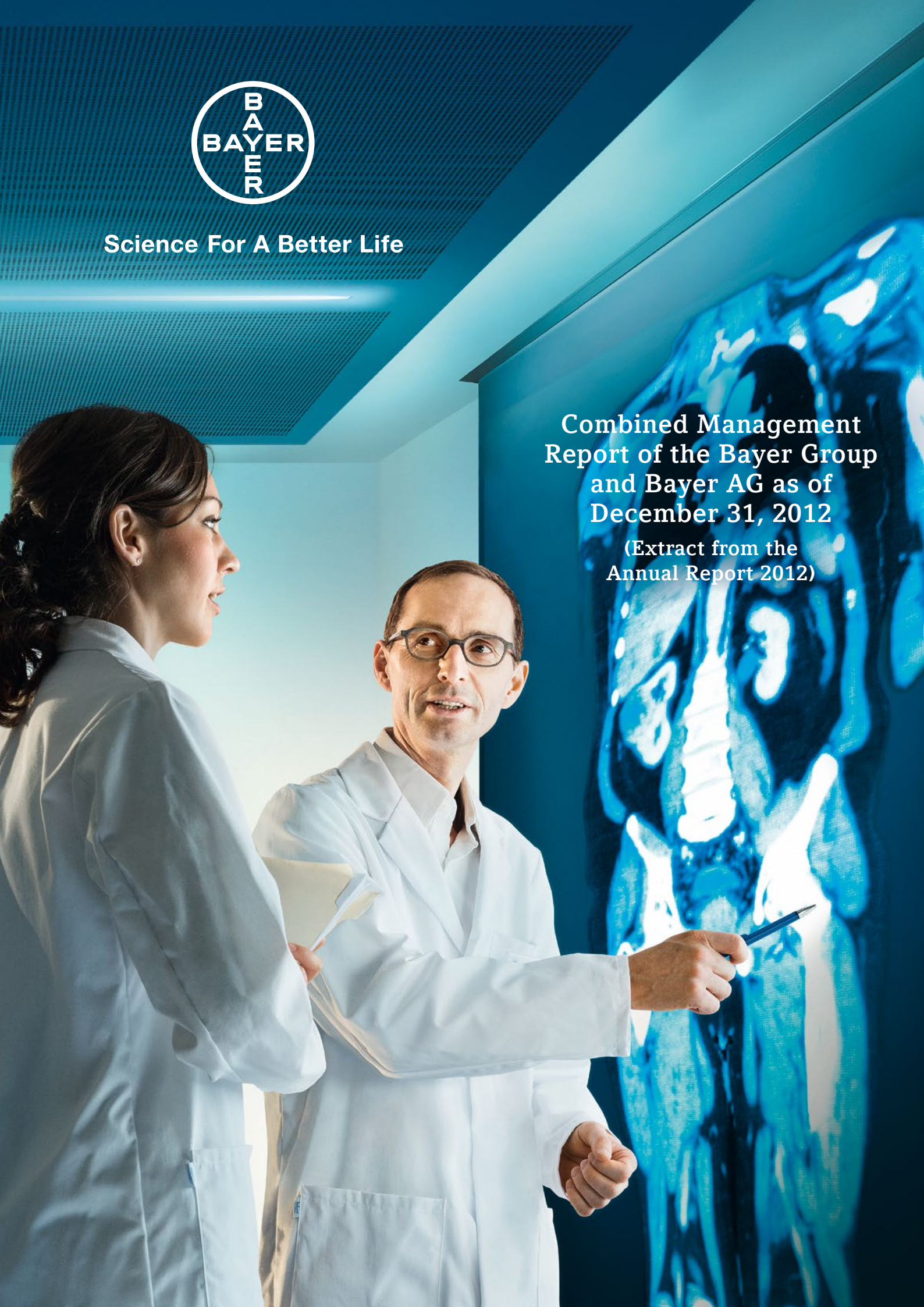


Combined Management Report of the Bayer Group and Bayer AG as of December 31, 2012

(Extract from the Annual Report 2012)

Combined Management Report

of the Bayer Group and Bayer AG as of December 31, 2012

1. Mission and Values

"Bayer: Science For A Better Life"

Bayer is a world-class innovation company. Our scientific achievements aim to help improve people's lives by addressing the great challenges of our time – the growing world population, an aging society and the need to use natural resources more efficiently.

- Throughout the world we are preventing, alleviating or curing diseases and improving diagnostic techniques.
- With our products for agriculture, we are helping farmers to provide an adequate supply of high-quality food, feed and plant-based raw materials.
- And our high-tech materials are making significant contributions in a variety of areas such as energy and resource efficiency, mobility, construction and home living.

We have spent many decades laying the foundations for achieving these goals and are the only global company to combine expertise in human, animal and plant health and in high-tech materials. Our focus on innovation is the key to maintaining or achieving leadership positions in all of our markets. It is also about creating value – for our customers, stockholders and employees, while at the same time considering the needs of other stakeholders in society.

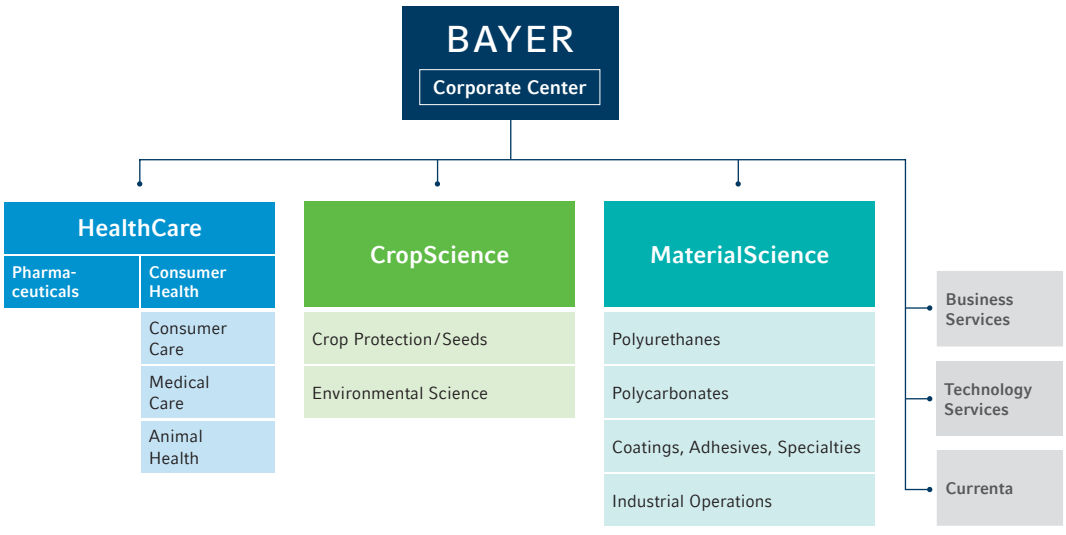
We are committed to operating sustainably and addressing our social and ethical responsibilities as a corporate citizen.

Our Bayer values of Leadership, Integrity, Flexibility and Efficiency – represented by the acronym LIFE – guide our actions as we work to accomplish our mission "Bayer: Science For A Better Life."

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 3.1]

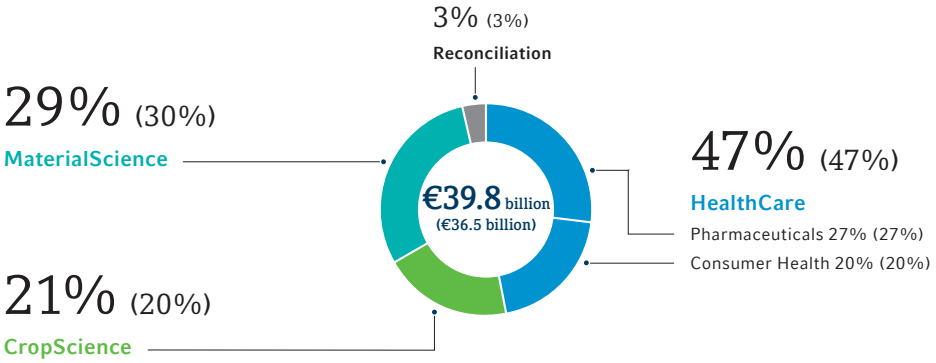


The globally operating **HealthCare** subgroup is divided into two reporting segments: Pharmaceuticals and Consumer Health. The Pharmaceuticals segment focuses on prescription products, especially for women's healthcare and cardiology and also in the fields of oncology, hematology and ophthalmology. 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. Medical Care comprises the businesses with blood glucose meters, contrast-enhanced diagnostic imaging equipment together with the necessary contrast agents, and mechanical systems for treating constricted or blocked blood vessels. The products of the Animal Health Division are destined for use in livestock 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 innovative chemical and biological pest management solutions, at the same time offering extensive service backup for modern, sustainable agriculture. 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-performance products in the areas of polyurethanes, 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 2012 [Graphic 3.2]



2011 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 3.1]

	Sales		EBIT		EBITDA before special items*	
	2011	2012	2011	2012	2011	2012
	€ million	€ million	€ million	€ million	€ million	€ million
HealthCare	**17,169**	**18,612**	**3,191**	**2,154**	**4,702**	**5,068**
Pharmaceuticals	9,949	10,803	1,897	1,075	2,972	3,203
Consumer Health	7,220	7,809	1,294	1,079	1,730	1,865
CropScience	**7,255**	**8,383**	**562**	**1,539**	**1,654**	**2,008**
MaterialScience	**10,832**	**11,503**	**633**	**597**	**1,171**	**1,251**
Reconciliation	**1,272**	**1,262**	**(237)**	**(330)**	**86**	**(43)**
Group	**36,528**	**39,760**	**4,149**	**3,960**	**7,613**	**8,284**

* For definition see Chapter 7.2 "Calculation of EBIT(DA) Before Special Items."

CHANGES IN CORPORATE STRUCTURE

In August 2012, we implemented organizational changes within the MaterialScience segment. The Vulkollan business with high-performance elastomers is no longer part of the Polyurethanes business unit but is reported under the Coatings, Adhesives, Specialties (CAS) business unit. The prior-year figures are restated accordingly.

In September 2012, we renamed the BioScience business unit within the CropScience segment to "Seeds." In addition, the Seed Treatment business unit was renamed to "SeedGrowth."

As of the fourth quarter of 2012, the Pharmaceuticals segment of the HealthCare subgroup is no longer divided into General Medicine and Specialty Medicine business units due to organizational changes.

3. Strategy

BUSINESS STRATEGY

As an innovation company with the mission "Bayer: Science For A Better Life," Bayer focuses on its core competencies in developing new solutions for the fast-growing, innovation-driven areas of health care, agriculture and high-tech materials. Based on this innovation capability and other core competencies, we are pursuing a value-creating strategy of sustainable and profitable growth in our businesses. In doing so we consistently exploit both organic and external growth opportunities while at the same time optimizing structures and processes and improving our cost base.

Portfolio: We plan to continue playing leading roles in attractive markets and to steadily expand the strong positions we already hold, placing special emphasis on the development of our life-science businesses. We also aim to leverage research synergies by gaining a better understanding of human, animal and plant biology. In MaterialScience, we intend to defend our market position through leading-edge process technologies. Investments in capacity expansions and new facilities are creating economies of scale and cost leadership that will help to strengthen our position and our profitability.

Growth: We are systematically investing in our innovation capabilities and maximizing the value of our research and development pipeline and our technological expertise. We are also taking advantage of opportunities in the emerging markets.

Productivity: Based on the maxim "More innovation – less administration," we are continuing our efforts to improve efficiency and simplify structures and processes throughout the Bayer Group.

HEALTHCARE

The health care sector worldwide is in a state of flux. Here we face four main challenges at the global level: an aging population, the growing demand for health care products 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 new ways to curb rising costs while safeguarding and improving the quality and reach of health care. Against this background, HealthCare's goal is to improve people's quality of life through innovation.

Focus on growth through innovation

The objective of our strategy is to achieve above-average, profitable and sustainable growth. To this end, our focus is on innovation and on further strengthening our position in the emerging markets. Our research pipeline contains projects with the potential to spawn innovative products that will improve treatment options, especially for chronic illnesses that particularly affect the growing number of older people in the global population. In selected areas we are working to round out our portfolio, partly with more value-based approaches and services. Here we also benefit from our expertise in the areas of prescription medicines and consumer products. In addition, we aim to further strengthen our position among the leading suppliers of non-prescription (OTC) medicines and expand our presence in the emerging markets. The umbrella brand "Bayer," with its excellent worldwide reputation, especially in the area of health care, will also have a central role to play.

Our largest segment in terms of sales – **Pharmaceuticals** – aims to become a leader in cardiovascular health and continue to expand the leading position it already holds in women's healthcare. In the area of specialty therapeutics, we are pursuing niche strategies to strengthen or defend our respective market positions. This focus on specific business areas is supplemented by growth strategies in the key markets of Brazil, China and Russia.

Innovative products are of central importance for the sustainability of the Pharmaceuticals business. We therefore plan to increase our investment in research and development in the future, focusing mainly on oncology and cardiovascular health with additional activities in gynecological therapies, hematology, ophthalmology and inflammatory diseases.

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 build on our position in the over-the-counter (OTC) medicines market, with the focus on expanding our business in the emerging markets of Eastern Europe, Latin America and Asia. We primarily intend to exploit the organic growth potential of proven brands such as Aspirin™, Aleve™/naproxen, Bepanthen™/Bepanthol™ and Canesten™. In addition, we will continue to take advantage of external growth opportunities in the form of acquisitions or product inlicensing.

In the Medical Care Division, we are aiming to build on our competitive positions in the core areas of diabetes management, contrast agents and medical devices. We plan to expand our product range for people with diabetes by developing new blood glucose monitoring systems and innovative, customer-centric solutions to help them better manage the disease. In the Radiology and Interventional unit, further development work is ongoing in the areas of contrast agents, contrast agent injection systems, and thrombectomy and atherectomy systems. We are also developing new software and IT-based service solutions to optimize both contrast agent dosage and the clinical workflows involved in processing diagnostic data and images.

In the Animal Health Division, we aim to build on the leading position we hold among suppliers of products for companion animals and livestock. Our strategy is to achieve organic growth by focusing on countries and markets with long-term sales potential and successfully managing the life cycles of existing core brands. We aim to step up the development of new proprietary products to safeguard our long-term success. In addition, we are pursuing external growth opportunities through acquisitions and product inlicensing.

CROPSCIENCE

The earth's population is predicted to reach nine billion by 2050. As the number of people grows, natural resources are becoming scarcer – mainly due to insufficient arable land reserves, increasing urbanization and progressive climate change. The importance of sustainable agriculture and of higher crop yields and quality in producing sufficient food on a limited amount of land is increasing all the time.

CropScience, one of the leading innovation-driven companies in its industry, aligns its corporate planning to long-term trends in agricultural markets, offering products and customer-oriented solutions for the production of high-quality food, feed, fiber and renewable raw materials. Our goal is to raise agricultural productivity through innovation.

Strategy with four key elements

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

We aim to **enhance our Crop Protection portfolio** by innovating, concentrating on core markets and focusing on integrated crop protection solutions. We had removed all WHO class I insecticides from our portfolio by the end of 2012. In line with our commitment to sustainable agriculture, crop protection products in this category are to be replaced with new, user-friendly and more environmentally compatible formulations. The acquisition of U.S. company AgraQuest, Inc. adds to our portfolio of biological crop protection solutions and strengthens our business, particularly in the area of fruits and vegetables.

Another major part of our strategy is to **increase customer centricity along the entire value chain** and improve channel management practices. We are also steadily expanding the successful business model of food chain partnerships in the form of collaborations with food producers and retailers.

To **lead the way in innovation**, we have refocused our research and development. A major focus of our activities is on seeds and on new growth areas such as plant health and stress tolerance. The goal of the new structure is to better exploit and develop our expertise in areas such as abiotic stress tolerance or yield improvement for the three research areas of seeds, small molecules and biologics. Accordingly, we have focused the new organization on integrating the three research areas. A joint global function will be established to steer regulatory issues.

Another key element in our strategy is the continuing **expansion of our Seeds business**. We plan to further strengthen our positions in our established crops – vegetables, rice, oilseed rape/canola and cotton – through both organic growth and acquisitions. We also intend 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

The growing world population and the resulting depletion of fossil resources, increasing mobility and progressive urbanization are among the global challenges of our time. People are also placing increasing importance on a modern and more comfortable lifestyle.

MaterialScience helps to address global challenges

With its high-tech materials and solutions, MaterialScience is helping to address these challenges in areas including energy and resource efficiency, environmentally friendly mobility and sustainable construction, which are particularly important growth drivers in emerging economies such as China, India and Brazil. We therefore expect the increase in volumes at MaterialScience to outpace global GDP growth in the long term.

Within the scope of our strategy, we endeavor to exploit profitable business opportunities in the emerging markets amid challenging competitive conditions while safeguarding our existing positions in the traditional markets. Among our core competencies is the development of new and better manufacturing processes for our products. These process innovations provide cost benefits that enable us to open up new applications in further markets and offer customized solutions.

We aim to earn a premium on our capital costs for the long term and thus contribute to increasing corporate value.

In the **Polyurethanes (PUR)** business unit, we aim to build on our global leadership position as an integrated raw material and systems supplier and achieve profitable growth.

We are focusing on further improving cost efficiency at our production facilities to safeguard our cost leadership for the long term. For example, we are continuing to develop the oxygen-depolarized cathode electrolysis process for producing chlorine from salt. This process enables lower energy consumption and a reduction in indirect CO_2 emissions compared with conventional technologies. We are also setting new standards in climate protection and efficiency with the new gas-phase phosgenation process for isocyanate production.

Investment in our production capacities is making an important contribution to the operational growth of this business unit and the improvement of our cost base. For example, we intend to consolidate our production of MDI and TDI at world-scale facilities. To service the rapidly growing demand in Asia, we also plan to further expand our MDI capacities in Shanghai, China.

The focus of our activities in the **Polycarbonates (PCS)** business unit is also on the Asian market. Asia accounts for more than 60% of the global polycarbonates market, which is forecast to grow considerably faster than global GDP in volume terms. There is particularly strong demand for this plastic in China.

We plan to gradually expand our PCS capacities in Shanghai, China. Here we continue to rely on the efficiency of our large-scale facilities.

In the **Coatings, Adhesives, Specialties (CAS)** business unit, we aim to maintain our leading position in the core business with polyurethane-based raw materials for the coatings and adhesives industry and open up new, related growth areas. Our chemical expertise and our years of formulating experience make us a preferred partner for customers in developing and supplying tailored solutions for innovative coating and adhesive applications.

4. Economic Environment

GLOBAL ECONOMY

Economic Environment [Table 3.2]

	Growth* in 2011	Growth* in 2012
World	+3.0%	+2.6%
European Union	+1.6%	−0.2%
of which Germany	+3.0%	+0.7%
United States	+1.8%	+2.3%
Emerging markets**	+6.2%	+4.9%

* real GDP growth, source: Global Insight (source for Germany: Federal Ministry of Economics and Technology)
** including about 50 countries defined by Global Insight as emerging markets in line with the World Bank

Global economic growth continued to slow in 2012. This was mainly due to the crisis in the eurozone, which caused tangible anxiety among consumers and investors. In addition, governments in many industrialized countries were forced to adopt a rigid consolidation course in view of the high levels of public debt. Growth was also hampered by the fact that oil prices remained high despite the downturn in the economy. There was, however, a positive stimulus from the still very expansionary monetary policy in the industrialized countries.

Economic Environments of the Subgroups [Table 3.3]

	Growth* in 2011	Growth* in 2012
HealthCare		
Pharmaceuticals market	+6%	+3%
Consumer care market	+5%	+4%
Medical care market	+2%**	+1%
Animal health market	+5%	+4%
CropScience		
Seeds and crop protection markets	> 10 %	> 10 %
MaterialScience: (main customer industries)		
Automotive	+3%	+6%
Construction	+3%	+3%
Electrical/electronics	+7%	+3%
Furniture	+6%	+4%

* Bayer's estimate, excluding pharmaceuticals market, source: IMS Health. Copyright 2013. All rights reserved; currency-adjusted; 2012 data provisional
** not currency-adjusted

HEALTHCARE

The more restrictive health policy framework held back the expansion of the **pharmaceuticals market** in the United States and the major European countries. On the other hand, demand for prescription medicines in the emerging markets rose as health services became accessible to increasingly broad segments of the population.

The rate of growth in the global **consumer care market** was slightly below the previous year. This was mainly due to a weak second half, especially in the United States and Europe. Demand for over-the-counter medicines in emerging markets such as Brazil, China and Russia remained at a high level. The slight upturn in the **medical care market** was partly the result of growth in the U.S. diabetes care market and in the market for contrast agents and medical equipment. The **animal health market** grew at the average rate experienced in recent years.

CROPSCIENCE

The global **seed and crop protection market** continued to show dynamic development in 2012. Demand for high-value seeds continued to rise considerably overall, and the global crop protection market also posted significant growth.

Farmers benefited from continuing high prices thanks to persistently low inventories for most agricultural commodities. This in turn triggered strong demand for high-value seeds and for crop protection products.

Growth rates in Europe were above the average, especially in the Eastern European countries, although demand in the Mediterranean countries declined.

Growth in the global seed and crop protection market last year was again driven by Latin America, particularly Brazil.

In North America, the average growth rates of recent years were considerably exceeded in 2012 despite the extreme summer drought, which particularly affected the Midwestern United States.

The generally positive market trend continued in 2012 in Asia/Pacific, too, although average growth for the region was slightly down from the previous year. The Chinese and Indian crop protection markets showed the strongest growth momentum.

MATERIALSCIENCE

The products of MaterialScience are mainly used in the automotive, construction, electrical/electronics and furniture industries.

Despite worsening growth perspectives in Europe, these principal global **customer industries** for MaterialScience developed satisfactorily overall in 2012. The progressive recovery in North America and the stabilization of the Asian markets had an especially positive impact on our business development.

The global **automotive industry** again showed robust growth overall. New vehicle registrations worldwide reached a record high in 2012. The drivers of this trend were sharply increased demand in the Asian countries and the continuing very positive development in North America. Demand in Western Europe was below the 2011 level, with a recovery not expected to begin before 2014 at the earliest.

The global **construction industry** grew at about the same rate in 2012 as in the prior year. Growth in the major Asian countries was robust, though somewhat weaker than in 2011. The U.S. construction industry failed to show a significant recovery, and the European debt crisis continued to dampen demand in Western Europe.

The global **electrical/electronics industry** experienced solid growth in 2012 as a result of its broad diversification. Demand for consumer electronics continued to increase, particularly in the BRIC countries (Brazil, Russia, India and China) in light of rising incomes. The sector registered positive growth momentum in Western Europe thanks to the deployment of new technologies and innovative solutions in response to climate change.

The development of the global **furniture industry** varied by region in 2012. While growth in Europe slowed down as the eurozone economy clouded over, the North American furniture market showed significant recovery potential. The Asian markets proved largely stable despite weaker growth rates.

NEW PRODUCTS CREATE OPTIMISM FOR THE FUTURE

Bayer: continuing growth momentum

// Group targets achieved in 2012 – sales and earnings before special items increase in all subgroups
// Sales €39.8 billion (Fx & portfolio adj. +5.3%)
// EBIT €4.0 billion (-4.6%) – net income €2.4 billion (-1.0%)
// Further accounting measures for legal claims
// EBITDA before special items €8.3 billion (+8.8%)
// Core earnings per share €5.35 (+10.8%)
// Encouraging growth in the emerging markets
// Steady progress with innovation pipeline strengthens life-science businesses
// Forecast for anniversary year 2013: continuing record development

5. Overview of Sales, Earnings and Financial Position

TARGET ATTAINMENT IN 2012

	Forecast (February 2012)	Raised forecast (July 2012)	Target attainment 2012
Group sales*	Increase of about 3% to approx. €37 billion	Increase of 4%–5% to approx. €39–40 billion	Increase of 5.3% to €39.8 billion
EBITDA before special items	Slight improvement	High-single-digit percentage increase	Increase of 8.8%
Core earnings per share	Slight improvement	Increase of about 10%	Increase of 10.8%

* currency- and portfolio-adjusted

FULL YEAR 2012

2012 was a very successful year for Bayer. We achieved our targets for the Group. Operationally, all of our subgroups posted growth in sales and earnings before special items, with particularly strong momentum in the life-science businesses. We also made good progress strategically, continuing to develop our innovation pipeline and bringing new products to market. We systematically strengthened our life-science businesses through acquisitions and considerably expanded our business in the emerging markets*. This makes us optimistic for 2013, in which we plan to grow sales and earnings once again.

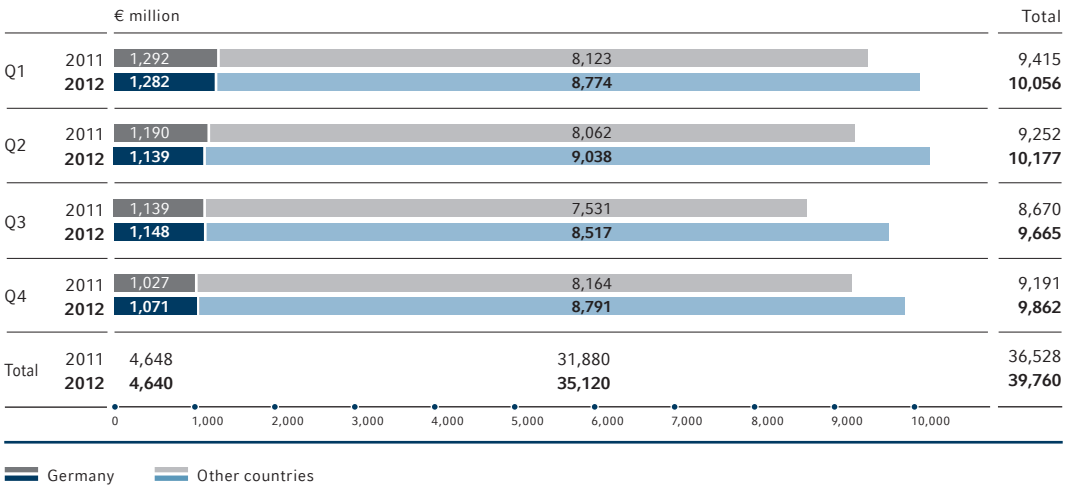
Changes in Sales [Table 3.4]

	2011	2012
	%	%
Volume	+3.4	+4.7
Price	+2.1	+0.6
Currency	–1.5	+4.0
Portfolio	+0.1	–0.5
Total	**+4.1**	**+8.8**

Adjusted for currency and portfolio effects (Fx & portfolio adj.), **sales** rose by 5.3% (reported: +8.8%) to a record €39,760 million (2011: €36,528 million). Sales of HealthCare advanced by 4.2% (Fx & portfolio adj.). Sales at CropScience moved ahead by 12.4% (Fx & portfolio adj.) in a favorable market environment. Sales of MaterialScience rose by 3.0% (Fx & portfolio adj.).

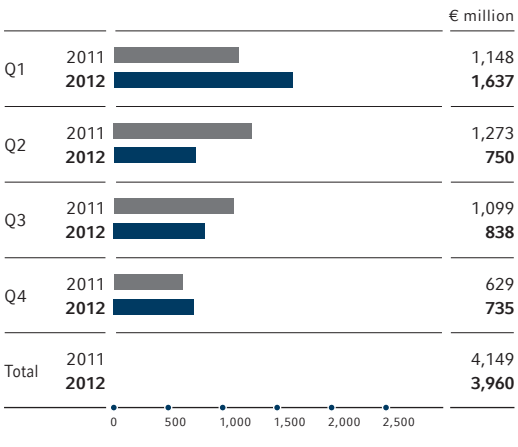
*For definition see Chapter 6.5 "Business Development in the Emerging Markets."

Bayer Group Quarterly Sales [Graphic 3.3]

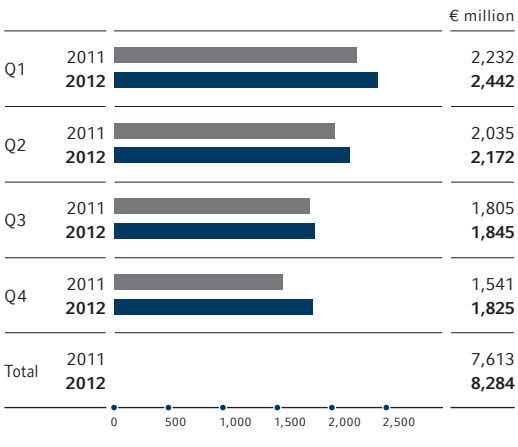


EBIT of the Bayer Group declined by 4.6% to €3,960 million (2011: €4,149 million) after special items of minus €1,711 million (2011: minus €876 million). The special items included €1,186 million in charges related to legal claims concerning the oral contraceptives Yasmin™/YAZ™. Of these charges, €455 million were taken in the fourth quarter of 2012 and mainly related to further accounting measures for venous clot injury cases of which we are currently aware and anticipated future cases. Other special charges were restructuring expenses of €396 million and impairment losses of €289 million on intangible assets. Special gains from divestitures came to €158 million, while adjustments of benefit entitlements resulted in gains of €114 million. EBIT before special items amounted to €5,671 million (2011: €5,025 million). **EBITDA** before special items increased by 8.8% to €8,284 million (2011: €7,613 million), driven by good business development and savings from the restructuring program successfully completed in 2012. Earnings of all the subgroups were also boosted by positive currency effects totaling about €400 million. HealthCare raised EBITDA before special items by 7.8% to €5,068 million (2011: €4,702 million) due to positive business development in both segments. EBITDA before special items of CropScience rose by a substantial 21.4% to €2,008 million (2011: €1,654 million), largely as a result of higher volumes. EBITDA before special items of MaterialScience improved by 6.8% to €1,251 million (2011: €1,171 million), mainly because of higher volumes.

Bayer Group Quarterly EBIT [Graphic 3.4]

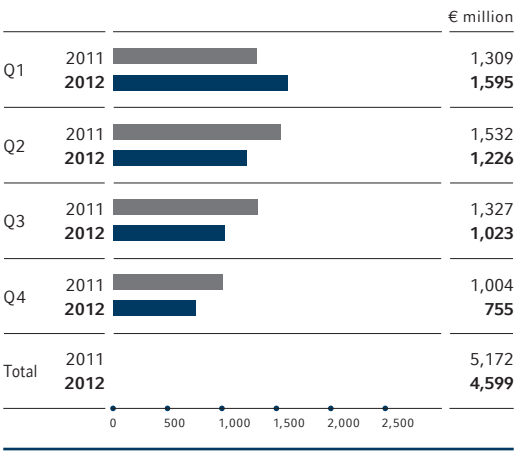


Bayer Group Quarterly EBITDA Before Special Items [Graphic 3.5]

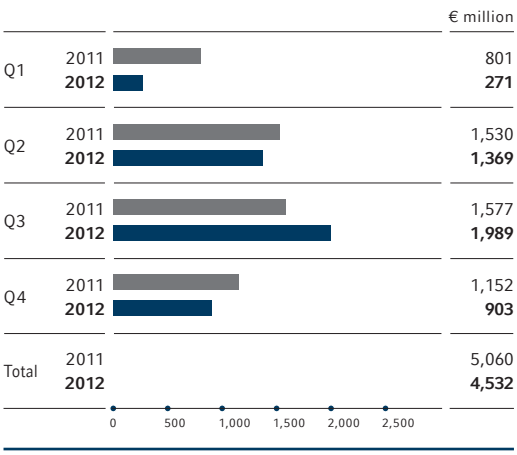


The **financial result** was minus €712 million (2011: minus €786 million), including net interest expense of €252 million (2011: €335 million), and **income before income taxes** thus amounted to €3,248 million (2011: €3,363 million). After tax expense of €752 million (2011: €891 million) and noncontrolling interest, **net income** for 2012 came in at €2,446 million (2011: €2,470 million). Earnings per share were €2.96 (2011: €2.99). Core earnings per share advanced by 10.8% to €5.35 (2011: €4.83), calculated as explained in Chapter 7.3 "Core Earnings Per Share."

Gross Cash Flow by Quarter [Graphic 3.6]



Net Cash Flow by Quarter [Graphic 3.7]



Gross cash flow receded by 11.1% in 2012 to €4,599 million (2011: €5,172 million). Net cash flow fell by 10.4% to €4,532 million (2011: €5,060 million). The increase in cash flows resulting from the improved operating performance was more than offset by a business-related increase in cash tied up in working capital and higher income tax payments. Net financial debt was level with December 31, 2011, at €7.0 billion, including a €1.0 billion contribution to the pension fund in the fourth quarter of 2012. The net amount recognized for post-employment benefits after deducting plan assets from the defined benefit obligation rose by €1.5 billion to €9.3 billion, mainly because of lower long-term interest rates on the capital market.

FOURTH QUARTER OF 2012

Group **sales** in the fourth quarter of 2012 rose by 5.5% (Fx & portfolio adj.) to €9,862 million (reported: +7.3%). Sales of HealthCare advanced by 5.1% (Fx & portfolio adj.) to €4,923 million (reported: +7.1%). Those of the Pharmaceuticals segment increased by 4.8% (Fx & portfolio adj.) to €2,867 million (reported: +7.0%), mainly due to encouraging sales growth in North America and the emerging economies, especially China. Business in the Consumer Health segment moved ahead by 5.4% (Fx & portfolio adj.) to €2,056 million (reported: +7.4%), driven by higher sales of the Consumer Care Division in all regions. CropScience sales increased by 9.1% (Fx & portfolio adj.) in the fourth quarter to €1,856 million (reported: +10.7%) as a result of higher volumes. Sales of MaterialScience rose by 4.8% (Fx & portfolio adj.) against the prior-year quarter, to €2,761 million (reported: +6.4%), thanks to volume and price increases.

EBIT of the Bayer Group climbed by 16.9% in the fourth quarter of 2012 to €735 million (Q4 2011: €629 million). Earnings were diminished by special items of minus €424 million (Q4 2011: minus €215 million), mainly comprising €543 million in accounting measures based on legal claims, €114 million in restructuring expenses, €158 million in divestiture gains and €59 million in gains from adjustments of benefit entitlements. EBIT before special items climbed by 37.3% to €1,159 million (Q4 2011: €844 million).

EBITDA before special items of the Bayer Group increased in the fourth quarter of 2012 by 18.4% to €1,825 million (Q4 2011: €1,541 million). HealthCare raised EBITDA before special items by 13.7% to €1,342 million (Q4 2011: €1,180 million). EBITDA before special items of CropScience came in at €289 million (Q4 2011: €273 million), up 5.9%. EBITDA before special items at MaterialScience climbed by 140.6% compared with a weak prior-year quarter to €255 million (Q4 2011: €106 million).

After a financial result of minus €161 million (Q4 2011: minus €178 million), income before income taxes was €574 million (Q4 2011: €451 million). After taxes and non-controlling interest, net income came in at €374 million (Q4 2011: €397 million). Earnings per share were €0.45 (Q4 2011: €0.48). Core earnings per share rose to €1.00 (Q4 2011: €0.97), calculated as explained in Chapter 7.3 "Core Earnings Per Share."

Gross cash flow of the Bayer Group came in 24.8% below the prior-year quarter at €755 million (Q4 2011: €1,004 million). Net cash flow fell by 21.6% to €903 million (Q4 2011: €1,152 million). This cash flow development was mainly the result of higher tax payments and less working capital release. Net financial debt rose by €0.2 billion in the fourth quarter of 2012 to €7.0 billion (September 30, 2012: €6.8 billion), including a €1.0 billion contribution to the pension fund.

Key Data by Subgroup and Segment [Table 3.5]

	Sales		EBIT		EBITDA before special items*	
	4th Quarter 2011	4th Quarter 2012	4th Quarter 2011	4th Quarter 2012	4th Quarter 2011	4th Quarter 2012
	€ million	€ million	€ million	€ million	€ million	€ million
HealthCare	**4,595**	**4,923**	**770**	**541**	**1,180**	**1,342**
Pharmaceuticals	2,680	2,867	471	157	758	827
Consumer Health	1,915	2,056	299	384	422	515
CropScience	**1,676**	**1,856**	**47**	**241**	**273**	**289**
MaterialScience	**2,596**	**2,761**	**(4)**	**92**	**106**	**255**
Reconciliation	**324**	**322**	**(184)**	**(139)**	**(18)**	**(61)**
Group	**9,191**	**9,862**	**629**	**735**	**1,541**	**1,825**

* For definition see Chapter 7.2 "Calculation of EBIT(DA) Before Special Items."

6. Business Development by Subgroup, Segment and Region

6.1 HealthCare

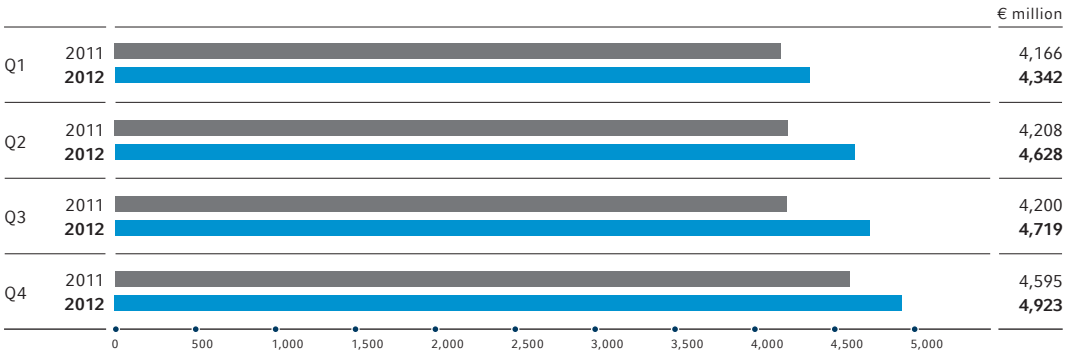
Key Data – HealthCare [Table 3.6]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**4,595**	**4,923**	**+7.1**	**+5.1**	**17,169**	**18,612**	**+8.4**	**+4.2**
Change in sales								
Volume	+1.6%	+5.3%			+2.2%	+3.7%		
Price	+0.9%	−0.2%			+0.2%	+0.5%		
Currency	+0.1%	+2.4%			−1.2%	+4.5%		
Portfolio	+0.2%	−0.4%			+0.3%	−0.3%		
Sales by segment								
Pharmaceuticals	2,680	2,867	+7.0	+4.8	9,949	10,803	+8.6	+4.2
Consumer Health	1,915	2,056	+7.4	+5.4	7,220	7,809	+8.2	+4.2
Sales by region								
Europe	1,651	1,732	+4.9	+3.6	6,376	6,484	+1.7	+0.9
North America	1,161	1,281	+10.3	+6.1	4,360	4,961	+13.8	+5.5
Asia/Pacific	1,004	1,105	+10.1	+7.1	3,656	4,203	+15.0	+6.2
Latin America/Africa/Middle East	779	805	+3.3	+2.1	2,777	2,964	+6.7	+5.6
EBIT	**770**	**541**	**−29.7**		**3,191**	**2,154**	**−32.5**	
Special items	*(45)*	*(460)*			*(176)*	*(1,582)*		
EBIT before special items*	***815***	***1,001***	***+22.8***		***3,367***	***3,736***	***+11.0***	
EBITDA*	**1,110**	**878**	**−20.9**		**4,502**	**3,815**	**−15.3**	
Special items	*(70)*	*(464)*			*(200)*	*(1,253)*		
EBITDA before special items*	***1,180***	***1,342***	***+13.7***		***4,702***	***5,068***	***+7.8***	
EBITDA margin before special items*	25.7%	27.3%			27.4%	27.2%		
Gross cash flow**	**926**	**584**	**−36.9**		**3,254**	**2,614**	**−19.7**	
Net cash flow**	**1,126**	**1,061**	**−5.8**		**3,357**	**3,543**	**+5.5**	

Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales and Sales by segment; Fx adj.: Sales by region)
* For definition see Chapter 7.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 7.5 "Liquidity and Capital Expenditures of the Bayer Group."

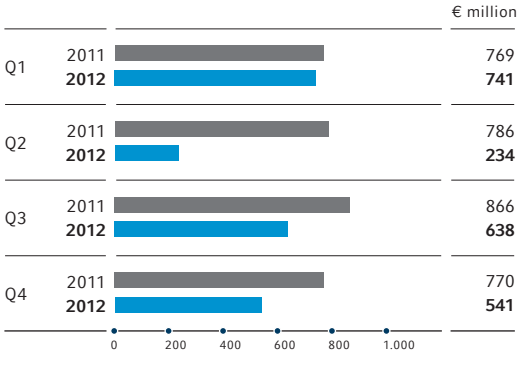
Sales of the **HealthCare** subgroup rose by 4.2% (Fx & portfolio adj.) in 2012 to €18,612 million (reported: +8.4%), with both the Pharmaceuticals and the Consumer Health segments contributing to this growth. Business developed especially well in the emerging markets and in North America.

HealthCare Quarterly Sales [Graphic 3.8]

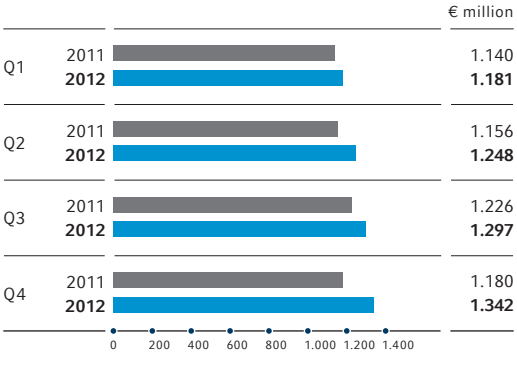


EBIT of the HealthCare subgroup fell in 2012 by 32.5% to €2,154 million. This drop in earnings was mainly due to special items of minus €1,582 million (2011: minus €176 million). EBIT before special items rose by 11.0% to €3,736 million. **EBITDA** before special items increased by 7.8% to €5,068 million. This was mainly attributable to the positive business development in both segments – especially as a result of volume-related sales growth – and to currency effects.

HealthCare Quarterly EBIT [Graphic 3.9]



HealthCare Quarterly EBITDA Before Special Items [Graphic 3.10]



PHARMACEUTICALS

Key Data – Pharmaceuticals [Table 3.7]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**2,680**	**2,867**	**+7.0**	**+4.8**	**9,949**	**10,803**	**+8.6**	**+4.2**
Sales by region								
Europe	946	989	+4.5	+3.2	3,658	3,678	+0.5	−0.2
North America	532	601	+13.0	+8.8	2,048	2,370	+15.7	+7.7
Asia/Pacific	705	775	+9.9	+7.5	2,527	2,943	+16.5	+7.5
Latin America/Africa/Middle East	497	502	+1.0	−0.2	1,716	1,812	+5.6	+4.5
EBIT	**471**	**157**	**−66.7**		**1,897**	**1,075**	**−43.3**	
Special items	*(27)*	*(437)*			*(145)*	*(1,223)*		
EBIT before special items*	***498***	***594***	***+19.3***		***2,042***	***2,298***	***+12.5***	
EBITDA*	**698**	**384**	**−45.0**		**2,795**	**1,993**	**−28.7**	
Special items	*(60)*	*(443)*			*(177)*	*(1,210)*		
EBITDA before special items*	***758***	***827***	***+9.1***		***2,972***	***3,203***	***+7.8***	
EBITDA margin before special items*	28.3%	28.8%			29.9%	29.6%		
Gross cash flow**	**580**	**224**	**−61.4**		**1,992**	**1,294**	**−35.0**	
Net cash flow**	**701**	**543**	**−22.5**		**2,077**	**2,260**	**+8.8**	

Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales; Fx adj.: Sales by region)
* For definition see Chapter 7.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 7.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **Pharmaceuticals** segment in 2012 came in at €10,803 million, up 4.2% (Fx & portfolio adj.) from the prior year. Growth was achieved mainly in North America and the emerging markets, particularly China. There was no overall sales gain in Europe due to the adverse economic conditions and a difficult health policy environment.

Best-Selling Pharmaceuticals Products [Table 3.8]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx adj. %	€ million	€ million	%	Fx adj. %
Betaferon™/Betaseron™	281	329	+17.1	+14.5	1,117	1,216	+8.9	+4.2
Kogenate™	273	298	+9.2	+6.3	1,075	1,182	+10.0	+5.2
YAZ™/Yasmin™/Yasminelle™	290	270	−6.9	−8.4	1,070	1,045	−2.3	−5.0
Nexavar™	205	212	+3.4	+1.3	725	792	+9.2	+4.2
Mirena™	157	135	−14.0	−17.1	581	677	+16.5	+9.4
Adalat™	171	169	−1.2	−4.5	640	670	+4.7	−2.3
Avalox™/Avelox™	131	123	−6.1	−9.3	486	486	0.0	−5.0
Aspirin™ Cardio	113	129	+14.2	+12.4	404	476	+17.8	+12.3
Glucobay™	96	99	+3.1	−1.3	362	408	+12.7	+3.6
Xarelto™	31	131	+322.6	+314.7	86	322	+274.4	+265.9
Levitra™	93	87	−6.5	−8.0	332	307	−7.5	−9.1
Cipro™/Ciprobay™	62	56	−9.7	−12.7	232	229	−1.3	−5.1
Zetia™	55	57	+3.6	+5.1	179	207	+15.6	+7.5
Diane™	49	49	0.0	−1.7	182	194	+6.6	+4.9
Fosrenol	43	50	+16.3	+16.5	147	187	+27.2	+18.0
Total	**2,050**	**2,194**	**+7.0**	**+4.6**	**7,618**	**8,398**	**+10.2**	**+5.2**
Proportion of Pharmaceuticals sales	76%	77%			77%	78%		

Fx adj. = currency-adjusted

Our anticoagulant Xarelto™ contributed significantly to sales growth in the Pharmaceuticals segment. Sales advanced strongly in all regions – particularly in Germany, the United States and Japan – following further product launches and indication expansions. Business with our hormone-releasing intrauterine device Mirena™ developed positively in all regions, especially in the United States due to higher volumes. Sales of the blood-clotting product Kogenate™ advanced due to higher volumes that mainly resulted from tender business in Australia. The growth in sales of our multiple sclerosis drug Betaferon™/Betaseron™ was mainly attributable to price increases in the United States, while sales in other countries declined. Sales of the cancer drug Nexavar™ moved ahead, particularly in the United States and China and helped by tender business in Latin America.

Sales of Aspirin™ Cardio to prevent heart attacks and of our oral diabetes treatment Glucobay™ rose considerably, largely thanks to the steady expansion of our marketing activities in China. Sales of Adalat™ to treat high blood pressure and coronary heart disease also rose strongly in China. However, Adalat™ sales posted a slight overall decline on a currency-adjusted basis, mainly as a result of mandatory price reductions in Japan.

Sales of our erectile dysfunction treatment Levitra™ and the antibiotic Avalox™/Avelox™ were down, particularly in the United States, for reasons that included the partial restructuring of distribution for general medicine products. The decline for Avalox™/Avelox™ was partly offset by higher sales to a major customer in Western Europe and business growth in China. Sales of the YAZ™/Yasmin™/Yasminelle™ line of oral contraceptives receded, primarily as a result of generic competition in Western Europe, although business developed positively in the Asia/Pacific region.

Our Pharmaceuticals business was strengthened by initial sales of our cancer drug Stivarga™ (active ingredient: regorafenib) in the United States – 2012 sales: €32 million – and of Eylea™ (active ingredient: aflibercept) to treat wet age-related macular degeneration – 2012 sales: €14 million.

In the Pharmaceuticals segment, **EBIT** fell by 43.3% in 2012, to €1,075 million, reflecting special items of minus €1,223 million (2011: minus €145 million). These included €1,160 million in charges related to legal claims concerning the oral contraceptives Yasmin™/YAZ™. EBIT before special items advanced by 12.5% to €2,298 million. **EBITDA** before special items increased by 7.8% to €3,203 million. Major contributors to this growth in earnings were the volume-driven sales increase and positive currency effects. However, earnings were diminished by higher expenditures for marketing new products, and for developing the business in the emerging markets, especially China.

CONSUMER HEALTH

Key Data – Consumer Health [Table 3.9]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**1,915**	**2,056**	**+7.4**	**+5.4**	**7,220**	**7,809**	**+8.2**	**+4.2**
Consumer Care	946	1,056	+11.6	+9.5	3,534	3,853	+9.0	+5.6
Medical Care	687	716	+4.2	+3.2	2,500	2,653	+6.1	+2.2
Animal Health	282	284	+0.7	−2.5	1,186	1,303	+9.9	+4.2
Sales by region								
Europe	705	743	+5.4	+4.1	2,718	2,806	+3.2	+2.3
North America	629	680	+8.1	+3.8	2,312	2,591	+12.1	+3.6
Asia/Pacific	299	330	+10.4	+6.0	1,129	1,260	+11.6	+3.1
Latin America/Africa/Middle East	282	303	+7.4	+6.0	1,061	1,152	+8.6	+7.4
EBIT	**299**	**384**	**+28.4**		**1,294**	**1,079**	**−16.6**	
Special items	*(18)*	*(23)*			*(31)*	*(359)*		
EBIT before special items*	***317***	***407***	***+28.4***		***1,325***	***1,438***	***+8.5***	
EBITDA*	**412**	**494**	**+19.9**		**1,707**	**1,822**	**+6.7**	
Special items	*(10)*	*(21)*			*(23)*	*(43)*		
EBITDA before special items*	***422***	***515***	***+22.0***		***1,730***	***1,865***	***+7.8***	
EBITDA margin before special items*	22.0%	25.0%			24.0%	23.9%		
Gross cash flow**	**346**	**360**	**+4.0**		**1,262**	**1,320**	**+4.6**	
Net cash flow**	**425**	**518**	**+21.9**		**1,280**	**1,283**	**+0.2**	

Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales; Fx adj.: Sales by region)
* For definition see Chapter 7.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 7.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **Consumer Health** segment in 2012 advanced by 4.2% (Fx & portfolio adj.) to €7,809 million, with all regions and divisions contributing to sales growth. The Consumer Care business showed a particularly positive development in the emerging markets.

Best-Selling Consumer Health Products [Table 3.10]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx adj. %	€ million	€ million	%	Fx adj. %
Contour™ (Medical Care)	170	193	+13.5	+10.7	640	722	+12.8	+8.5
Advantage™ product line (Animal Health)	84	92	+9.5	+5.8	420	495	+17.9	+10.6
Aspirin™ (Consumer Care)	123	138	+12.2	+9.9	471	494	+4.9	+1.3
Ultravist™ (Medical Care)	83	84	+1.2	−2.1	316	324	+2.5	−1.5
Aleve™/naproxen (Consumer Care)	76	87	+14.5	+10.6	285	323	+13.3	+5.4
Bepanthen™/Bepanthol™ (Consumer Care)	60	67	+11.7	+11.2	235	269	+14.5	+13.9
Canesten™ (Consumer Care)	56	65	+16.1	+11.8	224	250	+11.6	+7.8
Gadovist™/Gadavist™ (Medical Care)	44	60	+36.4	+33.0	160	209	+30.6	+27.2
One A Day™ (Consumer Care)	47	53	+12.8	+7.3	174	196	+12.6	+4.0
Iopamiron™ (Medical Care)	52	46	−11.5	−8.1	185	174	−5.9	−12.3
Total	**795**	**885**	**+11.3**	**+8.6**	**3,110**	**3,456**	**+11.1**	**+6.2**
Proportion of Consumer Health sales	42%	43%			43%	44%		

2011 figures restated
Fx adj.= currency-adjusted
Sales of Aspirin™ (including Aspirin™ Complex) – including Aspirin™ Cardio, which is reflected in sales of the Pharmaceuticals segment – increased by 10.9% (Fx adj. +6.4%) in 2012 to €970 million (2011: €875 million). Total sales of this product in the fourth quarter of 2012 rose by 13.1% to €267 million (Q4 2011: €236 million), and by 11.0% on a currency-adjusted basis.

Our **Consumer Care** Division achieved above-market sales growth of 5.6% (Fx & portfolio adj.) to €3,853 million. The encouraging sales gains were mainly attributable to intensified marketing activities, which boosted sales of products such as our Bepanthen™/Bepanthol™ skincare line, especially in Russia and Brazil, and the antifungal Canesten™, particularly in Germany. The growth in sales of our analgesic Aleve™/naproxen resulted mainly from higher volumes in the United States. Sales of our pain-reliever Aspirin™ showed a small increase, largely as a result of new launches in the United States.

Sales of the **Medical Care** Division rose by 2.2% (Fx & portfolio adj.) to €2,653 million. The positive development of our Diabetes Care business – despite price and reimbursement pressure – contributed substantially to this increase. Sales growth was primarily attributable to the Contour™ line of blood glucose meters, which posted gains in all regions, mainly due to the launch of Contour™ Next. Sales of our contrast agent and medical equipment business matched the prior year. In the area of contrast agents for magnetic resonance imaging (MRI), we raised sales of Gadovist™/Gadavist™, particularly in the United States. This increase was partly due to the switch from Magnevist™, sales of which steadily receded.

The **Animal Health** Division lifted sales by 4.2% (Fx & portfolio adj.) to €1,303 million. Business with our Advantage™ line of flea, tick and worm control products developed particularly well in the United States and Europe.

EBIT of the **Consumer Health** segment fell by 16.6% to €1,079 million, due especially to special items of minus €359 million (2011: minus €31 million) that resulted chiefly from impairment losses on intangible assets, including the Medrad company name and brand. EBIT before special items amounted to €1,438 million (+8.5%). **EBITDA** before special items grew by 7.8% to €1,865 million, primarily as a result of the volume-related increase in sales and positive currency effects. However, earnings were held back by higher marketing expenses.

6.2 CropScience

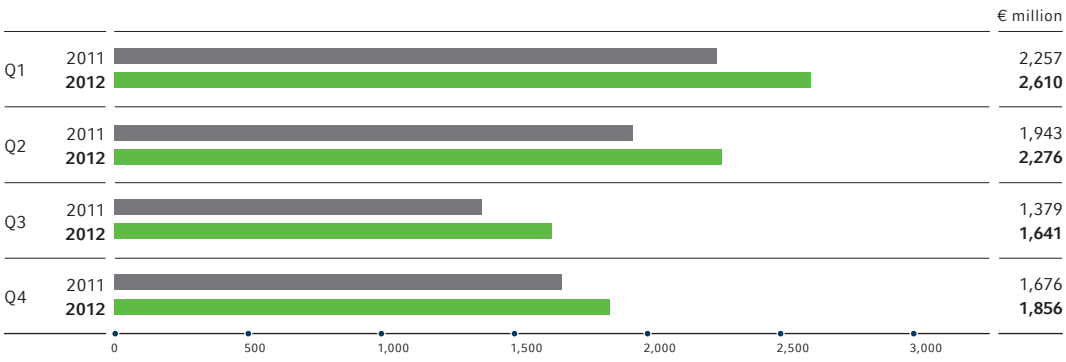
Key Data – CropScience [Table 3.11]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**1,676**	**1,856**	**+10.7**	**+9.1**	7,255	**8,383**	**+15.5**	**+12.4**
Change in sales								
Volume	+3.3%	+9.0%			+9.7%	+11.6%		
Price	−0.5%	+0.1%			−0.8%	+0.8%		
Currency	−0.4%	+1.9%			−2.3%	+3.8%		
Portfolio	−1.0%	−0.3%			−0.4%	−0.7%		
Sales by business group								
Crop Protection/Seeds	1,528	1,682	+10.1	+8.4	6,629	7,703	+16.2	+13.1
Environmental Science	148	174	+17.6	+16.2	626	680	+8.6	+5.3
Sales by region								
Europe	380	393	+3.4	+2.9	2,505	2,706	+8.0	+7.5
North America	286	287	+0.3	−2.8	1,703	2,154	+26.5	+18.7
Asia/Pacific	337	363	+7.7	+5.6	1,244	1,386	+11.4	+7.6
Latin America/Africa/Middle East	673	813	+20.8	+18.6	1,803	2,137	+18.5	+13.6
EBIT	**47**	**241**	**.**		**562**	**1,539**	**.**	
Special items	*(98)*	*79*			*(606)*	*13*		
EBIT before special items*	***145***	***162***	***+11.7***		***1,168***	***1,526***	***+30.7***	
EBITDA*	**251**	**368**	**+46.6**		**1,215**	**2,033**	**+67.3**	
Special items	*(22)*	*79*			*(439)*	*25*		
EBITDA before special items*	***273***	***289***	***+5.9***		***1,654***	***2,008***	***+21.4***	
EBITDA margin before special items*	16.3%	15.6%			22.8%	24.0%		
Gross cash flow**	**180**	**131**	**−27.2**		**900**	**1,320**	**+46.7**	
Net cash flow**	**(327)**	**105**	**.**		**691**	**899**	**+30.1**	

Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales and Sales by business group; Fx adj.: Sales by region)
* For definition see Chapter 7.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 7.5 "Liquidity and Capital Expenditures of the Bayer Group."

CropScience increased **sales** in 2012 by a substantial 12.4% (Fx & portfolio adj.) to €8,383 million (reported: +15.5%) in an attractive market environment. This growth was due largely to good business with new products in Crop Protection and rapidly expanding sales of Seeds. Environmental Science also developed favorably. The realignment of our marketing and distribution activities and streamlining of the product range contributed to the gratifying performance.

CropScience Quarterly Sales [Graphic 3.11]



Sales at **Crop Protection/Seeds** climbed by 13.1% (Fx & portfolio adj.) in 2012, to €7,703 million. Crop Protection posted double-digit growth rates in all business units. We especially benefited from the expansion of the seed treatment products business (SeedGrowth) and a sharp rise in sales of new products such as the insecticide Belt™ and the fungicide Fox™. Sales of our herbicides also showed a pleasing improvement. Seeds registered positive development, also with double-digit growth in sales.

Sales – Crop Protection/Seeds [Table 3.12]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx & p adj. %	€ million	€ million	%	Fx & p adj. %
Sales								
Herbicides	443	451	+1.8	+0.5	2,079	2,356	+13.3	+10.1
Fungicides	397	445	+12.1	+10.3	1,709	1,974	+15.5	+13.2
Insecticides	351	424	+20.8	+20.3	1,290	1,514	+17.4	+14.8
SeedGrowth	180	220	+22.2	+18.3	731	897	+22.7	+17.2
Crop Protection	1,371	1,540	+12.3	+10.6	5,809	6,741	+16.0	+12.9
Seeds	157	142	−9.6	−10.8	820	962	+17.3	+14.1
Crop Protection/Seeds	**1,528**	**1,682**	**+10.1**	**+8.4**	**6,629**	**7,703**	**+16.2**	**+13.1**

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

At **Crop Protection**, all regions contributed to the sales increase.

Sales in **Europe** rose by 8.4% (Fx adj.) to €2,350 million. Here we were particularly successful with new products, which accounted for a considerably greater proportion of sales than in the prior year. Thanks to favorable market conditions, we significantly raised sales of seed treatment products, especially in cereals. Business development was also supported by strong sales of insecticides and fungicides. We saw good gains for herbicides, mainly in light of increased demand for products for fall application in cereals.

Sales in **North America** rose by 19.2% (Fx adj.) to €1,327 million. This increase was mainly the result of successful market penetration by our new products, a generally favorable market environment for broad-acre crops and relatively high prices for agricultural commodities. We achieved particularly high growth rates in the United States for herbicides and fungicides used in corn and cereals. The expansion

of business with insecticides was largely due to demand for our new products. Sales of seed treatment products were driven by the successful expansion of our business with Poncho™ and Votivo™, especially in corn. In Canada, sales also developed positively, chiefly as a result of higher demand for our insecticides and fungicides.

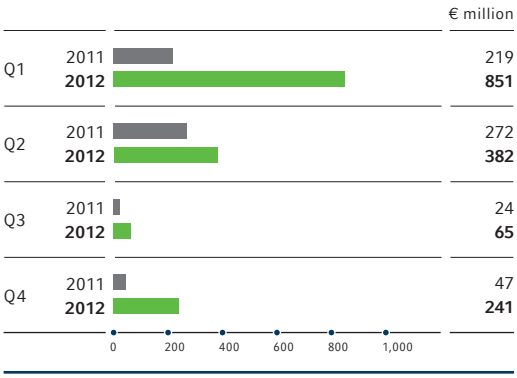
Sales in the **Asia/Pacific** region advanced by 8.6% (Fx adj.) to €1,164 million, mainly driven by our seed treatment products and herbicides. Our fungicides and insecticides businesses also saw considerable growth in sales. Business in our most important markets, India and Japan, trended positively. We attained the highest percentage sales growth in Australia, largely thanks to the increase in demand for our newly launched herbicide Sakura™. In China, we achieved significant growth for both fungicides and seed treatment products.

Sales in the **Latin America/Africa/Middle East** region advanced by 13.8% (Fx adj.) to €1,899 million, with a positive market environment leading to double-digit growth in all business units. In Latin America, we continued to experience good growth for our insecticides in Brazil and Argentina and scored a further improvement for seed treatment products (SeedGrowth). Sales of fungicides rose by a double-digit percentage despite adverse weather conditions at the start of the year. The expansion in our herbicides business was mainly due to gratifying sales gains for products used in corn and cotton in Brazil. Sales in Africa, too, saw double-digit growth, while business in the Middle East was level with the prior year.

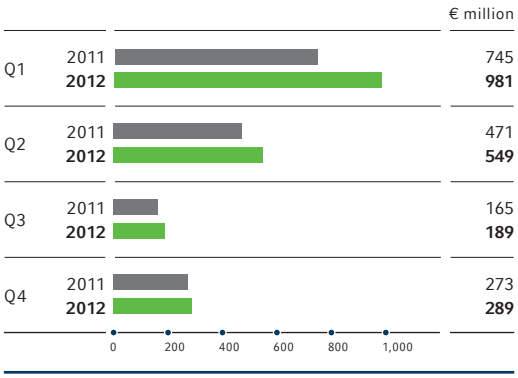
Sales of the **Seeds** business unit climbed by 14.1% (Fx & portfolio adj.) to €962 million. All regions contributed to this performance, particularly North America. Sales in our core crops of oilseed rape/canola, rice and cotton also grew by double-digit percentages. Business with our Nunhems™ vegetable seeds, however, was slightly below the previous year, partly because of adverse price development for vegetables.

Sales of the **Environmental Science** business unit increased by 5.3% (Fx & portfolio adj.) to €680 million, with products both for professional users and consumers posting gains. The Latin America/Africa/Middle East and North America regions developed positively, while Europe and Asia/Pacific came in at the prior-year level.

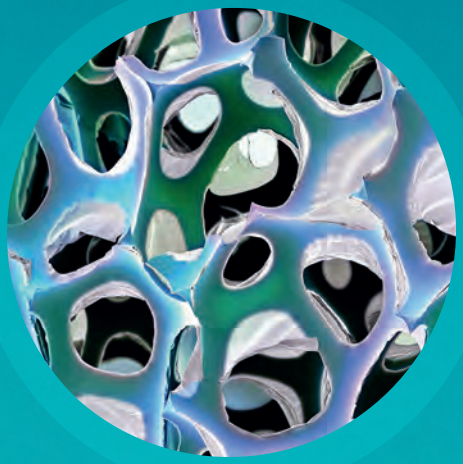
CropScience
Quarterly EBIT [Graphic 3.12]



CropScience
Quarterly EBITDA Before Special Items [Graphic 3.13]



EBIT of **CropScience** rose significantly in 2012 from €562 million to €1,539 million, including net special items of €13 million (2011: minus €606 million). The net special gain in 2012 contained the income from the sale of a site in India, this being largely offset by provisions established in connection with litigations concerning genetically modified rice (LL RICE) in the United States and restructuring charges at Crop Protection. EBIT before special items climbed by 30.7% to €1,526 million. **EBITDA** before special items improved by 21.4% to €2,008 million. Earnings growth was mainly the result of substantially higher volumes and positive currency effects. Manufacturing costs grew more slowly than sales. In addition, we incurred one-time gains of €52 million (2011: €38 million), mainly in connection with the outlicensing or divestment of active ingredients in Crop Protection.



6.3 MaterialScience

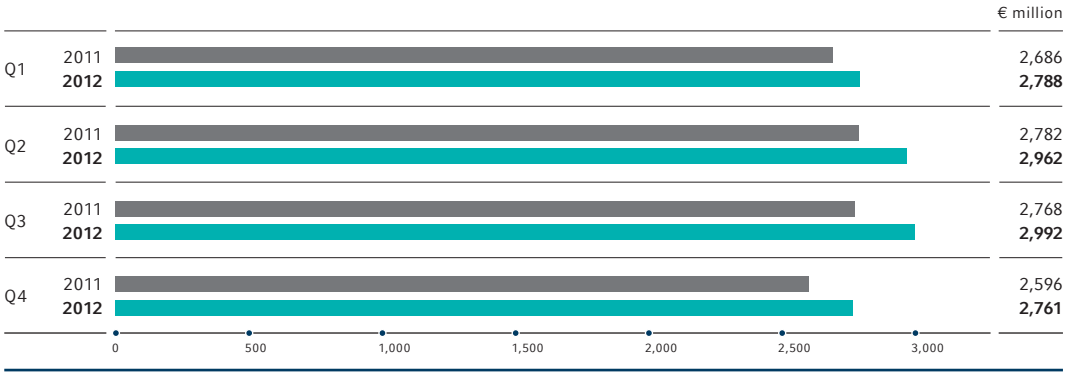
Key Data – MaterialScience [Table 3.13]

	4th Quarter 2011	4th Quarter 2012	Change		Full Year 2011	Full Year 2012	Change	
	€ million	€ million	%	Fx (& p) adj. %	€ million	€ million	%	Fx (& p) adj. %
Sales	**2,596**	**2,761**	**+6.4**	**+4.8**	10,832	**11,503**	**+6.2**	**+3.0**
Change in sales								
Volume	−3.6%	+2.6%			+1.0%	+2.4%		
Price	+3.6%	+2.2%			+7.2%	+0.6%		
Currency	+0.4%	+2.2%			−1.7%	+3.9%		
Portfolio	+0.1%	−0.6%			+0.2%	−0.7%		
Sales by business unit								
Polyurethanes	1,322	1,473	+11.4	+9.1	5,357	5,995	+11.9	+7.9
Polycarbonates	667	669	+0.3	−2.7	2,893	2,823	−2.4	−7.1
Coatings, Adhesives, Specialties	439	451	+2.7	+5.5	1,923	1,972	+2.5	+3.5
Industrial Operations	168	168	0.0	−0.6	659	713	+8.2	+6.1
Sales by region								
Europe	1,004	1,027	+2.3	+2.2	4,413	4,411	0.0	−0.1
North America	519	579	+11.6	+7.1	2,109	2,441	+15.7	+6.9
Asia/Pacific	727	771	+6.1	+1.7	2,894	3,149	+8.8	+0.4
Latin America/Africa/Middle East	346	384	+11.0	+10.7	1,416	1,502	+6.1	+6.6
EBIT	**(4)**	**92**	**.**		**633**	**597**	**−5.7**	
Special items	*44*	*(1)*			*44*	*(32)*		
EBIT before special items*	***(48)***	***93***	**.**		***589***	***629***	***+6.8***	
EBITDA*	**150**	**256**	**+70.7**		**1,215**	**1,224**	**+0.7**	
Special items	*44*	*1*			*44*	*(27)*		
EBITDA before special items*	***106***	***255***	**.**		***1,171***	***1,251***	***+6.8***	
EBITDA margin before special items*	4.1%	9.2%			10.8%	10.9%		
Gross cash flow**	**121**	**217**	**+79.3**		**939**	**947**	**+0.9**	
Net cash flow**	**510**	**244**	**−52.2**		**775**	**739**	**−4.6**	

2011 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 7.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 7.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **MaterialScience** subgroup rose in 2012 by 3.0% (Fx & portfolio adj.) to €11,503 million (reported: +6.2%). This growth was mainly the result of an overall increase in volumes, which were flat with the previous year in Europe but posted good gains in the other regions. In addition, we were able to slightly raise prices in all regions except Asia/Pacific.

MaterialScience Quarterly Sales [Graphic 3.14]



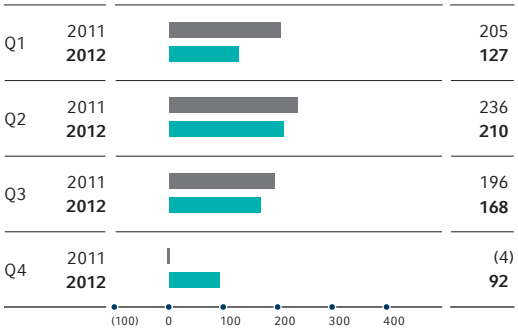
The **Polyurethanes** business unit raised sales by 7.9% (Fx & portfolio adj.) to €5,995 million. Contributing to this increase were higher volumes and prices in all product groups and regions. We achieved significant volume and price increases, particularly for diphenylmethane diisocyanate (MDI) and toluene diisocyanate (TDI).

The **Polycarbonates** business unit posted sales of €2,823 million, down 7.1% (Fx & portfolio adj.) year on year. The decline was attributable to a drop in selling prices worldwide that was mainly due to new production capacities. However, volumes as a whole were level year on year.

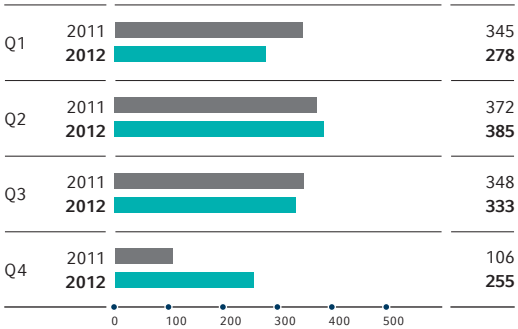
Sales in the **Coatings, Adhesives, Specialties** business unit moved forward by 3.5% (Fx & portfolio adj.) to €1,972 million as a result of the higher overall volumes and prices we achieved in nearly all regions.

Industrial Operations reported sales of €713 million (Fx & portfolio adj. + 6.1%) thanks to higher selling prices in North America and Europe. Volumes, however, were somewhat lower than in the prior year, mainly because of declines in Asia/Pacific and North America.

MaterialScience
Quarterly EBIT [Graphic 3.15]



MaterialScience
Quarterly EBITDA Before Special Items [Graphic 3.16]



EBIT of **MaterialScience** receded by 5.7% in 2012 to €597 million after net special charges of €32 million (2011: special gain of €44 million). Restructuring charges of €50 million were partly offset by gains from adjustments of benefit entitlements. EBIT before special items rose by 6.8% to €629 million. **EBITDA** before special items advanced by 6.8% to €1,251 million. This increase was mainly the result of higher volumes, savings from our efficiency improvement programs and positive currency effects. By contrast, earnings were diminished by higher raw material and energy costs.

6.4 Business Development by Region

Sales by Region and Segment (by Market)

	Europe				North America			
	Full Year 2011	Full Year 2012			Full Year 2011	Full Year 2012		
	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy
HealthCare	**6,376**	**6,484**	**+1.7**	**+0.9**	**4,360**	**4,961**	**+13.8**	**+5.5**
Pharmaceuticals	3,658	3,678	+0.5	– 0.2	2,048	2,370	+15.7	+7.7
Consumer Health	2,718	2,806	+3.2	+2.3	2,312	2,591	+12.1	+3.6
CropScience	**2,505**	**2,706**	**+8.0**	**+7.5**	**1,703**	**2,154**	**+26.5**	**+18.7**
MaterialScience	**4,413**	**4,411**	**0.0**	**– 0.1**	**2,109**	**2,441**	**+15.7**	**+6.9**
Group (incl. reconciliation)	**14,441**	**14,730**	**+2.0**	**+1.5**	**8,177**	**9,576**	**+17.1**	**+8.8**

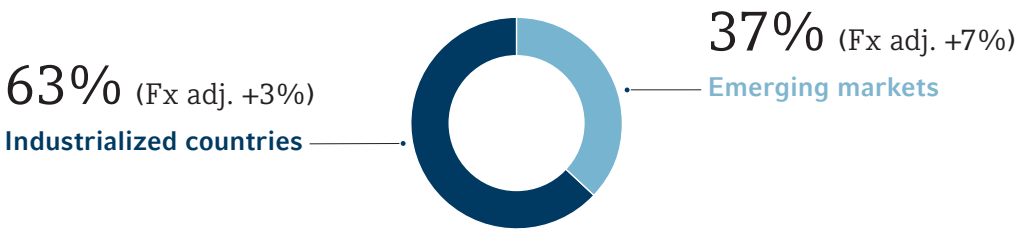
yoy = year on year; Fx. adj. = currency-adjusted

6.5 Business Development in the Emerging Markets

The emerging markets again made a disproportionately large contribution to sales growth in 2012. This applied particularly to HealthCare. For reporting purposes we have defined these markets as Asia (excluding Japan), Latin America, Eastern Europe, Africa and the Middle East.

Sales in these markets rose by 7.4% (Fx adj.) in 2012 to €14,796 million (2011: €13,290 million), with gratifying gains in Latin America, Asia and Eastern Europe. The emerging markets accounted for 37.2% of sales (2011: 36.4%).

Sales Development in 2012 [Graphic 3.17]



Currency-adjusted changes in parentheses

HEALTHCARE

HealthCare raised sales in the emerging markets by 8.2% (Fx adj.) in 2012 to €6,176 million (2011: €5,510 million), with China posting the largest gain in absolute terms. In line with our growth strategy, we stepped up our marketing activities and expanded our distribution network in China, raising sales there by 23.2% (Fx adj.). Business in Latin America and Eastern Europe – especially Russia – also developed well. The emerging markets accounted for 33.2% (2011: 32.1%) of total HealthCare sales.

[Table 3.14]

	Asia/Pacific				Latin America/Africa/Middle East				Total			
	Full Year 2011	Full Year 2012			Full Year 2011	Full Year 2012			Full Year 2011	Full Year 2012		
	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy
3,656	**4,203**	**+15.0**	**+6.2**	**2,777**	**2,964**	**+6.7**	**+5.6**	**17,169**	**18,612**	**+8.4**	**+3.9**
2,527	2,943	+16.5	+7.5	1,716	1,812	+5.6	+4.5	9,949	10,803	+8.6	+4.2
1,129	1,260	+11.6	+3.1	1,061	1,152	+8.6	+7.4	7,220	7,809	+8.2	+3.6
1,244	**1,386**	**+11.4**	**+7.6**	**1,803**	**2,137**	**+18.5**	**+13.6**	**7,255**	**8,383**	**+15.5**	**+11.7**
2,894	**3,149**	**+8.8**	**+0.4**	**1,416**	**1,502**	**+6.1**	**+6.6**	**10,832**	**11,503**	**+6.2**	**+2.3**
7,842	**8,766**	**+11.8**	**+3.9**	**6,068**	**6,688**	**+10.2**	**+8.3**	**36,528**	**39,760**	**+8.8**	**+4.8**

CROPSCIENCE

CropScience improved sales in the emerging markets by 12.2% (Fx adj.) in 2012 to €3,570 million (2011: €3,095 million), recording particularly strong increases in Eastern Europe and Latin America. We were especially successful in Brazil and Argentina, with growth of about 20% in both countries. The strongest sales growth in Asia was achieved in China. The emerging markets accounted for 42.6% (2011: 42.7%) of total CropScience sales.

MATERIALSCIENCE

At MaterialScience, sales in the emerging markets advanced by 3.4% (Fx adj.) in 2012 to €4,937 million (2011: €4,574 million). Here we attained our strongest growth in Latin America, especially Mexico and Brazil, and also raised sales in Eastern Europe. Business in Asia was at the previous year's level, driven by growth in China and India. The emerging markets' share of total MaterialScience sales rose to 42.9% (2011: 42.2%), mainly due to portfolio effects.

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

7.1 Earnings Performance of the Bayer Group

Bayer Group Summary Income Statements [Table 3.15]

	2011	2012	Change
	€ million	€ million	%
Net sales	36,528	39,760	+8.8
Cost of goods sold	17,975	19,059	+6.0
Selling expenses	8,958	9,987	+11.5
Research and development expenses	2,932	3,013	+2.8
General administration expenses	1,713	1,866	+8.9
Other operating income / expenses	(801)	(1,875)	.
EBIT*	**4,149**	**3,960**	**–4.6**
Financial result	**(786)**	**(712)**	**+9.4**
Income before income taxes	**3,363**	**3,248**	**–3.4**
Income taxes	(891)	(752)	+15.6
Income after taxes	**2,472**	**2,496**	**+1.0**
of which attributable to non-controlling interest	2	50	.
of which attributable to Bayer AG stockholders (net income)	**2,470**	**2,446**	**–1.0**

* EBIT = earnings before financial result and taxes

Sales of the Bayer Group advanced by 8.8% year on year to €39,760 million, mainly due to growth in business at HealthCare and CropScience. Adjusted for currency and portfolio effects, the increase came to 5.3%.

The cost of goods sold rose by 6.0% to €19,059 million, largely because of the increase in volumes and higher raw material costs at MaterialScience. The ratio of the cost of goods sold to total sales was 47.9% (2011: 49.2%). Selling expenses increased by 11.5% to €9,987 million, amounting to 25.1% of sales (2011: 24.5%). This increase was primarily due to higher selling expenses at HealthCare, mainly for the marketing of new products. Research and development expenses, at €3,013 million, were 2.8% above the prior year. The ratio of R&D expenses to sales was 7.6% (2011: 8.0%). General administration expenses, at €1,866 million, exceeded the prior-year level by 8.9%. The ratio of general administration expenses to total sales thus remained flat with the previous year at 4.7%. The considerably greater negative balance of other operating income and expenses, at €1,875 million (2011: €801 million), resulted mainly from higher special charges related to legal claims (see also Chapter 7.2 "Calculation of EBIT(DA) Before Special Items").

SEE CHAPTER 7.2

EBIT declined by 4.6% in 2012 to €3,960 million.

The financial result improved by 9.4% to minus €712 million. It included interest cost of €320 million (2011: €336 million) for pension and other provisions, lower net interest expense of €252 million (2011: €335 million), a net exchange loss of €69 million (2011: €53 million) and a net loss of €52 million (2011: €45 million) from investments in affiliated companies. The improvement in the net interest position was mainly due to the reduction in financial debt. The decrease in interest expense for pension and other provisions 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 2012 amounted to €752 million. Income after taxes came in at €2,496 million. The positive balance of income and losses attributable to non-controlling interest, at €50 million, was €48 million higher than in the prior year, mainly on account of minority stockholders' interest in divestiture gains. Bayer Group net income for 2012 was €2,446 million.

7.2 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 therefore should only be regarded as supplementary information. The company considers EBITDA before special items to be a more suitable indicator of operating performance since it is not affected by depreciation, amortization, impairments or special items. By reporting this indicator, the company aims to give readers a clearer picture of the results of operations and ensure greater 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 increased by 6.9% in 2012 to €2,960 million (2011: €2,769 million), comprising €1,637 million (2011: €1,425 million) in amortization and impairments of intangible assets and €1,323 million (2011: €1,344 million) in depreciation and impairments of property, plant and equipment. The impairments are reflected net of impairment loss reversals of €21 million (2011: €37 million). A total of €347 million (2011: €181 million) in depreciation, amortization and impairments constituted special items. This amount comprised €315 million (2011: €216 million) in impairment losses and €48 million (2011: €0 million) in depreciation and amortization, less €16 million (2011: €35 million) in impairment loss reversals.

Special Items Reconciliation [Table 3.16]

	EBIT* Full Year 2011	EBIT* Full Year 2012	EBITDA** Full Year 2011	EBITDA** Full Year 2012
	€ million	€ million	€ million	€ million
Before special items	**5,025**	**5,671**	**7,613**	**8,284**
HealthCare	**(176)**	**(1,582)**	**(200)**	**(1,253)**
Impairment losses	-	(305)	-	-
Restructuring	(230)	(182)	(219)	(142)
Litigations	-	(1,160)	-	(1,160)
Remeasurement of pension provisions	19	-	19	-
Adjustments to post-employment benefit entitlements (U.S.A.)	-	49	-	49
Impairment loss reversals	35	16	-	-
CropScience	**(606)**	**13**	**(439)**	**25**
Restructuring	(441)	(83)	(274)	(71)
Litigations	(229)	(83)	(229)	(83)
Remeasurement of pension provisions	14	-	14	-
Adjustments to post-employment benefit entitlements (U.S.A.)	-	21	-	21
Portfolio changes	50	158	50	158
MaterialScience	**44**	**(32)**	**44**	**(27)**
Restructuring	-	(50)	-	(45)
Adjustments to post-employment benefit entitlements (U.S.A.)	-	18	-	18
Portfolio changes	44	-	44	-
Reconciliation	**(138)**	**(110)**	**(100)**	**(109)**
Impairment losses	(38)	-	-	-
Restructuring	(70)	(81)	(70)	(80)
Litigations	(31)	(55)	(31)	(55)
Remeasurement of pension provisions	2	-	2	-
Adjustments to post-employment benefit entitlements (U.S.A.)	-	26	-	26
Portfolio changes	(1)	-	(1)	-
Total special items	**(876)**	**(1,711)**	**(695)**	**(1,364)**
After special items	**4,149**	**3,960**	**6,918**	**6,920**

* 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

7.3 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 of intangible assets, impairments 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 2012 amounted to €5.35 (2011: €4.83).

Core Earnings Per Share [Table 3.17]

	2011	2012
	€ million	€ million
EBIT (as per income statements)	**4,149**	**3,960**
Amortization and impairment losses on intangible assets	1,425	1,637
Impairment losses on property, plant and equipment	134	41
Special items (other than depreciation, amortization and impairments)	695	1,364
Core EBIT	**6,403**	**7,002**
Financial result (as per income statements)	(786)	(712)
Special items in the financial result	-	(73)
Income taxes (as per income statements)	(891)	(752)
Tax effects related to amortization, impairments and special items	(727)	(1,024)
Income after taxes attributable to non-controlling interest (as per income statements)	(2)	(50)
Special items in income after taxes attributable to non-controlling interest	-	35
Core net income	**3,997**	**4,426**
	Shares	Shares
Number of issued ordinary shares	**826,947,808**	**826,947,808**
Core earnings per share (€)	**4.83**	**5.35**

The calculation of earnings per share in accordance with 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.

SEE CONSOLIDATED FINANCIAL STATEMENTS
Note [16]

7.4 Value Management

CASH VALUE ADDED-BASED SYSTEM

One of the prime objectives of the Bayer Group is to sustainably increase enterprise value. We use a Group-wide value management system to plan, control and monitor our businesses. An important value-based indicator is the cash value added (CVA), which shows the degree to which the cash flows needed to cover the costs of equity and debt and of reproducing depletable assets have been generated. If the CVA is positive, the respective company or business entity has exceeded the minimum requirements and has created value. If it is negative, the anticipated capital and asset reproduction costs have not been earned. The CVA is an indicator for a single reporting period. For a year-on-year comparison we therefore use our second central steering parameter for value management, the delta CVA, which is the difference between the CVAs of two consecutive periods. If the delta CVA is positive, the company has created more value than it did in the previous year.

The value-based 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. The focus at the operational level is on the key drivers of enterprise value: growth (sales), cost efficiency (EBITDA) and capital efficiency (working capital, capital expenditures), since these directly affect value creation.

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 used in calculating WACC is based on the terms for ten-year Eurobonds issued by industrial companies with an "A–"rating.

Weighted average cost of capital for the Bayer Group
7.8 %

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. In 2012 these were unchanged from 2011 at 8.1% for HealthCare, 7.5% for CropScience and 7.1% for MaterialScience. The minimum return required for the Group in 2012, as in 2011, was 7.8%.

GROSS CASH FLOW, CASH VALUE ADDED AND CASH FLOW RETURN ON INVESTMENT AS PERFORMANCE YARDSTICKS

The gross cash flow as published in our statement of cash flows 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.

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 equaled or exceeded, the CVA is positive and thus the required return on equity and debt plus the cost of asset reproduction has been earned.

The profitability of the Group and of its individual business entities is measured by the cash flow return on investment (CFROI). In 2012 we changed the way the CFROI is calculated to allow a direct comparison to the weighted average cost of capital (WACC). The CFROI is now 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 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 2012 was €4,337 million (2011: €4,339 million).

Positive CVA
=
value created

Actual gross cash flow came in at €4,599 million, exceeding the hurdle by 6.0%. This means we earned our entire capital and asset reproduction costs in 2012. The positive CVA of €262 million shows that Bayer exceeded the minimum return and reproduction requirements and created value for the company in addition. Since the CVA in 2011 was €833 million, the Bayer Group therefore recorded a delta CVA of minus €571 million in 2012. The CFROI for 2012 amounted to 8.3% (2011: 9.7%).

HealthCare and CropScience exceeded their target returns, including asset reproduction, and helped to increase the company's value. At MaterialScience, investment in new production facilities forms the basis for profitable growth in the future. These strategic capital expenditures are based on expected medium- and long-term market developments and continued to have an adverse effect on the value management data for MaterialScience.

Value Management Indicators by Subgroup [Table 3.18]

	HealthCare		CropScience		MaterialScience		Bayer Group	
	2011	2012	2011	2012	2011	2012	2011	2012
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Gross cash flow* (GCF)	3,254	2,614	900	1,320	939	947	5,172	4,599
Gross cash flow hurdle	2,205	2,214	857	824	1,033	1,079	4,339	4,337
Cash value added (CVA)	1,049	400	43	496	(94)	(132)	833	262
Delta cash value added (delta CVA)	392	(649)	378	453	(179)	(38)	446	(571)
Cash flow return on investment (CFROI)	12.7%	10.1%	8.2%	12.4%	6.0%	5.6%	9.7%	8.3%
WACC	8.1%	8.1%	7.5%	7.5%	7.1%	7.1%	7.8%	7.8%
Average capital invested	22,757	22,156	8,772	9,194	10,157	10,678	43,348	43,403

2011 figures restated
* For definition see Chapter 7.5 "Liquidity and Capital Expenditures of the Bayer Group."

7.5 Liquidity and Capital Expenditures of the Bayer Group

Bayer Group Summary Statements of Cash Flows [Table 3.19]

	2011	2012
	€ million	€ million
Gross cash flow*	**5,172**	**4,599**
Changes in working capital/other non-cash items	(112)	(67)
Net cash provided by (used in) operating activities (net cash flow)	**5,060**	**4,532**
Net cash provided by (used in) investing activities	**(3,890)**	**(818)**
Net cash provided by (used in) financing activities	**(2,213)**	**(3,782)**
Change in cash and cash equivalents due to business activities	**(1,043)**	**(68)**
Cash and cash equivalents at beginning of period	**2,840**	**1,770**
Change due to exchange rate movements and to changes in scope of consolidation	(27)	(7)
Cash and cash equivalents at end of period	**1,770**	**1,695**

* Gross cash flow = income after 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 receded by 11.1% in 2012 to €4,599 million and net cash flow by 10.4% to €4,532 million, the increase in cash flows due to the improved operating performance being more than offset by a business-related increase in cash tied up in working capital and higher income tax payments (2012: €1,667 million; 2011: €932 million). In addition, the purchase of securities held for trading, which must be reflected under operating activities according to IAS 7, diminished net cash flow by €200 million.

INVESTING CASH FLOW

Net cash outflow for investing activities in 2012 totaled €818 million. Cash outflows for property, plant and equipment and intangible assets were 19.4% higher at €1,929 million. Of this amount, HealthCare accounted for €721 million (2011: €608 million), CropScience for €376 million (2011: €280 million) and MaterialScience for €620 million (2011: €565 million). Cash outflows for acquisitions, totaling €466 million (2011: €261 million), related to the acquisition of the U.S. biological crop protection company AgraQuest, Inc., the purchase of the watermelon and melon seed business of the U.S. company Abbott & Cobb, Inc. and the acquisition of the remaining 50% interest in Baulé S.A.S., France. Among the cash inflows in 2012 were €178 million (2011: €173 million) in income from divestitures – mainly the sale of the hematological oncology portfolio to Genzyme Corp., United States – and €104 million (2011: €75 million) in interest and dividends received. Cash inflows from current and noncurrent financial assets totaled €1,068 million (2011: €2,537 million outflows), mainly comprising proceeds from the sale of investments in money market funds.

The principal strategically relevant capital expenditures for property, plant and equipment in the operating segments of the Bayer Group in 2012 and 2011 are listed in the following table:

Capital Expenditures for Property, Plant and Equipment [Table 3.20]

Segment	Description
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™ manufacturing capacities in Wuppertal and Leverkusen, Germany
Consumer Health	Expansion of production and packaging capacities for effervescents in Cimanggis, Indonesia
CropScience	Capacity expansion 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 TDI production complex based on gas-phase phosgenation technology in Dormagen, Germany
	Construction of a multi-purpose facility for the aliphatic isocyanates HDI and IPDI in Leverkusen, Germany
	Completion of a polyurethanes systems house in Qingdao, China
CAPITAL EXPENDITURES 2011	
Pharmaceuticals	Establishment of a pilot facility for the production of biomolecules for clinical trials in Wuppertal, Germany
	Installation of packaging capacities for the YAZ™ product family in Berlin, Germany
	Production facilities for the formulation and packaging of hormonal solids in Weimar, Germany
	Capacity expansion for contrast agents in Bergkamen, Germany
	Expansion of production capacities for new Kogenate™ formulations in Berkeley, California, U.S.A.
Consumer Health	Expansion of production and packaging capacities for effervescents in Cimanggis, Indonesia
CropScience	Capacity expansions and process improvements for the production of fungicides in Dormagen, Germany, and Muttenz, Switzerland
	Expansion of research facilities in Haelen, Netherlands
	Construction of a greenhouse in Research Triangle Park, North Carolina, U.S.A.
MaterialScience	Completion of a world-scale TDI production complex in Shanghai, China
	Commissioning of an NaCl electrolyzer with an oxygen-depolarized cathode for demonstration purposes in Krefeld, Germany
	Conversion of NaCl electrolysis to the membrane process in Krefeld, Germany

FINANCING CASH FLOW

Net cash outflow for financing activities in 2012 amounted to €3,782 million, including net loan repayments of €1,945 million (2011: €397 million). Net interest payments were 17.9% lower at €468 million (2011: €570 million). The cash outflow for "dividend payments and withholding tax on dividends" amounted to €1,366 million (2011: €1,242 million).

LIQUID ASSETS AND NET FINANCIAL DEBT

Net Financial Debt [Table 3.21]

	Dec. 31, 2011	Sep. 30, 2012	Dec. 31, 2012
	€ million	€ million	€ million
Bonds and notes/promissory notes	7,710	5,632	5,528
of which hybrid bond	1,344	1,367	1,364
Liabilities to banks	2,657	2,827	2,841
Liabilities under finance leases	554	556	542
Liabilities from derivatives	513	355	304
Other financial liabilities	228	370	313
Positive fair values of hedges of recorded transactions	(395)	(350)	(456)
Financial debt	**11,267**	**9,390**	**9,072**
Cash and cash equivalents	(1,770)	(1,426)	(1,695)
Current financial assets	(2,484)	(1,159)	(349)
Net financial debt	**7,013**	**6,805**	**7,028**

Net financial debt of the Bayer Group as of December 31, 2012 was level with December 31, 2011, at €7.0 billion. Cash inflows from operating activities were offset by outflows for dividends, the allocations to pension funds, and acquisitions. As of December 31, 2012, the Group had cash and cash equivalents of €1.7 billion (2011: €1.8 billion). Financial liabilities at the end of the reporting period amounted to €9.1 billion (2011: €11.3 billion), with the subordinated hybrid bond issued in July 2005 reflected at €1.4 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 2012 from €8.0 billion to €7.0 billion, while current financial liabilities declined from €3.7 billion to €2.6 billion.

7.6 Asset and Capital Structure of the Bayer Group

Bayer Group Summary Statements of Financial Position [Table 3.22]

	Dec. 31, 2011	Dec. 31, 2012	Change
	€ million	€ million	%
Noncurrent assets	**32,697**	**32,350**	**–1.1**
Current assets	**19,984**	**18,986**	**–5.0**
Assets held for sale	84	-	.
Total current assets	**20,068**	**18,986**	**–5.4**
Total assets	**52,765**	**51,336**	**–2.7**
Equity	**19,271**	**18,569**	**–3.6**
Noncurrent liabilities	**20,104**	**19,668**	**–2.2**
Current liabilities	**13,387**	**13,099**	**–2.2**
Provisions directly related to assets held for sale	3	-	.
Total current liabilities	**13,390**	**13,099**	**–2.2**
Liabilities	**33,494**	**32,767**	**–2.2**
Total equity and liabilities	**52,765**	**51,336**	**–2.7**

Total assets declined in 2012 by 2.7% to €51.3 billion. Noncurrent assets declined by €0.3 billion to €32.4 billion, mainly due to amortization and impairments of intangible assets. Noncurrent assets included goodwill of €9.3 billion (2011: €9.2 billion), the increase being mainly due to acquisitions, but were diminished by currency effects. Current assets declined by €1.0 billion compared with the previous year, to €19.0 billion, mainly because of the lower liquidity resulting from the redemption of several bonds at maturity. This was partially offset by the business-related growth in inventories and trade accounts receivable.

Equity was lower by €0.7 billion at €18.6 billion. The factors here included the €2.0 billion increase – recognized outside profit or loss – in post-employment benefit obligations and the dividend payment of €1.4 billion (2011: €1.2 billion), with the €2.4 billion net income having an offsetting effect. Our equity ratio (equity coverage of total assets) was 36.2% as of December 31, 2012 (2011: 36.5%).

Liabilities fell by €0.7 billion compared with December 31, 2011, to €32.8 billion, mainly due to the redemption of several bonds. This factor was partly offset by the increase in the net amount recognized for post-employment benefits and the allocations to provisions for legal claims.

Net Amount Recognized for Post-Employment Benefits [Table 3.23]

	Dec. 31, 2011	Dec. 31, 2012
	€ million	€ million
Provisions for pensions and other post-employment benefits	7,870	9,373
Benefit plan assets in excess of obligation	(72)	(27)
Net amount recognized for post-employment benefits	**7,798**	**9,346**

The net amount recognized for post-employment benefits increased from €7.8 billion to €9.3 billion in 2012, due especially to lower long-term capital market interest rates. This includes a €1.0 billion allocation made to our pension funds in 2012.

Ratios [Table 3.24]

		2011	2012
Cost of sales ratio (%)	Cost of goods sold / Sales	49.2	47.9
R&D expense ratio (%)	Research and development expenses / Sales	8.0	7.6
Return on sales in (%)	Income after taxes / Sales	6.8	6.3
EBIT margin (%)	EBIT / Sales	11.4	10.0
EBITDA margin before special items (%)	EBITDA before special items / Sales	20.8	20.8
Asset intensity (%)	Property, plant and equipment + intangible assets / Total assets	55.5	55.8
D&A/capex ratio (%)	Depreciation and amortization* / Capital expenditures*	151.3	129.9
Liability structure (%)	Current liabilities / Liabilities	40.0	40.0
Gearing	Net debt + pension provisions / Equity	0.8	0.9
Free operating cash flow (€ million)	Net operating cash flow less cash outflows for property, plant and equipment and intangible assets	3,445	2,603
Inventory turnover	Cost of goods sold / Inventories	2.8	2.7
Receivables turnover	Sales / Trade accounts receivable	5.2	5.4
Payables turnover	Cost of goods sold / Trade accounts payable	4.8	4.4
Equity ratio (%)	Equity / Total assets	36.5	36.2
Return on equity (%)	Income after taxes / Average equity	13.0	13.2
Return on assets (%)	Income before taxes and interest expense / Average total assets for the year	8.2	7.7

* property, plant and equipment + intangible assets

7.7 Financial Strategy

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 3.25]

	Long-term rating	Outlook	Short-term rating
Standard & Poor's	A–	positive	A–2
Moody's	A3	stable	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. Accordingly, we plan to use part of our operating cash flows to reduce net financial debt.

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.

SEE CHAPTER 16.1

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 16.1 "Opportunity and Risk Report."

8. 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).

8.1 Earnings Performance of Bayer AG

Bayer AG Summary Income Statements according to the German Commercial Code [Table 3.26]

	2011	2012
	€ million	€ million
Income from investments in affiliated companies – net	2,138	1,719
Interest expense – net	(589)	(445)
Other financial income – net	116	89
Other operating income	101	87
General administration expenses	(195)	(228)
Other operating expenses	(111)	(106)
Income before income taxes	**1,460**	**1,116**
Income taxes	(335)	(227)
Net income	**1,125**	**889**
Withdrawal from other retained earnings	239	682
Distributable profit	**1,364**	**1,571**

In fiscal 2012 Bayer AG's net income declined 21% to €889 million (2011: €1,125 million), mainly because of lower income from investments in affiliated companies. However, reductions in net interest expense and income taxes had a positive effect.

The €419 million drop in income from affiliated companies to €1,719 million (–20%) was principally attributable to a decrease of about €400 million in income from subsidiaries with which Bayer AG has profit and loss transfer agreements. This item is also impacted by a one-time charge of €256 million in connection with the assumption by various subsidiaries of the pension fund's statutory obligation to raise pensions. In 2011, however, the income from Bayer Pharma AG had been diminished by a one-time charge of €268 million resulting from the transfer of pension obligations to Bayer Altersversorgung GmbH. The main reasons for the drop in income from subsidiaries with profit and loss transfer agreements were significantly lower income from Bayer MaterialScience AG and the absence of income from Bayer Animal Health GmbH following the termination of its profit and loss transfer agreement with Bayer AG in 2011. As in the previous year, Bayer Pharma AG contributed the largest share of income from subsidiaries with profit and loss transfer agreements, at €1,397 million compared with €1,170 million in 2011. The non-recurrence of the €268 million one-time charge taken in 2011 benefited this subsidiary's income for 2012. However, earnings were diminished by a provision of €102 million for impending losses on transactions with intra-Group customers. Bayer CropScience AG contributed €446 million to Bayer AG's income (2011: €551 million). This amount included provisions of about €72 million established for impending losses on transactions with other Group companies. A loss of €179 million was transferred from Bayer MaterialScience AG, compared with income of €95 million in the previous year. The €274 million drop in this subsidiary's income was mainly attributable to business operations. Other significant earnings contributions comprised €291 million from a subsidiary that receives foreign dividend income.

Net interest expense was €445 million (2011: €589 million), down by €144 million compared with 2011. The main reason for the improved net interest position was the drop in interest rates, with the decrease in financial obligations also a contributory factor. Of the drop in net interest expense, €67 million was attributable to transactions with third parties and €77 million to intra-Group transactions.

Other financial income and expenses yielded a positive balance of €89 million (2011: €116 million). This mainly comprised income of €183 million (2011: €121 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. Most of the corresponding expense is reflected in net interest expense. Bayer AG's income was reduced by €56 million as the result of the assumption of an obligation to raise the pensions paid by the pension fund. A further charge of €33 million resulted from the translation of foreign currency receivables and payables and from currency derivatives.

The balance of miscellaneous operating income and expenses relating to Bayer AG's performance of its functions as a holding company was minus €19 million (2011: minus €10 million), while general administration expenses amounted to €228 million (2011: €195 million).

Pre-tax income decreased by €344 million to €1,116 million. Tax expense dropped from €335 million to €227 million. After deduction of taxes, net income was €889 million (2011: €1,125 million). Including a €682 million withdrawal from retained earnings, the distributable profit amounted to €1,571 million.

The Board of Management and Supervisory Board will propose to the Annual Stockholders' Meeting on April 26, 2013 that the distributable profit be used to pay a dividend of €1.90 per share (826,947,808 shares) on the capital stock of €2,117 million entitled to the dividend for 2012.

8.2 Asset and Financial Position of Bayer AG

Bayer AG Summary Statements of Financial Position according to the German Commercial Code [Table 3.27]

	Dec. 31, 2011	Dec. 31, 2012
	€ million	€ million
ASSETS		
Noncurrent assets		
Intangible assets, property, plant and equipment	25	22
Financial assets	35,006	34,310
	35,031	**34,332**
Current assets		
Receivables from subsidiaries	462	316
Remaining receivables, other assets	1,678	471
Cash and cash equivalents, marketable securities	1,199	903
	3,339	**1,690**
Total assets	**38,370**	**36,022**
EQUITY AND LIABILITIES		
Equity	**14,363**	**13,888**
Provisions	**3,418**	**2,719**
Other liabilities		
Bonds and notes, liabilities to banks	5,190	3,188
Payables to subsidiaries	15,043	15,874
Remaining liabilities	356	353
	20,589	**19,415**
Total equity and liabilities	**38,370**	**36,022**

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 were €36.0 billion (2011: €38.4 billion), which was €2.4 billion less than at the start of the year. Current assets declined by €1.7 billion while noncurrent assets shrank by €0.7 billion.

Property, plant and equipment and intangible assets totaled €22 million and were therefore of secondary importance in relation to total assets. Financial assets declined by €0.7 billion from the previous year to €34.3 billion, principally as a result of the transfer of subsidiaries to other Group companies. This amount includes investments in affiliated companies of €33.5 billion (2011: €34.3 billion), accounting for 93.0% (2011: €89.3%) of total assets.

Receivables from subsidiaries amounted to €0.3 billion (2011: €0.5 billion) while payables to subsidiaries totaled €15.9 billion (2011: €15.0 billion). These amounts accounted for 0.9% of total assets and 44.0% of total equity and liabilities, respectively.

Receivables from medium-term investments with banks, which are reflected in other receivables, declined by €1.3 billion, as they were used to redeem a bond.

Equity showed a slight decline of €475 million because the dividend payment of €1,364 million for 2011 was not fully covered by the net income of €889 million in 2012. Equity totaled €13.9 billion at the end of 2012 (2011: €14.4 billion). Despite the decline, the equity ratio rose slightly from 37.4% to 38.6% because of the drop in total assets.

Provisions declined by €0.7 billion to €2.7 billion. Of the decrease, €0.5 billion of the decline related to provisions for pensions and other post-employment benefits. One of the factors here was the transfer of additional funds to Bayer Pension Trust to cover pension obligations. This reduced the net liability after deducting plan assets. Tax payments made reduced tax provisions by €108 million. There was also a fall in other provisions, mainly because of lower currency translation risks.

Other liabilities decreased by €1.2 billion, mainly due to a reduction in financial debt, and amounted to €19.4 billion (net of deductible receivables; 2011: €20.6 billion). The €1.5 billion reduction in financial debt to €20.8 billion (2011: €22.3 billion) was largely attributable to the redemption of a €2.0 billion bond at maturity. Intra-Group debt increased by €0.5 billion. Net debt was lower than in the previous year at €19.9 billion (2011: €21.1 billion).

9. Procurement and Production

In 2012, purchase orders for goods and services worth a total of approximately €18.1 billion from some 101,000 suppliers in 125 countries were recorded in the central ordering system. To meet specific requirements as fully as possible, each subgroup procures direct materials itself. Indirect goods and services not relevant for production, however, are sourced by our service companies or the unit with the largest requirements using center-led strategies.

We endeavor to act responsibly along the entire supply chain, and sustainability considerations are integrated into our procurement processes throughout the Group. These include sourcing criteria such as regulatory compliance, supply assurance, risk management, quality adherence and cost reduction. The Bayer Supplier Code of Conduct, which sets out our sustainability requirements and is aligned to the principles of the UN Global Compact, forms the basis for our work with suppliers. This code of conduct is an established part of our supplier selection and evaluation process and is contractually integrated into ordering systems and agreements throughout the Group. We verify our suppliers' adherence to the code of conduct by way of supplier evaluations and audits. In 2012 we carried out web-based supplier evaluations and external audits. In addition, Bayer auditors performed supplier audits focused on HSE (health, safety, environment) aspects. The results are analyzed in detail and documented. In the event of any shortcomings, action plans are developed in conjunction with the suppliers concerned to improve their social and/or environmental standards.

HEALTHCARE

Benefits from the production network

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. In this way we aim to steadily reduce costs, increase our flexibility and delivery reliability, and meet the globally high demands in terms of quality, health, safety and environmental protection. The manufacture 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 for prescription medicines are manufactured primarily at the sites in Wuppertal and Bergkamen, Germany, and Berkeley and Emeryville, 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. These formulating and packaging activities take place in Berlin, Leverkusen and Weimar, Germany; Garbagnate, Italy; Beijing, China; São Paulo, Brazil; and Turku, Finland. The hemophilia drug Kogenate™ is manufactured by a biotechnological process at Berkeley, California, United States. Betaferon™/Betaseron™ for the treatment of multiple sclerosis is produced in Emeryville, California.

For the Consumer Care Division of the Consumer Health segment we produce certain active substances, such as acetylsalicylic acid and clotrimazole, within the Bayer Group in La Felguera, Spain. The principal raw materials we purchase from third parties are naproxen, citric acid, ascorbic acid and 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; and Madrid, Spain.

The Diabetes Care products (such as blood glucose meters) of our Medical Care division are mainly procured from original equipment manufacturers (OEMs). Material prices and availability are covered in most cases by long-term contracts and therefore are not subject to major fluctuations. We hold strategic reserves of certain materials and finished products so that we can supply our customers consistently and reliably. Our 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 at Coon Rapids, 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

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. Unitary management is also intended to help us steadily improve our cost structures, increase our flexibility, ensure a swifter response to market volatility and meet our high quality and safety standards.

Global procurement and production network for agrochemical products and seeds at CropScience

In line with our strategy and in support of the volume growth in our business, we further optimized our procurement structures in 2012. The principal procurement countries, representing the bulk of our procurement volume, are now centrally managed. With this realigned organizational structure, we aim to operate more efficiently in procurement markets and optimize our cost position. In addition, 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 are significantly increasing our overall level of capital investment to meet the steadily rising demand in a competitive and timely manner, and plan to invest some €2 billion between 2011 and 2016. We had already made capital expenditures of about €500 million by the end of 2012.

MATERIALSCIENCE

Procurement in the MaterialScience subgroup is globally steered by the Procurement & Trading unit. Worldwide procurement and trading processes are centrally managed to leverage synergies within MaterialScience. We aim to procure raw materials, energies and services in the market on the best possible terms by optimizing procurement structures and processes.

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 long-term contracts. 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 the "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.

10. Products, Distribution and Markets

Marketing activities within the Bayer Group are decentralized due to the diversified business portfolio.

HEALTHCARE

Broad product portfolio in the Pharmaceuticals segment

Our Pharmaceuticals segment supplies prescription products. We offer cardiology drugs such as the anticoagulant Xarelto™ (rivaroxaban), Aspirin™ Cardio to protect against heart attacks, and Adalat™ to treat high blood pressure and coronary heart disease. The portfolio also includes women's healthcare products such as our YAZ™/Yasmin™/Yasminelle™ and Mirena™ contraceptives, and hormone replacement therapies such as Angeliq™. We also offer specialty pharmaceuticals, which are mainly prescribed by specialist physicians, including Betaferon™/Betaseron™ for multiple sclerosis, Kogenate™ to treat people with hemophilia A, and Nexavar™ for treatment of certain types of cancer. Among the most important new launches are the cancer drug regorafenib (approved in the U.S. under the tradename Stivarga™) and Eylea™ (aflibercept) to treat wet age-related macular degeneration. 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, the agreement with Johnson & Johnson subsidiaries Janssen Research & Development, LLC and Janssen Pharmaceuticals on the continuing joint development and marketing of the anticoagulant Xarelto™ ensures targeted development and confers regional marketing rights that enable the partners to share in the product's expected success.

Consumer Health segment: focus on non-prescription products

Our Consumer Health segment chiefly markets 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™/naproxen and the medicinal 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, and the A1CNow™ system for determining long-term blood glucose control (A1c). 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. We also are 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, and of mechanical systems for removing thrombi from blood vessels. We offer 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 veterinary pharmaceuticals and grooming products for livestock and companion animals. The top-selling product line comprises Advantix™ and Advantage™ for the prevention and treatment of flea infestation in dogs and cats. Other important products include Baytril™ for the control of infectious diseases, Drontal™ and Drontal™ Plus wormers, and Baycox™ to treat coccidiosis in livestock. We occupy leading positions in individual countries and product segments, and are the world's fifth-largest animal health company in terms of sales. 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.

CROPSCIENCE

CropScience offers a comprehensive range of products and services in the areas of seed breeding, crop protection, plant traits and 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.

Integrated product portfolio at CropScience

CropScience markets its products in more than 120 countries worldwide. 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 Crop Protection business is based on a broad portfolio of highly effective herbicides, fungicides, insecticides and seed treatment products. Thanks to our innovation capability and many years of experience with crop protection products, we are among the global leaders in this market. CropScience is the world market leader in insecticides, holds second place globally in fungicides and occupies third position in the world market for weed control products (herbicides), including plant growth regulators. The SeedGrowth business unit focuses on the use of crop protection active ingredients specially developed for the protection of seeds and seedlings. With our insecticides, fungicides and combination products, we are among the leading suppliers of seed treatment products in terms of sales. Our Crop Protection products are marketed through a two- or three-step distribution system, either via wholesalers or directly to retailers.

The activities of the Seeds unit are focused on our core crops of oilseed rape/canola, cotton, rice and vegetables. We market high-value seeds based on our own research and breeding expertise. In these core crops we have achieved strong market positions and are globally represented. We have also been marketing soybean seeds in the United States since 2011. Our most important markets are North America for canola seed; North and Latin America, India and southern Europe for cotton seed; and Asia for hybrid rice seed. Our vegetable seed varieties are sold in more than 100 countries throughout the world to growers, breeders, specialist retailers and the processing industry. Characteristics ("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 business unit are based on both proprietary and inlicensed active ingredients and are specially designed for non-agricultural uses. This unit markets plant care products and home and garden brands for consumers along with solutions for professional users in the green industry and the pest and vector control sector. In terms of sales, CropScience is among the world's leading suppliers of non-agricultural pest control products. The Environmental Science products are marketed through various distribution channels. Our home and garden products are sold to consumers via both wholesalers and specialist retailers. Products for professional users are sold via wholesalers. Much of our business in the vector control field is transacted in response to tendering by government agencies and non-governmental organizations.

MATERIALSCIENCE

MaterialScience: one of the world's largest polymer companies

One of the world's largest polymer companies, MaterialScience is a leading 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 in all regional markets. We also manufacture and market plastics sheets and functional films as well as selected inorganic basic chemicals such as chlorine, sodium hydroxide solution, hydrogen, hydrochloric acid and nitric acid. Some of these chemicals – such as chlorine – serve as raw materials for the manufacture of our products. Others – such as sodium hydroxide solution – are generated as byproducts 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. Examples of their uses include car seats, automotive components such as bumpers or dashboards, insulating materials for the construction and refrigeration sectors, rigid housing components, mattresses, upholstered furniture and shoe soles.

Our polycarbonates, which we market under the Makrolon™, Bayblend™, Makroblend™ and other trademarks, are used in housings for electrical appliances, CDs/DVDs and car headlamps, among other applications.

The Coatings, Adhesives, Specialties business unit manufactures raw materials for automotive and commercial vehicle coatings or footwear adhesives, for example. Specialties include films used in vehicles or computer housings, 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.

11. Research, Development, Innovation

€3.0 billion Research and development expenses

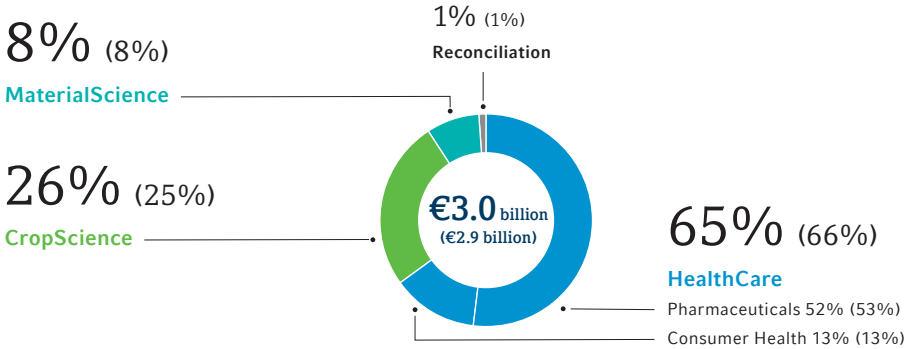
- **€2.0 billion** at HealthCare
- **€0.8 billion** at CropScience
- **€0.2 billion** at MaterialScience

Innovation is the key driver of Bayer's future growth. That is why Bayer focuses on research and development. In 2012 a total of €3,013 million (2011: €2,932 million) was spent on research and development. This was equivalent to 7.6% (2011: 8.0%) of sales. The number of employees working in research and development worldwide was 12,900.

The importance of global networking and collaboration – both among the units of our enterprise and with external companies and organizations – is steadily increasing. Our life-science areas of HealthCare and CropScience therefore work particularly closely together. We expect common research projects and the joint use of technology platforms to stimulate innovations for the improvement of human, animal and plant health. In addition, research projects with external partners from science and industry form a key component of our innovation strategy. These collaborations and alliances with leading universities, public research institutions and partner companies are supplemented by crowdsourcing, incubators like the CoLaborator™ in the United States, and science hubs in emerging regions such as Asia to tap into external innovative potential using the **open innovation** approach.

With strong and efficient research and development, an international network of partners and our focus on growth areas and markets, we are laying the foundations for Bayer's future success. Our activities are centered on our customers' needs – true to our mission "Bayer: Science For A Better Life."

Research and Development Expenses 2012 [Graphic 3.18]



2011 figures in parentheses

HEALTHCARE

In 2012 we invested €1,962 million (2011: €1,948 million) in research and development in the Pharmaceuticals and Consumer Health segments. This amounted to 65.1% of the Bayer Group's entire research and development spending and was equivalent to 10.5% (2011: 11.3%) of HealthCare sales. At the end of 2012, some 7,500 employees of the HealthCare subgroup were working in research and development.

Research and development expenses in the **Pharmaceuticals** segment amounted to €1,566 million (2011: €1,556 million), or 14.5% (2011: 15.6%) of segment sales. Our research and development outlay underscores our focus on growth through innovation. Drug discovery in the Pharmaceuticals segment is concentrated in the areas of cardiology and oncology, along with gynecological treatments and hematology. Other areas of focus are the therapeutic areas of inflammation and ophthalmology. In addition, we are strengthening our established products through life-cycle management, an example being the development of innovative forms of administration for contraceptives.

Research activities and capacities are bundled in Germany at the sites in Berlin and Wuppertal, and in the United States in the Mission Bay neighborhood of San Francisco and at Berkeley, California. Work in Berlin and Wuppertal 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 Mission Bay and Berkeley are concentrated on biologicals and hematology. We also operate an innovation center in Beijing, China.

We conducted clinical studies with several drug candidates from our research and development pipeline during 2012 to drive the development of new substances to treat 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 extensions.

Four active ingredients/products have blockbuster potential. Of special importance is our anticoagulant Xarelto™ (rivaroxaban), which continues to be launched in more countries. In 2012 we filed for, and in some cases already received, marketing authorization in additional indications. In the area of oncology, regorafenib (registered in the United States under the trademark Stivarga™) is approved for the treatment of advanced colorectal cancer in some countries, and approval is pending in others. At the end of 2012, we filed for marketing authorization for radium-223 dichloride (Alpharadin) for the therapy of bone metastases in prostate cancer patients. Other promising products being launched include Eylea™ (aflibercept) for the treatment of wet age-related macular degeneration.

The most important drug candidates currently in the registration process are:

Products Submitted for Approval [Table 3.28]

	Indication
Aflibercept	E.U., Japan; treatment following central retinal vein occlusion
FC-Patch Low	E.U.; contraceptive patch
Octocog alfa* (recombinant Factor VIII)	U.S.A.; prophylaxis of hemophilia A in adults
Radium-223 dichloride	E.U., U.S.A.; treatment of hormone-refractory prostate cancer patients with bone metastases
Regorafenib	E.U., Japan; treatment of colorectal cancer
Regorafenib	U.S.A., Japan; treatment of metastatic and/or unresectable gastrointestinal stromal tumors
Riociguat	E.U., U.S.A.; treatment of pulmonary hypertension (CTEPH)
Riociguat	E.U., U.S.A.; treatment of pulmonary hypertension (PAH)
Rivaroxaban	E.U., U.S.A.; secondary prophylaxis of acute coronary syndrome
YAZ™ Flex Plus	U.S.A.; oral contraception with flexible dosage regimen and folic acid supplementation

* octocog alfa = active ingredient of Kogenate™

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 3.29]

	Indication	Status
Aflibercept	Treatment of diabetic macular edema	Phase III
Aflibercept	Prevention of abnormal retinal angiogenesis following pathological myopia	Phase III
BAY 86-6150 (rFVIIa mutein)	Treatment of hemophilia A	Phase II/III
BAY 94-9027 (rFVIII mutein)	Treatment of hemophilia A	Phase III
Ciprofloxacin Inhale	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
Rivaroxaban	Prevention of major adverse cardiac events (MACE)	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
Sorafenib	Treatment of thyroid cancer	Phase III
Tedizolid	Treatment of complicated skin and lung infections	Phase III
Amikacin Inhale	Treatment of lung infections	Phase II
BAY 80-6946 (PI3k inhibitor)	Treatment of recurrent/resistant non-Hodgkin's lymphoma	Phase II
BAY 94-8862 (MR antagonist)	Chronic heart failure	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	Phase II
Sorafenib	Cancer therapy	Phase II

* as of February 11, 2013

** prasterone = Vaginorm

*** 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 used since 2008 for prophylaxis of venous thromboembolism (VTE) in adult patients following elective hip or knee replacement surgery. Xarelto™ is registered in more than 120 countries around the world and marketed in this indication by HealthCare outside the United States. In 2011, Xarelto™ was also approved in the European Union for stroke prevention in patients with atrial fibrillation as well as for the treatment of deep vein thrombosis (DVT) and the prevention of recurring DVT and pulmonary embolism following acute DVT in adult patients. In Japan, Xarelto™ was approved in January 2012 for prophylaxis of stroke and systemic embolism in patients with non-valvular atrial fibrillation. Market introduction began in April 2012.

In the United States, where Xarelto™ has been approved since 2011 for VTE prevention in adult patients following elective hip or knee joint replacement surgery and to reduce the risk of stroke in patients with non-valvular atrial fibrillation, Janssen Pharmaceuticals, Inc., United States – a subsidiary of Johnson & Johnson – holds the commercialization rights for Xarelto™. Bayer HealthCare supports the sales team of Janssen Pharmaceuticals, Inc. in selected hospitals and specialty markets in the United States.

Xarelto™ approved in further indications

Based on the successful EINSTEIN-PE study, we submitted an application to the European Medicines Agency (EMA) in April 2012 for marketing authorization of Xarelto™ in the treatment of pulmonary embolism and the secondary prevention of recurrent deep vein thrombosis and pulmonary embolism. We were granted marketing authorization in November 2012. In May 2012, our cooperation partner Janssen Research & Development, LLC, United States, submitted applications to the U.S. Food and Drug Administration (FDA) seeking approval for Xarelto™ in the treatment of deep vein thrombosis or pulmonary embolism and in secondary prevention of recurrent venous thromboembolism (VTE). In November 2012, the FDA granted marketing authority for these applications following a priority review.

In December 2011, we submitted an application to the EMA for marketing authorization for Xarelto™ (rivaroxaban) in secondary prevention following acute coronary syndrome (ACS). The application for marketing approval in this indication in the U.S. was submitted to the FDA by our cooperation partner Janssen Research & Development, LLC. In June 2012, we received a Complete Response Letter from the FDA regarding the ACS indication. The requested information was submitted in September 2012 by our cooperation partner Janssen Research & Development, LLC. The application for Xarelto™ in the prevention of stent thrombosis in patients with acute coronary syndrome was submitted at the same time. The European application for marketing authorization for secondary prevention after acute coronary syndrome also includes prevention of stent thrombosis.

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. The registration-relevant Phase III CHEST-1 and PATENT-1 studies each reached their primary endpoints in October 2012. In both studies, the substance demonstrated a statistically significant improvement in physical fitness among patients with chronic thromboembolic pulmonary hypertension (CTEPH) or pulmonary arterial hypertension (PAH) compared with placebo. Based on these studies, we submitted riociguat in February 2013 for marketing approval in the United States and the European Union for the treatment of CTEPH and PAH.

Regorafenib is a novel, oral multi-kinase inhibitor that inhibits various signaling pathways responsible for tumor growth. In 2012, we submitted regorafenib for marketing authorization in the treatment of patients with metastatic colorectal cancer (mCRC) in the United States, Europe and Japan. The registration applications are based on the results of the worldwide Phase III CORRECT study. In September 2012, regorafenib was approved in this indication by the U.S. FDA under the trade name Stivarga™. The Japanese Ministry of Health, Labour and Welfare (MHLW) granted priority review status for this substance.

In April 2012, regorafenib reached the primary endpoint – statistically significant extension of progression-free survival – in the Phase III GRID clinical trial. The GRID trial investigated regorafenib in the treatment of patients with metastatic and/or unresectable gastrointestinal stromal tumors (GIST) whose disease had progressed despite prior treatment with imatinib and sunitinib. In August 2012, the substance was submitted for approval in the treatment of GIST in the United States. In October 2012, the U.S. Food and Drug Administration (FDA) granted priority review status to the application. In December 2012, an application for registration was filed with the Japanese MHLW.

In 2011, we signed an agreement with Onyx Pharmaceuticals, Inc., United States, under which Onyx will receive a royalty on any future global sales of regorafenib in oncology.

In a registration-relevant Phase III study (ALSYMPCA), **radium-223 dichloride** (Alpharadin) – the cancer drug we are jointly developing with Algeta ASA, Norway – demonstrated a significant improvement in overall survival in patients with hormone-refractory prostate cancer (CRPC) and bone metastases. Based on these positive results, we filed registration applications with the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA) for radium-223 dichloride for the treatment of CRPC in December 2012.

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™ has been approved since 2011 for the treatment of wet age-related macular degeneration (AMD). Bayer will market the product outside the United States. In 2012, Eylea™ was approved in various countries, including Japan, Australia and certain Latin American countries, for the treatment of wet AMD. In November 2012, the European Commission granted marketing authorization. The market introduction of Eylea™ in Australia, Japan and Europe began in November 2012.

In September 2012, based on the successful Phase III COPERNICUS and GALILEO studies, our cooperation partner Regeneron received an approval extension for Eylea™ in the United States for the treatment of macular edema following central retinal vein occlusion (CRVO). In December 2012, we filed with the European Medicines Agency (EMA) for marketing authorization in this indication. In January 2013, a registration application was filed with the Japanese MHLW.

In addition to the wet AMD indication, further Phase III studies are currently ongoing with aflibercept for the treatment of diabetic macular edema (DME) and choroidal neovascularization (mCNV) caused by severe myopia.

Our cooperation partner Genzyme Corp., United States, has applied for marketing authorization for the humanized monoclonal antibody **alemtuzumab** under the trade name Lemtrada™ for the treatment of multiple sclerosis. The relevant approval submissions were made in the European Union and the United States in the second quarter of 2012. We will share in the future success of Lemtrada™ through possible royalty payments, milestone payments and global co-promotion.

In July 2012, we launched an international Phase III trial to evaluate the investigational compound BAY 94-9027 for the treatment of hemophilia A. The PROTECT VIII trial is designed to investigate whether the recombinant coagulation factor VIII (rFVIII) **BAY94-9027** can prolong the duration of protection from bleeding when used prophylactically, while also having the ability to treat acute bleeding events. This could mean less frequent infusions for patients.

In the area of women's healthcare, we are conducting research into gynecological therapies and additional contraception options. **FC-Patch Low (ethinylestradiol/gestodene)** is intended to become the only transparent product of its kind and the smallest, lowest-dosed contraceptive patch on the market. In September 2012, we applied for marketing authorization for this product in the European Union. In December 2012, the European registration process for our new, low-dose hormone-releasing intrauterine device LCS-12 was successfully concluded. This device is smaller than Mirena™ and has a duration of

use of up to three years. We plan to market this new contraceptive coil in the European Union under the brand name "Jaydess." In January 2013, LCS-12 received approval in the United States under the trademark **Skyla™**. A further, also small hormone-releasing device **(LCS-16)**, with a duration of use of up to five years, is currently in Phase III clinical development. In October 2012, the European Commission authorized the approval of our new low-dose combined oral contraceptive **Flexyess™ (drospirenone/ethinylestradiol)**. The flexible extended regimen enables users to choose the number and timing of their periods according to their needs. First launches of the product are expected in the second half of 2013.

Life-cycle management for products already on the market

We also invest in continuous life-cycle management to identify possible additional indications and improved delivery forms for products already on the market. For example, the additional indication for our oral contraceptive **Qlaira™/Natazia™** – treatment of heavy and/or prolonged menstrual bleeding not caused by any diagnosed conditions of the uterus – was approved in the United States in March 2012.

Another example is our cancer drug **Nexavar™** (active ingredient: sorafenib), which we are continuing to develop jointly with Onyx Pharmaceuticals, Inc., United States. The successful active substance sorafenib, which attacks both cancer cells and the vascular system of the tumor, has been registered for the treatment of advanced renal cell carcinoma since 2005 and for hepatocellular carcinoma since 2007. We plan to develop the product beyond these two therapeutic areas with a broadly based life-cycle management program. In January 2013, a Phase III clinical trial investigating sorafenib as a monotherapy in patients with locally advanced or metastatic radioactive iodine (RAI)-refractory differentiated thyroid cancer met its primary endpoint of a statistically significant improvement in progression-free survival. Based on these data, we plan to apply for marketing authorization for sorafenib in the treatment of RAI-refractory differentiated 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 and hepatocellular carcinoma. We are also conducting Phase III studies in breast cancer. Two Phase III clinical trials with sorafenib did not show the desired results: a study in patients with advanced non-small-cell lung cancer whose disease had progressed after two or three previous treatments and a combination study with sorafenib and erlotinib in liver cancer did not meet their primary endpoints.

Research and development expenditures in the **Consumer Health** segment amounted to €396 million (2011: €392 million), or 5.1% (2011: 5.4%) 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. These activities center on supporting both existing and new brands. Aligned to end consumers, our development strategies are geared toward expanding and improving our brand portfolio through new products, packaging and delivery forms using the latest technologies. We also work to achieve reclassification of current prescription medicines as OTC products. We introduced a number of new product line extensions to various markets in 2012. They included new delivery forms and uses for existing brands such as Canesten™, Bepanthen™/Bepanthol™ and Alka-Seltzer Plus™.

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 the four U.S. research and development locations for our diabetes care business, the largest of which is in Tarrytown, New York, we are working to strengthen our product lines and continue expanding into attractive segments of the diabetes market. We made further progress in 2012 with the launch of several innovative products in key markets to meet the specific needs of people with diabetes. Examples include the next generation of Contour™ XT (Contour™ Next EZ in the U.S.) and Contour™ Next USB blood glucose meters and the new Contour™ Next sensors, which demonstrate superior accuracy compared to competitive systems.

The aim of our research and development activities in the area of contrast agents and medical equipment 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. We also intend to enter additional attractive segments such as medical data management tools for contrast agents and contrast injection systems. 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 August 2012, the European regulatory authorities extended their approval of the contrast agent Gadovist™ (active ingredient: gadobutrol) to include the diagnosis of diseases in the whole body by magnetic resonance imaging (MRI). Further clinical studies are currently ongoing with gadobutrol in a variety of indications for marketing approval in other countries. Gadovist™/Gadavist™ was first registered in 1998 and is now approved in more than 90 countries. In September 2012, we introduced our Jetstream™ atherectomy system at the annual meeting of the Cardiovascular and Interventional Radiological Society of Europe (CIRSE). The device can be used to treat a wide range of vessel diameters and features continuous active aspiration to remove excised stenotic material and thrombus from the treatment site. A unique technology allowing its use in thrombus, soft plaque and calcified lesions, the Jetstream™ device offers an additional treatment option for peripheral artery disease (PAD).

The **Animal Health** Division focuses its research and development activities at the Monheim site in Germany on antibiotics and antiparasitics as well as active substances to treat non-infectious disorders in animals. The research activities of Animal Health have been integrated with the Global Drug Discovery unit of BHC since March 2011. The advantage lies in the joint use of technology platforms and the pooling of know-how and experience in drug discovery. At the same time, Animal Health continues to collaborate with CropScience research, especially in the area of parasitology. Thus we are exploiting the advantage we have as the only company in the world that conducts research within the same organization into improving the health of people, animals and plants. As well as developing new products to combat bacterial infections and parasites in companion animals and livestock, we are continuing to expand the product portfolio for the treatment of chronic kidney diseases in cats. In addition, a number of product line extensions were approved in different markets, such as Seresto™ (active ingredients: imidacloprid and flumethrin) in Europe. Seresto™ is a collar for dogs and cats with considerably longer duration of action against ticks and fleas.

Strategic cooperation in research and development

Open innovation

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 in the following table:

Pharmaceuticals Cooperation Partners [Table 3.30]

Partner	Cooperation objective
Algeta ASA	Codevelopment of radium-223 dichloride for the treatment of hormone-refractory 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
Celera Corp.	Expansion of oncology research portfolio
German Cancer Research Center	Strategic partnership along the entire R&D value chain
Dyax Corp.	Access to antibody library with option to develop 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.	Inlicensing of a technology to develop antibody-linked toxins
Janssen Pharmaceuticals Inc. of Johnson & Johnson	Development of Xarelto™ (rivaroxaban)
Ludwig Boltzmann Institutes	Research into lung vascular disease, especially pulmonary hypertension; search for ways to treat heart-muscle 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 Inhale)
OncoMed Pharmaceuticals Inc.	Discovery and development of novel anti-cancer stem cell therapeutics
Onyx Pharmaceuticals Inc.	Codevelopment of Nexavar™ and development of regorafenib in various types of cancer
Prometheus Laboratories Inc.	Development of diagnostic in-vitro assays for personalized medicine
Qiagen Manchester Ltd.	Development of companion diagnostic tests in oncology
Regeneron Pharmaceuticals Inc.	Development of aflibercept to treat eye dieases
Seattle Genetics Inc.	Inlicensing of a technology to develop antibody-linked toxins
Trius Therapeutics Inc.	Codevelopment of tedizolid to treat a range of infections
Tsinghua University	Establishment of a joint research center

In 2008 we entered into a strategic alliance with the German Cancer Research Center (DKFZ) in Heidelberg, Germany, which is focused on the identification and early development of new therapeutic approaches for cancer. This collaboration is designed to turn new scientific discoveries about cancer into new medicines or therapies as quickly as possible. In 2011, the partnership was extended for an additional three years. A total of 19 projects have been initiated so far.

Since 2009, we have operated the internet platform "Grants4Targets." With this crowdsourcing approach, we give researchers at universities, other research institutions or start-up companies the opportunity to propose biological target structures for cooperation with Bayer through an internet portal. We make expertise and financial assistance available to researchers to support the discovery of new therapeutic approaches in oncology, gynecology, cardiology and hematology. By combining the expertise of

industry and academia, we aim to accelerate the progression from fundamental research to new and promising treatment options. A total of 825 applications have been submitted via internet so far, of which 114 projects are receiving support.

Since 2011, we have been collaborating with the Ludwig Boltzmann Institute (LBI) for Pulmonary Vessel Research in Austria on research into disorders of the pulmonary blood vessels, particularly pulmonary hypertension. A further collaboration with a Ludwig Boltzmann Institute, the LBI for Translational Heart Failure Research in Austria, was formed in October 2011 to search for new approaches to treat myocardial insufficiency.

In March 2012, we signed an agreement with Tsinghua University in Beijing, China, to collaborate over a three-year period in the field of biomedical sciences. The agreement further expands our existing strategic cooperation at the Bayer-Tsinghua Joint Research Center for Innovative Drug Discovery (BTC).

In April 2012, we extended our cooperation with Amgen Research GmbH, Munich, Germany, to include the research, development and commercialization of a new bispecific T-cell engager (BiTE™) antibody against a new, undisclosed target structure expressed in multiple tumors. Under the terms of the present agreement, we will collaborate with Amgen from the research phase through the completion of any Phase I clinical trials, upon which we will assume full control of further development and potential commercialization of the antibody.

In September 2012, we opened "CoLaborator™" – a new center in the Mission Bay district of San Francisco, California, United States, for young bioscience firms. This incubator concept is geared toward supporting young start-up companies founded by academic researchers. The scientists benefit from both the laboratory infrastructure and the expertise of the Bayer researchers and the potential this offers for the professional, goal-oriented design of development programs. At the same time, we aim to be the initial contact point for young companies in their search for possible cooperation partners.

In October 2012, we entered into a strategic alliance with Evotec AG, Hamburg. Together with this company we will carry out research into multiple target molecules associated with endometriosis over a five-year period. The aim is to identify three drug candidates for clinical development in the treatment of this disorder.

In October 2012, we signed an agreement with Qiagen Manchester Ltd., U.K., to jointly develop molecular in-vitro tests, also known as companion diagnostics. These tests are to be used to identify patients who are highly likely to respond to new cancer drugs from HealthCare.

CROPSCIENCE

One of the aims of CropScience is to offer its customers tailored and innovative solutions for selected crops along the entire value chain, and in doing so to support agriculture and help to feed the world population. To achieve this aim, CropScience is investing heavily to research and develop new products, focusing increasingly on seed and new growth areas such as plant health and stress tolerance. CropScience also utilizes its global network of partners from science and industry to drive growth through joint development projects.

In 2012, €782 million (2011: €723 million) in research and development expenditures, or 26.0% of the Bayer Group total, were made in the CropScience subgroup. This was equivalent to 9.3% (2011: 10.0%) of subgroup sales.

CropScience maintains a global network of research and development facilities employing some 4,400 people. Our largest R&D sites for crop protection products are located in Monheim and Frankfurt am Main, Germany, and in Lyon, France. 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 in Morrisville, North Carolina, and Lubbock, Texas, United States. The acquisition of AgraQuest, Inc. added a new facility for biological crop protection products in Davis, California, United States, to the research and development network.

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.

To better respond to the future development of global markets, we are increasing our research and development spending in the Seeds unit, with its seeds and traits, and in new growth areas such as plant health and stress tolerance. Our biologics research, which focuses on biological crop protection products, is also to be expanded following the acquisition of U.S. company AgraQuest. We plan to invest a total of some €5 billion in research and development between 2011 and 2016.

As part of our integrated research approach, our scientists in the fields of seed technology, agricultural chemistry and biologics are working increasingly closely to optimally pool the expertise acquired through chemical and biological research as well as field development, and align 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 genetic analysis, high-throughput screening and bioinformatics play an important role in identifying new chemical lead structures. Collaborations with external partners complement our own activities.

In addition, we are broadening the range of uses for our products 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 addition to numerous seed varieties, our integrated product pipeline in crop protection and seed technology contains a total of over 30 projects with estimated launch dates between 2011 and 2016 and a combined peak sales potential in excess of €4 billion. During this period, Crop Protection plans to begin marketing for eight projects in the area of chemical crop protection and a number of biological crop protection products; in our Seeds business, we plan to bring more than 15 projects to market-readiness for the broad-acre crops of cotton, oilseed rape/canola, rice, wheat and soybeans alone; and we also intend to launch several hundred new vegetable varieties under the Nunhems™ brand.

During 2012 we achieved further progress with product registrations. For example, the fungicide **Luna™** (fluopyram) was approved by the U.S. Environmental Protection Agency (EPA). It was already available in the United States for the 2012 growing season. Luna™ was developed to combat a number of problematic fungal diseases in fruit and vegetables. It enables excellent disease control and ensures better storability and longer shelf life of the harvested produce, thus playing an important part in ensuring supply security. Luna™ is now approved in various countries of North America, Europe, Latin America, Asia and Africa. In March 2012, we were granted the first marketing authorization worldwide from the Canadian authorities for the new fungicidal seed treatment **EverGol™** (penflufen) and began introducing this product to the market. Further registrations for the **EverGol™/Emesto™** product line were received in the United States. These products offer farmers much better options for controlling fungal diseases even at very low application rates.

In addition to numerous new formulations, we plan to launch three promising new chemical crop protection products during the period through 2016, subject to their successful registration:

Planned Product Launches [Table 3.31]

Product (active ingredient)	Indication	Planned launch
Sivanto™ (flupyradifurone)	Insecticide to control sucking pests such as aphids, cicadas and whiteflies in fruits, vegetables and broad-acre crops	2014/2015
New Bayer brand (N.N.)	Insecticide	2014
New Bayer brand (triafamone)	Herbicide: control of various weeds, including millet and grass species; preventive application possible	2015

Another event in 2012 was the acquisition by CropScience of U.S. company AgraQuest, Inc., headquartered in Davis, California. The transaction closed in August 2012 and will enable CropScience to further expand its research and its product pipeline in the area of biological crop protection. AgraQuest is a global supplier of innovative biological pest management solutions based on natural microorganisms. The acquisition is also aimed at enabling us to build a leading technology platform for biological crop protection products and further strengthen our strategically important vegetables business.

In **Seeds** we are conducting research to improve plant traits and are developing new seed varieties in our established core crops – cotton, oilseed rape/canola, rice and vegetables. We have extended our research activities to include two new core crops – cereals and soybeans. Our research and development activities focus on 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 with high tolerance against external stress factors such as extreme temperatures and drought. Further areas of focus include developing new herbicide tolerance technologies based on alternative mechanisms 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 addition to our own proprietary products, we have strengthened our Seeds business through strategic acquisitions. In 2012, for example, we acquired the watermelon and melon seed business of Abbott & Cobb Inc., headquartered in Feasterville, Pennsylvania, United States. The acquisition supports our vegetable seed business. We also formed several research alliances in 2012, including a collaboration for the development and marketing of wheat with the Texas AgriLife research institute of Texas A&M University in the United States. These partnerships will support our enhanced focus on the Seeds business.

Business growth at Seeds is also supported by the introduction of new varieties and traits.

In the first quarter of 2012, we began commercializing conventional oilseed rape varieties in several European countries, thus taking a major step toward regional expansion in this crop.

In 2011, we launched our proprietary glyphosate herbicide tolerance technology **GlyTol™** in **FiberMax™** cotton seed varieties in the United States.

In 2014, we plan to offer a new combined insect-resistance and herbicide-tolerance solution for cotton, featuring both **TwinLink™** and GlyTol™ technologies for the first time, offering farmers integrated pest and weed control. We also expect to launch a new hybrid canola seed line in Australia in 2014.

Starting in 2014, we plan to commercialize a number of new hybrid rice varieties with improved stress and insect resistance under the **Arize™** brand.

By 2015 we intend to offer soybean farmers in North America a groundbreaking herbicide-tolerant trait stack with a new mode of action. This product will be tolerant to both isoxaflutole and glyphosate herbicides and will be an important resistance management tool.

We are steadily bringing new vegetable seeds to market under the **Nunhems™** brand, with around 70 varieties introduced in 2012 and a comparable number of innovations anticipated for 2013.

The **Environmental Science** unit tests compounds developed by Crop Protection or with external partners and evaluates them for possible non-agricultural uses. Current development projects include gels and baits to combat insect pests, as well as herbicides, fungicides, biological solutions, and products for the control of disease-transmitting insects.

In 2012, the Environmental Science portfolio was further expanded in the United States – partly through the successful launch of **Esplanade™**, a product for professional users based on the active ingredient indaziflam, and the consumer product **Durazone™**. In Europe, we strengthened the Bayer Garden™ business by launching **Permaclean™**, our new combination product with residual action. Environmental Science also made good progress with the introduction of **LifeNet™** mosquito nets. Further registrations were achieved, and the product is now approved in 19 African countries.

Open innovation

CropScience has assembled 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.

CropScience conducts research in collaboration with many partners around the world. For example, we extended the successful research collaboration between CropScience and the Innovative Vector Control Consortium (IVCC) in the U.K. Initially established as a research consortium in November 2005, the IVCC has since evolved into a product development partnership (PDP). The IVCC contributes know-how and technical resources to jointly drive the development of new insecticides for vector control in the public health sector and the related information systems. The parties have agreed to cooperate for a further three years in the search for new active ingredients effective against mosquitoes, which transmit diseases such as malaria and dengue fever.

In the **Seeds** business, an important partnership exists with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Grains Research and Development Corporation (GRDC) in Australia. CropScience and the CSIRO began strategic collaborations in wheat research in 2009. The aim of the research partnership between CropScience, the CSIRO and the GRDC is to discover innovative ways to raise wheat yields and thus make global wheat production more sustainable. The partnership, announced in 2012, results from the development by the CSIRO of a biotechnological process that raised wheat yields in greenhouse testing.

Special mention should be made of our food chain partnerships. Our worldwide in-house network of country organizations enables us to collaborate with other companies throughout the global food chain, adding value to it in ways that include ensuring traceability and increasing the quality of produce. Our expertise in the crop protection and seeds businesses thus helps to create the basis for healthy nutrition, sustainable food production and compliance with food safety standards. Among the main partners

participating in the 240 food chain partnerships are U.S.-based PepsiCo, Inc., and Wal-Mart Stores, Inc., and the UNIVEG group of Belgium. As part of the project with UNIVEG, one of the world's largest fruit and vegetable wholesalers, quality table grapes from India reached the European market for the first time at the beginning of 2012. CropScience has developed its own identity document for participating farmers with the aim of improving traceability and data management. This identity document ensures that UNIVEG in Europe can satisfy the strict regulatory requirements regarding quality, safety, traceability and sustainability.

Strengthening research in the life sciences

Bayer is the only global company simultaneously researching improvements in human, animal and plant health. From this unique position, Bayer is also breaking new ground in terms of innovation strategy. Systematic, greatly intensified collaboration among researchers across subgroup boundaries is serving to stimulate innovation. In 2012, a concept was developed to enable researchers in our two life-science subgroups – HealthCare and CropScience – to make optimum use of collaboration opportunities. The concept includes a Life Sciences Fund that provides some €30 million annually in finance for new technology platforms and research projects established in collaboration with other companies or research institutes. The aim is to support central areas of research such as gene regulation, energy metabolism and molecular signaling pathways and to increase the joint use of groundbreaking technology platforms. Systematically exploiting life-science synergies in this way will enable Bayer to continue strengthening its innovative potential in pharmaceuticals, animal health and the agriculture business.

MATERIALSCIENCE

Research activities at MaterialScience are focused in part on the development of plastics manufacturing processes that conserve energy and resources. In addition, the subgroup works closely with customers to develop new applications for our high-tech materials that can help to improve energy and resource efficiency or safety, for example.

In 2012, MaterialScience spent €242 million (2011: €237 million) for research and development. The subgroup thus accounted for roughly 8.0% of the Bayer Group's total research and development expenses. The ratio of R&D expenses to sales in the subgroup itself was 2.1% (2011: 2.2%). In addition, MaterialScience spent €115 million (2011: €118 million) on joint development projects with customers.

A total of about 900 people were employed in research and development in 2012, many of them at our Innovation Centers in Leverkusen, Germany, and Pittsburgh, Pennsylvania, United States, or at the Polymer Research & Development Center in Shanghai, China. The facility in Shanghai was expanded in 2011 and plays a key role in developing new products for the Asian market and enlarging Bayer's technical expertise in the region. At the same time, this local presence is aimed at more closely linking the company's research and development activities with customers in the emerging markets.

The focus in the **Polyurethanes (PUR)** business unit is on further increasing the efficiency of polyurethane rigid foam as an insulating material against cold and heat. Polyurethane plays a key role in helping to reduce energy consumption and protect the climate, especially in the construction industry and along the cold storage chain. Our innovations are geared toward further enhancing the material's insulating properties and optimizing flame retardancy in particular.

An exemplary innovation that considerably raises energy efficiency in refrigerated appliances is our **Baytherm™ Microcell.** Compared with current standard solutions, this novel material has up to 10% lower thermal conductivity thanks to substantially smaller pores. An efficient cold storage chain is of great importance, particularly in light of increasing urbanization in the emerging countries. We aim to support economic development in these countries with innovations on many levels – such as mobility.

In the automotive industry, techniques such as lightweight construction, which reduces fuel consumption, are rapidly gaining ground. Our polyurethane supports this trend. Our new **Bayflex™ RIM** system, which is lighter even than water, enables an up to 30% weight reduction in car body parts.

In the area of process development, we aim to further improve efficiency in order to safeguard our cost leadership for the long term. Our objective is to manufacture polyurethane raw materials with minimum energy consumption and greenhouse gas emissions. For example, we are working on the use of renewable raw materials – and also of carbon dioxide – as feedstocks for polymers. In early 2011, for example, we started up a globally unique pilot plant in Leverkusen that produces polyether polycarbonate polyol (PPP) – a starting material for polyurethanes – using waste carbon dioxide.

Our research and innovation activities in the **Polycarbonates (PCS)** business unit focus on developing new products, particularly for weight-saving applications, that set new energy efficiency and safety standards and allow greater design freedom. Here we concentrate on selected development areas.

In the consumer electronics sector, new applications for our materials are resulting in components that are lighter, more compact, flame-retardant and at the same time break-resistant. MaterialScience therefore cooperates with partners – including the Institute for Composite Materials (IVW) in Kaiserslautern, Germany – to develop reduced-weight and glass-fiber-reinforced materials for applications such as ultra-mobile laptops. These materials enable the production of extremely thin-walled yet durable housing components that cater both to consumers' habits and to the IT industry's stringent flame-retardancy requirements.

We are also developing polycarbonate materials for LED illumination management. LEDs have a broad array of applications – from street lighting to special uses such as the front headlamps of vehicles. Here, the considerably lower electricity consumption and the ability to produce ultra-small lamps play a major role. A current focus is on building a portfolio of materials for this field of application. In addition to materials with customized optical properties, such as those for optical lenses or light guides, we are developing a thermally conductive material to direct the heat development that occurs particularly in LEDs away from the housing.

Another innovation is the use of recycled plastics such as **Bayblend™ GR** polycarbonate blends in laptop housings, for example.

In the **Coatings, Adhesives, Specialties (CAS)** business unit, we are driving the development of raw materials for high-performance polyurethane coatings, adhesives and sealants.

Extreme-durability coatings are used in automobiles, buses, trains, ships and airplanes, for example, and are also needed for wind turbines, pipelines and steel structures. All of these markets are showing strong, steady growth. Our development work is directed toward the next generation of environmentally friendly coatings, which consume less resources and can be more efficiently applied. Here we are concentrating on low-solvent, solvent-free and waterborne systems. As we continue to develop our adhesives and sealants portfolio, we are again focusing on environmentally compatible and user-friendly systems to replace the solvent-based systems that still are widely used.

In addition to these conventional fields of application, we are evolving our portfolio of products and solutions toward new and lucrative market segments based on the outstanding mechanical and optical properties and broad diversity of aliphatic polyurethane systems.

Our activities in functional films partly center on products based on polycarbonates or thermoplastic polyurethanes. Multifunctional or holographic films are created by using additional surface technologies and modifying the material properties. These open up new fields of application in attractive areas such as 3D flat panel displays. Another area of focus is on electroactive polymers (EAP) as a platform technology. Our research activities relate mainly to polymer films that serve as a basis for developing alternative engine and generator designs and sensor films together with industrial partners.

In addition to specific development activities, we are also involved in certain interdisciplinary developments. An example is a special system solution for the manufacture of coated parts for use in automotive interiors, for example. It is produced in a single process step, yielding significant cost advantages and boosting productivity.

Open innovation

In line with the open innovation approach, MaterialScience increasingly collaborates with external scientific institutions such as RWTH Aachen University in Germany and the Chinese Academy of Sciences, China. Our innovation capability is also spurred by collaborations with customers or other industry sectors, such as via the future_bizz corporate network (WWW.FUTURE-BIZZ.DE). 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. External networks in science and industry are nurtured both by the business units and centrally through the New Business department.

A successful alliance with Kast GmbH & Co., Germany, and the Institute of Concrete Structures and Building Materials at Karlsruhe Institute of Technology (KIT) involves the development of a special adhesive for buildings. In combination with a glass fiber fabric, it can strengthen masonry and thus delay the collapse of walls in the event of an earthquake. Another advantage of the system, named **EQ-Top™**, is that it is easy to use because it can be hung like wallpaper.

In the area of energy efficiency, we developed the innovative, modular street lighting concept "Eco StreetLine" in cooperation with Hella KgaA, Germany. The use of efficient LED technology reduces energy consumption compared with conventional street lighting, while the long service life of the optical lenses cuts operating costs.

In collaboration with Hella KGaA and the Fraunhofer Institute of Laser Technology in Aachen, Germany, we have also developed a process chain for the manufacture of plastic free-form optics for automotive lighting. The project received funding from the German Ministry of Education and Research.

BAYER TECHNOLOGY SERVICES

Bayer Technology Services is an important research, development and engineering partner for the entire Bayer Group. All Bayer subgroups work closely with this service company worldwide on technology solutions, particularly in the fields of process technology, plant engineering, automation and product development.

Technology Services supports all Bayer subgroups with technology platforms

Together with the subgroups, Bayer Technology Services is developing new energy- and resource-efficient production processes to safeguard technology and cost leadership over the long term. An example is polymer synthesis for MaterialScience. Centralized development work on technologies relevant to more than one subgroup, such as nanotechnology and biotechnology, along with expertise in mathematical simulation and statistical data analysis, is important for HealthCare and CropScience so that they can accelerate the development of new products. This also includes the development of entirely new production concepts at facilities such as the INVITE research center, a collaborative venture between Bayer Technology Services and Dortmund Technical University. New flexible, modular production concepts being developed for HealthCare are an example in this area.

12. 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, 2012 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.

INTERNET

We publish voting rights announcements at: WWW.INVESTOR.BAYER.COM/STOCK/OWNERSHIP-STRUCTURE

A small number of shares may be subject to temporary trading restrictions, such as retention periods, in connection with employee stock participation programs.

We received no notifications in 2012 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 initially available until 2017 following a one-year extension. 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 €3.3 billion (as of December 31, 2012) in notes issued by Bayer in the years 2006 to 2012 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.

13. Corporate Governance Report

This Corporate Governance Report also constitutes the report pursuant to Section 3.10 of the German Corporate Governance Code.

13.1 Declaration on Corporate Governance *

* not part of the audited management report

DECLARATION BY THE BOARD OF MANAGEMENT AND SUPERVISORY BOARD
concerning the German Corporate Governance Code (May 15, 2012 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 electronic 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 2011 and amended in February 2012.

With respect to the past, the following declaration refers to the May 26, 2010 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 15, 2012 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 2011 with the temporary exception stated in the amendment thereto dated February 2012. The recommendation given in Section 5.4.6 Paragraph 2 of the May 26, 2010 version of the Code was not complied with.

   The Annual Stockholders' Meeting 2012, acting on a proposal from the Board of Management and the Supervisory Board, resolved to introduce a new system of Supervisory Board compensation comprising fixed compensation only by way of an amendment to the Articles of Incorporation. Section 5.4.6 Paragraph 2 of the May 2010 version of the Code contained a recommendation that performance-related compensation be paid in addition to fixed compensation. The May 15, 2012 version of the Code no longer contains this recommendation.

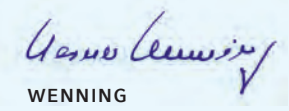
2. All the recommendations of the Code are now being complied with in full.

Leverkusen, December 2012

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.

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 2012 the company was able to issue a declaration that it had complied with the recommendations of the German Corporate Governance Code in the past with one temporary exception and was now fully compliant again. The deviation from Section 5.4.6 Paragraph 2 Sentence 1 of the May 26, 2010 version of the German Corporate Governance Code, stated in the February 2012 amendment to the previous declaration, no longer applies because the recommendation given in this section of the Code has since been altered.

In 2012, 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 15, 2012. The resulting declaration, which is reproduced on the previous page, was issued in December 2012 and posted on Bayer's website along with previous declarations.

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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 three members who served on the Board of Management in 2012 with respective responsibility for Finance; Innovation, Technology and Sustainability; and Strategy and Human Resources. Each of these members also represents certain geographical regions.

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 2012, 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 40ff. 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 May 15, 2012 version of 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 target maximum age of 72 is not exceeded by any member of the Supervisory Board. 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 elections to the Supervisory Board held in 2012 resulted in an increase in the proportion of women on the Supervisory Board from 10% to 15%.

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. No such transactions were reported to Bayer AG in 2012.

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.

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)

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 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.

CORPORATE COMPLIANCE

Our corporate activity is governed by national and local laws and statutes that place a range of obligations on the Bayer Group and its employees throughout the world. Bayer manages its business responsibly and in compliance with the statutory and regulatory requirements of the countries in which it operates.

Bayer expects legally and ethically impeccable conduct from all of its employees in daily business operations, as the way they carry out their duties affects the company's reputation. By ensuring regular dialogue between employees and their supervisors and providing training courses involving the responsible Compliance Officers, the company endeavors to acquaint its employees with internal codes of behavior and with the numerous statutory and regulatory requirements of the countries where they work that are of relevance to them. This lays the foundation for managing the business responsibly and in compliance with the respective applicable laws.

The Board of Management states in the Corporate Compliance Policy that Bayer is unreservedly committed to corporate compliance and will forgo any business transactions that would violate compliance principles. The Policy also details the organizational framework for corporate compliance and specifies areas in which violations of applicable law can have particularly serious adverse consequences, both for the entire enterprise and for individual employees. The principles set forth in the Corporate Compliance Policy are designed to guide employees in their business-related actions and protect them from potential misconduct. Its core requirements are:

- adherence to antitrust regulations,
- integrity in business transactions and the ban on exerting any kind of improper influence,
- the observance of product stewardship and the commitment to the principle of sustainability,
- the strict separation of business and personal interests, and
- the commitment to ensure fair and respectful working conditions across the enterprise.

Employees may contact their respective supervisors or compliance functions for support and advice on ensuring legally compliant conduct in specific business situations.

Each country has a Compliance Officer, and some have several local compliance functions with clearly defined responsibilities for the different business units. The main responsibilities of each local compliance function include:

- providing advice to the operational business units,
- monitoring and assessing risks,
- running or arranging compliance training programs,
- investigating any reports of possible compliance violations and initiating appropriate corrective action, and
- satisfying reporting obligations defined at Group level.

The local Compliance Officers report to Group headquarters and ultimately to the Group Compliance Officer appointed by the Group Management Board. The Group Compliance Officer and the Head of Corporate Auditing jointly report at least once a year to the Audit Committee of the Supervisory Board on any compliance violations that have been identified.

The topic of integrity is a firmly established part of the performance objectives agreed with all managerial employees. By virtue of their positions, these employees have a special obligation to set an example, spread the compliance message increasingly within their companies and take organizational measures to implement it.

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.

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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.

13.2 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).

13.2.1 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 a fixed annual salary, which takes into account the tasks and duties of the Board of Management members, and a short-term incentivized component that depends on the attainment of the annual corporate performance targets. In addition, 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.

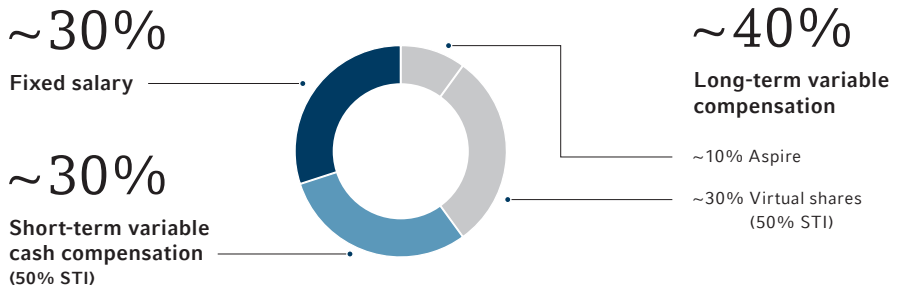
COMPENSATION STRUCTURE

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:

The non-performance-related compensation comprises the fixed annual salary along with compensation in kind and other 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 members of the Board of Management also receive pension entitlements for themselves and their surviving dependents.

Board of Management Compensation Stucture (German Commercial Code)* [Graphic 3.19]



* excluding compensation in kind, other benefits and pension entitlements

Non-performance-related components

Fixed annual salary

The level of the non-performance-related, fixed annual salary takes into account the functions and responsibilities assigned to the members of the Board of Management as well as market conditions. The fixed salary 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.

Compensation in kind and other 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. Compensation in kind and other benefits are reported at the value assigned to them for tax purposes.

Performance-related components

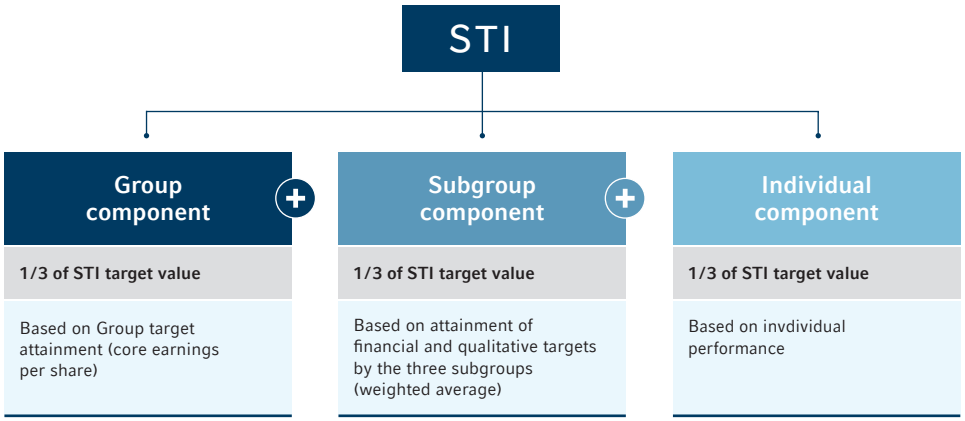
Short-term variable cash compensation

The short-term variable compensation (short-term incentive, or STI) is based on a set percentage of the fixed annual salary (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 criteria for the subgroups were adjusted in January 2012. Whereas 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, performance at MaterialScience is measured for this purpose by the cash flow return on investment (CFROI). Through the end of 2011, the target attainment for all subgroups was derived from the comparison of target and actual values for the EBITDA margin before special items and sales growth, along with supplementary qualitative criteria.

The target attainment for the individual component of the variable compensation is determined by the Supervisory Board according to the performance of the individual Board of Management member. 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 3.20]



Long-term variable cash compensation based on virtual Bayer shares

A cash payment with respect to the number of virtual shares held is made after three years according to the market price of Bayer shares at that time. Both the number of virtual shares granted and the amount of the payment at the end of the three-year 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. In addition, they 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. No option exists for the Board of Management members to extend the retention period or defer the payout.

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 salary. 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.

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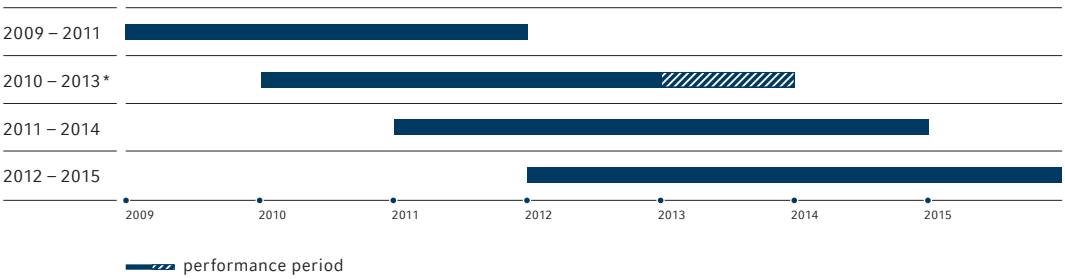
HTTP://WWW.INVESTOR.BAYER.COM/EN/STOCK/STOCK-PROGRAMS/ASPIRE

Tranches of the Aspire Program [Graphic 3.21]



* 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 salary, 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 con-

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 salary, the value to which shares are held must be adjusted accordingly.

Pension entitlements (retirement and surviving dependents' pensions)

The currently serving members of the Board of Management 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 salary. 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 salary. 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.

Benefits upon termination of service on the Board of Management

Severance payments

In line with the recommendation of the German Corporate Governance Code, an entitlement to severance pay can only arise if a Board of Management member's service contract is prematurely revoked by the company without serious cause. In this event payments, including ancillary benefits, are limited to the value of two years' compensation (severance payment cap) and may not compensate more than the remaining term of the contract. The severance payment cap is to be calculated on the basis of the fixed salary plus the target value of the short-term variable compensation for the previous year and, where applicable, the expected aggregate compensation for the current year in addition. Compensation payments for dismissal or severance payments are deducted from the annual pension on the basis of an equivalent annuity amount calculated according to actuarial principles.

Post-contractual non-compete agreements

Post-contractual non-compete agreements exist with some of the members of the Board of Management, providing for compensatory payments to be made by the company for the two-year duration of these agreements. The post-contractual non-compete agreement that originally existed with Dr. Pott was cancelled effective May 1, 2012 when his service contract was last renewed. 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 salary for the twelve months preceding their departure. This amount is fully offset against any severance payments or concurrent pension payments.

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 salary 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. The disability pension, like the retirement pension, amounts to at least 15% of the final fixed salary and can increase with continuing service on the Board of Management up to a maximum of 60%.

COMPENSATION OF THE BOARD OF MANAGEMENT IN 2012

The aggregate compensation of the members of the Board of Management in 2012 totaled €12,997 thousand (2011: €11,155 thousand), comprising €3,541 thousand (2011: €3,396 thousand) in non-performance-related components and €9,456 thousand (2011: €7,759 thousand) in performance-related components. The pension service cost in 2012 amounted to €1,861 thousand (2011: €1,078 thousand). The membership of the Board of Management during 2012 was unchanged from 2011.

The following table shows the compensation components of the individual members of the Board of Management in 2012:

Board of Management Compensation (German Commercial Code) [Table 3.32]

	Fixed Salary		Compensation in Kind and Other 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]	
	2011	2012	2011	2012	2011	2012	2011	2011	2012	2012	2011	2012	2011	2012	2011	2012
	€ 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)	1,216	1,271	69	35	1,420	1,702	30,666	1,420	24,228	1,702	362	352	**4,487**	**5,062**	522	561
Werner Baumann	641	783	119	44	653	979	14,104	653	13,928	979	191	186	**2,257**	**2,971**	119	1,056
Prof. Dr. Wolfgang Plischke	641	670	37	34	653	783	14,809	686	11,701	822	191	186	**2,208**	**2,495**	211	5
Dr. Richard Pott	641	670	32	34	653	783	14,809	686	11,329	796	191	186	**2,203**	**2,469**	226	239
Total	**3,139**	**3,394**	**257**	**147**	**3,379**	**4,247**	**74,388**	**3,445**	**61,186**	**4,299**	**935**	**910**	**11,155**	**12,997**	**1,078**	**1,861**

[1] fair value at conversion date
[2] fair value at grant date
[3] including company contribution to Bayer-Pensionskasse VVaG
[4] Since 2010, Prof. Plischke and Dr. Pott 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 to offset the effect of the change made to the system of variable cash compensation in 2010. This arrangement no longer applies to Dr. Pott under his new service contract effective May 1, 2012.

Fixed annual salary

The fixed salaries of all the members of the Board of Management were adjusted in 2012 and totaled €3,394 thousand (2011: €3,139 thousand).

Short-term variable cash compensation

The short-term variable cash compensation (short-term portion of the STI) for all the members of the Board of Management in 2012 totaled €4,247 thousand (2011: €3,379 thousand) after deduction of the solidarity contribution. Under agreements reached with the employee representatives, all employees of the companies covered by these agreements pay the solidarity contribution to help safeguard jobs at the German sites. For 2012 this contribution amounted to 0.67% (2011: 0.91%) 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 €70.26 (2011: €46.32). Professor Plischke and Dr. Pott receive one additional virtual Bayer share for every 20 virtual Bayer shares resulting from the conversion to offset the effect of the 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 applies to Dr. Pott under his new service contract effective May 1, 2012.

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 €4,299 thousand (2011: €3,445 thousand). The aggregate compensation according to the IFRS also includes a change of €3,136 thousand (2011: minus €278 thousand) in the value of existing entitlements.

Provisions of €13,222 thousand (2011: €5,787 thousand) were established 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 €910 thousand (2011: €935 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 3.33]

		Dr. Marijn Dekkers (Chairman)	Werner Baumann	Prof. Dr. Wolfgang Plischke	Dr. Richard Pott	Total
		€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Stock-based compensation entitlements earned in the respective year[1]	**2012**	**535**	**322**	**406**	**744**	**2,007**
	2011	114	140	239	239	732
Change in value of existing entitlements[2]	**2012**	**306**	**214**	**338**	**338**	**1,196**
	2011	(18)	14	38	38	72
Total	**2012**	**841**	**536**	**744**	**1,082**	**3,203**
	2011	96	154	277	277	804

[1] The newly earned entitlements are derived from the 2009, 2010, 2011 and 2012 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 2011, respectively.
[2] This line shows the change in the value of the entitlements already earned in 2010 and 2011 (2011: 2009 and 2010).

Provisions of €3,793 thousand (2011: €1,651 thousand) were established 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 2012 according to the German Commercial Code was €1,861 thousand (2011: €1,078 thousand), while the current service cost for pension entitlements recognized according to the IFRS was €2,501 thousand (2011: €1,134 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.

The difference between the pension service cost according to the German Commercial Code and the current service cost for pension entitlements according to the IFRS arises from the difference in the valuation principles used in calculating the settlement value of the pension obligation according to the German Commercial Code and its present value according to the IFRS.

Pension Entitlements (German Commercial Code and IFRS) [Table 3.34]

	German Commercial Code				IFRS			
	Pension service cost [1]		Settlement value of pension obligation on December 31		Current service cost for pension entitlements		Present value of defined benefit obligation on December 31	
	2011	2012	2011	2012	2011	2012	2011	2012
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Dr. Marijn Dekkers	522	561	3,225	4,354	550	637	3,664	6,282
Werner Baumann	119	1,056	2,973	4,379	128	1,600	3,484	6,888
Prof. Dr. Wolfgang Plischke	211	5	6,999	7,512	220	0	7,574	9,556
Dr. Richard Pott	226	239	6,902	8,074	236	264	7,617	10,722
Total	**1,078**	**1,861**	**20,099**	**24,319**	**1,134**	**2,501**	**22,339**	**33,448**

[1] including company contribution to Bayer-Pensionskasse VVaG

Pension payments to former members of the Board of Management and their surviving dependents amounted to €12,673 thousand (2011: €13,069 thousand). The defined benefit obligation for former members of the Board of Management and their surviving dependents amounted to €149,746 thousand (2011: €134,179 thousand).

The aggregate compensation according to the IFRS is shown in the following table:

Board of Management Compensation according to IFRS [Table 3.35]

	2011	2012
	€ thousand	€ thousand
Fixed salary	3,139	3,394
Compensation in kind and other benefits	257	147
Total short-term non-performance-related compensation	**3,396**	**3,541**
Short-term performance-related cash compensation	3,379	4,247
Total short-term compensation	**6,775**	**7,788**
Stock-based compensation (virtual Bayer shares) earned in the respective year	3,445	4,299
Change in value of existing entitlements to stock-based compensation (virtual Bayer shares)	(278)	3,136
Stock-based compensation (Aspire) earned in the respective year	732	2,007
Change in value of existing entitlements to stock-based compensation (Aspire)	72	1,196
Total stock-based compensation (long-term incentive)	**3,971**	**10,638**
Current service cost for pension entitlements earned in the respective year	1,134	2,501
Total long-term compensation	**5,105**	**13,139**
Aggregate compensation (IFRS)	**11,880**	**20,927**

13.2.2 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.

The compensation for 2012 is determined for the period through April 27 according to the previous provisions and from April 28 according to the amended provisions. The compensation for 2013 and thereafter will be determined solely according to the amended provisions of the Articles of Incorporation.

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.

In connection with the change in the Supervisory Board compensation system decided by the 2012 Annual Stockholders' Meeting, the members holding office effective April 28, 2012 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 2012

The following table shows the components of each Supervisory Board member's compensation for 2012.

Compensation of the Members of the Supervisory Board of Bayer AG in 2012 [Table 3.36]

	Fixed Compensation		Attendance Fee		Variable Compensation		Compensation for Committee Membership*		Total	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Members of the Supervisory Board as of December 31, 2012										
Dr. Paul Achleitner	60	100	–	2	30	10	23	48	**113**	**160**
Dr. Clemens Börsig	60	100	–	3	30	10	–	–	**90**	**113**
André van Broich	–	81	–	3	–	–	–	–	**–**	**84**
Thomas Ebeling	–	81	–	2	–	–	–	–	**–**	**83**
Dr. Thomas Fischer	60	100	–	4	30	10	23	48	**113**	**162**
Peter Hausmann	60	100	–	3	30	10	23	28	**113**	**141**
Reiner Hoffmann	60	100	–	3	30	10	–	41	**90**	**154**
Yüksel Karaaslan	–	81	–	2	–	–	–	–	**–**	**83**
Dr. Klaus Kleinfeld	60	100	–	1	30	10	–	–	**90**	**111**
Petra Kronen	60	100	–	4	30	10	23	28	**113**	**142**
Dr. Helmut Panke	60	100	–	2	30	10	–	–	**90**	**112**
Sue H. Rataj	–	81	–	2	–	–	–	–	**–**	**83**
Petra Reinbold-Knape	–	81	–	3	–	–	–	–	**–**	**84**
Michael Schmidt-Kiessling	–	81	–	2	–	–	–	–	**–**	**83**
Prof. Dr. Ekkehard D. Schulz	60	100	–	4	30	10	0	41	**90**	**155**
Dr. Klaus Sturany	60	100	–	4	30	10	45	96	**135**	**210**
Werner Wenning (Chairman effective October 1, 2012)	–	90	–	2	–	–	–	–	**–**	**92**
Thomas de Win (Vice Chairman)	90	192	–	4	45	15	45	14	**180**	**225**
Prof. Dr. Ernst-Ludwig Winnacker	60	100	–	2	30	10	–	–	**90**	**112**
Oliver Zühlke	60	100	–	4	30	10	–	20	**90**	**135**
Members who left the Supervisory Board during 2012										
André Aich	60	19	–	–	30	10	–	–	**90**	**29**
Willy Beumann	60	19	–	–	30	10	23	7	**113**	**36**
Prof. Dr. Hans-Olaf Henkel	60	19	–	–	30	10	23	7	**113**	**36**
Hubertus Schmoldt	60	19	–	–	30	10	23	7	**113**	**36**
Dr. Manfred Schneider (Chairman until September 30, 2012)	180	211	–	3	90	29	–	–	**270**	**243**
Roswitha Süsselbeck	60	19	–	–	30	10	–	–	**90**	**29**
Dr. Jürgen Weber	60	19	–	–	30	10	23	7	**113**	**36**

In some cases, the sum of the figures given in this table may not precisely equal the stated totals.
* Further details on the membership of the committees of the Supervisory Board before and after the Annual Stockholders' Meeting on April 27, 2012 are given under "Other Information," page 286ff.

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 2012 was €670 thousand (2011: €645 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.

13.2.3 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, 2012, nor at any time during 2012 or 2011.

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 last monthly base salary received while in service. The pensions paid to 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. 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 €149,746 thousand (2011: €134,179 thousand) according to IFRS and €126,424 thousand (2011: €127,078 thousand) according to the German Commercial Code.

14. Employees

Employee Data [Table 3.37]

	Dec. 31,2011	Dec. 31,2012
	FTE	FTE
Employees by region		
Europe	53,600	52,300
North America	15,800	15,300
Asia/Pacific	26,000	26,700
Latin America/Middle East/Africa	16,400	16,200
Employees by corporate function		
Production	47,600	45,700
Marketing and distribution	41,800	42,800
Research and development	13,300	12,900
General administration	9,100	9,100
Total	**111,800**	**110,500**
Trainees	2,500	2,500
	%	%
Proportion of women in senior management	22	23
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	94
Proportion of employees eligible for a company pension plan or company-financed retirement benefits	69	66
Proportion of employees covered by collective agreements on pay and conditions	54	53

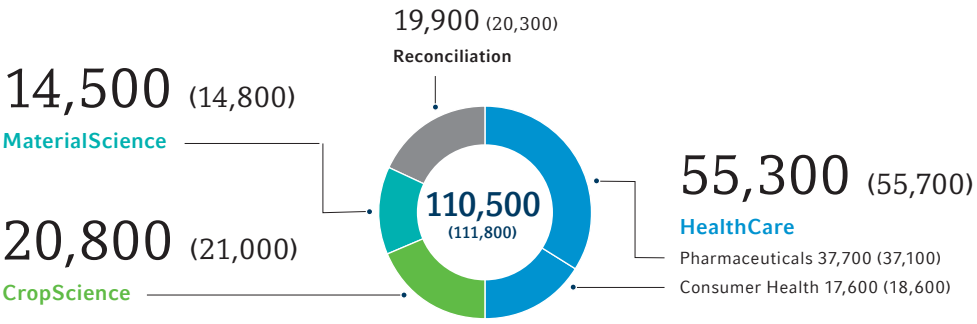
The number of employees on either permanent or fixed-term contracts is stated in full-time equivalents, with part-time employees included on a pro-rated basis in line with their contractual working hours.

EMPLOYEE DATA

On December 31, 2012, the Bayer Group had 110,500 employees worldwide (2011: 111,800). Thus headcount showed a slight decline of 1.2% from the prior year. In Germany we had 34,600 employees (2011: 35,800), making up 31.3% of the Group workforce. HealthCare had 55,300 employees (2011: 55,700), CropScience 20,800 (2011: 21,000), and MaterialScience 14,500 (2011: 14,800). The remaining 19,900 (2011: 20,300) employees worked mainly for the service companies. This figure also includes the 700 (2011: 700) employees of Bayer AG. There were an additional 2,500 (2011: 2,500) trainees on the closing date who are not included in the above numbers.

Personnel expenses rose in 2012 by 5.5% to €9,203 million (2011: €8,726 million), chiefly as a result of currency effects, higher employee bonuses and the regular salary increases.

Employees by Segment [Graphic 3.22]



2011 in parentheses

Our common values:
LIFE

SUSTAINABLE HUMAN RESOURCES POLICY

The Bayer Group's human resources policy is based on its globally valid LIFE values. LIFE stands for Leadership, Integrity, Flexibility and Efficiency. These corporate values commit us to a sustainable human resources policy that is strongly oriented toward performance, development and a high degree of social responsibility. To emphasize their importance as a framework for our employees' behavior, we have permanently integrated the LIFE values into our global performance management system starting in 2012. Now, one of the assessment criteria for all managerial employees is the extent to which they apply the four corporate values in the pursuit of their career goals.

A COMMITTED WORKFORCE

In 2012 we gained important responses and information on the current perception within the company of our strategy, culture and working conditions from the second Group-wide employee survey, in which, once again, more than 70% of our global workforce participated. This survey provides us with periodic feedback from our employees on a number of topics, at the same time benchmarking us against other companies. Based on the survey results, we implement suitable improvement measures and subsequently monitor the progress made. The results again confirmed that the overwhelming majority of the employees identify with our company and its values, and are highly committed to ensuring the company's success.

TALENT MANAGEMENT

Among the main facets of our human resources policy is our Group-wide talent management – the measures and tools to further our employees' professional and personal development. Last year we established the Bayer Global Internal Job Board to better enable our employees to exploit career opportunities and help them actively shape their own career development within the enterprise. Since then, vacant positions up to and including senior management have been advertised internally throughout the Group on this globally accessible job platform. In this way, employees can obtain a clear overview of the internal job market and directly apply for interesting positions across the organization for which they are suitably qualified.

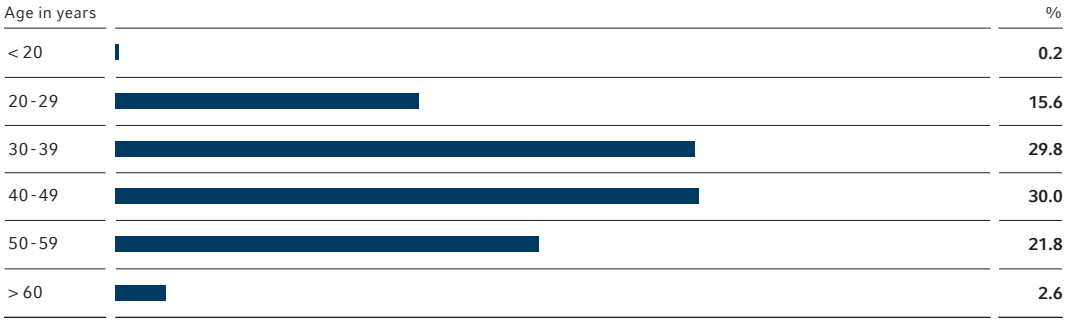
To strengthen the Leadership component of LIFE and promote performance orientation in the company, we have developed an innovative training program that will support our managers in regularly giving their employees candid, constructive feedback on their work and conduct. The goal is to establish a true feedback culture throughout the enterprise that promotes individual strengths, addresses existing deficits and thus enhances employees' personal and professional development over the long term. All members of the Group Leadership Circle – the company's top management level – took the training program at the start, and about 11,000 other managers at all levels followed in 2012.

ADVANCING KNOWLEDGE AND LEADERSHIP SKILLS

Providing training for our employees is fundamental both to talent management and to addressing the consequences of demographic change. In 2012 we maintained our offering of adranced training cources for employees at a high level programs worldwide, to which we added a number of new features. Our successful "Pegasus" online training program about safety in the workplace was again used more than 36,000 times, and a total of over 28,000 – mainly managerial – employees have now completed our online training program on corporate compliance.

We supplemented our management training programs on strategic corporate development with a new workshop format entitled "Leading Innovation" to promote individual innovative expertise. We added this element in light of the fact that innovation, along with feedback and diversity, is among the central components of Bayer's high-performance culture. In this series of seminars, the members of the Group Leadership Circle and selected other executives receive training in the strategies and methods behind effective innovation management. Also in 2012, we developed a concept for a Group-wide Bayer Academy to be launched in 2013 with the aim of instilling a uniform leadership mindset within the enterprise and systematically improving the existing employee training programs.

Employees by Age Group in % [Graphic 3.23]



EMPLOYEE COMPENSATION AND BENEFITS

Employee bonuses total more than €700 million

An important principle of our human resources policy is to link employees' compensation to their performance and enable them to share in the company's success. Regular benchmarking against competitors and a globally standardized system help us to set base salaries in line with the demands and responsibilities of each position. These salaries are supplemented by performance-related compensation components and extensive ancillary benefits.

More than €700 million is earmarked for variable bonus awards to employees for the year 2012 under the Group-wide short-term incentive (STI) program alone. Included in our extensive range of ancillary benefits in many countries are various stock participation programs that enable employees to purchase Bayer stock at a discount, giving them an additional opportunity to share in the company's economic 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) that are based on ambitious earnings targets and – in the case of Group Leadership Circle members – require an appropriate personal investment in Bayer stock.

SEE CONSOLIDATED FINANCIAL STATEMENTS
Note [26.6]

SOCIAL PROTECTION AND RESPONSIBILITY

Sustainability and social responsibility are also reflected in our approach to necessary changes and restructuring measures. For example, the workforce reduction initiated in November 2010 was implemented on schedule by the end of 2012 in ways that minimized social hardship. In Germany, which remains the company's largest operational base with 34,600 employees, business-related dismissals are excluded through the end of 2015 for the great majority of employees under an agreement with the employee representatives that was again renewed at the end of 2011. As shown by the employee survey results, our social commitment is acknowledged by the great majority of the employees as an important part of our corporate strategy.

This aspect of our human resources policy includes ensuring a high level of social protection. For example, nearly all Group employees either have statutory health insurance or can obtain health insurance through the company, and 66% have access to a company pension plan. The working conditions for 53% of our employees are governed by collective or company agreements. In China, the establishment of unionized employee councils, begun in 1997, continued in 2012. Eleven companies with a total of over 10,000 employees now have elected councils, which means that more than 90% of our employees in China are now represented by the local union.

Our mission as a responsible employer also includes safeguarding and promoting our employees' health. In all the countries in which we operate, we provide benefits such as medical checkups, on-site medical services, sports opportunities inside and outside the company, and advice and reintegration assistance after recovery from an illness. In this way we also contribute significantly to maintaining long-term employability. This is of growing importance as many countries are raising the retirement age in light of demographic change.

DIVERSITY AND INTERNATIONALITY

A diverse employee structure is crucial to our company's future competitiveness. This applies particularly to our Group-wide management team, because diversity helps us to better understand changing markets and consumer groups, gives us access to a larger talent pool and enables us to benefit from the increased problem-solving and innovation capability that has a proven link with high cultural diversity within the company. We pursue this aim especially in the emerging markets 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 23 nationalities are currently represented, some 67% are native to the country in which they work. The Bayer Group currently employs people from 136 countries.

Another focus of our diversity strategy is to improve the balance between women and men, particularly among managerial staff. We view a gender balance spectrum of between 30 to 70 and 70 to 30 as acceptable. We have therefore set ourselves the voluntary target of raising the proportion of women in the five highest management grade levels throughout the Group toward 30% by 2015. In 2012, women accounted for 23% and men for 77% of employees in this management segment. The ratio of female to male employees in the Bayer Group as a whole was 36% to 64%. We are holding workshops aimed at heightening managers' awareness for the benefits of greater employee diversity so that people can pursue a successful career in the company and take advantage of Bayer's executive advancement programs regardless of gender, nationality and other affiliations. The first 24 management teams participated in diversity workshops in 2012.

Bayer Group Workforce Structure 2012 [Table 3.38]

	Women	Men	Total
Senior management	2,000	6,600	8,600
Junior management	8,800	14,900	23,700
Skilled employees	28,800	49,400	78,200
Total	**39,600**	**70,900**	**110,500**
Trainees	800	1,700	2,500

VOCATIONAL TRAINING AND RECRUITING

As an employer, Bayer endeavors to appeal to the best and most talented people worldwide and to retain employees for long periods by providing good development opportunities, a modern working environment and competitive compensation. In 2012 we again succeeded in attracting a total of more than 4,600 academically qualified specialists and managers worldwide. We recruited approximately 700 university graduates in Brazil, more than 600 in India and about 400 each in China, Germany and Russia. In 2012 we hired more than 17,000 new people across all occupations throughout the Group. In addition, we provided some 3,800 challenging occupational internships to talented young students worldwide to give them insight into the variety of career opportunities at Bayer while they are still studying. Such young people often return to us as employees at a later date.

Apart from the hiring of university graduates, our own training programs for young people are among the most important steps we take to guard against a possible shortage of specialists due to demographic change. Once again in 2012, more than 900 young people entered training programs in a total of over 30 occupations at our German sites. In China, we agreed to extend the vocational training collaboration forged in 2002 with the Shanghai Petrochemical Academy for a further ten years. In 2012 some 40 young people embarked on a multi-stage training program that will give them the skills they need for jobs at our sites in China.

15. Sustainability

- Sustainability an integral part of our business strategy
- Occupational safety: clear reduction in injury rate
- Transparent climate reporting: top position in Carbon Disclosure Leadership Index

15.1 Sustainability Strategy

SEE CHAPTER 3

Sustainability – which to us essentially means future viability – forms an integral part of our business strategy (see Chapter 3 "Strategy"). Together with our LIFE values, our mission "Bayer: Science For A Better Life" serves as the foundation for our sustainable activities.

We are convinced that we can only achieve lasting commercial success if we balance economic growth with ecological and social responsibility. In this we are guided by long-term values. To underline this mission, we have committed to international sustainability initiatives such as the U.N. Global Compact and Responsible Care™.

The clear goal of our sustainability strategy is to create business opportunities for our company while at the same time generating economic, ecological and social benefits. This we do on the basis of the following elements:

INTERNET

The Sustainable Development Report can be found at: www.sustainability.bayer.com

OUR BUSINESS

Sustainability is a key element of both the Bayer Group's strategy and the business strategies of the three subgroups and the service companies. Sustainability permeates all aspects of entrepreneurial activity in the Bayer Group, particularly through innovative processes and products. Health care and nutrition are essential to the well-being of society, as are innovative, high-tech materials to help protect the climate and conserve resources. HealthCare, CropScience and MaterialScience each possess an innovative and viable product portfolio that can make significant contributions in this respect. With its exemplary lighthouse projects, the Sustainability Program we initiated in 2009 represents the systematic alignment of our portfolio toward future challenges.

The areas of focus are

- at **HealthCare**: the development of alliances for sustainable health care in the areas of family planning, the control of neglected diseases and the improvement of access to innovative health care as part of the "Access to Medicine" (ATM) strategy

- at **CropScience**: sustainable agriculture that combines economic, ecological and social objectives to provide sufficient high-quality, safe agricultural products, such as through integrated crop solutions – seeds, chemical and biological crop protection and comprehensive customer service. This includes innovative partnerships to boost supplies of high-quality food, such as the food chain partnership programs. There are about 240 of these partnership projects, in which Bayer works together with all players in the food chain. The objective is to increase yields and improve the quality of harvested produce. To this end, Bayer CropScience experts teach farmers about the sustainable cultivation of fruit and vegetables in keeping with good agricultural practice.

- at MaterialScience: high-quality materials and solutions such as those helping to raise energy and resource efficiency within our company and for customers. This includes ongoing development in key areas such as sustainable construction and environmentally friendly mobility, as well as the development of new process technologies such as the oxygen-depolarized cathode.

OUR LICENSE TO OPERATE

Responsible corporate governance and business practices are the foundation of Bayer's business activities – and of its license to operate. Our focus is on acting responsibly in the areas of corporate compliance (see Chapter 13.1 "Declaration on Corporate Governance"); human resources policy (see Chapter 14 "Employees"); product stewardship, occupational health, environmental protection and safety (see Chapter 15.3 "Environment, Safety and Climate Protection"); and supplier management (see Chapter 9 "Procurement and Production"). These aspects are set out in internal Group regulations to ensure that they form an integral part of our business operations. Such regulations include the Bayer Sustainable Development Policy, which defines our common understanding of sustainability and our Human Rights Position, which also covers working conditions; the Corporate Compliance Policy; our Supplier Code of Conduct; the new Responsible Marketing & Sales Policy; and the revised Directive on Process and Plant Safety.

Our strategy takes into account the expectations of our stakeholders and covers employee relations, the dialogue between industry, academia and politicians, and the Bayer Group's social commitment. We take up external and internal suggestions and the priorities voiced by our stakeholders in order to timely identify the principal fields in which our sustainability strategy should continue evolving.

15.2 Sustainability Management and Governance

Responsibility for steering and aligning our Group-wide sustainability strategy lies with the Group Management Board member for Innovation, Technology and Sustainability and a Group Committee chaired by the Head of Environment & Sustainability in the Corporate Center. This committee identifies and evaluates the sustainability-relevant opportunities and risks for our company, establishes objectives, initiatives, management systems and regulations, and is responsible for monitoring their implementation.

Targets and indicators help us to operationalize our strategy and make it more tangible. To integrate sustainability even more closely into our business activities, we have defined ambitious targets for 2015 along the entire value chain, including our ambitious long-term goals for reducing greenhouse gas emissions. An overview of the targets and the status of their attainment in 2012 is given in the following table.

Sustainability Targets 2015*

[Table 3.39]

	TARGETS FOR 2015	STATUS ON DEC. 31, 2012
MANAGEMENT & CORPORATE GOVERNANCE		
Compliance	Extend compliance training to 100% of all Bayer managers	By the end of 2011, around 90% of all Bayer managers had already completed a compliance training course. For that reason, the focus in 2012 was on new Bayer managers.
Supplier management	Inform all suppliers with purchase-order-relevant volumes about Bayer Supplier Code of Conduct	The Bayer Supplier Code of Conduct is a fundamental element of the supplier selection and evaluation process.
	Assess the sustainability performance of suppliers representing ≥ 75% of the total procurement volume and ≥ 75% of the procurement volume from risk areas	In the evaluation of suppliers' sustainability performance, the clear focus was on improving process quality and efficiency. In the year under review, assessments and audits were initiated with a similar coverage to those of the previous year. In addition, joint evaluations were launched in collaboration with other companies as part of the "Together for Sustainability" initiative.
	Annually audit the sustainability performance of at least 10% of the suppliers from risk areas or at least 15 suppliers	Independent external auditors performed sustainability audits on 17 suppliers.
INNOVATION & PRODUCT STEWARDSHIP		
Research & development	Maintain or increase R&D spending in relation to sales	€3.0 billion spent on R&D (previous year: €2.9 billion) R&D spending in relation to sales 7.6 % (previous year: 8.0%)
Product stewardship	Roll out Global Product Strategy (GPS) in another 10 countries with different languages	GPS was rolled out in 2012 in the format of a new product safety website (formerly BayCare) in another 10 countries and three new languages.
EMPLOYEES		
Diversity	Increase the proportion of female managerial staff to approaching 30%	Proportion in 2012: 23% worldwide (previous year: 22%)
Occupational safety (new target figure)	Reduce the number of occupational injuries with lost workdays to ≤ 0.21 LTRIR**	Reduction in LTRIR to 0.27 (previous year: 0.31)
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	Slight increase to 0.98 t (previous year: 0.95 t) CO_2 equivalents per metric ton of manufactured sales volume. Target value based on values defined in 2005: 0.79 t CO_2 equivalents per metric ton of manufactured sales volume.
Emissions	Reduce other relevant emissions (ozone-depleting substances [ODS] –70%, volatile organic compounds [VOC] –50%)	ODS fell by around 0.2% to 16.28 t (previous year: 16.32 t). (Target value based on 2010: 6.2 t.) Specific VOC emissions fell by 5.7% to 0.232 kg/t sales product (previous year: 0.246 kg/t). (Target value based on 2010: 0.1218 kg/t sales product.)
Waste	Reduce specific hazardous waste from production to 2.5% in relation to manufactured sales volume	The specific volume of hazardous waste from production rose to 3.54% (previous year: 3.23%).
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 by the end of 2012	A variety of measures (symposia, directives) raised awareness of process and plant safety worldwide. 26,000 employees were given training in 2012.
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	Spending of €49 million (previous year: €54 million). 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.

* unless indicated otherwise

** LTRIR = Lost Time Recordable Incident Rate

*** Specific Group emissions are calculated from the total volume of direct and indirect emissions divided by the manufactured sales volumes of the three subgroups. Quantities attributable to the supply of energy to third parties (non-Bayer companies) are deducted from the direct and indirect emissions. For the Bayer MaterialScience subgroup, only manufactured sales volumes that also form the basis for calculating Bayer MaterialScience-specific emissions are taken into account.

**** prior-year values restated; see Sustainable Development Report 2011, page 63f.

The Bayer Sustainability Program was established in 2009 to more consistently align our businesses toward sustainability criteria and generate innovative solutions that make meaningful contributions to overcoming urgent global challenges. Building on this program, we have progressed with the integration of sustainability into our business strategy in recent years, as the resulting growth opportunities for Bayer worldwide have shown. Our mission "Bayer: Science For A Better Life" points the way by combining the "science" and "better life" components. Based on our innovation capability, we intend to further strengthen the link between economic success and the sustainable alignment of our business activities and tap into the respective future markets.

We will also do greater justice to this relationship in our reporting by merging our Sustainable Development Report with the Annual Report to create an Integrated Annual Report starting with the 2013 reporting period. In this way, we aim to elucidate the interaction between financial, ecological, social and governance factors on the one hand and our long-term corporate success on the other.

The most recent edition of our Sustainable Development Report meets the highest standard (Level A) according to the internationally recognized G3.1 guidelines of the Global Reporting Initiative (GRI). In a progress report issued in line with the "Blueprint for Corporate Sustainability Leadership," we also outline the measures and management systems we have in place to implement the ten principles of the U.N. Global Compact and our accomplishments in this area. The data collection process and the statements made throughout the Sustainable Development Report are subjected to an audit review by an independent audit firm and checked for consistency, appropriateness and credibility.

INTERNET

The current Sustainable Development Report can be found at: HTTP://WWW.SUSTAINABILITY2011.BAYER.COM

15.3 Environment, Safety and Climate Protection

Bayer places great importance on protecting the environment and managing natural resources responsibly. We use our expertise to develop new technologies, optimized processes and innovative products that help protect the environment, nature and the climate.

We regularly review our performance in the health, safety and environment areas on the basis of key performance indicators (KPIs):

Key Performance Indicators [Table 3.40]

Category	Key Performance Indicators for Health, Safety and Environment	2011	2012
Health and Safety	Occupational injuries to Bayer employees with lost workdays (LTRIR)*	0.31	0.27
	Reportable occupational injuries to Bayer employees (RIR)*	0.56	0.49
	Environmental incidents	3	5
	Transportation incidents	7	6
Emissions **	Direct greenhouse gas emissions (CO_2 equivalents in million metric tons)***	4.23	4.24
	Indirect greenhouse gas emissions (CO_2 equivalents in million metric tons)***	3.92	4.12
	Volatile organic compounds (VOC) (thousand metric tons/year)	2.69	2.60
	Total phosphorus in waste water (thousand metric tons/year)	0.08	0.15
	Total nitrogen in waste water (thousand metric tons/year)	0.53	0.70
	Total organic carbon (TOC) (thousand metric tons/year)	1.50	1.42
Waste **	Hazardous waste generated (million metric tons/year)	0.47	0.60
	Hazardous waste landfilled (million metric tons/year)	0.12	0.18
Use of resources **	Water use (million m^3/year)****	411	384
	Primary energy use for generating steam and electricity (petajoules [10^{15} joules]/year)	50.10	49.05
	Secondary energy use for generating steam, electricity and refrigeration (petajoules [10^{15} joules]/year)	34.85	34.14

* (LT) RIR = (Lost Time) Recordable Ineident Rate
** Environmental indicators are determined at all production sites.
*** as per Greenhouse Gas Protocol
**** 2011 figure restated. See Sustainable Development Report 2011, page 59

ENVIRONMENT

Material and energy efficiency, along with process and product innovations, are a crucial competitive factor. To manage resources as efficiently as possible, Bayer introduced as part of its Sustainability Program the Resource Efficiency Check developed by Technology Services. We have made major progress with this systematic process analysis over the past three years through selected pilot projects in all three subgroups. Investment projects are under way to realize the identified savings potentials for raw materials, solvents and wastewater. The results from the pilot projects are also channeled into current research and development projects to improve production processes.

SEE TABLE 3.40

Material and energy consumption and emissions are determined mainly by the manufactured sales volume. We use this reference parameter to evaluate energy and resource efficiency. Although manufactured sales volume rose by a further 2.4% in 2012 to 11.2 million metric tons, we succeeded in improving many KPIs (see Table 3.40). The main reason for the drop in primary energy consumption was the stepwise closure of our facility at Institute, West Virginia, United States.

Bayer bases its reporting of greenhouse gas emissions on the international standard of the Greenhouse Gas (GHG) Protocol. We aim to hold total emissions at 2007 levels through 2020 despite growth in production. Total greenhouse gas emissions rose by 2.6% in 2012. Due to the increase in production at one of our sites in China, more energy had to be obtained from the public utility grid, which currently involves higher emission rates. This resulted in a 5.1% increase in Bayer's indirect emissions despite a slight drop in our electricity and steam needs. Direct emissions were held at virtually the previous year's level. The trend toward increasingly energy-efficient production, which decouples energy consumption from production growth, continues even though the exceptional effect described above led to slightly higher greenhouse gas emissions in 2012.

Regarding other direct emissions into the atmosphere, we registered a further reduction in volatile organic compounds (VOC) in 2012, reflecting initial progress with a multi-stage VOC reduction program at our sites in Vapi and Ankleshwar, India.

At certain sites our production activities resulted in considerably higher phosphate and nitrogen levels in wastewater.

Water use at Bayer decreased by 6.6% year on year in 2012. Total organic carbon (TOC) emissions into water were reduced by 5.3%, chiefly as a result of process improvements for wastewater treatment at one of our U.S. sites.

The volume of hazardous waste again considerably exceeded the previous year's figure due to a groundwater and soil remediation project at one of our sites in India. This project was completed earlier than planned at the end of 2012.

In 2012 the number of environmental incidents rose to five. Transport accidents showed a slight decline. In the case of environmental incidents we report even minor product releases, in line with our internal voluntary commitment. For substances with a high hazard potential, we report any quantities exceeding 100 kg. Unfortunately, even our extensive safety precautions and training procedures cannot entirely prevent environmental incidents or traffic accidents from occurring. Any such events are carefully analyzed and evaluated so that adequate steps can be taken to prevent a recurrence.

SAFETY

Preventing accidents and safeguarding employees' health in the workplace is an essential part of our responsibility. Our far-sighted occupational safety and health management also helps to reduce costs by avoiding damage and work disruptions. Our activities in the areas of health, safety, environmental protection and quality (HSEQ) are therefore focused on comprehensive risk management to identify and evaluate potential hazards and on ensuring a healthy work environment.

SEE TABLE 3.40

In 2012 we further lowered both the Lost Time Recordable Incident Rate (LTRIR), which is based on 200,000 employee hours worked and includes illnesses, and the Reportable Incident Rate (RIR) for occupational injuries requiring medical treatment (see Table 3.40). Measures undertaken in the subgroups and service companies made a key contribution here. Unfortunately, two people lost their lives in work-related traffic accidents in 2012.

Bayer's objective is to achieve appropriate, uniform HSEQ standards throughout the Bayer Group and continuously improve them. To meet this goal, the company has established HSEQ management systems in all subgroups and service companies that are based on recognized international standards and are regularly reviewed and updated. In 2012 about 99% of our business activity (in terms of energy consumption) took place at locations that had company-audited HSE management systems in place. More than 89% of this business activity occurred at sites that are certified or externally validated according to recognized international standards such as ISO 14001, EMAS and/or OHSAS 18001. A Group-wide certification masterplan is in place with the aim of raising the proportion of our sites that are covered by internationally recognized standards to at least 80% in terms of energy consumption for both environmental protection and occupational health and safety by 2017. All subgroups and service companies have industry-specific quality management systems such as ISO 9001 or GMP (Good Manufacturing Practice). The subgroups have additional systems and standards that address product-specific requirements. If volume is measured in terms of energy consumption, the degree of coverage with quality management systems was more than 92% Group-wide at the end of 2012.

Bayer launched a Group-wide initiative in 2010 to further improve process and plant safety. The related measures are aimed at further developing the safety culture and standards in our plants and laboratories and optimizing our safety technology. To this end, a global training program has been established. Some 26,000 employees for whom process and plant safety is especially relevant had received training by the end of 2012. The most important principles and organizational structures are set forth in the "Directive on Process and Plant Safety," which also applies Group-wide. In 2012 it was reissued with an appendix containing rules for the safe design and operation of facilities.

Our first priorities are the compatibility of our products, the health and safety of those who use them and protection of the environment. A core element of our sustainability strategy is the thorough evaluation of risks to health or the environment along the entire value chain of a product – from research and development to production. This includes the responsible marketing and use of our products and the management of any resulting waste.

Our efforts in the area of sustainability not only include compliance with statutory regulations, but also a voluntary commitment that goes beyond this. Our product stewardship is based on the precautionary principle as defined by the United Nations and the European Union and on the Global Charter of the voluntary Responsible Care™ initiative of the chemical industry. We also support the Global Product Strategy, which aims to ensure the safe handling of chemical products.

Nearly all products manufactured by Bayer are subject to wide-ranging statutory reporting requirements such as those under the European Union chemicals regulation "REACH." The first 125 substances were registered with the chemicals agency ECHA in 2010, and the second registration phase runs through June 1, 2013. For many of the substances in the second phase, Bayer has again formed registration consortia with competitors in order to share data and avert the need for additional animal studies. Bayer also has a small number of substances subject to the parallel authorization process that began in 2011. We will meet the requirements of the Globally Harmonized System (GHS) for the classification and labeling of chemicals within the deadline.

We firmly believe that product marketing must also be based on sustainable principles. To clearly document, drive forward and more accurately focus our commitment to responsible marketing throughout the Bayer Group, we have summarized these principles in a Group Responsible Marketing & Sales Policy. Parallel to this process, our subgroups have emphasized their commitment to compliant and ethical conduct and the observation of industry-specific requirements in product marketing and have incorporated this commitment into their respective regulations. With this initiative, we are establishing the foundation for the further emphasis of this issue in continuing training measures.

CLIMATE PROTECTION

Bayer's strategy takes climate change into account as an ecological, economic and social challenge. At the heart of the Bayer Climate Program, one of the cornerstones of the Bayer Sustainability Program, are increases in energy efficiency in our own production facilities with the help of new technologies and internationally recognized energy management systems. We also intend that our products themselves contribute to protecting the climate and adapting to climate change.

In 2012 Bayer was again listed in the Carbon Disclosure Leadership Index (CDLI) in recognition of our transparent reporting – this time garnering the maximum 100 points as one of two companies worldwide in all industries. Bayer was also included in the Carbon Performance Leadership Index (CPLI) with an "A" ranking in light of our efforts to reduce carbon dioxide emissions.

We plan to continue systematically along this path. Our ambitious goal for the Bayer Group is to reduce specific greenhouse gas emissions (direct and indirect emissions in relation to the manufactured sales volume in metric tons) by 35% between 2005 and 2020. To achieve this, we aim to reduce specific emissions in our energy-intensive MaterialScience subgroup by 40%, while HealthCare is targeting a decline in absolute emissions of 10% and CropScience of 15%. We provide detailed information on developments in our Sustainable Development Report.

An important way to improve energy efficiency and thus help to reduce greenhouse gas emissions is the energy management system STRUCTese™ (Structured Efficiency System for Energy), which was developed by MaterialScience and is certified to ISO 50001. By the end of 2012, we had introduced the system at 50 energy-intensive production facilities worldwide, with a further eight to follow in 2013. Since 2008, STRUCTese™ has led to global savings of over a million megawatt-hours per year of primary energy and a reduction of more than 300,000 metric tons per year in CO_2 emissions at MaterialScience. In addition, we intend to establish equivalent ISO 50001-certified systems at selected facilities of HealthCare and CropScience in the coming years.

In the field of process innovation, implementation of a novel climate-friendly process for chlorine production that Bayer developed together with partners met with continued success. In a pilot facility that went into operation at the Krefeld site in mid-2011, we produce chlorine using oxygen-depolarized cathode technology with up to 30% less energy consumption than the current standard process requires.

SEE CHAPTER 10

MaterialScience supplies products for two main segments that are important for climate protection – the insulating materials market and the automotive industry (see also Chapter 10 "Products, Distribution and Markets"). One of the uses for our insulating materials is in sustainable construction. Here we have expanded the "EcoCommercial Building" program – a global network of experts led by MaterialScience that offers individual, complete solutions from a single source for new energy-efficient buildings and the renovation of existing buildings.

SEE CHAPTER 11

CropScience, too, is working to help counter the effects of climate change through its research into stress-tolerant and higher-yielding crops (see also Chapter 11 "Research, Development, Innovation"). With experts predicting that climate change will lead to an increase in vector-borne infectious diseases such as malaria, CropScience is also helping to protect people against malaria with its innovative LifeNet™ mosquito nets. The final report of the World Health Organization's "Pesticide Evaluation Scheme" (WHOPES) confirmed that Bayer's nets demonstrate superior efficacy against insects that transmit malaria.

The Bayer Climate Program also uses other approaches, including the Bayer Eco-Fleet program to reduce CO2 emissions caused by company cars, the use of new telecommunications technologies to reduce the need for business travel, and the improvement of energy efficiency in the IT environment (the Green IT program). Between 2007 and 2012 we reduced the average CO2 emissions of our vehicle fleet by 20%. Our goal of boosting energy efficiency in Bayer's data centers by 20% between 2009 and 2012 was exceeded.

15.4 Social Commitment

Bayer's social commitment is an established part of our sustainability strategy and corporate policy. Our funding activities also contribute to a positive business environment.

Bayer's social commitment is reflected in a range of projects in three main fields in many parts of the world, some of which have been ongoing for years. In 2012 Bayer provided some €49 million (2011: €54 million) for this purpose.

€49 million for social initiatives

Expenses for Social Initiatives [Table 3.41]

Main sponsorship areas	2011	2012
	€ million	€ million
Education and research*	10	13
Health and social needs	24	16
Sports and culture	20	20

* Including expenses for "environment and nature" (2011: €2 million; 2012: €2 million), which were reported separately in 2011.

Our funding strategy mainly focuses on projects of high social relevance that meet specific needs in areas related to our business activities, because we aim not only to provide financial support but also to contribute specific technological and economic expertise.

EDUCATION AND RESEARCH

As a research-based company, Bayer depends particularly on recruiting highly trained scientists and on society's acceptance of technology. We therefore place great importance on supporting education and research, especially in the areas of science, technology, medicine and the environment.

The funding programs of the Bayer Science & Education Foundation cover the entire scientific training and career path. In 2012 the foundation approved total funding of about €1.6 million for dedicated school students, innovative school projects, ambitious trainees, exceptional university students, outstanding young scientists and leading researchers.

Support for talented young researchers and leading scientists

In 2012 the foundation added a further 53 teaching projects to its school funding program in the communities near Bayer's German sites, bringing total financial support for such projects to some €480,000. As part of Bayer's support program for college students, trainees and school students, around €240,000 was pledged in scholarships for 56 young people to study abroad.

In 2012 the Bayer Science & Education Foundation again bestowed its Bayer Early Excellence in Science Awards – worth €10,000 each – on three young scientists in the early stages of their careers. The awards were presented, in the biology category, to Dr. Christiane Opitz of the German Cancer Research Center in Heidelberg for her contributions to the better understanding of malignant tumors; in the chemistry category, to Dr. Nuno Maulide of the Max Planck Institute for Carbon Research in Mülheim an der Ruhr for developing new routes to synthesize highly functional small-ring molecules; and, in the materials category, to Dr. Volker Presser of the INM Leibniz Institute for New Materials in Saarbrücken for his research on novel nanomaterials for use in energy storage and transformation technologies.

The Bayer Science & Education Foundation presented the €75,000 Otto Bayer Award 2012 to Professor Benjamin List of the Max Planck Institute for Carbon Research in Mülheim an der Ruhr for his outstanding work in the field of organocatalysis. Professor List's research achievements have helped to create the conditions for efficient processes and resource-conserving, sustainable chemical production.

The €50,000 Bayer Climate Award 2012 went to Professor Markku Kulmala of the University of Helsinki for his groundbreaking research on aerosols. His contributions to climate research include the discovery that aerosols – mixtures of gases and small solid or liquid particles – can lower the Earth's temperature and thus alleviate climate change under certain circumstances.

The international Bayer education initiative "Making Science Make Sense" was again implemented in 14 countries around the world. Bayer employees donate their time to illustrate the fascination and practical importance of science to elementary school students through experiments.

Involving young people in environmental projects

In addition to its sponsorship focus on science and technology, Bayer is also helping to increase environmental knowledge among children and young people through its global partnership with the United Nations Environment Programme (UNEP). For example, in 2012 the company again gave some 50 environmentally committed young people from 19 countries in Latin America, Africa and Asia the opportunity to participate in a week-long study trip to Germany to learn about practical aspects of industrial environmental protection, discuss the issues among themselves and receive support for the implementation of specific environmental projects in their home countries.

HEALTH AND SOCIAL NEEDS

Bayer is globally committed to improving social conditions and health care with the dual aims of promoting stability in the communities near its sites and helping to solve global health challenges.

Supplementing Bayer's economic activities in its core health care field is our "Access to Medicine"(ATM) strategy. As part of this program, we supply medicines free of charge to combat "neglected" tropical diseases affecting about one billion people worldwide. The medicines our company donates to the World Health Organization (WHO) feature on the WHO Essential Drug List. In 2012, Bayer agreed to double its donation of Lampit™ tablets to treat Chagas disease, which is widespread in Latin America, to one million tablets a year for the next five years. We also provided US$300,000 to support logistics and distribution. In addition, Bayer works together with the WHO in the fight against African sleeping sickness, tuberculosis and malaria.

In a joint project with the Chinese government, Bayer supports the provision of medical care to people in the poorer rural areas of western China. Under the slogan "Go West," the company provides continuing education opportunities for general practitioners, equips hospitals and instructs their operators in hospital management. More than 4,500 hospital managers and doctors participated in training programs in 2012. A total of over 11,000 people from 20 provinces have received training as part of this project since its launch in 2007.

The Bayer Cares Foundation, our social needs organization, accepted 44 new charity projects in the communities near the company's German sites into its Volunteering Program in 2012, providing funding of approximately €128,000. As in science, Bayer also aims to drive forward innovations and thus new solutions in the social needs area. The Bayer Cares Foundation therefore gives funding preference to volunteering projects established by employees or other citizens who adopt innovative approaches to improving social conditions at the local level.

In 2012 the foundation presented the €35,000 "Aspirin Social Award" for innovative health care aid and consultancy programs in Germany for the third time.

In 2012 the foundation presented the €35,000 "Aspirin Social Award" for innovative health care aid and consultancy programs in Germany for the third time.

Bayer donated a total of some US$280,000 to the American Red Cross and the Save the Children Fund for victims of Hurricane Sandy in the northeastern United States. The Bayer Cares Foundation has joined with the aid organization Dawn Relief and UNICEF to launch a long-term reconstruction project in the region of Pakistan affected by the severe floods of 2010. The foundation is providing €100,000 for the construction of some 60 single-family homes, a school and a vocational training center.

SPORTS AND CULTURE

The Bayer Arts & Culture program and our other special-interest clubs have contributed to the attractiveness of our corporate locations for more than a century, benefiting employees and other citizens alike. In 2012, the company provided funding of some €13 million for recreational, youth and disabled sports. Bayer also continued with its "Simply Soccer" integration project in conjunction with the German Soccer Federation (DFB), enabling some 200 girls and boys with mental or learning disabilities to regularly play soccer in 13 ordinary clubs.

16. Events After the End of the Reporting Period

HEALTHCARE

In January 2013, we acquired the U.S. animal health business of Teva Pharmaceutical Industries Ltd., United States. The purchase price is comprised of a one-time payment of €40 million plus potential milestone payments totaling up to €69 million that are linked to the successful and timely achievement of manufacturing and sales targets.

CROPSCIENCE

In January 2013, CropScience acquired PROPHYTA Biologischer Pflanzenschutz GmbH, a leading supplier of biological crop protection products headquartered in Malchow, Germany. The acquisition comprises ultra-modern production and formulation plants along with research and development facilities. This acquisition strengthens the successful fruit and vegetables business of CropScience. The provisional purchase price was €25 million.

17. Future Perspectives

17.1 Opportunity and Risk Report

- No risks that could endanger the company's existence
- Opportunity and risk management an integral part of corporate governance
- Clearly structured risk management organization

17.1.1 Opportunity and Risk Management

Business operations necessarily involve opportunities and risks. Effective management of opportunities and risks is therefore a key factor in sustainably safeguarding a company's value.

Managing opportunities and risks is an integral part of the corporate governance system in place throughout the Bayer Group, not the task of one particular organizational unit. Key elements of the opportunity and risk management system are the planning and controlling process, Group regulations and the reporting system.

The opportunity and risk situation is evaluated both qualitatively and quantitatively in determining the strategies of the strategic business entities and the regions. At regular conferences held to discuss business performance, the results of this evaluation are updated to form the basis for setting risk management objectives and taking the necessary actions.

Opportunity management in the Bayer Group is based on the detailed observation and analysis of individual markets and the early recognition and evaluation of trends from which opportunities can be identified. Macroeconomic, industry-specific, regional and local trends are taken into account. It is the task of the subgroups and strategic business entities to make use of strategic opportunities arising in their respective markets. The strategic framework necessary for them to do this is set, and the necessary financing and liquidity ensured, at the Group level. Opportunity-based projects involving more than one subgroup are centrally coordinated and accounted for.

The principles behind the Bayer Group's risk management system are contained in a directive published on the Group-wide intranet. The directive describes the relevant statutory requirements and how Bayer identifies risks at an early stage, communicates them and takes steps to mitigate them.

Risk management at the Group level is assigned to the Chief Financial Officer. The subgroups, service companies and the units of the holding company have nominated persons responsible for risk management at the upper managerial level as well as risk management coordinators to ensure that an effective system for the early identification of risks is implemented and maintained. The annual risk report to the Supervisory Board covers the risk management system, legal risks, compliance issues, the reports by Corporate Auditing and the report on the internal control system. The members of the Group Leadership Circle have unrestricted access to the risk database, which is mapped to the management information system.

The effectiveness of the risk management system is monitored by Corporate Auditing at regular intervals. Corporate Auditing adopts a risk-based approach to audit planning. In addition, the external auditor assesses the early warning system as part of the annual financial statements audit and informs the Group Management Board and the Supervisory Board of the findings. These findings are taken into account as part of the continuous enhancement of our risk management system. The risk management system is monitored by the Supervisory Board, especially its Audit Committee.

17.1.2 Internal Control and Risk Management 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 and risk management system in place under which appropriate structures and processes for (Group) accounting and financial reporting are defined and implemented throughout the organization. This system is designed to guarantee timely, uniform and accurate accounting for all business processes and transactions. It ensures compliance with statutory regulations, accounting and financial reporting standards and the internal accounting directive, which is binding upon all the companies included in the consolidated financial statements. The relevance and consequences for the consolidated financial statements of any amendments to laws, accounting or financial reporting standards or other pronouncements are continually analyzed, and the Group directives and systems are updated accordingly.

Apart from defined control mechanisms such as system-based and manual reconciliation processes, the fundamental principles of the internal control system include the separation of functions and compliance with directives and operating procedures. The accounting and financial reporting process for the Bayer Group is managed by the Group Accounting and Controlling department of Bayer AG.

The Group companies prepare their financial statements either locally or using the Group's shared service centers and transmit them with the aid of a data model that is standardized throughout the Group and based on the Group accounting directive. The Group companies are responsible for their compliance with the directives and procedures applicable throughout the Group and for the proper and timely operation of their accounting-related processes and systems. The employees involved in the accounting and financial reporting process for the consolidated financial statements of the Bayer Group and the financial statements of Bayer AG receive regular training, and the Group companies are supported by headquarters personnel throughout the process. As part of the process, measures are implemented that are designed to ensure the regulatory compliance of the consolidated financial statements. These measures serve to identify and evaluate risks, and to limit and monitor any risks that may be identified. For example, material new contractual relationships are systematically tracked and analyzed.

The consolidated financial statements are prepared centrally on the basis of the data supplied by the included subsidiaries. The consolidation, certain reconciliation operations and monitoring of the related time schedules and procedures are performed by a dedicated Group Financial Statements department. System-based controls are monitored by personnel and supplemented by manual inspection. At least one additional check by a second person is carried out at every level. Defined approval procedures must be observed at all stages in the accounting process. There is also a dedicated unit, separate from the financial statements preparation process, for clarification of specific accounting-related questions or particularly complex issues.

Bayer's internal control system for financial reporting is based on the framework issued by COSO (Committee of the Sponsoring Organizations of the Treadway Commission). For IT processes, the COBIT (Control Objectives for Information and Related Technology) framework is used accordingly. The standards for the mandatory Group-wide internal control system (ICS) were derived from these frameworks, defined centrally and implemented by the Group companies. The management of each company is responsible for the implementation and oversight of the local ICS. All ICS-relevant business processes, together with the related risks and controls, are documented in a uniform and audit-proof manner in a Group-wide system and clearly mapped in a central IT system at the Group level.

Bayer's Corporate Audit Department performs an independent and objective audit function designed to verify compliance with statutory, regulatory and contractual requirements. Its activities are aimed at ensuring that resources and corporate assets are adequately protected and that significant financial and other operating information is accurate, reliable, and furnished in a timely manner. Corporate Auditing supports the company in achieving its goals by objectively evaluating the efficiency and effectiveness of management and monitoring processes and of the risk management and internal control systems, and helping to improve them based on a systematic and targeted approach. Its scope extends to all the company's activities worldwide.

Bayer AG has a standardized, Group-wide procedure to monitor the efficacy of the accounting-related internal control system. This procedure is aligned to potential misreporting risks in the consolidated financial statements.

The appraisal of the effectiveness of the accounting-related ICS is based on a cascaded self-assessment system that starts with the persons directly involved in the process, then involves the principal responsible managers and ends with the Group Management Board. Corporate Auditing performs an independent review of random samples of these self-assessments.

The Group Management Board has examined the effectiveness of the internal control system for accounting and financial reporting. The examination confirmed the functionality of this internal control system for fiscal 2012. The effectiveness of the internal control system is monitored by the Audit Committee of the Bayer AG Supervisory Board in compliance with the German Accounting Law Modernization Act, which came into effect in May 2009. 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.

17.1.3 Opportunities

As an international enterprise, Bayer is subject to a wide variety of developments in the national and international markets in which its three subgroups operate. Different potential risks and opportunities arise within the existing operational framework based on the business development described in this report and the company's overall situation.

We aim to take maximum advantage of the opportunities occurring in our various fields of activity. We continuously evaluate potential additional opportunities in all areas as an integral part of our strategy, which is set forth in detail in Chapter 3 "Strategy."

SEE CHAPTER 3

Further opportunities derive from the company's innovation capability, and we are working continuously to find new products and improve existing ones. These activities are presented in detail in Chapter 11 "Research, Development, Innovation."

SEE CHAPTER 11

We also believe that the emerging markets hold further potential. More information on our business in these countries is provided in Chapter 6.5 "Business Development in the Emerging Markets."

SEE CHAPTER 6.5

Various risks described in the following – particularly financial risks – are counterbalanced by the opportunities that could result from positive trends.

17.1.4 Risks

RISK EXPOSURE

As a global company with a diverse business portfolio, the Bayer Group is exposed to numerous risks. We have purchased insurance coverage – where it is available on economically acceptable terms – in order to minimize related financial impacts. The level of this coverage is continuously re-examined.

Significant risks for the Bayer Group are outlined in the following sections. The order in which the risks are listed is not intended to imply any assessment as to the likelihood of their materialization or the extent of any resulting damages.

LEGAL RISKS

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 matters. The outcome of any current or future proceedings cannot be predicted. It is therefore possible that legal or regulatory judgments could give rise to expenses that are not covered, or not fully covered, by insurers' compensation payments and could significantly affect our revenues and earnings.

Investigations into possible legal or regulatory violations, such as potential infringements of antitrust law or certain marketing and/or distribution methods, may result in civil or criminal sanctions – including substantial monetary penalties – and/or other adverse financial consequences, may harm Bayer's reputation and ultimately detract from the company's success.

To ensure that laws and regulations are observed, Bayer has established a global corporate compliance program that forms an integral part of its corporate culture. This program comprises the Corporate Compliance Policy, which serves as the framework for the observance of laws and regulations, a dedicated compliance organization and intensive communication and training activities.

SEE CONSOLIDATED FINANCIAL STATEMENTS
Note [32]

Legal proceedings currently considered to involve material risks are described in Note [32] to the consolidated financial statements.

INDUSTRY-SPECIFIC RISKS

Pharmaceutical product prices are subject to regulatory controls in many markets. Some governments intervene directly in setting prices. In addition, in some markets major purchasers of pharmaceutical products have the economic power to exert substantial pressure on prices. Price controls, as well as price pressure from generic manufacturers as a result of government reimbursement systems favoring less expensive generic pharmaceuticals over brand-name products, diminish earnings from our pharmaceutical products and could potentially render the market introduction of a new product unprofitable. We expect the current extent of regulatory controls and market pressures on pricing to persist or increase. Changes regarding governmental price controls in our key markets are continuously monitored. If necessary, we adjust our business plans depending on the extent of such price controls.

The Group's sales and earnings are affected by the economic circumstances of our customers. At MaterialScience, a downturn in the business cycle would result in weak demand and overcapacities, putting pressure on prices and heightening competition.

Active portfolio management

The early identification of trends in the economic or regulatory environment and active portfolio management are important elements of our business management. Our analyses of the global economy and forecasts of medium-term economic development are documented in detail on a quarterly basis and used to support operational business planning. However, even our detailed analyses may not ensure that a massive economic downturn can be predicted.

SEE CHAPTER 17.2

For a summary forecast, see Chapter 17.2 "Economic Outlook."

Where it appears strategically advantageous, we may acquire a company or part of a company and combine it with our existing business. The amount of goodwill and other intangible assets reflected in the Bayer Group's consolidated statement of financial position has increased significantly in recent years as a result of acquisitions. Failure to successfully integrate a newly acquired business or unexpectedly high integration costs could jeopardize the achievement of quantitative or qualitative targets, such as synergies, and adversely impact earnings.

The integration processes associated with our acquisitions are steered by integration teams. Suitably experienced personnel resources are provided to support the integration processes. Teams of experts also provide support for any divestiture projects.

PRODUCT DEVELOPMENT RISKS

The Bayer Group's competitive position, sales and earnings depend significantly on the development of commercially viable new products and production technologies. We therefore devote substantial resources to research and development. Because of the lengthy development processes, technological challenges, regulatory requirements and intense competition, we cannot assure that all of the products we will develop in the future or are currently developing will actually reach the market and achieve commercial success as scheduled or at all.

In addition, adverse effects of our products that may be discovered after regulatory approval or registration despite thorough prior testing may lead to a partial or complete withdrawal from the market, due either to regulatory actions or our voluntary decision to stop marketing a product. Also litigations and associated claims for damages due to negative effects of our products may materially diminish our earnings.

To ensure an effective and efficient use of resources in research and development, the Bayer Group has implemented an organizational structure and process organization comprising functional departments, working groups and reporting systems that monitor development projects.

REGULATORY RISKS

Our life-science businesses, in particular, are subject to strict regulatory regimes relating to the testing, manufacturing and marketing of many of our products. In some countries, regulatory controls have become increasingly demanding. We expect this trend to continue. Increasing regulatory requirements, such as those governing clinical or (eco-)toxicological studies, may increase product development costs and/or delay product (re-)registration.

To counter risks arising from legal or other requirements, we make our decisions and engineer our business processes on the basis of comprehensive legal advice provided both by our own experts and by acknowledged external specialists. Projects have been initiated to coordinate the implementation of new regulatory controls and mitigate any negative implications for the business.

PATENT RISKS

A large proportion of our products, mainly in our life-science businesses, is protected by patents. We are currently involved in lawsuits to enforce patent rights in our products. 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.

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. Details of related litigation are provided as part of the description of legal risks in Note [32] to the consolidated financial statements.

SEE CONSOLIDATED FINANCIAL STATEMENTS
Note [32]

In some areas of activity we may also be required to defend ourselves against charges that products infringe patent or proprietary rights of third parties. This could impede or even halt the development or manufacturing of certain products or require us to pay monetary damages or royalties to third parties.

Our life-science businesses, in particular, have a comprehensive product life-cycle management system in place. In addition, our patents department, in conjunction with the relevant functional departments, regularly reviews the patent situation. Potential infringements of our patents by other companies are carefully monitored so that legal action can be taken if necessary.

PRODUCTION, PROCUREMENT MARKET AND ENVIRONMENTAL RISKS

Production capacities at some of our manufacturing facilities could be adversely affected by events such as technical failures, natural disasters, regulatory rulings or disruptions to supplies of key raw materials or intermediates, as in the case of dependence on a single source for critical materials. This applies particularly to our biotech products because of the highly complex manufacturing processes. If in such cases we are unable to meet demand by shifting sufficient production to other plants or drawing on our inventories, we may suffer declines in sales revenues.

Long-term supply contracts to hedge against raw material price risks

The supply of strategically important raw materials is ensured wherever possible through long-term contracts and/or by purchasing from multiple suppliers. Furthermore, all stages of our production processes and our material inputs are continuously monitored by the respective expert function within the company.

The manufacturing of chemical products is subject to risks associated with the production, filling, storage and transportation of raw materials, products and waste. These risks may result in personal injury, property damage, environmental contamination, production stoppages, business interruptions and liability for compensation payments.

The presence of unintended trace amounts of genetically modified organisms in agricultural products and/or foodstuffs cannot be completely excluded.

We address product and environmental risks by adopting suitable quality assurance measures. An integrated quality, health, environmental and safety management system ensures process stability. Our sustainability strategy and sustainability management are driven by our commitment to the international Responsible Care and Global Product Strategy initiatives of the chemical industry.

PERSONNEL RISKS

Skilled and dedicated employees are essential for the success of our growth-oriented corporate strategy. Particularly in the emerging markets of Asia and Latin America, the number of people with the technical and language skills needed for demanding positions in an international industrial enterprise remains relatively small. Accordingly, those who possess these skills are highly sought after by companies operating there. Should we be unable to recruit a sufficient number of employees in these countries and retain them for the long term, this could have considerable adverse consequences for our future success.

We are addressing this risk by globally positioning the company as an attractive employer and carrying out comprehensive personnel marketing to convince our target groups of the benefits of working for Bayer. 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.

IT RISKS

Business and production processes and the internal and external communications of the Bayer Group are increasingly dependent on information technology systems. Major disruptions or failure of global or regional business systems may result in loss of data and/or impairment of business and production processes.

The foundations for a continuous and sustainable IT risk management system have been laid by establishing a comprehensive organization, issuing regulations that define the relevant roles and responsibilities, and implementing a periodic reporting system. For this purpose a committee has been established at the Group level to resolve upon the basic strategy, architecture and IT security features, which are implemented accordingly by the subgroups and service companies in consultation with this central organization. Technical precautions such as data recovery and continuity plans have been established together with our internal IT service provider to address this risk.

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 directly in equity. 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.

SEE 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.

FINANCIAL RISKS

Management of financial and commodity price risks

As a global enterprise, Bayer is exposed in the normal course of business to credit risks, liquidity risks and various market price risks that may materially affect its net assets, financial position and results of operations.

In line with company policy, a central risk management process is applied to identify and analyze the market price risks arising from operating activities and from the resulting financing requirements. Our use of derivatives to eliminate or minimize these risks relates almost entirely to hedge recorded or forecasted transactions and is subject to strict internal controls based on centrally defined mechanisms and uniform guidelines. The derivatives used are mainly over-the-counter instruments, particularly forward exchange contracts, foreign currency options, interest-rate swaps, cross-currency interest-rate swaps, commodity swaps and commodity option contracts concluded with banks. We set counterparty limits for such banks depending on their creditworthiness. Further details on derivatives are given in Note [30.3].

SEE CONSOLIDATED FINANCIAL STATEMENTS
Note [30.3]

The following section explains the various risks associated with financial instruments and how these risks are managed.

Credit and country risks

Credit risks arise from the possibility of the value of receivables or other financial assets being 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 of 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 effectively manage the credit risks from trade receivables, Bayer has put in place a standardized risk management system, which is the subject of a Group directive. Each invoicing company has appointed a responsible credit manager who regularly analyzes 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.

To minimize credit risks, financial transactions are only conducted within predefined exposure limits and with banks and other partners that have investment-grade ratings. All risk limits are based on methodical models. Adherence to the risk limits is continuously monitored.

Country risks relating to trade receivables, intra-Group loans and the creditworthiness of the countries themselves are continuously monitored, systematically evaluated and centrally managed.

Liquidity risks

Liquidity risks – those arising from the possibility of not being able to meet current or future payment obligations because insufficient cash is available – are centrally managed in the Bayer Group. The Group holds sufficient liquidity to ensure the fulfillment of all planned payment obligations at maturity. Payment obligations result both from operating cash flows and from changes in current financial liabilities. In addition, a reserve is maintained for unbudgeted shortfalls in cash receipts or unexpected disbursements. For this purpose, budget deviation analyses are performed on the basis of historical time series, adjusted for variations in business structure. The liquidity reserve is then determined which, with a defined probability, will cover a negative deviation from budgeted cash flows. The size of this reserve is regularly reviewed and adjusted as necessary to current conditions. 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.

We intend to service the bonds maturing in 2013 out of liquidity and free operating cash flow.

Market risks

Market risks relate to the possibility that the fair value or future cash flows of financial instruments may fluctuate due to variations in market prices. They include currency, interest-rate and other price risks, especially commodity price risks. We estimate market price risks by performing a sensitivity analysis for each category (such as interest rates) on the basis of hypothetical changes in risk variables (such as interest curves) to determine the potential effects of market price fluctuations on equity and earnings. We employ sensitivity analysis because it provides readily understandable risk estimates using straightforward assumptions (for example, an increase in interest rates). We continue to use market information and additional analytics to manage our risk exposure and mitigate the limitations of our sensitivity analysis. The assumptions and parameters used in sensitivity analysis are regularly reviewed. The sensitivity analyses provided in the following sections relate to the hypothetical loss in cash flows from the derivative and non-derivative financial instruments that we held as of December 31, 2012 and December 31, 2011. The range of sensitivities that we chose for these analyses reflects our view of the changes in foreign exchange rates, commodity prices and interest rates that are reasonably possible over a one-year period.

Currency risks

Since the Bayer Group conducts a significant portion of its operations outside the eurozone, fluctuations in currency exchange rates can materially affect earnings. Currency risks from financial instruments exist with respect to receivables, payables, cash and cash equivalents that are not denominated in a company's functional currency. In the Bayer Group these risks are particularly significant for the U.S. dollar, the Japanese yen, the Canadian dollar and the Chinese renminbi.

Recorded operating items, receivables and payables in liquid foreign currencies are normally fully hedged.

The anticipated foreign currency exposure from forecasted transactions in the next twelve months is hedged on a basis agreed between the Group Management Board, the central finance department and the operating units. A significant proportion of contractual and foreseeable currency risks is hedged, mainly through forward exchange contracts and currency options.

We applied a hypothetical adverse scenario in which the euro simultaneously 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 as of December 31, 2012 would be €256 million (December 31, 2011: €305 million). Of this €256 million, €127 million is related to the U.S. dollar, €32 million to the Japanese yen, €31 million to the Canadian dollar and €66 million to other currencies. Of the €256 million estimated hypothetical loss of cash flow, €296 million results from derivatives used to hedge anticipated exposure from planned sales denominated in foreign currencies. Such transactions qualify for hedge accounting, and the respective changes in value are recognized in equity under other comprehensive income (OCI). The offsetting position of €40 million is primarily attributable to account balances in foreign currencies.

Interest-rate risks

The Bayer Group's interest-rate risks arise primarily from financial assets and liabilities with maturities exceeding one year. In the case of fixed-rate financial instruments, such as fixed-rate bonds, the risk of fluctuations in capital-market interest rates results in a fair-value risk because the fair values fluctuate as a function of interest rates. In the case of floating-rate instruments, a cash flow risk exists because interest payments could increase or decrease in the future.

Interest-rate risks are managed via the duration set by the Board of Management, which implicitly also includes the ratio of fixed-rate to floating-rate debt. The duration is subject to regular review. Derivatives – mainly interest-rate swaps, cross-currency interest-rate swaps and interest options – are employed to preserve the target structure of the portfolio.

Financial liabilities including derivatives as of December 31, 2012 amounted to €9,528 million (December 31, 2011: €11,663 million). The sensitivity analysis was performed on the basis of our floating-rate debt position at year end 2012, taking into account the interest rates relevant to our liabilities in all principal currencies. A hypothetical increase of 100 basis points, or 1 percentage point, in these interest rates (assuming constant currency exchange rates) as of January 1, 2012 would have raised our interest expense for the year ended December 31, 2012 by €46 million (2011 based on our floating-rate debt position at year end 2011: €68 million).

Other price risks (especially commodity price risks)

The Bayer Group requires significant quantities of petrochemical feedstocks and energy for its various production processes. The prices of these inputs may fluctuate considerably depending on market conditions. As in the past, there may be times when it is not possible for us to pass on increased raw material costs to customers through price adjustments. This applies particularly to our MaterialScience business.

We have addressed this risk by concluding long-term contracts with multiple suppliers. The procurement departments of the subgroups are responsible for managing commodity price risks on the basis of centrally set requirements and limits. The operation of our production facilities requires large amounts of energy, mostly in the form of electricity and steam. To minimize our exposure to energy price fluctuations, we aim for a balanced diversification of fuels for steam production and a mix of external procurement and captive production for power generation.

ASSESSMENT OF THE OVERALL RISK SITUATION

Compared with the previous year, the overall risk situation did not change significantly in the reporting period. The overall risk assessment is based on a consolidated view of all significant individual risks. At present, no potential risks have been identified that either individually or in combination could endanger the continued existence of the Bayer Group.

17.2 Economic Outlook

GLOBAL ECONOMY

Economic Outlook [Table 3.42]

	Growth in 2012*	Growth forecast for 2013*
World	+2.6 %	+2.5 %
European Union	−0.2 %	+0.1 %
of which Germany	+0.7 %	+0.4 %
United States	+2.3 %	+1.7 %
Emerging markets**	+4.9 %	+5.1 %

* real GDP growth, source: Global Insight; source for Germany: Federal Ministry of Economics and Technology
** including about 50 countries defined by Global Insight as emerging markets in line with the World Bank

The world economy is predicted to grow at about the same pace in 2013 as in the prior year. The key factors hampering economic growth remain the economic crisis in Europe and the high level of government debt in a number of industrialized countries, especially the United States. However, there are initial signs that the global economic weakness may gradually be overcome during the year provided that the situation in Europe, in particular, continues to stabilize. The monetary policy of the principal central banks will likely remain strongly expansionary and thus help to underpin the economy.

We expect the economic situation in the European Union to slightly improve during the year, with economic performance in the southern European countries showing a smaller decline than in 2012. We anticipate slower growth in Germany in a persistently difficult environment.

In the United States, while the tense budget situation and the need for fiscal consolidation are likely to present further obstacles to growth, the increase in employment that began in the middle of last year is likely to spur consumer demand. There are also indications of an enduring, if slow, improvement in the real estate market.

We continue to anticipate relatively strong growth in the emerging markets. However, economic expansion in those countries as a whole will probably only slightly outpace the previous year, as many countries remain highly dependent on exports and will therefore suffer from the low demand in many of the industrialized countries. China and Brazil especially are likely to show stronger growth again in 2013 following a relatively weak prior year.

Economic Outlook for the Subgroups [Table 3.43]

	Growth in 2012*	Growth forecast for 2013*
HealthCare		
Pharmaceuticals market	+3 %	+3 %
Consumer care market	+4 %	+3 %
Medical care market	+1 %	−1 %
Animal health market	+4 %	+5 %
CropScience		
Seeds and crop protection markets	> 10 %	≥ 5 %
MaterialScience (main customer industries)		
Automotive	+6%	+2%
Construction	+3%	+4%
Electrical/electronics	+3%	+5%
Furniture	+4%	+5%

* Bayer's estimate; excluding pharmaceuticals market, source: IMS Health. Copyright 2013. All rights reserved; currency-adjusted; 2012 data provisional

HEALTHCARE

We expect growth in the **pharmaceuticals market** to continue to be driven by emerging markets such as China, Brazil, India and Russia. The United States and a number of European countries are likely to experience declines as a result of persistently restrictive health system policies.

The **consumer care market** should expand at a slightly slower rate than in 2012, with higher rates of growth in the emerging markets being offset by slower expansion in Europe and the United States. We anticipate that the **medical care market** will shrink slightly in 2013 compared to 2012. Here we expect the diabetes care market to decline, while the market for contrast agents and medical equipment is likely to expand. We believe the **animal health market** as a whole will grow in 2013 at a rate comparable to prior years despite weaker economic prospects.

CROPSCIENCE

After the global **seed and crop protection market** grew by more than 10% in 2012 for the second straight year, we expect the market environment in the coming year to remain positive, though volatile. The predicted relatively low inventories worldwide for most plant-based agricultural commodities – combined with steadily rising demand for food and feed products – portend comparably high price levels at least for the first half of 2013. Farmers' economic prospects are therefore likely to remain positive, spurring investment in high-value seed and crop protection products. The global seed and crop protection market should benefit from this. We nevertheless anticipate a lower growth rate of at least 5% in 2013.

As last year, we expect Latin America to see the strongest market growth. With soybean cultivation steadily increasing and now accounting for nearly 40% of the region's acreage, this is the principal crop driving growth in the seed and crop protection market. In Asia/Pacific, too, we expect agricultural production to go on increasing, albeit at markedly slower 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 believe Eastern Europe and parts of Africa also have above-average growth potential, though starting from a relatively low level. In the industrialized regions of the northern hemisphere, however, we expect markets to expand much more slowly than in 2012.

MATERIALSCIENCE

For 2013, we predict continued stable growth in the principal **global customer industries** for MaterialScience, albeit with risks attached. The ongoing eurozone crisis, in particular, could continue to dampen consumer behavior. By contrast, a gradual market recovery in the United States would likely have a positive effect. We believe the economic growth momentum will persist in Asia.

For the **automotive industry**, we expect significantly slower growth than in 2012. Sales in Western Europe are currently expected to decline, with demand in nearly all countries remaining weak and automotive production in Germany heavily dependent on export markets. On the other hand, car sales in India and China are likely to go on increasing rapidly. Stable growth is expected in the other regions.

The global **construction industry** is likely to expand in 2013 at the same rate as in the previous year, with a growing recovery in construction investment in the United States but continuing weak development in Western Europe. The pace of growth in the most important Asian countries should remain relatively constant.

Robust growth is also forecasted for the **electrical/electronics sector** in 2013. Demand is likely to rise in nearly all segments of this industry, especially in the BRIC countries (Brazil, Russia, India and China). In Western Europe, however, we believe growth will be considerably weaker due to the continuing debt crisis and consumer reticence.

We expect the trend in the global **furniture industry** to vary by region again in 2013. While consumer reticence in Western Europe could affect production in Eastern Europe and Asia, we anticipate that the gradual recovery in the North American market will continue. For Asia, we expect the region's overseas markets to progressively recover, with domestic demand continuing to stabilize.

17.3 Sales and Earnings Forecast

The following forecasts are based on the business development described in this report, taking into account the potential risks and opportunities.

BAYER GROUP

We expect Group sales to increase in 2013 by 4% – 5% on a currency- and portfolio-adjusted basis, to approximately €41 billion. We plan to increase EBITDA before special items by a mid-single-digit percentage and core earnings per share (calculated as explained in Chapter 7.3 "Core Earnings Per Share") by a high-single-digit percentage.

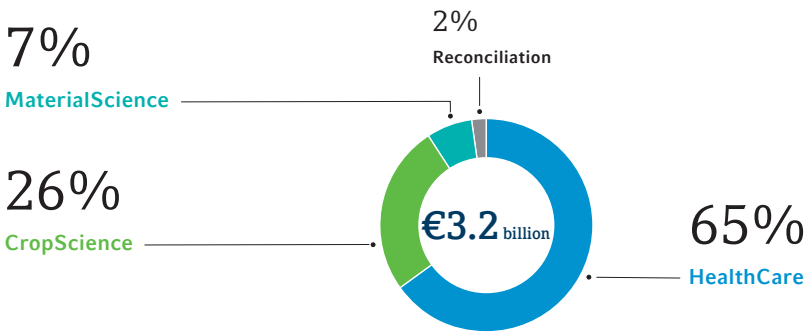
	2013 forecast
Group sales*	4% – 5% increase to approx. €41 billion
EBITDA before special items	Mid-single-digit percentage increase
Core earnings per share	High-single-digit percentage increase

* currency- and portfolio-adjusted

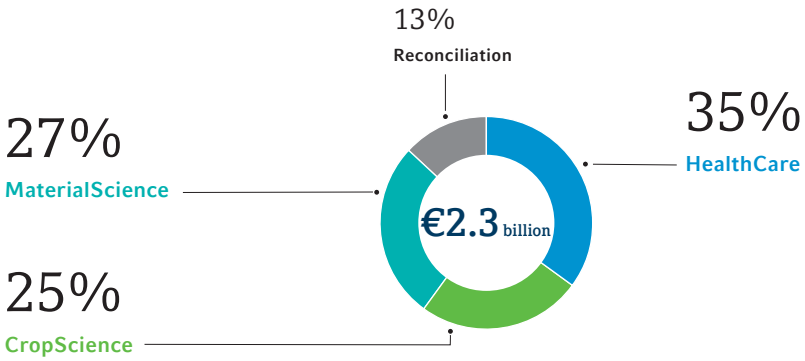
The currency assumptions made for 2013 are approximately in line with the average exchange rates seen in the fourth quarter of 2012, including a rate of US$1.29 to the euro. Compared to the currency parities prevailing in 2012, these assumptions adversely affect the planned level of EBITDA before special items for 2013. A 1% appreciation (depreciation) of the euro against all other currencies would lead to a decrease (increase) of around €270 million in sales and about €70 million in EBITDA before special items.

Following the successful completion of the major restructuring projects in 2012, we will continue to execute efficiency enhancement measures, for which we expect to incur special charges of roughly €200 million in 2013.

Research and Development Expenses by Subgroup 2013 [Graphic 3.24]



Capital Expenditures by Subgroup 2013 [Graphic 3.25]



We expect our research and development expenses to rise to approximately €3.2 billion. We have planned capital expenditures of about €1.9 billion for property, plant and equipment and €0.4 billion for intangible assets. Depreciation and amortization are estimated at about €2.6 billion, including €1.3 billion in amortization of intangible assets.

We anticipate a financial result of approximately minus €0.8 billion, taking into account the adjustments resulting from IAS 19 (revised). We are planning for an effective tax rate of about 26%. Regarding our financial position, we expect net financial debt to be below €7.0 billion at the end of 2013.

For 2014 we plan to continue growing Bayer Group sales, EBITDA before special items and core earnings per share, with our new pharmaceutical products also contributing to this expansion. We plan to maintain about the same level of capital expenditures for property, plant and equipment and intangible assets as in 2013. With research and development expenses also expected to be at the 2013 level, we intend to continue developing our projects as described in Chapter 11 "Research, Development, Innovation." We anticipate a further decline in net financial debt in 2014.

HEALTHCARE

HealthCare's ongoing priority for 2013 is to successfully commercialize the new pharmaceutical products. We expect sales to advance by a mid-single-digit percentage on a currency- and portfolio-adjusted basis to approximately €19 billion, with an increase in EBITDA before special items. Earnings growth is likely to be restrained by negative currency effects and higher marketing expenses for the launch of our new products. We aim to slightly improve the EBITDA margin before special items.

In the Pharmaceuticals segment we expect sales to move ahead in 2013 by a mid-single-digit percentage on a currency- and portfolio-adjusted basis to about €11 billion. We plan to increase EBITDA before special items and slightly improve the EBITDA margin before special items.

We predict that sales of the Consumer Health segment will grow by a mid-single-digit percentage on a currency- and portfolio-adjusted basis to around €8 billion. We expect EBITDA before special items to increase and the EBITDA margin before special items to be level with the prior year.

In 2014 we plan to accelerate growth momentum in both HealthCare segments, raising both sales and EBITDA before special items.

CROPSCIENCE

For 2013 we predict continued favorable market conditions for our CropScience business.

We expect business growth to outpace the market, with sales advancing by a high-single-digit percentage on a currency- and portfolio-adjusted basis toward €9 billion. We also plan to raise EBITDA before special items by a high-single-digit percentage.

In 2014 we plan to further increase sales and EBITDA before special items.

MATERIALSCIENCE

For 2013 we are planning a slight increase in sales on a currency- and portfolio-adjusted basis to about €12 billion. We intend to further improve EBITDA before special items.

For the first quarter of 2013 we anticipate a slight year-on-year sales increase after adjusting for currency and portfolio effects. We expect EBITDA before special items to come in at the level of the preceding quarter.

Assuming a positive market environment, we plan to increase sales and EBITDA before special items again in 2014.

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 show a further improvement in light of the decline in financial debt and 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 appropriately participate in the Bayer Group's earnings.