist or increase. Changes with respect to price development and governmental price controls in our key markets are continuously monitored. Where necessary, we adjust our business model depending on the extent of such price controls and the pressure on prices.

Further opportunities and risks may also result if actual market developments vary from those we predict in Chapter 20.1 "Economic Outlook." Where macroeconomic developments deviate from forecasts, this may either positively or negatively impact our sales and earnings expectations.

For MaterialScience, an economic downturn, changes in competitors' behavior or the market entry of new competitors can lead to a more intense competitive situation characterized by overcapacities and increased pressure on prices.

Continuous analysis of the business environment and of economic forecasts enables us to pursue the opportunities we identify and mitigate risks. We respond to fluctuations in demand by adjusting our capacities.

INNOVATION

Innovation is the key driver of Bayer's future growth.

The trends described below not only pose challenges, but also offer opportunities for us to develop and market innovative solutions to overcome them.

Increase in life expectancy

Certain diseases, such as cancer or chronic cardiovascular disorders, are on the rise as a consequence of higher life expectancy. HealthCare is responding to the increased demand for innovative health care products to treat age-related diseases by focusing its R&D activities on therapeutic areas such as oncology and cardiology.

Shortage of arable land, increasing demand for food

The growing world population poses one of the principal challenges to the sustainable supply of food, particularly in view of the reduction in arable land caused by increasing urbanization and extreme weather events associated with climate change. Increasing affluence in the emerging countries is boosting the demand for animal-based food products. We expect there to be an increasing need for high-value seed and crop protection products to allow sufficient food and animal feed to be produced to satisfy rising demand despite limited acreages. For example, CropScience is developing processes to better protect crops against climate and environmental stresses.

Conserving natural resources and protecting the climate

The finite nature of certain natural resources and efforts to protect the climate are boosting the demand for innovative products and technologies that reduce resource consumption and lead to lower emissions. This trend is being reinforced by increasingly stringent regulatory requirements and growing consumer awareness for the need to use resources sustainably. MaterialScience is therefore developing new materials that help to raise energy efficiency and reduce emissions. For example, polyurethane from MaterialScience is used in the construction industry for thermal insulation, giving a positive energy balance, while its polycarbonate is used in the automotive industry to reduce vehicle weight.

Our activities concentrate on the development of innovative solutions to address these trends and global challenges. To strengthen our innovation capability, we place special importance on networking and cooperation both within and outside of our company. Of particular significance here is interdisciplinary research at the interface between human, animal and plant health, which is being driven forward by Nimbus, a joint project of our two Life Science subgroups. Substantial research synergies can be achieved in this way and new mechanisms of action investigated that could lead to the development of new products

in the long term. Our strategy also encompasses research projects with outside partners from academia and industry that give us access to complementary technologies and external innovation potential.

For further information, see Chapter 5 "Research, Development, Innovation" and Chapter 3 "Strategies of the Subgroups."

See Chapters 5 and 3

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, if, for example, a drug candidate fails to meet trial endpoints. The Bayer Group pursues a holistic portfolio management strategy in order to estimate the probability of success and prioritize its development projects. Furthermore, the expectations of the public and the regulatory authorities with regard to the safety and efficacy of chemical and pharmaceutical products are constantly rising. Against this background, we continue to anticipate increasing regulatory requirements for clinical or (eco)toxicological studies, for example. This increases product development costs and the time it takes to obtain registration or marketing approval. Special projects are set up to coordinate the successful implementation of new regulations.

Where it appears strategically advantageous, we may supplement our organic growth through acquisitions of companies or businesses. Failure to successfully integrate a newly acquired business or unexpectedly high integration costs could jeopardize the achievement of qualitative or quantitative targets and adversely impact earnings. Teams of experts therefore manage both the due diligence process and the integration itself. Due diligence includes reviewing risk-relevant factors such as compliance with applicable environmental regulations and occupational health and safety standards at production sites.

PATENT PROTECTION

Patents guarantee the protection of our intellectual property. In the event of successful commercialization, profits can be invested to enable continued, sustainable 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 intellectual property. This makes effective and reliable patent protection all the more important.

A large proportion of our products, especially in our Life Science businesses, is protected by patents. Generic manufacturers and others 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 rights relating to our products. Details of these proceedings are given in Note [32] to the consolidated financial statements. 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 conjunction with the respective operating units and watches for potential patent infringements so that legal action can be taken if necessary.

Consolidated Financial Statements Note 32

PRODUCTS AND PRODUCT STEWARDSHIP

Bayer assesses the potential health and environmental risks of a product along the entire value chain – from research and development through production, marketing and use by the customer to disposal.

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 adverse side effects or other factors. Such a withdrawal may be voluntary or result from legal or regulatory measures. The possibility that unwanted trace amounts of genetically modified organisms may occur in agricultural products and/or foodstuffs cannot be entirely excluded. Potential payments of damages in connection with the above risks may materially diminish our earnings.

Our Life Science businesses counter these risks through a holistic organizational structure and process organization in the areas of pharmaceutical and crop protection product safety and testing. In addition, a comprehensive product stewardship program is in place at CropScience. For further information, see Chapter 10 "Product Stewardship."

See Chapter 10

Another risk we face is that of illegal trading of counterfeit medicines and crop protection products by criminal third parties. In most cases, the composition and quality of counterfeit products is inferior to that of the original products. No local regulatory authority assures the quality of the manufacturing or distribution process, so product recall is not possible. 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 our products and undermine our competitiveness.

Bayer actively cooperates with authorities' efforts to combat product counterfeiting through preventive measures and the prosecution of offenders.

PROCUREMENT AND PRODUCTION

Our Supplier Code of Conduct sets forth our sustainability principles and explains what we expect from our partners along the value chain. The Code requires, among other things, that our suppliers observe environmental regulations, occupational health and safety rules, human rights and other provisions – such as forgoing all forms of child labor. Violations of the Code may harm our company's reputation. Through supplier assessments and audits, we verify that our partners along the supply chain actually implement and adhere to our Code of Conduct (see Chapter 8 "Procurement and Production").

See Chapter 8

The Bayer Group requires significant quantities of energy and petrochemical feedstocks for its production processes. Procurement prices for energy and raw materials may fluctuate significantly. Experience has shown that higher production costs cannot always be passed on to our customers through price adjustments. This applies especially at MaterialScience.

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

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 applies particularly to the biotech products of HealthCare because of the highly complex manufacturing processes. If we are unable to meet demand, structural sales declines may occur, particularly in our Pharmaceuticals business. We counter this risk by distributing production for certain products among multiple sites or by building up safety stocks. Furthermore, the Bayer Emergency Response System (BayErs) was developed for our production sites as a mandatory component of our HSEQ management. It is aimed at protecting employees, neighbors, the environment and production facilities from the risks described. The Group Regulation "Safety and Crisis Management" forms the basis for this.

Increased ecological awareness creates opportunities for MaterialScience in two ways. On the one hand, market potential results from the development of innovative materials for our customers (see Chapter 5 "Research, Development, Innovation"). On the other hand, if we succeed in increasing the efficiency of our production processes, this benefits the environment and reduces our costs at the same time. By developing new production technologies and applying internationally recognized energy management systems, we aim to help meet increasingly stringent environmental regulations, further reduce emissions and waste, and increase energy efficiency. In this way we not only contribute to sustainable climate protection and the conservation of natural resources, but also achieve cost and competitive advantages.

See Chapter 5

EMPLOYEES

Skilled and dedicated employees are essential for the company's success. Particularly in the Emerging Markets of Asia and Latin America, the number of people with the technical and language skills needed to meet the demanding requirements of an international enterprise remains relatively small. Accordingly, those who possess these skills are highly sought after by locally based companies. 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.

We aim to convince our target groups of the benefits offered by our company through comprehensive human resources marketing. These include competitive compensation with performance-related components as well as an extensive range of training and development opportunities. We also pursue a diversity-based human resources policy to tap the full potential of the employment market. Our human resources policy is based on the principles of our Human Rights Position, corporate values and Corporate Compliance Policy.

For more information see Chapter 7 "Employees."

See Chapter 7

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 failures 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 together with our internal IT service provider.

The confidentiality of internal and external data is of fundamental importance to us. 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 a comprehensive authorization concept.

A Group-wide committee has been established to determine the fundamental strategy, architecture and safety measures for the Bayer Group. The measures are now being implemented by the subgroups and service companies in conjunction with this central organization.

LAW AND COMPLIANCE

The Bayer Group is exposed to numerous legal 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, patent disputes, tax assessments 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 detract from the company's success.

To encourage and ensure the observance of laws and regulations, Bayer has established a global compliance management system that forms part of its corporate culture (see Chapter 18.3 "Compliance").

See Chapter 18.3

Legal proceedings currently considered to involve material risks are described in Note [32] to the consolidated financial statements.

Consolidated Financial Statements Note 32

FINANCIAL OPPORTUNITIES AND RISKS

The Bayer Group has financial opportunities at its disposal in the form of the market prices it can command for its products, and is exposed to financial risks in the form of liquidity, credit and market price risks, as well as risks resulting from pension obligations.

The management of financial opportunities and risks takes place using established, documented processes. 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 covers all Group companies that are relevant from a cash-flow perspective. Financial planning comprises a planning horizon of 12 months and is regularly updated.

The following paragraphs provide details of these and other financial opportunities and risks and how they are managed.

See Chapter 16.7

Further information is provided in Chapter 16.7 "Financial Management of the Group."

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 central finance department as part of our same-day and medium-term liquidity planning.

Consolidated Financial Statements Note 30.2

Payment obligations from financial instruments are explained according to their maturity in Note [30.2] to the consolidated financial statements.

The 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.

Liquid assets are held mainly in the form of overnight and term deposits. Credit facilities also exist with banks. These include, in particular, a €3.5 billion syndicated credit facility, which is undrawn.

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 Bayer Group does not conclude master netting arrangements with its customers for non-derivative financial instruments. Here, the total value of the financial assets represents the maximum credit risk exposure. In the case of derivatives, positive and negative market values may be netted under certain conditions.

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. Reservation of title is generally agreed 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's Central Financial Risk Committee.

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. Adherence to the risk limits is continuously monitored.

Opportunities and risks resulting from market price changes

Opportunities and risks resulting from changes in market currency and interest rates are managed by the central finance department. Risks are eliminated or mitigated through the use of derivative financial instruments. Further details on derivatives are given in Note [30.3] to the consolidated financial statements.

Consolidated Financial Statements Note 30.3

The type and level of currency and interest-rate risks are explained in the following paragraphs 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.

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 payment receipts and disbursements are hedged according to the rules agreed between the Group Management Board, the finance department and the operating units. Hedging takes place through forward exchange contracts and currency options.

Sensitivities were determined based on a hypothetical adverse scenario in which the euro depreciates by 10% against all other currencies compared with the year-end exchange rates. Under this scenario, the estimated hypothetical loss of cash flows from derivative and non-derivative financial instruments would have diminished earnings and equity (other comprehensive income) as of December 31, 2013 by €250 million (December 31, 2012: €256 million). Of this amount, €122 million is related to the U.S. dollar, €35 million to the Japanese yen and €28 million to the Canadian dollar.

Derivatives used to hedge anticipated currency exposure that are designated for hedge accounting would have diminished other comprehensive income by €267 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 Group debt.

A sensitivity analysis based on our net floating-rate receivables and payables position at year end 2013, taking into account the interest rates relevant for our receivables and payables in all principal currencies, produced the following result: a hypothetical increase of 100 basis points, or 1 percentage point, in these interest rates (assuming constant currency exchange rates) as of January 1, 2013 would have raised our interest expense for the year ended December 31, 2013 by €33 million (December 31, 2012: €46 million).

Risk to pension obligations from capital market developments

The Bayer Group has obligations to current and former employees related to pensions and other post-employment benefits. Changes in relevant valuation parameters such as interest rates, mortality and rates of increases in compensation 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 outside profit or loss. 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. This in turn may diminish equity, and/or it may necessitate additional contributions by the company. Further details are given in Note [25] to the consolidated financial statements.

Consolidated Financial Statements Note 25

We address the risk of market-related fluctuations in the fair value of our plan assets through prudent strategic investment, and we constantly monitor investment risks in regard to our global pension obligations.

OVERALL ASSESSMENT OF OPPORTUNITIES AND RISKS

The risks reported above do not endanger the company's continued existence. There are also no risks with mutually reinforcing dependencies that could combine to endanger the company's continued existence.

Risks rated as "medium" or "high" did not change significantly compared with the previous year.

Based on our product portfolio, our know-how and our innovation capability, 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.

21. 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, 2013 to €2,117 million, divided into 826,947,808 no-par bearer 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 publish voting rights announcements at WWW.INVESTOR.BAYER.DE/EN/STOCK/OWNERSHIP-STRUCTURE

We received no notifications in 2013 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.

Pursuant to Section 84, Paragraph 1 of the German Stock Corporation Act (AktG), 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. If no such majority is achieved, the appointment may be approved 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 majority 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 Board of Management must comprise at least two members. The Supervisory Board may appoint one member to be Chairman of the Board of Management pursuant to Section 84, Paragraph 2 of the German Stock Corporation Act or Section 6, Paragraph 1 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 or, where a capital majority is required, by a simple majority of the capital.

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 29, 2015, 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 shares issued out of the Authorized Capital I that do not represent more than 20% of the existing capital stock. Absent a further resolution on the exclusion of stockholders' subscription rights, the Board of Management also may only exclude stockholders' subscription rights to shares issued under other authorizations regarding capital measures (Authorized Capital II, bonds with warrants or convertible bonds, purchase and sale of own shares) provided that such shares do not in total represent more than 20% of the existing capital stock.

With the approval of the Supervisory Board and until April 29, 2015, the Board of Management is also authorized to increase the capital by up to €212 million in one or more installments by issuing shares out of the Authorized Capital II in exchange for 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 capital increase out of the Authorized Capital II does not exceed 10% of the capital stock existing at the time this authorization becomes effective or the time this authorization is exercised 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 29, 2015 – to issue bonds with warrants or convertible bonds, profit-sharing rights or profit participation bonds (collectively referred to as "bonds") with a total face value of €6 billion. 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 amount of the shares required to service the bonds does not exceed 10% of the capital stock. 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, the 2010 Annual Stockholders' Meeting authorized the Board of Management to purchase and sell company shares representing up to 10% of the capital stock. This authorization also expires on April 29, 2015.

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 2018 and can be extended to run for up to two further one-year periods. 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.

In addition, the terms of the €2.4 billion (as of December 31, 2013) in notes issued by Bayer in the years 2006 to 2013 under its multi-currency European Medium Term Notes program 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.

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.