BAYER
Science For A Better Life
BAYER ANNUAL REPORT 2011
ANNUAL REPORT
2011

Science For A Better Life

Bayer is a global enterprise with core competencies in the fields of health care, nutrition and high-tech materials. As an inventor company, we set trends in research-intensive areas. Our products and services are designed to benefit people and improve their quality of life. At the same time we aim to create value through innovation, growth and high earning power. We are committed to the principles of sustainable development and to our social and ethical responsibilities as a corporate citizen.

Cover picture
Bayer HealthCare has a major research focus in the area of cardiology. Bayer scientists are working on new approaches to the treatment of cardiovascular diseases. The company's product offering also includes innovative injection systems for removing blood clots and deposits from blood vessels. Our picture shows Bayer employees Hieu Le and Kristin Green in the laboratory in Minneapolis, Minnesota, United States, with a simulation of blood cells.

Key Data

[Table 1.1]

	2010	2011	Change
	€ million	€ million	%
Bayer Group			
Sales	35,088	36,528	+4.1
EBIT[1]	2,730	4,149	+52.0
EBIT before special items[2]	4,452	5,025	+12.9
EBITDA[3]	6,286	6,918	+10.1
EBITDA before special items[2]	7,101	7,613	+7.2
EBITDA margin before special items[4]	20.2%	20.8%	
Income before income taxes	1,721	3,363	+95.4
Net income	1,301	2,470	+89.9
Earnings per share (€)[5]	1.57	2.99	+90.4
Core earnings per share (€)[6]	4.19	4.83	+15.3
Gross cash flow[7]	4,771	5,172	+8.4
Net cash flow[8]	5,773	5,060	−12.4
Net financial debt	7,917	7,013	−11.4
Capital expenditures as per segment table	1,621	1,666	+2.8
Research and development expenses	3,053	2,932	−4.0
Dividend per Bayer AG share (€)	1.50	1.65	+10.0
HealthCare			
Sales	16,913	17,169	+1.5
EBIT	1,861	3,191	+71.5
EBIT before special items[2]	3,030	3,367	+11.1
EBITDA[3]	4,116	4,502	+9.4
EBITDA before special items[2]	4,405	4,702	+6.7
EBITDA margin before special items[4]	26.0%	27.4%	
Gross cash flow[7]	2,948	3,254	+10.4
Net cash flow[8]	3,320	3,357	+1.1
CropScience			
Sales	6,830	7,255	+6.2
EBIT	261	562	+115.3
EBIT before special items[2]	787	1,168	+48.4
EBITDA[3]	767	1,215	+58.4
EBITDA before special items[2]	1,293	1,654	+27.9
EBITDA margin before special items[4]	19.0%	22.8%	
Gross cash flow[7]	546	900	+64.8
Net cash flow[8]	1,399	691	−50.6
MaterialScience			
Sales	10,154	10,832	+6.7
EBIT	780	633	−18.8
EBIT before special items[2]	780	589	−24.5
EBITDA[3]	1,356	1,215	−10.4
EBITDA before special items[2]	1,356	1,171	−13.6
EBITDA margin before special items[4]	13.4%	10.8%	
Gross cash flow[7]	1,058	939	−11.2
Net cash flow[8]	763	775	+1.6

In some cases, the sum of the figures given in this report may not precisely equal the stated totals and percentages may not be exact due to rounding.

[1] EBIT = operating result as shown in the income statement

[2] EBIT before special items and EBITDA before special items are not defined in the International Financial Reporting Standards and should therefore be regarded only 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. See also Combined Management Report, Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."

[3] EBITDA = EBIT plus amortization and impairment losses on intangible assets and depreciation and impairment losses on property, plant and equipment, minus impairment loss reversals.

[4] The EBITDA margin before special items is calculated by dividing EBITDA before special items by sales.

[5] Earnings per share as defined in IAS 33 = net income divided by the average number of shares. For details see Note [16] to the consolidated financial statements.

[6] Core earnings per share are not defined in the International Financial Reporting Standards and should therefore be regarded only as supplementary information. The company considers that this indicator gives readers a clearer picture of the results of operations and ensures greater comparability of data over time. The calculation of core earnings per share is explained in the Combined Management Report, Chapter 4.3.

[7] Gross cash flow = income after taxes, plus income taxes, plus non-operating 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 the operating result (EBIT). It also contains benefit payments during the year. For details see Combined Management Report, Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

[8] Net cash flow = cash flow from operating activities according to IAS 7

The Bayer Group

Bayer

Bayer AG defines common values, goals and strategies for the entire Group. The subgroups and service companies operate independently, led by the management holding company. The Corporate Center supports the Group Management Board in its task of strategic leadership.

Bayer HealthCare

Bayer HealthCare is among the world's foremost innovators in the field of pharmaceutical and medical products. This subgroup's mission is to research, develop, manufacture and market innovative products that improve the health of people and animals throughout the world. Read more on page 68ff.

Bayer CropScience

Bayer CropScience, with its highly effective products, pioneering innovations and keen customer focus, holds global leadership positions in crop protection and non-agricultural pest control. The company also has major activities in seeds and plant traits. Read more on page 74ff.

Bayer MaterialScience

Bayer MaterialScience is a renowned supplier of high-tech polymers and develops innovative solutions for a broad range of applications relevant to everyday life. Products holding leading positions on the world market account for a large proportion of its sales. Read more on page 77ff.

SERVICE COMPANIES

Bayer Business Services is the Bayer Group's global competence center for IT and business services. Its portfolio is focused on services in the core areas of IT infrastructure and applications, procurement and logistics, human resources and management services, and finance and accounting.

Bayer Technology Services, the global technological backbone and a major innovation driver of the Bayer Group, is engaged in process development and in process and plant engineering, construction and optimization. BTS is the gateway to the Bayer Group for young engineers.

Currenta offers services for the chemical industry including utility supply, waste management, infrastructure, safety, security, analytics and vocational training.

2011: Bayer achieves financial and innovation targets

It is a great pleasure to present to you Bayer's Annual Report for 2011, a very successful year for our company.

For me, it was the first full year as CEO of Bayer. What continues to motivate me more than anything else is the opportunity to contribute to the realization of this company's fascinating mission "Bayer: Science For A Better Life." I share this passion with our many employees in all regions of the world. We all work every day to build on our position as a world-class inventor company that improves the lives of many people with its innovative products and solutions.

As we do so, we continue to benefit from the global drivers. An increasing, aging population and growing affluence in the emerging markets are boosting the demand for innovative health care solutions. The world's food supply also needs to be increased. And given the limited amount of arable land, that means continuing to raise harvest yields with new crop protection and seed products. Our plastics business also benefits from the global trends, because innovative materials and resource efficiency are more important than ever.

Now let's take a look at our business performance. Although the global economic recovery lost momentum in 2011, it was nevertheless a very good year for Bayer. Group sales rose by a currency- and portfolio-

adjusted 5.5 percent to €36.5 billion – exceeding the record set in 2010. We substantially improved the operating result, with EBIT of €4.1 billion (plus 52 percent) and EBITDA before special items of €7.6 billion (plus 7 percent). The nearly 90 percent increase in our net income, to €2.5 billion, was also a very satisfactory development. Core earnings per share climbed by more than 15 percent. We achieved the Group targets that we raised after the first quarter.

Business in our three subgroups was driven by different factors. HealthCare showed only modest growth, but its operating result improved significantly. As in the previous year, the Pharmaceuticals segment was hampered by the efforts of many countries to reduce health system costs. Intense competition from generic products also presented an ongoing challenge. That makes it all the more positive that our cost management was successful and that our Consumer Health segment outperformed the market.

Boosted by improved weather conditions in the major growing regions and good prices for agricultural commodities, our CropScience subgroup posted encouraging sales growth and an even better increase in earnings compared with a relatively weak 2010.

MaterialScience, however, clearly experienced the increasing volatility in the global economy. In 2010, this subgroup had re-attained its pre-crisis sales level more quickly than expected, and continued to expand in the early part of 2011. But in the fourth quarter, particularly, we felt the impact of the cooling economy and the growing burden of high energy and raw material costs. As a result, MaterialScience posted continuing sales growth but a drop in the operating result.

In 2011 as a whole, however, we were operationally successful and also made key progress on strategic topics. Of central importance is our

innovative capability. Only by maintaining this at a high level can we do justice to our mission "Bayer: Science For A Better Life." And only then will we hold our own in the international competitive arena. Our innovative capability made important advances in all three subgroups in 2011.

HealthCare aims to make a steady contribution to improving human health. Still, there is an unmet or partially unmet treatment need for some two thirds of known diseases. And in this respect we were especially successful in 2011. We currently have four drug products with blockbuster potential at an advanced stage of development. This is good news for patients – and also for Bayer, as each of these products could achieve peak annual sales in excess of €1 billion. They include the eye medicine VEGF Trap-Eye and the cancer drugs Alpharadin and regorafenib. And we can confirm the peak sales potential of more than €2 billion per year for our innovative anticoagulant Xarelto™ following its approval in new indications in the United States, the E.U. and Japan.

At CropScience we have stepped up our BioScience activities, which comprise modern technologies for seeds and plant traits. In this area we plan to approximately double research and development (R&D) expenditures by 2015 to €400 million. We will increase the entire annual R&D budget of CropScience by some 20 percent within this timespan, to more than €850 million. We are also continuing to launch successful new crop protection products. A good example is the Xpro™ family of fungicides introduced in 2011. The novel Xpro™ technology improves disease control in cereals and has positive effects on plant physiology, which in turn increases stress tolerance and boosts grain yields. We believe this product family has a peak annual sales potential of more than €300 million.

MaterialScience continues to focus on cost and process technology leadership. For example, in November 2011 we officially opened our new 250,000-tons-per-year TDI facility in Shanghai. The innovative technology

used at this plant reduces solvent input by roughly 80 percent and energy consumption by up to 60 percent compared with conventional facilities of the same size. This represents a major advance, particularly from an environmental standpoint.

For the current year, we again plan to spend approximately €3 billion on research and development – in line with the high level of recent years.

In addition to innovation – which of course includes commercializing new products as effectively as possible – another major factor for our future success is our presence in the dynamic emerging markets. Examples of our actions to enhance that presence are the transfer of the Polycarbonates business unit's headquarters to Shanghai and of the Primary Care unit's headquarters to Beijing. These relocations are in keeping with the continuing shift in the market focus of these units toward Asia. Also noteworthy is our operational success in the emerging markets, where sales moved ahead by 9 percent in 2011.

So we resolutely pursued our strategy of targeted investment in our innovative capability and in emerging regional markets. We are creating the necessary financial flexibility through the restructuring program we communicated in November 2010 to improve efficiency and reduce internal complexity. This program is proceeding as planned according to the principle of 'more innovation, less administration.'

Yet amid all our efforts to achieve growth, we are always mindful of the long-term implications of what we do. Our renewed inclusion in both the European and the global Dow Jones Sustainability Index is testimony to our leadership in this field.

Last year we also turned our attention to important aspects of our corporate culture. Having introduced our new values at the end of 2010

using the acronym LIFE, we focused in 2011 on workforce diversity. With our markets outside of Europe and North America gaining in importance, we are aiming to better reflect this by increasingly entrusting leadership roles to employees from the emerging regions. At the same time we are endeavoring to better tap the potential of the many highly qualified women throughout the world. To this end we have set ourselves the goal of raising the proportion of women in our five highest management grade levels from currently around 22 percent toward 30 percent by 2015.

All in all, despite ongoing challenges in 2011, our business was successful and we continued to evolve as a company. On behalf of my colleagues on the Board of Management, I would like to personally thank our employees throughout the world for making this success possible. Ultimately it is their dedication and their contributions that are bringing us closer to our goals.

Now let me look to the future. The outlook for the global economy in 2012 – and especially for the eurozone – is marked by uncertainty. But the specific opportunities and challenges for us as a company are becoming clear.

In HealthCare, we are about to launch a number of highly promising products, but their successful commercialization naturally demands increased marketing expenses. And we will continue to experience pressure on prices from cost-saving measures in many countries' health systems and from generic competition.

At CropScience, our performance will depend partly on whether the attractive price levels for agricultural commodities persist. We also face the task of maintaining our focus on advanced seed technologies without abandoning our traditionally strong position in crop protection.

MaterialScience is particularly dependent on the general economic trend and on energy and raw material costs. The challenge here is to be flexible in everything we do, from how we run our production facilities to the investment decisions that determine our long-term development.

To support the subgroups we must ensure that the programs we have initiated throughout Bayer are resolutely implemented. This applies to continuous improvement in the area of human resources and to our programs to increase efficiency and reduce complexity.

We achieved a good deal of success in 2011. We identified our future opportunities and challenges and are prepared to address them. That is how we ensure that Bayer can consistently exploit its exciting growth potential. We count on your continuing support in the pursuit of these objectives.

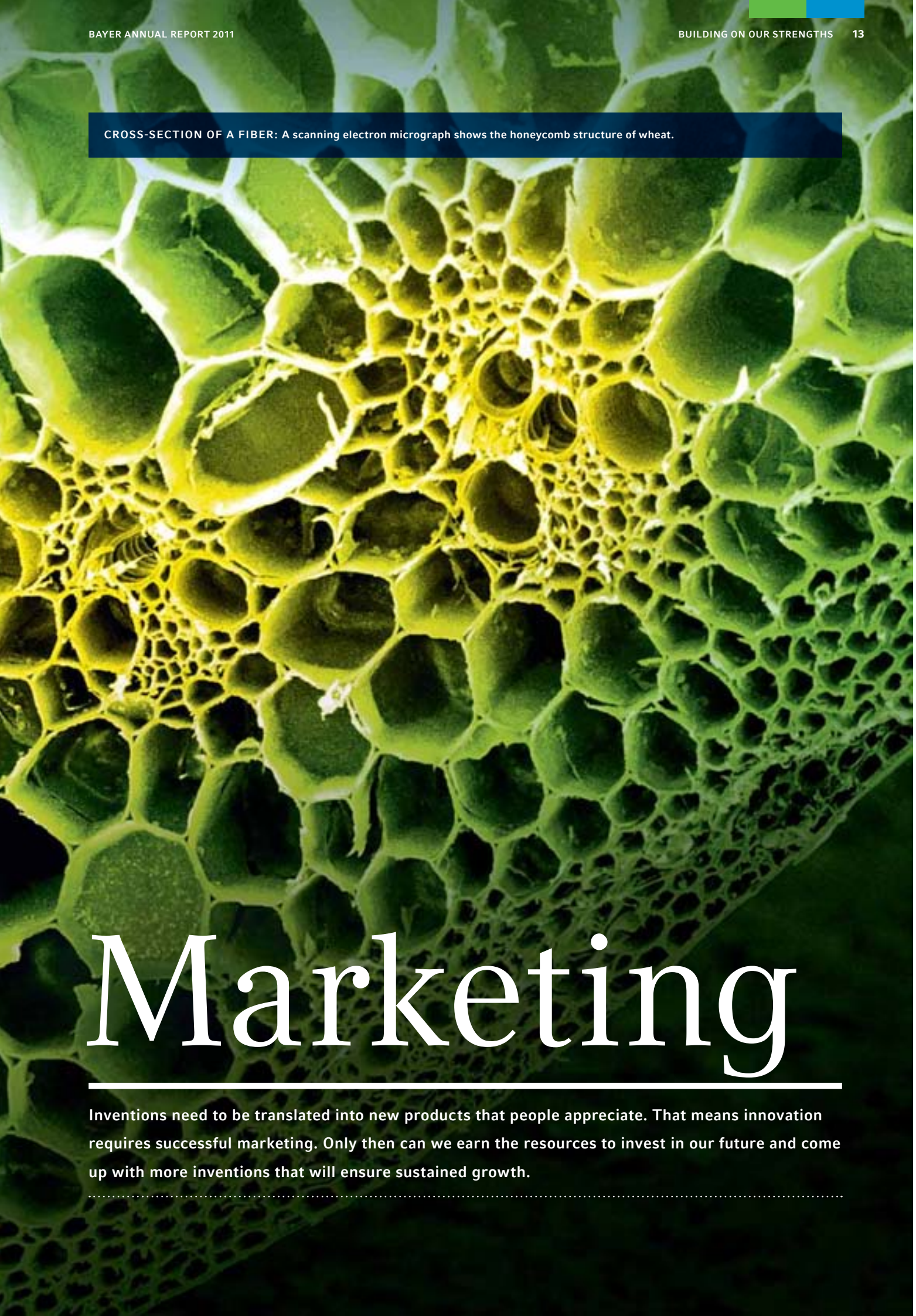
Sincerely,

Dr. Marijn Dekkers
Chairman of the Board of Management of Bayer AG

THE MACULA: This part of the retina of the eye contains some eight million photoreceptor cells that are responsible for visual acuity and also for color vision. Degeneration of the macula can lead to a loss of central or "straight-ahead" vision.

Innovation

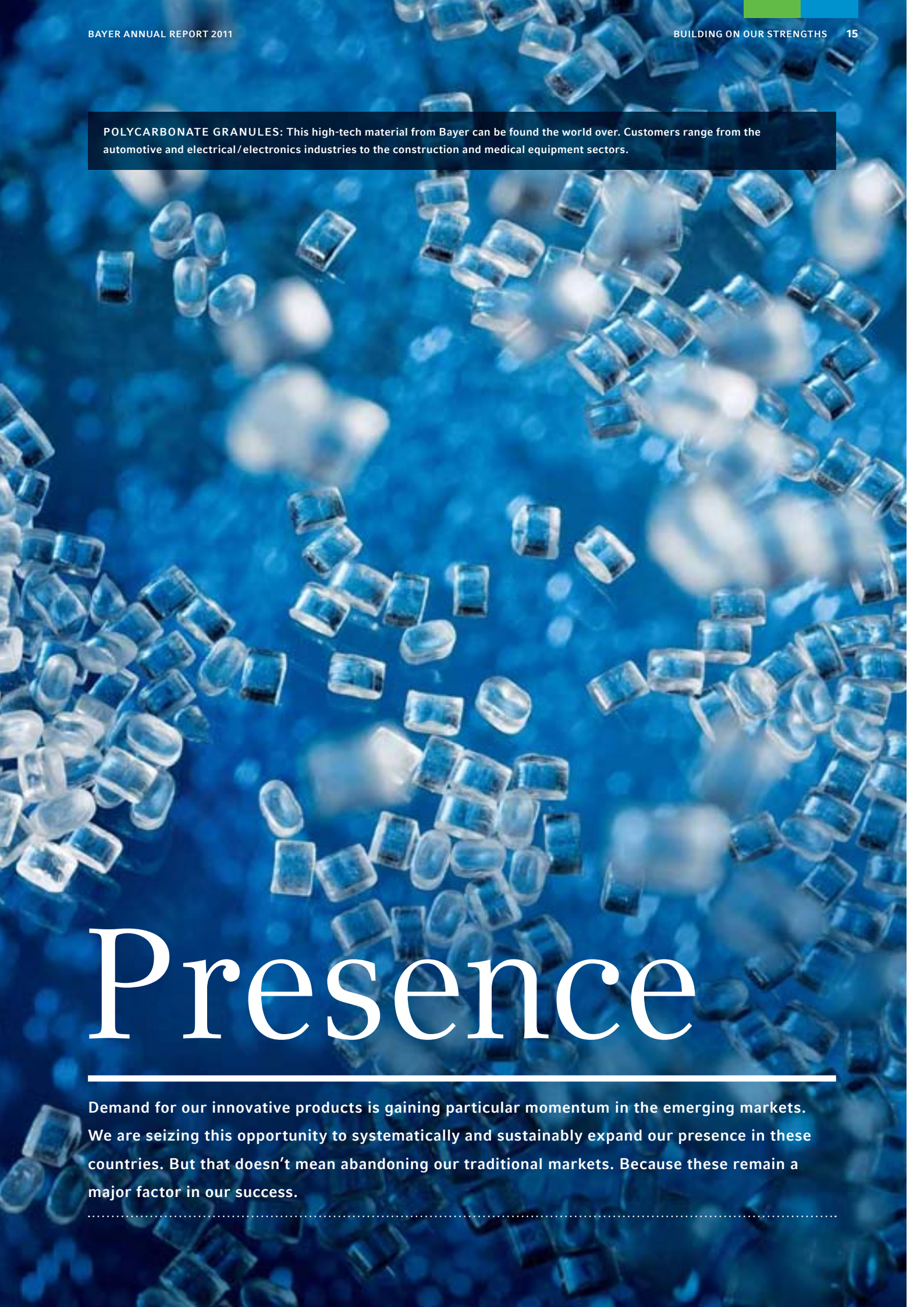
Bayer's researchers use science to improve people's quality of life. That's what our mission "Bayer: Science For A Better Life" is all about. New products are strengthening our position as a world-ranking inventor company. In 2012 – as in 2011 – Bayer will invest some €3 billion to research and develop these products.



CROSS-SECTION OF A FIBER: A scanning electron micrograph shows the honeycomb structure of wheat.

Marketing

Inventions need to be translated into new products that people appreciate. That means innovation requires successful marketing. Only then can we earn the resources to invest in our future and come up with more inventions that will ensure sustained growth.



POLYCARBONATE GRANULES: This high-tech material from Bayer can be found the world over. Customers range from the automotive and electrical/electronics industries to the construction and medical equipment sectors.

Presence

Demand for our innovative products is gaining particular momentum in the emerging markets. We are seizing this opportunity to systematically and sustainably expand our presence in these countries. But that doesn't mean abandoning our traditional markets. Because these remain a major factor in our success.

Innovation

Raising innovative capability through investment in research and development > page 18

Marketing

Strengthening distribution and product marketing > page 24

Presence

Expanding our presence in the emerging markets > page 30

Profitable growth

More innovation, less administration: this initiative is a key ingredient of our future success. That's why we have consistently aligned our subgroups toward continuous efficiency improvement. This is also in line with the company values we call "LIFE": along with L for Leadership, I for Integrity and F for Flexibility, these also include E for Efficiency. We intend to free up resources that we urgently need to achieve profitable growth. For example, we expect complexity and bureaucracy reduction to yield annual savings of €800 million by 2013. We will invest about half of this amount in researching and developing innovative products, commercializing them and building our presence in the emerging markets.

Read more about specific examples of innovation, marketing and presence from our three subgroups on the following pages.

In a laboratory in Minneapolis, Minnesota, U.S., Bayer researchers Diana Dutcher and Mark Hilse demonstrate on a model of blood vessels how thrombi and deposits can be removed by a minimally invasive procedure using a catheter.

Raising innovative capability through investment in research and development

Research is key

Bayer HealthCare // Advances in medicine depend on innovation. The health care field accounts for some two thirds of Bayer's research and development expenses. The aim is to discover better treatment options, especially in view of the aging population. At the same time, it is important to improve the efficiency of government health systems. And the company plans to help achieve that aim in the future, partly by stepping up the development of integrated product and service packages in the areas of disease prevention, diagnosis and treatment – including secondary prevention of cardiovascular illness.

A test laboratory of Bayer HealthCare in Minneapolis, Minnesota, United States. Development engineer Diana Dutcher carefully inserts an ultra-fine catheter into a glass tube set up on a table. The tube is filled with a red, jelly-like mass to simulate a blood clot, or thrombus, in a leg artery. Behind Dutcher, a compressor can be heard pumping a drug through the catheter. After a few minutes the jelly-like substance becomes visibly more fluid. Shortly afterwards a salt solution passes through the catheter, creating a vacuum. The jelly dissolves and is sucked out through the catheter. Now the tube is clear.

Dutcher is pleased with the result. She has just tested a new injection system for dissolving thrombi. Says Dutcher: "The procedure is virtually painless for the patient and only takes about fifteen minutes." The new catheter is due to be launched soon in Europe and subsequently in the United States.

Dr. Jörg Reinhardt, Chief Executive Officer of Bayer HealthCare, on the subgroup's strategy

Comprehensive solutions for our health

» Health systems worldwide are experiencing a profound transformation. The global population has passed seven billion, emerging markets are maturing, and higher life expectancy means the proportion of elderly people is growing. This is giving rise to greater medical need at a time when many health systems are reaching their financial limits. The key to addressing these challenges is innovation, which is the only way to create new value for society in the future.

Today, Bayer HealthCare is well positioned, with a strong portfolio of innovative products and an outstanding pipeline of new developments. One example, of course, is Xarelto™ – and further highly innovative medicines will follow over the next few months. To add more value for physicians and patients, we now plan to think beyond the scope of individual products and increasingly develop innovative solutions. In the cardiovascular area, for example, such solutions could start with prevention, encompass diagnosis and treatment where disease does occur, and also protect against recurrence – a truly comprehensive approach to health care. «

Bayer employee Frank Schaell at the Xarelto™ tablet coating machine in the Leverkusen solids plant

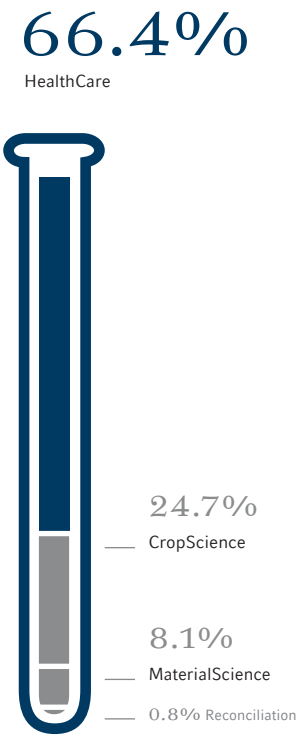
Minimally invasive or "keyhole" surgical procedures of this kind can be used to remove thrombi and deposits or widen blood vessels. However, it's better if the blood flow isn't obstructed in the first place – because blockages in the vessels of the heart, brain or lung can be life-threatening. A heart attack, stroke or pulmonary embolism can have chronic effects and severely impair a person's quality of life.

Strategic focus on innovation

"Today, cardiovascular disease is already among the most frequent causes of death worldwide," comments Bayer HealthCare CEO Dr. Jörg Reinhardt. "The medical need in this area will continue to increase due to global demographic change." He says a comprehensive approach is essential to address this challenge for the long term. "We need to view cardiovascular diseases in a broader context." Apart from education on achieving a healthier lifestyle, prevention plays an increasingly important role. But when an acute illness does occur, treatment needs to be fast and thorough. After that, the important thing is to prevent secondary illness and to improve and sustain the quality of life.

"Part of our strategy is to gradually step up the development of integrated packages to sustainably improve the treatment of cardiovascular diseases. This type of approach will also help to keep health care costs at a reasonable level in the future," Reinhardt explains.

One way to do this is by endeavoring to prevent various types of venous and arterial thromboses. If certain risk factors are present, action can be taken to prevent the formation of a thrombus that could block a blood vessel. For example, patients undergoing major surgery are given anticoagulants as a precaution against venous thrombosis or pulmonary embolism. Another use for such medicines is to prevent strokes in people with atrial fibrillation. More than six



Shares of research and development expenses 2011 – subgroups and reconciliation (other companies)

million people in Europe and over 2.2 million in the U.S., for example, suffer from this common type of cardiac rhythm disorder.

In atrial fibrillation, the two atria of the heart no longer contract rhythmically or in synchronization with the heart ventricles. As a result, blood may accumulate in the atria, causing small blood clots to form. If one of these thrombi finds its way into a brain artery, a stroke may occur. The blockage in the artery reduces the regular flow of blood, resulting in an inadequate supply of oxygen to the affected parts of the brain. If a stroke is suspected, a rapid response is required because immediate medical attention maximizes the patient's chances of recovery.

Bayer researchers Prof. Johannes-Peter Stasch (right), Dr. Stephan Vettel (center) and Dr. Dieter Neuser in the Wuppertal laboratory with a model of a lung

DR. JÖRG REINHARDT, CHIEF EXECUTIVE OFFICER OF BAYER HEALTHCARE

“We can contribute to the efficiency of health systems by providing innovative products that deliver sustainable improvements in health care.”

But even if prompt treatment can be provided, a proportion of patients will be left with residual impairment after a stroke. The problems can include paralysis, difficulty talking, and memory loss. Roughly 80 percent of strokes are caused by blockage of a brain artery. And according to a report by the Atrial Fibrillation Expert Network, a research organization sponsored by the German Ministry of Education and Research in Berlin, atrial fibrillation is identified as the cause of stroke in between 20 and 30 percent of hospitalized stroke patients.

“The development of novel drug entities to treat cardiovascular disorders has long been one of the main focuses of research at Bayer,” explains Professor Andreas Busch, Head of Research and Early Development and a member of the Bayer HealthCare Executive Committee. “In the future, our research and development program will continue to target the provision of innovative drug entities for serious cardiovascular disorders with the aim of improving the current therapeutic standard, extending patient survival and increasing patients’ quality of life,” Busch adds.

Prevention, diagnosis and therapy

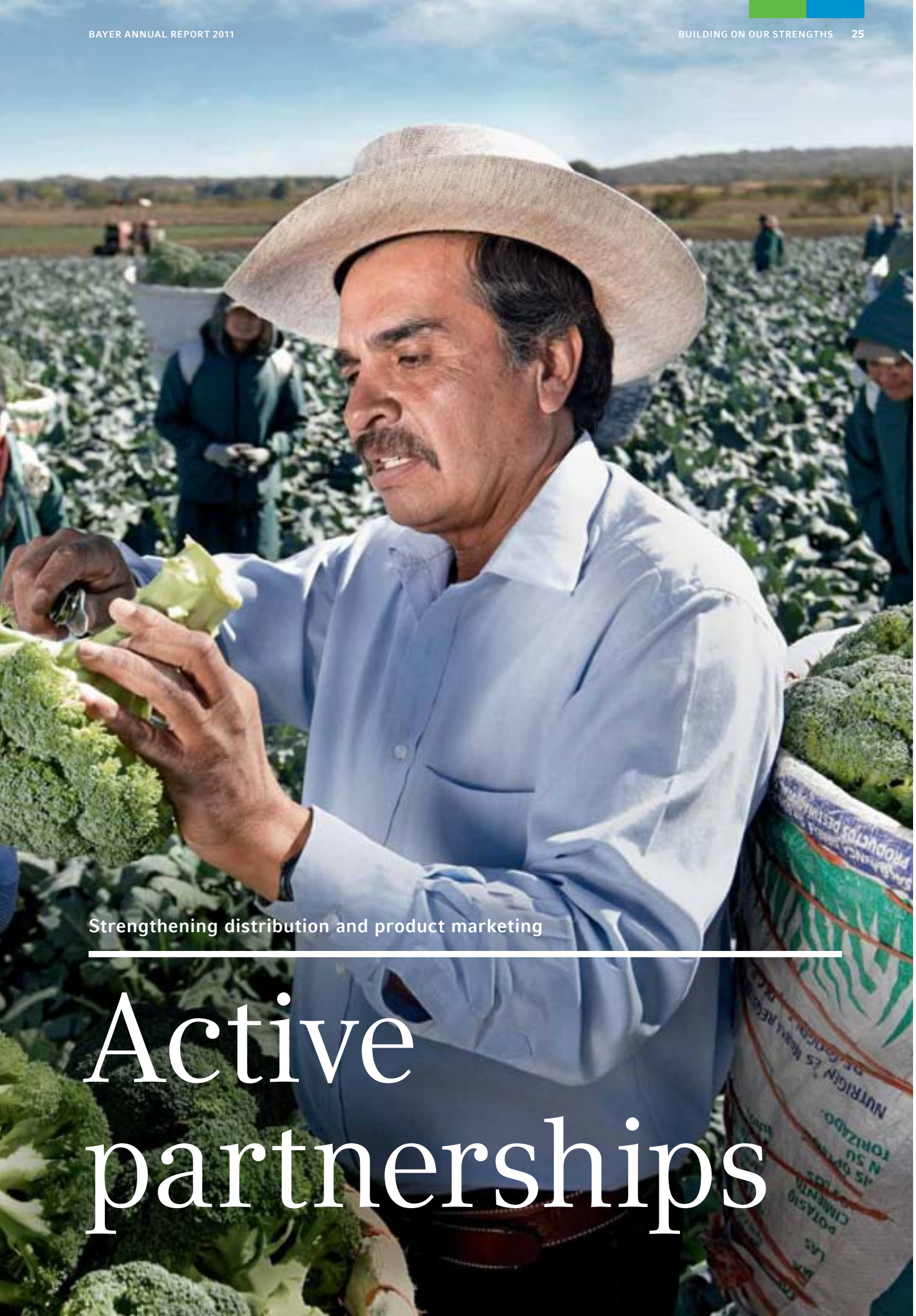
Serious cardiovascular disorders require medical attention. Yet everyone can contribute to staying healthy and avoiding secondary illness by adopting an appropriate lifestyle. Regular physical activity, a balanced diet and avoiding nicotine can help to prevent arteriosclerosis, high blood pressure and diabetes. These diseases are considered to be risk factors for strokes, heart attacks and other cardiovascular conditions. Regular medical check-ups round out the individual’s personal prevention program. These give the physician an opportunity to identify hypertension and high levels of blood glucose or cholesterol at an early stage and to prescribe medication if required.

For patients who have already had a heart attack or stroke, a healthy lifestyle and supplementary medical care are particularly important in order to avoid another blockage of a vital blood vessel. The physician can also initiate additional measures if he/she suspects that the cardiovascular system is being compromised by factors such as atrial fibrillation or narrowed vessels, for example.

Increasing the efficiency of health systems

“We can contribute to the efficiency of health systems by providing innovative products that deliver sustainable improvements in health care,” says Reinhardt. Dr. Jane Barlow, Vice President of U.S. health care company Medco Health Solutions, agrees that Bayer HealthCare is on the right track with its focus on value: “Health systems worldwide are in a process of transformation. While there’s no doubt of the need for new medicines, cost efficiency is also a growing consideration. This overarching approach to health care issues is important. With their focus on creating real value, companies like Bayer make a significant contribution to improving both the effectiveness and efficiency of health systems.”

Farmer José Uribe Estrada and Miguel Angel Baltazar Canizal (left) from Bayer CropScience assess the quality of the broccoli crop at the Sanabria farm in Valle de Santiago, Mexico.



Strengthening distribution and product marketing

Active partnerships

Bayer CropScience // Innovative products raise the quality of life – making it all the more important that they reach the customer efficiently. Bayer CropScience is finding new ways to strengthen and improve its distribution and marketing activities along the entire value chain – from seed to shelf.

The hand-picked broccoli florets from Mexican vegetable processor and exporter MarBran are a lush green color – just the way demanding consumers in Europe, North America and Japan like them. The vegetables are produced and processed in Mexico. More than 150 growers ensure a constant year-round supply.

At the MarBran processing plant at Jaral del Progreso in Guanajuato State, the delicate florets are carefully shaped by hand, then blanched and frozen. "Our business is based on meeting the highest quality standards, which is why we were immediately interested when Bayer CropScience explained to us how its food chain partnerships work," says Fermín Vaca, Operations Manager at MarBran. "This project enables us to enhance our commitment to safety and quality throughout the production process."

Food chain partnerships are part of the marketing and distribution concept with which Bayer CropScience supports the food industry around the world. The company's aim is to provide targeted solutions "from seed to shelf" for its customers' benefit. Bayer CropScience CEO Sandra E. Peterson describes

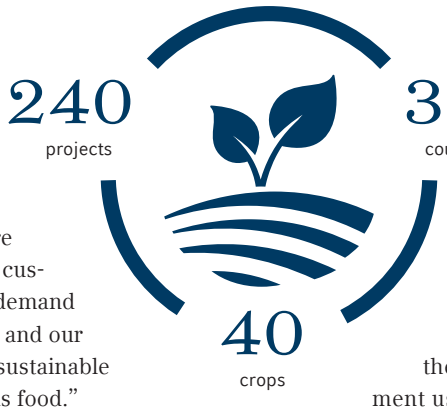
Sandra E. Peterson, Chief Executive Officer of Bayer CropScience, on the subgroup's strategy

Shaping our industry's future together

» The agricultural industry is at the center of unprecedented and highly complex global challenges. Markets and prices are more unpredictable than ever, new technologies are opening up new possibilities, regulations are increasing in complexity, and normal weather fluctuations are being exacerbated by the extreme effects of climate change. At the same time, the world's population is increasing, and with it the demand for food and renewable raw materials. But arable land is limited, and millions of people are still going hungry.

Our mission at Bayer CropScience is to develop solutions for this hungry planet – by smartly deploying our resources, sharpening the market focus of our portfolio, better understanding our customers' needs and fully exploiting our innovative potential in both chemistry and biology. But no one is going to solve the great global challenges single-handedly. It will take a detailed understanding of the issues along the entire value chain with scientific expertise and entrepreneurial skills – and the ability to join with others in driving the development of this immensely exciting industry. And it's precisely in those areas that the true strength of our company lies. «

Top-quality broccoli: at vegetable processor MarBran in Mexico, small stalks are cut out by hand and discarded.



Bayer CropScience's global food chain partnership program involves 240 projects in 30 countries and includes 40 different fruit and vegetable crops.

this commitment as a core aspect of the company's global strategy: "We're resolved on setting new standards in customer-centricity to satisfy the rising demand for agricultural produce. Because we and our customers have a common goal: the sustainable production of abundant and nutritious food."

As part of the collaboration with its food chain partner MarBran, Bayer has created a sustainability package focused on providing training for farmers and technicians. Subjects covered by this training include the efficient and environmentally compatible use of crop protection products, user safety, and compliance with prescribed maximum residue levels – a condition for selling produce on the world market. Operations Manager Vaca values this commitment: "We're among the world's largest processors of broccoli. The support we receive from Bayer CropScience is helping things to stay that way."

For MarBran's contract growers, too, the food chain partnership means added financial security. One of them is José Uribe Estrada, owner of the 50-hectare Sanabria farm in Valle de Santiago: "The training and, above all, the continuous support provided by the experts from Bayer CropScience – such as their assistance with calibrating the equipment used to apply crop protection products – help us to operate efficiently and achieve the required quality," he says. "And that's essential for working successfully with MarBran."

There are about 240 food chain partnerships worldwide for virtually all major fruit and vegetable crops, including citrus fruits, apples, tomatoes, cucumbers, peppers and melons. "Our customers are the farmers as partners in the food value chain," explains Dr. Birgitt Walz-Tylla, Head of Food Chain Management. "In these collaborations Bayer CropScience offers its customers – according to their needs – high-quality seed, effective crop protection, and expertise in environmental protection, efficiency and safety, generating value for all partners – from farmers to food retailers."

DR. BIRGITT WALZ-TYLLA, HEAD OF FOOD CHAIN MANAGEMENT

“Bayer CropScience offers its customers high-quality seed, effective crop protection, and expertise in environmental protection, efficiency and safety, generating value for all partners.”

As part of its commitment to increased customer-centricity, Bayer CropScience is moving in surprising new directions – in cotton, for example.

Seed-to-shelf initiative

A loft in the trendy Flatiron district of Manhattan, home of the New York creative scene. Here is the headquarters of Olah, Inc., a global marketer of high-quality apparel. In rooms bathed in light, fashion buyers assemble to be inspired by the look, feel and colors of the textiles. From here, talks are held with spinning and cloth mills about implementing new design ideas. And it was here that the final details of the Certified FiberMax™ and Authentic Stoneville™ cotton apparel branding concept were worked out between Bayer CropScience and Olah.

The Certified FiberMax™ and Authentic Stoneville™ cotton branding initiative is unique in the industry: it is the first time that upland cotton fiber has been marketed for its unique quality characteristics that meet the requirements of producers, spinning mills, textile designers and consumers. And this branding achieves another first, because a direct link can now be made between the producer and the finished product. The idea is for the customer to be able to trace the cotton used for, say, a pair of denim jeans or a t-shirt right back to the farmer.

Farmer Theodorus Sanders (right) and Baltazar Fernandes inspect the growth of soybean plants in southeastern Brazil.

“This is a fresh, creative, and above all a paradigm-changing concept,” says Olah managing director Robert Antoshak. “Buyers can come here and see for themselves the high-quality appearance and feel of FiberMax™ and Stoneville™ textiles, and then incorporate these high-quality fabrics into their product lines. They’re buying an excellent product, gaining a unique marketing angle and also getting a certification program that documents the transparency and sustainability of the growing conditions. It’s a combination that’s simply unbeatable.”

Another key component of this seed-to-shelf approach involves engaging with global spinning mills who recognize the value of Certified FiberMax™ and Authentic Stoneville™ fiber. One of these is Texhong Ltd. in Shanghai, which is among the largest suppliers of cotton fabrics and has Olah among its customers. Chief designer Pete Guo is an admitted fan of FiberMax™: “The fibers are exceptionally uniform. That means less waste and fewer breaks in production, which are particularly costly in spinning mills.”

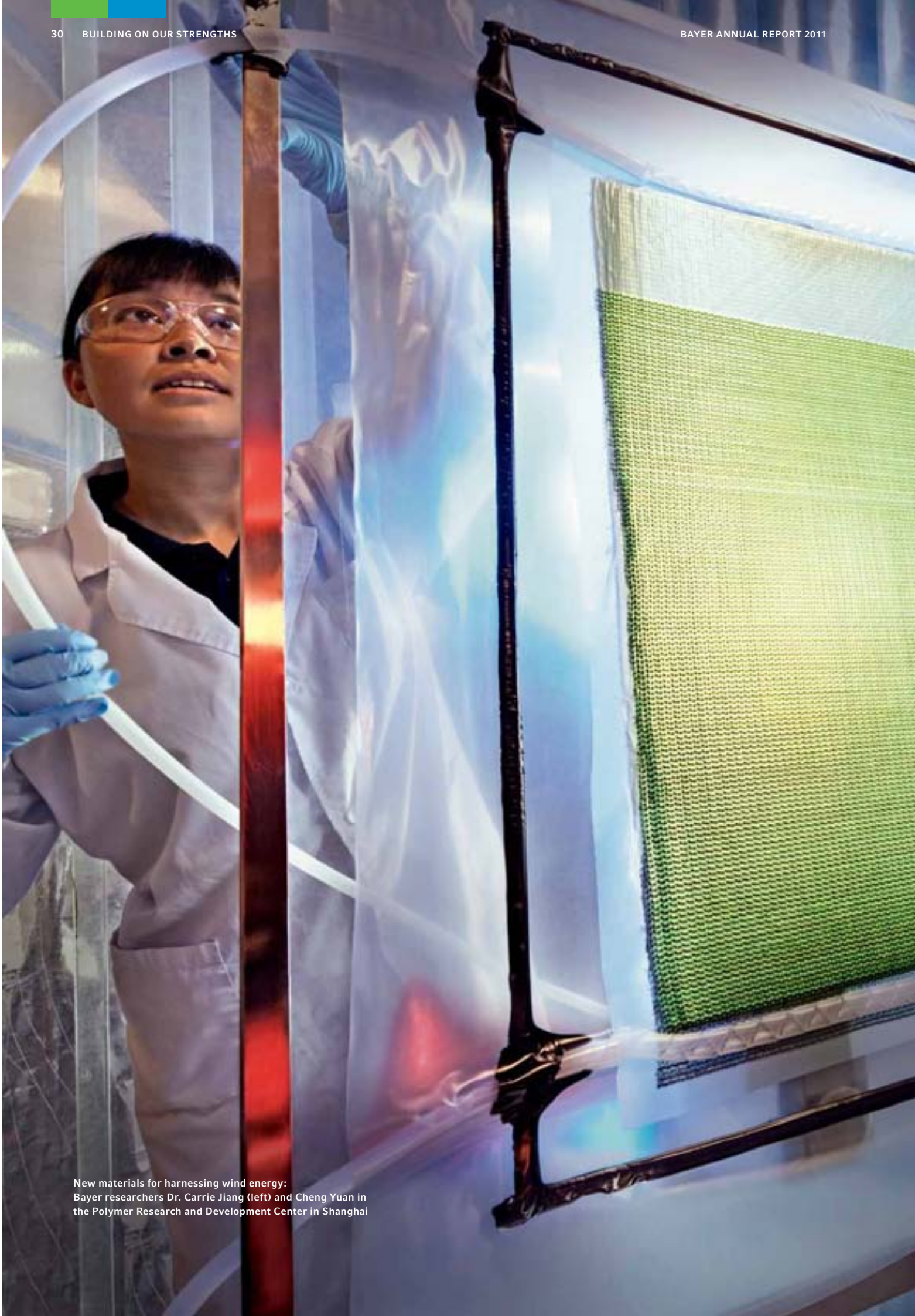
Win-win situation for all concerned

“We supply high-quality branded cotton lint with a certification covering the entire value chain – from the field to the fashion label. In this way we create transparency and generate additional market opportunities for Certified FiberMax™ and Authentic Stoneville™ cotton,” says Monty Christian, who is responsible for Bayer’s cotton seed and fiber business in the United States. “The farmer benefits in different ways: through the high yields, excellent performance and unique fiber quality of our FiberMax™ and Stoneville™ varieties in the field, and via high demand and market access we’ve created for our cottonseed customers. This initiative is designed to be a win-win situation at every step in the value chain.”

Bayer cotton expert Monty Christian (right) and Olah CEO Andrew Olah (center) discuss the quality of denim fabrics in New York.

Customer-centricity at Bayer CropScience even goes a step further: in Brazil, for example, the company supports farmers with financing concepts at the start of the season. This system involves a forward bartering arrangement. As payment for highly effective crop protection products, the farmer forward-sells a certain proportion of the next harvest to Bayer CropScience. Theodorus Sanders benefits from the arrangement, too. He grows soybeans and wheat on a total of 9,500 hectares in Unaí and Chapada Gaúcha in southeastern Brazil. "The price is determined at the start of the season," says Sanders. "That means I can plan ahead and don't need to worry about sudden price fluctuations." And he values another advantage of the system: "I don't have to sell the surplus harvest immediately to repay capital, but can put it in storage until prices go up again in the off-season."

"We're building networks from which everyone benefits," says Bayer CropScience CEO Peterson, summarizing the various components of the marketing strategy. "In this way we're helping to ensure the supply of agricultural raw materials to a growing global population. At the same time, our sustainable concepts are combining economic operation with environmental and social compatibility and thus playing a part in safeguarding the livelihoods of future generations."



New materials for harnessing wind energy:
Bayer researchers Dr. Carrie Jiang (left) and Cheng Yuan in the Polymer Research and Development Center in Shanghai

Expanding our presence in the emerging markets

Opening up new markets

Bayer MaterialScience // Bayer has long had a local presence in many emerging markets, and operations in a number of countries are to be further expanded in the future. Asia is enjoying particularly dynamic growth, especially in China, and Bayer MaterialScience is looking to further expand its presence there. With its innovative materials, technical know-how and integrated solutions, the company is an established partner in the development of efficient industries.

Depending on the time of day, it takes between one and two hours to cover the 70 kilometers between Bayer China's headquarters in the Citigroup Tower in downtown Shanghai and the ultramodern production plant. As you head out of town, the houses get lower, the traffic thins out and the roads get straighter. As you approach your destination, a simple gray roof on tall, slim columns spans the road, bidding you "Welcome to the Shanghai Chemical Industry Park." Nearly four kilometers further on is the Bayer Integrated Site with its workforce of more than 1,000. The first of two polycarbonate facilities was commissioned here in 2006. Much has changed since then. "We're now able to manufacture up to 200,000 tons a year of our high-tech Makrolon™ plastic here," says Dr. Yun Chen, Head of Production and Technology, Polycarbonates. "But even that won't be sufficient in the medium term."

Despite fluctuations in the economy, business is booming. "There's still great demand for optical data storage media – and new automotive engineering, consumer electronics, architectural and household applications are constantly being added," explains Michael König, Head of the Polycarbonates Business Unit at Bayer MaterialScience. This makes it all the

Patrick Thomas, Chief Executive Officer of Bayer MaterialScience, on the subgroup's strategy

Innovation and efficiency for long-term success

» The products of Bayer MaterialScience deliver customized functionalities and high efficiency – in automotive engineering, transportation, construction, electronic goods, housing, and the sports and leisure sectors. That makes it all the more important to set clear priorities.

We are focused on growth in specific geographical areas and product applications. While we will not neglect our activities in the mature markets, the key driver of our success will be expansion in countries such as Brazil, India and China, where many of our customers are experiencing double-digit growth rates. A further factor is the close involvement of our business with the megatrends in vehicles, architecture and entertainment electronics – wherever innovation is part of everyday activity and not only functionality and design but also efficiency and intelligence are in growing demand.

For us, customer proximity is paramount. Because we need to know exactly what the market really wants. That's one of the reasons why we relocated the headquarters of our polycarbonates business to Shanghai. Internally, the focus is on cost leadership and creative thinking in everything we do. This puts our success on a firm long-term footing. «

Construction of the Shanghai Chemical Industry Park in China requires close collaboration among international teams. The picture shows Bayer colleagues Dr. Yun Chen (left) from China and Dr. Mark Land from the U.S. in front of the new TDI facility.

more important to keep in close touch with customers and help them develop innovative solutions. The Asia/Pacific region accounts for over 60 percent of global polycarbonate business, and China for more than half of this. "That's why we recently relocated the global business unit's headquarters from Leverkusen to Shanghai along with part of the subgroup's strategic planning operations," says König.

Chen well remembers the early days of Bayer's presence in China. He came to Germany as a student in 1989 and joined the plastics research team in Uerdingen in 1994. The chemist was involved in Bayer's search for a large site in China at the end of the 1990s. "At the time, the Shanghai Chemical Industry Park was still largely confined to the drawing board. All we could see on site was kilometers of wasteland dotted with shrimp farms that could only be accessed via dirt tracks," he recalls.

Once the Chinese government declared the goal of improving the country's industry structure, the infrastructure developed rapidly. Bayer was one of the first on board, with a total investment package of € 2.1 billion. An integrated chemical plant gradually emerged, with ultramodern production facilities for polycarbonate, the rigid polyurethane foam component MDI, and coating raw materials. In November 2011, in the presence of numerous guests as well as high-ranking politicians and officials, Bayer CEO Dr. Marijn Dekkers inaugurated a new 250,000-tons-per-year production facility for TDI, a raw material for flexible polyurethane foams.

A second wave of investment will now immediately follow the first. "Over the past decade, we have developed an integrated site in Shanghai with ultramodern facilities that set global standards," says Patrick Thomas, CEO of Bayer MaterialScience.

DR. YUN CHEN, HEAD OF PRODUCTION AND TECHNOLOGY, POLYCARBONATES, IN SHANGHAI

"Solutions are often diverse, decisions are generally made quickly, and that means we can act flexibly."

"The next step is to double our capacity – in half the time and for half the money," he adds. In the years ahead, Bayer will be investing a further €1 billion to expand the site.

Innovative solutions in great demand

It is not only China's large domestic market that is driving demand, but also the technological developments in many sectors. Young companies often skip individual development steps to direct attention toward tomorrow's solutions. Take the example of transport. "To satisfy the growing demand for cars, China will focus less on internal combustion engines and more on electric mobility. Noisy mopeds have, in many cases, already disappeared from the streets of China's big cities and been replaced by quiet and clean electric bikes," says König.

Chinese companies are working hard on developing electric vehicles, the related battery storage technology and the necessary technical infrastructure. And so is Bayer. One example is the way the company's researchers are using their expertise to develop new materials for the construction of lighter vehicles and more powerful batteries.

Bayer's strategic orientation is based on these developments. Local production will be followed by greater collaboration on applications. Environmental compatibility, sustainability and global marketability are also becoming increasingly important. "Technological expertise is one of Bayer's main strengths and is just as valuable to our customers as a high-quality product," says Dr. Ulrich Liman, Head of the Polymer Research and Development Center (PRDC) opened in Shanghai in 2001. The center has 130 employees, who support customers from various sectors in the continued development of sophisticated solutions. Examples include insulation technology, solar power, and wind energy applications such as intricate design details for rotor blades and, increasingly, corrosion protection. "To further improve customer proximity, we will turn the PRDC into an innovation center and continue to grow," says Liman.

Dynamic development in Asia

Dynamic development with high growth rates and a pronounced need for sophisticated solutions is not confined to China. It is a characteristic feature of the entire Asian region, with its four billion inhabitants. Since 1990, Asia's share of Bayer's global sales has doubled to 20 percent. By 2015, sales are predicted to increase by more than 60 percent to €11 billion. The number of employees working in Asia will also grow – from the current level of around 24,000 to more than 30,000 by 2015.

Bayer sees great potential in other countries across the region – including India. The company has been represented there for 115 years. "Our goals are ambitious, but realistic," stresses Senior Bayer Representative Stephan Gerlich. "We are aiming to double our sales to €1 billion by 2015," he reveals. Here, too, close customer support plays a key role.

In spring 2011, a Color Competence and Design Center was inaugurated in Greater Noida, less than 50 kilometers from New Delhi. Bayer will use this center to demonstrate the versatility of polycarbonate, showcase options for coloring, transparency and surface structure, offer advice on design and geometry, and provide support for the production of small and medium series.

On the center's doorstep is a practical example of energy efficiency in the construction industry in the form of Bayer's first emissions-neutral office building in Asia, designed as an Eco-Commercial Building (ECB). The 1,000-square-meter building draws all its electricity from a photovoltaic system. Thanks to its optimal insulation, it requires around 50 percent less energy than comparable buildings in the region. "Our ECB program unites the various players in the construction industry in developing better solutions that improve energy efficiency and thus contribute to climate protection," Gerlich explains.

Apart from China and India on the one hand and the established industrialized countries of Japan, South Korea and Taiwan on the other, the ten member states of the Association of Southeast Asian Nations (ASEAN), with their more than 600 million inhabitants, also play a key role. "The Bayer name is well-known and respected here," says Celina Chew, Senior Bayer Representative for the North ASEAN country group, which includes Thailand, Vietnam, Cambodia, Laos and Myanmar.

Bayer sales development in the Asian region 2010–2015 (forecast)

"Naturally, our products are all-important, but a further strength of our company lies in the diversity of our employees and our dynamic way of going about things," she adds.

The region's second largest polycarbonate plant is located in Map Ta Phut, less than three hours by car from Bangkok. But in the ASEAN region, too, Bayer MaterialScience's business model isn't solely focused on efficient, world-scale production. In Bangpoo, to the south of Bangkok, one of the company's more than 30 systems houses worldwide ensures that Bayer's polyurethane raw materials are used in customized applications – from car dashboards and athletic shoes that are both fashionable and functional to furniture upholstery and insulating systems for the construction industry.

New Delhi, Bangkok and Shanghai are located some 3,000 kilometers apart, but Bayer managers and employees in all three cities share the same attitudes. They live in an exceptionally dynamic region where Bayer is recognized as an innovative and reliable company – a region where experts from Asia, Europe and North America work hand in hand. "Solutions are often diverse, decisions are generally made quickly, and that means we can act flexibly," says Chen. "Speed and flexibility are things our customers and business partners greatly appreciate."

Celina Chew, Senior Bayer Representative for the North ASEAN country group, in conversation with employees at Map Ta Phut near Bangkok

Highlights 2011

Approvals for Xarelto

Bayer HealthCare's oral anticoagulant Xarelto™ (rivaroxaban) has been approved by the European Commission for use in two new indications, making it the only new oral anticoagulant approved across all 27 E.U. member states in three indications: prevention of stroke and systemic embolism in adult patients with non-valvular atrial fibrillation and one or more risk factors, treatment of deep vein thrombosis (DVT) and prevention of recurrent DVT and pulmonary embolism following an acute DVT in adults, and prevention of venous thromboembolism in adult patients undergoing elective hip or knee replacement surgery.

The U.S. Food and Drug Administration (FDA) has approved Xarelto™ to reduce the risk of venous thromboembolism in adult patients undergoing elective hip or knee replacement surgery and to reduce the risk of stroke in patients with non-valvular atrial fibrillation. Xarelto™ is registered in more than 110 countries around the world.

Strengthening wheat breeding

Bayer CropScience is working with leading institutes and companies worldwide to build a platform for wheat research. For example, a milestone in wheat genome research has already been reached in a collaboration with Israeli company Evogene. Agreements with South Dakota State University in the United States, French company RAGT Semences S.A.S. and leading Romanian agricultural research institute NARDI give Bayer CropScience access to wheat germplasm. And in December 2011, Bayer CropScience began setting up its European Wheat Breeding Center at Gatersleben in the German state of Saxony-Anhalt.

Bayer employees Richard Dickmann (right) and Dr. Richard James with wheat plants

Progress with regorafenib

Bayer HealthCare reported positive results from a Phase III trial evaluating the investigational compound regorafenib for the treatment of metastatic colorectal cancer. The trial met its primary endpoint of a statistically significant improvement in overall survival. Bayer plans to submit applications for marketing approval for regorafenib to treat metastatic colorectal cancer in Europe, the United States and other major markets in 2012. The results of an ongoing Phase III study with regorafenib in the treatment of gastrointestinal stromal tumors are expected in 2012. The U.S. Food and Drug Administration has granted fast-track designation to regorafenib for both indications to expedite drug review.

Cancer research at Bayer: Kirsten Steiner-Hahn examines tissue samples.

Improving visual acuity

The U.S. Food and Drug Administration has approved the development candidate VEGF Trap-Eye under the trade name EYLEA™ for the treatment of wet age-related macular degeneration (AMD). Bayer has submitted an application for marketing approval in this indication in Europe, Japan, Australia and other countries. The two-year data from two Phase III clinical studies with VEGF Trap-Eye showed a sustained improvement in visual acuity in patients with AMD. Bayer plans to file for the product's approval to treat central retinal vein occlusion (CRVO) outside of the United States in 2012. Phase III trials in diabetic macular edema (DME) and myopic choroidal neovascularization (mCNV) began in early 2011.

Kayathri Jaya Paul (left) and Han Shuling examine the retina of an eye in Singapore.

First registration for Emesto

Bayer CropScience received the first registration worldwide for its new fungicidal seed treatment product Emesto™ in the United Kingdom. Emesto™ is used in potato cultivation. The company regards this registration in the U.K. as a milestone toward achieving a leading position in the global seed treatment market. Bayer is continuing to expand its network of seed treatment centers around the world. New "Seed Treatment Application Centers" were opened in Argentina, Brazil and China in 2011. Bayer now operates nine centers to develop solutions that help farmers increase harvest yields.

Continued expansion in Asia

The Bayer Group intends to further expand production, distribution and research in Asia with the aim of raising its sales in the region by more than 60 percent to well over €11 billion – at today's exchange rates – by 2015. That was the message from Bayer CEO Dr. Marijn Dekkers at the company's international press conference in Shanghai entitled "Perspective on Growth in Asia." Of the future sales total, Greater China is planned to account for about €6 billion, Japan for some €2.4 billion and India for about €1 billion. In Shanghai, Dekkers formally inaugurated a new 250,000-tons-per-year toluene diisocyanate (TDI) facility in the presence of numerous guests, high-ranking politicians and government officials.

Protection against malaria mosquitoes

LifeNet™ mosquito nets from Bayer CropScience have a superior effect on malaria-transmitting insects. This was confirmed by the final report of the World Health Organization Pesticide Evaluation Scheme (WHOPES). According to the report, LifeNet™ mosquito nets remain effective even after 30 washes and regenerate completely within one day after washing, thus far exceeding the minimum requirements of WHOPES.

LifeNet™ mosquito nets from Bayer CropScience provide protection at night.

Bayer employees Deniz Caper (right) and Dr. Michael Traving in the pilot facility

Turning flue gas into a raw material

Bayer is taking a new direction in the production of high-quality plastics using carbon dioxide (CO_2) supplied by the energy sector. A pilot plant has come on stream at the Leverkusen Chempark to trial the new process on a technical scale. This facility produces a chemical precursor into which CO_2 is chemically bound. The resulting substance is then processed into polyurethanes for a variety of everyday uses. The innovative process is the outcome of the "Dream Production" project, a collaboration between industry and science that followed a breakthrough in catalysis technology by Bayer researchers. The new process enables the efficient use of CO_2.

Relief aid from Bayer for Japan

Bayer has supplemented the aid it already provided for victims of the earthquake and tsunami in Japan. Using contributions made by the company and its employees, the Bayer Cares Foundation is donating €700,000 to the Japanese non-governmental organization Ashinaga for the construction of a children's care facility. In the immediate aftermath of the disaster, the company donated €880,000 to the Japanese Red Cross and €700,000 worth of medical supplies to the Japanese health authorities. Bayer's aid to Japan now totals almost €2.3 million.

Positive data on Alpharadin

The developmental product Alpharadin, licensed from Algeta, Norway, significantly improves overall survival in patients with hormone-refractory/castration-resistant prostate cancer and symptomatic bone metastases. That was the result of the registration-relevant Phase III ALSYMPCA study. The data were presented during the Presidential Session at the 2011 European Multidisciplinary Cancer Congress in Stockholm, Sweden. Alpharadin has been granted fast-track designation by the U.S. Food and Drug Administration. Bayer HealthCare plans to submit the product for marketing approval in the United States and Europe in mid-2012.

Sustainable technology: J. Stegemann (left) and H.-J. Funke with an oxygen-depolarized cathode

Top marks for sustainability

Bayer is a global leader in sustainability. This is demonstrated by its renewed listing in the relevant indices. For example, Bayer has been included once again in the Dow Jones Sustainability Indices Europe and World. The Group is also listed in both global indices of the Carbon Disclosure Project. In addition, the rating agency SAM and the auditors KPMG named Bayer as the best German chemical company in their Sustainability Yearbook 2012, awarding it the Gold Class, the highest seal of quality.

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Executive Council

The Executive Council, chaired by the Group CEO and comprising the members of the Bayer AG Board of Management and the CEOs of the three subgroups Bayer HealthCare, Bayer CropScience and Bayer MaterialScience (from left): Dr. Jörg Reinhardt, Prof. Wolfgang Plischke, Patrick Thomas, Dr. Richard Pott, Dr. Marijn Dekkers, Werner Baumann and Sandra E. Peterson

DR. MARIJN DEKKERS

Chief Executive Officer of Bayer

Born in 1957 in the Dutch city of Tilburg, Dekkers studied chemistry and chemical engineering in Nijmegen and Eindhoven. After gaining a Ph.D., he began a career in research with General Electric in the United States. Having held various positions in the United States, latterly as Chief Executive Officer and President of Thermo Fisher Scientific Inc., Dekkers took over as Bayer Chief Executive Officer in October 2010.

WERNER BAUMANN

Finance · Europe region

Born in Krefeld in 1962, Werner Baumann studied economics in Aachen and Cologne. He joined Bayer AG in 1988, where his first duties were in the Corporate Finance Department. After holding positions in Spain and the United States, he became a member of the Board of Management of Bayer HealthCare and its Labor Director. Baumann was appointed Chief Financial Officer of Bayer in May 2010.

PROF. WOLFGANG PLISCHKE

Technology · Innovation · Sustainability · Asia/Pacific region

Born in Stuttgart in 1951, Wolfgang Plischke studied biology at the University of Hohenheim. Having gained a Ph.D., Plischke began his career with Bayer at the subsidiary Miles in 1980. After holding a number of positions in Germany and abroad, he became Head of the Pharmaceuticals Business Group, first in North America and then worldwide. Plischke was appointed to the Board of Management in March 2006.

DR. RICHARD POTT*

Strategy · Human Resources · Americas, Africa and Middle East regions

Born in Leverkusen in 1953, Richard Pott studied physics at the University of Cologne, where he also obtained a Ph.D. In 1984 he joined Bayer's Central Research Division. After holding various positions in the Corporate Staff Division he became Head of Corporate Planning and Controlling, before being appointed Head of the Specialty Products Business Group in 1999. Pott was appointed to the Board of Management in May 2002.

*Labor Director

DR. JÖRG REINHARDT

Chief Executive Officer, Bayer HealthCare

Born in Homburg in 1956, Jörg Reinhardt studied pharmaceutical sciences at Saarland University. After obtaining a Ph.D., he started his career with Sandoz, which became part of Novartis in 1996. There he held various managerial positions of increasing responsibility, latterly that of Chief Operating Officer of the Novartis group. Reinhardt took over as Chief Executive Officer of Bayer HealthCare in August 2010.

SANDRA E. PETERSON

Chief Executive Officer, Bayer CropScience

Born in New York in 1959, Sandra E. Peterson holds a B.A. in Government from Cornell University and a Master of Public Administration in Applied Economics from the University of Princeton. Having held various positions in the U.S., latterly as Group President of Medco Health Solutions, Inc., she joined the Executive Committee of Bayer HealthCare in May 2005. Peterson took over as Chief Executive Officer of Bayer CropScience in July 2010.

PATRICK THOMAS

Chief Executive Officer, Bayer MaterialScience

Born in Portsmouth, United Kingdom, in 1957, Patrick Thomas studied engineering at Oxford University. He began his career with Imperial Chemical Industries (ICI). Positions held by Thomas include that of CEO of ICI Polyurethanes and Corporate Executive Vice President of Huntsman Matlin Patterson. Thomas took over as Chief Executive Officer of Bayer MaterialScience in January 2007.

Report of the Supervisory Board

Dear stockholders:

During 2011 the Supervisory Board monitored the conduct of the company's business by the Board of Management on a regular basis with the aid of detailed written and oral reports received from the Board of Management, and also acted in an advisory capacity. In addition, the Chairman of the Supervisory Board and the Chairman of the Board of Management maintained a constant exchange of information. In this way the Supervisory Board was kept continuously informed about the company's intended business strategy, corporate planning (including financial, investment and human resources planning), earnings performance, the state of the business and the situation in the company and the Group as a whole.

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

Four meetings of the full Supervisory Board took place during 2011. No member of the Supervisory Board attended fewer than half of its meetings. The average attendance rate at the meetings exceeded 95 percent. The members of the Board of Management attended all the meetings of the Supervisory Board.

Principal topics discussed by the Supervisory Board

The deliberations of the Supervisory Board focused on questions relating to the strategies and business activities of the Group as a whole and of the subgroups. The discussions at the respective meetings in 2011 centered on various topics. At the February meeting, the

Supervisory Board discussed the 2010 Annual Report and the agenda for the 2011 Annual Stockholders' Meeting. It also dealt at length with the Bayer Group's risk management system, matters related to the Board of Management's compensation, and a possible corporate acquisition. Finally, it approved an amendment to the Board of Management's rules of procedure. At its meeting in April, the Supervisory Board reviewed the development of the business in the first quarter and discussed the imminent Annual Stockholders' Meeting.

At the September meeting, the Supervisory Board dealt with the renewal of Dr. Richard Pott's appointment as a member of the Board of Management and Labor Director. Another main topic was the situation of the Group, including new developments regarding its strategy and competitive position. An additional point of discussion was the situation of the HealthCare subgroup. Following the meeting, an information and discussion forum took place on the role of the Supervisory Board in corporate acquisitions.

At the meeting in December 2011, the Board of Management presented its planning for the business operations, the finances and the asset and liability structure of the Bayer Group in the years 2012 through 2014. The Supervisory Board also deliberated on the existing systems of personnel development at Bayer. Finally, at this meeting the Supervisory Board resolved on the declaration of compliance with the German Corporate Governance Code and discussed matters concerning the Supervisory Board elections to be held at the Annual Stockholders' Meeting in 2012.

In July 2011 the Supervisory Board made one decision on the basis of documents circulated to the members. The decision related to the sale of a parcel of industrial land.

Committees of the Supervisory Board

The Supervisory Board has a Presidial Committee, an Audit Committee, a Human Resources Committee and a Nominations Committee. The current membership of the committees is shown on page 272.

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 meeting of the full Supervisory Board. Certain decision-making powers in connection with capital measures, including the power to amend the Articles of Incorporation accordingly, have also been delegated to this committee.

On the basis of an authorization issued by the full Supervisory Board, the Presidial Committee made a written decision relating to the settlement of litigation concerning genetically modified rice. In 2011 the Presidial Committee was not required to convene in its capacity as the mediation committee pursuant to Section 27 Paragraph 3 of the German Codetermination Act.

Audit Committee: The Audit Committee comprises three stockholder representatives and three employee representatives. The Chairman of the Audit Committee in 2011, 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.

The Chairman of the Board of Management and the Chief Financial Officer regularly attended the meetings of the Audit Committee. The auditor was present at all the meetings, reporting in detail on the audit work and the audit reviews of the interim financial statements.

The meetings focused on a number of topics. At the February 2011 meeting, the Audit Committee discussed the risk report, which covered the risk management system, planning and market risks, legal risks, corporate compliance, the report on process and organizational risks and the internal control system, and the report by Corporate Auditing. At this meeting it also submitted a recommendation to the full Supervisory Board concerning the resolution to be put before the Annual Stockholders' Meeting on the appointment of the auditor of the financial statements. The April meeting was mainly devoted to the Bayer Group's tax strategy, the yearly report of the Compliance Officer, and determining the main areas of focus for the audit of the 2011 financial statements. The meeting in July centered on the bidding for the audit of the financial statements, recent changes to the International Financial Reporting Standards, and the restructuring measures planned in the Group Accounting & Controlling function. The bidding for the audit of the financial statements was again a topic of discussion at the October meeting.

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

The Human Resources Committee convened on three occasions in 2011. The matters discussed at these meetings concerned the compensation of the members of the Board of Management, their service contracts, and the renewal of Dr. Richard Pott's appointment as a member of the Board of Management and Labor Director.

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.

At one meeting and on several other occasions in 2011, in accordance with its responsibilities, the Nominations Committee discussed possible candidates for election to the Supervisory Board as stockholder representatives at the 2012 Annual Stockholders' Meeting.

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

Corporate governance

The Supervisory Board dealt with the continuing development of corporate governance at Bayer, taking into account the May 26, 2010 version of the German Corporate Governance Code. In December 2011 the Board of Management and the Supervisory Board issued a new declaration of compliance, which is also reproduced in the Corporate Governance Report on page 96 of this Annual Report.

Financial statements and audits

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

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

We have approved the financial statements of Bayer AG and the consolidated financial statements of the Bayer Group prepared by the Board of Management. The financial statements of Bayer AG are thus confirmed. We are in agreement with the combined management report and, in particular, with the assessment of the future development of the enterprise. We also concur with the dividend policy and the decisions concerning earnings retention by the company. We assent to the proposal for distribution of the profit, which provides for payment of a dividend of €1.65 per share.

The Supervisory Board would like to thank the Board of Management and all employees for their dedication and hard work in 2011.

Leverkusen, February 23, 2012
For the Supervisory Board:

DR. MANFRED SCHNEIDER
Chairman

Investor Information

Performance of Bayer Stock in 2011 [Graphic 2.1]

(indexed; 100 = closing price on December 31, 2010)

Unable to escape the global stock market turbulence in 2011, the price of Bayer stock was also down on the year. With a performance of minus 8 percent, however, our shares fared better than the German stock index DAX, which lost nearly 15 percent.

The Board of Management and Supervisory Board propose a dividend increase to €1.65 per share for 2011.

The stock market in 2011

STOCK MARKETS HAMPERED BY GROWING UNCERTAINTY IN THE SECOND HALF OF 2011

In the first half of 2011, the German stock index DAX initially maintained the previous year's level. As the year progressed, market developments became dominated by the continuing debate over the debts of some eurozone countries and the resulting anxiety among market participants. Starting in August, international markets experienced one of the sharpest drops in recent decades. The DAX fell by more than 2,000 points, or 30 percent, within a few weeks. The markets gradually recovered from their lows during the remainder of the year. The DAX closed 2011 at 5,898 points, nearly 15 percent below the end of 2010. The European equities index EURO STOXX 50 (performance index) fell by more than 14 percent to close the year at 3,921 points.

Share price trends in the United States and Japan diverged, with the S&P 500 virtually unchanged on the year but the Nikkei 225 losing about 17 percent.

BAYER STOCK PERFORMANCE ABOVE MARKET BUT BELOW HEALTHCARE INDEX

Including the dividend of €1.50 per share paid in May 2011, the performance of Bayer stock came to minus 8 percent for the year. It closed 2011 at €49.40, having reached a year high of €59.35 at the end of April. Although negative, Bayer's stock performance thus surpassed the DAX. Comparison against the respective sector indices shows a mixed picture: whereas the EURO STOXX Health Care Index (performance index) gained nearly 21 percent, clearly outperforming Bayer, the EURO STOXX Chemicals Index (performance index) declined by 8 percent, which was in line with the development of Bayer stock.

Bayer Stock Data [Table 2.1]

		2010	2011
Earnings per share	€	1.57	2.99
Core earnings per share*	€	4.19	4.83
Gross cash flow per share	€	5.77	6.25
Equity per share	€	22.85	23.30
Dividend per share	€	1.50	1.65
Year-end price**	€	55.30	49.40
High for the year**	€	58.62	59.35
Low for the year**	€	44.12	36.82
Total dividend payment	€ million	1,240	1,364
Number of shares entitled to the dividend (Dec. 31)	million	826.95	826.95
Market capitalization (Dec. 31)	€ billion	45.8	40.9
Average daily share turnover on German stock exchanges	million	3.6	3.8
Price/EPS**		35.2	16.5
Price/core EPS**		13.2	10.2
Price/cash flow**		9.6	7.9
Dividend yield	%	2.7	3.3

* For details on the calculation of core earnings per share, see Combined Management Report, Chapter 4.3.
** Xetra closing prices (source: Bloomberg)

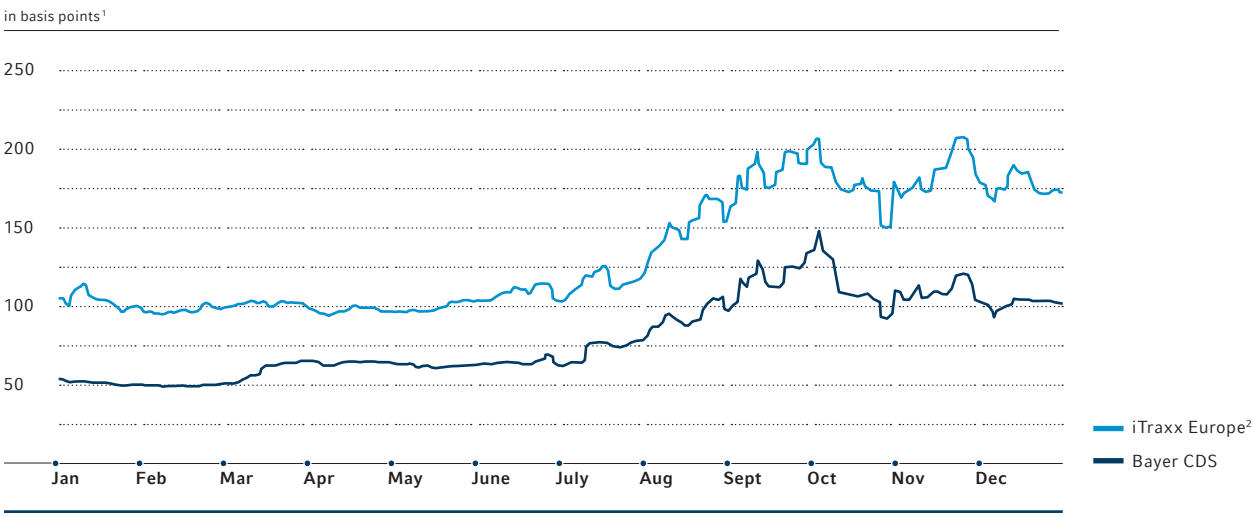
FAVORABLE REFINANCING CONDITIONS FOR BAYER ON THE BOND MARKET

The risk premium required by investors for corporate bonds with a good credit rating increased, particularly in the second half of 2011. Due to the uncertainty about the repercussions of the sovereign debt crisis for the common European currency, risk premiums fluctuated in a way that could not be explained by company-specific factors alone. However, given the downward movement in long-term interest rates, especially in the second half of the year, Bayer's refinancing terms on the capital market remained favorable overall.

The increase in risk premiums during the year can be seen from the trend in credit default swaps (CDS) shown in Graphic 2.2. The market price of these tradable insurance contracts, which are used to hedge against default of a borrower, varies with corporate credit standing and thus helps to determine the credit margin when raising debt.

Bayer had no significant need for refinancing via the capital market in 2011. On the contrary, bonds with a total nominal volume of €400 million and promissory notes in the amount of €250 million were redeemed during the year. A list of the bonds issued by Bayer can be found in Note [27] to the consolidated financial statements.

Rates for Five-Year Credit Default Swaps (CDS) 2011 [Graphic 2.2]



[1] source: Bloomberg
[2] iTraxx Europe is a CDS index comprising the CDS of 125 companies (including financial institutions) with investment-grade ratings.

LONG-TERM RETURN ON BAYER STOCK REMAINS AHEAD OF THE MARKET

A long-term investor who purchased Bayer shares for €10,000 five years ago and reinvested all dividends would have seen the value of the position grow to €13,920 as of December 31, 2011, giving an average annual return of 6.8 percent.

Long-Term Returns on Bayer Stock in % p.a. (Dividends Reinvested) [Table 2.2]

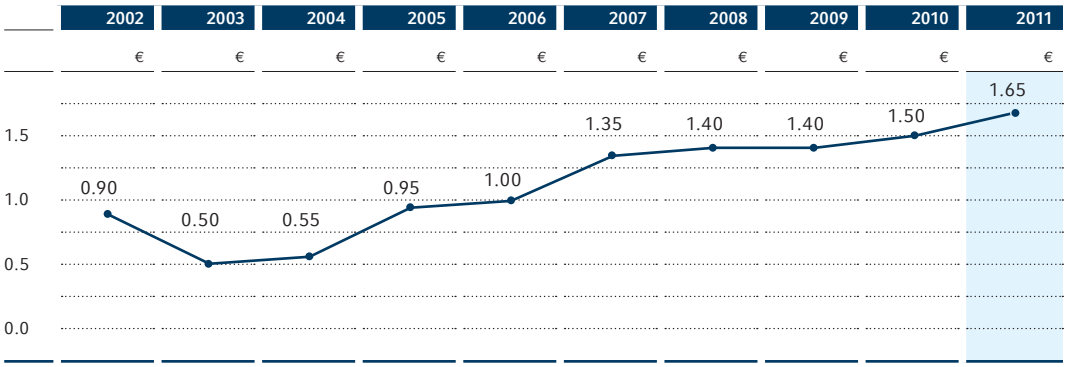
Annual returns	1 year 2011	3 years 2009–2011	5 years 2007–2011
	%	%	%
Bayer	−8.4	+9.2	+6.8
DAX	−14.7	+7.0	−2.2
DJ EURO STOXX 50	−14.1	+1.6	−7.9

DIVIDEND INCREASE TO €1.65 PER SHARE

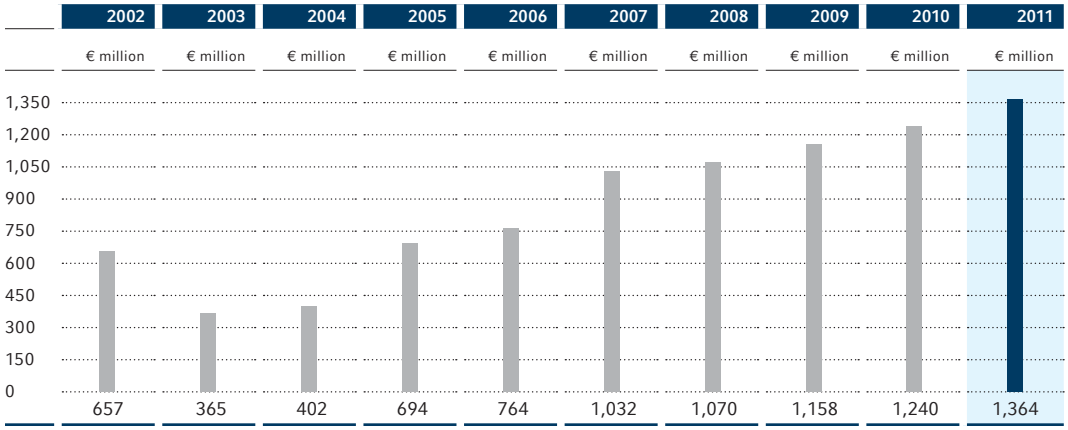
We again intend that our stockholders participate in the strong performance of our business last year. The Board of Management and the Supervisory Board will therefore propose to the Annual Stockholders' Meeting that a dividend of €1.65 per share be paid for 2011. This results in a payout ratio of approximately 34 percent calculated on core earnings per share, which is within the target corridor of 30 to 40 percent (for details on the calculation of core earnings per share, see Chapter 4.3 of the Combined Management Report).

The dividend yield calculated on the share price of €49.40 at year end 2011 amounts to 3.3 percent and the total dividend payment to €1,364 million.

Dividends Per Share [Graphic 2.3]



Total Dividend Payment [Graphic 2.4]



SUSTAINABLE INVESTMENT

In 2011 Bayer again qualified for inclusion in major sustainability indices that assess companies on the basis of economic, ecological and social criteria. Bayer stock is represented, for example, in the Dow Jones Sustainability World and Europe indices, the FTSE4Good Global and Europe indices, the Advanced Sustainable Performance Indices Eurozone and the NYSE Euronext Low Carbon Europe Index. Storebrand, a Norwegian financial services provider focusing on sustainable investment, classifies Bayer as a best-in-class company in the pharmaceutical sector. In 2011 the Carbon Disclosure Project (CDP) included Bayer in its Carbon Disclosure Leadership Index (CDLI) for the seventh consecutive year, this time naming it as one of the four best companies worldwide across all industry sectors. In addition, Bayer was again included in the Carbon Performance Leadership Index (CPLI), now with an "A" rating, in recognition of its efforts to reduce CO_2 emissions.

In 2011 we reported to sustainability-minded investors during one-on-one meetings and an SRI (socially responsible investment) roadshow on Bayer's commitment in this area.

BAYER STOCK DELISTED IN LONDON AND ZURICH

Bayer AG withdrew from the London and Zurich stock exchanges in 2011. Low trading volumes made these listings unnecessary, and delisting has reduced our administration costs. Bayer stock had been quoted on the markets in Switzerland since 1959 and in the U.K. since 1961.

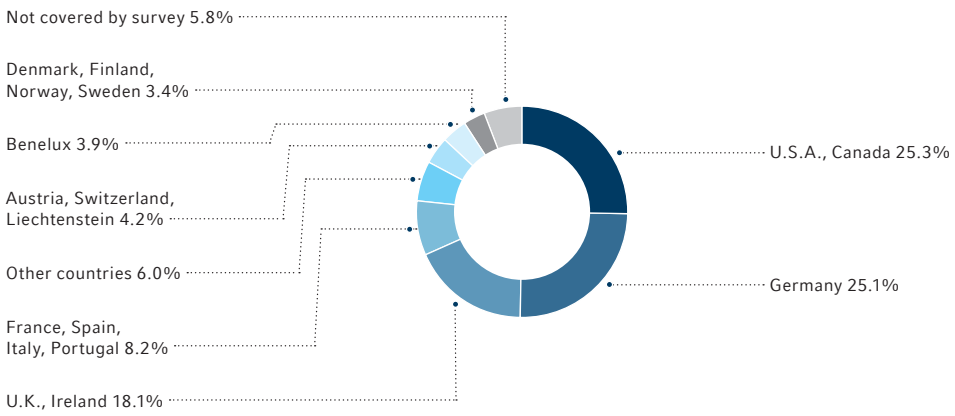
POSTAL VOTE OPTION FOR THE ANNUAL STOCKHOLDERS' MEETING

In 2011 we introduced the option for stockholders to cast a postal vote at the Annual Stockholders' Meeting without attending in person. This could be done online or via regular mail. Some 6,600 stockholders took advantage of this innovation, which was made possible by an amendment to the Articles of Incorporation passed at the previous year's meeting.

INTERNATIONAL OWNERSHIP STRUCTURE

At the end of 2011, approximately 314,000 stockholders were listed in our share register. Bayer has a 100% free float as defined by Deutsche Börse, the operator of the Frankfurt Stock Exchange. The following graphic shows the geographical distribution of our stockholders, based on the results of an international survey conducted in November 2011:

Ownership Structure by Country [Graphic 2.5]



DIALOGUE WITH THE CAPITAL MARKET

In 2011 we continued to expand our traditionally close dialogue with the capital market. An investor relations conference was held for the first time in Shanghai, China, to explain to investors the growing importance of the Chinese market for our business. Analysts and investors were given the opportunity to get to know local managers as well as Group and subgroup board members. Program options also included a tour of Bayer's largest fully integrated chemical production facilities in Shanghai and a chance to learn about our activities in the health care field in China. The very positive feedback we received has encouraged us to make investor events in both Asia and the United States a regular part of our investor relations program.

In 2011 our Investor Relations team visited 22 financial centers – often accompanied by members of the Board of Management – and held more than 400 one-on-one meetings.

Combined Management Report

of the Bayer Group and Bayer AG as of December 31, 2011

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Financial and innovation targets achieved in 2011

Bayer: sales and EBIT at record levels

- Sales €36.5 billion (Fx & portfolio adj. +5.5%)
- Operating result (EBIT) €4.1 billion (+52.0%)
- EBITDA before special items €7.6 billion (+7.2%)
- Growth at HealthCare and CropScience, decline in momentum at MaterialScience
- Net income rises to €2.5 billion (+89.9%)
- Success of new products creates optimism for the future
- Presence in emerging markets further expanded
- Forecast for 2012: slight increase in underlying earnings

1. Overview of Sales, Earnings and Financial Position

€36.5 billion Group sales	€4.1 billion EBIT	€7.6 billion EBITDA before special items
€2.5 billion Net income	€4.83 Core earnings per share	€7.0 billion Net financial debt

FULL YEAR 2011

Bayer had a very successful year in 2011, both strategically and operationally. We achieved the Group targets that we raised after the first quarter. We successfully drove forward our innovation projects in the subgroups – particularly the development of our pharmaceutical pipeline – and continued to expand our presence in the emerging markets*.

On a currency- and portfolio-adjusted (Fx & portfolio adj.) basis, we raised Group sales by 5.5% (reported: +4.1%) to €36.5 billion, partly on account of strong growth in the emerging markets. The operating result (EBIT) advanced by 52.0% to €4.1 billion after special items of minus €0.9 billion (2010: minus €1.7 billion). EBITDA before special items improved by 7.2% to €7.6 billion. This increase in earnings was attributable to the good business development at HealthCare and CropScience, while earnings of MaterialScience were down in a difficult market environment that was losing momentum. Net income advanced to €2.5 billion (+89.9%), partly due to much lower special charges. Earnings per share came in at €2.99 (2010: €1.57), while core earnings per share were €4.83 (+15.3%).

Net financial debt fell by €0.9 billion to €7.0 billion.

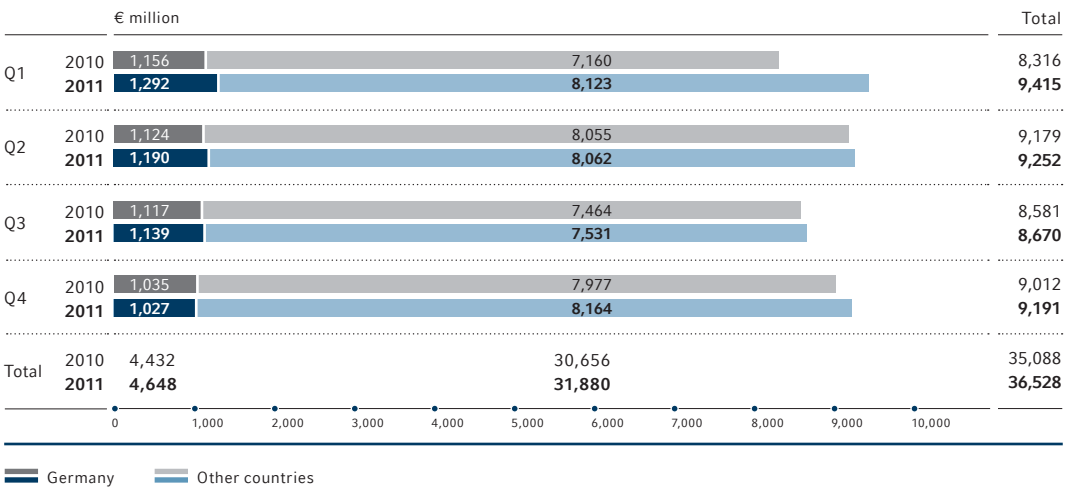
Changes in Sales [Table 3.1]

	2010	2011
	%	%
Volume	+6.7	+3.4
Price	+1.3	+2.1
Currency	+4.9	−1.5
Portfolio	−0.3	+0.1
Total	**+12.6**	**+4.1**

Group **sales** rose to €36,528 million (2010: €35,088 million). HealthCare posted a slight increase of 2.4% on a currency- and portfolio-adjusted basis. Sales of CropScience moved ahead by 8.9% (Fx & portfolio adj.) in a very positive market environment. MaterialScience posted currency- and portfolio-adjusted sales growth of 8.2%, largely as a result of selling price increases.

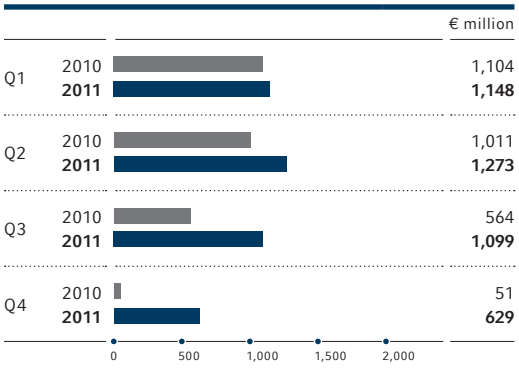
*For definition see Chapter 3.5 "Business Development in the Emerging Markets."

Bayer Group Quarterly Sales [Graphic 3.1]

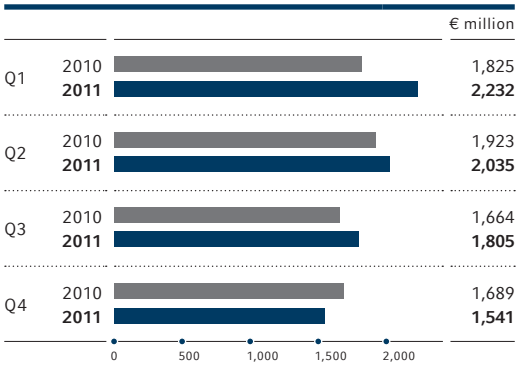


EBIT of the Bayer Group advanced by 52.0% to €4,149 million (2010: €2,730 million). Earnings were held back by special items of minus €876 million (2010: minus €1,722 million), including €741 million in special charges connected with our Group-wide restructuring initiative, €260 million in litigation expenses and €99 million in divestiture gains. EBIT before special items amounted to €5,025 million (2010: €4,452 million). **EBITDA** before special items increased by 7.2% to €7,613 million (2010: €7,101 million). HealthCare raised EBITDA before special items by 6.7% to €4,702 million (2010: €4,405 million), mainly due to positive business development at Consumer Health and cost savings in the Pharmaceuticals segment. EBITDA before special items at CropScience rose by a substantial 27.9% to €1,654 million (2010: €1,293 million), largely as a result of higher volumes. EBITDA before special items of MaterialScience receded by 13.6% to €1,171 million (2010: €1,356 million), with selling price increases not fully offsetting higher raw material and energy costs in the second half of the year.

Bayer Group Quarterly EBIT [Graphic 3.2]

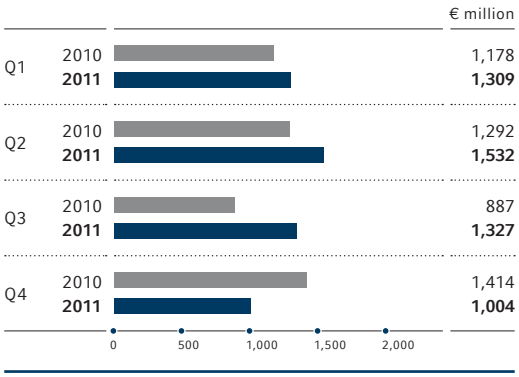


Bayer Group Quarterly EBITDA Before Special Items [Graphic 3.3]

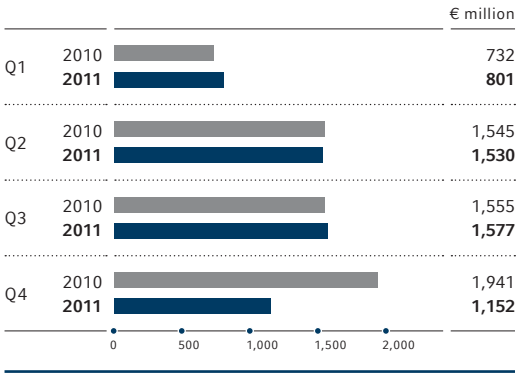


After a **non-operating result** of minus €786 million (2010: minus €1,009 million), including net interest expense of €335 million (2010: €499 million), **income before income taxes** amounted to €3,363 million (2010: €1,721 million). After tax expense of €891 million (2010: €411 million) and non-controlling interest, **net income** in 2011 came in at €2,470 million (2010: €1,301 million). Earnings per share were €2.99 (2010: €1.57). Core earnings per share advanced by 15.3% to €4.83 (2010: €4.19), calculated as explained in Chapter 4.3 "Core Earnings Per Share."

Gross Cash Flow by Quarter [Graphic 3.4]



Net Cash Flow by Quarter [Graphic 3.5]



Gross cash flow grew by 8.4% in 2011 to €5,172 million (2010: €4,771 million), thanks to the improvement in the operational business. Net cash flow, however, fell by 12.4% to €5,060 million (2010: €5,773 million) due to payments of €502 million made in connection with litigations concerning genetically modified rice (LL RICE) in the United States and a business-related increase in working capital. We reduced net financial debt by €0.9 billion against December 31, 2010, to €7.0 billion. The net amount recognized for post-employment benefits after deducting plan assets from the defined benefit obligation rose to €7.8 billion (2010: €7.2 billion), with the drop in long-term capital market interest rates accounting for a €1.3 billion increase.

FOURTH QUARTER OF 2011

Group **sales** in the fourth quarter of 2011 rose by 1.9% (Fx & portfolio adj.) to €9,191 million (reported: +2.0%). Sales of HealthCare rose by 2.5% (Fx & portfolio adj.) to €4,595 million (reported: +2.8%). Sales in the Pharmaceuticals segment increased by 0.8% (Fx & portfolio adj.) to €2,680 million (reported: +1.2%), with declines in the established markets offset by higher sales in the emerging economies. Sales of Consumer Health moved ahead by 5.0% (Fx & portfolio adj.) to €1,915 million (reported: +5.2%). CropScience sales increased by 2.8% (Fx & portfolio adj.) in the fourth quarter to €1,676 million (reported: +1.4%) due to higher volumes. Sales of MaterialScience were flat with the prior-year period at €2,596 million (Fx & portfolio adj. +0.0%; reported: +0.5%).

EBIT of the Bayer Group climbed in the fourth quarter of 2011 to €629 million (Q4 2010: €51 million). Earnings were diminished by special items of minus €215 million (Q4 2010: minus €954 million), mainly comprising €245 million in restructuring expenses, €60 million in provisions for litigations and €99 million in divestiture gains. EBIT before special items fell by 16.0% to €844 million (Q4 2010: €1,005 million).

EBITDA before special items of the Bayer Group declined in the fourth quarter of 2011 by 8.8% to €1,541 million (Q4 2010: €1,689 million) due to a sharp drop in earnings at MaterialScience to €106 million (Q4 2010: €297 million). HealthCare, however, raised EBITDA before special items to €1,180 million (Q4 2010: €1,138 million). EBITDA before special items of CropScience came in at €273 million (Q4 2010: €270 million).

After a non-operating result of minus €178 million (Q4 2010: minus €237 million), income before income taxes was €451 million (Q4 2010: minus €186 million). After taxes and non-controlling interest, net income of the Bayer Group came in at €397 million (Q4 2010: minus €145 million). Earnings per share were €0.48 (Q4 2010: minus €0.18). Core earnings per share rose to €0.97 (Q4 2010: €0.95), calculated as explained in Chapter 4.3 “Core Earnings Per Share.”

Gross cash flow of the Bayer Group was down by 29.0% against the prior-year period at €1,004 million (Q4 2010: €1,414 million), the main reason – apart from the drop in EBITDA – being higher tax payments than in the fourth quarter of 2010. Net cash flow was also impacted by the payments made in connection

with litigations concerning genetically modified rice (LL RICE), receding by 40.6% to €1,152 million (Q4 2010: €1,941 million). The net financial debt at the end of the fourth quarter of 2011 was level with September 30, 2011, at €7.0 billion.

Key Data by Subgroup and Segment, 4th Quarter [Table 3.2]

	Sales		EBIT		EBITDA before special items*	
	4th Quarter 2010	4th Quarter 2011	4th Quarter 2010	4th Quarter 2011	4th Quarter 2010	4th Quarter 2011
	€ million	€ million	€ million	€ million	€ million	€ million
HealthCare	**4,468**	**4,595**	**(129)**	**770**	**1,138**	**1,180**
Pharmaceuticals	2,648	2,680	(219)	471	771	758
Consumer Health	1,820	1,915	90	299	367	422
CropScience	**1,653**	**1,676**	**118**	**47**	**270**	**273**
MaterialScience	**2,584**	**2,596**	**156**	**(4)**	**297**	**106**
Reconciliation	**307**	**324**	**(94)**	**(184)**	**(16)**	**(18)**
Group	**9,012**	**9,191**	**51**	**629**	**1,689**	**1,541**

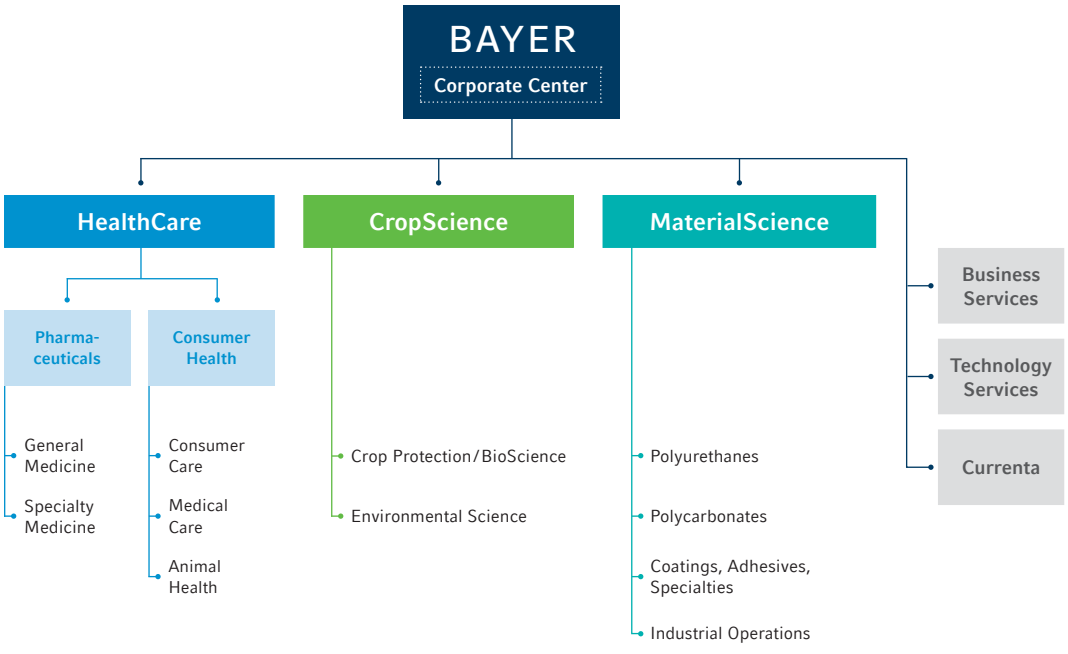
2010 figures restated
* For definition see Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."

2. Business and Operating Environment

2.1 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 3.6]

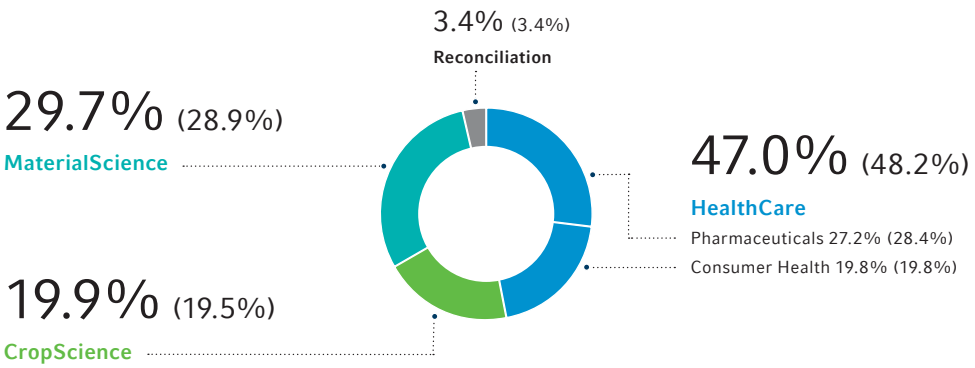


The globally operating **HealthCare** subgroup is divided into two reportable segments: Pharmaceuticals and Consumer Health. The Pharmaceuticals segment consists of two business units focusing on prescription products: General Medicine, primarily comprising women's healthcare and cardiovascular health products; and Specialty Medicine, comprising medicines that are mainly prescribed by specialist physicians. 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 crop protection, seed breeding and plant trait improvement, and non-agricultural pest and weed control. It is organized into two operating segments: Crop Protection/BioScience and Environmental Science. Crop Protection includes the Herbicides, Fungicides, Insecticides and Seed Treatment units, while BioScience focuses on seeds and plant traits. Environmental Science offers non-agricultural pest and weed control products.

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 2011 (2010 in parentheses) [Graphic 3.7]



2010 figures restated

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 3.3]

	Sales		EBIT		EBITDA before special items*	
	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million
HealthCare	**16,913**	**17,169**	**1,861**	**3,191**	**4,405**	**4,702**
Pharmaceuticals	9,954	9,949	872	1,897	2,832	2,972
Consumer Health	6,959	7,220	989	1,294	1,573	1,730
CropScience	**6,830**	**7,255**	**261**	**562**	**1,293**	**1,654**
MaterialScience	**10,154**	**10,832**	**780**	**633**	**1,356**	**1,171**
Reconciliation	**1,191**	**1,272**	**(172)**	**(237)**	**47**	**86**
Group	**35,088**	**36,528**	**2,730**	**4,149**	**7,101**	**7,613**

2010 figures restated
* For definition see Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."

CHANGES IN CORPORATE STRUCTURE

The Women's Healthcare and General Medicine business unit within the Pharmaceuticals segment of the HealthCare subgroup was renamed "General Medicine" effective January 1, 2011. The strategic business entity "Diagnostic Imaging," comprising contrast agents for imaging applications such as X-ray and MRI, was transferred from the Specialty Medicine business unit to the Medical Care Division in the fourth quarter of 2011 for organizational reasons and combined with the corresponding injection systems into a single business unit. The figures for 2011 and 2010 have been restated accordingly to enhance comparability. Since the second quarter of 2011 we have shown the CropScience subgroup as a single reportable segment in view of the organizational and strategic changes undertaken by CropScience to more closely align Crop Protection and BioScience and integrate the steering of these businesses. The prior-year figures have been restated accordingly.

2.2 Economic Environment

GLOBAL ECONOMY

The world economy was held back by a number of factors in 2011. Chief among these factors was the debt crisis in Europe and the United States, which was associated with greatly increased volatility on the financial markets. On top of this, the price of oil rose substantially in the first half of the year. In the industrialized countries there was little public help for the economy once stimulus programs expired, especially as many governments were compelled to rigorously consolidate their budgets. A further factor was the continuing weakness of the real-estate market in the U.S. and some European countries. However, support was provided by the central banks of the industrialized countries, which maintained strongly expansionary monetary policies.

Economic development in 2011 was marked by wide regional variations. Most industrialized countries saw only slow expansion. One exception was Germany, where the economy proved robust and only showed signs of weakening toward year end. The pillars of global economic growth were the emerging markets, led by China and India. They continued to expand strongly despite negative effects from the global economy, with rates of growth that slowed only slightly during the course of the year.

HEALTHCARE

In 2011 the **market for prescription medicines** posted growth in the mid-single digits. Expansion in the United States and the major European countries was below the global average, partly as a result of more restrictive government health policies that forced greater cost control, limited access to certain

treatments and in some cases led to mandatory rebates. Growth continued in the emerging markets, where health services became available to more and more people, boosting the demand for prescription medicines.

The rate of growth in the global **consumer care market** was slightly above the previous year. This was mainly due to a strong first half, with growth weakening in the 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 **medical care market** saw moderate expansion, driven by the U.S. diabetes care market and demand for medical equipment. The **animal health market** again saw growth in the mid-single digits in line with the average long-term trend.

CROPSCIENCE

The global **seed and crop protection market** showed dynamic development in 2011. Demand for high-quality seed continued to rise considerably overall, and the global crop protection market also posted significant growth.

Higher prices for agricultural commodities brought a general improvement in farm incomes compared with the previous year. This was reflected in increased investment in seeds and crop protection products.

The main drivers of growth in Europe were Eastern European countries such as Ukraine and Russia. In Western Europe, however, the prolonged drought in the second quarter diminished demand, particularly for fungicides.

The strong overall market growth in the Americas was lessened only by unfavorable weather conditions. In North America, spring sowing was delayed in many areas and the summer was marked by drought, especially in the cotton-growing regions of the southern United States. Latin American agriculture felt the negative effects of local droughts caused by "La Niña," especially in Brazil and Argentina.

The positive overall market trend also continued in the Asia/Pacific region in 2011, with a much stronger stimulus to growth coming from the Indian than from the Chinese market. In Australia, weather conditions increased the demand for fungicides, especially in the second half of the year. The Japanese crop protection market declined in 2011 due to the natural disaster in March and its consequences.

MATERIALSCIENCE

The **main customer industries** for MaterialScience also did not entirely escape the steady weakening of the global economy during the year. Negative factors included the euro crisis, the sluggish recovery of domestic demand and the real-estate market in North America, and the strict measures adopted to tackle inflation and economic overheating in Asia.

The global **automotive industry** performed well in 2011, although growth softened in the second half of the year. The recovery continued in North America and Eastern Europe, while government restrictions in the Asia/Pacific region, particularly in China, restrained the rate of growth, which had been well above average in the two preceding years. In Western Europe, the auto market was hampered by consumer reticence in the Mediterranean countries, but moderate growth in Germany prevented a more pronounced overall decline.

The global **electrical/electronics industry** continued to enjoy robust growth in 2011. Demand for consumer goods remained high in the emerging markets, and demand in the industrialized countries was boosted by a number of renewable energy projects.

The global **construction industry** expanded again in 2011. A somewhat negative trend persisted in Western Europe, and construction output stagnated in the United States, while China and India – and to a lesser degree Eastern Europe – continued to experience robust growth.

The pace of recovery in the **furniture market** in 2011 showed regional variations. While business increased in most of the central European core countries, the industry continued to suffer from weaker domestic demand in the highly indebted countries of southern Europe. The furniture industry in North America experienced a marked revival starting in the middle of the year. Despite the negative effects of monetary restraint in key Asian markets and flattening export revenues, business in the Asia/Pacific region proved to be stable over the course of the year.

2.3 Procurement and Production

Uniform Group directives on procurement are in place, and conditions have been defined. Our social and ecological requirements for suppliers, for example, are stated in the Supplier Code of Conduct. Production-specific procurement activities, like production itself, are organized separately for each subgroup in light of the diverse nature of our business activities. By contrast, the procurement of indirect goods and services that are not relevant to production – such as consultancy services, business travel and fleet management, computer hardware and software, laboratory and workshop equipment, safety devices and office supplies – is centrally organized within our service companies.

HEALTHCARE

Production network creates advantages

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, safety and environmental protection. The manufacture of pharmaceuticals is subject to the exceptionally stringent quality requirements of good manufacturing practice (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, for example, solids (coated or uncoated tablets, powders), semi-solids (ointments, creams), and liquid pharmaceuticals used in injections or infusions, for example. 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; Turku, Finland; and various other sites in Europe, Asia and Latin America. 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, United States.

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 largest 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. Most of the materials needed for our medical equipment business, too, are procured from external suppliers, their availability, quality and price stability being ensured by way of long-term agreements, careful choice of suppliers and active supplier management. The majority of our medical devices are manufactured at the U.S. sites near Pittsburgh, Pennsylvania, and at Coon Rapids, Minnesota. Our contrast agents are produced mainly in Berlin, Germany.

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.

Global procurement and production network

CROPSCIENCE

CropScience manages procurement and production as a unit, enabling an integrated supply chain from raw material purchase through end-product manufacture to warehousing. Our aim is to steadily improve our cost structures, increase our flexibility and ensure we can react more quickly to market volatility.

Most of the raw materials for the manufacture of our crop protection products are procured externally. These raw materials are mainly basic chemicals such as chlorine, along with intermediates and synthesis components. Important raw materials are usually procured on the basis of long-term supply agreements. We reduce the risk of supply failure by diversifying our raw material sources and holding strategic reserves of important raw materials and intermediates. We also accord preference to certified suppliers that maintain defined quality standards for both manufactured and procured raw materials.

Crop Protection and Environmental Science products are manufactured at production sites and formulating facilities of our own around the world. 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.

To steadily optimize our global production network, we are selectively expanding capacities for important products and introducing new technologies and improved manufacturing processes, especially at our principal sites.

In the BioScience business unit, we produce our seeds at locations close to our customers in Europe, Asia, and North and South America. Our seeds are produced at our own farms or grown under contract on a total area of more than 100,000 hectares.

MATERIALSCIENCE

Procurement in the MaterialScience subgroup is globally controlled by an organizational unit known as “Procurement and Trading.” Worldwide procurement and trading processes are centrally managed to leverage synergies within MaterialScience. The aim is to optimize internal structures and processes to ensure we procure raw materials, energies and services in the market on the best possible terms. 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. For steam generation, we aim for a balanced diversification of fuels and – as with electricity – a mix of external procurement and captive production to minimize the price fluctuation risk.

The production facilities of MaterialScience at Dormagen, Krefeld and Leverkusen, Germany, along with those in Shanghai, China, and Baytown, Texas, United States, supply all the 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.

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 have a large number of production facilities close to local markets in 19 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.

World-scale facilities reduce costs for commodities

2.4 Products, Distribution and Markets

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

HEALTHCARE

HealthCare's product portfolio encompasses more than 20,000 articles to meet the needs of patients and consumers in the various markets. This high number is due to the size of the product range and the various delivery forms, dosages, pack sizes, and language versions of individual products and their packaging.

More than **20,000** articles worldwide

The Pharmaceuticals segment supplies prescription products in the fields of General Medicine and Specialty Medicine. In the General Medicine area, we offer cardiovascular medicines such as Adalat™ to treat high blood pressure and coronary heart disease, Aspirin™ Cardio to prevent heart attacks, our anticoagulant Xarelto™, and the antihypertensive Kinzal™/Pritor™. This portfolio also includes women's healthcare products such as our YAZ™/Yasmin™/Yasminelle™ and Mirena™ contraceptives, and hormone replacement therapies such as Angeliq™. Our range of Specialty Medicine products, which are mainly prescribed by specialist physicians, includes the multiple sclerosis drug Betaferon™/Betaseron™, the hemophilia A therapy Kogenate™, and Nexavar™ to treat certain types of cancer. In the pharmaceuticals market we are among the world's top 15 companies in terms of sales.

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 L.L.C. and Janssen Pharmaceuticals (formerly Ortho-McNeil) concerning the joint further development and marketing of the anticoagulant Xarelto™ ensures optimum progress in this area, conferring regional marketing rights that enable the partners to share in the product's expected success.

Our Consumer Health segment chiefly markets non-prescription products. The Consumer Care Division specializes in medicines available without a prescription, also known as over-the-counter (OTC) products. We offer products in most OTC categories, such as the pain relievers Aspirin™ and Aleve™ and the dermatology products Canesten™ and Bepanthen™/Bepanthol™. The product range also includes nutritionals such as Supradyn™, One A Day™, Berocca™ and Redoxon™, antacids such as Talcid™, and cough-and-cold products such as Alka-Seltzer Plus™ and White & Black™. Consumer Care is a leading player in the OTC market and also offers prescription dermatology products. The division's sales and distribution channels are generally pharmacies, although supermarket chains and other large retailers are also of significance in certain important markets such as the United States.

Consumer Health segment: focus on non-prescription products

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. As well as being among the top companies in the market for blood glucose monitoring devices, we are the world's leading supplier of contrast agent injection systems for diagnostic and therapeutic medical procedures in computed tomography, magnetic resonance imaging and molecular imaging, and of mechanical systems for removing thrombi from blood vessels. We also offer service products for these systems. To strengthen our position among the leading companies in the field of innovative, high-quality diagnostic imaging and interventional procedures, we have combined our diagnostic imaging business, formerly part of the Pharmaceuticals segment, and our medical equipment business to form a new Radiology and Interventional business unit. Examples from our portfolio of contrast agents used in diagnostic imaging are Ultravist™, Magnevist™ and Gadovist™/Gadavist™. 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 focuses on the health of companion animals and livestock, for which we offer pharmaceuticals and grooming products. The largest product line comprises Advantix™ and Advantage™ for the prevention and treatment of flea infestation in dogs and cats, followed by Baytril™ for the control of infectious diseases, Drontal™ and Drontal™ Plus wormers, and Baycox™ to treat coccidiosis in pigs. We occupy leading positions in individual countries and product segments, and are the world's fourth-largest animal health company in terms of sales. Depending on local regulatory frameworks, animal health products may be available to end users as prescribed by a veterinarian or prescription-free from veterinarians, pharmacies or retail stores.

CROPSCIENCE

Integrated, sustainable product portfolio at CropScience

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

CropScience markets its products in more than 120 countries worldwide. In the coming years we intend to continue expanding our business, particularly in fast-growing markets such as Latin America, India, China, Southeast Asia and Eastern Europe. In these countries there is a major opportunity for the agricultural industry to respond to the increasing global demand for high-quality food and feed by deploying innovative, leading-edge technologies.

The Crop Protection business is based on a broad portfolio of highly effective herbicides, fungicides, insecticides and seed treatment products. Thanks to our innovative capability and many years of experience with pest control products, we are among the world's leading companies in the insecticides market. CropScience holds third place in the global fungicides market. We occupy second position in the world market for weed control products (herbicides), including plant growth regulators. The Seed Treatment 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 by means of a two- or three-step distribution system, either via wholesalers or directly through retailers depending on local market conditions.

In the BioScience business unit, our distribution activities are focused on seed production in the four core crops of oilseed rape/canola, cotton, rice and vegetables, where we offer high-quality seed based on our own research and breeding expertise. In these four crops we have achieved strong market positions and are globally represented. In 2011 we also began marketing soybean seed in the United States. 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 farmers, breeders, specialist retailers and the processing industry. 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, Bayer 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

Leading competitive positions in all regions

One of the largest companies in the global chemical industry, 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. These chemicals serve either as raw materials (such as chlorine) for the manufacture of our products or are generated as byproducts (such as sodium hydroxide solution) and sold to external customers.

Our products are used mainly in the construction, furniture, wood, automotive, electrical/electronics, information technology, 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 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. This business unit also produces films for applications including vehicle speedometers and computer housings.

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.

3. Business Development by Subgroup, Segment and Region

3.1 HealthCare

Key Data – HealthCare [Table 3.4]

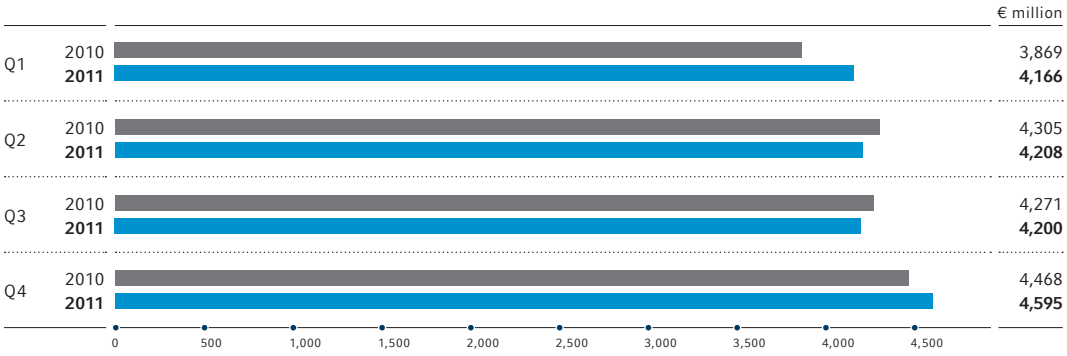
	2010	2011	Change	
	€ million	€ million	%	Fx (& p) adj. %
Sales	**16,913**	**17,169**	**+1.5**	**+2.4**
Change in sales				
Volume	+1.9%	+2.2%		
Price	−0.2%	+0.2%		
Currency	+4.7%	−1.2%		
Portfolio	−0.6%	+0.3%		
Sales by segment				
Pharmaceuticals	9,954	9,949	−0.1	+0.6
Consumer Health	6,959	7,220	+3.8	+5.1
Sales by region				
Europe	6,375	6,376	0.0	−0.1
North America	4,666	4,360	−6.6	−2.4
Asia/Pacific	3,269	3,656	+11.8	+9.4
Latin America/Africa/Middle East	2,603	2,777	+6.7	+10.1
EBIT	**1,861**	**3,191**	**+71.5**	
Special items	*(1,169)*	*(176)*		
EBIT before special items*	***3,030***	***3,367***	***+11.1***	
EBITDA*	**4,116**	**4,502**	**+9.4**	
Special items	*(289)*	*(200)*		
EBITDA before special items*	***4,405***	***4,702***	***+6.7***	
EBITDA margin before special items*	26.0%	27.4%		
Gross cash flow**	**2,948**	**3,254**	**+10.4**	
Net cash flow**	**3,320**	**3,357**	**+1.1**	

2010 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales and Sales by segment; Fx adj.: Sales by region)
* For definition see Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **HealthCare** subgroup rose by 2.4% (Fx & portfolio adj.) in 2011, to €17,169 million (reported: +1.5%). The Pharmaceuticals business posted an encouraging performance in the emerging markets, while some declines were recorded in Europe and North America. The Consumer Health business developed positively in all regions.

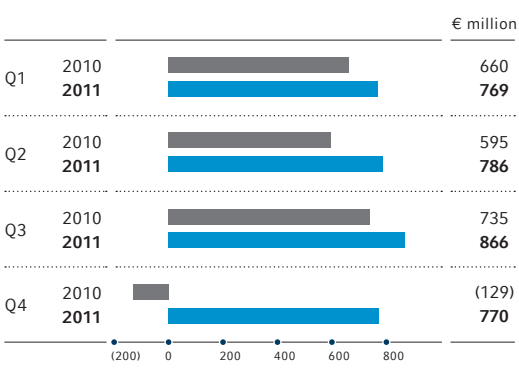
In the fourth quarter of 2011, the Diagnostic Imaging strategic business entity was transferred from the Specialty Medicine business unit (Pharmaceuticals segment) to the Medical Care Division (Consumer Health segment). The figures for 2011 and 2010 have been restated accordingly to enhance comparability.

HealthCare Quarterly Sales [Graphic 3.8]

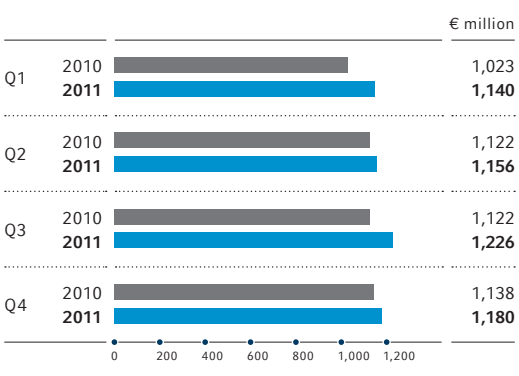


EBIT of the HealthCare subgroup advanced in 2011 by 71.5% to €3,191 million after special items of minus €176 million (2010: minus €1,169 million). EBIT before special items rose by 11.1% to €3,367 million. **EBITDA** before special items increased by 6.7% to €4,702 million, driven by the positive business development in Consumer Health and cost savings in Pharmaceuticals.

HealthCare Quarterly EBIT [Graphic 3.9]



HealthCare Quarterly EBITDA Before Special Items [Graphic 3.10]



Key Data – Pharmaceuticals [Table 3.5]

	2010	2011	Change	
	€ million	€ million	%	Fx (& p) adj. %
Sales	**9,954**	**9,949**	**–0.1**	**+0.6**
General Medicine	6,816	6,875	+0.9	+1.2
Specialty Medicine	3,138	3,074	–2.0	–0.8
Sales by region				
Europe	3,784	3,658	–3.3	–3.5
North America	2,382	2,048	–14.0	–10.5
Asia/Pacific	2,209	2,527	+14.4	+11.8
Latin America/Africa/Middle East	1,579	1,716	+8.7	+11.3
EBIT	**872**	**1,897**	**+117.5**	
Special items	*(1,028)*	*(145)*		
EBIT before special items*	***1,900***	***2,042***	***+7.5***	
EBITDA*	**2,565**	**2,795**	**+9.0**	
Special items	*(267)*	*(177)*		
EBITDA before special items*	***2,832***	***2,972***	***+4.9***	
EBITDA margin before special items*	28.5%	29.9%		
Gross cash flow**	**1,786**	**1,992**	**+11.5**	
Net cash flow**	**2,007**	**2,077**	**+3.5**	

2010 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales; Fx adj.: Sales by region)
* For definition see Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **Pharmaceuticals** segment in 2011 came in at €9,949 million, up 0.6% from the prior year after adjustment for currency and portfolio effects. Increases were achieved mainly in the Asia/Pacific and Latin America regions. Business in China developed particularly well. Sales in North America and Western Europe declined because of health system reforms and generic competition.

Best-Selling Pharmaceutical Products [Table 3.6]

	2010	2011	Change	
	€ million	€ million	%	Fx adj. %
Betaferon™/Betaseron™ (Specialty Medicine)	1,206	1,117	–7.4	–5.4
Kogenate™ (Specialty Medicine)	1,004	1,075	+7.1	+8.3
YAZ™/Yasmin™/Yasminelle™ (General Medicine)	1,111	1,070	–3.7	–2.9
Nexavar™ (Specialty Medicine)	705	725	+2.8	+3.5
Adalat™ (General Medicine)	664	640	–3.6	–4.8
Mirena™ (General Medicine)	539	581	+7.8	+10.7
Avalox™/Avelox™ (General Medicine)	497	486	–2.2	–1.8
Aspirin™ Cardio (General Medicine)	358	404	+12.8	+12.6
Glucobay™ (General Medicine)	347	362	+4.3	+4.2
Levitra™ (General Medicine)	429	332	–22.6	–22.2
Cipro™/Ciprobay™ (General Medicine)	262	232	–11.5	–11.4
Diane™ (General Medicine)	171	182	+6.4	+7.0
Zetia™ (General Medicine)	138	179	+29.7	+23.5
Kinzal™/Pritor™ (General Medicine)	178	172	–3.4	–3.4
Fosrenol™ (General Medicine)	99	147	+48.5	+42.0
Total	**7,708**	**7,704**	**–0.1**	**+0.5**
Proportion of Pharmaceuticals sales	77%	77%		

2010 figures restated
Fx adj. = currency-adjusted

Sales in the **General Medicine** business unit climbed by 1.2% (Fx & portfolio adj.) to €6,875 million. Business with our hormone-releasing intrauterine device Mirena™ increased in all regions, especially in North America due to higher volumes in the United States. By expanding our marketing activities in China, we substantially increased sales of products such as Aspirin™ Cardio for prevention of myocardial infarction. Two products recently launched in Japan – Fosrenol™ to treat kidney disease and Zetia™ to reduce blood cholesterol – saw positive development. Sales of our oral diabetes medicine Glucobay™ rose, thanks to steady growth in China. In Europe and Japan, however, sales declined in the face of generic competition.

Sales of our erectile dysfunction treatment Levitra™ and our antibiotic Avalox™/Avelox™ were markedly lower due to the partial restructuring of our distribution activities for general medicine products in the United States. In addition, Levitra™ had benefited in the preceding year from a contract signed with a major customer. On the other hand, the decline for Avalox™/Avelox™ in the United States was largely offset by increases in the other regions, especially in China. Sales of our YAZ™/Yasmin™/Yasminelle™ oral contraceptives receded, mainly because of generic competition for YAZ™ in the United States. However, business with this product line developed positively in Asia/Pacific, particularly Japan, and in Latin America/Africa/Middle East. Generic competition, especially in Canada and Japan, hampered business with Adalat™, our product to treat high blood pressure and coronary heart disease, while sales rose in China. The drop in sales of the antibiotic Cipro™/Ciprobay™ in the United States was mainly due to the termination of a U.S. government contract in the previous year. We also registered lower sales in Japan and Europe due to generic competition.

Our innovative anticoagulant Xarelto™ registered sales of €86 million. Indication expansions toward the end of the year did not yet have a significant effect.

In the **Specialty Medicine** business unit, sales edged down by 0.8% on a currency- and portfolio-adjusted basis, to €3,074 million. Sales of our multiple sclerosis drug Betaferon™/Betaseron™ declined due to heightened competition and to price reductions occasioned by health system reforms, primarily in Europe.

Our blood-clotting factor Kogenate™ recorded higher sales in all regions, especially on account of volume growth in Europe. The cancer drug Nexavar™ developed positively, chiefly as a result of higher volumes in the Asia/Pacific region for the treatment of liver cancer, which more than offset lower sales in Europe.

EBIT of the **Pharmaceuticals** segment jumped by 117.5% in 2011 to €1,897 million after special items of minus €145 million (2010: minus €1,028 million). Special charges of €193 million attributable to restructuring were partially offset by income from the remeasurement of intangible assets and pensions. EBIT before special items rose by 7.5% to €2,042 million. **EBITDA** before special items increased by 4.9% to €2,972 million. Earnings growth was the result of lower costs and the slight increase in sales. Development expenses decreased following the successful completion of most Phase III studies for our anticoagulant Xarelto™. Our successful cost management kept other functional costs virtually steady. Higher expenses for marketing new products and developing the business in the emerging markets were nearly compensated by restructuring and cost-saving measures.

Key Data – Consumer Health [Table 3.7]

	2010	2011	Change	
	€ million	€ million	%	Fx (& p) adj. %
Sales	**6,959**	**7,220**	**+3.8**	**+5.1**
Consumer Care	3,371	3,534	+4.8	+7.1
Medical Care	2,468	2,500	+1.3	+2.4
Animal Health	1,120	1,186	+5.9	+5.1
Sales by region				
Europe	2,591	2,718	+4.9	+4.8
North America	2,284	2,312	+1.2	+6.0
Asia/Pacific	1,060	1,129	+6.5	+4.4
Latin America/Africa/Middle East	1,024	1,061	+3.6	+8.3
EBIT	**989**	**1,294**	**+30.8**	
Special items	*(141)*	*(31)*		
EBIT before special items*	***1,130***	***1,325***	***+17.3***	
EBITDA*	**1,551**	**1,707**	**+10.1**	
Special items	*(22)*	*(23)*		
EBITDA before special items*	***1,573***	***1,730***	***+10.0***	
EBITDA margin before special items*	22.6%	24.0%		
Gross cash flow**	**1,162**	**1,262**	**+8.6**	
Net cash flow**	**1,313**	**1,280**	**–2.5**	

2010 figures restated
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx & p adj.: Sales; Fx adj.: Sales by region)
* For definition see Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **Consumer Health** segment in 2011 advanced by 5.1% (Fx & portfolio adj.) to €7,220 million, with all divisions and regions contributing to growth.

Best-Selling Consumer Health Products [Table 3.8]

	2010	2011	Change	
	€ million	€ million	%	Fx adj. %
Contour™ (Medical Care)	602	640	+6.3	+7.7
Aspirin™* (Consumer Care)	418	440	+5.3	+8.6
Advantage™ product line (Animal Health)	408	420	+2.9	+6.2
Ultravist™ (Medical Care)	313	316	+1.0	+2.0
Aleve™/naproxen (Consumer Care)	273	285	+4.4	+9.1
Bepanthen™/Bepanthol™ (Consumer Care)	212	235	+10.8	+10.6
Canesten™ (Consumer Care)	210	224	+6.7	+6.9
Magnevist™ (Medical Care)	215	187	–13.0	–11.8
Iopamiron™ (Medical Care)	185	185	0.0	–4.7
One A Day™ (Consumer Care)	178	174	–2.2	+2.3
Total	**3,014**	**3,106**	**+3.1**	**+4.8**
Proportion of Consumer Health sales	43%	43%		

2010 figures restated
Fx adj.= currency-adjusted
* Sales of Aspirin™ – including Aspirin™ Cardio, which is reflected in the sales of the Pharmaceuticals segment – increased by 8.8% (Fx adj. +10.4%) in 2011 to €844 million (2010: €776 million).

Sales in the **Consumer Care** Division advanced by 7.1% on a currency- and portfolio-adjusted basis, to €3,534 million. Business with our analgesics Aspirin™ and Aleve™/naproxen gained strongly, especially in the United States, benefiting from higher demand and the launch of the new, particularly fast-acting formulation Bayer™ Advanced Aspirin. Sales of our skincare product Bepanthen™/Bepanthol™ moved higher, largely as a result of a positive performance in Europe. Our antifungal Canesten™ also showed encouraging growth in all regions.

Sales of the **Medical Care** Division rose by a currency- and portfolio-adjusted 2.4% to €2,500 million. Our Diabetes Care business expanded, driven by the Contour™ line of blood glucose meters. Sales of these systems rose in all regions, especially Europe. Here we benefited from higher demand and new product introductions, particularly in Germany and the United Kingdom. Business with the X-ray contrast agent Ultravist™ developed favorably, especially in emerging markets such as China and Russia. Among our contrast agents for magnetic resonance imaging (MRI), sales of Magnevist™ receded, the decline in Europe being partly the result of the switch to Gadovist™.

Sales in our **Animal Health** Division rose by 5.1% on a currency- and portfolio-adjusted basis, to €1,186 million, with all regions contributing to growth. Business with our Advantage™ line of flea, tick and worm control products developed well in all regions, particularly Europe. Sales in the United States showed a further slight improvement following a strong year in 2010. Here we continued to benefit from the establishment of an additional distribution channel through pet-product retailers.

EBIT of the **Consumer Health** segment climbed in 2011 by 30.8% to €1,294 million after special items of minus €31 million that mainly comprised restructuring charges. EBIT before special items rose by 17.3% to €1,325 million. **EBITDA** before special items grew by 10.0% to €1,730 million. The distinct improvement in earnings was largely the result of the price- and volume-related sales growth. At the same time there was only a slight increase in the principal functional costs thanks to successful cost management.

3.2 CropScience

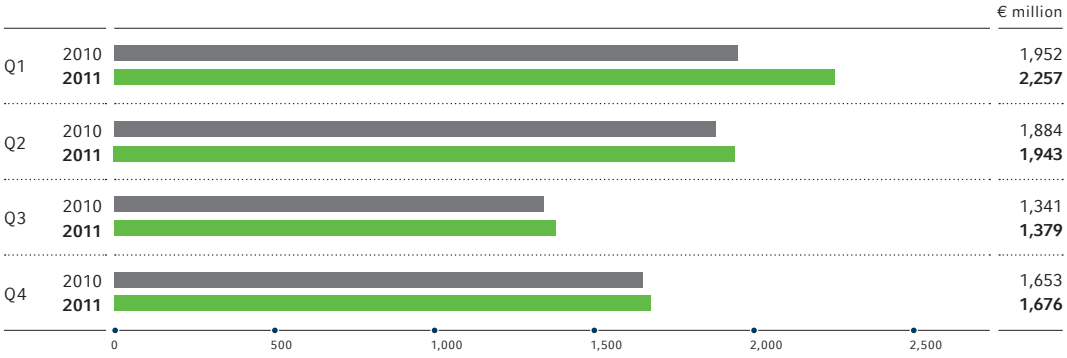
Key Data – CropScience [Table 3.9]

	2010	2011	Change	
	€ million	€ million	%	Fx (&p) adj. %
Sales	**6,830**	**7,255**	**+6.2**	**+8.9**
Change in sales				
Volume	−0.7%	+9.7%		
Price	−0.6%	−0.8%		
Currency	+6.0%	−2.3%		
Portfolio	+0.2%	−0.4%		
Sales by business group				
Crop Protection/BioScience	6,180	6,629	+7.3	+10.0
Environmental Science	650	626	−3.7	−1.5
Sales by region				
Europe	2,381	2,505	+5.2	+5.7
North America	1,535	1,703	+10.9	+14.3
Asia/Pacific	1,229	1,244	+1.2	+2.5
Latin America/Africa/Middle East	1,685	1,803	+7.0	+11.4
EBIT	**261**	**562**	**+115.3**	
Special items	*(526)*	*(606)*		
EBIT before special items*	***787***	***1,168***	***+48.4***	
EBITDA*	**767**	**1,215**	**+58.4**	
Special items	*(526)*	*(439)*		
EBITDA before special items*	***1,293***	***1,654***	***+27.9***	
EBITDA margin before special items*	19.0%	22.8%		
Gross cash flow**	**546**	**900**	**+64.8**	
Net cash flow**	**1,399**	**691**	**−50.6**	

2010 figures restated
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 4.2 "Calculation of EBIT(DA) Before Special Items."
** For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of **CropScience** increased by 8.9% (Fx & portfolio adj.) in 2011 to €7,255 million (reported: +6.2%). Growth was driven mainly by new products at Crop Protection and the positive trend at BioScience, while sales of Environmental Science moved slightly lower. Agricultural commodity prices remained at an attractive level, contributing to a favorable market environment.

CropScience Quarterly Sales [Graphic 3.11]



Sales of **Crop Protection/BioScience** climbed by 10.0% (Fx & portfolio adj.) in 2011, to €6,629 million. Crop Protection benefited from increased business with new fungicides, seed treatment products and herbicides. Sales of insecticides held steady year on year despite the cessation of marketing for older products, which diminished sales by about €100 million. BioScience continued the rapid expansion of its business, posting a high rate of growth.

Sales – Crop Protection/BioScience [Table 3.10]

	2010	2011	Change	
	€ million	€ million	%	Fx & p adj. %
Sales				
Herbicides	1,944	2,079	+6.9	+9.0
Fungicides	1,570	1,709	+8.9	+12.0
Insecticides	1,370	1,290	−5.8	0.0
Seed Treatment	609	731	+20.0	+23.6
Crop Protection	5,493	5,809	+5.8	+8.9
BioScience	687	820	+19.4	+19.1
Crop Protection/BioScience	**6,180**	**6,629**	**+7.3**	**+10.0**

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

Sales of **Crop Protection** increased in all regions.

Sales in **Europe** rose by 6.9% (Fx adj.) to €2,159 million, mainly due to strong growth in Eastern Europe. Our herbicides posted particularly good gains in Western Europe, led by our wheat and corn herbicides in Germany. New products such as the Xpro™ family of fungicides, launched in 2011 in Germany and the United Kingdom, also contributed to the positive development. On the other hand, the prolonged drought in the spring held back sales, particularly in Italy and France. Throughout the Europe region, we registered strong growth in sales of our seed treatment products, especially the Poncho™ product family.

Sales in **North America** advanced by 13.3% (Fx adj.) to €1,036 million. This was mainly the result of business development in the United States, with sales also gaining in Canada. Sales of our fungicides rose sharply, due primarily to the successful commercialization of Stratego™ YLD in the United States to treat corn at an early stage of plant growth. Sales of seed treatment products benefited particularly from the expansion of business with Poncho™/Votivo™ in the United States, where it recently became available for use in soybeans and cotton. Corvus™ and Capreno™ for corn contributed substantially to the gain in sales of herbicides. Business with insecticides was impacted by the cessation of marketing for older products, especially Temik™.

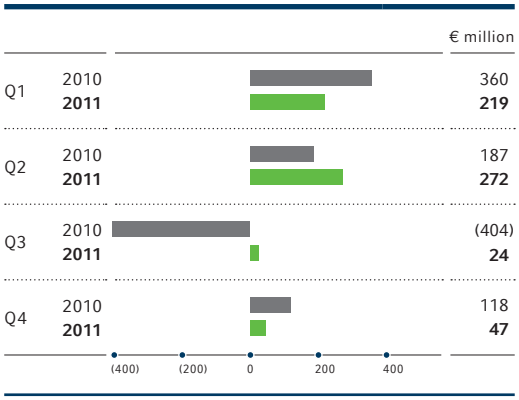
Sales in **Asia/Pacific** increased by 1.8% to €1,029 million, partly as a result of encouraging growth rates in Thailand, Vietnam and Indonesia, and partly due to a marked improvement in the fungicides business. Our Nativo™ product family posted good growth rates in nearly all Asian countries for use in rice and vegetables. Business with seed treatment products expanded steadily, while herbicide sales were down. Sales of insecticides were affected by the streamlining of our portfolio to eliminate older products. This led to a sharp drop in sales, particularly in India, China and Australia. Business in Japan stagnated, partly as a result of the natural disaster.

Sales in the **Latin America/Africa/Middle East** region moved ahead by 11.1% (Fx adj.) to €1,585 million. In Latin America sales developed well for all indications. Business with insecticides continued to expand thanks to the positive development for Belt™ in Brazil and recent product introductions in Argentina. Herbicide sales rose again, driven by good volume growth for cotton and corn herbicides in Brazil. Sales of seed treatment products improved compared with the weak prior year. In the fungicides business, growth was mainly driven by our new product Fox™ in Brazil. We registered moderate sales gains in the Middle East and Africa regions as a whole.

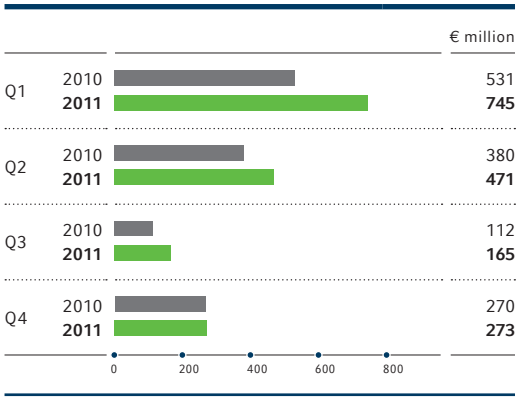
Sales in the **BioScience** business unit climbed by 19.1% (Fx & portfolio adj.) to €820 million, with all regions contributing to growth. We achieved double-digit sales advances in each of our core crops: oilseed rape/canola, cotton, rice and vegetables. The largest increase was for InVigor™ (canola seed) in Canada. Sales of FiberMax™ cotton seed moved ahead strongly, especially in Brazil. Our Arize™ rice seed was successful in Asia, while the Nunhems™ vegetable seed business posted significant growth in the United States, China and Brazil.

Sales in the **Environmental Science** business unit posted a slight 1.5% (Fx adj.) decline to €626 million. Growth in sales of our products for professional users in the United States only partially offset the sharp decline in the specialty active ingredients business in Germany. Sales of consumer products were level with the preceding year in a difficult economic environment.

CropScience
Quarterly EBIT [Graphic 3.12]



CropScience
Quarterly EBITDA Before Special Items [Graphic 3.13]



EBIT of **CropScience** climbed sharply from €261 million in 2010 to €562 million in 2011. The special charges of €606 million (2010: €526 million) mainly comprised provisions established in connection with litigations concerning genetically modified rice (LL RICE) in the United States and restructuring at Crop Protection. EBIT before special items advanced by 48.4% to €1,168 million, while **EBITDA** before special items increased by 27.9% to €1,654 million. Earnings growth was driven by the significant volume increases and the resulting marked improvement in capacity utilization. Our efficiency improvement measures also contributed to the rise in earnings, and successful cost management enabled us to hold the cost of goods sold and research and development expenses virtually steady. Selling expenses rose at a slower rate than sales. In addition, we incurred one-time gains of €38 million (2010: €58 million) on the divestiture of active ingredients at Crop Protection.

3.3 MaterialScience

Key Data – MaterialScience [Table 3.11]

	2010	2011	Change	
	€ million	€ million	%	Fx (& p) adj. %
Sales	**10,154**	**10,832**	**+6.7**	**+8.2**
Change in sales				
Volume	+23.8%	+1.0%		
Price	+6.3%	+7.2%		
Currency	+4.9%	−1.7%		
Portfolio	0.0%	+0.2%		
Sales by business unit				
Polyurethanes	5,024	5,435	+8.2	+9.5
Polycarbonates	2,791	2,893	+3.7	+5.6
Coatings, Adhesives, Specialties	1,791	1,845	+3.0	+4.5
Industrial Operations	548	659	+20.3	+21.9
Sales by region				
Europe	3,950	4,413	+11.7	+11.8
North America	2,022	2,109	+4.3	+9.6
Asia/Pacific	2,907	2,894	−0.4	+1.2
Latin America/Africa/Middle East	1,275	1,416	+11.1	+12.5
EBIT	**780**	**633**	**−18.8**	
Special items	-	*44*		
EBIT before special items*	***780***	***589***	***−24.5***	
EBITDA*	**1,356**	**1,215**	**−10.4**	
Special items	-	*44*		
EBITDA before special items*	***1,356***	***1,171***	***−13.6***	
EBITDA margin before special items*	13.4%	10.8%		
Gross cash flow**	**1,058**	**939**	**−11.2**	
Net cash flow**	**763**	**775**	**+1.6**	

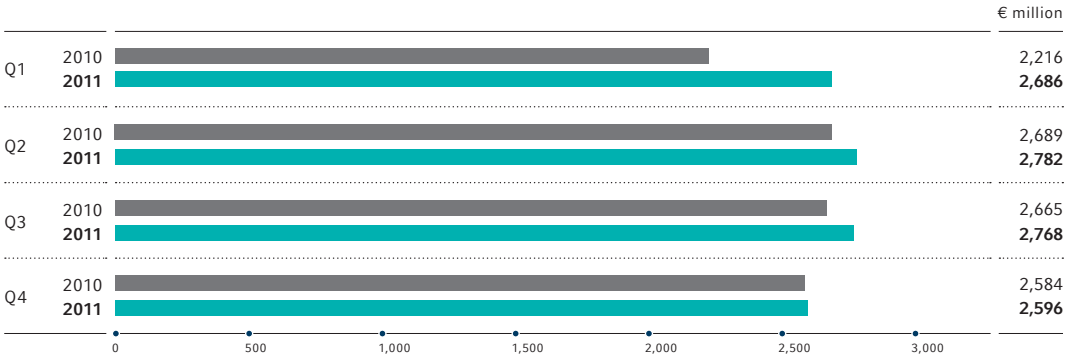
Fx (& p) adj. = currency- (and portfolio-)adjusted (Fx& p adj.: Sales and Sales by business unit; Fx adj.: Sales by region)

* For definition see Chapter 4.2 "Calculation of EBIT(DA) Before Special Items."

** For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

Sales of the **MaterialScience** subgroup rose in 2011 by 8.2% (Fx & portfolio adj.) to €10,832 million (reported: +6.7%). This growth was driven by the selling price increases achieved in all business units and regions, particularly Europe. We also saw a moderate improvement in product sales volumes, with increases in Latin America/Africa/Middle East, Europe and North America offsetting declines in the Asia/Pacific region.

MaterialScience Quarterly Sales [Graphic 3.14]



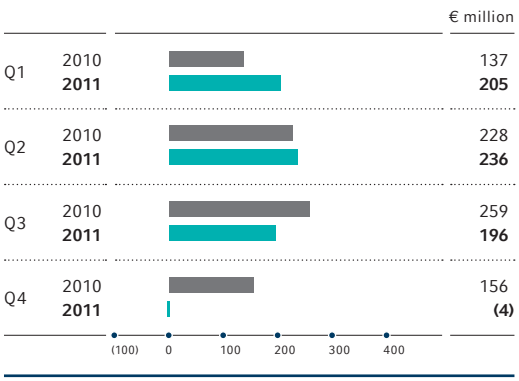
The **Polyurethanes** business unit raised sales by 9.5% (Fx & portfolio adj.) to €5,435 million. Significant sales gains for polyether (PET) and diphenylmethane diisocyanate (MDI) more than offset the year-on-year decline in sales of our toluene diisocyanate (TDI) product group. Volumes grew in the Latin America/Africa/Middle East, Europe and North America regions but were below the prior year in Asia/Pacific. MDI sales advanced in light of higher selling prices worldwide, while volumes were flat with the previous year. For PET we achieved significant price increases and a small rise in volumes. Although TDI sales were down overall due to lower prices, volumes were above the previous year.

The **Polycarbonates** business unit posted sales of €2,893 million, up 5.6% (Fx & portfolio adj.) year on year. This increase was mainly attributable to higher selling prices worldwide in our granules product group, where we also saw a small improvement in volumes. Sales of polycarbonate sheet/semi-finished products receded due to a drop in volumes, especially in Asia/Pacific and Latin America/Africa/Middle East, although we succeeded in slightly raising selling prices.

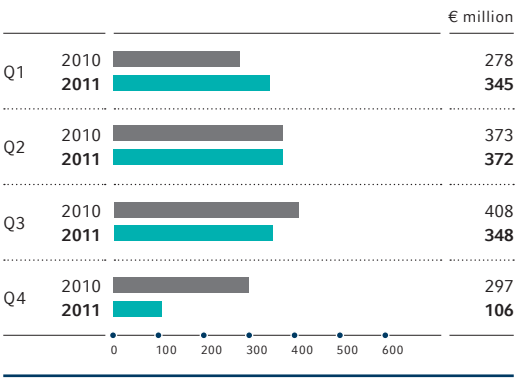
In the **Coatings, Adhesives, Specialties** business unit, sales moved forward by 4.5% (Fx & portfolio adj.) to €1,845 million, with all product groups contributing to the growth in business. We achieved selling price increases for basic and modified isocyanates and resins throughout the world. Higher volumes in North and Latin America did not fully offset the declines in the other regions. Business in the functional films product group benefited from overall increases in both selling prices and volumes.

Industrial Operations had sales of €659 million (Fx & portfolio adj. + 21.9%) thanks to strong gains in volumes and higher product prices at the global level.

MaterialScience
Quarterly EBIT [Graphic 3.15]



MaterialScience
Quarterly EBITDA Before Special Items [Graphic 3.16]



EBIT of **MaterialScience** receded by 18.8% in 2011 to €633 million. It included a special gain of €44 million (2010: €0 million) from the sale of the business with certain conventional coatings resins. EBIT before special items fell by 24.5% to €589 million. **EBITDA** before special items receded by 13.6% to €1,171 million. This decline resulted from higher raw material and energy costs, which were not entirely offset by selling price increases. Earnings were also diminished by higher operating costs, partly arising from the commissioning of our TDI facility in China. These cost increases were limited by savings from efficiency improvement measures. Slight volume increases contributed positively to earnings.

3.4 Business Development by Region

Sales by Region and Segment (by Market)

	Europe				North America			
	2010	2011			2010	2011		
	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy
HealthCare	**6,375**	**6,376**	**0.0**	**−0.1**	**4,666**	**4,360**	**−6.6**	**−2.4**
Pharmaceuticals	3,784	3,658	−3.3	−3.5	2,382	2,048	−14.0	−10.5
Consumer Health	2,591	2,718	+4.9	+4.8	2,284	2,312	+1.2	+6.0
CropScience	**2,381**	**2,505**	**+5.2**	**+5.7**	**1,535**	**1,703**	**+10.9**	**+14.3**
MaterialScience	**3,950**	**4,413**	**+11.7**	**+11.8**	**2,022**	**2,109**	**+4.3**	**+9.6**
Group (incl. reconciliation)	**13,751**	**14,441**	**+5.0**	**+5.0**	**8,228**	**8,177**	**−0.6**	**+3.6**

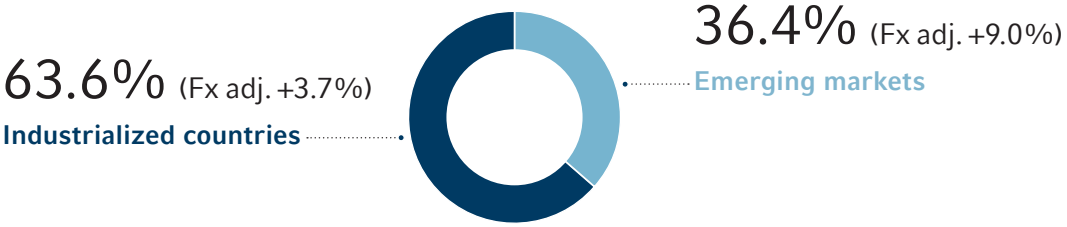
2010 figures restated
yoy = year on year; Fx. adj. = currency-adjusted

3.5 Business Development in the Emerging Markets

The emerging markets contributed significantly to sales growth in 2011. For reporting purposes we have defined these markets as Asia (excluding Japan), Latin America, Eastern Europe, Africa and the Middle East.

Sales in these emerging markets rose by 9.0% (Fx adj.) in 2011 to €13,290 million (2010: €12,493 million), with all regions contributing to the increase. The emerging markets accounted for 36.4% of sales (2010: 35.6%).

Percentage Sales Breakdown by Industrialized Countries and Emerging Markets 2011
(currency-adjusted changes in parentheses) [Graphic 3.17]



HEALTHCARE

In the emerging markets, HealthCare raised sales by 10.1% (Fx adj.) in 2011 to €5,510 million (2010: €5,110 million), recording its strongest gain in China. The 19.2% (Fx adj.) increase in China was achieved by stepping up our marketing activities, especially the expansion of our distribution network, in line with our growth strategy. Business in the Latin America region also developed well, with particularly good growth in Brazil, Mexico, Venezuela and Argentina, especially for our pharmaceutical products. Sales also gained significantly in Russia. The emerging markets accounted for 32.1% (2010: 30.2%) of total HealthCare sales.

[Table 3.12]

	Asia/Pacific				Latin America/Africa/Middle East				Total			
	2010	2011			2010	2011			2010	2011		
	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy	€ million	€ million	% yoy	Fx adj. % yoy
	3,269	**3,656**	**+11.8**	**+9.4**	**2,603**	**2,777**	**+6.7**	**+10.1**	**16,913**	**17,169**	**+1.5**	**+2.7**
	2,209	2,527	+14.4	+11.8	1,579	1,716	+8.7	+11.3	9,954	9,949	−0.1	+0.6
	1,060	1,129	+6.5	+4.4	1,024	1,061	+3.6	+8.3	6,959	7,220	+3.8	+5.7
	1,229	**1,244**	**+1.2**	**+2.5**	**1,685**	**1,803**	**+7.0**	**+11.4**	**6,830**	**7,255**	**+6.2**	**+8.5**
	2,907	**2,894**	**−0.4**	**+1.2**	**1,275**	**1,416**	**+11.1**	**+12.5**	**10,154**	**10,832**	**+6.7**	**+8.4**
	7,481	**7,842**	**+4.8**	**+4.6**	**5,628**	**6,068**	**+7.8**	**+11.1**	**35,088**	**36,528**	**+4.1**	**+5.6**

CROPSCIENCE

CropScience improved sales in the emerging markets by 11.0% (Fx adj.) in 2011 to €3,095 million (2010: €2,897 million), posting particularly strong growth in Eastern Europe. We also registered good growth rates in Latin America, especially Brazil and Argentina. In Asia and in the Africa and Middle East region we raised currency- and portfolio-adjusted sales by a mid-single-digit percentage. The emerging markets accounted for 42.7% (2010: 42.4%) of total CropScience sales.

MATERIALSCIENCE

At MaterialScience, sales in the emerging markets advanced by 7.0% (Fx adj.) in 2011 to €4,574 million (2010: €4,353 million).

We achieved the largest sales gains in Eastern Europe, especially in the Czech Republic, Poland and Russia. MaterialScience also saw pleasing rates of growth in the Latin America and Africa/Middle East regions, particularly Mexico, Brazil and Turkey. Sales development in the emerging markets of Asia/Pacific varied by country. Business was down in China, partly due to a decline in demand from the second quarter onward and to customers' inventory optimization measures at year end. We nevertheless remain convinced of the long-term growth prospects for the Chinese market. Overall sales development in the other Asian countries was positive, with the strongest growth registered in India, Malaysia, Indonesia and Thailand.

The emerging markets accounted for 42.2% (2010: 42.9%) of total sales at MaterialScience.

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

4.1 Earnings Performance of the Bayer Group

Bayer Group Summary Income Statement [Table 3.13]

	2010	2011	Change
	€ million	€ million	%
Net sales	**35,088**	**36,528**	**+4.1**
Cost of goods sold	17,103	17,975	+5.1
Selling expenses	8,803	8,958	+1.8
Research and development expenses	3,053	2,932	−4.0
General administration expenses	1,647	1,713	+4.0
Other operating expenses	(1,752)	(801)	+54.3
Operating result [EBIT]	**2,730**	**4,149**	**+52.0**
Non-operating result	**(1,009)**	**(786)**	**+22.1**
Income before income taxes	**1,721**	**3,363**	**+95.4**
Income taxes	(411)	(891)	−116.8
Income after taxes	**1,310**	**2,472**	**+88.7**
of which attributable to non-controlling interest	9	2	−77.8
of which attributable to Bayer AG stockholders (net income)	**1,301**	**2,470**	**+89.9**

Sales of the Bayer Group grew by 4.1% year on year to €36,528 million, mainly because of the increases at CropScience and MaterialScience. Adjusted for currency and portfolio effects, sales rose by 5.5%.

The cost of goods sold rose by 5.1% to €17,975 million. This was largely due to the increase at MaterialScience, which was driven by higher raw material and energy prices. The ratio of the cost of goods sold to total sales was 49.2% (2010: 48.7%). Selling expenses edged forward by 1.8% to €8,958 million, and were thus equivalent to 24.5% (2010: 25.1%) of sales. Research and development expenses fell by 4.0% in 2011 to €2,932 million. The ratio of R&D expenses to sales was 8.0% (2010: 8.7%). General administration expenses were 4.0% higher at €1,713 million. The ratio of general administration expenses to total sales was thus 4.7% (2010: 4.7%). The negative balance of other operating income and expenses, at €801 million, resulted mainly from special charges related to restructuring measures and litigations (see also Chapter 4.2 "Calculation of EBIT(DA) Before Special Items").

EBIT advanced by 52.0% in 2011 to €4,149 million, mainly because special charges were lower than in the prior year.

The non-operating result improved by €223 million to minus €786 million. It included interest cost of €336 million (2010: €372 million) for pension and other provisions, lower net interest expense of €335 million (2010: €499 million), a net exchange loss of €53 million (2010: €70 million) and a net loss of €45 million (2010: €59 million) from investments in affiliated companies. The improvement in the net interest position was mainly due to the reduction in financial debt and to tax-related interest effects. 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 2011 amounted to €891 million. Income after taxes came in at €2,472 million. Income attributable to non-controlling interest amounted to €2 million. Bayer Group net income for 2011 was €2,470 million.

4.2 Calculation of EBIT(DA) Before Special Items

Key performance indicators for the Bayer Group are EBIT before special items and EBITDA before special items. These indicators are reported in order to allow a more accurate assessment of business operations. The special items – comprising effects that are non-recurring or do not regularly recur or attain similar magnitudes – are detailed in the following table. "EBITDA," "EBITDA before special items" and "EBIT before special items" are not defined in the International Financial Reporting Standards and should therefore be regarded only as supplementary information. 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 fell by 22.1% in 2011 to €2,769 million (2010: €3,556 million), comprising €1,425 million (2010: €2,308 million) in amortization and impairments of intangible assets and €1,344 million (2010: €1,248 million) in depreciation and impairments of property, plant and equipment. Included here were net impairment losses of €248 million (2010: €985 million) after impairment loss reversals of €37 million (2010: €4 million). Of the impairment losses, €67 million (2010: €78 million) did not constitute special items.

Special Items Reconciliation*

[Table 3.14]

	EBIT** 2010	EBIT** 2011	EBITDA*** 2010	EBITDA*** 2011
	€ million	€ million	€ million	€ million
After special items	**2,730**	**4,149**	**6,286**	**6,918**
HealthCare	**1,169**	**176**	**289**	**200**
Impairment losses and write-downs	930	-	56	-
Restructuring	62	230	56	219
Litigations	177	-	177	-
Remeasurement of pension provisions	-	(19)	-	(19)
Impairment loss reversals	-	(35)	-	-
CropScience	**526**	**606**	**526**	**439**
Restructuring	-	441	-	274
Litigations	526	229	526	229
Remeasurement of pension provisions	-	(14)	-	(14)
Portfolio changes	-	(50)	-	(50)
MaterialScience	**-**	**(44)**	**-**	**(44)**
Portfolio changes	-	(44)	-	(44)
Reconciliation	**27**	**138**	**-**	**100**
Impairment losses and write-downs	27	38	-	-
Restructuring	-	70	-	70
Litigations	-	31	-	31
Remeasurement of pension provisions	-	(2)	-	(2)
Portfolio changes	-	1	-	1
Total special items	**1,722**	**876**	**815**	**695**
Before special items	**4,452**	**5,025**	**7,101**	**7,613**

* Special gains are shown as negative amounts.
** EBIT = operating result as per income statements
*** EBITDA = EBIT plus amortization and impairment losses on intangible assets and depreciation and impairment losses on property, plant and equipment, minus impairment loss reversals

4.3 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 2011 amounted to €4.83 (2010: €4.19).

Core Earnings per Share [Table 3.15]

	2010	2011
	€ million	€ million
EBIT (as per income statements)	**2,730**	**4,149**
Amortization and impairment losses on intangible assets	2,308	1,425
Impairment losses on property, plant and equipment	53	134
Special items (other than amortization and impairments)	815	695
Core EBIT	**5,906**	**6,403**
Non-operating result (as per income statements)	(1,009)	(786)
Income taxes (as per income statements)	(411)	(891)
Tax effects related to amortization, impairments and special items	(1,012)	(727)
Income after taxes attributable to non-controlling interest (as per income statements)	(9)	(2)
Core net income	**3,465**	**3,997**
	Shares	Shares
Weighted average number of issued ordinary shares	**826,947,808**	**826,947,808**
Core earnings per share (€)	**4.19**	**4.83**

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.

4.4 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. 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. A positive delta CVA denotes an increase in the company's value.

The value-based indicators aid management's decision-making, especially regarding 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.

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 2011 these were unchanged from 2010 at 8.1% for HealthCare, 7.5% for CropScience and 7.1% for MaterialScience. The minimum return required for the Group in 2011, as in 2010, was 7.8%.

Weighted average cost of capital for the Bayer Group
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). This is the ratio of the gross cash flow to the capital invested, which is derived 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 reduce fluctuations in the capital invested, the CFROI is computed on the basis of the average figure for the respective year.

The CFROI hurdle for 2011 was 10.0% (2010: 10.0%), while the corresponding gross cash flow hurdle was €4,339 million (2010: 4,384 million).

Actual gross cash flow came in at €5,172 million, exceeding the hurdle by 19.2%. Thus in 2011 we earned our entire capital and asset reproduction costs, and the positive CVA of €833 million shows that Bayer exceeded the minimum return and reproduction requirements and earned a premium on the capital invested. Since the CVA in 2010 was €387 million, the Bayer Group therefore posted a positive delta CVA of €446 million in 2011, showing that it created considerably more value than in the previous year. The CFROI for 2011 amounted to 11.9% (2010: 10.9%).

Positive delta CVA
=
value created

HealthCare and CropScience exceeded their target returns including asset reproduction, while MaterialScience was €94 million below the gross cash flow hurdle. The CFROI for HealthCare was 14.3% (2010: 12.8%). CropScience achieved a CFROI of 10.3% (2010: 5.9%). MaterialScience was below the prior year with a CFROI of 9.2% (2010: 11.0%).

Value Management Indicators by Subgroup [Table 3.16]

	HealthCare		CropScience		MaterialScience		Bayer Group	
	2010	2011	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Gross cash flow* (GCF)	2,948	3,254	546	900	1,058	939	4,771	5,172
Gross cash flow hurdle (GCF hurdle)	2,291	2,205	881	857	973	1,033	4,384	4,339
Cash value added (CVA)	657	1,049	(335)	43	85	(94)	387	833
Delta cash value added (delta CVA)	(238)	392	(556)	378	726	(179)	9	446
Cash flow return on investment (CFROI)	12.8%	14.3%	5.9%	10.3%	11.0%	9.2%	10.9%	11.9%
CFROI hurdle	9.9%	9.7%	9.4%	9.5%	10.6%	10.4%	10.0%	10.0%
Average capital invested	23,022	22,757	9,189	8,772	9,589	10,157	43,622	43,348

* For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group."

4.5 Liquidity and Capital Expenditures of the Bayer Group

Bayer Group Summary Statements of Cash Flows [Table 3.17]

	2010	2011
	€ million	€ million
Gross cash flow*	**4,771**	**5,172**
Changes in working capital/other non-cash items	1,002	(112)
Net cash provided by (used in) operating activities (net cash flow)	**5,773**	**5,060**
Net cash provided by (used in) investing activities	**(2,414)**	**(3,890)**
Net cash provided by (used in) financing activities	**(3,230)**	**(2,213)**
Change in cash and cash equivalents due to business activities	**129**	**(1,043)**
Cash and cash equivalents at beginning of period	**2,725**	**2,840**
Change due to exchange rate movements and to changes in scope of consolidation	(14)	(27)
Cash and cash equivalents at end of period	**2,840**	**1,770**

* Gross cash flow = income after taxes, plus income taxes, plus non-operating 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 the operating result (EBIT). It also contains benefit payments during the year.

OPERATING CASH FLOW

Gross cash flow rose by 8.4% in 2011 to €5,172 million, with HealthCare and CropScience posting earnings-related improvements and MaterialScience a considerable earnings-related decline. Cash tied up in trade working capital, which was significantly reduced in the previous year, increased in 2011 due to the growth in business. In the preceding year, the change in other working capital contained additions to the provisions for the LL RICE litigation; in 2011 it was reduced by corresponding payments. Net cash flow of the Group receded by 12.4% to €5,060 million. Net cash flow reflected income tax payments of €932 million (2010: €838 million).

INVESTING CASH FLOW

Net cash outflow for investing activities in 2011 totaled €3,890 million. Cash outflows for property, plant and equipment and intangible assets were 6.7% higher at €1,615 million. Of this amount, HealthCare accounted for €608 million (2010: €573 million), CropScience for €280 million (2010: €302 million) and MaterialScience for €565 million (2010: €498 million). These outflows included expenditures for the expansion of our MaterialScience site in Shanghai, China, as well as expenses related to a licensing agreement in the HealthCare subgroup. The €261 million (2010: €31 million) in disbursements for acquisitions

related mainly to the purchase of the animal health company Bomac, New Zealand; Hornbeck Seed Company, Inc., United States; and Pathway Medical Technologies, Inc., United States. Among the cash inflows in 2011 were €173 million (2010: €101 million) from divestitures and €75 million (2010: €53 million) in interest and dividends received. Cash outflows for noncurrent and current financial assets rose to €2,537 million (2010: €1,084 million), with bank deposits accounting for the greater part of the increase.

The principal strategically relevant capital expenditures for property, plant and equipment in the operating segments of the Bayer Group in 2011 and 2010 are listed in the following table:

Capital Expenditures for Property, Plant and Equipment [Table 3.18]

Segment	Description
CAPITAL EXPENDITURES 2011	
Pharmaceuticals	Installation 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, Jakarta, Indonesia
CropScience	Capacity expansions and process modifications for the production of fungicides in Dormagen, Germany, and Muttenz, Switzerland
	Extension 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
CAPITAL EXPENDITURES 2010	
Pharmaceuticals	Expansion of production capacities for new Kogenate™ formulations in Berkeley, California, U.S.A.
	Installation of packaging capacities for the YAZ™ product family in Berlin, Germany
	Capacity expansion for contrast agents in Bergkamen, Germany
Consumer Health	Expansion of production and packaging capacities for vitamin tablets, in Myerstown, Pennsylvania, U.S.A.
CropScience	Expansion of production capacity for fungicides in Kansas City, Missouri, U.S.A., and Dormagen, Germany
	Capacity expansion for insecticidal active ingredients in Dormagen, Germany
	Extension of research facilities in Haelen, Netherlands
	Extension to a research laboratory in Ghent, Belgium
	Capacity expansion for the production of vegetable seeds in Parma, Idaho, U.S.A.
MaterialScience	Construction of a "world-scale" TDI production complex in Shanghai, China
	MakroColor production plant in Noida, India
	Construction of a polyurethanes systems house in Moscow, Russia
	Installation of an NaCl electrolyzer with an oxygen-depolarized cathode for demonstration purposes in Krefeld, Germany

FINANCING CASH FLOW

Net cash outflow for financing activities in 2011 amounted to €2,213 million, including net loan repayments of €397 million (2010: €1,544 million). Net interest payments were 10.3% higher at €570 million (2010: €517 million). There was a €1,242 million outflow for "dividend payments and withholding tax on dividends" (2010: €1,160 million).

LIQUID ASSETS AND NET FINANCIAL DEBT

Net Financial Debt [Table 3.19]

	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million
Bonds and notes/promissory notes	8,209	7,710
of which hybrid bond	1,303	1,344
Liabilities to banks	2,271	2,657
Liabilities under finance leases	562	554
Liabilities from derivatives	529	513
Other financial liabilities	196	228
Positive fair values of hedges of recorded transactions	(331)	(395)
Financial debt	**11,436**	**11,267**
Cash and cash equivalents	(2,840)	(1,770)
Current financial assets	(679)	(2,484)
Net financial debt	**7,917**	**7,013**

Net financial debt of the Bayer Group declined substantially in 2011, from €7.9 billion to €7.0 billion (-11.4%), with the increase in cash inflows from operating activities partially offset by negative currency effects of €0.2 billion. As of December 31, 2011 the Group had cash and cash equivalents of €1.8 billion (2010: €2.8 billion). Financial liabilities amounted to €11.3 billion (2010: €11.4 billion), including the €1.3 billion subordinated hybrid bond issued in July 2005. 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 2011 from €9.9 billion to €8.0 billion, while current financial liabilities rose from €1.9 billion to €3.7 billion.

4.6 Asset and Capital Structure of the Bayer Group

Bayer Group Summary Statements of Financial Position [Table 3.20]

	Dec. 31, 2010	Dec. 31, 2011	Change
	€ million	€ million	%
Noncurrent assets	**33,188**	**32,697**	**–1.5**
Current assets	**18,318**	**19,984**	**+9.1**
Assets held for sale	-	84	-
Total current assets	**18,318**	**20,068**	**+9.6**
Total assets	**51,506**	**52,765**	**+2.4**
Equity	**18,896**	**19,271**	**+2.0**
Noncurrent liabilities	**21,775**	**20,104**	**–7.7**
Current liabilities	**10,835**	**13,387**	**+23.6**
Provisions directly related to assets held for sale	-	3	-
Total current liabilities	**10,835**	**13,390**	**+23.6**
Liabilities	**32,610**	**33,494**	**+2.7**
Total equity and liabilities	**51,506**	**52,765**	**+2.4**

Total assets increased in 2011 by 2.4% to €52.8 billion. Noncurrent assets declined by €0.5 billion to €32.7 billion, mainly due to amortization and impairments of intangible assets. Noncurrent assets included goodwill of €9.2 billion (2010: €9.0 billion), the increase being mainly due to acquisitions and shifts in exchange rates. Current assets rose by €1.8 billion compared with the previous year, to €20.1 billion.

Equity increased by €0.4 billion to €19.3 billion, bolstered by the €2.5 billion net income. The €1.2 billion dividend payment made in 2011 and the €0.8 billion increase in post-employment benefit obligations – recognized outside profit or loss – had the opposite effect. Our equity ratio (equity coverage of total assets) was 36.5% as of December 31, 2011 (2010: 36.7%).

Liabilities increased by €0.9 billion compared with December 31, 2010, to €33.5 billion, largely because of the increase in the net amount recognized for post-employment benefits and the allocations to provisions for restructuring. The maturity of several bonds in 2012 led to an increase in current financial liabilities and a decline in noncurrent financial liabilities. Total financial liabilities declined by €0.2 billion to €11.7 billion.

Net Amount Recognized [Table 3.21]

	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million
Provisions for pensions and other post-employment benefits	7,305	7,870
Benefit plan assets in excess of obligation	(76)	(72)
Net amount recognized	**7,229**	**7,798**

The net amount recognized for post-employment benefits increased from €7.2 billion to €7.8 billion in 2011, due especially to lower long-term capital market interest rates.

Ratios [Table 3.22]

		2010	2011
Cost of sales ratio (%)	Cost of goods sold / Sales	48.7	49.2
R&D expense ratio (%)	Research and development expenses / Sales	8.7	8.0
Return on sales in (%)	Income after taxes / Sales	3.7	6.8
EBIT margin (%)	EBIT / Sales	7.8	11.4
EBITDA margin before special items (%)	EBITDA before special items / Sales	20.2	20.8
Asset intensity (%)	Property, plant and equipment + intangible assets / Total assets	58.2	55.5
D&A/capex ratio (%)	Depreciation and amortization* / Capital expenditures*	156.8	151.3
Liability structure (%)	Current liabilities / Liabilities	33.2	40.0
Gearing	Net debt + pension provisions / Equity	0.8	0.8
Free operating cash flow (€ million)	Net operating cash flow less cash outflows for property, plant and equipment and intangible assets	4,259	3,445
Inventory turnover	Cost of goods sold / Inventories	2.8	2.8
Receivables turnover	Sales / Trade accounts receivable	5.3	5.2
Payables turnover	Cost of goods sold / Trade accounts payable	4.9	4.8
Equity ratio (%)	Equity / Total assets	36.7	36.5
Return on equity (%)	Income after taxes / Average equity	6.9	13.0
Return on assets (%)	Income before taxes and interest expense / Average total assets for the year	5.1	8.2

* property, plant and equipment + intangible assets

5. 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 were prepared in accordance with the German Commercial Code (HGB) and Stock Corporation Act (AktG).

5.1 Earnings Performance of Bayer AG

Bayer AG Summary Income Statements according to the German Commercial Code [Table 3.23]

	2010	2011
	€ million	€ million
Income from investments in affiliated companies – net	2,045	2,138
Interest expense – net	(516)	(589)
Other non-operating income – net	128	116
Other operating income	165	101
General administration expenses	200	195
Other operating expenses	173	111
Income before income taxes	**1,449**	**1,460**
Income taxes	(204)	(335)
Net income	**1,245**	**1,125**
(Allocation to) Withdrawal from retained earnings	(5)	239
Distributable profit	**1,240**	**1,364**

The earnings performance of Bayer AG essentially depends on the earnings of its subsidiaries and on the income and expenses relating to corporate financing activities.

In fiscal 2011, income from investments in affiliated companies was €2,138 million (2010: €2,045 million). Bayer Pharma AG, with income of €1,170 million (2010: €1,163 million), once again accounted for the largest share. A €268 million charge to the operating result due to the transfer of pension obligations to a subsidiary was partially offset by a €98 million reversal of an impairment loss recognized on an investment in an affiliate in 2010. Moreover, an amount of €106 million recognized outside profit or loss in retained earnings when the provisions of the German Accounting Law Modernization Act (BilMoG) were first applied in 2009 was derecognized and transferred to Bayer AG. The income from Bayer CropScience was also virtually flat with the previous year at €551 million (2010: €569 million). A decrease of €431 million in income from investments in affiliated companies was largely offset by the sharp rise of €187 million in the operating result and a decline of €124 million in impairments of investments in affiliated companies. A further €50 million increase resulted from the reversal of the allocation made to retained earnings upon the first-time application of BilMoG. Income transferred from Bayer MaterialScience AG increased by €65 million to €95 million, including a €32 million reversal of the allocation made to retained earnings upon the first-time application of BilMoG. Further significant earnings components were €202 million (2010: €266 million) from Bayer Gesellschaft für Beteiligungen mbH, our holding company for foreign subsidiaries; and €185 million (2010: €177 million) from Bayer Animal Health GmbH. On the other hand, a loss of €157 million (2010: €135 million) was transferred from Bayer HealthCare AG, the holding company for the global HealthCare business.

Net interest expense was €589 million (2010: €516 million), exceeding the prior-year figure by €73 million. This was due to intra-Group financial transactions, for which net interest expense of €231 million was recorded (2010: €134 million), the increase being mainly due to higher interest rates. Net interest expense attributable to transactions with third parties decreased from €382 million to €358 million, partly because of the reduction in external financial debt.

Other non-operating income and expenses yielded a positive balance of €116 million (2010: €128 million). This mainly comprised income of €121 million (2010: €144 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. This item also contains a net exchange loss from the translation of foreign currency receivables and payables and currency derivatives, which was reduced from €15 million to €4 million.

The balance of miscellaneous operating income and expenses relating to Bayer AG's performance of its functions as a holding company was minus €10 million (2010: minus €8 million), while general administration expenses amounted to €195 million (2010: €200 million).

Pre-tax income rose by €11 million to €1,460 million. Tax expense showed a much larger increase, from €204 million to €335 million, mainly because most taxable income had to be fully taxed once the loss carryforwards remaining at the start of the year had been used. After deduction of taxes, net income came in at €1,125 million (2010: €1,245 million). The addition of a €239 million withdrawal from retained earnings gave a distributable profit of €1,364 million.

The Board of Management and Supervisory Board will propose to the Annual Stockholders' Meeting on April 27, 2012 that the distributable profit be used to pay a dividend of €1.65 per share (826,947,808 shares) on the capital stock of €2,117 million entitled to the dividend for 2011.

5.2 Asset and Financial Position of Bayer AG

Bayer AG Summary Statements of Financial Position according to the German Commercial Code [Table 3.24]

	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million
ASSETS		
Noncurrent assets		
Intangible assets, property, plant and equipment	347	25
Financial assets	34,267	35,006
	34,614	**35,031**
Current assets		
Receivables from subsidiaries	2,040	462
Remaining receivables, other assets	464	1,678
Cash and cash equivalents, marketable securities	2,131	1,199
	4,635	**3,339**
Total assets	**39,249**	**38,370**
EQUITY AND LIABILITIES		
Equity	**14,478**	**14,363**
Provisions	**3,328**	**3,418**
Other liabilities		
Bonds and notes, liabilities to banks	5,842	5,190
Payables to subsidiaries	15,149	15,043
Remaining liabilities	452	356
	21,443	**20,589**
Total equity and liabilities	**39,249**	**38,370**

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 €38.4 billion (2010: €39.2 billion), which was €0.9 billion less than at the start of the year. While current assets declined by €1.3 billion to €3.3 billion (2010: €4.6 billion), noncurrent assets increased by €0.4 billion to €35.0 billion (2010: €34.6 billion).

Following the hive-down of nearly the entire real estate assets of €318 million to the wholly owned subsidiary Bayer Real Estate GmbH, the property, plant and equipment and intangible assets of Bayer AG now total only €25 million and therefore are of secondary importance in relation to total assets. Financial assets, however, further increased to €35.0 billion, up by €0.7 billion from 2010. This includes investments in subsidiaries amounting to €34.3 billion (2010: €33.7 billion), or 89.3% (2010: 85.9%) of total assets.

Receivables from subsidiaries amounted to €0.5 billion (2010: €2.0 billion) while payables to subsidiaries totaled €15.0 billion (2010: €15.1 billion). These amounts accounted for 1.2% of total assets and 39.2% of total equity and liabilities, respectively.

Equity showed a slight decline of €115 million, because the dividend payment of €1,240 million for 2010 was not fully covered by the net income of €1,125 million in 2011. Overall, equity amounted to €14.4 billion at the end of 2011 (2010: €14.5 billion). Despite the decline, the equity ratio rose slightly from 36.9% to 37.4% in view of the drop in total assets.

Provisions rose to €3.4 billion (2010: €3.3 billion), mainly because of a €192 million increase in provisions for taxes.

Other liabilities decreased by €0.9 billion, mainly due to a reduction in financial debt, and amounted to €20.6 billion (net of deductible receivables; 2010: €21.4 billion). The €0.7 billion reduction in financial debt to €22.3 billion (2010: €23.0 billion) was largely attributable to scheduled repayments of promissory notes totaling €650 million. Since there was a slightly greater decrease in bank balances and current securities, net debt was somewhat higher than in the previous year at €21.1 billion (2010: €20.9 billion).

6. 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, 2011 to €2,117 million, divided into 826,947,808 no-par bearer shares. The capital stock and the number of shares were thus unchanged from the end of the previous year. Each share confers one voting right.

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

INTERNET

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

We received no notifications in 2011 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 effective March 31, 2011 to replace a similar credit facility. The new facility is initially available until 2016. 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 €3.5 billion (as of December 31, 2011) in notes issued by Bayer in the years 2006 to 2011 under its multi-currency Euro 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.

7. Corporate Governance Report

THIS CORPORATE GOVERNANCE REPORT ALSO CONSTITUTES THE REPORT PURSUANT TO SECTION 3.10 OF THE GERMAN CORPORATE GOVERNANCE CODE.

7.1 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 26, 2010 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 2010.

The following declaration refers to the May 26, 2010 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 2010 with the temporary exception stated therein: The recommendation given in Section 5.4.5 was temporarily not complied with in full.

   The deviation from the recommendation given in Section 5.4.5 of the Code resulted from the fact that the Supervisory Board member Dr.-Ing. Ekkehard D. Schulz, at that time Chairman of the Executive Board of ThyssenKrupp AG, was a member of the supervisory boards of more than three listed companies or companies with similar requirements (Bayer AG, MAN SE, RWE AG and AXA Konzern AG). Dr. Schulz retired from the Executive Board of ThyssenKrupp AG at the end of the General Stockholders' Meeting of ThyssenKrupp AG on January 21, 2011. All the members of the Board of Management and the Supervisory Board were in compliance with the recommendation given in Section 5.4.5 of the Code from that date. Since Dr. Schulz had been a member of the three other supervisory boards mentioned above for many years and remained a member of the Executive Board of the above listed company for only a brief period, the temporary deviation from the recommendation given in Section 5.4.5 of the Code was considered acceptable.

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

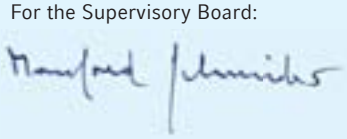
Leverkusen, December 2011

For the Board of Management:

DR. DEKKERS

BAUMANN

For the Supervisory Board:



DR. SCHNEIDER

** 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 RECOMMENDATIONS OF THE CORPORATE GOVERNANCE CODE

Bayer has always placed great importance on responsible corporate governance and will continue to do so. In 2011 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 Board of Management and Supervisory Board last year again addressed the question of compliance with the Corporate Governance Code. The resulting declaration of compliance, reproduced above, was issued in December 2011 and posted on Bayer's website along with previous declarations.

INTERNET

WWW.INVESTOR.BAYER.COM/EN/KONZERN/CORPORATE-GOVERNANCE

It is intended to propose to the 2012 Annual Stockholders' Meeting that a new system of Supervisory Board compensation be introduced, comprising fixed compensation only. This would cause a future deviation from Section 5.4.6 Paragraph 2 Sentence 1 of the German Corporate Governance Code.

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.

Board of Management directs the Group's operations

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 2011 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 oversees corporate management

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 2011, 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 42ff. 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 endeavors at all times to have several members who have 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, and that at least 75% of the Supervisory Board members must be independent. The Supervisory Board assesses the independence of its members according to the recommendation contained in Section 5.4.2 of the German Corporate Governance Code. In assessing independence, the Supervisory Board also considers the criteria given in the recommendation of the European Commission of February 15, 2005.[1]

Another goal for the composition of the Supervisory Board is to gradually increase the proportion of women on the Supervisory Board to at least 20% in the medium term. The aim is to have at least 15% female members following the elections to the Supervisory Board in 2012. It is intended to achieve the medium-term goal at the subsequent Supervisory Board election due to take place in 2017. These targets refer to the Supervisory Board as a whole, and are designed to be achieved evenly among the stockholder and employee representatives. 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. This assumes that suitable female candidates can be found for election as stockholder representatives.

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 for members of the Supervisory Board is exceeded by one member, Dr. Manfred Schneider. He has remained in office as a member and Chairman of the Supervisory Board beyond the Annual Stockholders' Meeting that followed his 72nd birthday (Annual Stockholders' Meeting 2011) in order to avoid a change of chairmanship shortly before the regular Supervisory Board elections. One member, Hubertus Schmoldt, has been a member of the Supervisory Board since 1995, and thus has served more than three terms of office. However, Mr. Schmoldt has no business ties to the company or its Board of Management that in the opinion of the Supervisory Board could result in a conflict of interest. Currently, 10% of the Supervisory Board members are women. An increase in the proportion of women on the Supervisory Board is targeted for the next regular elections to be held at the Annual Stockholders' Meeting in 2012. This objective is taken into account in the nominations submitted by the Supervisory Board to this Annual Stockholders' Meeting.

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 2011.

[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)

Information filed with the company by members of the Board of Management and Supervisory Board shows that, on the closing date for the financial statements, their total holdings of Bayer AG stock or related financial instruments were equivalent to less than 1% of the issued stock.

COMMON VALUES AND LEADERSHIP PRINCIPLES

Bayer has committed itself to the values of Leadership, Integrity, Flexibility and Efficiency, or "LIFE" for short. These values provide guidance to all Bayer employees, both in business dealings and in working together within the company. All employees are obligated to align their work to the LIFE values. This is taken into account in human resources development and the regular performance evaluations.

SYSTEMATIC RISK MANAGEMENT

The established 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 Officers for support and advice on ensuring legally compliant conduct in specific business situations.

Each Group company with business operations has at least one Compliance Officer. Some foreign companies have several local compliance functions with clearly defined responsibilities for the different business units within the respective companies. 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
- meeting Group-level reporting obligations toward the Compliance Officers of the companies in each country.

These Compliance Officers in turn report to the Chief Subgroup Compliance Officers at the Group management companies or to the Group Compliance Officer appointed by the Group Management Board. At least once a year, the Group Compliance Officer and the Head of Corporate Auditing report to the Audit Committee of the Supervisory Board on any compliance violations that have been identified.

The issue of corporate compliance is a permanent part of the performance targets agreed with the members of the Group Leadership Circle (GLC). By virtue of their positions, these executives have a special obligation to set an example for their employees, 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 as of the end of 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 and interim reports or the Annual Stockholders' Meeting.

INTERNET

For comprehensive information on Bayer, go to WWW.BAYER.COM

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.

7.2 Compensation Report

COMPENSATION OF THE BOARD OF MANAGEMENT

In 2011 the compensation of the Board of Management basically comprised five components: a fixed annual salary, a short-term incentive award on a yearly basis in relation to a target amount, a long-term incentive award for a four-year period in relation to a target amount, a further long-term compensation component introduced in 2010 involving a grant of virtual Bayer shares subject to a three-year retention period, and a company pension plan conferring pension entitlements that increase with years of service. Compensation in kind and other benefits are also provided, such as the use of a company car for private purposes or reimbursement of the cost of health screening examinations.

The short-term incentive (STI) award for 2011 is calculated according to the Group's core earnings per share and the weighted average target attainment of the HealthCare, CropScience and MaterialScience subgroups. The Supervisory Board can adjust this award according to individual performance. The target attainment of the subgroups is measured chiefly in terms of the EBITDA margin before special items and the growth in sales. A qualitative appraisal in relation to the market and competitors is also taken into account. The members of the Board of Management receive 50% of the STI as direct compensation and 50% in the form of the long-term compensation component introduced in 2010.

The directly effected compensation for the service of the members of the Board of Management in 2011 totaled €6,775 thousand (2010: €10,019 thousand). Of this amount, fixed salaries accounted for €3,139 thousand (2010: €3,936 thousand), the part of the STI awards to be paid out in 2012 for €3,379 thousand (2010: €4,928 thousand), and compensation in kind and other benefits for €257 thousand (2010: €1,155 thousand), the latter item consisting mainly of amounts assigned to compensation in kind and other benefits in accordance with German taxation guidelines.

Under the system introduced in 2010, the long-term compensation of the members of the Board of Management holding office on December 31, 2011 consists of two components: a grant of virtual Bayer shares for which parts of the STI award – which in the past was paid out in full – are used, and the long-term stock-based compensation program Aspire.

According to the changes resolved by the Supervisory Board in December 2009, 50% of the STI was granted in the form of virtual Bayer shares subject to a three-year retention period, thereby creating a new long-term compensation component. The value of these shares depends on the trend in the price of Bayer stock during the retention period. The basis for the conversion of this former part of the STI payment into virtual shares was the average official closing price of Bayer shares over the last 30 trading days of 2011 (November 18 – December 30, 2011) in the Xetra system of the Frankfurt Stock Exchange; this average price was €46.32. Wolfgang Plischke and Richard Pott receive one additional virtual Bayer share for every 20 virtual shares granted under the new system to compensate them for the conversion of part of the former STI into a long-term compensation component. The additional virtual shares are subject to the same retention period and value development.

In addition, the members of the Board of Management participate in the long-term stock-based compensation program Aspire I (annual tranches 2009 through 2011). Under this program, awards are paid out provided that the performance of Bayer stock (both in absolute terms and relative to the EURO STOXX 50 benchmark index) meets defined criteria over a period of three years (four years starting with the 2010 tranche). Further details of this program are provided in Note [26.6] to the consolidated financial statements. The fair value of the stock-based compensation newly granted in 2011 as of its grant date is included in the calculation of total compensation (see following table), although the award entitlement was only partially earned as of the closing date.

The following table shows the compensation components of the individual members of the Board of Management in 2011:

Board of Management Compensation – Aggregate Compensation [Table 3.25]

		Serving members of the Board of Management				Former members		
		Marijn Dekkers (Chairman)	Werner Baumann	Wolfgang Plischke	Richard Pott	Werner Wenning	Klaus Kühn	Total
		€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Fixed salary	**2011**	**1,216**	**641**	**641**	**641**	**-**	**-**	**3,139**
	2010	900	633	633	633	873	264	3,936
Compensation in kind and other benefits	**2011**	**69**	**119**	**37**	**32**	**-**	**-**	**257**
	2010	1,010*	42	35	30	27	11	1,155
Total non-performance-related compensation	**2011**	**1,285**	**760**	**678**	**673**	**-**	**-**	**3,396**
	2010	1,910	675	668	663	900	275	5,091
Short-term incentive	**2011**	**1,420**	**653**	**653**	**653**	**-**	**-**	**3,379**
	2010	903	554	554	554	1,863	500	4,928
Total directly effected compensation	**2011**	**2,705**	**1,413**	**1,331**	**1,326**	**-**	**-**	**6,775**
	2010	2,813	1,229	1,222	1,217	2,763	775	10,019
Fair value of stock-price-indexed compensation based on the short-term incentive	**2011**	**1,420**	**653**	**686**	**686**	**-**	**-**	**3,445**
	2010	903	554	582	582	-	-	2,621
Fair value of newly granted stock-based compensation as of grant date	**2011**	**362**	**191**	**191**	**191**	**-**	**-**	**935**
	2010	261	206	291	291	184	33	1,266
Aggregate compensation (according to the German Commercial Code)	**2011**	**4,487**	**2,257**	**2,208**	**2,203**	**-**	**-**	**11,155**
	2010	3,977	1,989	2,095	2,090	2,947	808	13,906

In some cases, the sum of the figures given in this table may not precisely equal the stated totals due to rounding.
* including one-time relocation expenses

The award entitlements earned in 2011 – both from the 2011 tranche and from previous years' tranches on which the entitlements were only partially earned – are shown separately in the following table along with the changes in the value of entitlements from previous years' tranches based mainly on the performance of Bayer stock. The fair value of the award entitlement already earned in 2011 from the 2011 tranche is shown as "Long-term incentive." Since certain components of the award entitlements are included in both tables, the figures in the following and the preceding table should not be added together.

An amount of €5,718 thousand is recognized in the statement of financial position for future payments of stock-price-indexed compensation based on the short-term incentive to the currently active members of the Board of Management.

Board of Management Compensation – Stock-Based Compensation [Table 3.26]

		Serving members of the Board of Management				Former members		
		Marijn Dekkers (Chairman)	Werner Baumann	Wolfgang Plischke	Richard Pott	Werner Wenning	Klaus Kühn	Total
		€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Long-term incentive (stock-based compensation entitlements earned in the respective year)	**2011**	**114**	**140**	**239**	**239**	**-**	**-**	**732**
	2010	67	124	234	234	322	98	1,079
Change in value of existing entitlements	**2011**	**(138)**	**(59)**	**(39)**	**(39)**	**-**	**-**	**(275)**
	2010	-	(21)	(44)	(44)	(61)	(56)	(226)

The current members of the Board of Management are generally entitled to receive a pension upon leaving the Bayer Group, though not before the age of 60, in an annual amount equal to at least 15% of the last yearly fixed salary. This percentage increases depending on years of service as a member of the Board of Management and is capped at 60% except in the case of the member appointed prior to 2006, whose pension entitlement can rise to a maximum of 80% of his last yearly fixed salary. The respective surviving dependents' benefit is set at 60% of this pension level.

The current service cost for the pension entitlements of the members of the Board of Management is shown in the following table. The current service cost for pension entitlements according to the German Commercial Code (HGB) also includes any past service cost resulting from new entitlements or variations in existing entitlements. The change in the present value of pension entitlements also reflects the interest cost for entitlements earned in prior years, along with actuarial gains and losses. Expenses for the pension entitlements of the members of the Board of Management who retired during the year are included up to the respective retirement dates. Since HGB and IFRS prescribe different methods for calculating pension provisions, the table contains both the amounts disclosed in the financial statements of Bayer AG prepared according to HGB and those published in the consolidated financial statements of the Bayer Group prepared according to IFRS. The figures in each case represent divergent disclosures of one and the same pension entitlement.

Pension Entitlements [Table 3.27]

		Serving members of the Board of Management				Former members		
		Marijn Dekkers (Chairman)	Werner Baumann	Wolfgang Plischke	Richard Pott	Werner Wenning	Klaus Kühn	Total
		€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand	€ thousand
Change in the present value of pension entitlements (IFRS)	**2011**	**1,052**	**616**	**980**	**1,065**	**-**	**-**	**3,713**
	2010	2,612	621	1,017	1,074	823	426	6,573
Current service cost for pension entitlements earned in the respective year (IFRS)	***2011***	***550***	***128***	***220***	***236***	**-**	**-**	***1,134***
	2010	*2,175*	*111*	*203*	*217*	-	*141*	*2,847*
Present value of pension entitlements at the closing date (IFRS)*	**2011**	**3,664**	**3,484**	**7,574**	**7,617**	**-**	**-**	**22,339**
	2010	2,612	2,868	6,594	6,552	-	-	18,626
Change in the present value of pension entitlements (German Commercial Code)**	**2011**	**744**	**287**	**611**	**605**	**-**	**-**	**2,247**
	2010	2,481	298	602	577	187	255	4,400
*Current service cost for pension entitlements earned in the respective year (German Commercial Code)**	***2011***	***522***	***119***	***211***	***226***	**-**	**-**	***1,078***
	2010	*2,292*	*117*	*209*	*225*	*3*	*148*	*2,994*
Present value of pension entitlements at the closing date (German Commercial Code)	**2011**	**3,225**	**2,973**	**6,999**	**6,902**	**-**	**-**	**20,099**
	2010	2,481	2,690	6,392	6,301	-	-	17,864

* after deducting plan assets
** incl. employer contribution to Bayer-Pensionskasse

Unlike the aggregate compensation according to the German Commercial Code, the aggregate compensation according to IFRS does not include the fair value of newly granted stock-based compensation, but rather the stock-based compensation entitlements earned in the respective year plus the change in the value of stock-based compensation entitlements from previous years that have not yet been paid out. It also contains the current service cost for pension entitlements.

The components of the Board of Management's compensation are summarized in the following table:

Board of Management Compensation according to IFRS [Table 3.28]

	2010	2011
	€ thousand	€ thousand
Directly effected compensation	10,019	6,775
Fair value of stock-price-indexed compensation based on the short-term incentive	2,621	3,445
Long-term incentive (stock-based compensation entitlements earned in the respective year)	1,079	732
Change in value of existing entitlements	(226)	(275)
Current service cost for pension entitlements earned in the respective year	2,847	1,134
Aggregate compensation (IFRS)	**16,340**	**11,811**

For the only Board of Management member whose (recently renewed) service contract was concluded prior to the entry into force of the amendments to the German Corporate Governance Code in June 2008, a general severance indemnity clause applies if the service contract is terminated at the company's instigation prior to his 60th birthday. The basic principles according to this clause are as follows:

If a member of the Board of Management is not offered a new service contract upon expiration of his existing service contract because he is not reappointed to the Board of Management, or if the member is removed from the Board of Management prematurely during the term of his contract in the absence of grounds for termination without notice, he will receive a monthly bridging allowance amounting to 80% of his last monthly fixed salary for a maximum period of 60 months from the date of expiration of his service contract less the period for which he was released from his duties on full pay or otherwise compensated. (If he were removed during the term of his contract, he would also receive the payment due for the rest of the term, though this would be reduced to the amount of his annual fixed salary plus the target amount for the STI payment for at least twelve months.) His earnings from any new employment elsewhere would be offset against the bridging allowance. In the case of premature termination at the instigation of the company, further years of service might be credited under certain circumstances for the purpose of computing his Board of Management pension entitlement, though not beyond his 60th birthday.

This clause in the service contract referred to above is only applicable until April 30, 2012. For the remaining contracts – and, effective May 1, 2012, for the contract referred to above – it has been agreed, in line with the recommendation of the German Corporate Governance Code, that payment claims of members of the Board of Management can only arise in the event of premature contract termination by the company without cause. Such claims, including ancillary benefits, are then 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 total compensation (fixed salary plus the target value of the STI) for the previous year and, if appropriate, also the expected total compensation for the current year.

Post-contractual non-compete agreements have been concluded with the members of the Board of Management, providing for compensatory payments to be made by the company for the two-year duration of the post-contractual non-compete clause. For members appointed prior to 2010, this payment amounts to 50% of the average contractually agreed salary for the preceding three years. For the members newly appointed to the Board of Management as of January 1, 2010, the compensatory payment is 100% of the average fixed salary for the twelve months preceding their departure. It is offset against any severance promise payments. In the case of Mr. Pott, this assurance is valid only until April 30, 2012, the original expiration date of his service contract.

Special supplementary arrangements apply in the event of a change of control, see Chapter 6 "Takeover-Relevant Information."

There were no loans to members of the Board of Management outstanding as of December 31, 2011, nor any repayments of such loans during the year.

We currently pay retired members of the Board of Management a monthly pension equal to 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 pensions paid to former members of the Board of Management and their surviving dependents amounted to €13,069 thousand (2010: €14,116 thousand). Pension provisions for former members of the Board of Management and their surviving dependents at the closing date amounted to €134,179 thousand (2010: €131,599 thousand) according to IFRS and €127,078 thousand (2010: €129,121 thousand) according to HGB.

COMPENSATION OF THE SUPERVISORY BOARD

The Supervisory Board is compensated according to the relevant provisions of the Articles of Incorporation, which provisions have not been altered since the resolution of the Annual Stockholders' Meeting on April 29, 2005. This provides that, in addition to reimbursement of their expenses, each member of the Supervisory Board receives fixed annual compensation of €60,000 and a variable annual compensation component. The variable compensation component is 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 receive €2,000 for every €50 million or part thereof by which the gross cash flow exceeds €3.1 billion, but the variable component for each member may not exceed €30,000.

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 three times the basic compensation, while the Vice Chairman receives one-and-a-half times the basic compensation. Members of the Supervisory Board who are also members of a committee receive an additional one quarter of the amount, with those chairing a committee receiving a further quarter. However, no member of the Supervisory Board may receive total compensation exceeding three times the basic compensation. It has been agreed that no additional compensation shall be paid for membership of the Nominations Committee. If changes are made to the Supervisory Board and its committees during the fiscal year, members receive compensation on a pro-rated basis. No member of the Supervisory Board received compensation or any other benefits 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.

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 was €645 thousand (2010: €603 thousand).

There were no loans to members of the Supervisory Board outstanding as of December 31, 2011, nor any repayments of such loans during the year.

Compensation of the Members of the Supervisory Board of Bayer AG in 2011 [Table 3.29]

	Fixed Compensation	Variable Compensation	Total
	€ thousand	€ thousand	€ thousand
Dr. Paul Achleitner	75	38	113
André Aich	60	30	90
Willy Beumann	75	38	113
Dr. Clemens Börsig	60	30	90
Dr.-Ing. Thomas Fischer	75	38	113
Peter Hausmann	75	38	113
Prof. Dr.-Ing. e.h. Hans-Olaf Henkel	75	38	113
Reiner Hoffmann	60	30	90
Dr. rer. pol. Klaus Kleinfeld	60	30	90
Petra Kronen	75	38	113
Dr. rer. nat. Helmut Panke	60	30	90
Hubertus Schmoldt	75	38	113
Dr. Manfred Schneider (Chairman)	180	90	270
Dr.-Ing. Ekkehard D. Schulz	60	30	90
Roswitha Süsselbeck	60	30	90
Dr. Klaus Sturany	90	45	135
Dipl.-Ing. Dr.-Ing. e.h. Jürgen Weber	75	38	113
Thomas de Win	120	60	180
Prof. Dr. Dr. h.c. Ernst-Ludwig Winnacker	60	30	90
Oliver Zühlke	60	30	90

8. Research and Development

€2.9 billion Research and development expenses

- **€2.0 billion** at HealthCare
- **€0.7 billion** at CropScience
- **€0.2 billion** at MaterialScience

Innovation is the key driver of Bayer's future growth. Challenges such as providing health care and nutrition for a growing world population and using natural resources efficiently can only be overcome with innovative solutions.

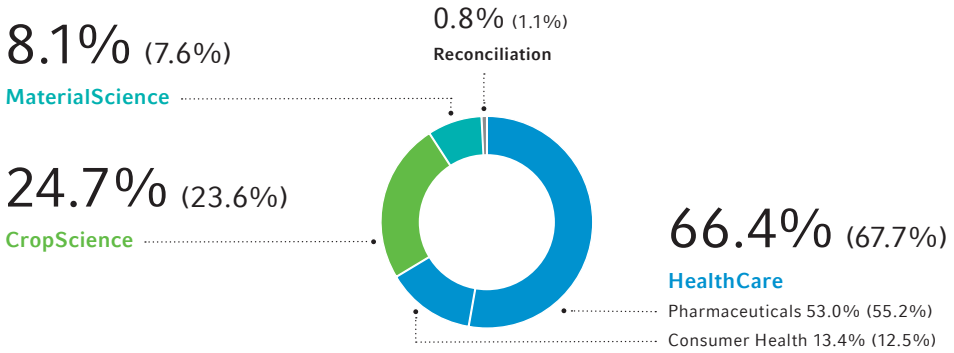
That is why the inventor company Bayer focuses on research and development. In 2011 a total of €2,932 million (2010: €3,053 million) was spent on research and development. This was equivalent to 8.0% (2010: 8.7%) of sales. The number of employees working in research and development worldwide was 13,300.

We supplement our internal research and development activities with an international network of collaborations and alliances with leading universities, public-sector research institutes and partner companies. The creation of science hubs in growth regions such as Asia is one of the ways this innovation network is being expanded.

To strengthen our position in the global competitive arena, we are deploying our resources selectively and narrowing our focus – even within individual business units – to areas where there is an urgent need for innovation and significant growth opportunities therefore exist. This pooling of expertise enables us to rapidly translate new business ideas into successful products.

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

Share of Research and Development Expenses by Segment (2010 in parentheses) [Graphic 3.18]



2010 figures restated

HEALTHCARE

In 2011 we invested €1,948 million (2010: €2,066 million) in research and development in the Pharmaceuticals and Consumer Health segments. This represented 66.4% of the Bayer Group's entire research and development spending and was equivalent to 11.3% (2010: 12.2%) of HealthCare sales. At the end of 2011, some 7,700 employees of the HealthCare subgroup were working in research and development.

Research and development expenses in the **Pharmaceuticals** segment amounted to €1,556 million (2010: €1,684 million), or 15.6% (2010: 16.9%) of segment sales. The decline was mainly due to lower development costs following the successful completion of the majority of Phase III studies for our anticoagulant Xarelto™. 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 inflammatory processes and ophthalmology. In addition, we are strengthening our established products through lifecycle management, an example being the development of innovative administration forms for contraceptives. Research activities and capacities are concentrated at three sites in Berlin and Wuppertal, Germany, and Berkeley, California, United States. 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. Berkeley is a major research and development center focused on biologicals for hematology, such as Kogenate™. We also operate further research centers, such as those in Beijing, China.

In 2011 we extended our strategic alliance with the German Cancer Research Center in Heidelberg, Germany, by a further three years. This partnership is aimed at jointly developing new approaches for anticancer drugs. In June 2011 we also formed an alliance with the Ludwig Boltzmann Institute (LBI) for Lung Vascular Research. This alliance was expanded in November 2011 to include a collaboration with the newly founded LBI for Translational Heart Failure Research. Both institutes are based at the Medical University of Graz, Austria. In 2011 we continued our research activities in Singapore, where – through our contractual partner Economic Development Board (EDB) Singapore – we are working with various institutions such as the National University of Singapore and the university hospital to adapt drug candidates to the specific needs of Asian (cancer) patients.

We conducted clinical studies with several drug candidates from our research and development pipeline during 2011 to drive the development of new substances to treat diseases with a high unmet medical need. Following the completion of the required studies with some of these drug candidates, we submitted applications to one or more agencies for approvals or approval extensions.

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

Products in Registration [Table 3.30]

	Indication
EYLEA™ (VEGF Trap-Eye)	Wet age-related macular degeneration
LCS-12 (ULD LNG Contraceptive System)	E.U., U.S.A.; contraception, duration of use: up to 3 years
Natazia™ (E2V/DNG)	U.S.A., treatment of heavy menstrual bleeding in women without organic pathology who desire oral contraception
Xarelto™	Secondary prophylaxis of acute coronary syndrome
YAZ™ Flex	E.U., oral contraception, flexible dosage regimen

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

Research and Development Projects (Phases III and II)* [Table 3.31]

	Indication	Status
Alemtuzumab**	Multiple sclerosis	Phase III
Alpharadin	Treatment of bone metastases in hormone-refractory/ castration-resistant prostate cancer	Phase III
ATX-101	Reduction of submental fat	Phase III
FC Patch low	Contraception	Phase III
Florbetaben	PET imaging in diagnosis of Alzheimer's disease	Phase III
Gadovist™	Magnetic resonance imaging	Phase III
LCS-16 (ULD LNG Contraceptive System)	Contraception, duration of use: 5 years	Phase III
Nexavar™	Breast cancer	Phase III
Nexavar™	Adjuvant therapy of liver cancer	Phase III
Nexavar™	Non-small-cell lung cancer	Phase III
Nexavar™	Adjuvant therapy of kidney cancer	Phase III
Nexavar™	Thyroid cancer	Phase III
Regorafenib (DAST inhibitor)	Colorectal cancer	Phase III
Regorafenib (DAST inhibitor)	Treatment of metastatic or inoperable gastrointestinal stromal tumors	Phase III
Riociguat (sGC stimulator)	Pulmonary hypertension (CTEPH)	Phase III
Riociguat (sGC stimulator)	Pulmonary hypertension (PAH)	Phase III
Tedizolid	Complicated skin infections and pneumonia	Phase III
Vaginorm™	Vulvovaginal atrophy	Phase III
VEGF Trap-Eye	Diabetic macular edema	Phase III
VEGF Trap-Eye	Abnormal retinal angiogenesis following pathological myopia	Phase III
VEGF Trap-Eye	Central retinal vein occlusion	Phase III
Xarelto™	Treatment and secondary prevention of venous thromboembolism	Phase III
Alpharadin	Treatment of bone metastases in cancer	Phase II
Amikacin Inhale	Pulmonary infection	Phase II
Ciprofloxacin Inhale	Pulmonary infection	Phase II
MEK inhibitor	Cancer	Phase II
MR antagonist (BAY94-8862)	Chronic heart failure	Phase II
Nexavar™	Additional indications	Phase II
Regorafenib (DAST inhibitor)	Cancer	Phase II
Riociguat (sGC stimulator)	Pulmonary hypertension	Phase II

* as of February 14, 2012
** co-promotion
PET = positron emission tomography; CTEPH = chronic thromboembolic pulmonary hypertension; PAH = pulmonary arterial hypertension
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 FDA, European Medicines Agency (EMA) or other regulatory approval 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 on the market since 2008 for prophylaxis of venous thromboembolism in adult patients following elective hip or knee replacement surgery. Xarelto™ is registered in more than 110 countries around the world and marketed in this indication by Bayer HealthCare outside the United States. On December 19, 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.

Xarelto™ approved in further indications

In the United States, where Xarelto™ was approved in July 2011 for DVT prophylaxis in adult patients following elective hip or knee joint replacement surgery, Janssen Pharmaceuticals, Inc. – 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. In addition, on November 4, 2011, Xarelto™ was approved in the United States to reduce the risk of stroke in patients with atrial fibrillation.

The following study results for rivaroxaban were presented in 2011. In a Phase III study (MAGELLAN study) on the prevention of venous thromboembolism in hospitalized patients with acute medical illness, presented in April 2011, rivaroxaban achieved the primary efficacy endpoints. In the first evaluation, however, a consistently positive benefit-risk balance was not seen across the heterogeneous patient population studied. In May 2011, a subgroup analysis of the ROCKET AF Phase III clinical study confirmed that rivaroxaban is highly effective in preventing recurrent strokes in patients with atrial fibrillation who have experienced a prior stroke or transient ischemic attack. In November 2011 the Phase III ATLAS ACS 2-TIMI 51 study on secondary prevention of acute coronary syndrome reached the primary efficacy endpoint of reduced cardiovascular death, myocardial infarction and stroke compared with patients receiving antiplatelet therapy alone.

In December 2011 we submitted an application to the European Medicines Agency (EMA) for marketing authorization for Xarelto™ in secondary prevention following acute coronary syndrome (ACS). The application to the U.S. Food and Drug Administration (FDA) was submitted by our cooperation partner Janssen Research & Development, L.L.C. Given the seriousness of ACS and the potential clinical benefit, the FDA has granted rivaroxaban fast-track designation.

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. In May 2011 we presented promising results from a Phase II study with riociguat in pulmonary hypertension owing to chronic obstructive pulmonary disease (COPD).

In April 2010 we launched a Phase III program with regorafenib for the treatment of advanced colorectal cancer. Regorafenib is a novel, oral multi-kinase inhibitor that inhibits various signaling pathways responsible for tumor growth. We enrolled patients with metastatic colorectal carcinoma whose disease was progressing despite previous standard treatments. The study achieved positive results and met the primary endpoint – a statistically significant improvement of overall survival. This was confirmed by a pre-planned interim analysis of the available trial data by an independent Data Monitoring Committee (DMC). Based on the recommendation of the DMC, the so-called CORRECT trial (patients with metastatic colorectal cancer treated with regorafenib or placebo after failure of standard therapy) was concluded ahead of schedule to prepare the data for submission. In May 2011, the U.S. Food and Drug Administration (FDA) granted fast-track designation to regorafenib for the treatment of metastatic and/or inoperable gastrointestinal stromal tumors. This developmental product also received orphan drug status, which includes U.S. market exclusivity for a seven-year period if the sponsor complies with certain FDA requirements. In 2011 we restructured our partnership with Onyx Pharmaceuticals, Inc., United States, extending it to include the joint development of regorafenib. Under the terms of the agreement, Bayer will have final decision-making authority for global development and commercialization, and Onyx will receive a royalty on future sales. In addition, Bayer will contract the Onyx sales force to promote regorafenib, along with Bayer sales representatives, in the United States.

In the area of women's healthcare, we are conducting research into gynecological therapies and additional contraception options. Our contraceptive patch (FC Patch low) is currently in Phase III clinical trials. It is intended to become the only transparent product of its kind and the smallest, lowest-dosed contraceptive patch on the market. In December the new hormone-releasing intrauterine device LCS-12 was submitted for approval in the United States and Europe. This lower-dose device is smaller than Mirena™ and remains effective for up to three years. A further hormone-releasing device (LCS-16), with a duration of use of up to five years, is currently undergoing Phase III clinical development.

We are adding to the portfolio of development products from our own research and development activities through selective inlicensing.

Research alliances complement our development portfolio

In 2011 we continued the strategic alliance begun in 2010 with OncoMed Pharmaceuticals, Inc., United States, to research, develop and market novel therapeutics against cancer stem cells.

The collaboration formed in 2010 with Prometheus Laboratories Inc., United States, to develop new personalized medicine options was also continued.

In a Phase III study, Alpharadin – the cancer drug we are jointly developing with Algeta ASA, Norway – demonstrated a significant improvement in overall survival in patients with hormone-refractory/castration-resistant prostate cancer and bone metastases. With the positive efficacy data, the study met its primary endpoint and was concluded ahead of schedule in June 2011. The application for regulatory approval of Alpharadin is in preparation. Alpharadin was granted fast-track designation by the U.S. Food and Drug Administration in August 2011.

In collaboration with Genzyme Corp., United States, we are developing the humanized monoclonal antibody alemtuzumab. In 2011 two Phase III studies investigating alemtuzumab in multiple sclerosis (MS) were completed with positive results. Genzyme intends to submit applications for marketing approval of alemtuzumab in the United States and the European Union under the trade name LEMTRADA™ in the second quarter of 2012. The U.S. Food and Drug Administration has already granted fast-track designation to alemtuzumab (LEMTRADA™).

VEGF Trap-Eye is our joint developmental project with Regeneron Pharmaceuticals, Inc., United States. VEGF (vascular endothelial growth factor) is a natural growth factor that stimulates the formation of new blood vessels (angiogenesis). VEGF Trap-Eye blocks this growth factor specifically and very effectively, thus preventing the abnormal formation of new blood vessels that tend to leak blood. The medication is administered directly into the eye. In November 2011, our cooperation partner Regeneron Pharmaceuticals received approval from the U.S. Food and Drug Administration for VEGF Trap-Eye under the trade name EYLEA™ for the treatment of wet age-related macular degeneration (AMD). In addition, the product was submitted for marketing authorization to the European Medicines Agency and the Japanese Ministry of Health, Labor and Welfare in June 2011. Once the product has been approved, Bayer will market it outside the United States. Regeneron Pharmaceuticals, Inc., United States, retains exclusive commercialization rights to VEGF Trap-Eye in the U.S. This product has also achieved positive Phase III clinical development results for the treatment of central retinal vein occlusion (CRVO), another frequent cause of blindness. In addition, two Phase III studies are ongoing for the treatment of diabetic macular edema (DME).

In July 2011 we signed an agreement with Trius Therapeutics, Inc., United States, to jointly develop and commercialize Trius' antibiotic tedizolid phosphate (tedizolid). This agreement gives us exclusive rights for the markets of Asia – excluding North and South Korea – and all countries of Africa, Latin America and the Middle East. Under the agreement, we will develop tedizolid, which is already in Phase III clinical development in the United States and Europe, for the treatment of various infectious diseases such as acute bacterial skin and skin structure infections and Gram-positive pneumonia. Trius retains full development and commercialization rights for the United States, Canada and the European Union.

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™ – treatment of heavy and/or prolonged menstrual bleeding – was approved in Europe in 2010. The approval process in the United States (trade name: Natazia™) remained ongoing in the reporting period. Qlaira™/Natazia™ is the first product in a new class of oral

Life-cycle management for products already on the market

contraceptives whose estrogen component acts like the endogenous substance estradiol. Another example is our cancer drug Nexavar™, which we are continuing to develop jointly with Onyx Pharmaceuticals, Inc., United States. The promising 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 liver cell carcinoma since 2007. To further develop this drug beyond these two therapeutic areas, we have put in place a broadly based life-cycle management program in which we are currently conducting Phase III registration studies with sorafenib as an adjuvant after curative tumor resection in renal cell carcinoma and – also as an adjuvant – after curative tumor removal in liver cell carcinoma, as well as in combination with other systemically effective cancer drugs. In addition, we are conducting Phase III registration studies in non-small-cell lung cancer, thyroid cancer and breast cancer. Further tumor indications are under investigation.

In the **Consumer Health** segment, we raised our research and development expenditures to €392 million (2010: €382 million), or 5.4% (2010: 5.5%) 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 the development and commercialization of non-prescription (over-the-counter = OTC) products. These activities center on supporting both existing and new brands by implementing product-specific and clinical development strategies that enable the successful exploitation of new technologies, the extension of indications for existing products or the reclassification of current prescription medicines as OTC products. We introduced a number of new product line extensions to various markets in 2011. They included Bayer™ Advanced Aspirin in the United States with a patent-pending technology that relieves pain twice as fast as our classic Aspirin™ tablet, and Citracal™ Slow Release 1200, which continuously releases calcium and vitamin D3. This innovative once-daily formulation enables the steady and therefore efficient absorption of the ingredients. Other new launches included Alka-Seltzer Plus™ Allergy and Severe Sinus Congestion Allergy and Cough in the United States.

The research and development activities of our Medical Care Division focus on blood glucose monitoring and the continuing development of 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. In 2011 we progressed with the launch of several innovative products in key markets to meet the specific needs of people with diabetes. Examples include Contour™ USB with integrated diabetes management software and the option of direct computer connection (plug & play), the diabetes management software Glucofacts™ Deluxe, and A1CNow™ SelfCheck, which is used to determine long-term blood glucose values (A1c).

To strengthen our position among the leading companies in the field of innovative, high-quality diagnostic imaging and interventional processes, we merged the Diagnostic Imaging unit, previously part of the Pharmaceuticals segment, with our medical equipment business to create the new Radiology and Interventional unit. The aim of our research and development activities for the medical equipment business is to steadily improve our contrast injection, thrombus removal and other vascular intervention systems in order to build on our leadership position, especially in the United States. We also intend to enter additional attractive segments such as medical data management tools for contrast injection systems, and drug-coated balloon catheters to treat vascular disease. The respective research and development centers are located near Pittsburgh, Pennsylvania, and Minneapolis, Minnesota, in the United States and in Sydney, Australia. The research center for diagnostic imaging is located in Berlin, Germany. The U.S. Food and Drug Administration (FDA) granted marketing authorization in March 2011 for Gadavist™ as a contrast agent for magnetic resonance imaging of the central nervous system. Gadavist™ is known under the brand name Gadovist™ outside the United States and is marketed in more than 60 countries worldwide.

In September 2011 we acquired Pathway Medical Technologies, Inc., United States, to strengthen our medical equipment business in the field of interventional cardiology. This company is a leading supplier of products for the mechanical removal of arterial plaque. Pathway's JETSTREAM™ systems achieve this using a minimally invasive technology without damaging healthy tissue.

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 were integrated into the Global Drug Discovery unit of BHC effective March 1, 2011. The advantage of the new organizational structure 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 the CropScience units, especially in the area of parasitology, to leverage our status as a company with multiple life science businesses. In addition to 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. A number of further product line extensions were registered in different markets, including products such as Veraflox™ (active ingredient: pradofloxacin) and Procox™ (active ingredients: emodepside and toltrazuril) in Europe. Veraflox™ is the first of a new generation of fluoroquinolone antibiotics for the treatment of bacterial infections in dogs and cats. Procox™ is the first combination treatment for worms and coccidia in dogs. In addition, Baytril™ 1 Inject was registered for antibiotic treatment of pigs and other livestock.

CROPSCIENCE

In 2011, €723 million (2010: €722 million) in research and development expenditures, or 24.7% of the Bayer Group total, were made in the CropScience subgroup. This was equivalent to 10.0% of subgroup sales.

Global network of R&D facilities

CropScience maintains a global network of research and development facilities employing some 4,300 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 BioScience unit, which focuses on seed technology and breeding, are located in Ghent, Belgium; Haelen, Netherlands; and Morrisville, North Carolina, United States.

While research is carried out centrally at a small number of sites, our development and seed breeding activities take place both at these sites and at field testing stations across the globe. This ensures that future active substances and crop varieties can be tested according to specific regional requirements.

CropScience is refocusing its research and development (R&D) activities so that it can better respond to the future development of global markets. We are placing increasing emphasis on the BioScience business unit, with its seeds and traits, and on new growth areas in agrochemical research, such as plant health and stress tolerance. We plan to double our annual R&D spending in BioScience between 2010 and 2015 (2010: about €200 million) and gradually raise the annual R&D budget of CropScience as a whole by about 20 percent over the same period, to more than €850 million.

We aim to offer tailored solutions for the benefit of our customers across the entire value chain. Therefore, as part of our integrated research approach, scientists in the fields of agricultural chemistry and seed technology are increasingly collaborating to pool the knowledge acquired through chemical, biological and genetic research and field development, aligning this expertise 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 treatment products, and carry out research projects across all indications in new areas of future importance, such as plant health and stress tolerance. In addition to conventional 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.

We broaden 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.

The active ingredient pipeline of Crop Protection currently comprises seven developmental projects, five of which are in late-stage and two in early-stage development. Some 30 additional projects are in the research phase.

In 2011 we successfully launched the new Xpro™ (bixafen) family of cereal fungicides, which also boost crop yields thanks to their positive effect on plant physiology. The Xpro™ technology was developed specifically for foliar application to combat speckled leaf blotch (Septoria tritici) and brown rust (Puccinia recondita). Representing a new group of active ingredients, Xpro™ is well suited as a component of resistance management.

We also commercialized Alion™ (indaziflam), a new alkylazine herbicide, for the first time in 2011. The product is characterized by a long duration of action and is effective against a broad spectrum of difficult-to-control broad-leaf weeds and grasses. Alion™ is intended for use in agricultural specialty crops, such as fruits and grapes.

We plan to launch four more promising new products during the period 2012–2015, subject to their successful registration:

Planned Product Launches [Table 3.32]

Product (active ingredient)	Use	Planned launch
Luna™ (fluopyram)	Fungicide	2012
Emesto™, Evergol™ (penflufen)	Seed treatment fungicide	2012/2013
Sivanto™ (flupyradifurone)	Insecticide	2014/2015
N.N. (triafamone)	Herbicide	2015

Luna™ (fluopyram) has been developed to combat problematic plant diseases caused by fungal pathogens. It is planned to market Luna™ worldwide for foliar application and seed treatment in more than 70 crops. Key benefits are better storability and longer shelf life of harvested produce.

Emesto™ and Evergol™ (penflufen) are new seed treatment fungicides for use in a wide variety of crops. The Emesto™ product family has outstanding efficacy against the fungus genus Rhizoctonia and improves potato quality and yield. The use of Evergol™ in oilseed rape/canola, soybeans, wheat, rice, corn and cotton helps build vitality in young plants and thus improves yield potential.

Sivanto™ (flupyradifurone) is effective against sucking pests such as aphids, cicadas and whiteflies in fruits, vegetables and broad acre crops.

The new rice herbicide triafamone controls a variety of weeds, including millet and grass species, and is also suitable for pre-emergence application.

In **BioScience** we are conducting research to improve plant traits and are developing new seed varieties in our established core crops – cotton, canola, rice and vegetables. We have now extended our research activities to include two new core crops – cereals and soybeans. Our research and development work focuses on improving the agronomic and quality traits of these crops, such as yield potential and post-harvest quality. Examples include 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 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 the resistance of plants to damage from insects and disease. To do this we employ modern breeding methods including plant biotechnology. Our research and development pipeline for broad acre crops presently contains more than 60 lead projects and is complemented by around 90 research agreements with public- and private-sector partners.

In 2011 we acquired Hornbeck Seed Company, Inc., United States, and the oilseed rape seed business of Raps GbR, Germany. We have also entered into important partnerships, including a global licensing agreement with DuPont, United States, for a canola herbicide tolerance trait and a license and cooperation agreement with RAGT Semences S.A.S., France, giving us access to winter wheat germplasm.

Business growth in BioScience is supported by the introduction of new varieties and traits. The following developments are of particular significance:

In 2011 we launched our proprietary glyphosate herbicide tolerance technology GlyTol™ in FiberMax™ cotton seed varieties in the United States. We also commercialized the industry's first two combined herbicide tolerant varieties featuring both GlyTol™ and LibertyLink™ technologies.

In 2012 we plan to launch new conventional oilseed rape seeds in Europe. We will also launch new soybean seed varieties in the U.S. and Brazil in 2012 to further expand our offering in this core crop.

In 2013 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, and also expect to launch a new hybrid canola seed line in Australia.

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

And 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 provide an important resistance management tool.

We are steadily bringing new Nunhems™ vegetable seeds to market, with more than 70 varieties introduced in 2011 and a comparable number of innovations anticipated for 2012.

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, herbicides, fungicides, biological solutions, and products for the control of disease-transmitting insects.

Further milestones achieved in 2011 included the market introduction of LifeNet™ mosquito nets in selected countries. New product introductions in the garden and green industry, and vegetation management segments strengthened our portfolio in the United States. June 2011 saw the introduction of Nortica™, a product with a biologically derived mechanism of action that enhances root growth and lawn resistance. Also in the U.S., we launched a number of herbicides based on the newly registered active ingredient indaziflam for weed control on golf courses, sports grounds, railroad tracks and roadways. We plan to introduce more new herbicides for professional users in 2012. In the consumer business (Bayer Garden™/Bayer Advanced™), we continued to expand the Natria™ product line, which is based on natural or nature-derived ingredients, and launched it in further European markets.

MATERIALSCIENCE

In 2011, MaterialScience spent €237 million (2010: €231 million) on research and development (not including the costs of joint development activities with customers) – equivalent to 2.2% of subgroup sales. The subgroup thus accounted for roughly 8.1% of the Bayer Group's total research and development expenses.

A total of about 1,000 people were employed in research and development – some of them at the Polymer Research & Development Center in Shanghai, China, for example, which was expanded in 2011 and plays a key role in developing new products for the Asian market and enhancing Bayer's technical expertise in the region. At the same time, this local presence is aimed at more closely linking the company's research activities with customers in the emerging markets.

Expansion of the Polymer R&D Center in Shanghai, China

In the Polyurethanes business unit, the application areas for our products are being systematically broadened and their properties further improved. A key area in this respect is the construction industry, where rigid polyurethane foams serve as highly efficient heat and cold insulation materials, helping to reduce energy consumption and thereby protect the climate. Ongoing development work with our materials is aimed mainly at improving insulating properties and optimizing flame retardancy.

Polyurethanes are also used in the field of alternative energy generation, and we are working on potential applications in wind, solar and wave energy technology. Thanks to their versatility, polyurethanes help to boost the potential of renewable energies and reduce the cost of their production. Newly developed polyurethane systems offer potential advantages over existing materials in terms of mechanical strength and productivity improvements.

Another area of focus is the use of polyurethanes in light-weight construction. For many years Bayer has offered solutions based on conventional composite materials such as glass fibers, minerals and natural fibers. We are also working on particularly high-performance composites for the automotive industry based on other materials – such as carbon fibers – that help to significantly reduce vehicle weight and therefore fuel consumption. These materials are also suited for use in other sectors, such as construction and transport.

Pilot plant for plastics production using CO_2

Our process development is aimed at achieving further efficiency improvements to safeguard our long-term cost leadership. The focus is on manufacturing polyurethane raw materials with minimum energy consumption and greenhouse gas emissions. We are also increasingly 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 for producing polyether polycarbonate polyols (PPP) – a feedstock for polyurethane – with the aid of CO_2.

In the Polycarbonates business unit, the main emphasis is on developing specialty products with benefits such as lower weight, increased safety or wide design freedom for new applications.

Our research activities are based on three core elements:

"Focused Innovation" means we are concentrating our resources on core fields of application such as automotive engineering and the IT sector and continuing to improve our materials for use in these areas. We are also focusing on rapidly expanding applications such as solar energy production. Our "Open Innovation" activities are aimed at developing new solutions in collaboration with external partners. The "Global Innovation" aspect ensures that strong support for our worldwide development activities is provided by our product research and development centers in Leverkusen, Germany, and Shanghai, China.

Our strategy focuses on selected development areas such as polycarbonate glazing and other lightweight solutions for the transportation sector, LED illumination management (for use in street lighting, for example), safety applications (such as safety glazing), and improvements in the cost efficiency of manufacturing processes. We also place importance on the continued development of particularly eco-friendly product grades, such as flame-retardant plastics bearing the Ecolabel of the European Union or polycarbonate blends containing recycled or bio-based materials.

In the Coatings, Adhesives, Specialties business unit, we are driving the development of raw materials for high-performance polyurethane coatings, adhesives and sealants. For example, our polyaspartic systems form the basis for sustainable and efficient coating systems for floors, wind rotor blades and large vehicles – markets that are showing strong, steady growth. We are also progressively developing eco-friendly systems based on water instead of solvents or capable of efficient radiation curing. An example of our entry into new market segments is an innovative technique for on-site coating of parquet flooring. Radiation curing enables the floor to be walked on again very soon afterwards.

In collaboration with our industrial partner KAST, Germany, and the Institute of Concrete Structures and Building Materials at Karlsruhe Institute of Technology (KIT), Bayer has developed the earthquake protection material EQ-Top™ for residential and office buildings. This system, combining glass fiber fabric with a waterborne specialty adhesive from Bayer, greatly strengthens masonry and is as easy to apply as wallpaper.

In the field of cosmetics – where we develop precursors for facial and body care, hair styling and sun protection products – the new Baycusan™ product line satisfies important demands such as the use of "green" raw materials (solvent-free formulations).

Our activities in functional films are centered partly around films based on polycarbonates or thermoplastic polyurethanes. Combining these films with additional surface technologies and modifying their properties gives rise to multifunctional or holographic films with attractive applications such as 3D flat screens or flexible displays. Another area of focus is on electroactive polymers (EAP) as a platform technology. Our research activities relate mainly to polymer films as a basis for developing alternative engine and generator concepts with partners in the industry. The acquisition of the U.S. company Artificial Muscle, Inc. in 2010 further strengthened our activities in this field. In 2011 we launched our first EAP film product under the brand name ViviTouch™ for a new application in video games. The material provides a special tactile feedback.

BAYER TECHNOLOGY SERVICES

Technology Services supports all Bayer subgroups with technology platforms

All Bayer subgroups work closely with our service company Bayer Technology Services worldwide on technology solutions, particularly in the fields of process technology, plant engineering, automation and product development. For example, this service company cooperates with MaterialScience in the development of new production processes that make efficient use of energy and raw materials, helping the subgroup to safeguard its technological and cost leadership. Examples include the new TDI production process being used for the first time at the MaterialScience site in Shanghai and the catalytic conversion of carbon dioxide to polymers. 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, helps HealthCare and CropScience to accelerate the development of new products. This also includes the development of entirely new production concepts, for example at the INVITE research center, a collaborative venture between Bayer Technology Services and Dortmund Technical University.

9. Sustainability

- Sustainability forms an integral part of our corporate strategy
- We have set ourselves new sustainability goals along the value chain to be achieved by 2015
- First global Safety Day underscored our commitment to safety
- We cut greenhouse gas emissions by 4.2% in 2011 despite an increase in production

9.1 Sustainability Strategy

Sustainability – which essentially means future viability – forms an integral part of our business strategy (see Chapter 11.2). We are convinced that we can only be commercially successful in the long run if we balance economic growth with ecological and social responsibility. In this we are guided by long-term values. Our commitment to sustainability is underlined by clear references to the topic in our mission statement "Bayer: Science For A Better Life," our pledge to the ten principles of the United Nations Global Compact, and our participation in the Global Compact's new "Corporate Sustainability Leadership – LEAD" initiative launched in 2011 and the chemical industry's Responsible Care™ initiative.

The clear goal of our sustainability strategy is to create business opportunities for our company and generate economic, ecological and social benefits. We will realize our goal of balancing ecological and social responsibility with corporate interests at four levels:

1. **Dialogue and commitment:** Bayer takes into account the expectations of all stakeholders. This applies also to our employee relations and discourse between industry, academia and politicians, and takes in our social commitment.
2. **Responsible business practices:** Bayer attaches great importance to responsible practices in the areas of compliance, human resources, product stewardship, health, safety and supplier management.
3. **Integration into business activities:** The sustainability strategy is accepted by all areas of the company and integrated into their business activities. Innovations and products that directly contribute to sustainable development make it a core element of our business activity.
4. **Relevant sustainability issues:** Bayer's Sustainability Program comprises solutions to major social challenges. It places special importance on alliances for sustainable health care, innovative partnerships to improve the supply of high-quality food, and new solutions for climate and resource protection.

Targets and indicators serve to operationalize our sustainability strategy. We aim to integrate sustainability even more into our business activities along the entire value chain. In 2011 we defined new and ambitious targets for 2015 that also include stricter long-term goals for greenhouse gas reduction.

INTERNET

The Sustainable Development Report can be found at: WWW.BAYER.COM/EN/SUSTAINABLE-DEVELOPMENT-REPORT.ASPX

A detailed overview on the achievement of our previous "2006+" objectives is available online.

Sustainability Targets [Graphic 3.19]

Targets 2015 *

MANAGEMENT & CORPORATE GOVERNANCE

Supplier management
- Inform all suppliers with purchase-order-relevant volumes about the Bayer Supplier Code of Conduct
- Assess the sustainability performance of suppliers that represent 75% or more of the total procurement volume and 75% or more of the procurement volume from risk areas
- Annually audit the sustainability performance of at least 10% of the suppliers from risk areas or at least 15 suppliers

Compliance
- Extend compliance training to 100% of all Bayer managers

EMPLOYEES

Diversity
- Increase the proportion of female managerial staff toward 30%

Occupational safety
- Reduce the number of occupational injuries with lost days by 25% to 0.3 LTRIR** ≙ 1.5 injuries per milion hours worked

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

INNOVATION & PRODUCTS

Research & Development
- Maintain or increase R&D spending in relation to sales

Product stewardship
- Roll out Global Product Strategy in another 10 countries with different languages

ECOLOGY

Climate protection
- Reduce specific greenhouse gas emissions in the Group by 35% (direct and indirect emissions in relation to manufactured sales volume in tons) between 2005 and 2020

Process and plant safety
- Implement the Bayer-wide initiative to increase process and plant safety; dedicated process and plant safety training for 40,000 employees worldwide by the end of 2012

Emissions
- Reduce other relevant emissions (ozone-depleting substances -70%, volatile organic compounds -50%)

Waste
- Reduce specific hazardous waste from production to 2.5% in relation to manufactured sales volume

* unless indicated otherwise
** Lost Time Reportable Incident Rate = number of reported occupational injuries and work-related illnesses per 200,000 hours worked resulting in one or more lost workdays

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 defines targets and initiatives, resolves on the relevant Group regulations and monitors their implementation.

To sharpen the focus of our safety commitment, the Group Management Board has established the Bayer Safety Council, which addresses the areas of occupational, process, plant and transport safety. The Bayer Safety Council's activities in 2011 centered on the Group-wide process and plant safety initiative that was launched in 2010 and on the first global Bayer Safety Day. The measures are designed to expedite the development of our safety culture and standards and improve safety technology.

Safety commitment strengthened: Bayer Safety Council established

Sustainability is also something we expect from our suppliers. In 2009 we adopted the Bayer Supplier Code of Conduct to make clear to our suppliers what we mean by sustainability. Our choice of suppliers is made through an evaluation using the fundamental sustainability standards and requirements set forth in the code. We select suppliers for this evaluation according to a country-based strategic risk model. In 2011 we evaluated 361 suppliers on the basis of self-assessment questionnaires and, for the first time, reviewed 15 suppliers using external audits. 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.

In the context of our sustainability strategy, we set forth our position on water at the end of 2011. We plan to implement a range of specific, continuous improvements in our own operating procedures with a view to protecting water resources, using water more efficiently and setting water reduction targets for sites particularly affected by water shortage or water quality risks. We also aim to develop innovative products and technologies for the market to improve water efficiency and quality in areas such as agriculture. Another element of the program involves support for projects that ensure our employees and the communities near our sites have access to clean drinking water and basic sanitation.

Bayer's position on water published

Details of our achievements in the area of sustainability are published in our annual Sustainable Development Report. The data collection process and the statements made throughout the Sustainable Development Report are subjected to an audit review by an independent auditor and checked for consistency, appropriateness and credibility. The latest edition meets the highest standard (Level A+) under the internationally recognized G3 guidelines of the Global Reporting Initiative (GRI). The Sustainable Development Report also outlines 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.

INTERNET

The Sustainable Development Report can be found at: WWW.BAYER.COM/EN/SUSTAINABLE-DEVELOPMENT-REPORT.ASPX

9.2 Employees

Employee Data [Table 3.33]

	Dec. 31, 2010	Dec. 31, 2011
	FTE	FTE
Employees by region		
Europe	54,300	53,600
North America	16,400	15,800
Asia/Pacific	24,600	26,000
Latin America/Middle East/Africa	16,100	16,400
Employees by corporate function		
Production	47,200	47,600
Marketing and distribution	41,100	41,800
Research and development	13,200	13,300
General administration	9,900	9,100
Total	**111,400**	**111,800**
Trainees	2,600	2,500
	%	%
Proportion of women in senior management	21	22
Number of nationalities in the Group Leadership Circle	21	22
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	67	69
Proportion of employees covered by collective agreements on pay and conditions	55	54

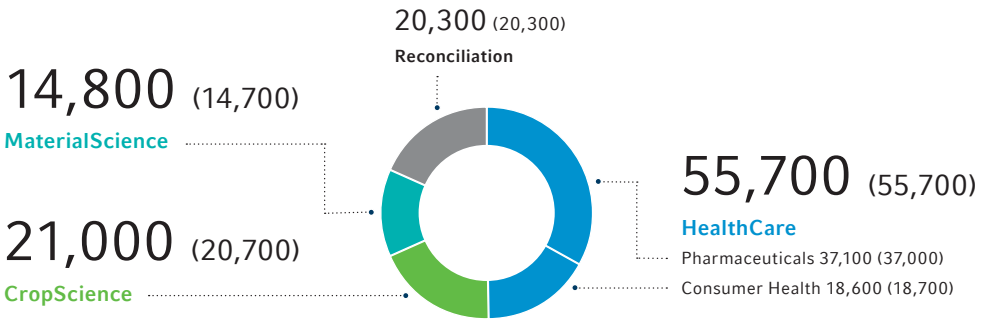
2010 figures restated
The number of employees on either permanent or fixed-term contracts is stated in full-time equivalents, with part-time employees included on a pro-rated basis in line with their contractual working hours.

EMPLOYEE DATA

On December 31, 2011, the Bayer Group had 111,800 employees worldwide (2010: 111,400). Thus headcount remained virtually steady in 2011 (+0.4%). In Germany we had 35,800 employees (2010: 36,200), who made up 32.0% of the Group workforce. HealthCare had 55,700 employees (2010: 55,700), CropScience 21,000 (2010: 20,700), and MaterialScience 14,800 (2010: 14,700). The remaining 20,300 (2010: 20,300) employees worked mainly for the service companies. This figure also includes the 700 (2010: 700) employees of Bayer AG. There were an additional 2,500 (2010: 2,600) trainees on the closing date who are not included in the Group total.

Personnel expenses rose in 2011 by 7.7% to €8,726 million (2010: €8,099 million), chiefly as a result of increased restructuring expenses, regular salary increases and higher employee bonuses.

Employees by Segment (2010 in parentheses) [Graphic 3.20]



2010 figures restated

SUSTAINABLE HUMAN RESOURCES POLICY

Bayer pursues a value-based and sustainable human resources policy that combines social responsibility with a performance-oriented corporate culture. This human resources strategy is based on the Bayer Group's new values and leadership principles, which were introduced and implemented in 2010 under the acronym "LIFE" – which stands for Leadership, Integrity, Flexibility and Efficiency.

Our common values:
LIFE

Among the measures adopted to strengthen the Leadership component of LIFE and promote performance orientation is an innovative training program we developed in 2011 to support our managers in regularly giving their employees frank, 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 part in the training program last year, and it is currently being provided to the other management levels as well.

EMPLOYEE COMPENSATION AND BENEFITS

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.

For example, more than €600 million is earmarked for variable bonus awards to employees for the year 2011 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.

Employee bonuses total more than
€600 million

SOCIAL PROTECTION AND RESPONSIBILITY

Sustainability and social responsibility are also reflected in our approach to necessary changes and restructuring measures. In Germany, which remains the company's largest operational base with 35,800 employees, business-related dismissals are excluded through the end of 2015 for a large proportion of employees under an agreement with the employee representatives that was again renewed in 2011. The workforce reduction initiated in November 2010 will be implemented there and in the other affected countries with the maximum degree of social responsibility.

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 69.4% have access to a company pension plan. Bayer's roughly 600 employees in Poland, for example, also can join a modern company pension plan as of 2012. The working conditions for 54% (2010: 55%) of our employees are governed by collective or company agreements. In the People's Republic of China, the establishment of unionized employee councils, begun in 1997, continued in 2011 with the inclusion of two more Group companies. This means nine companies there now have elected councils representing a total of some 3,000 employees.

Our mission as a responsible employer also includes safeguarding and promoting our employees' health. In all the countries in which we operate, we offer our employees numerous health-promoting benefits. These range from medical checkups and on-site medical services to sports opportunities inside and outside the company and the provision of advice and reintegration assistance after recovery from an illness. In this way we also contribute significantly to maintaining long-term employability, which is of growing importance in view of the lengthening of people's working lives in many countries on account of demographic change.

DIVERSITY AND INTERNATIONALITY

The growing number of people we employ in the emerging markets, especially China, is spurring our efforts to make our global workforce more diverse and international. Among the paramount aims of our diversity strategy is to considerably increase the proportion of local managers, particularly in the emerging markets, over the medium term. Among the members of our Group Leadership Circle, in which 22 nationalities are currently represented, some 70% are native to the country in which they work. The Bayer Group currently employs people of 127 nationalities overall. In light of this we are taking measures to further promote collaboration among employees, and between employees and customers, from different cultural backgrounds. In 2011, for example, we introduced the innovative online tool "GlobeSmart," through which employees can obtain information about etiquette and communication behaviors in more than 60 countries.

The second major focus of our diversity strategy is to significantly increase the number of women in management positions. Last year we therefore set ourselves the voluntary target of raising the proportion of women in senior management (the five highest management grade levels) throughout the Group toward 30% by 2015. Women accounted for 22% of employees in this management segment in 2011 – over 1% more than in the previous year – and 35% of Bayer Group employees overall. To continue driving activities aimed at increasing employee diversity, we created the position of "Global Head of Diversity & Inclusion" in 2011. The task of this new function is to develop Group-wide strategies and structures for promoting diversity and effective ways to include all employee groups in the company's activities.

Bayer Group Workforce Structure 2011 [Table 3.34]

	Women	Men	Total
Senior management	1,800	6,400	8,200
Junior management	8,700	15,400	24,100
Skilled employees	28,500	51,000	79,500
Total	**39,000**	**72,800**	**111,800**
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 2011 we again succeeded in attracting a total of more than 5,300 new academically qualified specialists and managers worldwide. In China alone we recruited nearly 1,900 university graduates, in India about 750, in Germany roughly 400 and in the United States more than 250. In 2011 we hired nearly 12,000 new people across all occupations. In addition, more than 3,000 challenging internships were awarded to talented young students worldwide to give them pre-graduation insight into the variety of career opportunities at Bayer. 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 2011, more than 900 young people began training courses in a total of some 50 occupations at our German sites.

Employees by Age Group in % [Graphic 3.21]

Age in years	%
< 20	0.1
20–29	15.5
30–39	29.5
40–49	30.7
50–59	21.8
> 60	2.4

ADVANCING KNOWLEDGE AND LEADERSHIP SKILLS

Providing continuing education for our employees is central both to talent management and to addressing the consequences of demographic change. In 2011 we maintained our offering of advanced training courses for employees at a high level worldwide, supplementing it with numerous innovations. For example, we again provided training for nearly 50,000 employees throughout the Group in the areas of occupational safety and health protection via our successful "Pegasus" online training program, and about another 10,000 employees completed our online course on corporate compliance.

Apart from the acquisition, expansion and retention of specialist knowledge, a further focus of our training programs is on improving leadership skills. In 2011 we introduced our standardized Group-wide management seminar "Bayer Leadership Excellence," already offered in Europe and the United States, to Brazil and the countries of the Asia/Pacific region. This extension of our program is supported by last year's launch of the global Bayer Training Community, an exchange forum for Bayer's management coaches to help ensure globally identical course content and quality standards.

9.3 Environment, Climate Protection and Safety

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

We develop new solutions for optimizing the use of resources, reducing emissions and avoiding waste. Bayer has designed a method – called the resource efficiency check – to help us deploy resources more efficiently. Piloted in the CropScience and MaterialScience subgroups in 2011, this method has already enabled us to identify savings potentials in all the major categories (raw materials, energy, water and waste). In November 2011, the Group management's sustainability committee decided that the subgroups will use this tool systematically in the future.

Key Performance Indicators [Table 3.35]

Category	Key Performance Indicators for Health, Safety and Environment	2010	2011
Health and Safety	Industrial injuries to Bayer employees resulting in at least one day's absence (number of injuries per million hours worked)	1.7	1.5
	Reportable industrial injuries to Bayer employees (number of injuries per million hours worked)	3.1	2.8
	Environmental incidents	7	3
	Transportation incidents	8	7
Emissions	Direct greenhouse gas emissions (CO_2 equivalents in million metric tons)*	4.80	4.23
	Indirect greenhouse gas emissions (CO_2 equivalents in million metric tons)*	3.70	3.92
	Volatile organic compounds (VOC) (thousand metric tons/year)	2.54	2.69
	Total phosphorus in waste water (thousand metric tons/year)	0.09	0.08
	Total nitrogen in waste water (thousand metric tons/year)	0.49	0.53
	Total organic carbon (TOC) (thousand metric tons/year)	1.42	1.50
Waste	Hazardous waste generated (million metric tons/year)	0.35	0.47
	Hazardous waste landfilled (million metric tons/year)	0.06	0.12
Use of resources	Water use (million m^3/year)	474	437
	Primary energy use for generating steam and electricity (petajoules [10^{15} joules]/year)**	51.63	50.10
	Secondary energy use for generating steam, electricity and refrigeration (petajoules [10^{15} joules]/year)**	34.08	34.85

2010 figures restated
* as per Greenhouse Gas Protocol
** Starting in 2011, we are reporting our energy use according to source category.

Further reduction in industrial injury rate

We regularly review our performance in the areas of health, safety and environment on the basis of key performance indicators – many of which we further improved in 2011, despite a roughly 5% increase in manufactured sales volume. The occupational injury rate again declined, both in terms of lost workdays and as regards reportable injuries requiring medical treatment. Thus in 2011 we already achieved the target we had set for 2015 of 1.5 injuries per million hours worked resulting in at least one day's absence. In line with internationally accepted standards, we adjusted our reporting of occupational injuries in 2011, replacing the former parameter – the number of injuries per million hours worked – by the Lost Time Reportable Incident Rate (LTRIR). We will report occupational injuries in terms of this new parameter starting with the Annual Report 2012.

Due to the higher production volume, not only secondary energy consumption but also emissions of volatile organic compounds (VOC), nitrogen and organic carbon in waste water increased in 2011. The volume of hazardous waste considerably exceeded the previous year's figure due to a groundwater and soil remediation project at one of our sites in India. These measures are expected to take until mid-2013 to complete and will affect the Group's waste statistics accordingly.

In 2011 there was also a significant drop in the number of environmental incidents, as well as a decline in transport incidents. 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 quantities greater than 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.

Bayer's aim is to achieve an appropriate and uniform standard of HSEQ (health, safety, environmental protection and quality) throughout the Bayer Group and steadily improve it. 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 2011 about 90% of Bayer production sites had an HSE management system audited by Bayer. More than 80% of our business activity (in relation to production volume and energy input, respectively) takes place at sites that are certified or externally validated according to recognized international standards such as ISO 14001, EMAS or OHSAS 18001. 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.

Our highest priorities are the health and safety of everyone who handles our products and the protection of the environment. For us, product stewardship entails a thorough evaluation of health and environmental risks along the entire value chain – from product research and development to production – and includes responsible product marketing, use and disposal. Nearly all products manufactured by Bayer are subject to wide-ranging statutory obligations concerning the publication of information, such as those imposed by the European Union chemicals policy "REACH." After submitting the first 125 substances to the chemicals agency ECHA in 2010, Bayer is preparing the second registration phase involving substances it produces in quantities exceeding 100 tons per year. This phase ends on June 1, 2013. For many of these substances, too, Bayer has formed registration consortia with competitors in order to share data and avert the need for additional animal studies. Bayer is not yet affected by the authorization process introduced in 2011. We have registered all substances requiring classification under the Globally Harmonized System (GHS) for chemicals, which applies in Europe and also came into effect in China in 2010.

CLIMATE PROTECTION

Bayer's strategy takes climate change into account as an ecological, economic and social challenge. The Bayer Climate Program initiated in 2007 became a cornerstone of the Bayer Sustainability Program in 2009. It involves examining the energy efficiency of our processes and developing solutions to protect the climate and address the effects of climate change.

In 2011 Bayer was again listed in the Carbon Disclosure Leadership Index in recognition of our transparent reporting – this time as one of the four best companies in all sectors worldwide. 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.

Group's climate objectives tightened again

We plan to continue systematically along this path and have again tightened up our long-term climate objectives for the reduction of greenhouse gas emissions in the context of our goals for 2015. The new 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, the target for the reduction of specific emissions in our energy-intensive MaterialScience subgroup was raised in 2011 to 40% (previously 25%), while the target for the reduction of absolute emissions at HealthCare was increased to 10% (previously 5%). At CropScience, the target for the reduction of absolute emissions remains at an ambitious 15%.

Bayer bases its reporting of greenhouse gas emissions on the international standard of the Greenhouse Gas (GHG) Protocol. The company aims to hold total emissions at 2007 levels through 2020 despite growth in production. Despite a further 5% rise in manufactured sales volume in 2011, with most of this increase occurring at MaterialScience, direct greenhouse gas emissions were reduced by about 12%,

thanks largely to process improvements and energy-saving measures. Energy-related indirect greenhouse gas emissions rose by 5.7%. The total of direct and indirect greenhouse gas emissions declined by 4.2%.

To track our target achievement more transparently, we publish detailed information on emission levels in our Sustainable Development Report.

Improving energy efficiency is a major factor in reducing our own greenhouse gas emissions. The energy and CO_2 savings potentials identified by the Bayer Climate Check have been integrated into the energy management system known as STRUCTese™ (Structured Efficiency System for Energy). MaterialScience had already launched this certified system (DIN EN 16001) at 46 energy-intensive production facilities by 2011 to ensure that these savings potentials are realized for the long term and the efficiency of our production processes is steadily improved. We plan to have introduced STRUCTese™ at a total of 61 energy-intensive facilities by the end of 2012.

Process innovations are another focus of our efforts to reduce greenhouse gas emissions. One example is an innovative, climate-friendly chlorine production process developed by Bayer together with partners. In 2011 we commissioned the first industrial-scale pilot facility in Krefeld, Germany. It has a capacity of 20,000 tons per year and can cut energy consumption by up to 30% compared with the conventional membrane technology. We also drove forward process engineering modifications to further reduce nitrous oxide emissions.

In addition, Bayer supplies solutions for climate protection – for example in the construction industry, because energy usage in buildings accounts for some 30% of global CO_2 emissions. Climate protection is achievable with Bayer's EcoCommercial Building (ECB) program. An interdisciplinary network of suppliers, planners, engineers and service providers in the construction sector is developing customized concepts for energy-optimized buildings and even zero-emissions buildings. We welcomed a further 28 partners to the global ECB network in 2011, one of the aims being for polyurethane insulation solutions from Bayer to become even more firmly established in construction. Apart from our efforts to raise energy efficiency and reduce emissions, we are continuing to develop our market solutions for the construction industry and lightweight solutions for more sustainable mobility.

The Bayer Climate Program also uses other approaches, including the "Eco-Fleet" program to reduce CO_2 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. Between 2007 and the end of 2011, the Eco-Fleet program and improved energy efficiency in IT already reduced CO_2 emissions by over 32,500 tons per year and some 3,500 tons per year, respectively.

9.4 Social Commitment

Bayer's social commitment is an established part of our sustainability strategy and corporate policy. The company considers itself part of society and sees its commitment to corporate citizenship as an investment in society's future viability and a contribution to a positive business environment. Bayer's social commitment is exemplified by numerous projects in many parts of the world, some of which the company has been organizing or supporting for years. In 2011 Bayer provided some €54 million (2010: €57 million) in funding in four main areas of focus.

€54 million
for social initiatives

Expenses for Social Initiatives [Table 3.36]

Main sponsorship areas	2010	2011
	€ million	€ million
Education and research	7	8
Environment and nature	3	2
Health and social needs	26	24
Sports and culture	21	20

We continue to consistently implement our funding strategy, focusing on projects of high social relevance that meet specific needs and are related to our corporate activity. In addition to financial support, we aim to contribute our technological and commercial expertise wherever possible.

EDUCATION AND RESEARCH

Bayer places great importance on support for education and research, especially in the area of science and technology. This is because, as a research-based company, we depend heavily on recruiting highly trained scientists and on society's acceptance of technology.

Support for talented young researchers and leading scientists

The funding programs of the Bayer Science & Education Foundation cover the entire scientific training and career path. In 2011 the foundation approved total funding of some €1 million for dedicated school students, innovative school projects, ambitious trainees, exceptional university students, outstanding young scientists and leading researchers.

In 2011 the foundation added a further 52 teaching projects to its school funding program in the communities near Bayer's German sites, bringing total funding for such projects to some €462,000. As part of Bayer's support program for college and school students, €237,000 was pledged in scholarships for 49 young people to study abroad. The foundation also made available a total of €179,000 to enable young international scientists to attend the Nobel Prize laureate meeting in Lindau, Germany, and to provide 100 Bayer scholarships at 23 universities of excellence throughout Germany under the government's "Germany Scholarships" program.

The "Bayer Early Excellence in Science Award" was again awarded in 2011 to three young scientists in the fields of biology, chemistry and materials. Dr. Cristobal Uauy from the John Innes Centre in Norwich, United Kingdom, was honored for his contributions to understanding the wheat genome and to increasing crop productivity in wheat breeding. Dr. Andreas Bender of Cambridge University Cancer Centre, United Kingdom, received the award for his work in the field of cheminformatics to develop prediction models for active substance properties in the life sciences. Professor Arne Thomas from the Institute for Chemistry at the Technical University of Berlin was honored for the development of new functional materials for use in catalysis and gas storage.

The Bayer Science & Education Foundation presented the €75,000 Hansen Family Award 2011 to Professor Stefan W. Hell, who works at the Max Planck Institute for Biophysical Chemistry in Göttingen and the German Cancer Research Center in Heidelberg. The 48-year-old researcher received the award for his breakthroughs in the field of microscopy, which led to a new class of light microscopes that provide insights into living cells and tissue.

In 2011 Poland, Switzerland and Turkey joined Bayer's international education initiative "Making Science Make Sense." This program, now regularly implemented in 14 countries on four continents, is aimed at elementary school students. Bayer employees donate their time to illustrate the fascination and practical importance of science through experiments.

As part of our social commitment in India, we are continuing our "Learning for Life" program with an integrated package of measures. The program enables children and young people to attend school or vocational training courses. The focus of the program continues to be on vocational training. In Karnataka state, for example, approximately 2,700 trainees have regularly attended the vocational instruction we have organized in conjunction with local non-governmental organizations, initially at five government schools, in the 2009/2010 through 2011/2012 academic years.

ENVIRONMENT AND NATURE

Another focus of our social commitment is on educating young people about environmental issues.

Involving young people in environmental projects

In 2011 Bayer and the United Nations Environment Programme (UNEP) again organized about a dozen environmental projects for children and young people as part of their global partnership. These activities centered on the International Children's Conference on the Environment in Bandung, Indonesia, attended by some 1,400 young people from 100 countries, the theme of which was "Reshaping Our Future Through Green Economy and Sustainable Lifestyles." In 2011, a total of about 50 young people from 18 countries took part in a week-long study trip to Germany to learn more about environmental protection – the annual highlight of Bayer's "Young Environmental Envoys" program.

Thanks once again to its particular popularity in China, the annual children's painting competition received a record 4 million entries from 99 countries. The subject for the 2011 contest was "Life in the Forests."

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.

As part of our ongoing aid programs, we again supported the World Health Organization (WHO) in 2011 in the fight against neglected tropical diseases. The company donated free supplies of medicines included on the WHO Essential Drug List, such as drugs to combat Chagas disease, an infection widespread in Latin America that is transmitted via the bite of the assassin bug. The existing agreement with the WHO was extended early to run until 2017. The annual medicine donation will be doubled to one million Lampit™ tablets, and the company will continue to provide financial support of US$300,000 per year for logistics and distribution. Bayer also provided further support for the WHO by donating medicines to combat African sleeping sickness.

We also formed an alliance with the WHO and the Stop Tuberculosis (TB) Partnership for the fight against multiresistant tuberculosis in China. Bayer provided 620,000 tablets of the antibiotic moxifloxacin for this program in 2011.

The Bayer Cares Foundation, dedicated to promoting independent social initiatives, spent a total of roughly €126,000 in 2011 to support 40 charity projects in the communities near the company's sites in Germany. In addition, the Bayer Volunteering Program was launched in 13 countries of Central and Latin America based on the successful German model, with total funding of €55,000. In this way the Bayer Cares Foundation is rewarding voluntary efforts by Bayer employees and other citizens to improve social conditions in their communities.

In 2011 the Foundation presented the €35,000 "Aspirin Social Award" for innovative health care aid and consultancy programs in Germany for the second time.

The Bayer Cares Foundation initiated a Group-wide appeal to help the victims of the earthquake and tsunami in Japan, to which employees from 20 countries responded with total donations exceeding €300,000. Bayer headquarters and the Japanese subsidiary topped this up to €700,000. Bayer is using this amount to support the relief organization Ashinaga in building a care and educational center for children who live in the affected region and lost one or both parents as a result of the disaster. In addition, the company donated €880,000 to the Japanese Red Cross and medicines worth €700,000 to the Japanese health authorities immediately after the disaster, bringing Bayer's total aid to Japan to €2.3 million.

In 2011 the company or the Foundation also provided emergency relief and reconstruction aid totaling €680,000 to flood victims in Australia, Brazil, Cambodia, Thailand and the Philippines, earthquake victims in New Zealand and famine victims in eastern Africa.

SPORTS AND CULTURE

The Bayer Arts & Culture program, the company sports clubs and our other special-interest clubs have contributed to the attractiveness of our corporate locations for employees and other citizens alike for more than a century. Bayer is restructuring its sports sponsorship in the vicinity of its Leverkusen, Dormagen and Krefeld-Uerdingen sites and will gradually shift its focus to six large clubs by 2015. These clubs will receive a total of some €13 million annually for activities in the areas of recreational, youth and disabled sports.

A further seven soccer clubs signed up to the "Simply Soccer" joint initiative with the German Soccer Federation (DFB). As a result, some 200 girls and boys with mental or learning disabilities regularly played soccer in 13 ordinary sports clubs in 2011.

10. Events After the End of the Reporting Period

Since January 1, 2012, no events of special significance have occurred that we expect to have a material impact on the financial position or results of operations of the Bayer Group.

11. Future Perspectives

11.1 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

11.1.1 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. Thus the organizational units are closely interlinked in this respect. Key elements of the opportunity and risk management system are the planning and controlling process, Group regulations and the reporting system.

At regular conferences held to discuss business performance, the opportunities and risks that are evaluated both qualitatively and quantitatively in determining the strategies of the strategic business entities and the regions are updated, and targets and necessary actions are agreed upon.

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 of the Bayer Group's risk management system are set forth in a directive published on the Group-wide intranet. The directive explains the fundamentals of risk management in compliance with the German Law on Corporate Supervision and Transparency and includes the principles for the early identification, communication and addressing of risks. These principles mainly relate to the areas of statutory requirements, risk management policies at Bayer and risk management activities.

In the Bayer Group, risks are systematically and continuously identified, analyzed and documented in a database. Risks are defined as events and possible developments within or outside of the company that could jeopardize a sustained increase in enterprise value. Risk-relevant information is compiled at least quarterly and also on an ad hoc basis where necessary.

The documentation contains a description of the risk, an assessment of the extent of possible damage and the probability of occurrence, along with measures to monitor and counteract the risk.

Materiality limits for the subgroups and service companies are defined by the Bayer Group in consultation with the respective units. To transparently present risk issues at an early stage and allow potential risks to be countered in a timely manner, the risk documentation prescribes action thresholds that are well below the materiality limits.

The members of the Group Leadership Circle have unrestricted access to the risk database, which is mapped to the management information system.

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 risk management coordinators and specialists in the organizational units are responsible for the risk inventory, including the identification, evaluation and documentation of risks, and for explaining the risk strategy. 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.

Corporate Auditing is responsible for coordinating the identification and documentation of risk areas throughout the Group and for enhancing the risk management 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.

11.1.2 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 (HGB))

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.

The role of Corporate Auditing includes verifying the accuracy of the accounting at German and foreign companies, especially with regard to the following aspects:

- compliance with statutory regulations, directives of the Board of Management, and other internal regulations and procedures,
- formal and substantial correctness of accounting and the corresponding reporting,
- functioning and effectiveness of the internal control system to protect the company against financial loss,
- correctness of working procedures and adherence to economic principles.

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 2011. 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.

11.1.3 Opportunities

As an international enterprise, Bayer is exposed to a wide variety of developments in the various national and international markets in which it operates in its three business areas. Different potential risks and opportunities arise within the existing operational framework according to the business performance described in this report and the company's overall situation.

We aim to take maximum advantage of the opportunities that present themselves in our various fields of activity. We continuously evaluate potential additional opportunities in all areas as an integral part of our strategy, which is described in detail in Chapter 11.2 "Strategy."

Research and development present major opportunities, and we are working continuously to find new products and improve existing ones. These activities are presented in detail in Chapter 8 "Research and Development."

We also believe that the emerging markets hold further potential. More information on our business in these countries is provided in Chapter 3.5 "Business Development in the Emerging Markets."

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

11.1.4 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

We are 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.

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 performance of our MaterialScience subgroup is affected by cyclicality in customer industries. A downturn in the business cycle, characterized by weak demand – especially from principal customers – and overcapacities, may lead to price pressure and more intense competition.

Holistic 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 of the kind that occurred in 2008 and 2009 can be predicted.

For a summary forecast, see Chapter 11.3 "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. Suitably experienced resources are therefore assigned to the teams that steer 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.

Furthermore, 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, particularly in the United States and the European Union. 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

Increased competitive pressure following patent expiration

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.

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, for instance, 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.

Moreover, the manufacturing of chemical products is subject to risks associated with the production, filling, storage and transportation of raw materials, products and wastes. These risks may result in personal injury, property damage, environmental contamination or 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. In addition, we are committed to the international Responsible Care and Global Product Strategy initiatives of the chemical industry and are driving forward our sustainability strategy and management. We report annually on our sustainability performance including the areas of environmental protection and safety.

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 pension costs or diminish stockholders' 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.

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 could materially affect its net assets, financial position and results of operations.

It is company policy to use derivatives to minimize or eliminate the market price risks associated with operating activities and the resulting financing requirements. Derivatives are used almost exclusively to hedge realized or forecasted transactions. The use of derivatives 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.

The various risks associated with financial instruments are outlined below together with the relevant risk management systems.

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. Since the Bayer Group does not conclude master netting arrangements with its customers, the total of financial assets represents the maximum credit risk exposure.

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 with banks and other partners of first-class credit standing in line with predefined exposure limits. 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. Sufficient liquid assets are held to meet all of the Group's payment obligations when they fall due, thereby ensuring solvency at all times. 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 kept 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 2012 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. Market risks include currency, interest-rate and other price risks, especially commodity price risks.

Sensitivity analysis is a widely used risk measurement tool that allows our management to make judgments regarding the potential loss in future earnings, fair values or cash flows of market-risk-sensitive instruments resulting from one or more selected hypothetical changes in interest rates, foreign currency exchange rates, commodity prices or other relevant market rates or prices over a selected period of time. We use sensitivity analysis because it provides reasonable risk estimates using straightforward assumptions (for example, an increase in interest rates). The risk estimates we provide below assume:

- a simultaneous, parallel shift in foreign exchange rates in which the euro depreciates against all currencies by 10%,
- a parallel shift of 100 basis points in the interest-rate yield curves of all currencies, and
- a simultaneous 20% decline in the prices of all the commodities underlying the derivatives we hold.

We use market information and additional analytics to manage our risk exposure and mitigate the limitations of our sensitivity analysis. We have found sensitivity analysis to be a useful tool for achieving specific risk management objectives. Sensitivity analysis offers an easy-to-understand risk exposure estimate reflecting the effects that changing market conditions could have on our business. It also allows our management to take the necessary steps to address such risks.

We continually refine our risk measurement and reporting procedures. This includes periodically re-examining the underlying assumptions and parameters utilized.

The sensitivity analyses included in the following sections of this Risk Report present the hypothetical loss in cash flows of financial instruments and derivatives that we held as of December 31, 2011 and December 31, 2010. 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.

Currency risks are identified, analyzed and managed centrally and systematically. The scope of hedging is evaluated regularly and defined in a corporate directive. Recorded foreign currency operating items, receivables and payables 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.

The Group Management Board has provided clear guidance on how to limit and monitor cash flow risks that result from this approach.

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 derivatives and non-derivatives as of December 31, 2011 would be €305 million (2010: €279 million). Of this €305 million, €95 million is related to the U.S. dollar, €46 million to the Japanese yen, €32 million to the Canadian dollar, €26 million to the Chinese renminbi and €106 million to other currencies. Of the €305 million estimated hypothetical loss of cash flow, €321 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 €16 million is primarily attributable to account balances in foreign currencies and unhedged currency derivatives embedded in supply contracts. The impact of exchange-rate fluctuations on our anticipated sales in foreign currencies is not included in this calculation.

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 in the future.

Interest-rate risks in the Bayer Group are analyzed centrally and managed by the central finance department. This is done in line with 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 amounted to €11,663 million as of December 31, 2011 (December 31, 2010: €11,767 million). The sensitivity analysis was performed on the basis of our floating-rate debt position at year end 2011, 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 per annum, in these interest rates (assuming constant currency exchange rates) as of January 1, 2011 would have raised our interest expense for the year ended December 31, 2011 by €68 million (2010 based on our floating-rate debt position at year end 2010: €45 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 these price risks on the basis of internal directives and centrally determined limits, which are subject to constant review. 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.

We applied a hypothetical adverse scenario in which all commodity and energy prices simultaneously decrease by 20%. Under this scenario the estimated hypothetical loss of cash flows from derivatives as of December 31, 2011 would be €1 million (2010: €8 million). Of this €1 million, €0 million would be recognized in profit or loss and €1 million would be recognized as a value adjustment in other comprehensive income (OCI) according to hedge accounting rules. In considering sensitivities for commodity futures and commodity option contracts, we have made a small allowance for the fact that forward rates are less volatile than spot rates. The stated long-term contract volumes are therefore based on somewhat smaller price changes. The derivatives used by the Bayer Group to mitigate the risk of changes in exchange rates, interest rates and commodity prices are described in Note [30.3] to the consolidated financial statements.

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.

11.2 Strategy

BUSINESS STRATEGY

As an inventor company with the mission "Bayer: Science For A Better Life," Bayer continues to focus on its core competencies in the development of new solutions in the fast-growing, innovation-driven areas of health care, nutrition and high-tech materials. Based on our innovative capability, we are pursuing a strategy of sustainable and profitable growth that adds corporate value.

Across all of our businesses we are striving to further reinforce our portfolio, consistently capitalize on growth opportunities and continuously raise productivity.

Portfolio: We aim to continue playing leading roles in lucrative markets and to steadily expand the strong positions we already hold.

Growth: We are systematically investing in our innovative capabilities, maximizing the value of our research and development pipeline and realizing opportunities in the emerging markets, particularly China and Brazil.

Productivity: Based on the maxim "More innovation – less administration," we are continuing our efforts to improve efficiency by simplifying our structures and processes. By 2013 we aim to be saving €800 million a year, half of which is to be reinvested in research and development and the continuing expansion of our business in the emerging markets.

HEALTHCARE

We believe that four overarching trends will play a decisive role in shaping the health care markets of the future: an aging population, the growing demand for health care products in the emerging markets, increasing patient and consumer influence on health policy decisions, and increasing demands on the health care industry to demonstrate that it is adding value as part of each country's health system. In addition, health systems the world over are in a process of transformation and under pressure to cut costs.

Focus on growth through innovation

We have a research pipeline of products with the potential to treat chronic illnesses, in particular – an important aspect in light of rising life expectancy worldwide. With the increasing demand for better health care products and services in the emerging markets, we intend to build on our strong positions in the respective countries. In selected areas we plan to supplement our product-centered business with more value-based models and services, benefiting from our expertise in the area of prescription medicines and consumer products. The high reputation of the Bayer umbrella brand has a central role to play in this. The overriding objective of our strategy is therefore to achieve above-average, profitable and sustainable growth – with the emphasis on growth through innovation. We also aim to further expand our position among the leading players in the market for prescription-free (OTC) medicines.

Activities in Pharmaceuticals, our largest segment in terms of sales, are focused on products for women's and cardiovascular health and on specialty pharmaceuticals in the areas of oncology, hematology and ophthalmology. Our portfolio also includes medicines that are usually prescribed by general practitioners.

We will maintain our focus on diseases where there is a high unmet medical need and where major potential exists for improving the standard of care through innovative approaches to diagnosis and therapy. Our in-house research and development is therefore an important growth engine for our Pharmaceuticals segment, supplemented by product inlicensing, alliances and collaborations.

In India, for example, we established the 50:50 joint venture Bayer Zydus Pharma together with the Indian company Zydus Cadila in early 2011. The new company greatly strengthens our presence in India's rapidly expanding pharmaceuticals market. In addition we signed an agreement with Trius Therapeutics, Inc., United States, in July 2011 giving us exclusive rights to Trius' antibiotic tedizolid phosphate (tedizolid) in Asia – excluding North and South Korea – as well as Africa, Latin America and the Middle East.

We already occupy leading positions in the pharmaceutical markets of many emerging countries, especially China, and plan to build on these positions.

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

The goal of the Consumer Care Division is to build on our position in the global over-the-counter (OTC) medicines market, primarily leveraging the organic growth potential of proven brands such as Aspirin™. In addition, we will continue to take advantage of external growth opportunities in the form of strategically relevant acquisitions or product inlicensing. The focus of our expansionary course is on emerging markets such as Central and Eastern Europe, Latin America and the Asia/Pacific region.

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. In diabetes, we plan to expand our product range by developing new blood glucose monitoring systems and innovative, customer-centric solutions that help people with diabetes to better manage the disease. In the medical equipment business, we are continuing to develop our core products in the areas of contrast agent injection systems and thrombectomy systems. We are also developing new software products and IT-based service solutions to optimize both contrast agent dosage and the clinical workflows involved in processing diagnostic data and images. To strengthen our position among the leading companies in the field of innovative, high-performance diagnostic imaging and interventional technologies, we combined the diagnostic imaging business, formerly part of the Pharmaceuticals segment, with our medical devices business to form the new Radiology and Interventional unit. To step up our presence in interventional cardiology, we acquired the U.S. company Pathway Medical Technologies, Inc. in September 2011. Pathway is among the leading manufacturers of products to mechanically remove arterial plaque.

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 directed toward achieving 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. For example, in January 2011 we acquired the New Zealand animal health company Bomac, which supplies a broad range of innovative animal health products for the livestock sector. We plan to introduce the products outside of Australia and New Zealand as well, particularly in emerging markets, to strengthen our business in the Asia/Pacific region.

CROPSCIENCE

CropScience, one of the leading innovation-driven companies in its industry, aligns its corporate planning to long-term trends in agricultural markets. It aims to offer products and customer-oriented solutions for the production of affordable, high-quality food, feed, fiber and energy crops. Against a background of limited arable land, advancing climate change and a steadily increasing global population, it is essential to safeguard and further increase crop yields. We manage our business responsibly, in keeping with our commitment to sustainable development and our goal of achieving long-term growth and attractive returns.

CropScience strategy built on four key elements

The CropScience strategy for future growth is built on four key elements: rejuvenation of the Crop Protection business, customer-centricity along the entire value chain, the refocusing of innovation activities and the extension of the BioScience business.

A key strategic objective is the **rejuvenation of our Crop Protection business** to create a solid basis for future growth. We are therefore currently restructuring our portfolio. While phasing out older products, we are increasing our focus on strategically important product families. All remaining WHO class I insecticides will be removed from our portfolio by the end of 2012 and replaced by modern, targeted and more environmentally friendly formulations. This also demonstrates our continuing commitment to sustainable agriculture. We plan to extend our geographic presence further into emerging markets and optimize our production and supply chain operations. To achieve these aims and make resources available for further investment, we intend to steadily improve cost efficiency and increase flexibility.

Another major element in our strategy is leveraging **customer-centricity along the entire value chain** to deliver solutions all the way from seed to shelf. For Crop Protection/BioScience, this involves increased grower orientation and improved channel management practices. It also comprises new or improved customer relationship tools that leverage the trusted expertise of the Bayer brand and broaden the successful food chain partnership business model through cooperation with multinational food companies and retailers. Our Environmental Science unit, too, develops and commercializes solutions that are tailored to the specific needs of our customers – both consumers and professional users – and are designed for easy application and safe handling. The strategic alignment of this business emphasizes systematic customer orientation, including the expansion of marketing activities and the continued development of specific market segments such as forestry or industrial vegetation management.

In the areas of **innovation** and research, we will sharpen the focus on BioScience and new, expanding areas of agricultural chemistry – such as plant health and stress tolerance – while reducing our spending for traditional crop protection research focused on the control of pests, weeds and diseases. Our aim is to double the annual R&D spend in the BioScience unit between 2010 and 2015 (2010: about €200 million) in order to come up with the new products that will drive growth at CropScience. The annual R&D budget of CropScience as a whole is planned to rise by about 20 percent over the same period, to more than €850 million.

Another key feature of our strategy is the continuing **extension of our BioScience business**. We plan to further strengthen our positions in the established crops – cotton, oilseed rape/canola and vegetables, both by organic growth and through acquisitions. Our aim is also to build significant positions in soybeans, rice and wheat – three of the four major broad-acre crops. For example, we intend to gain long-term access to high-quality breeding material and steadily expand our existing breeding expertise. We already made considerable progress in this area in 2011 with new acquisitions and partnerships. We intend to continue making targeted acquisitions and entering into partnerships and license agreements in order to implement our growth strategy.

With these four strategic elements, we aspire to propel farming's future.

MATERIALSCIENCE

MaterialScience aims to exploit opportunities in emerging markets

The strategic objective of MaterialScience is to exploit growth opportunities in the emerging economies, especially those of Asia, safeguard its competitive positions in the established markets, and add new businesses to its portfolio through an active dialog with industries, markets and customers. In this way we intend to contribute to a sustained increase in enterprise value. With our products and solutions, we aim to make a lasting contribution to overcoming global challenges such as dwindling energy reserves, climate change and increasing mobility, at the same time helping many people to improve their quality of life. Our activities are based on an investment policy guided by medium- and long-term market trends. We keep our innovations, business processes and production methods strictly in line with the needs of our target markets, offering customized products and solutions in addition.

In the Polyurethanes (PUR) business unit, our primary objective is to expand our global market leadership in isocyanates. We plan to take advantage of long-term growth opportunities by maintaining a sustainable innovation portfolio, using a variety of distribution channels and operating global competence centers. At the same time, we are concentrating on further increasing efficiency to safeguard our cost leadership in the long term.

World-scale plant commissioned in Shanghai, China

Investment in our production facilities, particularly in China, plays a key role in our operational growth. At the end of 2011, for example, a major new 250,000 tons-per-year facility for the production of toluene diisocyanate (TDI) – which is required in the production of mattresses, furniture, footwear and adhesives, among other items – was brought on stream in Shanghai, China. The Asian market already accounts for more than 40% of global polyurethane consumption. A world-scale TDI facility with a capacity of 300,000 tons per year is due on stream at Dormagen, Germany, in 2014. Bayer plans to consolidate its European TDI production at this location, the new facility replacing the existing plants there and in Brunsbüttel, Germany.

We are also targeting sustainable growth in the diphenylmethane diisocyanates (MDI) product group. We aim to meet rising demand – particularly in Asia – for insulating materials in key customer industries, such as construction and household appliances, by increasing our annual capacities in Shanghai, China, to a total of 1,000,000 tons.

Our polyether polyols portfolio complements our service spectrum and will therefore support the growth of our isocyanates business.

In the Polycarbonates (PCS) business unit, too, we are focusing on the Asia region, which already accounts for more than 60% of the world market and where sales of these plastics are expected to grow distinctly faster than global GDP. There is considerable demand in Asia – particularly China – for these materials, which are used primarily in the automotive, electrical/electronics and construction industries.

We therefore intend to more than double our annual production capacity for polycarbonates in Shanghai, China, to 500,000 tons, placing continued reliance on the efficient processes and technologies employed at our existing large facilities.

The announced transfer of PCS headquarters from Leverkusen, Germany, to Shanghai, China, was successfully completed in 2011. This improves our ability to steer the business close to the market and thus take account of Asia's growing importance.

In the field of semi-finished products, substantial market potential still exists for the use of polycarbonate for LCD diffuser sheets in large-format flat screens. The steadily increasing trend toward light-weight construction in the automotive industry is likely to gain momentum in the coming years as electromobility increases.

As the world's leading supplier of polyurethane-based products in its markets, the Coatings, Adhesives, Specialties (CAS) business unit aims to offer customized solutions along the entire value chain.

We intend to further expand our leading market position in basic and modified isocyanates and are responding to rising demand in the emerging markets by expanding production capacities. At the beginning of 2011, for example, we commissioned a new polyisocyanate facility in Ankleshwar, India. In Shanghai, China, we are planning new plants for the production of hexamethylene diisocyanate (HDI) and isophorone diisocyanate (IPDI). We also intend to build a multi-purpose facility for these two isocyanates in Leverkusen, Germany.

The strategic business entity "Resins" is focusing on modern, eco-friendly coating and adhesive raw material systems – including formulations for waterborne and radiation-curing dispersions – to further increase profitability. The business with certain conventional coating resins – which was bundled in the subsidiary Viverso – was sold in 2011 to Nuplex Industries Ltd., a global manufacturer of polymer resins based in New Zealand and Australia.

The CAS portfolio also includes polymer solutions for medical applications and cosmetics. The streamlining of activities offers potential for opening up further promising fields of business.

Also with a view to new market opportunities, we are developing functional films and carbon nanotubes for possible use in a number of areas.

In addition, we are working continuously to develop new processes, both to facilitate new applications for our materials and to optimize our own production. For example, we continued developing the oxygen-depolarized cathode electrolysis process for producing chlorine from salt. A demonstration facility for this technology began operating in Krefeld, Germany, in 2011. New standards in climate protection and efficiency are also being set by the gas-phase phosgenation process for isocyanate production, which is already in use at the new TDI plant in Shanghai, China, and will also be employed in the planned facility for this raw material in Dormagen, Germany. This new process technology reduces solvent consumption by up to 80% and energy use by up to 60% compared with conventional facilities of comparable size.

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 3.37]

	Long-term rating	Outlook	Short-term rating
Standard & Poor's	A-	stable	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 Euro Medium Term Notes program, syndicated credit facilities, bilateral loan agreements and a global commercial paper program.

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

Further details of our risk management objectives and the ways in which we account for all the major types of hedged transactions – along with price, credit and liquidity risks as they relate to the use of financial instruments – are given in Chapter 11.1 "Opportunity and Risk Report."

11.3 Economic Outlook

GLOBAL ECONOMY

The prospects for the global economy in 2012 remain uncertain despite positive signals in North America. This is especially due to doubts about the outcome of the euro crisis, which are likely to dampen investment activity. The high levels of private and public debt in many countries will probably also have a negative impact on demand. A significant increase in the oil price during the year would further weaken the economy. By contrast, the highly expansionary monetary policy is expected to continue supporting growth.

For the eurozone, we anticipate considerably slower expansion in 2012 than in 2011, and negative growth is likely in some countries. In this environment, the German economy has so far proven robust, with consumption buoyed especially by the positive trend on the employment market. This effect will probably continue for some time. However, given the importance of the other European countries for German exports, Germany is unlikely to be able to disconnect itself from the European economy in the long term. For this reason we expect the German economy, too, to grow less rapidly in 2012 than in the previous year.

In the United States a moderate recovery began to materialize toward the end of 2011, and the threat of a recession appears to have been averted for the time being. However, in view of the continuing tight employment market and the high level of government debt, we anticipate that the U.S. economy will remain fragile.

By contrast, the emerging markets are forecast to grow rapidly again in 2012. However, even these countries cannot be expected to escape the deterioration in the global economy, especially in light of the weaker prospects for exports to Europe. We therefore believe we will see somewhat lower growth rates in some of the emerging markets, although their rapid expansion will continue.

HEALTHCARE

We expect the growth rate for the **Pharmaceuticals market** in 2012 to be in the mid-single digits. A major part of this growth will probably continue to take place in emerging markets such as China, Brazil, India and Russia. In the traditional markets such as the United States and the major European countries, we expect growth to be only in the low single digits.

The **Consumer Care market** is likely to expand at the same or a slightly slower rate than in 2011, 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 grow somewhat faster in 2012 than in 2011 in light of a stronger market for medical devices. We expect the **Animal Health market** as a whole to continue expanding in 2012 at the rate of recent years despite the weaker economic prospects for the first half.

CROPSCIENCE

We expect the market environment for the global **seed and crop protection business** to remain favorable in 2012. Against a background of limited arable land and steadily rising demand for food, feed and plant-based energy sources, we expect prices to remain relatively high despite the volatility of world agricultural markets. Farmers' overall economic prospects should therefore remain favorable, prompting further investment in seeds and crop protection products in order to safeguard and raise crop yields. The global seed and crop protection market should benefit from this development.

From a geographical perspective, we expect Latin America to post the strongest growth in 2012. There, the seed and crop protection market is set to benefit mainly from an increase in soybean cultivation, which already accounts for over one third of the Latin American market. In Asia/Pacific, too, we expect agricultural production to rise, though at slower rates than in Latin America. Expansion in Asia/Pacific will be driven by specialty crops such as fruit and vegetables, as well as by rice and cereals. In the industrialized regions of the northern hemisphere we expect lower overall market growth in 2012.

MATERIALSCIENCE

For 2012 we anticipate that the **global markets** of importance to BMS will continue to grow, though perhaps more slowly. We believe Asia will retain its economic growth momentum.

We continue to expect robust global growth in the **automotive industry**. India and China, in particular, are likely to maintain their rapid pace of expansion. Sales in Western Europe are currently expected to decline, with demand in the Mediterranean countries remaining weak and car production in Germany heavily dependent on export markets. Vehicle sales in North America will probably increase in 2012, although a number of economic risk factors remain.

Robust growth is also forecast for the **electrical/electronics industry**. Demand is likely to rise in nearly all segments, especially in the BRIC countries (Brazil, Russia, India and China). In addition, the trend toward renewable energy sources is supporting further investment in western Europe, which could open up business opportunities for the electrical/electronics industry as well.

The recovery in the **construction industry** is likely to continue in 2012. The major Asian markets are expected to continue growing strongly, although construction output in China is likely to be somewhat below the 2011 level. The expected positive development in the U.S. construction sector currently remains subject to a number of risks. A slight decline is anticipated in Western Europe in view of the debt crisis.

Global **furniture sales** in 2012 are likely to show modest growth. We see significant potential in the positive market development in Eastern Europe and the Middle East. In North America, too, we predict a further recovery this year. Despite certain risks, we expect the Asian market to remain largely stable in 2012.

11.4 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

For 2012 we forecast a currency- and portfolio-adjusted sales increase of about 3%. Based on our currency assumptions – including a rate of US$1.40 (2011 average: US$1.39) to the euro – we therefore expect Group sales to come in at around €37 billion. We are planning a slight improvement in EBITDA before special items. This will be driven by HealthCare and CropScience, while earnings at MaterialScience are likely to be flat with 2011 in view of the currently difficult market conditions. We also plan to slightly improve core earnings per share (calculated as explained in Chapter 4.3).

We anticipate taking special charges of about €0.2 billion for ongoing restructuring programs in 2012. We have planned capital expenditures of €1.5 billion for property, plant and equipment and €0.4 billion for intangible assets. Depreciation and amortization are expected to total about €2.6 billion, including €1.3 billion in amortization of intangible assets. We expect research and development spending to continue on the high level of recent years at about €3.0 billion. We forecast a non-operating result of approximately minus €0.8 billion and an effective tax rate of about 26–27%.

In 2013 we expect the Bayer Group to achieve continued growth in sales, EBITDA before special items and core earnings per share, with our new pharmaceutical products contributing to this expansion. We plan to make capital expenditures for property, plant and equipment and for intangible assets on about the same levels as in 2012. We anticipate a slight increase in research and development expenses and plan to continue developing our projects as described in Chapter 8 “Research and Development.”

HEALTHCARE

HealthCare's top priority for 2012 is to successfully commercialize the new pharmaceutical products. We expect sales to increase by a low- to mid-single-digit percentage after adjusting for currency and portfolio effects. We plan to slightly improve EBITDA before special items, although earnings are likely to be hampered by higher marketing expenses and the effects of the genericization of Yasmin™ in Europe.

We forecast sales of the Pharmaceuticals segment in 2012 to remain stable or move slightly higher on a currency- and portfolio-adjusted basis, and EBITDA before special items to approximately match the prior-year level.

In the Consumer Health segment, we anticipate mid-single-digit growth in currency- and portfolio-adjusted sales and in EBITDA before special items.

In 2013 we expect growth to gain momentum, especially in Pharmaceuticals, through our new products and EBITDA before special items to improve in both HealthCare segments.

CROPSCIENCE

We expect market conditions for our CropScience business to remain favorable in 2012. We predict above-market growth and anticipate that currency- and portfolio-adjusted sales and EBITDA before special items will advance by mid-single-digit percentages.

In 2013 we again expect sales to grow faster than the market and EBITDA before special items to post a further improvement.

MATERIALSCIENCE

In light of the weaker development in 2011, we currently forecast currency- and portfolio-adjusted sales and EBITDA before special items in 2012 to remain level with the prior year. Should the market environment develop more favorably than anticipated, we expect sales and earnings to increase accordingly.

We forecast currency- and portfolio-adjusted sales in the first quarter of 2012 to be roughly level with the fourth quarter of 2011. We expect EBITDA before special items in the first quarter of 2012 to be well above the figure for the fourth quarter of 2011 but below the first quarter of 2011.

Assuming a positive market environment, we plan to increase sales and EBITDA before special items in 2013.

BAYER AG

As the holding company for the Bayer Group, Bayer AG derives most of its income from its subsidiaries. Under profit and loss transfer agreements with the major operating subsidiaries in Germany, their earnings are transferred directly to Bayer AG. The positive expectations for the Group's business development outlined above are also likely to be reflected in the earnings of Bayer AG. In addition, the net interest position should continue to improve in light of the reduction in financial debt.

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Bayer Group Consolidated Income Statements

[Table 4.1]

	Note	2010	2011
		€ million	€ million
Net sales	[7]	**35,088**	**36,528**
Cost of goods sold		(17,103)	(17,975)
Gross profit		**17,985**	**18,553**
Selling expenses	[8]	(8,803)	(8,958)
Research and development expenses	[9]	(3,053)	(2,932)
General administration expenses		(1,647)	(1,713)
Other operating income	[10]	714	859
Other operating expenses	[11]	(2,466)	(1,660)
Operating result (EBIT)		**2,730**	**4,149**
Equity-method loss	[13.1]	(56)	(45)
Non-operating income		384	586
Non-operating expenses		(1,337)	(1,327)
Non-operating result	[13]	**(1,009)**	**(786)**
Income before income taxes		**1,721**	**3,363**
Income taxes	[14]	(411)	(891)
Income after taxes		**1,310**	**2,472**
of which attributable to non-controlling interest	[15]	9	2
of which attributable to Bayer AG stockholders (net income)		**1,301**	**2,470**
		€	€
Earnings per share	[16]		
Basic		1.57	2.99
Diluted		1.57	2.99

Bayer Group Consolidated Statements of Comprehensive Income

[Table 4.2]

	Note	2010	2011
		€ million	€ million
Income after taxes		**1,310**	**2,472**
of which attributable to non-controlling interest	[15]	*9*	*2*
of which attributable to Bayer AG stockholders		*1,301*	*2,470*
Changes in fair values of derivatives designated as cash flow hedges	[30.3]	(108)	(57)
Recognized in profit or loss		18	(3)
Income taxes	[14]	27	17
Changes recognized outside profit or loss (cash flow hedges)		**(63)**	**(43)**
Changes in fair values of available-for-sale financial assets	[20]	8	4
Recognized in profit or loss		(2)	(1)
Income taxes	[14]	(3)	(1)
Changes recognized outside profit or loss (available-for-sale financial assets)		**3**	**2**
Changes in actuarial gains/losses on defined benefit obligations for pensions and other post-employment benefits and effects of the limitation on pension plan assets	[25]	(948)	(1,241)
Income taxes	[14]	258	416
Changes recognized outside profit or loss (actuarial gains/losses on defined benefit obligations for pensions and other post-employment benefits and effects of the limitation on pension plan assets)		**(690)**	**(825)**
Exchange differences on translation of operations outside the eurozone		627	11
Recognized in profit or loss		3	-
Changes recognized outside profit or loss (exchange differences)		**630**	**11**
Total changes recognized outside profit or loss		**(120)**	**(855)**
of which attributable to non-controlling interest		*6*	*(5)*
of which attributable to Bayer AG stockholders		*(126)*	*(850)*
Total comprehensive income		**1,190**	**1,617**
of which attributable to non-controlling interest		*15*	*(3)*
of which attributable to Bayer AG stockholders		*1,175*	*1,620*

Bayer Group Consolidated Statements of Financial Position

[Table 4.3]

	Note	Dec. 31, 2010	Dec. 31, 2011
		€ million	€ million
Noncurrent assets			
Goodwill	[17]	9,002	9,160
Other intangible assets	[17]	11,161	10,295
Property, plant and equipment	[18]	9,835	9,823
Investments accounted for using the equity method	[19]	354	319
Other financial assets	[20]	1,164	1,364
Other receivables	[23]	498	425
Deferred taxes	[14]	1,174	1,311
		33,188	**32,697**
Current assets			
Inventories	[21]	6,104	6,368
Trade accounts receivable	[22]	6,668	7,061
Other financial assets	[20]	1,008	2,784
Other receivables	[23]	1,336	1,628
Claims for income tax refunds		362	373
Cash and cash equivalents		2,840	1,770
Assets held for sale	[6.3]	-	84
		18,318	**20,068**
Total assets		**51,506**	**52,765**
Equity	[24]		
Capital stock of Bayer AG		2,117	2,117
Capital reserves of Bayer AG		6,167	6,167
Other reserves		10,549	10,928
Equity attributable to Bayer AG stockholders		**18,833**	**19,212**
Equity attributable to non-controlling interest		63	59
		18,896	**19,271**
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	[25]	7,305	7,870
Other provisions	[26]	1,478	1,649
Financial liabilities	[27]	9,944	7,995
Other liabilities	[29]	471	474
Deferred taxes	[14]	2,577	2,116
		21,775	**20,104**
Current liabilities			
Other provisions	[26]	3,870	4,218
Financial liabilities	[27]	1,889	3,684
Trade accounts payable	[28]	3,497	3,779
Income tax liabilities	[26.1]	62	76
Other liabilities	[29]	1,517	1,630
Provisions directly related to assets held for sale	[6.3]	-	3
		10,835	**13,390**
Total equity and liabilities		**51,506**	**52,765**

Bayer Group Consolidated Statements of Cash Flows

[Table 4.4]

	Note	2010	2011
		€ million	€ million
Income after taxes		1,310	2,472
Income taxes		411	891
Non-operating result		1,009	786
Income taxes paid or accrued		(897)	(1,067)
Depreciation and amortization		3,556	2,769
Change in pension provisions		(590)	(504)
(Gains) losses on retirements of noncurrent assets		(28)	(175)
Gross cash flow		**4,771**	**5,172**
Decrease (increase) in inventories		211	(241)
Decrease (increase) in trade accounts receivable		(153)	(389)
(Decrease) increase in trade accounts payable		566	245
Changes in other working capital, other non-cash items		378	273
Net cash provided by (used in) operating activities (net cash flow)	[33]	**5,773**	**5,060**
Cash outflows for additions to property, plant, equipment and intangible assets		(1,514)	(1,615)
Cash inflows from sales of property, plant, equipment and other assets		61	275
Cash inflows from divestitures		101	173
Cash inflows from (outflows for) noncurrent financial assets		(461)	(211)
Cash outflows for acquisitions less acquired cash		(31)	(261)
Interest and dividends received		53	75
Cash inflows from (outflows for) current financial assets		(623)	(2,326)
Net cash provided by (used in) investing activities	[34]	**(2,414)**	**(3,890)**
Dividend payments and withholding tax on dividends		(1,160)	(1,242)
Issuances of debt		965	1,001
Retirements of debt		(2,509)	(1,398)
Interest paid including interest-rate swaps		(915)	(902)
Interest received from interest-rate swaps		398	332
Cash outflows for the purchase of additional interests in subsidiaries		(9)	(4)
Net cash provided by (used in) financing activities	[35]	**(3,230)**	**(2,213)**
Change in cash and cash equivalents due to business activities		**129**	**(1,043)**
Cash and cash equivalents at beginning of year		**2,725**	**2,840**
Change in cash and cash equivalents due to changes in scope of consolidation		-	-
Change in cash and cash equivalents due to exchange rate movements		(14)	(27)
Cash and cash equivalents at end of year		**2,840**	**1,770**

Bayer Group Consolidated Statements of Changes in Equity

	Capital stock of Bayer AG	Capital reserves of Bayer AG	Retained earnings incl. net income	Exchange differences	
	€ million	€ million	€ million	€ million	
Dec. 31, 2009	**2,117**	**6,167**	**13,003**	**(2,451)**	
Restatement**			(77)		
Equity transactions with owners					
Capital increase/decrease					
Dividend payments			(1,158)		
Other changes			(34)		
Changes recognized outside profit or loss***			(690)	624	
Net income 2010			1,301		
Dec. 31, 2010	**2,117**	**6,167**	**12,345**	**(1,827)**	
Equity transactions with owners					
Capital increase/decrease					
Dividend payments			(1,240)		
Other changes			5		
Changes recognized outside profit or loss***			(825)	16	
Net income 2011			2,470		
Dec. 31, 2011	**2,117**	**6,167**	**12,755**	**(1,811)**	

* OCI = other comprehensive income
** equity restated as of Jan. 1, 2010, see Annual Report 2010, Note [4]
*** net of tax

[Table 4.5]

	Accumulated Other Comprehensive Income					
	Fair-value measurement of securities	Cash flow hedges	Revaluation surplus	Equity attributable to Bayer AG stockholders	Equity attributable to non-controlling interest incl. OCI*	Equity
	€ million	€ million	€ million	€ million	€ million	€ million
	19	**(10)**	**52**	**18,897**	**54**	**18,951**
				(77)		(77)
				(1,158)	(3)	(1,161)
		35	(5)	(4)	(3)	(7)
	3	(63)		(126)	6	(120)
				1,301	9	1,310
	22	**(38)**	**47**	**18,833**	**63**	**18,896**
				(1,240)	(2)	(1,242)
			(6)	(1)	1	-
	2	(43)		(850)	(5)	(855)
				2,470	2	2,472
	24	**(81)**	**41**	**19,212**	**59**	**19,271**

Notes to the Consolidated Financial Statements of the Bayer Group

1. Key data by segment and region

Key Data by Segment

	HealthCare			
	Pharmaceuticals		Consumer Health	
	2010	2011	2010	2011
	€ million	€ million	€ million	€ million
Net sales (external)	9,954	9,949	6,959	7,220
Change	+4.0%	−0.1%	+8.4%	+3.8%
Currency-adjusted change	−0.2%	+0.6%	+2.9%	+5.7%
Intersegment sales	72	84	10	3
Net sales (total)	10,026	10,033	6,969	7,223
Other operating income	215	268	66	70
Operating result (EBIT)	872	1,897	989	1,294
EBIT before special items	1,900	2,042	1,130	1,325
EBITDA before special items	2,832	2,972	1,573	1,730
Gross cash flow	1,786	1,992	1,162	1,262
Capital invested	14,733	14,459	8,061	8,260
CFROI	11.9%	13.6%	14.6%	15.5%
Net cash flow	2,007	2,077	1,313	1,280
Equity-method income (loss)	-	-	-	-
Equity-method investments	-	-	-	-
Assets	17,047	16,891	8,904	9,046
Capital expenditures	377	439	228	172
Additions to noncurrent assets from acquisitions	-	-	-	142
Depreciation, amortization and impairment losses	1,693	898	562	413
of which impairment losses/impairment loss reversals	791	17	158	13
Liabilities	4,004	4,512	2,084	2,278
Research and development expenses	1,684	1,556	382	392
Number of employees (as of Dec. 31)	37,000	37,100	18,700	18,600

2010 figures restated

Key Data by Region

	Europe		North America	
	2010	2011	2010	2011
	€ million	€ million	€ million	€ million
Net sales (external) – by market	13,751	14,441	8,228	8,177
Change	+6.0%	+5.0%	+6.8%	−0.6%
Currency-adjusted change	+5.0%	+5.0%	+0.7%	+3.6%
Net sales (external) – by point of origin	15,303	16,098	8,241	8,170
Change	+7.9%	+5.2%	+7.9%	−0.9%
Currency-adjusted change	+6.9%	+5.2%	+1.6%	+3.5%
Interregional sales	6,524	6,658	3,015	2,837
Other operating income	350	450	75	133
Operating result (EBIT)	1,410	2,408	337	915
Assets	30,224	30,213	9,778	10,181
Capital expenditures	840	801	319	420
Depreciation, amortization and impairment losses	2,677	1,908	427	430
Liabilities	19,649	20,618	5,321	5,748
Research and development expenses	2,246	2,187	612	528
Number of employees (as of Dec. 31)	54,300	53,600	16,400	15,800

[Table 4.6]

	CropScience		MaterialScience				Reconciliation			
	CropScience		MaterialScience		All Other Segments		Corporate Center and Consolidation		Group	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	6,830	7,255	10,154	10,832	1,180	1,268	11	4	35,088	36,528
	+4.9%	+6.2%	+35.0%	+6.7%	+3.6%	+7.5%	-	−63.6%	+12.6%	+4.1%
	−1.1%	+8.5%	+30.1%	+8.4%	+2.5%	+7.5%	-	−63.6%	+7.7%	+5.6%
	27	28	64	66	1,730	1,820	(1,903)	(2,001)	-	-
	6,857	7,283	10,218	10,898	2,910	3,088	(1,892)	(1,997)	35,088	36,528
	275	253	101	106	23	49	34	113	714	859
	261	562	780	633	47	(27)	(219)	(210)	2,730	4,149
	787	1,168	780	589	47	111	(192)	(210)	4,452	5,025
	1,293	1,654	1,356	1,171	188	291	(141)	(205)	7,101	7,613
	546	900	1,058	939	307	223	(88)	(144)	4,771	5,172
	8,990	8,554	9,976	10,337	623	1,812	1,167	(275)	43,550	43,147
	5.9%	10.3%	11.0%	9.2%	-	-	-	-	10.9%	11.9%
	1,399	691	763	775	356	113	(65)	124	5,773	5,060
	-	-	(56)	(45)	-	-	-	-	(56)	(45)
	-	-	354	319	-	-	-	-	354	319
	9,403	9,525	8,005	8,461	1,156	1,737	6,991	7,105	51,506	52,765
	366	315	505	574	140	165	5	1	1,621	1,666
	2	65	31	-	1	-	-	-	34	207
	506	653	576	582	141	218	78	5	3,556	2,769
	1	174	7	5	1	39	27	-	985	248
	3,786	4,080	2,285	2,396	2,214	2,202	18,237	18,026	32,610	33,494
	722	723	231	237	34	24	-	-	3,053	2,932
	20,700	21,000	14,700	14,800	19,600	19,600	700	700	111,400	111,800

[Table 4.7]

	Asia/Pacific		Latin America/ Africa/Middle East		Reconciliation		Total	
	2010	2011	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	7,481	7,842	5,628	6,068	-	-	35,088	36,528
	+31.0%	+4.8%	+17.7%	+7.8%	-	-	+12.6%	+4.1%
	+19.3%	+4.6%	+12.5%	+11.1%	-	-	+7.7%	+5.6%
	7,118	7,517	4,426	4,743	-	-	35,088	36,528
	+29.7%	+5.6%	+14.8%	+7.2%	-	-	+12.6%	+4.1%
	+17.6%	+5.4%	+8.6%	+11.1%	-	-	+7.7%	+5.6%
	462	509	414	419	(10,415)	(10,423)	-	-
	79	58	210	218	-	-	714	859
	807	513	395	523	(219)	(210)	2,730	4,149
	6,367	7,080	3,729	3,979	1,408	1,312	51,506	52,765
	336	321	126	124	-	-	1,621	1,666
	294	335	80	91	78	5	3,556	2,769
	3,655	3,772	1,390	1,240	2,595	2,116	32,610	33,494
	160	175	35	42	-	-	3,053	2,932
	24,600	26,000	16,100	16,400	-	-	111,400	111,800

2. General information

The consolidated financial statements of the Bayer Group as of December 31, 2011, were prepared by Bayer AG according to the International Financial Reporting Standards (IFRS), issued by the International Accounting Standards Board (IASB), London, and the interpretations of the IFRS Interpretations Committee, both as endorsed by the European Union and in effect at the closing date. The applicable further requirements of Section 315a of the German Commercial Code were also taken into account.

Bayer Aktiengesellschaft (Bayer AG) is a global enterprise based in Germany. Its registered office is at Kaiser-Wilhelm-Allee 1, 51368 Leverkusen. Its material business activities in the fields of health care, nutrition and high-tech materials take place in the HealthCare, CropScience and MaterialScience subgroups, respectively. The activities of the various segments are outlined in Note [5].

A Declaration of Compliance with the German Corporate Governance Code has been issued pursuant to Section 161 of the German Stock Corporation Act and made available to stockholders.

The Board of Management of Bayer AG prepared the consolidated financial statements of the Bayer Group on February 14, 2012. They were discussed by the Audit Committee of the Supervisory Board of Bayer AG at its meeting on February 22, 2012, and approved by the Supervisory Board at its plenary meeting on February 23, 2012.

In the income statement and statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity, certain items are combined for the sake of clarity. These are explained in the Notes. The income statement is prepared using the cost-of-sales method. Assets and liabilities are classified by maturity. They are regarded as current if they mature within one year or within the normal business cycle of the company or the Group, or are held for sale. The normal business cycle is defined for this purpose as beginning with the procurement of the resources necessary for the production process and ending with the receipt of cash or cash equivalents as consideration for the sale of the goods or services produced in that process. Trade accounts receivable and payable and inventories are always presented as current items, deferred tax assets and liabilities and pension provisions as noncurrent items.

The consolidated financial statements of the Bayer Group are drawn up in euros. Amounts are stated in millions of euros (€ million) except where otherwise indicated. In some cases, the sum of the figures given in this report may not precisely equal the stated totals and percentages may not be exact due to rounding.

The financial statements of the individual consolidated companies are prepared as of the closing date of the Group financial statements.

3. Effects of new accounting pronouncements

ACCOUNTING STANDARDS APPLIED FOR THE FIRST TIME IN 2011

In 2011 the following accounting standards and interpretations were applied for the first time. These new standards had no impact, or no material impact, on the presentation of the Group financial position or results of operations, or on earnings per share.

An amendment to IAS 32 (Financial Instruments: Presentation) was issued in October 2009. The amendment clarifies that rights issues, options and warrants denominated in a currency other than the issuer's functional currency and offered on a pro-rated basis to all owners of the same class of equity must be classified as equity. Such rights issues have so far been accounted for as liabilities. The change relates only to issues of a fixed number of shares at a fixed foreign-currency exercise price.

In November 2009 the IASB issued the revised standard IAS 24 (Related Party Disclosures), which simplifies the reporting requirements of companies in which a government owns an interest. Under the revised standard, certain kinds of related-party transactions resulting from government ownership of private companies are exempt from some of the disclosure requirements. In addition, the definition of related parties was amended in several respects.

IFRIC 19 (Extinguishing Financial Liabilities with Equity Instruments) was also issued in November 2009. The interpretation addresses the accounting treatment in cases where a company settles all or part of a financial liability by issuing equity instruments to the creditor.

Again in November 2009, an amendment was issued to IFRIC 14 (IAS 19 – The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction), an interpretation of IAS 19 (Employee Benefits). The amendment applies when a company is subject to minimum pension plan funding requirements. It enables prepayment of the respective contributions to be recognized as an asset.

In May 2010 the IASB issued a third collection of amendments as part of its annual project "Improvements to IFRSs." The amendments address details of the recognition, measurement and disclosure of business transactions and serve to standardize terminology. They consist mainly of editorial changes to existing standards.

PUBLISHED ACCOUNTING STANDARDS THAT HAVE NOT YET BEEN APPLIED

The IASB and the IFRS Interpretations Committee have issued the following standards, amendments to standards, and interpretations whose application was not yet mandatory for the 2011 fiscal year and is conditional upon their endorsement by the European Union.

In November 2009 the IASB issued IFRS 9 (Financial Instruments), containing rules for the classification and measurement of financial assets. In October 2010 it issued new requirements for the classification and measurement of financial liabilities, incorporating them into IFRS 9. This marks the completion of the first part of a three-part project to completely revise the accounting treatment of financial instruments. The new standard defines two instead of four measurement categories for financial assets, with classification to be based partly on the company's business model and partly on the characteristics of the contractual cash flows from the respective financial asset. An embedded derivative in a structured product will no longer have to be assessed for possible separate accounting treatment unless the host is a non-financial contract. A hybrid contract that includes a financial host must be classified and measured in its entirety. An amendment passed in December 2011 postponed the mandatory effective date of IFRS 9 to annual periods beginning on or after January 1, 2015. The disclosure requirements under IFRS 7 concerning the first-time application of IFRS 9 were amended at the same time. IFRS 9 has not yet been endorsed by the European Union. The changes will not have a material impact on the presentation of the Group's financial position or results of operations.

In October 2010 the IASB published amendments to IFRS 7 (Financial Instruments: Disclosures). These amendments require additional disclosures about transactions that transfer financial assets, partly to provide insight into the possible effects of any risks remaining with the transferring entity. Additional disclosures are also required if a disproportionately large number of such transactions is undertaken around the end of a reporting period. The changes are to be applied for annual periods beginning on or after July 1, 2011. They will not have a material impact on the presentation of the Group's financial position or results of operations.

In December 2010, the IASB issued an amendment to IAS 12 (Income Taxes). This amendment introduces a rebuttable presumption that the carrying amount of an asset will normally be recovered through sale rather than use. The change is particularly relevant for the calculation of deferred taxes in countries where the income tax rates on gains from divestments differ from those on regular rental income, for example. In this connection, SIC-21 (Income Taxes – Recovery of Revalued Non-Depreciable Assets) was integrated into IAS 12 (Income Taxes), except where it relates to real estate held as investment property. The revised standard is to be applied retrospectively for annual periods beginning on or after January 1, 2012. The amendment has not yet been endorsed by the European Union. The new standard will not have a material impact on the presentation of the Group's financial position or results of operations.

In May 2011 the IASB published four new standards: IFRS 10 (Consolidated Financial Statements), IFRS 11 (Joint Arrangements), IFRS 12 (Disclosure of Interests in Other Entities) and IFRS 13 (Fair Value Measurement). It also published amendments to two existing standards, IAS 27 (Separate Financial Statements) and IAS 28 (Investments in Associates and Joint Ventures). Application is mandatory for annual periods beginning on or after January 1, 2013. These new standards and amendments have not yet been endorsed by the European Union. The Bayer Group is currently evaluating the impact the changes will have on the presentation of its financial position and results of operations.

IFRS 10 (Consolidated Financial Statements) lays down the criteria for the inclusion of a company's participating interests in its consolidated financial statements irrespective of the nature of the interest. The criteria are based on a principle of control defined in the standard, which also contains detailed instructions for applying this principle. IFRS 10 thus entirely replaces the corresponding provisions of IAS 27 (Consolidated and Separate Financial Statements) and SIC-12 (Consolidation – Special Purpose Entities).

IFRS 11 (Joint Arrangements) prescribes the accounting for joint arrangements over which control is shared with a third party. The accounting treatment is determined by the rights and obligations resulting from the joint arrangement rather than by the legal form as in the past. Joint arrangements are classified as either joint operations or joint ventures. Each party to a joint operation must in future recognize its shares of the operation's assets and liabilities in accordance with its rights and obligations. Investments in joint ventures are to be accounted for using the equity method. IFRS 11 supersedes IAS 31 (Interests in Joint Ventures) and SIC-13 (Jointly Controlled Entities – Non-Monetary Contributions by Venturers).

The IASB has revised IAS 28 (Investments in Associates and Joint Ventures) to address the accounting for investments in both associates and joint ventures using the equity method.

IFRS 12 (Disclosure of Interests in Other Entities) prescribes the information to be disclosed in the notes to the financial statements about interests in subsidiaries, associates, joint arrangements and non-consolidated structured entities. The objective of these disclosures is to enable the users of an entity's financial statements to understand the nature of its interests in other entities, the risks associated with them, and the effects of the interests on its financial position and results of operations.

In light of the amendments made by IFRS 10 (Consolidated Financial Statements) and IFRS 12, the IASB published a revised version of IAS 27 (Separate Financial Statements), which is now devoted entirely to accounting for interests in subsidiaries, associates and joint ventures in IFRS separate financial statements.

In IFRS 13 (Fair Value Measurement), the IASB provides a uniform definition of fair value and how it is measured and specifies the related information to be provided in the notes. This standard prescribes how – rather than when – an asset or liability is to be measured at fair value, the fair value being defined as the price that would be received to sell an asset or paid to transfer a liability. IFRS 13 must be applied prospectively when it is first applied.

In June 2011 the IASB published amendments to IAS 1 (Presentation of Financial Statements), requiring items recognized outside profit or loss in other comprehensive income to be grouped according to whether or not they may subsequently become reclassifiable to profit or loss. The changes are to be applied for annual periods beginning on or after July 1, 2012. They have not yet been endorsed by the European Union. The changes will not have a material impact on the presentation of the Group's financial position or results of operations.

Also in June 2011, the IASB published amendments to IAS 19 (Employee Benefits). This abolishes the "corridor method," which Bayer ceased to use in 2005, of deferring the recognition of actuarial gains and losses in profit or loss until subsequent periods. In future, the net liability under defined benefit plans must be recognized in full and the change in the liability due to actuarial gains and losses must be recognized directly in other comprehensive income. In addition, the net interest cost for defined benefit plans is to be calculated on the basis of the net liability, which is the difference between the defined benefit obligation and the fair value of plan assets. This means that the interest rate used to calculate the expected return on plan assets to be recognized in profit or loss no longer has to be estimated but must correspond to the discount rate for the pension obligations, which is calculated in the same way as before. In the event of future plan amendments, the deferred recognition of past service cost will no longer be permitted, and it will have to be recognized immediately in profit or loss. There are also changes to the recognition and measurement principles for employee termination payments. The amendments are to be applied for annual periods beginning on or after January 1, 2013. They have not yet been endorsed by the European Union. The Bayer Group is currently evaluating the impact the changes will have on the presentation of its financial position and results of operations.

The interpretation IFRIC 20 (Stripping Costs in the Production Phase of a Surface Mine) was published in October 2011. IFRIC 20 addresses the recognition along with the initial and subsequent measurement of assets created by the removal of waste materials ("stripping") in the production phase of surface mining activity to gain access to ore and mineral deposits. The interpretation comes into effect for annual periods beginning on or after January 1, 2013. It has not yet been endorsed by the European Union. The changes will not have a material impact on the presentation of the Group's financial position or results of operations.

In December 2011 the IASB issued "Offsetting Financial Assets and Financial Liabilities" (Amendments to IAS 32) and "Disclosures – Offsetting Financial Assets and Financial Liabilities" (Amendments to IFRS 7). The amendments to IAS 32 (Financial Instruments: Presentation) clarify what is meant by "right of set-off in all circumstances" and "simultaneous settlement." The amendments to IFRS 7 (Financial Instruments: Disclosures) require gross and net offsetting amounts reflected in the statement of financial position – along with other existing rights of set-off that do not meet the requirements for set-off in the statement of financial position – to be presented in tabular form in future. The amendments are required to be applied retrospectively for annual and interim periods beginning on or after January 1, 2013 (IFRS 7 amendments) or January 1, 2014 (IAS 32 amendments). They have not yet been endorsed by the European Union. The Bayer Group is currently evaluating the impact the changes will have on the presentation of its financial position and results of operations.

4. Basic principles, methods and critical accounting estimates

The financial statements of the consolidated companies are prepared according to uniform accounting policies and measurement principles.

The consolidated financial statements of the Group are based on the principle of the historical cost of acquisition, construction or production, with the exception of the items reflected at fair value, such as available-for-sale financial assets and derivatives.

In preparing the consolidated financial statements, the management has to make certain assumptions and estimates that may substantially impact the presentation of the Group's financial position and/or results of operations.

Such estimates, assumptions or the exercise of discretion mainly relate to the useful life of noncurrent assets, the discounted cash flows used for impairment testing and purchase price allocations, and the recognition of provisions, including those for litigation-related expenses, pensions and other benefits, taxes, environmental compliance and remediation costs, sales allowances, product liability and guarantees. Essential estimates and assumptions that may affect reporting in the various item categories of the financial statements are described in the following sections of this note. Estimates are based on historical experience and other assumptions that are considered reasonable under given circumstances. They are continually reviewed but may vary from the actual values.

Changes in accounting policies or measurement principles in light of new or revised standards are applied retrospectively, except as otherwise provided in the respective standard. The income statement for the previous year and the opening statement of financial position for that year are adjusted as if the new accounting policies and/or measurement principles had always been applied.

CONSOLIDATION

The consolidated financial statements include subsidiaries, joint ventures and associates.

Subsidiaries are companies over which Bayer AG is able to exercise control – generally because Bayer AG directly or indirectly has a majority of the voting rights, which in turn usually derives from an ownership interest of more than 50%. Special purpose entities (SPEs) in which the Bayer Group holds 50% or less of the voting rights or shares are consolidated if the Bayer Group can derive the greater part of the economic benefit from the entity and/or bears the greater part of the risk. Inclusion of an entity's accounts in the consolidated financial statements begins when the Bayer Group starts to exercise control over the entity and ceases when it is no longer able to do so.

Sales revenues, income and expenses, and gains and losses arising from transactions among the consolidated companies, along with receivables and liabilities existing between them, are eliminated. Deferred income tax effects are reflected in consolidation.

Capital consolidation is performed by offsetting the carrying amounts of subsidiaries against their underlying equity. When a majority interest in a company is acquired, its pro-rated equity at the acquisition date is measured using the acquisition method. Identifiable assets and liabilities (including contingent liabilities) are recognized at their fair values along with attributable deferred tax assets and liabilities. Any remaining difference to the purchase price is recognized as goodwill. The purchase prices of acquired companies domiciled outside the eurozone are translated at the exchange rates in effect at the respective dates of acquisition.

The purchase of shares from other owners is presented as an equity transaction. The difference between the equity acquired from other owners and the purchase price is therefore directly offset against equity.

Joint ventures are companies over which the Bayer Group exercises joint control with a third party. A company is generally deemed a joint venture if voting rights are divided equally between two stockholders or the company is established on the basis of a joint venture agreement. Joint ventures are included by proportionate consolidation according to the principles followed for subsidiaries.

Associates over which Bayer AG exerts significant influence, generally through an ownership interest between 20% and 50%, are accounted for using the equity method. The carrying amount of a company accounted for using the equity method is adjusted annually by the percentage of any change in its equity corresponding to Bayer's percentage interest in the company. Differences arising upon first-time inclusion using the equity method are accounted for according to full-consolidation principles. Bayer's share of changes in these companies' equities recognized in profit or loss – including impairment losses recognized on goodwill – are reflected in equity-method income/loss. Intercompany profits and losses for these companies were not material in either 2011 or 2010.

Subsidiaries that do not have a material impact on the Group's financial position or results of operations, either individually or in aggregate, are recognized in the consolidated financial statements at cost of acquisition less any impairment losses.

FOREIGN CURRENCY TRANSLATION

The financial statements of the individual companies for inclusion in the consolidated financial statements are prepared in their respective functional currencies. A company's functional currency is that of the economic environment in which it primarily generates and expends cash. The majority of consolidated companies carry out their activities autonomously from a financial, economic and organizational point of view, and their functional currencies are therefore the respective local currencies.

In the financial statements of the individual consolidated companies, receivables and liabilities in currencies other than the respective functional currency are translated at closing rates, irrespective of whether they are exchange-hedged. Exchange rate differences from valuation of balances in foreign currencies are recognized in profit or loss.

In the consolidated financial statements, the assets and liabilities of companies outside the eurozone at the start and end of the year are translated into euros at closing rates. All changes occurring during the year and all income and expense items and cash flows are translated into euros at average monthly rates. Equity components are translated at the historical exchange rates prevailing at the respective dates of their first-time recognition in Group equity.

The exchange differences arising between the resulting amounts and those obtained by translating at closing rates are recognized outside profit or loss as "Exchange differences on translation of operations outside the eurozone" (in other comprehensive income) or "Exchange differences" (in the tables in the notes). When a company is deconsolidated, such exchange differences are reclassified from equity to profit or loss.

The exchange rates for major currencies against the euro varied as follows:

Exchange Rates for Major Currencies [Table 4.8]

		Closing rate		Average rate	
1€/		2010	2011	2010	2011
ARS	Argentina	5.31	5.57	5.18	5.74
BRL	Brazil	2.23	2.43	2.33	2.32
CAD	Canada	1.33	1.32	1.36	1.38
CHF	Switzerland	1.25	1.22	1.38	1.23
CNY	China	8.82	8.16	8.96	8.99
GBP	United Kingdom	0.86	0.84	0.86	0.87
JPY	Japan	108.65	100.20	116.04	110.75
MXN	Mexico	16.55	18.05	16.72	17.25
USD	United States	1.34	1.29	1.32	1.39

Subsidiaries whose functional currencies have experienced a cumulative inflation rate of more than 100% over the past three years applied the rules of IAS 29 (Financial Reporting in Hyperinflationary Economies).

NET SALES AND OTHER OPERATING INCOME

All revenues derived from the selling of products or rendering of services or from licensing agreements are recognized as sales. Other operational revenues are recognized as other operating income. Sales are recognized in profit or loss when the significant risks and rewards of ownership of the goods have been transferred to the customer, the company retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold, the amount of revenue and costs incurred or to be incurred can be measured reliably, and it is sufficiently probable that the economic benefits associated with the transaction will flow to the company.

Sales are stated net of sales taxes, other taxes and sales deductions at the fair value of the consideration received or to be received. Sales deductions are estimated amounts for rebates, cash discounts and product returns. They are deducted at the time the sales are recognized, and appropriate provisions are recorded. Sales deductions are estimated primarily on the basis of historical experience, specific contractual terms and future expectations of sales development. It is unlikely that factors other than these could materially affect sales deductions in the Bayer Group. Adjustments to provisions made in prior periods for rebates, cash discounts or product returns were of secondary importance for income before income taxes in the years under report.

Provisions for rebates in 2011 amounted to 2.3% of total net sales (2010: 1.9%). In addition to rebates, Group companies offer cash discounts for prompt payment in some countries. Provisions for cash discounts as of December 31, 2011 and December 31, 2010 were less than 0.1% of total net sales for the respective year.

Sales are reduced by the amount of the provisions for expected returns of defective goods or of saleable products that may be returned under contractual arrangements. The net sales are reduced on the date of sale or on the date when the amount of future returns can be reasonably estimated. Provisions for product returns amounted to 0.2% of total net sales for 2011, as in the previous year. If future product returns cannot be reasonably estimated and are significant to a sales transaction, the revenues and the related cost of sales are deferred until a reasonable estimate can be made or the right to return the goods has expired.

Some of the Bayer Group's revenues are generated on the basis of licensing agreements under which third parties have been granted rights to products and technologies. Payments received, or expected to be received, that relate to the sale or outlicensing of technologies or technological expertise are recognized in profit or loss as of the effective date of the respective agreement if all rights relating to the technologies and all obligations resulting from them have been relinquished under the contract terms. However, if rights to the technologies continue to exist or obligations resulting from them have yet to be fulfilled, the payments received are deferred accordingly. Upfront payments and similar non-refundable payments received under these agreements are recorded as other liabilities and recognized in profit or loss over the estimated performance period stipulated in the agreement.

License or research and development collaboration agreements may consist of multiple elements and provide for varying consideration terms, such as upfront payments and milestone or similar payments. They therefore have to be assessed to determine whether sales revenues should be recognized for individually delivered elements of such arrangements, i.e. for more than one unit of account. The condition for separate revenue recognition for individual units of account is that each element has value to the customer on a stand-alone basis, the fair value of the undelivered goods or unrendered services can be reliably determined, and delivery or performance of the as yet undelivered element(s) is probable and substantially within the control of the company.

Other operating income may also arise from the exchange of intangible assets. The amount recognized is generally based on the fair value of the assets given up, which is generally calculated using the discounted cash flow method. If the assets given up are internally generated, the gain from the exchange normally equals their fair value.

RESEARCH AND DEVELOPMENT EXPENSES

For accounting purposes, research expenses are defined as costs incurred for current or planned investigations undertaken with the prospect of gaining new scientific or technical knowledge and understanding. Development expenses are defined as costs incurred for the application of research findings or specialist knowledge to production, production methods, services or goods prior to the commencement of commercial production or use.

Research and development expenses are incurred in the Bayer Group for in-house research and development activities as well as numerous research and development collaborations and alliances with third parties.

Research and development expenses mainly comprise the costs for active ingredient discovery, clinical studies, research and development activities in the areas of application technology and engineering, field trials, regulatory approvals and approval extensions.

Research costs cannot be capitalized. The conditions for capitalization of development costs are closely defined: an intangible asset must be recognized if, and only if, there is reasonable certainty of receiving future cash flows that will cover an asset's carrying amount. Since our own development projects are often subject to regulatory approval procedures and other uncertainties, the conditions for the capitalization of costs incurred before receipt of approvals are not normally satisfied.

In the case of research and development collaborations, a distinction is generally made between payments on contract signature, upfront payments, milestone payments and cost reimbursements for work performed. If an intangible asset (such as the right to the use of an active ingredient) is acquired in connection with any of these payment obligations, the respective payment is capitalized even if it is uncertain whether further development work will ultimately lead to the production of a saleable product. Reimbursements of the cost of research or development work are recognized in profit or loss.

GOODWILL

In a business combination, goodwill is capitalized at the acquisition date. It is measured at its cost of acquisition, which is the excess of the acquisition price for the acquiree over the proportionate share of the acquired net assets. The net assets are the balance of the fair values of the acquired identifiable assets and the assumed liabilities and contingent liabilities.

Goodwill is not amortized, but tested annually for impairment. Details of the annual impairment tests are given under "Procedure used in global impairment testing and its impact." Once an impairment loss has been recognized on goodwill, it is not reversed in subsequent periods.

OTHER INTANGIBLE ASSETS

An "other intangible asset" is an identifiable non-monetary asset without physical substance, other than goodwill (such as a patent, a trademark or a marketing right). It is capitalized if the future economic benefits attributable to the asset will probably flow to the company and the cost of acquisition or generation of the asset can be reliably measured.

Other intangible assets are recognized at the cost of acquisition or generation. Those with a determinable useful life are amortized accordingly on a straight-line basis over a period of up to 30 years, except where their actual depletion demands a different amortization pattern. Determination of the expected useful lives of such assets and the amortization patterns is based on estimates of the period for which they will generate cash flows and the temporal distribution of the cash flows within this period. An impairment test is performed if there is an indication of possible impairment.

Other intangible assets with an indefinite life, and intangible assets not yet available for use (such as research and development projects) are not amortized, but tested annually for impairment. Details of the annual impairment tests are given under "Procedure used in global impairment testing and its impact."

Any impairment losses are recognized in profit or loss. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the (amortized) cost of acquisition.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is carried at the cost of acquisition or construction depreciated over its estimated useful life. An impairment loss is recognized in addition if an asset's recoverable amount falls below its carrying amount.

The cost of acquisition comprises the acquisition price plus ancillary and subsequent acquisition costs, less any reduction received on the acquisition price. The cost of self-constructed property, plant and equipment comprises the direct cost of materials, direct manufacturing expenses, and appropriate allocations of material and manufacturing overheads. Where an obligation exists to dismantle or remove an asset or restore a site to its former condition at the end of its useful life, the present value of the related future payments is capitalized along with the cost of acquisition or construction upon completion and a corresponding liability is recognized.

If the construction phase of property, plant or equipment extends over a long period, the interest incurred on borrowed capital up to the date of completion is capitalized as part of the cost of acquisition or construction in accordance with IAS 23 (Borrowing Costs).

Regular maintenance and repair costs are generally recognized in profit or loss. Where work is only carried out at intervals of several years (such as the major overhaul of a technical facility), the related costs are capitalized separately.

Property, plant and equipment is depreciated by the straight-line method over an asset's useful life, except where depreciation based on actual depletion is more appropriate.

The following depreciation periods are applied throughout the Group:

Useful Life of Property, Plant and Equipment [Table 4.9]

Buildings	20 to 50 years
Outdoor infrastructure	10 to 20 years
Storage tanks and pipelines	10 to 20 years
Plant installations	6 to 20 years
Machinery and equipment	6 to 12 years
Furniture and fixtures	4 to 10 years
Vehicles	4 to 8 years
Computer equipment	3 to 5 years
Laboratory and research facilities	3 to 5 years

Significant asset components with different useful lives are accounted for and depreciated separately.

If there are indications that an individual item of property, plant and equipment may be impaired, the recoverable amount is compared to the carrying amount. If the recoverable amount is less than the carrying amount, an impairment loss is recognized for the difference. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the cost of acquisition less depreciation.

When assets are sold, closed down or scrapped, the difference between the net proceeds and the net carrying amount of the assets is recognized as a gain or loss in other operating income or expenses, respectively.

LEASING

A lease is an agreement whereby the lessor assigns to the lessee the right to use an asset for an agreed period of time in return for a payment or series of payments. Leases are classified as either finance or operating leases. Leasing transactions that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are classified as finance leases. All other leasing agreements are classified as operating leases.

Where the Bayer Group is the lessee in a finance lease, the leased asset is capitalized at the lower of the fair value and present value of the minimum lease payments at the beginning of the lease term and simultaneously recognized under financial liabilities. The minimum lease payments essentially comprise financing costs and the principal portion of the remaining obligation. These are determined using the effective-interest method. The leased asset is depreciated by the straight-line method over the shorter of its estimated useful life or the lease term.

Where the Bayer Group is the lessor in a finance lease, the net investment in the lease is reflected in sales and a leasing receivable is recognized. The lease payments received are divided into the principal portion and the interest income using the effective-interest method.

Where the Bayer Group is the lessee in an operating lease, the lease payments are expensed. Where it is the lessor, the lease payments received are recognized in profit or loss. The leased asset continues to be recognized under property, plant and equipment in the lessor's statement of financial position.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprise cash, checks received, and balances with banks and companies. Cash equivalents are highly liquid short-term financial investments that are subject to an insignificant risk of changes in value, are easily convertible into a known amount of cash and have a maturity of three months or less from the date of acquisition or investment.

FINANCIAL ASSETS

Financial assets comprise loans and receivables, acquired equity and debt instruments, cash and cash equivalents, and derivatives with positive fair values.

They are recognized and measured in accordance with IAS 39 (Financial Instruments: Recognition and Measurement). Accordingly, financial assets are recognized in the consolidated financial statements if the Bayer Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial assets are initially recognized at fair value plus transaction costs. The transaction costs incurred for the purchase of financial assets held at fair value through profit or loss are expensed immediately. Interest-free or low-interest receivables are initially reflected at the present value of the expected future cash flows. For purposes of subsequent measurement, financial assets are allocated to the following categories according to IAS 39, with different measurement rules applying to each category:

Financial assets held at fair value through profit or loss comprise those financial assets that are held for trading. These assets are included in other financial assets and also comprise receivables from forward commodity contracts and receivables from other derivatives, except where hedge accounting is used. Changes in the fair value of financial assets in this category are recognized in profit or loss when the increase or decrease in fair value occurs.

Loans and receivables are non-derivative financial assets that are not quoted in an active market. They are accounted for at amortized cost using the effective interest method. This category comprises trade accounts receivable, the loans and receivables included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from items assigned to this category is determined using the effective interest method.

Held-to-maturity financial assets are non-derivative financial assets, with fixed or determinable payments, that are to be held to maturity. They are accounted for at amortized cost using the effective interest method. Held-to-maturity financial investments are recognized in other financial assets.

Available-for-sale financial assets are those non-derivative financial assets that are not assigned to any of the above categories. They mainly include equity instruments, such as shares, and debt instruments not to be held to maturity, which are included in other financial assets. Changes in the fair value of available-for-sale financial assets are recognized in other comprehensive income and not reclassified to profit or loss until the assets are sold. If the fair value is substantially below the amortized cost and/or remains below the amortized cost for a prolonged period, a write-down is recorded and recognized in profit or loss. Where possible, a fair value for equity and debt securities is derived from market data. Financial assets for which no market price is available and whose fair value cannot be reasonably estimated are carried at cost less any write-downs.

If there are substantial, objective indications of a decline in the value of loans and receivables, held-to-maturity financial assets or available-for-sale financial assets, an impairment test is performed. Indications of possible impairment include a high probability of insolvency, a significant deterioration in credit standing, a material breach of contract, operating losses reported by a company over several years, a reduction in market value, the financial restructuring of the debtor, or the disappearance of an active market for the asset.

In the case of loans and receivables, and held-to-maturity financial assets, an impairment test is performed in which the carrying amount is compared to the present value of the expected future cash flows, discounted at the original effective interest rate. If the carrying amount exceeds the present value, the assets are written down by the difference between the two amounts. If the reasons for previous write-downs no longer apply, the assets are written back provided that this does not cause the carrying amounts to exceed the amortized cost of acquisition.

Where available-for-sale financial assets are impaired, the change in fair value previously recognized in other comprehensive income is reclassified to profit or loss. Here, too, the assets are written back if the reasons for previous write-downs no longer apply. Available-for-sale equity instruments, however, are not written back.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all material risks and benefits.

DERIVATIVES

The Bayer Group uses derivatives to mitigate the risk of changes in exchange rates, interest rates and commodity prices. Hedge accounting is applied for these derivatives where appropriate.

Contracts concluded in order to receive or deliver non-financial goods for the company's own purposes are not accounted for as derivatives but treated as pending transactions. Where embedded derivatives are identified that are required to be separated from the pending transactions, they are accounted for separately. To take advantage of market opportunities or cover possible peak demand, a non-material volume of transactions may be entered into for which the possibility of immediate resale cannot be excluded. Such transactions are allocated to separate portfolios upon acquisition and accounted for as derivatives according to IAS 39. Changes in the fair values of these derivatives are recognized directly in profit or loss.

Changes in the values of forward exchange contracts and currency options serving as hedges of items in the statement of financial position are reflected in exchange gains and losses, while changes in the values of interest-rate swaps and interest-rate options are recognized in interest income and expense. Changes in the fair values of commodity futures and options, and of forward exchange contracts used to hedge forecasted transactions in foreign currencies, are recognized in other operating income and expenses.

The fair values of derivatives either correspond to market data or they are measured by the usual methods in light of the market data available at the measurement date. Currency and commodity contracts are measured individually at their forward rates or forward prices on the closing date. These depend on spot rates or prices including time spreads. The fair values of interest-rate hedging instruments are determined by discounting future cash flows over the remaining terms of the instruments at market rates of interest. The present value of each interest-rate or cross-currency interest-rate swap transaction is measured individually as of the closing date. Interest income is recognized in profit or loss at the date of payment or, in case of accrual, at the closing date.

Changes in the fair values of derivatives designated as fair-value hedges and the adjustments in the carrying amounts of the underlying transactions are recognized in profit or loss. Changes in the fair values of the effective portion of derivatives designated as cash flow hedges are initially recognized outside profit or loss in other comprehensive income. They are reclassified to profit or loss when the underlying transaction is realized. If such a derivative is sold or ceases to qualify for hedge accounting, the change in its value continues to be recognized in accumulated other comprehensive income until the forecasted transaction is realized. If the forecasted transaction is no longer probable, the amount previously recognized in accumulated other comprehensive income is reclassified to profit or loss.

The income and expense reflected in the non-operating result pertaining to the derivatives and the underlying transactions are shown separately. Income and expense are not offset.

INVENTORIES

In accordance with IAS 2 (Inventories), inventories encompass assets consumed in production or in the rendering of services (raw materials and supplies), assets in the production process for sale (work in process), goods held for sale in the ordinary course of business (finished goods and goods purchased for resale), and advance payments on inventories. Inventories are recognized at their cost of acquisition or production – calculated by the weighted-average method – or at their net realizable value, whichever is lower. The net realizable value is the estimated selling price in the ordinary course of business less estimated cost to complete and selling expenses.

INCOME TAXES

Income taxes comprise the taxes levied on taxable income in the individual countries along with changes in deferred tax assets and liabilities that are recognized in profit or loss. The income taxes recognized are reflected at the amounts likely to be payable under the statutory regulations in force, or already enacted in relation to future periods, as of the closing date.

In compliance with IAS 12 (Income Taxes), deferred taxes are recognized for temporary differences between the carrying amounts of assets and liabilities in the statement of financial position prepared according to IFRS and their tax bases. Deferred taxes are also recognized for consolidation measures and for tax loss carryforwards and tax credits that are likely to be usable.

Deferred tax assets relating to deductible temporary differences, tax credits and tax loss carryforwards are recognized where it is sufficiently probable that taxable income will be available in the future to enable them to be used. Deferred tax liabilities are recognized on temporary differences taxable in the future. Deferred taxes are calculated at the rates which – on the basis of the statutory regulations in

force, or already enacted in relation to future periods, as of the closing date – are expected to apply in the individual countries at the time of realization. Deferred tax assets and deferred tax liabilities are offset if they relate to income taxes levied by the same taxation authority. Material effects of changes in tax rates or tax law on deferred tax assets and liabilities are generally accounted for in the period in which the changes are enacted. Such effects are normally recognized in profit or loss. Effects on deferred taxes previously recognized in other comprehensive income are recognized outside profit or loss.

Deferred and current taxes are recognized in profit or loss unless they relate to items recognized outside profit or loss in other comprehensive income, in which case they, too, are recognized in other comprehensive income.

The probability that deferred tax assets resulting from temporary differences or loss carryforwards can be used in the future is the subject of forecasts by the individual consolidated companies regarding their future earnings situation and other parameters.

Deferred tax liabilities are recognized on planned dividend payments by subsidiaries. Where no dividend payment is planned for the foreseeable future, no deferred tax liability is recognized on the difference between the proportionate net assets according to IFRS and the tax base of the investment in the subsidiary.

PROVISIONS FOR PENSIONS AND OTHER POST-EMPLOYMENT BENEFITS

Group companies provide post-employment benefits under defined contribution and/or defined benefit plans. In the case of defined contribution plans, the company pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. Once the contributions have been paid, the company has no further payment obligations. The regular contributions constitute expenses for the year in which they are due and as such are included in the functional cost items, and thus in the operating result (EBIT). All other post-employment benefit systems are defined benefit plans, which may be either unfunded, i.e. financed by provisions, or funded, i.e. financed through pension funds.

The present value of provisions for defined benefit plans and the resulting expense are calculated in accordance with IAS 19 (Employee Benefits) by the projected unit credit method. The future benefit obligations are valued by actuarial methods and spread over the entire employment period on the basis of specific assumptions regarding beneficiary structure and the economic environment. These relate mainly to the discount rate, the expected return on plan assets, future salary and pension increases, variations in health care costs, and attrition and mortality rates.

The discount rates used are calculated from the yields of high-quality corporate bond portfolios in specific currencies with cash flows approximately equivalent to the expected disbursements from the pension plans. The uniform discount rate derived from this interest-rate structure is thus based on the yields, at the closing date, of a portfolio of AA-rated corporate bonds whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation. If there are no AA-rated corporate bonds of equal duration, the obligations are discounted at the interest rate for government bonds or interest-rate swaps in effect at the closing date. This is adjusted in line with the credit spread for corporate bonds.

The expected long-term return on plan assets is determined on the basis of published and internal capital market reports and forecasts for each asset class. The expected return is applied to the fair value of plan assets at the beginning of each year.

The effects of changes in important parameters are explained in Note [25].

The fair value of plan assets is deducted from the present value of the defined benefit obligation for pensions and other post-employment benefits. The obligations and plan assets are valued at regular intervals of not more than three years. Comprehensive actuarial valuations for all major plans are performed annually as of December 31. The difference between the defined benefit obligation – after deducting the fair value of plan assets – and the net amount recognized in the statement of financial position is attributable to unrecognized past service cost. Plan assets in excess of the benefit obligation are reflected in other receivables, subject to the asset limitation specified in IAS 19 (Employee Benefits).

The balance of all income and expenses relating to defined benefit plans – other than the expected return on plan assets and interest cost – is recognized in the operating result (EBIT). The expected return on plan assets and interest cost are reflected in the non-operating result under other non-operating income and expenses. Actuarial gains and losses from defined benefit plans and deductions in connection with asset limitation are recognized outside profit or loss, net of taxes, in other comprehensive income and reflected in the statement of changes in equity, as well as being recognized in full in the respective provision.

Early-retirement and certain other benefits to retirees are also included in the provisions for pensions, since these obligations are similar in character to pension obligations.

Because of changing market and economic conditions, the expenses and the obligations actually arising under the plans in the future may differ materially from the estimates made on the basis of these actuarial assumptions. The plan assets are mainly comprised of fixed-income and equity instruments. Therefore, declining returns in the bond or stock markets could necessitate additional contributions to the plans in order to cover current and future pension obligations. Higher or lower rates of employee fluctuation or longer or shorter lives of participants may also affect the levels of income from, and expenses for, post-employment benefit plans in the future.

OTHER PROVISIONS

Other provisions are recognized for present legal and constructive obligations arising from past events that will probably give rise to a future outflow of resources, provided that a reliable estimate can be made of the amount of the obligations.

Other provisions are measured in accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) or, where applicable, IAS 19 (Employee Benefits). Where the cash outflow to settle an obligation is expected to occur after one year, the provision is recognized at the present value of the expected cash outflow. Claims for reimbursements from third parties are separately reflected in other receivables if their realization is virtually certain.

If the projected obligation declines as a result of a change in the estimate, the provision is reversed by the corresponding amount and the resulting income recognized in the operating expense item(s) in which the original charge was recognized.

To enhance the information content of the estimates, certain provisions that could have a material effect on the financial position or results of operations of the Group are selected and tested for their sensitivity to changes in the underlying parameters. To reflect uncertainty about the likelihood of the assumed events actually occurring, the impact of a 5% change in the probability of occurrence is examined in each case. This analysis has not shown other provisions to be materially sensitive.

Uncertainties exist with respect to the interpretation of complex tax regulations and the amount and timing of future taxable income. Given the wide range of international business relationships and the long-term nature and complexity of existing contractual agreements, differences arising between the actual results and the assumptions made, or future changes to such assumptions, could necessitate adjustments to tax income and expense in future periods. The Group establishes **provisions for taxes**, based on reasonable estimates, for liabilities to the tax authorities of the respective countries that are uncertain as to their amount and the probability of their occurrence. The amount of such provisions is based on various factors, such as experience with previous tax audits and differing legal interpretations by the taxable entity and the responsible tax authority.

Provisions for environmental protection are recorded if future cash outflows are likely to be necessary to ensure compliance with environmental regulations or to carry out remediation work, such costs can be reliably estimated and no future benefits are expected from such measures.

Estimating the future costs of environmental protection and remediation involves many uncertainties, particularly with regard to the status of laws, regulations and the information available about conditions in the various countries and at the individual sites. Significant factors in estimating the costs include previous experiences in similar cases, the conclusions in expert opinions obtained regarding the Group's environmental programs, current costs and new developments affecting costs, management's interpretation of current environmental laws and regulations, the number and financial position of third parties that may become obligated to participate in any remediation costs on the basis of joint liability, and the remediation methods likely to be deployed. Changes in these assumptions could impact future reported results.

Taking into consideration experience gained to date regarding environmental matters of a similar nature, provisions are believed to be adequate based upon currently available information. There were no significant changes in assumptions or estimates that would have impacted the income statement in prior years. However, given the difficulties inherent in estimating liabilities in the businesses in which the Group operates, especially those for which the risk of environmental damage is greater in relative terms (CropScience and MaterialScience), it remains possible that material additional costs will be incurred beyond the amounts accrued. It may transpire during remediation work that additional expenditures are necessary over an extended period and that these exceed existing provisions and cannot be reasonably estimated. Management nevertheless believes that such additional amounts, if any, would not have a material adverse effect on the Group's financial position or results of operations.

Provisions for restructuring only cover expenses that arise directly from restructuring measures, are necessary for restructuring and are not related to future business operations. Such expenses include severance payments to employees and rentals for property that is no longer utilized.

Restructuring measures may include the sale or termination of business units, site closures, relocations of business activities, changes in management structure or fundamental reorganizations of business units.

The respective provisions are established when a detailed restructuring plan has been drawn up, resolved upon by the responsible decision-making level of management and communicated to the employees and/or their representatives. Provisions for restructuring are established at the present value of future disbursements.

Trade-related provisions are recorded mainly for the granting of rebates or discounts, product returns, or obligations in respect of goods or services already received but not yet invoiced.

As a global company with a diverse business portfolio, the Bayer Group is exposed to numerous legal risks, particularly in the areas of product liability, competition and antitrust law, patent disputes and environmental matters. **Provisions for litigations** are recorded in the statement of financial position in respect of pending or future litigations, subject to a case-by-case examination. Such legal proceedings are evaluated on the basis of the available information, including that from legal counsel acting for the Group, to assess potential outcomes. Where it is more likely than not that a present obligation arising out of legal proceedings will result in an outflow of resources, a provision is recorded in the amount of the present value of the expected cash outflows if these are considered to be reliably measurable. These provisions cover the estimated payments to plaintiffs, court fees, attorney costs and the cost of potential settlements. The evaluation is based on the current status of the litigations as of each closing date and includes an assessment of whether the criteria for recording a provision are met and, if so, the amount of the provision to be recorded.

Litigation and other judicial proceedings generally raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, the jurisdiction in which each suit is brought and differences in applicable law. The outcome of currently pending and future proceedings therefore cannot be predicted. As a result of a judgment in court proceedings or the conclusion of a settlement, the Bayer Group may incur charges in excess of presently established provisions and related insurance coverage.

Personnel-related provisions are mainly those recorded for annual bonus payments, variable one-time payments, individual performance awards, long-service awards, surpluses on long-term accounts and other personnel costs. Obligations under stock-based compensation programs that provide for awards payable in cash are also included here.

FINANCIAL LIABILITIES

Financial liabilities comprise primary financial liabilities and negative fair values of derivatives.

Primary financial liabilities are recognized in the statement of financial position if the Bayer Group has a contractual obligation to transfer cash or other financial assets to another party. Such liabilities are initially recognized at the fair value of the consideration received or the value of payments received less any transaction costs. In subsequent periods, primary financial liabilities are measured at amortized cost using the effective interest method.

Under IAS 32 (Financial Instruments: Presentation), puttable financial instruments may only be classified as equity under certain conditions. Where other stockholders of subsidiaries are contractually entitled to terminate their participation and at the same time claim repayment of their capital contribution, such capital is recognized in other liabilities even if it is classified as equity under local accounting regulations. The redeemable capital of a non-controlling stockholder is recognized at the amount of such stockholder's pro-rated share of the subsidiary's net assets.

Financial liabilities are derecognized when the contractual obligation is discharged or canceled, or has expired.

OTHER RECEIVABLES AND LIABILITIES

Accrued items and other non-financial assets and liabilities are carried at amortized cost. They are amortized to income by the straight-line method or according to performance of the underlying transaction.

In accordance with IAS 20 (Accounting for Government Grants and Disclosure of Government Assistance), grants and subsidies from third parties that serve to promote investment are reflected in the statement of financial position under other liabilities and amortized to income over the useful lives of the respective assets.

ASSETS HELD FOR SALE

Assets held for sale comprise noncurrent assets or disposal groups (together with any liabilities), the carrying amounts of which will be realized principally through a highly probable sale transaction within the next twelve months or an already executed sale transaction. At the time of their classification as "held for sale," such assets are measured at the lower of the carrying amount and fair value less costs to sell, and depreciation or amortization ceases.

ACQUISITION ACCOUNTING

Acquired businesses are accounted for using the acquisition method, which requires that the assets acquired and liabilities assumed be recorded at their respective fair values on the date Bayer obtains control.

The application of the acquisition method requires certain estimates and assumptions to be made, especially concerning the fair values of the acquired intangible assets, property, plant and equipment and the liabilities assumed at the acquisition date, and the useful lives of the acquired intangible assets, property, plant and equipment.

Measurement is based to a large extent on anticipated cash flows. If actual cash flows vary from those used in calculating fair values, this may materially affect the Group's future results of operations. In particular, the estimation of discounted cash flows from intangible assets under development, patented and non-patented technologies and brands is based on assumptions concerning, for example:

- the outcomes of research and development activities regarding compound efficacy, results of clinical trials etc.,
- the probability of obtaining regulatory approvals in individual countries,
- long-term sales trends,
- possible selling price erosion due to generic competition in the market following patent expirations,
- the behavior of competitors (launch of competing products, marketing initiatives etc.).

For significant acquisitions, the purchase price allocation is carried out with assistance from independent third-party valuation specialists. The valuations are based on the information available at the acquisition date.

In step acquisitions, the fair values of the acquired entity's assets and liabilities are measured in accordance with IFRS 3 (Business Combinations) at the date on which control is obtained. Any resulting adjustments to the fair value of the existing interest are recognized in profit or loss. The carrying amount of the assets and liabilities already recognized in the statement of financial position is then adjusted accordingly.

PROCEDURE USED IN GLOBAL IMPAIRMENT TESTING AND ITS IMPACT

Impairment tests are performed not only on individual items of intangible assets, property, plant and equipment, but also at the level of cash-generating units. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Bayer Group regards its strategic business entities and some individual product families as cash-generating units and subjects them to global impairment testing. The strategic business entities constitute the second financial reporting level below the segments.

Cash-generating units are globally tested if there is an indication of possible impairment. Those to which goodwill is allocated are tested at least annually.

Impairment testing involves comparing the carrying amount of each cash-generating unit or item of intangible assets, property, plant or equipment to the recoverable amount, which is the higher of its fair value less costs to sell or value in use. If the carrying amount exceeds the recoverable amount, an impairment loss must be recognized for the difference. If a strategic business entity is found to be impaired, an impairment loss is first recognized on any goodwill allocated to it. Any remaining impairment amount is then allocated among the other assets of the strategic business entity, and pro-rated impairment losses are recognized on the carrying amounts of these assets. The impairment loss is recognized in profit or loss, generally in other operating expenses.

For the purpose of calculating the recoverable amount, both the fair value less costs to sell and the value in use are determined from the present value of the future net cash flows. These are forecast on the basis of the Bayer Group's current planning, the planning horizon normally being three to five years. Forecasting involves making assumptions, especially regarding future selling prices, sales volumes and costs. Where the recoverable amount is the fair value less costs to sell, the cash-generating unit is measured from the viewpoint of an independent market participant. Where the recoverable amount is the value in use, the cash-generating unit or individual asset is measured as currently used. In either case, net cash flows beyond the planning period are determined on the basis of long-term business expectations using the respective individual growth rates derived from market information.

The net cash inflows are discounted at a rate equivalent to the weighted average cost of equity and debt capital. To allow for the different risk and return profiles of the Bayer Group's principal businesses, the after-tax cost of capital is calculated separately for each subgroup and a subgroup-specific capital structure is defined by benchmarking against comparable companies in the same industry sector. The cost of equity corresponds to the return expected by stockholders, while the cost of debt is based on the conditions on which comparable companies can obtain long-term financing. Both components are derived from capital market information.

The growth rates applied for impairment testing in 2011 and 2010 and the capital cost factors used to discount the expected cash flows are shown in the following table:

Impairment Testing Parameters [Table 4.10]

	HealthCare		CropScience		MaterialScience	
	2010	2011	2010	2011	2010	2011
	%	%	%	%	%	%
Growth rate	-2.0 - 0.0	-2.0 - 0.0	1.5 - 4.0	1.6 - 2.9	0.5	0.0 - 0.5
After-tax capital cost factor	5.7	5.5	6.5	6.6	6.3	6.6
Pre-tax capital cost factor	7.3 - 9.0	6.7 - 8.6	7.6 - 11.7	8.4 - 12.0	8.0 - 10.0	8.3 - 10.8

As in the previous year, a risk premium of 3.5 percentage points was added to the discount rate for the strategic business entity Crop Improvement, which is part of the Crop Protection/BioScience operating segment.

In 2011 an impairment loss of €21 million (2010: €0 million) was recognized on goodwill in the Molecular Imaging cash-generating unit (Pharmaceuticals) on the basis of the global annual impairment testing of the cash-generating units. Taking into account impairment loss reversals of €37 million (2010: €4 million), a net impairment loss of €248 million (2010: €985 million) was recognized on intangible assets, property, plant and equipment. Details are provided in Notes [6.3], [17] and [18].

Although the estimates of the useful lives of certain assets, assumptions concerning the macroeconomic environment and developments in the industries in which the Bayer Group operates, and estimates of the discounted future cash flows are believed to be appropriate, changes in assumptions or circumstances could require changes in the analysis. This could lead to additional impairment losses in the future or – except in the case of goodwill – to reversals of previously recognized impairment losses if developments are contrary to expectations. For example, a more adverse development than previously assumed in connection with increasing genericization following the loss of patent protection for YAZ™ could necessitate the recognition of impairment losses on the respective assets.

The sensitivity analysis for cash-generating units to which goodwill is allocated was based on a 10% decline in future cash flows and a 10% increase in the weighted average cost of capital because changes up to this magnitude are reasonably possible, especially in the long term. On this basis, we concluded that the only necessary impairment loss on goodwill would be an amount of €84 million in the Polyether cash-generating unit (MaterialScience).

5. Segment reporting

At Bayer the Board of Management, as the chief operating decision maker, allocates resources to the operating segments and assesses their performance. The reportable segments and regions are identified, and the disclosures selected, in line with the internal financial reporting system (management approach) and based on the Group accounting policies outlined in Note [4].

As of December 31, 2011, the Bayer Group comprised three subgroups, with operations subdivided into strategic business entities known as divisions (HealthCare), business groups (CropScience) or business units (MaterialScience). Their activities are aggregated into the four reportable segments listed below according to economic characteristics, products, production processes, customer relationships, methods of distribution and regulatory environment.

Unlike in 2010, the CropScience subgroup is now presented as a single reportable segment in the consolidated financial statements of the Bayer Group. This resulted from organizational changes undertaken to more closely align Crop Protection and BioScience and integrate the steering of these businesses. The Crop Protection/BioScience and Environmental Science operating segments are combined into a single reportable segment because they show a similar long-term economic performance, have comparable products, production processes, customer industries and distribution channels, operate in the same regulatory environment, and are steered and monitored together. The strategic business entity "Diagnostic Imaging," comprising contrast agents for imaging applications such as X-ray and MRI, was transferred from the Specialty Medicine business unit (Pharmaceuticals segment) to the Medical Care Division (Consumer Health segment) for organizational reasons and combined with the corresponding injection systems into a single business unit. The prior-year figures have been restated accordingly.

The segments' activities are as follows:

Activities of the Segments [Table 4.11]

Subgroup/Segment	Activities
HealthCare	
Pharmaceuticals	Development, production and marketing of prescription pharmaceuticals, such as for the treatment of hypertension, cardiovascular diseases, infectious diseases, cancer, multiple sclerosis, and for contraception
Consumer Health	Development, production and marketing of over-the-counter medications, dermatology products, nutritional supplements for humans and animals, veterinary medicines and grooming products for animals; diagnostic systems such as blood glucose meters, medical products such as injection systems and contrast agents for diagnostic procedures
CropScience	
CropScience	Development, production and marketing of a comprehensive product portfolio in the areas of crop protection, seeds and plant traits and for gardens, the green industry and non-agricultural pest control
MaterialScience	
MaterialScience	Development, production and marketing of high-tech products in the areas of polyurethanes, polycarbonates, coating and adhesive raw materials and functional films; production and marketing of selected inorganic basic chemicals

Business activities that cannot be allocated to any other segment are reported under "All other segments." These include primarily the services provided by the service areas: Business Services, Technology Services and Currenta.

Holding companies' activities and the elimination of intersegment sales are presented in our segment reporting as "Corporate Center and Consolidation."

The reconciliation in the table "Key Data by Region" eliminates interregional items and transactions and reflects income, expenses, assets and liabilities not allocable to geographical areas, particularly those relating to the Corporate Center.

The segment data are calculated as follows:

- The intersegment sales reflect intra-Group transactions effected at transfer prices fixed on an arm's-length basis.
- Although EBIT before special items and EBITDA before special items are not defined in the International Financial Reporting Standards, they represent key performance indicators for the Bayer Group. The special items comprise effects that are non-recurring or do not regularly recur or attain similar magnitudes. EBITDA is the EBIT as reported in the income statement plus amortization and impairment losses on intangible assets and depreciation and impairment losses on property, plant and equipment, minus impairment loss reversals.
- The gross cash flow comprises income after taxes, plus income taxes, plus non-operating 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 the operating result (EBIT). It also contains benefit payments during the year.
- The net cash flow is the cash flow from operating activities as defined in IAS 7 (Statement of Cash Flows).
- The capital invested and the segment assets include all assets serving the respective segment that are required to yield a return on their cost of acquisition. Segment assets include, in addition, assets held for sale where the return is covered by the sale proceeds. Similarly, the segment liabilities include the

liabilities directly related to assets held for sale. Also included in the capital invested and in segment assets are material participating interests of direct relevance to business operations. Intangible assets, property plant and equipment are included in the capital invested at cost of acquisition or construction throughout their useful lives because the calculation of cash flow return on investment (CFROI) requires that depreciation and amortization be excluded. Interest-free liabilities are deducted from the capital invested, which is stated as of December 31.

- The CFROI is the ratio of the gross cash flow to the average capital invested for the year and is thus a measure of the return on capital employed.
- The equity items reflect the earnings and carrying amounts of companies accounted for using the equity method.
- Since financial management of Group companies is carried out centrally by Bayer AG, financial liabilities are not directly allocated among the segments. Consequently, the liabilities shown for the individual segments do not include financial liabilities. These are included in the reconciliation.
- The number of employees on either permanent or fixed-term contracts is stated in full-time equivalents (FTE), with part-time employees included on a pro-rated basis in line with their contractual working hours. The figures do not include trainees.

The reconciliations of the operating result (EBIT), assets and liabilities of the segments to the pre-tax income, assets and liabilities of the Group are given in the following tables:

Reconciliation of Segments' Operating Result to Group Income Before Income Taxes [Table 4.12]

	2010	2011
	€ million	€ million
Operating result of segments	2,949	4,359
Operating result of Corporate Center	(219)	(210)
Operating result (EBIT)	**2,730**	**4,149**
Non-operating result	(1,009)	(786)
Income before income taxes	**1,721**	**3,363**

Reconciliation of Segments' Assets to Group Assets [Table 4.13]

	2010	2011
	€ million	€ million
Assets of the operating segments	**44,515**	**45,660**
Corporate Center assets	1,016	303
Non-allocated assets	5,975	6,802
Group assets	**51,506**	**52,765**

Reconciliation of Segments' Liabilities to Group Liabilities [Table 4.14]

	2010	2011
	€ million	€ million
Liabilities of the operating segments	**14,373**	**15,468**
Corporate Center liabilities	3,382	3,902
Non-allocated liabilities	14,855	14,124
Group liabilities	**32,610**	**33,494**

The reconciliation of segment sales to Group sales is apparent from the table of key data by segment in Note [1].

INFORMATION ON GEOGRAPHICAL AREAS

The following table provides a regional breakdown of external sales by market and of intangible assets, property, plant and equipment:

Information on Geographical Areas [Table 4.15]

	Net sales (external) by market		Intangible assets and property, plant and equipment	
	2010	2011	2010	2011
	€ million	€ million	€ million	€ million
Germany	4,432	4,648	14,425	13,628
United States	7,109	7,000	5,633	5,902
China	2,418	2,498	2,230	2,420
Other	21,129	22,382	7,710	7,328
Total	**35,088**	**36,528**	**29,998**	**29,278**

INFORMATION ON MAJOR CUSTOMERS

Revenues from transactions with a single customer in no case exceeded 10% of Bayer Group sales in 2011 or 2010.

6. Scope of consolidation; subsidiaries and affiliates

6.1 Changes in the scope of consolidation

Changes in the scope of consolidation in 2011 were as follows:

Change in Number of Consolidated Companies [Table 4.16]

	Germany	Other Countries	Total
Bayer AG and consolidated companies			
December 31, 2010	60	231	**291**
Changes in scope of consolidation	1	(4)	**(3)**
Additions	1	11	**12**
Retirements	(4)	(13)	**(17)**
December 31, 2011	**58**	**225**	**283**

The decrease in the number of fully consolidated companies in 2011 is primarily due to mergers between Group companies.

The figure for December 31, 2011 in the above table includes four joint ventures (2010: three joint ventures) that were included by proportionate consolidation in compliance with IAS 31 (Interests in Joint Ventures). The joint ventures affected the Group statement of financial position and income statement as follows:

Assets, Liabilities and Results of Operations of Joint Ventures [Table 4.17]

	2011		2011
	€ million		€ million
Current assets	39	Income	48
Noncurrent assets	73	Expenses	(50)
Current liabilities	(21)		
Noncurrent liabilities	(13)		
Net assets	**78**	**Income after taxes**	**(2)**

Also included in the consolidated financial statements are four associates (2010: five associates) accounted for using the equity method. Details of their impact on the income statement and the statement of financial position are shown in Note [19].

A total of 88 (2010: 78) subsidiaries and 15 (2010: 18) associates or joint ventures that in aggregate are immaterial to the Bayer Group's financial position and results of operations are not consolidated but recognized at amortized cost. The immaterial subsidiaries accounted for less than 0.3% of Group sales, less than 0.4% of equity and less than 0.3% of total assets.

The following details of subsidiary and affiliated companies are provided pursuant to Section 313 of the German Commercial Code.

The companies fully consolidated in the financial statements of the Bayer Group are listed in the following table:

Fully Consolidated Subsidiaries [Table 4.18]

Company Name	Place of Business	Bayer's interest
		%
Europe		
Alcafleu Management GmbH & Co. KG	Schönefeld, Germany	99.9
Bayer (Schweiz) AG	Zurich, Switzerland	100
Bayer 04 Immobilien GmbH	Leverkusen, Germany	100
Bayer 04 Leverkusen Fußball GmbH	Leverkusen, Germany	100
Bayer A/S	Lyngby, Denmark	100
Bayer AB	Solna, Sweden	100
Bayer AGCO Limited	Cambridge, U.K.	100
Bayer Agriculture Limited	Cambridge, U.K.	100
Bayer Altersversorgung GmbH	Leverkusen, Germany	100
Bayer Animal Health GmbH	Leverkusen, Germany	100
Bayer Antwerpen NV	Antwerp, Belgium	100
Bayer AS	Oslo, Norway	100
Bayer Austria Gesellschaft m.b.H.	Vienna, Austria	100
Bayer B.V.	Mijdrecht, Netherlands	100
Bayer Beteiligungsverwaltung Goslar GmbH	Leverkusen, Germany	100
Bayer Bitterfeld GmbH	Bitterfeld-Wolfen, Germany	100
Bayer Bulgaria EOOD	Sofia, Bulgaria	100
Bayer Business Services GmbH	Leverkusen, Germany	100
Bayer Capital Corporation B.V.	Mijdrecht, Netherlands	100
Bayer Chemicals AG	Leverkusen, Germany	100
Bayer Consumer Care AG	Basel, Switzerland	100
Bayer CropScience (Portugal) Produtos para a Agricultura, Lda.	Carnaxide, Portugal	100
Bayer CropScience AG	Monheim, Germany	100
Bayer CropScience Beteiligungsgesellschaft mbH	Frankfurt am Main, Germany	100
Bayer CropScience Deutschland GmbH	Langenfeld, Germany	100
Bayer CropScience Holding SA	Lyon, France	100
Bayer CropScience Holdings Limited	Cambridge, U.K.	100
Bayer CropScience Limited	Cambridge, U.K.	100
Bayer CropScience N.V.	Diegem, Belgium	100
Bayer CropScience Norwich Limited	Cambridge, U.K.	100
Bayer CropScience Raps GmbH	Leverkusen, Germany	100
Bayer CropScience S.r.l.	Milan, Italy	100
Bayer CropScience, S.L.	Quart de Poblet, Spain	100
Bayer CropScience Vermögensverwaltungs-gesellschaft mbH	Leverkusen, Germany	100
Bayer d.o.o.	Belgrade, Serbia	100

Fully Consolidated Subsidiaries [Table 4.18 (continued)]

Company Name	Place of Business	Bayer's interest
		%
Bayer d.o.o.	Ljubljana, Slovenia	100
Bayer d.o.o.	Zagreb, Croatia	100
Bayer Direct Services GmbH	Leverkusen, Germany	100
Bayer Gastronomie GmbH	Leverkusen, Germany	100
Bayer Gesellschaft für Beteiligungen mbH	Leverkusen, Germany	100
Bayer Global Investments B.V.	Mijdrecht, Netherlands	100
Bayer HealthCare AG	Leverkusen, Germany	100
Bayer HealthCare Manufacturing S.r.l.	Milan, Italy	100
Bayer Hellas AG	Athens, Greece	100
Bayer Hispania, S.L.	Sant Joan Despi, Spain	100
Bayer Hungaria Kft.	Budapest, Hungary	100
Bayer Innovation GmbH	Düsseldorf, Germany	100
Bayer International S.A.	Fribourg, Switzerland	100
Bayer Limited	Dublin, Ireland	100
Bayer Ltd.	Kiev, Ukraine	100
Bayer MaterialScience AG	Leverkusen, Germany	100
Bayer MaterialScience Customer Services GmbH	Leverkusen, Germany	100
Bayer MaterialScience GmbH	Darmstadt, Germany	100
Bayer MaterialScience N.V.	Tielt, Belgium	100
Bayer MaterialScience Oldenburg GmbH & Co. KG	Oldenburg, Germany	100
Bayer MaterialScience S.p.A.	Milan, Italy	90
Bayer MaterialScience S.r.l.	Milan, Italy	100
Bayer MaterialScience, S.L.	Sant Joan Despi, Spain	100
Bayer N.V.	Diegem, Belgium	100
Bayer Nordic SE	Espoo, Finland	100
Bayer Oy	Turku, Finland	100
Bayer Pharma AG	Berlin, Germany	100
Bayer Polyols S.N.C.	Puteaux, France	100
Bayer Polyurethanes B.V.	Mijdrecht, Netherlands	100
Bayer Portugal S.A.	Carnaxide, Portugal	100
Bayer Public Limited Company	Newbury, U.K.	100
Bayer Real Estate GmbH	Leverkusen, Germany	100
Bayer S.A.S.	Lyon, France	100
Bayer S.p.A.	Milan, Italy	100
Bayer s.r.o.	Prague, Czech Republic	100
Bayer Santé Familiale SAS	Gaillard, France	100
Bayer Santé SAS	Loos, France	100
Bayer Schering Pharma AG	Berlin, Germany	100
Bayer Sp. z o.o.	Warsaw, Poland	100
Bayer, spol. s.r.o.	Bratislava, Slovakia	100
Bayer Technology Services GmbH	Leverkusen, Germany	100
Bayer Verwaltungsgesellschaft für Anlagevermögen m.b.H.	Leverkusen, Germany	100
Bayer Vital GmbH	Leverkusen, Germany	100
Bayer Weimar GmbH & Co. KG	Weimar, Germany	100
Bayer-Handelsgesellschaft mit beschränkter Haftung	Leverkusen, Germany	100
Berlimed, S.A.	Madrid, Spain	100
Berlis AG	Zurich, Switzerland	100
Biogenetic Technologies B.V.	Rotterdam, Netherlands	100
Chemie-Beteiligungsaktiengesellschaft	Glarus, Switzerland	100
Chemion Logistik GmbH	Leverkusen, Germany	100
Currenta GmbH & Co. OHG	Leverkusen, Germany	60

Fully Consolidated Subsidiaries [Table 4.18 (continued)]

Company Name	Place of Business	Bayer's interest
		%
Drugofa GmbH	Cologne, Germany	100
Dynevo GmbH	Leverkusen, Germany	100
Epurex Films GmbH & Co. KG	Bomlitz, Germany	100
Erste K-W-A Beteiligungsgesellschaft mbH	Leverkusen, Germany	100
Euroservices Bayer GmbH	Leverkusen, Germany	100
Euroservices Bayer S.L.	Sant Joan Despi, Spain	100
Generics Holding GmbH	Leverkusen, Germany	100
GP Grenzach Produktions GmbH	Grenzach-Wyhlen, Germany	100
Hild Samen GmbH	Marbach am Neckar, Germany	100
Intendis Austria Handels GesmbH	Vienna, Austria	100
Intendis GmbH	Berlin, Germany	100
Intendis Manufacturing S.p.A.	Milan, Italy	100
Intendis S.p.A.	Milan, Italy	100
Intraserv GmbH & Co. KG	Schönefeld, Germany	100
Jenapharm GmbH & Co. KG	Jena, Germany	100
KOSINUS Grundstücks-Verwaltungsgesellschaft mbH & Co. Gamma OHG	Berlin, Germany	100
KVP Pharma+Veterinär Produkte GmbH	Kiel, Germany	100
Marotrast GmbH	Jena, Germany	100
Mediwest Norway AS	Oslo, Norway	100
Medrad Belgium B.V.	Antwerp, Belgium	100
Medrad Denmark ApS	Lyngby, Denmark	100
Medrad Europe B.V.	Maastricht, Netherlands	100
Medrad France S.A.R.L.	Rungis Cedex, France	100
Medrad Italia S.r.l.	Cava Manara, Italy	100
Medrad Medizinische Systeme GmbH	Volkach, Germany	100
Medrad Sweden AB	Mölndal, Sweden	100
Medrad UK Limited	Ely, U.K.	100
MENADIER Heilmittel GmbH	Berlin, Germany	100
Nunhems B.V.	Haelen, Netherlands	100
Nunhems France S.A.R.L.	Soucelles, France	100
Nunhems Hungary Kft.	Szolnok, Hungary	100
Nunhems Italy S.r.l.	St. Agata Bolognes, Italy	100
Nunhems Netherlands B.V.	Haelen, Netherlands	100
Nunhems Poland Sp. z o.o.	Poznan, Poland	100
Nunhems Spain, S.A.	Valencia, Spain	100
Pallas Versicherung AG	Leverkusen, Germany	100
Pandias Re AG	Luxembourg City, Luxembourg	100
PGS International N.V.	The Hague, Netherlands	100
Pharma-Verlagsbuchhandlung GmbH	Berlin, Germany	100
SC Bayer SRL	Bucharest, Romania	100
Schering Holdings Ltd.	Newbury, U.K.	100
Schering International Holding GmbH	Berlin, Germany	100
Schering-Kahlbaum Gesellschaft mit beschränkter Haftung	Berlin, Germany	100
Siebte Bayer VV GmbH	Leverkusen, Germany	100
TECTRION GmbH	Leverkusen, Germany	100
TOO Bayer KAZ	Astana, Kazakhstan	100
TravelBoard GmbH	Leverkusen, Germany	100
UAB Bayer	Vilnius, Lithuania	100
ZAO Bayer	Moscow, Russia	100
Zweite K-W-A Beteiligungsgesellschaft mbH	Leverkusen, Germany	100

Fully Consolidated Subsidiaries [Table 4.18 (continued)]

Company Name	Place of Business	Bayer's interest
		%
North America		
Athenix Corp.	Research Triangle Park, U.S.A.	100
Bayer Business and Technology Services LLC	Pittsburgh, U.S.A.	100
Bayer Canadian Holdings Inc.	Toronto, Canada	100
Bayer Corporation	Pittsburgh, U.S.A.	100
Bayer Cotton Seed International Inc.	Research Triangle Park, U.S.A.	51
Bayer CropScience Holding Inc.	Research Triangle Park, U.S.A.	100
Bayer CropScience Holdings Inc.	Calgary, Canada	100
Bayer CropScience Inc.	Calgary, Canada	100
Bayer CropScience Inc.	Research Triangle Park, U.S.A.	100
Bayer CropScience LLC	Research Triangle Park, U.S.A.	100
Bayer CropScience LP	Research Triangle Park, U.S.A.	100
Bayer HealthCare LLC	Tarrytown, U.S.A.	100
Bayer HealthCare Pharmaceuticals Inc.	Pine Brook, U.S.A.	100
Bayer HealthCare Pharmaceuticals LLC	Pine Brook, U.S.A.	100
Bayer Inc.	Toronto, Canada	100
Bayer International Trade Services Corporation	Weirton, U.S.A.	100
Bayer MaterialScience LLC	Pittsburgh, U.S.A.	100
Bayer Pharma Chemicals Inc.	Pine Brook, U.S.A.	100
Bayer Puerto Rico Inc.	San Juan, Puerto Rico	100
Baypo I LLC	New Martinsville, U.S.A.	100
Baypo II LLC	New Martinsville, U.S.A.	100
BAYPO Limited Partnership	New Martinsville, U.S.A.	100
BIPPO Corporation	New Martinsville, U.S.A.	100
Collateral Therapeutics Inc.	Richmond, U.S.A.	100
Cooper Land Company of New Jersey Inc.	Tarrytown, U.S.A.	100
Guidance Interactive Healthcare Inc.	Tarrytown, U.S.A.	100
Hornbeck Seed Company, Inc.	Lubbock, U.S.A.	100
Intendis Inc.	Morristown, U.S.A.	100
iSense Corporation	Wilsonville, U.S.A.	100
iSense Development Corporation	Wilsonville, U.S.A.	100
Medrad, Inc.	Indianola, U.S.A.	100
NippoNex Inc.	Tarrytown, U.S.A.	100
NOR-AM Agro LLC	Pine Brook, U.S.A.	100
NOR-AM Land Company	Pine Brook, U.S.A.	100
Nunhems USA, Inc.	Morgan Hill, U.S.A.	100
Pathway Medical Technologies, Inc.	Wilmington, U.S.A	100
SB Capital Corporation	Pine Brook, U.S.A.	100
Schering Berlin Inc.	Pine Brook, U.S.A.	100
Stoneville Pedigreed Seed Company	St. Louis, U.S.A.	100
STWB Inc.	Pittsburgh, U.S.A.	100
Texas Brine Company LLC	Houston, U.S.A.	0*
WorldWide Soy Technologies, LLC	Lubbock, U.S.A.	100
Asia/Pacific		
Bayer (China) Limited	Beijing, China	100
Bayer (Malaysia) Sdn. Bhd.	Petaling Jaya, Malaysia	100
Bayer (Sichuan) Animal Health Co., Ltd.	Chengdu, China	100
Bayer (South East Asia) Pte Ltd.	Singapore	100
Bayer Australia Limited	Pymble, Australia	100
Bayer BioScience Pvt. Ltd.	Hyderabad, India	100
Bayer Business Services Private Limited	Powai, India	100

* fully consolidated special-purpose entity according to IAS 27 in conjunction with SIC-12

Fully Consolidated Subsidiaries [Table 4.18 (continued)]

Company Name	Place of Business	Bayer's interest
		%
Bayer Co. (Malaysia) Sdn. Bhd.	Petaling Jaya, Malaysia	100
Bayer CropScience (China) Company Ltd.	Hangzhou, China	100
Bayer CropScience (Private) Limited	Karachi, Pakistan	100
Bayer CropScience Holdings Pty Ltd.	East Hawthorn, Australia	100
Bayer CropScience K.K.	Tokyo, Japan	100
Bayer CropScience Limited	Mumbai, India	71.1
Bayer CropScience Ltd.	Dhaka, Bangladesh	60
Bayer CropScience Ltd.	Seoul, South Korea	100
Bayer CropScience Pty Limited	East Hawthorn, Australia	100
Bayer CropScience, Inc.	Laguna, Philippines	100
Bayer Far East Service Co. Ltd.	Hong Kong, China	100
Bayer HealthCare Co. Ltd.	Beijing, China	100
Bayer HealthCare Limited	Hong Kong, China	100
Bayer Holding Ltd.	Tokyo, Japan	100
Bayer Jinling Polyurethane Co., Ltd.	Nanjing, China	55
Bayer Korea Ltd.	Seoul, South Korea	100
Bayer MaterialScience (Beijing) Company Limited	Beijing, China	100
Bayer MaterialScience (China) Company Limited	Shanghai, China	100
Bayer MaterialScience (Qingdao) Co. Ltd.	Qingdao, China	100
Bayer MaterialScience (Shanghai) Management Company Limited	Shanghai, China	100
Bayer MaterialScience Limited	Hong Kong, China	100
Bayer MaterialScience Ltd.	Kimhae City, South Korea	100
Bayer MaterialScience Ltd.	Tokyo, Japan	100
Bayer MaterialScience Private Limited	Mumbai, India	100
Bayer MaterialScience Pty Ltd.	Pymble, Australia	100
Bayer New Zealand Limited	Auckland, New Zealand	100
Bayer Pakistan (Private) Limited	Karachi, Pakistan	100
Bayer Pharmaceuticals Private Limited	Mumbai, India	100
Bayer Philippines, Inc.	Makati City, Philippines	100
Bayer Polyurethanes Taiwan Ltd.	Taipei, Taiwan	94.9
Bayer Taiwan Company Ltd.	Taipei, Taiwan	100
Bayer Technology and Engineering (Shanghai) Company Limited	Shanghai, China	100
Bayer Thai Co., Ltd.	Bangkok, Thailand	100
Bayer TPU (Shenzhen) Co. Ltd.	Shenzhen, China	100
Bayer Uretech Ltd.	Yu Pu Village, Taiwan	100
Bayer Vietnam Ltd.	Bien Hoa City (Amata), Vietnam	100
Bayer Yakuhin Ltd.	Osaka, Japan	100
Bilag Industries Private Ltd.	Vapi, India	100
Guangzhou Bayer MaterialScience Company Limited	Guangzhou, China	100
Imaxeon Pty. Ltd.	Rydalmere, Australia	100
Medipharm (Pvt) Ltd.	Lahore, Pakistan	100
Medrad Asia Pte. Ltd.	Singapore	100
Medrad Medical Equipment Trading Company	Beijing, China	100
Nihon Medrad K.K.	Osaka, Japan	100
Nunhems Beijing Seeds Co. Ltd.	Beijing, China	95
Nunhems India Private Limited	Hyderabad, India	100
PT. Bayer Indonesia	Jakarta, Indonesia	99.8
PT. Bayer MaterialScience Indonesia	Jakarta, Indonesia	99.9
Sumika Bayer Urethane Co., Ltd.	Osaka, Japan	60
U I M Agrochemicals (Aust) Pty Ltd.	East Hawthorn, Australia	100

Fully Consolidated Subsidiaries [Table 4.18 (continued)]

Company Name	Place of Business	Bayer's interest
		%
Latin America / Africa / Middle East		
Alimtec S.A.	Santiago, Chile	100
Bayer (Proprietary) Limited	Isando, South Africa	100
Bayer Boliviana Ltda.	Santa Cruz De La Sierra, Bolivia	100
Bayer Central America Sociedad Anonima	San Jose, Costa Rica	100
Bayer de Mexico, S.A. de C.V.	Mexico City, Mexico	100
Bayer East Africa Ltd.	Nairobi, Kenya	55
Bayer Finance & Portfolio Management S.A.	Santiago, Chile	100
Bayer Finance Ltda.	Santiago, Chile	100
Bayer Israel Ltd.	Hod Hasharon, Israel	100
Bayer Middle East FZE	Dubai, United Arab Emirates	100
Bayer S.A.	Asunción, Paraguay	100
Bayer S.A.	Bogotá, Colombia	100
Bayer S.A.	Buenos Aires, Argentina	100
Bayer S.A.	Caracas, Venezuela	100
Bayer S.A.	Casablanca, Morocco	100
Bayer S.A.	Colón, Panama	100
Bayer S.A.	Guatemala City, Guatemala	100
Bayer S.A.	Lima, Peru	89.3
Bayer S.A.	Managua, Nicaragua	100
Bayer S.A.	Quito, Ecuador	100
Bayer S.A.	San José, Costa Rica	100
Bayer S.A.	Santiago, Chile	100
Bayer S.A.	Santo Domingo, Dominican Republic	100
Bayer S.A.	São Paulo, Brazil	100
Bayer S.A.	Montevideo, Uruguay	100
Bayer S.A. de C.V.	Tegucigalpa, Honduras	100
Bayer, S.A.	San Salvador, El Salvador	100
Bayer Pearl Polyurethane Systems FZCO	Dubai, United Arab Emirates	51
Bayer Türk Kimya Sanayi Limited Sirketi	Istanbul, Turkey	100
BaySystems Pearl Limited Liability Company	Dubai, United Arab Emirates	49*
Corporación Bonima S.A. de C.V.	Ilopango, El Salvador	99.8
Goiânia Investimentos e Participações Ltda.	Rio Verde, Brazil	100
Intendis Ilac Ticaret Limited Sirketi	Istanbul, Turkey	100
Mediterranean Seeds Ltd.	Einat, Israel	100
Medrad do Brasil Ltda.	São Paulo, Brazil	100
Medrad Mexicana S. de R.L. de CV	Mexico City, Mexico	100
Nunhems Chile S.A.	Santiago, Chile	100
Nunhems do Brasil Comercio de Sementes Ltda.	Campinas, Brazil	100
Nunhems Mexico S.A. de C.V.	Queretaro, Mexico	100
Nunhems Tohumculuk Limited Sirketi	Antalya, Turkey	100
Productos Quimicos Naturales, S.A. de C.V.	Orizaba, Mexico	100
Schering do Brasil Quimica e Farmaceutica Ltda.	São Paulo, Brazil	100
Soytech Seeds Pesquisa em Soja Ltda.	Rio Verde, Brazil	99.9

* fully consolidated subsidiary according to IAS 27.4 in conjunction with IAS 27.13

The following four joint ventures were included in the financial statements of the Bayer Group by proportionate consolidation:

Joint Ventures [Table 4.19]

Company Name	Place of Business	Bayer's interest
		%
Baulé S.A.S.	Romans-sur-Isere, France	50
Bayer IMSA, S.A. de C.V.	Nuevo Leon, Mexico	50
Bayer Zydus Pharma Private Limited	Mumbai, India	50
Indurisk Rückversicherung AG	Luxembourg City, Luxembourg	50

The following associates were accounted for in the consolidated financial statements using the equity method:

Associates [Table 4.20]

Company Name	Place of Business	Bayer's interest
		%
DIC Bayer Polymer Ltd.	Tokyo, Japan	50
Lyondell Bayer Manufacturing Maasvlakte VOF	Rotterdam, Netherlands	50
Paltough Industries (1998) Ltd.	Kibbutz Ramat Yochanan, Israel	25
PO JV, LP	Wilmington, U.S.A.	39.7

The following subsidiaries were reflected in the consolidated financial statements at amortized cost due to their immateriality:

Immaterial Subsidiaries [Table 4.21]

Company Name	Place of Business	Bayer's interest
		%
Europe		
Agreva GmbH	Frankfurt am Main, Germany	100
AgrEvo Verwaltungsgesellschaft mbH	Frankfurt am Main, Germany	100
Ausbildungsinitiative Rheinland GmbH	Leverkusen, Germany	100
Bayer 04 Leverkusen Sportförderung gGmbH	Leverkusen, Germany	100
Bayer 04 Marketing GmbH	Leverkusen, Germany	100
Bayer AEH Limited	Cambridge, U.K.	100
Bayer BioScience GmbH	Monheim, Germany	100
Bayer d.o.o. Sarajevo	Sarajevo, Bosnia & Herzegovina	100
Bayer Healthcare S.r.l.	Milan, Italy	100
Bayer Innovation Ventures GmbH	Düsseldorf, Germany	100
Bayer Intellectual Property GmbH	Leverkusen, Germany	100
Bayer MaterialScience A/S	Otterup, Denmark	100
Bayer MaterialScience B.V.	Foxhol, Netherlands	100
Bayer MaterialScience Oldenburg Verwaltungs-GmbH	Oldenburg, Germany	100
Bayer MaterialScience s.r.o.	Prague, Czech Republic	100
Bayer OÜ	Tallinn, Estonia	100
Bayer Real Estate Leverkusen Verwaltungs-GmbH	Leverkusen, Germany	100
Bayer Real Estate Waltersdorf Verwaltungs-GmbH	Schönefeld, Germany	100
Bayer UK Limited	Newbury, U.K.	100
Bayer Verwaltungsgesellschaft mbH	Weimar, Germany	100
Bayer-Unterstützungskasse GmbH	Leverkusen, Germany	100

Immaterial Subsidiaries [Table 4.21 (continued)]

Company Name	Place of Business	Bayer's interest
		%
Bayhealth Comercializacao de Produtos Farmaceuticos Unipessoal Lda.	Carnaxide, Portugal	100
Bayhealth, S.L.	Sant Joan Despi, Spain	100
BayInvest GmbH	Leverkusen, Germany	100
Berlex Especialidades Farmaceuticas Lda.	Carnaxide, Portugal	100*
Berlifarma – Especialidades Farmaceuticas Lda.	Carnaxide, Portugal	100*
Berlimed – Especialidades Farmaceuticas Lda.	Carnaxide, Portugal	100*
Berlipharm B.V.	Weesp, Netherlands	100
CENTROFARMA-Industria e Comercio de Prod. Farmaceuticos, Lda.	Carnaxide, Portugal	100
CIS (U.K.) Limited	Newbury, U.K.	100
CleanTech NRW GmbH	Leverkusen, Germany	100
Currenta Geschäftsführungs-GmbH	Leverkusen, Germany	100
Ehrfeld Mikrotechnik BTS GmbH	Wendelsheim, Germany	100
Epurex Films Geschäftsführungs-GmbH	Bomlitz, Germany	100
Erste BSP VV AG	Berlin, Germany	100
HTV Gesellschaft für Hochtemperaturverbrennung mbH	Bergkamen, Germany	100
Intendis Derma, S.L.	Sant Joan Despi, Spain	100
Intraserv Verwaltungs-GmbH	Schönefeld, Germany	100
KOSINUS Grundstücks-Verwaltungsgesellschaft mbH	Berlin, Germany	100
Lilienthalstraße Nr. 4 GmbH	Schönefeld, Germany	100
Lilienthalstraße Nr. 4 Verwaltungs GmbH	Schönefeld, Germany	100
Lusal Producao Quimico Farmaceutica Luso-Alema, Lda.	Carnaxide, Portugal	100
Lusalfarma-Especialidades Farmaceuticas, Lda.	Carnaxide, Portugal	100*
Neunte Bayer VV GmbH	Leverkusen, Germany	100
pbi Home & Garden Limited	Cambridge, U.K.	100
Schering Agrochemicals Holdings	Newbury, U.K.	100
Schering Health Care Limited	Newbury, U.K.	100
Schering Industrial Products	Newbury, U.K.	100
Schering Industrial Products Holdings	Newbury, U.K.	100
SIA Bayer	Riga, Latvia	100
Sportrechte Vermarktungs- und Verwertungs-GmbH & Co. oHG	Leverkusen, Germany	100
TecArena+ GmbH	Leverkusen, Germany	100
ZAO Rhone-Poulenc AO	Moscow, Russia	100
North America		
Artificial Muscle, Inc.	Sunnyvale, U.S.A.	100
Bayer Overseas Trade Services Corporation	Wilmington, U.S.A.	100
Bayer West Coast Corporation	Wilmington, U.S.A.	100
Berlex Canada, Inc.	Pointe-Claire, Canada	100
BHCP Holdings LLC	Wilmington, U.S.A.	100
Delinting and Seed Treating Company	Maricopa, U.S.A.	100
NippoNex Holdings LLC	Tarrytown, U.S.A.	100
The SDI Divestiture Corporation	Pittsburgh, U.S.A.	100
US Seeds LLC	Jonesboro, U.S.A.	100
Viterion TeleHealthcare LLC	Tarrytown, U.S.A.	100
Asia/Pacific		
Bayer CropScience (Thailand) Company Limited	Bangkok, Thailand	100
Bayer Malibu Polymers Private Limited	Mumbai, India	51
Bayer MaterialScience (Chongqing) Company Limited	Chongqing, China	100
Bomac Animal Health Pty. Limited	Hornsby, Australia	100
Bomac Laboratories Pty. Limited	Hornsby, Australia	100
Bomac Pty. Ltd.	Hornsby, Australia	100

* including a 10% interest held by a non-consolidated subsidiary

Immaterial Subsidiaries [Table 4.21 (continued)]

Company Name	Place of Business	Bayer's interest
		%
Bomac Research Pty. Ltd.	Hornsby, Australia	100
Chemdyes Pakistan (Private) Limited	Karachi, Pakistan	100
Myanmar Aventis CropScience Ltd.	Yangon, Myanmar	100
Schering Pty. Limited	Pymble, Australia	100
Latin America / Africa / Middle East		
AgrEvo South Africa (Pty) Ltd.	Isando, South Africa	100
Bayer Algerie S.P.A.	Algiers, Algeria	100
Bayer Distribuidora de Produtos Quimicos e Farmaceuticos Ltda.	São Paulo, Brazil	100
Bayer Imóveis Ltda.	Belford Roxo, Brazil	100
Bayer Parsian AG	Tehran, Iran	100
Bayer Schering Pharma Mocambique, Lda	Maputo, Mozambique	100*
Bayer Zimbabwe (Private) Limited	Harare, Zimbabwe	100
Comercial Interamericana, S.A.	Guatemala City, Guatemala	100
Farmaco Ltda.	São Paulo, Brazil	100
Industrias Gustafson, S.A. de C.V.	Mexico City, Mexico	100
Laboratorio Berlimed S.A.	Santiago, Chile	100
Miles, S.A. Guatemala Branch	Guatemala City, Guatemala	100
Quimicas Unidas S.A.	Havana, Cuba	100
Schering (Pty) Ltd.	Midrand, South Africa	100
Schering Peruana S.A.	Lima, Peru	100

* including a 10% interest held by a non-consolidated subsidiary

The following associates and joint ventures were accounted for at amortized cost due to their immateriality:

Immaterial Associates and Joint Ventures [Table 4.22]

Company Name	Place of Business	Bayer's interest
		%
Europe		
Axxam S.p.A.	Milan, Italy	24.5
BaySecur GmbH	Leverkusen, Germany	49
BaySports-Travel GmbH	Leverkusen, Germany	50
BBB Management GmbH Campus Berlin-Buch	Berlin, Germany	20
Disalfarm, S.A.	Barcelona, Spain	33.3
EMP-Estrusione Materiali Plastici S.A.	Stabio, Switzerland	42.1
Faserwerke Hüls GmbH	Marl, Germany	50
INVITE GmbH	Leverkusen, Germany	50
PYCO SA	Mont de Marsan, France	47
Sauerstoff- und Stickstoffrohrleitungsgesellschaft mbH	Krefeld, Germany	50
North America		
Technology JV, L.P.	Wilmington, U.S.A.	33.3
Asia / Pacific		
Cotton Growers Services Pty. Limited	Wee Waa, Australia	50
Teijin-Bayer Polytec Ltd.	Tokyo, Japan	50
Latin America / Africa / Middle East		
Bayer Middle East Limited Liability Company	Dubai, United Arab Emirates	49
Coopers Environmental Science (Pty) Ltd.	Pomona Gardens, South Africa	26

The Bayer Group held between 5% and 20% of the voting rights of the following "large limited liability companies" as defined in Section 267 Paragraph 3 of the German Commercial Code:

Other Interests in Large Limited Liability Companies [Table 4.23]

Company Name	Place of Business	Bayer's interest
		%
Hokusan Co. Ltd.	Tokyo, Japan	19.8
Instituto Rosenbusch S.A.	Buenos Aires, Argentina	10
PharmLog Pharma Logistik GmbH	Bönen, Germany	16.6

The following domestic subsidiaries availed themselves in 2011 of certain exemptions granted under Section 264 Paragraph 3 and Section 264b of the German Commercial Code regarding the preparation, auditing and publication of financial statements:

German Exempt Subsidiaries [Table 4.24]

Company Name	Place of Business	Bayer's interest
		%
Bayer 04 Immobilien GmbH	Leverkusen, Germany	100
Bayer 04 Leverkusen Fußball GmbH	Leverkusen, Germany	100
Bayer Altersversorgung GmbH	Leverkusen, Germany	100
Bayer Animal Health GmbH	Leverkusen, Germany	100
Bayer Bitterfeld GmbH	Bitterfeld-Wolfen, Germany	100
Bayer Business Services GmbH	Leverkusen, Germany	100
Bayer Chemicals AG	Leverkusen, Germany	100
Bayer CropScience AG	Monheim, Germany	100
Bayer CropScience Raps GmbH	Leverkusen, Germany	100
Bayer Direct Services GmbH	Leverkusen, Germany	100
Bayer Gastronomie GmbH	Leverkusen, Germany	100
Bayer Gesellschaft für Beteiligungen mbH	Leverkusen, Germany	100
Bayer HealthCare AG	Leverkusen, Germany	100
Bayer Innovation GmbH	Düsseldorf, Germany	100
Bayer MaterialScience AG	Leverkusen, Germany	100
Bayer MaterialScience Customer Services GmbH	Leverkusen, Germany	100
Bayer MaterialScience Oldenburg GmbH & Co. KG	Oldenburg, Germany	100
Bayer Pharma AG	Berlin, Germany	100
Bayer Real Estate GmbH	Leverkusen, Germany	100
Bayer Schering Pharma AG	Berlin, Germany	100
Bayer Technology Services GmbH	Leverkusen, Germany	100
Bayer Verwaltungsgesellschaft für Anlagevermögen m.b.H.	Leverkusen, Germany	100
Bayer Vital GmbH	Leverkusen, Germany	100
Bayer Weimar GmbH & Co. KG	Weimar, Germany	100
Bayer-Handelsgesellschaft mit beschränkter Haftung	Leverkusen, Germany	100
Chemion Logistik GmbH	Leverkusen, Germany	100
Currenta GmbH & Co. OHG	Leverkusen, Germany	60
Drugofa GmbH	Cologne, Germany	100
Dynevo GmbH	Leverkusen, Germany	100
Epurex Films GmbH & Co. KG	Bomlitz, Germany	100
Erste K-W-A Beteiligungsgesellschaft mbH	Leverkusen, Germany	100
Euroservices Bayer GmbH	Leverkusen, Germany	100
Generics Holding GmbH	Leverkusen, Germany	100
GP Grenzach Produktions GmbH	Grenzach-Wyhlen, Germany	100
Hild Samen GmbH	Marbach am Neckar, Germany	100
Intendis GmbH	Berlin, Germany	100
Intraserv GmbH & Co. KG	Schönefeld, Germany	100
Jenapharm GmbH & Co. KG	Jena, Germany	100

German Exempt Subsidiaries [Table 4.24 (continued)]

Company Name	Place of Business	Bayer's interest
		%
KOSINUS Grundstücks-Verwaltungsgesellschaft mbH & Co. Gamma OHG	Berlin, Germany	100
KVP Pharma+Veterinär Produkte GmbH	Kiel, Germany	100
Marotrast GmbH	Jena, Germany	100
MENADIER Heilmittel GmbH	Berlin, Germany	100
Pharma-Verlagsbuchhandlung GmbH	Berlin, Germany	100
Schering International Holding GmbH	Berlin, Germany	100
Schering-Kahlbaum Gesellschaft mit beschränkter Haftung	Berlin, Germany	100
Siebte Bayer VV GmbH	Leverkusen, Germany	100
TECTRION GmbH	Leverkusen, Germany	100
TravelBoard GmbH	Leverkusen, Germany	100
Zweite K-W-A Beteiligungsgesellschaft mbH	Leverkusen, Germany	100

Several Group companies in Germany constitute vertically integrated energy utilities under Section 3 No. 38 of the German Energy Industry Act and as such are regulated under Section 6b of that Act. The companies concerned are Bayer MaterialScience AG, Bayer Pharma AG, Bayer CropScience AG, Currenta GmbH & Co. OHG and Bayer Bitterfeld GmbH. The rules on the unbundling of accounts will be applied to these companies for the first time in 2012 on the basis of Section 114 of the Act. Since they availed themselves in 2011 of certain exemptions granted under Section 264 Paragraph 3 and Section 264b of the German Commercial Code, the disclosures regarding major energy transactions with subsidiaries and associates according to Section 6b Paragraph 2 of the German Energy Industry Act are made here. Only Currenta GmbH & Co. OHG effected major energy transactions in 2011 with the following Group companies: Bayer MaterialScience AG (€334 million), Bayer CropScience AG (€37 million), Bayer Real Estate GmbH (€15 million), Bayer Pharma AG (€12 million) and other subsidiaries (€9 million).

6.2 Business combinations and other acquisitions

Acquisitions are accounted for by the purchase method, the results of the acquired businesses therefore being included in the consolidated financial statements as from the respective dates of acquisition. The purchase prices of acquired companies domiciled outside the eurozone were translated at the exchange rates in effect at the respective dates of acquisition.

Acquisition costs in 2011 amounted to €227 million (2010: €43 million). The purchase prices of the acquired companies or businesses were settled mainly in cash. Total goodwill of €103 million (2010: €12 million) arose on these acquisitions. It related principally to the following transactions:

On January 7, 2011, HealthCare acquired the New Zealand-based Bomac group, which supplies a broad range of animal health products for the livestock sector. The net purchase price of €73 million pertained mainly to customer relationships and goodwill. Bomac had sales of €33 million in 2011.

On April 1, 2011, CropScience acquired Hornbeck Seed Company, Inc., United States. Hornbeck Seed Company supplies soybean, rice, and wheat varieties in the southern United States and has an in-house soybean breeding program and a proprietary soybean germplasm. The net purchase price paid amounted to €30 million and pertained mainly to research and development projects and goodwill. Hornbeck Seed Company had sales of €7 million since the acquisition date.

On August 31, 2011, HealthCare acquired Pathway Medical Technologies, Inc., United States, through its subsidiary MEDRAD, Inc. Pathway Medical Technologies supplies products to mechanically remove arterial plaque. The net purchase price of €88 million pertained mainly to patents and goodwill. Pathway Medical Technologies had sales of €6 million since the acquisition date.

On October 6, 2011, CropScience acquired the oilseed rape seed business of the mid-size seed company Raps GbR, Germany. This mainly includes oilseed rape varieties that are already on the market and the company's breeding material. The net purchase price of €26 million pertained mainly to patented technologies and goodwill. The company had no sales since the acquisition date.

The purchase price allocations for Pathway Medical Technologies, Inc. and Raps GbR are not yet complete. Therefore, changes may yet be made in the allocation of the purchase price to the individual assets.

In connection with the acquisition of Athenix Corp., United States, in November 2009, milestone payments were agreed that led to a disbursement of €27 million in 2011.

The acquired businesses named above contributed €46 million to Bayer Group sales in 2011. These portfolio changes had an effect of minus €16 million on the operating result (EBIT) for 2011. A total after-tax result of minus €13 million was recorded for the acquired businesses since the respective dates of their first-time consolidation. This includes the financing costs incurred since the respective acquisition dates.

If these acquisitions had already been made as of January 1, 2011, the Bayer Group would have had total sales of €36,559 million in 2011. Income after taxes would have amounted to €2,459 million, taking into account the effects of the hypothetical financing costs for the full year. Earnings per share would not have been materially affected.

The effects of these acquisitions, some other minor transactions and purchase price adjustments related to transactions effected in previous years on the Group's assets and liabilities as of the respective acquisition dates are shown in the table. Net of acquired cash and cash equivalents, they resulted in the following cash outflow:

Acquired Assets and Assumed Liabilities [Table 4.25]

	Pre-acquisition carrying amount	Fair-value adjustment	Fair value at the acquisition date
	€ million	€ million	€ million
Goodwill	-	103	103
Patents and technologies	1	52	53
Trademarks	1	3	4
R&D projects	-	17	17
Other rights	-	22	22
Property, plant and equipment	6	4	10
Other noncurrent assets	1	(3)	(2)
Deferred tax assets	-	16	16
Inventories	20	6	26
Other current assets	13	-	13
Cash and cash equivalents	5	-	5
Financial liabilities	(12)	-	(12)
Other liabilities	(12)	(1)	(13)
Deferred tax liabilities	-	(16)	(16)
Net assets	**23**	**203**	**226**
Non-controlling interest	-	-	1
Purchase prices			**227**
Acquired cash and cash equivalents/financial liabilities			7
Liabilities for future payments			31
Net cash outflow for acquisitions			**265**

The fair-value adjustment reflected the differences between the carrying amounts of the assets and liabilities in the acquiree's statement of financial position prior to their acquisition and the fair values in the acquirer's statement of financial position at the acquisition date.

In 2010 the following acquisitions were accounted for in accordance with IFRS 3:

Artificial Muscle, Inc. of Sunnyvale, California, United States, a technology leader in the field of electroactive polymers for the consumer electronics industry, was acquired on March 9, 2010. The purchase price of €21 million pertained mainly to patented technologies and goodwill.

The remaining 50% interest in BayOne Urethane Systems LLC was acquired on November 30, 2010. BayOne was previously a marketing joint venture between Bayer MaterialScience LLC and PolyOne Corp., headquartered in St. Louis, Missouri, United States, which specializes in customized formulations of polyurethane foams and elastomers. The purchase price of €15 million pertained mainly to customer relationships, which are reflected in other rights, and to goodwill. The remeasurement of the already held 50% equity interest to fair value resulted in a €12 million gain, which was recognized in other operating income. The effect of remeasurement was allocated among other rights (€6 million), production rights (€2 million) and goodwill (€4 million). The fair value of the already held interest at the acquisition date was €14 million.

The effects of these and other, smaller acquisitions made in 2010 on the Group's assets and liabilities in that year as of the respective acquisition dates are shown in the table. Net of acquired cash and cash equivalents, they resulted in the following cash outflow:

Acquired Assets and Assumed Liabilities (Previous Year) [Table 4.26]

	Pre-acquisition carrying amount	Fair-value adjustment	Fair value at the acquisition date
	€ million	€ million	€ million
Goodwill	-	12	12
Patents and technologies	-	11	11
R&D projects	-	1	1
Production rights	-	2	2
Other rights	-	5	5
Other noncurrent assets	-	3	3
Other current assets	3	-	3
Cash and cash equivalents	1	-	1
Other liabilities	(2)	-	(2)
Deferred taxes	-	1	1
Net assets	**2**	**35**	**37**
Non-controlling interest	-	-	3
Changes in non-controlling interest	-	-	3
Purchase prices			**43**
Acquired cash and cash equivalents			(1)
Liabilities for future payments			(2)
Net cash outflow for acquisitions			**40**

6.3 Divestitures and assets held for sale

DIVESTITURES

The effects of divestitures made in 2011 and previous years on the consolidated financial statements for 2011 are detailed below.

The contract for the sale of Viverso GmbH to Nuplex Industries Ltd., New Zealand, was signed at the end of October 2011. The acquirer is a leading manufacturer of polymer resins based in New Zealand and Australia. Bayer is thus divesting its business in certain conventional coating resins. The transaction comprises Viverso GmbH including its plants and assets, selected product groups and trademarks. A payment of €65 million on the sale price of €69 million was received in 2011, and the remaining amount was recognized as a receivable in the statement of financial position.

The sale of Viverso GmbH had the following effects in 2011:

Divestitures [Table 4.27]

	2011
	€ million
Property, plant and equipment	18
Inventories	15
Other current assets	7
Cash and cash equivalents	3
Deferred taxes	1
Provisions for pensions and other post-employment benefits	(3)
Other provisions	(2)
Other liabilities	(15)
Net assets	**24**
Net cash inflow from divestitures	65
Future cash payments receivable	4
Net gain from the divestiture (before taxes)	**45**

In December 2011, a series of agreements was concluded between Nomad BioScience GmbH, Munich, Germany, and Bayer Innovation GmbH. The agreements include the sale of Icon Genetics GmbH. Icon Genetics discovers innovative methods for the development and use of genetically modified plants to produce therapeutically active substances. In return, Bayer will receive revenue-based royalties on future Nomad products manufactured using the patented magnICON™ technology. The lower of the carrying amount and the fair value less costs to sell was initially recognized along with an impairment loss of €38 million. A loss of €1 million was incurred on the sale of Icon Genetics GmbH. The transfer of assets and liabilities took place with economic effect as of December 31, 2011.

We received further revenue-based payments of €108 million in 2011 in connection with the transfer of the hematological oncology portfolio to Genzyme Corp., United States, effected in May 2009.

ASSETS HELD FOR SALE, AND PROVISIONS DIRECTLY RELATED TO ASSETS HELD FOR SALE

On March 31, 2011, an exclusive agreement was signed between CropScience and Agile Real Estate Pvt. Ltd., India, concerning the sale of a parcel of land in Thane, India. On this date we received an advance payment of €41 million. A second payment of €38 million was received in December 2011. Ownership of the land will be transferred at a later date subject to receipt of the necessary regulatory approvals.

In the fourth quarter of 2011, the Board of Management decided to actively negotiate to sell a production site in the United Kingdom, a research facility in Japan (both CropScience) and a pharmaceutical product. It is also planned to divest a pharmaceutical research and development project and a parcel of land including buildings in France (Consumer Health). The sale agreements for the research facility in Japan and the pharmaceutical product were signed in January 2012. The closures of the other transactions are expected in the first half of 2012.

In accordance with IFRS 5 (Non-current Assets Held for Sale and Discontinued Operations), the lower of the carrying amount and fair value less costs to sell was initially recognized for the assets held for sale. This resulted in the recognition of a €107 million impairment loss, of which €88 million was allocated to the CropScience segment, €13 million to the Pharmaceuticals segment and €6 million to the Consumer Health segment. Of the assets, €45 million was allocated to Pharmaceuticals, €25 million to CropScience and €14 million to Consumer Health. Provisions of €3 million directly related to assets held for sale were established in the Consumer Health segment.

Assets held for sale, and provisions directly related to assets held for sale, were comprised as follows:

Assets Held for Sale and Provisions Directly Related to Assets Held for Sale [Table 4.28]

	2011
	€ million
Noncurrent assets	
Intangible assets	39
Property, plant and equipment	26
	65
Current assets	
Inventories	19
Assets held for sale	**84**
Noncurrent liabilities	
Provisions for pensions and other post-employment benefits	(3)
Provisions directly related to assets held for sale	**(3)**

Notes to the Income Statements

7. Net sales

Net sales are derived primarily from product deliveries. Total reported net sales increased by €1,440 million, or 4.1%, from 2010 to €36,528 million in 2011. The increase resulted from the following factors:

Factors in Sales Development [Table 4.29]

	2011	
	€ million	%
Volume	1,184	+3.4
Price	754	+2.1
Currency	(523)	–1.5
Portfolio	25	+0.1
Total	**1,440**	**+4.1**

Breakdowns of net sales by segment and by region are given in the table in Note [1].

8. Selling expenses

Selling expenses comprise all expenses incurred in the reporting period for the sale, storage and transportation of saleable products, advertising, the provision of advice to customers, and market research. They mainly included €4,141 million (2010: €4,063 million) for the internal and external sales force, €2,078 million (2010: €2,032 million) for advertising and customer advice, €1,173 million (2010: €1,119 million) for the physical distribution and warehousing of finished products, €553 million (2010: €566 million) in commission and licensing expenses, and €1,013 million (2010: €1,023 million) in other selling expenses.

9. Research and development expenses

Research and development expenses and their accounting treatment are defined in Note [4]. Breakdowns of research and development expenses by segment and region are given in Note [1].

10. Other operating income

Other operating income was comprised as follows:

Other Operating Income [Table 4.30]

	2010	2011
	€ million	€ million
Gains on retirements of noncurrent assets	100	195
Write-backs of receivables	53	42
Reversals of unutilized provisions	45	50
Gains from derivative hedging transactions	63	138
Miscellaneous operating income	453	434
Total	**714**	**859**
of which special items	-	171

Gains from the sale of noncurrent assets included a €76 million gain from the sale of the fungicidal active ingredients iprodione and prochloraz to FMC Corporation, United States, and a €16 million gain from the sale of the herbicidal active ingredient benfuresate to Otsuka AgriTechno Co. Ltd., Japan. The MaterialScience subgroup received a gain of €44 million from the sale of Viverso GmbH to Nuplex Industries Ltd., New Zealand. HealthCare incurred gains totaling €36 million from the sale of the product Control™ to Laboratorio Farmaceutico SIT, Italy, and the sale of the site in Mishawaka, Indiana, United States, to Siemens.

The miscellaneous operating income included a €35 million impairment loss reversal for a product family in the General Medicine business unit and income of €35 million from the remeasurement of pension provisions in the United Kingdom. The HealthCare subgroup also incurred a €22 million one-time gain from the settlement of a patent dispute. The remaining amount of miscellaneous operating income comprised a large number of individually immaterial items at the subsidiaries.

In 2010 the gains from the sale of noncurrent assets included income totaling €40 million in the CropScience subgroup from exchanges of licensing rights with BASF SE and Syngenta AG. A further gain of €23 million was recorded on the sale of the insecticidal active ingredients fenamiphos, ethoprophos and tebupirimphos to Amvac Chemical Corp.

The miscellaneous operating income in 2010 included a €68 million gain from the settlement of a patent dispute concerning YAZ™ and a €12 million gain from the remeasurement of our already held interest in BayOne Urethane Systems LLC when we acquired the remaining 50% interest.

The following table provides a breakdown of the special items included in the other operating income from the sale of the active ingredient iprodione, the sale of Viverso GmbH, the impairment loss reversal for a product family and the remeasurement of pension provisions, by the function to which they relate:

Breakdown of Special Items by Function [Table 4.31]

	2010	2011
	€ million	€ million
Production-related	-	18
Marketing- and distribution-related	-	4
Research- and development-related	-	13
General-administration-related	-	-
Other	-	136
Total	**-**	**171**

11. Other operating expenses

Other operating expenses were comprised as follows:

Other Operating Expenses [Table 4.32]

	2010	2011
	€ million	€ million
Losses on retirements of noncurrent assets	(83)	(20)
Write-offs and write-downs of receivables	(85)	(62)
Expenses related to significant legal risks	(703)	(260)
Losses from derivative hedging transactions	(239)	(130)
Miscellaneous operating expenses	(1,356)	(1,188)
Total	**(2,466)**	**(1,660)**
of which special items	(1,722)	(1,026)

As in the previous year, other operating expenses mainly comprised expenses related to significant legal risks and miscellaneous operating expenses.

The €260 million in expenses for significant legal risks resulted from litigations concerning genetically modified rice (LL RICE) and antitrust proceedings relating to rubber products.

The miscellaneous operating expenses included €720 million in restructuring charges, largely consisting of personnel expenses and impairment losses. Of this amount, €209 million was incurred by the HealthCare subgroup, mainly for severance payments. Of the €441 million in restructuring charges incurred by the CropScience subgroup, impairment losses accounted for €167 million, personnel expenses for €113 million and other expenses for €161 million. The impairment losses resulted from the decrease in value of a production site in the United Kingdom and a research facility in Japan along with the closure of several production units for carbamate-based crop protection products in the United States. A further €70 million in restructuring expenses was incurred in the service areas.

The miscellaneous operating expenses also included an impairment loss of €38 million recognized on the assets of Icon Genetics GmbH. The HealthCare subgroup recognized impairment losses of €21 million on goodwill in the Specialty Medicine business unit and €13 million on the cancer drug Zevalin™. As in the previous year, the remaining amount of miscellaneous operating expenses comprised a large number of individually immaterial items at the subsidiaries.

The following table provides a breakdown of the special items included in other operating expenses, mainly comprising expenses for legal risks, restructuring charges and the impairment loss on Icon Genetics GmbH, by the function to which they relate:

Breakdown of Special Items by Function [Table 4.33]

	2010	2011
	€ million	€ million
Production-related	(250)	(230)
Marketing- and distribution-related	(24)	(150)
Research- and development-related	(231)	(139)
General-administration-related	(20)	(64)
Other	(1,197)	(443)
Total	**(1,722)**	**(1,026)**

Of the expenses incurred for the restructuring program in the HealthCare subgroup, an amount of €21 million was recognized as a special item in the cost of goods sold and therefore was not included in other operating expenses.

12. Personnel expenses and employee numbers

Personnel expenses increased in 2011 by €627 million to €8,726 million (2010: €8,099 million). Changes in exchange rates diminished personnel expenses by €88 million.

Personnel Expenses [Table 4.34]

	2010	2011
	€ million	€ million
Wages and salaries	6,476	7,054
Social expenses and expenses for pensions and other benefits	1,623	1,672
of which for defined contribution pension plans	462	461
of which for defined benefit and other pension plans	228	255
Total	**8,099**	**8,726**

The personnel expenses shown here do not contain the interest portion of the allocation to personnel-related provisions – mainly for pensions and other post-employment benefits – which is included in the non-operating result under other non-operating expenses (Note [13.3]).

The average numbers of employees, classified by corporate functions, were as shown in the table below:

Employees [Table 4.35]

	2010	2011
Production	47,728	47,674
Marketing and distribution	40,827	41,705
Research and development	13,110	13,451
General administration	9,649	9,629
Total	**111,314**	**112,459**
Trainees	2,540	2,361

The employees of joint ventures are included in the above figures in proportion to Bayer's interests in the respective companies. The total number of people employed by joint ventures in 2011 was 283 (2010: 57).

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. The figures do not include trainees.

13. Non-operating result

The non-operating result for 2011 was minus €786 million (2010: minus €1,009 million), comprising an equity-method loss of €45 million (2010: loss of €56 million), non-operating expenses of €1,327 million (2010: €1,337 million) and non-operating income of €586 million (2010: €384 million). Details of the components of the non-operating result are provided below.

13.1 Income (loss) from investments in affiliated companies

The net loss from investments in affiliated companies was comprised as follows:

Income (Loss) from Investments in Affiliated Companies [Table 4.36]

	2010	2011
	€ million	€ million
Net loss from investments accounted for using the equity method (equity-method loss)	(56)	(45)
Expenses		
Write-downs of investments in affiliated companies	(11)	(12)
Losses from the sale of investments in affiliated companies	(2)	-
Income		
Dividends from affiliated companies and income from profit and loss transfer agreements (net)	6	2
Gains from the sale of investments in affiliated companies	4	10
Total	**(59)**	**(45)**

The income from investments in affiliated companies mainly comprised an equity-method loss of €48 million (2010: loss of €49 million) from two joint ventures operated by Lyondell.

Further details of the companies accounted for using the equity method are given in Note [19].

13.2 Net interest expense

The net interest expense was comprised as follows:

Net Interest Expense [Table 4.37]

	2010	2011
	€ million	€ million
Expenses		
Interest and similar expenses	(690)	(726)
Interest expenses for derivatives (held for trading)	(180)	(172)
Income		
Interest and similar income	219	388
Interest income from derivatives (held for trading)	152	175
Total	**(499)**	**(335)**

Interest and similar expenses included interest expense of €44 million (2010: €54 million) relating to non-financial liabilities. Interest and similar income included interest income of €108 million (2010: €40 million) from non-financial assets.

The increase in interest and similar income to €388 million (2010: €219 million) was partly due to interest effects in connection with a tax settlement in Brazil and other tax matters, higher interest rates on the euro money market and longer maturities for term deposits. Compared with the previous year there was also additional interest income from hedge accounting transactions, matched by an equal amount of interest expense. This increase in interest expense was partially offset by a decline associated with the drop in the average gross financial debt.

The change in the net assets potentially redeemable to non-controlling stockholders and recognized as a liability is reflected in interest income or expense. In 2011, a related pro-rated loss of €5 million was recognized as interest income; in 2010, related pro-rated income of €15 million was recognized as interest expense.

13.3 Other non-operating income and expenses

Other non-operating income and expenses were comprised as follows:

Other Non-Operating Income and Expenses [Table 4.38]

	2010	2011
	€ million	€ million
Expenses		
Interest portion of interest-bearing provisions	(372)	(336)
Exchange loss	(70)	(53)
Miscellaneous non-operating expenses	(11)	(24)
Income		
Miscellaneous non-operating income	2	7
Total	**(451)**	**(406)**

The interest portion of noncurrent interest-bearing provisions mainly related to pension provisions.

14. Income taxes

The breakdown of income taxes by origin was as follows:

Income Tax Expense by Origin [Table 4.39]

	2010	2011
	€ million	€ million
Income taxes paid or accrued		
Germany	(118)	(313)
other countries	(779)	(754)
	(897)	**(1,067)**
Deferred taxes		
from temporary differences	534	223
from tax loss carryforwards	(33)	(28)
from tax credits	(15)	(19)
	486	**176**
Total	**(411)**	**(891)**

The deferred tax assets and liabilities were allocable to the following items in the statement of financial position:

Deferred Tax Assets and Liabilities [Table 4.40]

	Dec.31, 2010		Dec.31, 2011	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
	€ million	€ million	€ million	€ million
Intangible assets	386	3,080	261	2,766
Property, plant and equipment	48	800	72	735
Financial assets	55	193	70	175
Inventories	470	45	496	69
Receivables	54	322	64	466
Other assets	51	9	61	13
Provisions for pensions and other post-employment benefits	1,468	775	1,914	948
Other provisions	669	48	653	14
Liabilities	468	45	607	55
Tax loss carryforwards	139	-	146	-
Tax credits	106	-	92	-
	3,914	**5,317**	**4,436**	**5,241**
of which noncurrent	2,762	4,667	2,938	4,507
Set-off	(2,740)	(2,740)	(3,125)	(3,125)
Total	**1,174**	**2,577**	**1,311**	**2,116**

Deferred tax assets from actuarial gains and losses, recognized outside profit or loss, on defined benefit obligations for pensions and other post-employment benefits increased equity by €416 million (2010: €258 million). Changes in fair values of available-for-sale financial assets and derivatives designated as hedges, recognized outside profit or loss, resulted in deferred tax assets that increased equity by €16 million (2010: €24 million). These effects on equity are reflected in the statement of comprehensive income.

The use of tax loss carryforwards reduced the income taxes paid or accrued in 2011 by €44 million (2010: €102 million). The use of tax credits reduced income taxes paid or accrued by €14 million (2010: €12 million).

Of the total tax loss carryforwards of €962 million in 2011 (2010: €929 million), an amount of €582 million (2010: €670 million) can probably be used within a reasonable period. Deferred tax assets of €146 million (2010: €139 million) were therefore recognized on this amount. The deferred tax assets included €30 million (2010: €6 million) that resulted from purchase price allocations and was recognized outside profit or loss.

The use of €380 million (2010: €259 million) of tax loss carryforwards was subject to legal or economic restrictions. Consequently, no deferred tax assets were recognized for this amount. If it had been probable that these tax loss carryforwards could be used, deferred tax assets of €124 million (2010: €67 million) would have had to be recognized.

Tax credits of €92 million were recognized in 2011 (2010: €106 million) as deferred tax assets, including €1 million (2010: €0 million) outside profit or loss. The use of €54 million (2010: €51 million) of tax credits was subject to legal or economic restrictions. Consequently, no deferred tax assets were recognized for this amount.

Unusable tax credits and tax loss carryforwards expired as follows:

Expiration of Unusable Tax Credits and Tax Loss Carryforwards [Table 4.41]

	Tax credits		Tax loss carryforwards	
	Dec. 31, 2010	Dec. 31, 2011	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million	€ million	€ million
One year	-	2	-	11
Two years	2	24	-	-
Three years	22	-	-	30
Four years	-	-	-	11
Five years	-	-	10	-
Thereafter	27	28	249	328
Total	**51**	**54**	**259**	**380**

In 2011 subsidiaries that reported losses for 2011 or 2010 recognized net deferred tax assets totaling €268 million (2010: €268 million) on temporary differences and tax loss carryforwards. These assets were considered to be unimpaired because the companies concerned were expected to generate taxable income in the future.

Deferred tax liabilities of €9 million were recognized in 2011 (2010: €14 million) for planned dividend payments by subsidiaries. Deferred tax liabilities were not recognized for temporary differences on €10,017 million (2010: €9,687 million) of retained earnings of subsidiaries and associates because the Bayer Group is able to control the timing of the difference reversal and the temporary differences will not reverse in the foreseeable future.

The reported tax expense of €891 million for 2011 (2010: €411 million) differed by €107 million (2010: €32 million) from the expected tax expense of €998 million (2010: €443 million) that would have resulted from applying an expected weighted average tax rate to the pre-tax income of the Group. This average rate, derived from the expected tax rates of the individual Group companies, was 29.7% in 2011 (2010: 25.7%). The expected average tax rate differed considerably from 2010 due to differences in the regional distribution of pre-tax income and changes in tax rates in certain countries. The effective tax rate was 26.5% (2010: 23.9%).

The reconciliation of expected to reported income tax expense and of the expected to the effective tax rate for the Group was as follows:

Reconciliation of Expected to Actual Income Tax Expense [Table 4.42]

	2010		2011	
	€ million	%	€ million	%
Expected income tax expense and expected tax rate	**443**	**25.7**	**998**	**29.7**
Reduction in taxes due to tax-free income				
Income related to the operating business	(41)	(2.4)	(100)	(3.0)
Income from affiliated companies and divestiture proceeds	(10)	(0.6)	(16)	(0.5)
First-time recognition of previously unrecognized deferred tax assets on tax loss carryforwards	(27)	(1.6)	(9)	(0.3)
Use of tax loss carryforwards on which deferred tax assets were not previously recognized	(13)	(0.8)	(1)	-
Increase in taxes due to non-tax-deductible expenses				
Expenses related to the operating business	82	4.8	111	3.3
Write-downs of investments in affiliated companies	1	0.1	16	0.5
New tax loss carryforwards unlikely to be usable	43	2.5	36	1.1
Existing tax loss carryforwards on which deferred tax assets were previously recognized but which are unlikely to be usable	4	0.2	39	1.2
Tax income (–) and expenses (+) relating to other periods	3	0.2	(74)	(2.2)
Tax effects of changes in tax rates	(2)	(0.1)	(23)	(0.7)
Other tax effects	(72)	(4.1)	(86)	(2.6)
Actual income tax expense and effective tax rate	**411**	**23.9**	**891**	**26.5**

15. Income/losses attributable to non-controlling interest

Income attributable to non-controlling interest amounted to €12 million (2010: €11 million), while losses attributable to non-controlling interest amounted to €10 million (2010: €2 million).

16. Earnings per share

Earnings per share are determined according to IAS 33 (Earnings Per Share) by dividing net income by the weighted average number of ordinary shares in issue during the year.

Earnings per Share [Table 4.43]

	2010	2011
	€ million	€ million
Income after taxes	1,310	2,472
of which attributable to non-controlling interest	9	2
of which attributable to Bayer AG stockholders (net income)	1,301	2,470
	Shares	Shares
Weighted average number of issued ordinary shares	826,947,808	826,947,808
	€	€
Basic earnings per share	1.57	2.99
Diluted earnings per share	1.57	2.99

Notes to the Statements of Financial Position

17. Goodwill and other intangible assets

Changes in intangible assets in 2011 were as follows:

Changes in Intangible Assets [Table 4.44]

	Acquired goodwill	Patents and technologies	Trade-marks	Marketing and distribution rights	Production rights	R&D projects	Other rights and advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2010	**9,002**	**10,376**	**4,028**	**1,060**	**2,169**	**1,171**	**2,612**	**30,418**
Changes in scope of consolidation	-	-	-	-	-	-	-	-
Acquisitions	103	53	4	-	-	17	22	199
Capital expenditures	-	16	-	167	10	88	153	434
Retirements	-	(40)	(9)	(4)	(8)	(171)	(37)	(269)
Transfers	-	310	-	2	5	(310)	(17)	(10)
Transfers (IFRS 5)	(9)	(212)	(1)	-	(97)	(15)	(3)	(337)
Inflation adjustment (IAS 29)	3	-	-	-	-	-	-	3
Remeasurement (IFRS 3)	-	-	-	-	-	-	-	-
Exchange differences	82	24	32	12	(5)	11	57	213
December 31, 2011	**9,181**	**10,527**	**4,054**	**1,237**	**2,074**	**791**	**2,787**	**30,651**
Accumulated amortization and impairment losses, December 31, 2010	**-**	**4,631**	**1,608**	**566**	**1,493**	**233**	**1,724**	**10,255**
Changes in scope of consolidation	-	-	-	-	-	-	-	-
Retirements	-	(33)	(6)	(2)	(6)	(170)	(33)	(250)
Amortization and impairment losses in 2011	21	805	166	89	159	48	172	1,460
Amortization	-	785	156	89	122	-	159	1,311
Impairment losses	21	20	10	-	37	48	13	149
Impairment loss reversals	-	(30)	(4)	-	-	(1)	-	(35)
Transfers	-	91	-	-	2	(91)	(2)	-
Transfers (IFRS 5)	-	(191)	(1)	-	(97)	(6)	(3)	(298)
Exchange differences	-	17	11	1	(4)	(1)	40	64
December 31, 2011	**21**	**5,290**	**1,774**	**654**	**1,547**	**12**	**1,898**	**11,196**
Carrying amounts, December 31, 2011	**9,160**	**5,237**	**2,280**	**583**	**527**	**779**	**889**	**19,455**
Carrying amounts, December 31, 2010	**9,002**	**5,745**	**2,420**	**494**	**676**	**938**	**888**	**20,163**

Other rights and advance payments include internally generated software. Costs of €25 million for internally generated software incurred during the application development phase were capitalized in 2011 (2010: €31 million). The carrying amount of internally generated software was €94 million (2010: €93 million).

The research and development projects include €94 million relating to the active ingredient alemtuzumab for the treatment of multiple sclerosis (MS). Bayer has returned the worldwide distribution and development rights for alemtuzumab to Genzyme Corp., United States. Bayer is continuing to co-develop this drug. If it is approved in the MS indication, Bayer will have global co-promotion rights and will be entitled to royalties and revenue-based milestone payments.

Of the €149 million in impairment losses recognized on goodwill and other intangible assets, €40 million resulted from reclassifications to "Assets held for sale," €38 million arose in connection with the sale of Icon Genetics GmbH, and €22 million was necessitated by the cessation of carbamate production. The €21 million goodwill impairment was ascertained in the course of global impairment testing according to IAS 36 (Impairment of Assets). Impairment losses were also recognized on other intangible assets in the Pharmaceuticals (€16 million), CropScience (€7 million), Consumer Health (€4 million) and MaterialScience (€1 million) segments.

A €35 million impairment loss previously recognized for a product family in the General Medicine business unit was reversed in light of a current market assessment.

Details of acquisitions, divestitures and assets held for sale are provided in Notes [6.2] and [6.3].
The impairment testing procedure for goodwill and other intangible assets is explained in Note [4].

Changes in intangible assets in 2010 were as follows:

Changes in Intangible Assets (Previous Year) [Table 4.45]

	Acquired goodwill	Patents and technologies	Trade-marks	Marketing and distribution rights	Production rights	R&D projects	Other rights and advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2009	**8,704**	**10,240**	**3,966**	**966**	**2,169**	**1,138**	**2,296**	**29,479**
Changes in scope of consolidation	-	-	-	-	-	-	(1)	(1)
Acquisitions	12	11	-	-	2	1	5	31
Capital expenditures	-	17	2	58	-	127	205	409
Retirements	-	(13)	(5)	(2)	(11)	(5)	(79)	(115)
Transfers	-	81	-	(9)	1	(115)	45	3
Transfers (IFRS 5)	-	-	-	-	-	-	-	-
Inflation adjustment (IAS 29)	7	-	-	1	-	-	-	8
Remeasurement (IFRS 3)	4	-	-	-	2	-	5	11
Exchange differences	275	40	65	46	6	25	136	593
December 31, 2010	**9,002**	**10,376**	**4,028**	**1,060**	**2,169**	**1,171**	**2,612**	**30,418**
Accumulated amortization and impairment losses, December 31, 2009	**-**	**3,615**	**1,004**	**455**	**1,315**	**1**	**1,543**	**7,933**
Changes in scope of consolidation	-	-	-	-	-	-	(1)	(1)
Retirements	-	(11)	(3)	(2)	(7)	(5)	(78)	(106)
Amortization and impairment losses in 2010	-	1,010	592	90	182	237	168	2,279
Amortization	-	797	163	80	151	-	156	1,347
Impairment losses	-	213	429	10	31	237	12	932
Impairment loss reversals	-	-	-	-	-	-	-	-
Transfers	-	-	-	4	-	-	(4)	-
Transfers (IFRS 5)	-	-	-	-	-	-	-	-
Exchange differences	-	17	15	19	3	-	96	150
December 31, 2010	**-**	**4,631**	**1,608**	**566**	**1,493**	**233**	**1,724**	**10,255**
Carrying amounts, December 31, 2010	**9,002**	**5,745**	**2,420**	**494**	**676**	**938**	**888**	**20,163**
Carrying amounts, December 31, 2009	**8,704**	**6,625**	**2,962**	**511**	**854**	**1,137**	**753**	**21,546**

Changes in the carrying amounts of goodwill for the reporting segments in 2011 and 2010 were as follows:

Goodwill by Reporting Segment [Table 4.46]

	Pharma-ceuticals	Consumer Health	HealthCare	Crop-Science	Material-Science	Reconcilia-tion	Bayer Group
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Carrying amounts, January 1, 2010	**4,571**	**2,217**	**6,788**	**1,722**	**194**	**-**	**8,704**
Changes in scope of consolidation	-	-	-	-	-	-	-
Acquisitions	-	-	-	2	10	-	12
Capital expenditures	-	-	-	-	-	-	-
Retirements	-	-	-	-	-	-	-
Amortization and impairment losses in 2010	-	-	-	-	-	-	-
Transfers	1	-	1	(1)	-	-	-
Transfers (IFRS 5)	-	-	-	-	-	-	-
Inflation adjustment (IAS 29)	-	7	7	-	-	-	7
Remeasurement (IFRS 3)	-	-	-	-	4	-	4
Exchange differences	99	103	202	68	5	-	275
Carrying amounts, December 31, 2010	**4,671**	**2,327**	**6,998**	**1,791**	**213**	**-**	**9,002**
Changes in scope of consolidation	-	-	-	-	-	-	-
Acquisitions	-	68	68	35	-	-	103
Capital expenditures	-	-	-	-	-	-	-
Retirements	-	-	-	-	-	-	-
Amortization and impairment losses in 2011	(21)	-	(21)	-	-	-	(21)
Transfers	-	-	-	-	-	-	-
Transfers (IFRS 5)	(9)	-	(9)	-	-	-	(9)
Inflation adjustment (IAS 29)	-	3	3	-	-	-	3
Remeasurement (IFRS 3)	-	-	-	-	-	-	-
Exchange differences	23	38	61	18	3	-	82
Carrying amounts, December 31, 2011	**4,664**	**2,436**	**7,100**	**1,844**	**216**	**-**	**9,160**

2010 figures restated

Goodwill and other intangible assets with an indefinite useful life that are of material significance for the Bayer Group are allocated to the following strategic business entities or cash-generating units:

Intangible Assets with Indefinite Useful Life [Table 4.47]

Reporting segment	Cash-generating unit	Goodwill	Intangible assets with indefinite useful life
		€ million	€ million
Pharmaceuticals	Women's Healthcare	2,899	90
Consumer Health	Radiology and Interventional	1,265	399
Pharmaceuticals	Specialized Therapeutics	1,238	203
Consumer Health	OTC	993	22
Pharmaceuticals	Oncology	378	116
CropScience	Crop Improvement	345	94
Pharmaceuticals	Primary Care	89	78
Pharmaceuticals	Hematology	48	68
Consumer Health	Diabetes Care	30	63

Since it is uncertain whether acquired or inlicensed research and development projects will eventually result in the production of saleable products, the period over which the corresponding capitalized asset is expected to generate an economic benefit for the company cannot be determined. Development projects were capitalized in a total amount of €779 million as of the end of 2011 (2010: €938 million).

The Bayer Cross, which was reacquired for the North America region in 1994, having been awarded to the United States and Canada under the reparations agreements at the end of the First World War, is recognized as an intangible asset with an indefinite useful life. The company name "Medrad," which passed to Bayer with the acquisition of Schering AG, Berlin, Germany, in 2006, also has an indefinite useful life. The periods for which the Bayer Group will derive economic benefits from the Bayer Cross and the Medrad name cannot be determined as Bayer intends to make continuous use of them. The Bayer Cross is capitalized at €107 million, the Medrad name at €315 million.

PATENTS AND TECHNOLOGIES

The Bayer Group endeavors to obtain patent protection for its products and technologies in the major markets. Depending on the jurisdiction, patent protection may be available for:

- individual active ingredients,
- specific compounds, formulations and combinations containing active ingredients,
- manufacturing processes,
- working methods,
- equipment,
- intermediates for the manufacture of active ingredients and products,
- isolated genes or proteins,
- new uses for existing active ingredients or products,
- material combinations and
- semi-finished products.

The protection that a patent provides varies from country to country, depending on the type of claim granted, the scope of the claim's coverage and the legal remedies available for enforcement.

The Bayer Group currently owns some 77,000 patents or patent applications. Although in our Pharmaceuticals segment the patents on Avalox™/Avelox™, Betaferon™/Betaseron™, Kogenate™, Levitra™, Magnevist™, Mirena™, Nexavar™, Xarelto™, YAZ™, Yasmin™ and Yasminelle™ are particularly important to our business, we believe that no single patent (or group of related patents) is crucial to our business as a whole.

TERM AND EXPIRATION OF PATENTS

Patents are valid for varying periods, depending on the laws of the jurisdiction granting the patent. In some jurisdictions, patent protection begins from the date a patent application was filed; in others, it begins on the date the patent is granted.

The European Union member countries as well as the United States, Japan and certain other countries extend patent terms or issue supplementary protection certificates to compensate for patent term loss due to regulatory review and for the substantial investments in product research and development. We endeavor to obtain such patent term extensions or supplementary certificates wherever possible. Apart from substance and product patents, we continue to seek

- patents on processes and intermediates used in manufacturing an active ingredient,
- patents relating to specific uses for an active ingredient,
- patents relating to novel compositions and formulations, and
- market exclusivity in countries where this is possible (such as the United States).

The following table sets forth the expiration dates in our major markets of the most important patents covering Avalox™/Avelox™, Betaferon™/Betaseron™, Kogenate™, Levitra™, Magnevist™, Mirena™, Nexavar™, Xarelto™, YAZ™, Yasmin™ and Yasminelle™.

Expiration Dates of Most Important Patents [Table 4.48]

	Market								
	Germany	France	U.K.	Italy	Spain	Japan	China	U.S.A.	Canada
Products									
Avalox™/Avelox™									
Active ingredient	2014	2014	2014	2014	2014	2014	2013	2014	2015
Active ingredient monohydrate	2016	2016	2016	2016	2016	2016	2016	2016	2016
Tablets	2019	2019	2019	2019	2019	2019	2019	2019	2019
Betaferon™/Betaseron™									
Active ingredient	-	-	-	-	-	-	-	-	2016
Kogenate™									
Active ingredient	-	-	-	-	-	-	-	2014	2019
Formulation	2017	2017	2017	2017	2017	2017	2017	2017	2017
Levitra™									
Active ingredient	2018	2018	2018	2018	2018	2020	2018	2018	2018
Magnevist™									
Active ingredient	-	-	-	-	-	-	-	2011	-
Process	-	-	-	-	-	-	-	2013	-
Mirena™									
Applicator	2015	2015	2015	2015	2015	-	2015	2015	2015
Process	2013	2013	2013	2013	2013	2013	2013	2013	2013
Nexavar™									
Active ingredient	2020[a]	2021	2021	2021	2021	2020[a]	2020	2020	2020
Xarelto™									
Active ingredient	2020[c]	2023	2023[d]	2023	2023	2020	2020	2021[c]	2020
YAZ™									
Formulation	2020[d, e]	2020[d, e]	2020[d, e]	2020[d, e]	2020[d, e]	2020[c]	2020	-	2020
Dosage regimen	-	-	-	-	-	2014[b]	-	2014	2014
Production process	2025	2025	2025	2025	2025	2026[b]	2026[b]	2025	2026[b]
Yasmin™									
Formulation	2020[e]	2020[e]	2020[e]	2020[e]	2020[e]	2020	2020	-	2020
Production process	2025	2025	2025	2025	2025	2026[b]	2026[b]	2025	2026[b]
Yasminelle™									
Formulation	2020[e]	2020[e]	2020[e]	2020[e]	2020[e]	2020	2020	-	2020
Production process	2025	2025	2025	2025	2025	2026[b]	2026[b]	2025	2026[b]

[a] Current patent expiration. An application has been submitted to extend patent protection through 2021.
[b] Patent pending
[c] Current patent expiration. An application has been submitted to extend patent protection.
[d] Patent expiration updated
[e] The patent was revoked by an Opposition Division of the European Patent Office in December 2011. Bayer will appeal. The appeal will have suspensive effect.

Information on specific patent disputes is given in Note [32].

TRADEMARKS

We seek to obtain extensive trademark protection for our products in all jurisdictions in which they are marketed or are to be marketed in the near future. As well as product names, we also register particularly distinctive slogans, logos, graphic elements and designs as global trademarks.

Wherever possible, trademarks are registered through supranational trademark protection systems, for example as European Community Trademarks or international trademarks, and additionally with the national trademark registration offices. The protection actually provided by a trademark may vary considerably from one country to another depending on the distinctiveness of the trademark.

Our trademarks include:

HealthCare: Adalat™, Advantage™, Aleve™/Flanax™/Apronax™, Alka-Seltzer™, Aspirin™, Avalox™/Avelox™, Baytril™, Bepanthen™/Bepanthol™, Berocca™, Betaferon™/Betaseron™, Canesten™, Ciprobay™/Ciproxin™/Baycip™/Cipro™, Contour™, Kogenate™, Levitra™, Magnevist™, Mirena™, Nexavar™, One A Day™, Redoxon™, Rennie™, Supradyn™, Ultravist™, Xarelto™, YAZ™, Yasmin™ and Yasminelle™.

CropScience: Basta™/Liberty™, Bayer Garden™/Bayer Advanced™, Confidor™, FiberMax™/Stoneville™, Gaucho™, InVigor™, Nativo™, Nunhems™, Poncho™ and Prosaro™.

MaterialScience: Bayblend™, BaySystems™, Desmodur™, Desmopan™, Desmophen™, Makrolon™ and Vulkollan™.

We currently have more than 63,000 national trademark registrations or pending registrations, along with over 800 Community Trademarks, which are valid throughout the European Union, and some 1,900 international trademarks, which provide protection in various countries. Trademarks are particularly important for those products that are not protected by patents and are exposed to strong competitive pressure from generic products. However, with the exception of the company name “Bayer” and the “Bayer Cross” logo, we do not believe that any single trademark is crucial to our business as a whole.

18. Property, plant and equipment

Changes in property, plant and equipment in 2011 were as follows:

Changes in Property, Plant and Equipment [Table 4.49]

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2010	**8,192**	**15,079**	**1,700**	**1,291**	**26,262**
Changes in scope of consolidation	(2)	(4)	1	(1)	(6)
Acquisitions	6	2	2	-	10
Capital expenditures	129	432	167	504	1,232
Retirements	(121)	(334)	(131)	(3)	(589)
Transfers	168	627	40	(825)	10
Transfers (IFRS 5)	(105)	(83)	(8)	-	(196)
Inflation adjustment (IAS 29)	1	1	-	-	2
Remeasurement (IFRS 3)	-	-	-	-	-
Exchange differences	93	258	13	(13)	351
December 31, 2011	**8,361**	**15,978**	**1,784**	**953**	**27,076**
Accumulated depreciation and impairment losses, December 31, 2010	**4,333**	**10,844**	**1,235**	**15**	**16,427**
Changes in scope of consolidation	-	(3)	1	(1)	(3)
Retirements	(93)	(309)	(121)	-	(523)
Depreciation and impairment losses in 2011	292	859	193	2	1,346
Depreciation	252	770	188	-	1,210
Impairment losses	40	89	5	2	136
Impairment loss reversals	(2)	-	-	-	(2)
Transfers	1	5	(1)	(5)	-
Transfers (IFRS 5)	(85)	(77)	(8)	-	(170)
Exchange differences	44	126	9	(1)	178
December 31, 2011	**4,490**	**11,445**	**1,308**	**10**	**17,253**
Carrying amounts, December 31, 2011	**3,871**	**4,533**	**476**	**943**	**9,823**
Carrying amounts, December 31, 2010	**3,859**	**4,235**	**465**	**1,276**	**9,835**

Impairment losses recognized on property, plant and equipment totaled €134 million, net of a €2 million impairment loss reversal. In the United States, CropScience closed several carbamate production units in Institute, West Virginia, and shut down its formulation facility in Woodbine, Georgia. This led to the recognition of a €57 million impairment loss on property, plant and equipment. A further €67 million in impairment losses resulted from reclassifications to "Assets held for sale." Details of "Assets held for sale, and provisions directly related to assets held for sale" are given in Note [6.3]. Further impairment losses were recognized on property, plant and equipment in the MaterialScience (€4 million), Consumer Health (€3 million) and Pharmaceuticals (€2 million) reporting segments and in other segments (€1 million).

Further capital expenditures were made for the expansion of production capacities in China. The total capital expenditures of €1,232 million (2010: €1,212 million) for property, plant and equipment included €221 million (2010: €224 million) in China.

In 2011 borrowing costs of €23 million (2010: €31 million) were capitalized as components of the cost of acquisition or construction of qualifying assets, applying an average interest rate of 4.5% (2010: 4.5%).

Capitalized property, plant and equipment included assets with a total net value of €463 million (2010: €464 million) held under finance leases. The cost of acquisition and construction of these assets as of the closing date totaled €1,177 million (2010: €1,128 million). They comprised plant installations and machinery with a carrying amount of €216 million (2010: €232 million), buildings with a carrying amount of €135 million (2010: €139 million) and other property, plant and equipment with a carrying amount of €112 million (2010: €93 million). For information on the liabilities arising from finance leases see Note [27].

In 2011 rental payments of €239 million (2010: €216 million) were made for assets leased under operating leases as defined in IAS 17 (Leases).

Lease payments of €4 million are expected to be received in 2012 from operating leases – as defined in IAS 17 (Leases) – pertaining to property, plant and equipment.

In 2008 Bayer sold a registered usufructuary right to real estate to a leasing company and leased it back immediately under an agreement that includes a right of repurchase upon expiration of the lease. The carrying amount of the real estate in 2011 was €146 million (2010: €153 million). This transaction, which was accounted for as a secured loan, does not restrict the operational use of the real estate.

Changes in property, plant and equipment in 2010 were as follows:

Changes in Property, Plant and Equipment (Previous Year) [Table 4.50]

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2009	**7,747**	**14,163**	**1,583**	**1,042**	**24,535**
Changes in scope of consolidation	3	(1)	(2)	-	-
Acquisitions	-	-	-	-	-
Capital expenditures	70	262	140	740	1,212
Retirements	(79)	(337)	(118)	(3)	(537)
Transfers	144	393	18	(558)	(3)
Transfers (IFRS 5)	-	-	-	-	-
Inflation adjustment (IAS 29)	6	1	-	-	7
Remeasurement (IFRS 3)	-	-	-	-	-
Exchange differences	301	598	79	70	1,048
December 31, 2010	**8,192**	**15,079**	**1,700**	**1,291**	**26,262**
Accumulated depreciation and impairment losses, December 31, 2009	**3,969**	**10,015**	**1,114**	**28**	**15,126**
Changes in scope of consolidation	3	(1)	(2)	-	-
Retirements	(57)	(317)	(109)	(3)	(486)
Depreciation and impairment losses in 2010	293	774	185	-	1,252
Depreciation	247	763	185	-	1,195
Impairment losses	46	11	-	-	57
Impairment loss reversals	(3)	(1)	-	-	(4)
Transfers	1	16	(6)	(11)	-
Transfers (IFRS 5)	-	-	-	-	-
Exchange differences	127	358	53	1	539
December 31, 2010	**4,333**	**10,844**	**1,235**	**15**	**16,427**
Carrying amounts, December 31, 2010	**3,859**	**4,235**	**465**	**1,276**	**9,835**
Carrying amounts, December 31, 2009	**3,778**	**4,148**	**469**	**1,014**	**9,409**

The following table provides an overview of the main sites operated by each subgroup:

Principal Subgroup Sites [Table 4.51]

Location	Main activities
HealthCare	
Leverkusen, Germany	HealthCare headquarters, administration, formulation and packaging of pharmaceutical products
Bergkamen, Germany	Active ingredient production
Berlin, Germany	Production and packaging of contrast agents, packaging of solids, research and development, administration
Bitterfeld-Wolfen, Germany	Formulation and packaging of Consumer Care products
Wuppertal, Germany	Production of active ingredients for pharmaceutical products, research and development
Turku, Finland	Production of gynecological and andrological products, solids (oncology), research and development
Berkeley, U.S.A.	Production, formulation and packaging of recombinant Factor VIII
Emeryville, U.S.A.	Production and formulation of Betaferon™/Betaseron™
Myerstown, U.S.A.	Formulation and packaging of Consumer Care products
CropScience	
Monheim, Germany	CropScience headquarters, administration, research and development for fungicides and insecticides
Dormagen, Germany	Development of new production processes and manufacture of products for Crop Protection and Environmental Science
Frankfurt a. M., Germany	Research and development for herbicides, manufacture of products for Crop Protection and Environmental Science
Ghent, Belgium	Research and development for seeds and agricultural crop traits
Haelen, Netherlands	Research, development and production of vegetable seeds
Kansas City, U.S.A.	Manufacture of products for Crop Protection and Environmental Science
Knapsack, Germany	Manufacture of products for Crop Protection and Environmental Science
Research Triangle Park, U.S.A.	CropScience headquarters North America, research and development for seeds and agricultural crop traits
Vapi, India	Development of new production processes and manufacture of products for Crop Protection and Environmental Science
MaterialScience	
Leverkusen, Germany	MaterialScience headquarters, administration, research and development, production of base and modified isocyanates, chlorine, sodium hydroxide solution, hydrogen and hydrochloric acid
Brunsbüttel, Germany	Production of diphenylmethane diisocyanate, toluene diisocyanate, chlorine, hydrogen and hydrochloric acid
Dormagen, Germany	Production of modified isocyanates, resins, polycarbonate films, toluene diisocyanate, polyether, thermoplastic polyurethanes, chlorine, sodium hydroxide solution, hydrogen and hydrochloric acid
Krefeld, Germany	Production of polycarbonates, diphenylmethane diisocyanate, chlorine, sodium hydroxide solution, hydrogen and hydrochloric acid
Antwerp, Belgium	Production of polycarbonates, polyether, aniline and nitrobenzene
Tarragona, Spain	Production of diphenylmethane diisocyanate and hydrochloric acid
Baytown, U.S.A.	Production of base and modified isocyanates, polycarbonates, diphenylmethane diisocyanate, toluene diisocyanate, chlorine, sodium hydroxide solution, hydrogen and hydrochloric acid
Map Ta Phut, Thailand	Production of polycarbonates and polycarbonate films
Shanghai, China	Production of base and modified isocyanates, resins, polycarbonates, diphenylmethane diisocyanate, toluene diisocyanate, aniline, chlorine, hydrochloric acid, research and development

19. Investments accounted for using the equity method

Changes in the carrying amounts of the Group's interests in associates accounted for using the equity method were as follows:

Changes in Carrying Amounts of Investments Accounted for Using the Equity Method [Table 4.52]

	2010	2011
	€ million	€ million
Carrying amounts, January 1	**395**	**354**
Acquisitions	-	-
Other additions	-	8
Divestitures	-	-
Miscellaneous retirements	(3)	(4)
Equity-method loss after taxes	(56)	(45)
Exchange differences	18	6
Carrying amounts, December 31	**354**	**319**

These interests relate exclusively to the MaterialScience subgroup, which holds them for strategic reasons.

In 2000 Bayer acquired the polyols business and parts of the propylene oxide (PO) production operations of Lyondell Chemicals with the objective of ensuring access to patented technologies and safeguarding the long-term supply of PO, a starting product for polyurethane, at reasonable prices. As part of this strategy, two joint ventures were established to produce PO (PO JV, LP, United States, in which Bayer holds a 39.7% interest, and Lyondell Bayer Manufacturing Maasvlakte VOF, Netherlands, in which Bayer holds a 50% interest). The production facilities of both companies are operated by Lyondell. Bayer benefits from fixed long-term supply quotas/volumes of PO based on fixed price components.

The following tables present a summary of the aggregated items of the income statements and statements of financial position of the associates that are accounted for using the equity method in the consolidated financial statements of the Bayer Group.

Aggregated Income Statement Data of Associates Accounted for Using the Equity Method [Table 4.53]

	2010	2011
	€ million	€ million
Net sales	1,133	1,267
Gross profit	(16)	(33)
Net loss	(93)	(99)
Share of pre-tax loss	(45)	(47)
Pre-tax loss from investments accounted for using the equity method	**(45)**	**(47)**
Pre-tax loss from write-downs/derecognition of other interests	(11)	2
Recognized pre-tax loss from investments accounted for using the equity method (equity-method loss)	**(56)**	**(45)**

Aggregated Data from the Statements of Financial Position of Associates Accounted for Using the Equity Method [Table 4.54]

	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million
Noncurrent assets	765	680
Current assets	237	221
Noncurrent liabilities	13	12
Current liabilities	165	136
Equity	824	753
Share of equity	348	306
Other	6	13
Carrying amount of investments accounted for using the equity method	**354**	**319**

The item "Other" mainly comprised differences arising from adjustments of data to Bayer's uniform accounting policies, purchase price allocations and their amortization in income.

20. Other financial assets

Other financial assets were comprised as follows:

Other Financial Assets [Table 4.55]

	Dec. 31, 2010		Dec. 31, 2011	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Loans and receivables	783	129	2,735	1,931
Available-for-sale financial assets	758	577	757	580
of which debt instruments	629	577	628	580
of which equity instruments	129	-	129	-
Held-to-maturity financial investments	101	8	109	10
Receivables from forward and option commodity contracts	21	19	20	20
Receivables from other derivatives	476	274	492	243
Receivables under lease agreements	33	1	35	-
Total	**2,172**	**1,008**	**4,148**	**2,784**

The loans and receivables included in other financial assets mainly comprised bank deposits of €1,905 million (2010: €102 million), capital of €595 million (2010: €410 million) provided to Bayer-Pensionskasse VVaG (Bayer-Pensionskasse) for its effective initial fund, and jouissance right capital (Genussrechtskapital) of €150 million (2010: €150 million). The bank deposits are mostly due at the beginning of April 2012, and will be used to repay the EMTN bond maturing in the same month.

To manage the investment risk of bank deposits, receivables from banks in the amount of €800 million (2010: €0 million) are collateralized by government and corporate bonds of various issuers with a fair value of €883 million (2010: €0 million). The total fair value of the securities is reviewed on a daily basis and any over- or undercollateralization adjusted to the nominal value of the receivable (plus an agreed valuation markdown on the securities). The securities could be utilized at any time if necessary; they were not utilized in 2011. The fair-value changes and interest income associated with the securities lodged as collateral accrue to the collateral provider.

The debt instruments reported as available-for-sale financial assets mainly comprised investments in money market funds totaling €450 million (2010: €300 million) and German treasury bills in the amount of €127 million (2010: €0 million). These treasury bills, which were lent to a bank, continue to be recognized as available-for-sale financial assets because the related risks and rewards remain with Bayer. Upon maturity or redemption of the treasury bills, Bayer is obligated to replace them with German government securities until 2016. U.S. treasury bills were no longer held at the closing date (2010: €224 million).

The equity instruments reported as available-for-sale financial assets included €41 million (2010: €54 million) in instruments whose fair value could not be determined from a stock exchange or other market price or by discounting reliably determinable future cash flows. These equity instruments were recognized at amortized cost.

In 2011 available-for-sale financial assets were written down by €12 million (2010: €11 million). Other financial assets of €5 million (2010: €4 million) on which no write-downs had been made were past due on the closing date.

Further information on the accounting for receivables from derivatives is given in Note [30].

Receivables under lease agreements relate to finance leases where Bayer is the lessor and the lessee is the economic owner of the leased assets. These receivables comprised expected lease payments of €77 million (2010: €77 million), including €42 million (2010: €44 million) in interest. Of the expected lease payments, €2 million (2010: €3 million) is due within one year, €30 million (2010: €30 million) within the following four years and €45 million (2010: €44 million) in subsequent years.

21. Inventories

Inventories were comprised as follows:

Inventories [Table 4.56]

	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million
Raw materials and supplies	1,064	1,223
Work in process, finished goods and goods purchased for resale	5,033	5,138
Advance payments	7	7
Total	**6,104**	**6,368**

Write-downs of inventories were reflected in the cost of goods sold. They were comprised as follows:

Write-Downs of Inventories [Table 4.57]

	2010	2011
	€ million	€ million
Accumulated write-downs, January 1	**(331)**	**(374)**
Changes in scope of consolidation	-	-
Additions expensed in the reporting period	(136)	(185)
Deductions due to write-backs or utilization	112	154
Exchange differences	(19)	1
Accumulated write-downs, December 31	**(374)**	**(404)**

22. Trade accounts receivable

Trade accounts receivable less write-downs amounted to €7,061 million (2010: €6,668 million) on the closing date, including €7,049 million (2010: €6,655 million) maturing within one year and €12 million (2010: €13 million) maturing in subsequent years.

Changes in write-downs of trade accounts receivable were as follows:

Write-Downs of Trade Accounts Receivable [Table 4.58]

	2010	2011
	€ million	€ million
Accumulated write-downs, January 1	**(271)**	**(278)**
Changes in scope of consolidation	-	-
Additions expensed in the reporting period	(76)	(52)
Deductions due to write-backs or utilization	94	77
Exchange differences	(25)	10
Accumulated write-downs, December 31	**(278)**	**(243)**

Trade accounts receivable amounting to €6,984 million (2010: €6,541 million) were not individually impaired. Of this amount, €1,048 million (2010: €920 million) was past due or due immediately on the closing date.

The amounts of impaired and past-due trade accounts receivable are summarized in the following table:

Impaired and Past-Due Trade Accounts Receivable [Table 4.59]

	Carrying amount	Of which neither impaired nor past due at the closing date	Of which unimpaired but past due at the closing date				Of which impaired at the closing date
			up to 3 months*	3–6 months	6–12 months	more than 12 months	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2011	7,061	5,936	595	156	121	176	77
December 31, 2010	6,668	5,621	583	108	101	128	127

* The figures in the column "up to three months" also include receivables due immediately.

The gross carrying amount of individually impaired trade accounts receivable was €180 million (2010: €204 million) and the related write-downs totaled €103 million (2010: €77 million), resulting in a net carrying amount of €77 million (2010: €127 million).

The unimpaired receivables were deemed to be collectible on the basis of established credit management processes and individual assessments of customer risks. The write-downs included an appropriate allowance for default risk.

Receivables from government health service institutions, especially in Greece, Italy, Portugal and Spain, are under special observation in view of the government debt crisis. Although there were no material defaults on such receivables in 2011 or 2010, it is possible that future developments in these countries could result in payment delays and/or defaults. This could necessitate write-downs beyond those already made. Trade accounts receivable from government health service institutions in the above countries at the end of 2011 totaled €341 million, including €22 million in Greece.

Credit insurance existed for selected credit portfolios of the HealthCare and CropScience subgroups (10% and 19% of sales, respectively), with regional variations in coverage. A further amount of receivables was secured by advance payments, letters of credit and guarantees, and €273 million of receivables in Brazil were secured by liens on land, buildings and harvest yields.

23. Other receivables

Other receivables, after write-downs of €61 million (2010: €64 million), were comprised as follows:

Other Receivables [Table 4.60]

	Dec. 31, 2010		Dec. 31, 2011	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Benefit plan assets in excess of obligation	76	-	72	-
Receivables from employees	55	54	46	46
Other tax receivables	422	355	480	414
Deferred charges	233	202	246	216
Miscellaneous receivables	1,048	725	1,209	952
Total	**1,834**	**1,336**	**2,053**	**1,628**

The miscellaneous receivables included claims of €425 million (2010: €159 million) for insurance payments, consisting mainly of claims for refunds in connection with product liability. A miscellaneous receivable of €124 million (2010: €228 million) also existed from the sale of the hematological oncology portfolio – Campath™/MabCampath™, Fludara™ and Leukine™ – to Genzyme Corp., United States. The decrease in the amount of this receivable was mainly due to revenue-based payments received during the year. This receivable was written down by €56 million in 2010.

Of the €713 million (2010: €823 million) in financial receivables included in other receivables, €582 million (2010: €588 million) was unimpaired. Of this amount, €157 million (2010: €138 million) was past due or due immediately on the closing date.

The amounts of impaired and past-due financial receivables included in other receivables are summarized in the following table:

Impaired and Past-Due Other Financial Receivables [Table 4.61]

		Of which neither impaired nor past due at the closing date	Of which unimpaired but past due at the closing date				Of which impaired at the closing date
	Carrying amount		up to 3 months*	3–6 months	6–12 months	more than 12 months	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2011	713	425	84	14	31	28	131
December 31, 2010	823	450	100	8	11	19	235

* The figures in the column "up to 3 months" also include receivables due immediately.

24. Equity

The foremost objectives of our financial management are to help bring about a sustained increase in the value of the Bayer Group for the benefit of all stakeholders, and to ensure the Group's creditworthiness and liquidity. The pursuit of these goals means reducing our cost of capital, optimizing our capital structure, improving our financing cash flow and effectively managing risk.

The rating agencies commissioned by Bayer assess the creditworthiness of the Bayer Group as follows:

Rating [Table 4.62]

	Long-term rating	Outlook	Short-term rating
Standard & Poor's	A-	stable	A-2
Moody's	A3	stable	P-2

These investment-grade ratings reflect the company's good creditworthiness and ensure access to a broad investor base for financing purposes. Bayer's capital management strategy is based on the debt ratios published by the rating agencies, which – by somewhat differing methods – look at the cash flow for a given period in relation to debt. The financial strategy of the Bayer Group focuses on an "A" rating and on preserving our financial flexibility. Apart from utilizing cash inflows from our operating business to reduce net financial debt, we are implementing our financial strategy by way of vehicles such as the subordinated hybrid bond issued in July 2005, the authorized and conditional capital amounts created by resolutions of the Annual Stockholders' Meeting, and a potential share buyback program. Bayer's Articles of Incorporation do not stipulate capital ratios.

The changes in the various components of equity during 2010 and 2011 are shown in the Bayer Group statement of changes in equity.

CAPITAL STOCK

The capital stock of Bayer AG on December 31, 2011 amounted to €2,117 million (2010: €2,117 million), divided into 826,947,808 (2010: 826,947,808) registered shares, and was fully paid in. Each share confers one voting right.

AUTHORIZED CAPITAL

Authorized capital of €530 million was approved by the Annual Stockholders' Meeting on April 30, 2010. It expires on April 29, 2015. It can be used to increase the capital stock by issuing new no-par registered shares against cash contributions and/or contributions in kind, but capital increases against contributions in kind may not exceed a total of €423 million (Authorized Capital I). Stockholders must normally be granted subscription rights. However, subject to the approval of the Supervisory Board, the Board of Management is authorized to exclude subscription rights for the stockholders with respect to any excess shares remaining after rights have been allocated (fractional amounts) and also to the extent necessary to grant subscription rights for new shares to holders of bonds with optional or mandatory warrants or conversion rights issued by Bayer AG or its Group companies who would be entitled to subscription rights upon the exercise of such optional or mandatory warrants or conversion rights. In addition, the Board of Management is authorized to exclude stockholders' subscription rights, subject to the approval of the Supervisory Board, in cases where an increase in capital against contributions in kind is carried out for the purpose of acquiring companies, parts of companies, participating interests in companies or other assets. The amount of capital stock represented by shares issued in the above cases against cash contributions and/or contributions in kind without granting subscription rights to the stockholders must not exceed a total of 20% of the capital stock that existed on the date the authorized capital was approved by the Annual Stockholders' Meeting.

Further authorized capital was approved by the Annual Stockholders' Meeting on April 30, 2010. The Board of Management is authorized until April 29, 2015 to increase the capital stock, subject to the approval of the Supervisory Board, by a total amount of up to €212 million by issuing new no-par registered shares against cash contributions (Authorized Capital II). Under the resolution adopted by the Annual Stockholders' Meeting, stockholders must normally be granted subscription rights. However, the Board of Management is authorized to exclude subscription rights for stockholders with respect to one or more capital increases out of the Authorized Capital II, subject to the approval of the Supervisory Board, provided that such capital increase or the total of such capital increases does not exceed 10% of the capital stock existing at the time this authorization becomes effective or the time it is exercised, for purposes of issuing new shares against cash contributions at a price that is not significantly below the market price of the company's shares of the same category that are already listed on the stock exchange on the date the issue price is finally determined. Any treasury shares acquired on the basis of an authorization of the Stockholders' Meeting and sold pursuant to Section 71 Paragraph 1 No. 8 Sentence 5 of the German Stock Corporation Act in conjunction with Section 186 Paragraph 3 Sentence 4 of the German Stock Corporation Act during the term of this authorization shall count toward the above 10% limit. Shares issued or to be issued to service bonds with optional or mandatory warrants or conversion rights shall also count toward this limit where such bonds were issued during the term of this authorization and stockholders' subscription rights were excluded by application of Section 186 Paragraph 3 Sentence 4 of the German Stock Corporation Act.

Neither of these authorized capital amounts has been utilized so far.

CONDITIONAL CAPITAL

The Annual Stockholders' Meeting on April 30, 2010 approved the creation of Conditional Capital 2010, authorizing a conditional increase of up to €212 million in the capital stock through the issuance of up to 82,694,750 shares. This conditional capital increase may be used to grant registered shares to the holders of warrant bonds, convertible bonds, jouissance rights (Genussrechte) or profit participation bonds (or combinations of these instruments) with optional or mandatory warrants or conversion rights, issued by Bayer AG or a Group company in which Bayer AG holds a direct or indirect interest of at least 90% on or before April 29, 2015 in accordance with authorizations granted by the Annual Stockholders' Meeting of April 30, 2010. The authorization to issue such instruments is limited to a total nominal amount of €6 billion. In principle, stockholders have a statutory right to be granted subscription rights to such instruments. However, the Board of Management is authorized to exclude subscription rights, subject to the approval of the Supervisory Board, if the instruments are issued at a price that is not significantly below the market price. The limit of 10% of the capital stock for the exclusion of stockholders' subscription rights in analogous application of Section 186 Paragraph 3 Sentence 4 of the German Stock Corporation Act may not be exceeded. Both shares and other such instruments shall count toward this limit if they were 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.

Absent a further resolution of the Annual Stockholders' Meeting on the exclusion of stockholders' subscription rights, the Board of Management will only use the existing authorizations to increase the capital stock out of the Authorized Capital or the Conditional Capital – without granting subscription rights to the stockholders – up to a total amount of 20% of the capital stock that existed when the respective resolutions were adopted by the Annual Stockholders' Meeting on April 30, 2010. This 20% limit includes all issuances or sales of shares or of bonds with optional or mandatory warrants or conversion rights that are effected without granting subscription rights to the stockholders.

RETAINED EARNINGS

The retained earnings comprise prior years' undistributed income of consolidated companies and all actuarial gains and losses related to defined benefit pension plans that are not recognized in profit or loss.

ACCUMULATED OTHER COMPREHENSIVE INCOME

Accumulated other comprehensive income comprises exchange differences, the changes in fair values of cash flow hedges and available-for-sale financial assets, and the revaluation surplus. The latter results from the acquisition in 2005 of the remaining 50% interest in an OTC joint venture with Roche in the United States that was established in 1996 and the acquisition of the remaining 50% interest in Bayer MaterialScience Oldenburg GmbH & Co. KG, Oldenburg, Germany, in 2008. An amount of €6 million (2010: €5 million) that constitutes scheduled amortization/depreciation of the respective assets and is recognized in profit or loss was transferred in 2011 from the revaluation surplus to retained earnings.

DIVIDEND

Under the German Stock Corporation Act (AktG), the dividend payment is determined by the distributable profit reported in the annual financial statements of Bayer AG, which are prepared according to the German Commercial Code. Retained earnings were diminished by payment of the dividend of €1.50 per share for 2010. The proposed dividend for the 2011 fiscal year is €1.65 per share, which would result in a total dividend payment of €1,364 million. Payment of the proposed dividend is contingent upon approval by the stockholders at the Annual Stockholders' Meeting and therefore is not recognized as a liability in the consolidated financial statements.

NON-CONTROLLING INTEREST

The changes in the non-controlling interest in Group equity during 2011 and 2010 are shown in the following table:

Changes in Non-Controlling Interest in Equity [Table 4.63]

	2010	2011
	€ million	€ million
January 1	**54**	**63**
Changes in equity not recognized in net income		
Changes in fair value of securities and cash flow hedges	-	-
Changes in actuarial gains/losses on defined benefit obligations for pensions and other post-employment benefits	-	-
Exchange differences on translation of operations outside the eurozone	6	(5)
Deferred taxes on valuation adjustments recognized directly in equity	-	-
Other changes in equity	(3)	1
Dividend payments	(3)	(2)
Changes in equity recognized in profit or loss	**9**	**2**
December 31	**63**	**59**

Non-controlling interests exist mainly in the equities of Bayer CropScience Limited, India; Bayer Jinling Polyurethane Co. Ltd., China; Bayer S.A., Peru; Bayer East Africa Ltd., Kenya; Bayer Pearl Polyurethane Systems FZCO, United Arab Emirates; Bayer Polyurethanes Taiwan Ltd., Taiwan; Bayer CropScience Ltd., Bangladesh; and Sumika Bayer Urethane Co. Ltd., Japan.

25. Provisions for pensions and other post-employment benefits

The provisions for pensions and other post-employment benefits in Germany and other countries as of the closing date were as shown in the following table:

Provisions for Pensions and Other Post-Employment Benefits [Table 4.64]

	Pensions		Other post-employment benefits		Total	
	Dec. 31, 2010	Dec. 31, 2011	Dec. 31, 2010	Dec. 31, 2011	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million	€ million	€ million	€ million	€ million
Germany	5,632	5,970	67	87	5,699	6,057
Other countries	1,143	1,254	463	559	1,606	1,813
Total	**6,775**	**7,224**	**530**	**646**	**7,305**	**7,870**

The expenses for defined benefit pension plans and other post-employment benefit obligations were comprised as follows:

Expenses for Defined Benefit Pension Plans [Table 4.65]

	Germany		Other countries		Total	
	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	144	170	49	59	193	229
Past service cost	(2)	12	-	(40)	(2)	(28)
Interest cost	593	579	257	252	850	831
Expected return on plan assets	(305)	(280)	(248)	(264)	(553)	(544)
Plan curtailments	-	(4)	2	(1)	2	(5)
Plan settlements	-	-	-	-	-	-
Total	**430**	**477**	**60**	**6**	**490**	**483**

Expenses for Other Post-Employment Benefit Obligations [Table 4.66]

	Germany		Other countries		Total	
	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	11	38	22	19	33	57
Past service cost	-	-	-	1	-	1
Interest cost	8	2	49	43	57	45
Expected return on plan assets	-	-	(26)	(24)	(26)	(24)
Plan curtailments	-	-	2	1	2	1
Plan settlements	-	-	-	-	-	-
Total	**19**	**40**	**47**	**40**	**66**	**80**

The unfunded and funded defined benefit obligations developed as follows:

Status of Unfunded and Funded Defined Benefit Obligations

	Germany			
	Pension obligations		Other post-employment benefit obligations	
	2010	2011	2010	2011
	€ million	€ million	€ million	€ million
Defined benefit obligation as of January 1	**10,937**	**11,953**	**71**	**67**
Divestitures/changes in scope of consolidation	(2)	(12)	-	-
Current service cost	144	170	11	38
Interest cost	593	579	8	2
Employee contributions	34	33	-	-
Past service cost	(2)	12	-	-
Plan settlements	-	-	-	-
Net actuarial (gain) loss	834	741	-	-
Benefits paid	(585)	(599)	(23)	(20)
Plan curtailments	-	(4)	-	-
Exchange differences	-	-	-	-
Defined benefit obligation as of December 31	**11,953**	**12,873**	**67**	**87**
Fair value of plan assets as of January 1	**6,092**	**6,342**	**-**	**-**
Divestitures/changes in scope of consolidation	-	(9)	-	-
Expected return on plan assets	305	280	-	-
Net actuarial gain (loss)	(14)	68	-	-
Plan settlements	-	-	-	-
Employer contributions	510	812	23	20
Employee contributions	34	33	-	-
Benefits paid	(585)	(599)	(23)	(20)
Exchange differences	-	-	-	-
Fair value of plan assets as of December 31	**6,342**	**6,927**	**-**	**-**
Funded status as of December 31	**(5,611)**	**(5,946)**	**(67)**	**(87)**
Unrecognized past service cost	-	-	-	-
Asset limitation due to uncertainty of obtaining future benefits	-	-	-	-
Net amount recognized as of December 31	**(5,611)**	**(5,946)**	**(67)**	**(87)**
Amounts recognized in the statement of financial position				
Benefit plan assets in excess of obligation	21	24	-	-
Provisions for pensions and other post-employment benefits	(5,632)	(5,970)	(67)	(87)
Net amount recognized as of December 31	**(5,611)**	**(5,946)**	**(67)**	**(87)**

[Table 4.67]

	Other Countries				Total			
	Pension obligations		Other post-employment benefit obligations		Pension obligations		Other post-employment benefit obligations	
	2010	2011	2010	2011	2010	2011	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	4,173	**4,880**	**750**	**799**	**15,110**	**16,833**	**821**	**866**
	-	(11)	-	-	(2)	(23)	-	-
	49	59	22	19	193	229	33	57
	257	252	49	43	850	831	57	45
	5	5	-	-	39	38	-	-
	4	(38)	-	-	2	(26)	-	-
	(2)	-	-	-	(2)	-	-	-
	335	477	(48)	52	1,169	1,218	(48)	52
	(224)	(260)	(39)	(37)	(809)	(859)	(62)	(57)
	2	(1)	2	1	2	(5)	2	1
	281	96	63	14	281	96	63	14
	4,880	**5,459**	**799**	**891**	**16,833**	**18,332**	**866**	**978**
	3,137	**3,805**	**304**	**339**	**9,229**	**10,147**	**304**	**339**
	-	(7)	-	-	-	(16)	-	-
	248	264	26	24	553	544	26	24
	153	(30)	15	(9)	139	38	15	(9)
	(2)	-	-	-	(2)	-	-	-
	276	393	9	10	786	1,205	32	30
	5	5	-	-	39	38	-	-
	(224)	(260)	(39)	(37)	(809)	(859)	(62)	(57)
	212	94	24	9	212	94	24	9
	3,805	**4,264**	**339**	**336**	**10,147**	**11,191**	**339**	**336**
	(1,075)	**(1,195)**	**(460)**	**(555)**	**(6,686)**	**(7,141)**	**(527)**	**(642)**
	2	5	(3)	(4)	2	5	(3)	(4)
	(15)	(16)	-	-	(15)	(16)	-	-
	(1,088)	**(1,206)**	**(463)**	**(559)**	**(6,699)**	**(7,152)**	**(530)**	**(646)**
	55	48	-	-	76	72	-	-
	(1,143)	(1,254)	(463)	(559)	(6,775)	(7,224)	(530)	(646)
	(1,088)	**(1,206)**	**(463)**	**(559)**	**(6,699)**	**(7,152)**	**(530)**	**(646)**

The actual returns on the assets of defined benefit plans for pensions and those for other post-employment benefits amounted to €582 million (2010: €692 million) and €15 million (2010: €41 million), respectively. The actual return is the balance of the expected return on plan assets and the actuarial gains or losses incurred thereon.

The net actuarial losses related to obligations for pensions and those for other post-employment benefits, amounting to €1,180 million (€2010: €1,030 million) and €61 million (2010: gain of €63 million), respectively, were recognized outside profit or loss.

The following table shows the defined benefit obligations for pensions and other post-employment benefits along with the funded status of the funded obligations.

Defined Benefit Obligation and Funded Status [Table 4.68]

	2010	2011
	€ million	€ million
Defined benefit obligation for pensions	**16,833**	**18,332**
of which unfunded	5,487	5,451
of which funded	11,346	12,881
Defined benefit obligation for other post-employment benefits	**866**	**978**
of which unfunded	190	210
of which funded	676	768
Funded status of funded pension obligations		
Overfunding	92	79
Underfunding	1,291	1,769
Funded status of funded obligations for other post-employment benefits		
Overfunding	-	-
Underfunding	337	432

Unfunded post-employment benefit obligations related mainly to early retirement benefits in Germany.

Group companies provide retirement benefits for most of their employees, either directly or by contributing to privately or publicly administered funds. The way these benefits are provided varies according to the legal, fiscal and economic conditions of each country, the benefits generally being based on employee compensation and years of service. The obligations relate both to existing retirees' pensions and to pension entitlements of future retirees.

The Bayer Group has set up funded pension plans for its employees in many countries. Since the legal and tax requirements and economic conditions may vary considerably between countries, assets are managed according to country-specific principles. For plan assets, stress scenarios are simulated and other risk analyses (such as value at risk) undertaken with the aid of risk management systems. Other determinants are risk diversification, portfolio efficiency and a country-specific and global balance of opportunity and risk designed primarily to ensure the payment of all future benefits.

Bayer-Pensionskasse VVaG (Bayer-Pensionskasse) in Germany is by far the most significant of the pension funds. This legally independent fund is a private insurance company and is therefore subject to the German Law on the Supervision of Private Insurance Companies. Under the German law on secondary liability, Bayer guarantees the pension entitlements of employees who are members of benefit plans in Germany. Bayer-Pensionskasse is classified as a defined benefit plan for IFRS purposes.

The investment policy of Bayer-Pensionskasse is geared to compliance with regulatory provisions and to the risk structure resulting from its obligations. In light of capital market movements, Bayer-Pensionskasse has therefore developed a strategic target investment portfolio aligned to its risk structure. Its investment strategy is focused primarily on stringently managing downside risks rather than on maximizing absolute returns. It is anticipated that with this investment policy, Bayer-Pensionskasse can generate a return that enables it to meet its long-term commitments.

A large proportion of the benefit obligations of Bayer Pharma AG, Berlin, Germany, which was acquired in 2006, and of other benefit arrangements in the Bayer Group is covered by Bayer Pension Trust e.V. Schering Altersversorgung Treuhand Verein, which previously held the trust assets corresponding to these obligations, was merged with Bayer Pension Trust e.V. in 2011. Here too, the investment strategy is geared to the structure of the corresponding obligations. It permits the use of derivatives. Nearly all currency risks are fully hedged.

For plan assets in other countries as well, the key investment strategy criteria are the structure of the benefit obligations and the risk profile.

The weighted parameters used to value the plan assets to cover pensions and other post-employment benefit obligations were allocated as follows at year end:

Plan Assets to Cover Pension Obligations as of December 31 [Table 4.69]

	Germany		Other countries	
	2010	2011	2010	2011
	%	%	%	%
Equity securities	19	18	39	37
Debt securities	60	64	49	51
Real estate and special real estate funds	8	7	2	3
Other	13	11	10	9
Total	**100**	**100**	**100**	**100**

Plan Assets to Cover Other Post-Employment Benefit Obligations as of December 31 [Table 4.70]

	Germany		Other countries	
	2010	2011	2010	2011
	%	%	%	%
Equity securities	-	-	37	34
Debt securities	-	-	40	43
Real estate and special real estate funds	-	-	-	-
Other	-	-	23	23
Total	**-**	**-**	**100**	**100**

The fair value of the plan assets included real estate leased by Bayer, recognized at a fair value of €74 million (2010: €74 million), and Bayer shares held through investment funds, recognized at their fair value of €26 million (2010: €24 million). The other plan assets principally comprise mortgage loans granted, other receivables, fixed-term deposits and cash and cash equivalents.

The following weighted parameters were used to value the pension obligations as of December 31 and the expense for pensions and other post-employment benefits in the respective year:

Parameters for Benefit Obligations [Table 4.71]

	Germany		Other countries		Total	
	2010	2011	2010	2011	2010	2011
	%	%	%	%	%	%
Pension obligations						
Discount rate	4.90	4.50	5.40	4.60	5.05	4.50
of which U.S.A.			5.20	4.10	5.20	4.10
of which U.K.			5.50	4.70	5.50	4.70
Projected future remuneration increases	3.00	3.00	4.25	3.65	3.35	3.20
Projected future benefit increases	1.75	1.75	3.50	3.15	2.25	2.15
Other post-employment benefit obligations						
Discount rate	3.10	3.50	5.70	4.80	5.50	4.70

Parameters for Benefit Expense [Table 4.72]

	Germany		Other countries		Total	
	2010	2011	2010	2011	2010	2011
	%	%	%	%	%	%
Pension obligations						
Discount rate	5.50	4.90	5.90	5.40	5.60	5.05
Projected future remuneration increases	2.50	3.00	4.15	4.25	2.95	3.35
Projected future benefit increases	1.75	1.75	3.50	3.50	2.25	2.25
Expected return on plan assets	4.60	4.20	7.25	6.70	5.60	5.15
Other post-employment benefit obligations						
Discount rate	3.10	3.10	6.20	5.70	5.95	5.50
Expected return on plan assets	-	-	7.95	7.65	7.95	7.65

Altering individual parameters by 0.5 percentage points while leaving the other parameters unchanged would have impacted pension and other post-employment benefit obligations as of year end 2011 as follows:

Sensitivity of Benefit Obligations [Table 4.73]

	Germany		Other countries		Total	
	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
Change in discount rate	(874)	985	(358)	393	(1,232)	1,378
Change in projected future remuneration increases	95	(85)	41	(38)	136	(123)
Change in projected future benefit increases	620	(571)	87	(70)	707	(641)
Other post-employment benefit obligations						
Change in discount rate	(1)	1	(50)	56	(51)	57

Altering individual parameters by 0.5 percentage points while leaving the other parameters unchanged would impact benefit expense in 2012 as follows:

Sensitivity of Benefit Expense [Table 4.74]

	Germany		Other countries		Total	
	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease	0.5 percentage point increase	0.5 percentage point decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
Change in discount rate	(3)	3	4	(5)	1	(2)
Change in projected future remuneration increases	10	(9)	4	(4)	14	(13)
Change in projected future benefit increases	36	(33)	6	(4)	42	(37)
Change in expected return on plan assets	(34)	34	(21)	21	(55)	55
Other post-employment benefit obligations						
Change in discount rate	-	-	-	-	-	-
Change in expected return on plan assets	-	-	(2)	2	(2)	2

Provisions are also set up for the obligations, mainly of U.S. subsidiaries, to provide post-employment benefits in the form of health care cost payments to retirees. The valuation of health care costs was based on the assumption that they will increase at a rate of 8.5% (assumption in 2010: 9.0%), which should gradually decline to 5.0% (2010: 5.0%) by 2018. The following table shows the impact on other post-employment benefit obligations and total benefit expense of a one-percentage-point change in the assumed cost increase rates:

Sensitivity to Health Care Cost Increases [Table 4.75]

	Increase of one percentage point	Decrease of one percentage point
	€ million	€ million
Impact on other post-employment benefit obligations	101	(84)
Impact on benefit expense	8	(6)

The following payments correspond to the employer contributions made or expected to be made to funded and unfunded pension and other post-employment benefit plans:

Employer Contributions Paid or Expected [Table 4.76]

	Germany			Other countries		
	2010	2011	2012 expected	2010	2011	2012 expected
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations	510	812	418	276	393	132
Other post-employment benefit obligations	23	20	22	9	10	20
Total	**533**	**832**	**440**	**285**	**403**	**152**

Pensions and other post-employment benefits payable in the future are estimated as follows:

Future Benefit Obligations [Table 4.77]

	Germany		Other countries		Total	
	Pension obligations	Other post-employment benefit obligations	Pension obligations	Other post-employment benefit obligations	Pension obligations	Other post-employment benefit obligations
	€ million	€ million	€ million	€ million	€ million	€ million
2012	622	22	243	46	865	68
2013	624	21	245	47	869	68
2014	625	15	257	49	882	64
2015	633	11	266	52	899	63
2016	646	8	283	54	929	62
2017–2021	3,384	10	1,465	299	4,849	309

The actuarial gains and losses related to defined benefit obligations and plan assets, reflected in the statement of changes in equity and recognized in other comprehensive income, were as follows:

Changes in Accumulated Actuarial Gains and Losses Related to Defined Benefit Obligations and Plan Assets

	Pension obligations Germany					Pension obligations Other countries				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Defined benefit obligation	10,458	10,319	10,937	11,953	12,873	3,705	3,752	4,173	4,880	5,459
Fair value of plan assets	6,165	6,032	6,092	6,342	6,927	3,568	2,651	3,137	3,805	4,264
Funded status	**(4,293)**	**(4,287)**	**(4,845)**	**(5,611)**	**(5,946)**	**(137)**	**(1,101)**	**(1,036)**	**(1,075)**	**(1,195)**
Accumulated actuarial gains (losses) relating to benefit obligation as of										
January 1	**(2,293)**	**(1,197)**	**(910)**	**(1,342)**	**(2,176)**	**(657)**	**(403)**	**(513)**	**(822)**	**(1,157)**
Changes due to divestitures and changes in scope of consolidation	1	-	-	-	2	-	-	-	-	1
Newly arisen during the year due to changes in actuarial parameters	1,097	450	(396)	(892)	(708)	299	40	(368)	(311)	(484)
Newly arisen during the year due to experience adjustments	(2)	(163)	(36)	58	(33)	(29)	(178)	59	(24)	7
Allocations to discontinued operations	-	-	-	-	-	-	-	-	-	-
Exchange differences	-	-	-	-	-	(16)	28	-	-	-
December 31	**(1,197)**	**(910)**	**(1,342)**	**(2,176)**	**(2,915)**	**(403)**	**(513)**	**(822)**	**(1,157)**	**(1,633)**
Accumulated actuarial gains (losses) relating to plan assets as of										
January 1	**(846)**	**(920)**	**(1,133)**	**(1,147)**	**(1,161)**	**15**	**7**	**(886)**	**(606)**	**(453)**
Changes due to divestitures and changes in scope of consolidation	4	-	-	-	(1)	-	-	-	-	(1)
Newly arisen during the year	(78)	(213)	(14)	(14)	68	(9)	(893)	280	153	(30)
Allocations to discontinued operations	-	-	-	-	-	-	-	-	-	-
Exchange differences	-	-	-	-	-	1	-	-	-	-
December 31	**(920)**	**(1,133)**	**(1,147)**	**(1,161)**	**(1,094)**	**7**	**(886)**	**(606)**	**(453)**	**(484)**
Accumulated actuarial gains (losses) relating to benefit obligation and plan assets as of December 31	**(2,117)**	**(2,043)**	**(2,489)**	**(3,337)**	**(4,009)**	**(396)**	**(1,399)**	**(1,428)**	**(1,610)**	**(2,117)**

In Germany, no unrealized gains/losses exist in relation to other post-employment benefit obligations.

[Table 4.78]

	Other post-employment benefit obligations Other countries					Pension obligations Total					Other post-employment benefit obligations Total				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	718	730	750	799	891	14,163	14,071	15,110	16,833	18,332	859	839	821	866	978
	339	251	304	339	336	9,733	8,683	9,229	10,147	11,191	339	251	304	339	336
	(379)	**(479)**	**(446)**	**(460)**	**(555)**	**(4,430)**	**(5,388)**	**(5,881)**	**(6,686)**	**(7,141)**	**(520)**	**(588)**	**(517)**	**(527)**	**(642)**
	(311)	**(221)**	**(195)**	**(199)**	**(151)**	**(2,950)**	**(1,600)**	**(1,423)**	**(2,164)**	**(3,333)**	**(311)**	**(221)**	**(195)**	**(199)**	**(151)**
	-	-	-	-	-	1	-	-	-	3	-	-	-	-	-
	33	(10)	(8)	19	(81)	1,396	490	(764)	(1,203)	(1,192)	33	(10)	(8)	19	(81)
	64	36	4	29	29	(31)	(341)	23	34	(26)	64	36	4	29	29
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	(7)	-	-	-	-	(16)	28	-	-	-	(7)	-	-	-	-
	(221)	**(195)**	**(199)**	**(151)**	**(203)**	**(1,600)**	**(1,423)**	**(2,164)**	**(3,333)**	**(4,548)**	**(221)**	**(195)**	**(199)**	**(151)**	**(203)**
	(24)	**(25)**	**(162)**	**(124)**	**(109)**	**(831)**	**(913)**	**(2,019)**	**(1,753)**	**(1,614)**	**(24)**	**(25)**	**(162)**	**(124)**	**(109)**
	-	-	-	-	-	4	-	-	-	(2)	-	-	-	-	-
	(1)	(137)	38	15	(9)	(87)	(1,106)	266	139	38	(1)	(137)	38	15	(9)
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	(25)	**(162)**	**(124)**	**(109)**	**(118)**	**(913)**	**(2,019)**	**(1,753)**	**(1,614)**	**(1,578)**	**(25)**	**(162)**	**(124)**	**(109)**	**(118)**
	(246)	**(357)**	**(323)**	**(260)**	**(321)**	**(2,513)**	**(3,442)**	**(3,917)**	**(4,947)**	**(6,126)**	**(246)**	**(357)**	**(323)**	**(260)**	**(321)**

26. Other provisions

Changes in the various provision categories in 2011 were as follows:

Changes in Other Provisions [Table 4.79]

	Taxes	Environmental protection	Restructuring	Trade-related commitments	Litigations	Personnel commitments	Miscellaneous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2010	**903**	**281**	**129**	**1,028**	**907**	**1,729**	**371**	**5,348**
Changes in scope of consolidation	2	-	-	-	-	(1)	(29)	(28)
Additions	553	54	357	1,051	540	1,328	164	4,047
Utilization	(359)	(33)	(57)	(829)	(731)	(1,077)	(162)	(3,248)
Reversal	(97)	(16)	(11)	(58)	(56)	(67)	(43)	(348)
Interest cost	-	4	-	-	-	23	-	27
Exchange differences	-	(3)	12	25	27	11	(3)	69
December 31, 2011	**1,002**	**287**	**430**	**1,217**	**687**	**1,946**	**298**	**5,867**

The provisions recognized in the statement of financial position as of December 31, 2011 were expected to be utilized as follows:

Expected Utilization of Other Provisions [Table 4.80]

	Taxes	Environmental protection	Restructuring	Trade-related commitments	Litigations	Personnel commitments	Miscellaneous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2012	612	56	301	1,176	477	1,394	202	4,218
2013	6	34	62	32	136	77	21	368
2014	88	35	23	4	12	77	4	243
2015	-	8	9	2	7	113	-	139
2016	129	4	7	2	3	46	19	210
2017 or later	167	150	28	1	52	239	52	689
Total	**1,002**	**287**	**430**	**1,217**	**687**	**1,946**	**298**	**5,867**

The provisions were partly offset by claims for refunds in the amount of €406 million (2010: €137 million), which were recognized as receivables. They related principally to claims for refunds in connection with product liability and to environmental measures.

26.1 Taxes

Provisions for taxes comprised provisions for income taxes amounting to €886 million (2010: €772 million) and provisions for other types of taxes amounting to €116 million (2010: €131 million).

Further income tax commitments according to IAS 12 (Income Taxes) existed at year end in the amount of €76 million (2010: €62 million) recognized in the statement of financial position as income tax liabilities.

26.2 Environmental protection

Provisions for environmental protection mainly related to the rehabilitation of contaminated land, recultivation of landfills, and redevelopment and water protection measures.

26.3 Restructuring

Provisions for restructuring included €315 million (2010: €109 million) for severance payments and €115 million (2010: €20 million) for other restructuring expenses, which mainly comprised other costs related to the closure of production facilities.

A restructuring program was launched in the HealthCare subgroup in November 2010 to improve its efficiency for the long term. The measures, which relate to all functional areas, are intended to produce sustained cost savings and ensure a shift in the subgroup's activities from the mature markets toward the emerging markets. Significant individual restructuring measures took place in Germany, Japan, France and the United States. Provisions for the above and other restructuring measures at HealthCare as of December 31, 2011, amounted to €194 million. Of this amount, severance payments accounted for €185 million and other restructuring expenses for €9 million.

During 2011 a restructuring program was launched in the CropScience subgroup to improve cost efficiency and increase flexibility. Significant individual measures took place in the United States, Germany and France. In the U.S., several carbamate production facilities in Institute, West Virginia, were shut down and the formulation plant in Woodbine, Georgia, was closed. Provisions for the above and other restructuring measures at CropScience as of December 31, 2011 amounted to €186 million, including €107 million for severance payments and €79 million for other restructuring expenses.

The restructuring measures carried out in the MaterialScience subgroup related mainly to the optimization of the production site in New Martinsville, West Virginia, United States. Provisions for restructuring at MaterialScience as of December 31, 2011 amounted to €7 million and related to severance payments.

Significant individual restructuring measures in the Business Services area concerned the closure of the site printing company Dynevo GmbH and the transfer of parts of the IT infrastructure services in Germany to another provider. Provisions for restructuring in the Business Services area as of December 31, 2011 amounted to €34 million, including €7 million for severance payments and €27 million for other restructuring expenses.

26.4. Trade-related commitments

Provisions for trade-related commitments comprised provisions for rebates, discounts and other price adjustments, product returns, outstanding invoices, pending losses and onerous contracts.

26.5 Litigations

The legal risks currently considered to be material, and their development, are described in Note [32].

26.6 Personnel commitments

Provisions for personnel commitments mainly include those for variable and individual one-time payments, credit balances on long-term accounts, service awards, early retirements, pre-retirement part-time working arrangements and other personnel costs. Also reflected here are the obligations under the stock-based compensation programs. Provisions for severance payments resulting from restructuring are reflected in provisions for restructuring.

STOCK-BASED COMPENSATION PROGRAMS

The Bayer Group offers stock-based compensation programs collectively to different groups of employees. As required by IFRS 2 (Share-based Payment) for compensation systems involving cash settlement, awards to be made under the stock-based programs are covered by provisions in the amount of the fair value of the obligations existing as of the date of the financial statements vis-à-vis the respective employee group. All resulting valuation adjustments are recognized in profit or loss.

The following table shows the changes in provisions for the various programs:

Changes in Provisions for Stock-Based Compensation Programs [Table 4.81]

	Stock Incentive Program	Stock Participation Program	Aspire I (three-year program)	Aspire II (three-year program)	Aspire I (four-year program)	Aspire II (four-year program)	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2010	**2**	**10**	**29**	**30**	**5**	**7**	**83**
Additions	-	3	22	21	5	4	55
Utilization	(1)	(4)	(9)	(1)	-	-	(15)
Reversal	-	(3)	(4)	(3)	-	(1)	(11)
Exchange differences	-	-	-	1	-	1	2
December 31, 2011	**1**	**6**	**38**	**48**	**10**	**11**	**114**

Total expense for all stock-based compensation programs in 2011 was €55 million (2010: €42 million).

The fair value of obligations under the standard stock-based compensation programs has been calculated using the Monte Carlo simulation method based on the following key parameters:

Parameters for Monte Carlo Simulation [Table 4.82]

	2010	2011
Dividend yield	2.69%	3.38%
Risk-free interest rate (three-year program)	1.12%	0.32%
Risk-free interest rate (four-year program)	1.50%	0.56%
Volatility of Bayer stock	34.43%	29.77%
Volatility of the EURO STOXX 50	31.09%	26.85%
Correlation between Bayer stock price and the EURO STOXX 50	0.69	0.68

LONG-TERM INCENTIVE PROGRAM FOR MEMBERS OF THE BOARD OF MANAGEMENT AND OTHER SENIOR EXECUTIVES (ASPIRE I)

Since 2005, members of the Board of Management and other senior executives have been entitled to participate in Aspire I on the condition that they purchase a certain number of Bayer shares – determined for each individual according to specific guidelines – and retain them for the full term of the program. A percentage of the executive's annual base salary – based on his/her position – is defined as a target for variable payments (Aspire target opportunity). Depending on the performance of Bayer stock, both in absolute terms and relative to the Dow Jones EURO STOXX 50 benchmark index during a three-year performance period (or, starting with the regular 2010 tranche, a four-year performance period), participants are granted an award of up to 300% of their individual Aspire target opportunity for four-year tranches, or 200% for three-year tranches, at the end of the program. In 2010 a final tranche with a three-year performance period was issued in addition.

LONG-TERM INCENTIVE PROGRAM FOR MIDDLE MANAGEMENT (ASPIRE II)

Also since 2005, other senior managers and middle managers have been offered Aspire II, a variant of Aspire I that does not require a personal investment in Bayer shares. In this case, the amount of the award is based entirely on the absolute performance of Bayer stock. The maximum award is 250% of each manager's Aspire target opportunity for four-year tranches, or 150% for three-year tranches.

BAYSHARE 2011

All management levels and non-managerial employees are offered an annual stock participation program known as "BayShare," under which Bayer subsidizes their personal investments in the company's stock. The discount under this program is set separately each year. In 2011 it was 20% (2010: 20%) of the subscription amount. Employees stated a fixed amount that they wished to invest in shares. The maximum subscription amount was set at €2,500 (2010: €2,500) or €5,000 (2010: €5,000), depending on the employee's position. The shares thus acquired must be retained until December 31 of the year following the year of purchase.

In 2011 employees purchased a total of about 501,000 shares (2010: 405,000 shares) under the BayShare program.

STOCK-BASED COMPENSATION PROGRAMS 2001–2004

The stock-based compensation programs offered to the different employee groups in 2001 through 2004 all had similar basic structures. Changes in the obligations under these programs are reflected in the financial statements at fair value through profit or loss. Entitlements to awards under these programs are conditioned on retention of the Bayer shares for a certain time period. The tranches issued in 2001 expired in 2011.

The following table shows the programs issued through 2004 and still ongoing, for which provisions of €7 million were established:

Stock-Based Compensation Programs 2002–2004 [Table 4.83]

	Stock Incentive Program	Stock Participation Program
Year of issue	2002–2004	2002–2004
Original term in years	10	10
Retention period/distribution date in years from issue date	2 / 6 / 10	2 / 6 / 10
Reference price	-	-
Performance criteria	yes	no

STOCK INCENTIVE PROGRAM

A Stock Incentive Program was offered to middle management until 2004. Participants receive a cash payment equivalent to a defined number of Bayer shares on certain dates during the ten-year duration of the program. For every ten shares held in a special account (personal investment), they receive two shares after two years, and a further four shares after six and ten years, respectively. To qualify for these payments, they must still hold the personal investment on the incentive payment dates and the percentage rise in the price of Bayer stock by the payment date must be above the performance of the Dow Jones EURO STOXX 50 since the start of the program. Participants may sell their shares during the term of the program. However, the shares sold do not qualify for incentive payments on subsequent distribution dates. The number of shares that each employee could transfer to the program was equivalent to half of his or her performance-related bonus for the preceding fiscal year.

STOCK PARTICIPATION PROGRAM

The structure of this program, which was offered to the other employee groups until 2004, is similar to the Stock Incentive Program. However, the incentive payments are based exclusively on the period for which employees hold their personal investment in Bayer shares. Incentive payments are half those allocated under the Stock Incentive Program. For every ten shares held, participants receive the equivalent of one share after two years and the equivalent of a further two shares after six and ten years, respectively.

26.7 Miscellaneous

Miscellaneous provisions comprise those for guarantees, product liability, asset retirement obligations (other than those included in provisions for environmental protection), contingent liabilities relating to acquisitions, and provisions for miscellaneous liabilities.

27. Financial liabilities

Financial liabilities were comprised as follows:

Financial Liabilities [Table 4.84]

	Dec. 31, 2010		Dec. 31, 2011	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Bonds and notes/promissory notes	8,209	650	7,710	2,453
Liabilities to banks	2,271	760	2,657	729
Liabilities under finance leases	562	50	554	53
Liabilities from forward commodity contracts	66	55	17	17
Liabilities from other derivatives	529	240	513	268
Other financial liabilities	196	134	228	164
Total	**11,833**	**1,889**	**11,679**	**3,684**

A breakdown of financial liabilities by contractual maturity is given below:

Maturities of Financial Liabilities [Table 4.85]

Maturity	Dec. 31, 2010	Maturity	Dec. 31, 2011
	€ million		€ million
2011	1,889	2012	3,684
2012	2,893	2013	1,579
2013	1,513	2014	1,788
2014	1,770	2015	903
2015	815	2016	398
2016 or later	2,953	2017 or later	3,327
Total	**11,833**	**Total**	**11,679**

The Bayer Group's financial liabilities are mostly unsecured and – with the exception of the subordinated €1,300 million hybrid bond – are of equal priority.

In addition to promissory notes in the amount of €370 million (2010: €620 million), the Bayer Group has issued the following bonds and notes:

Bonds and Notes [Table 4.86]

Effective interest rate	Stated rate		Nominal volume	Dec. 31, 2010	Dec. 31, 2011
				€ million	€ million
		Bayer AG			
6.075%	6.000%	EMTN bond 2002/2012	EUR 2,000 million	2,030	2,005
5.155%	5.000%	Hybrid bond 2005/2105 (2015)	EUR 1,300 million	1,303	1,344
4.621%	4.500%	EMTN bond 2006/2013	EUR 1,000 million	1,003	1,001
5.774%	5.625%	EMTN bond 2006/2018	GBP 250 million	287	297
5.541%	5.625%	EMTN bond 2006/2018 (increase)	GBP 100 million	117	120
4.464%	4.375%	EMTN bond 2007/2011	EUR 200 million	200	-
4.038%	4.000%	EMTN bond 2008/2011	EUR 200 million	200	-
		Bayer Capital Corporation B.V.			
4.750%	4.625%	EMTN bond 2009/2014	EUR 1,300 million	1,293	1,292
		Bayer Corporation			
7.180%	7.125%	Notes 1995/2015	US$ 200 million	162	170
6.670%	6.650%	Notes 1998/2028	US$ 350 million	260	314
		Bayer Holding Ltd.			
2.006%	1.955%	EMTN bond 2007/2012	JPY 15 billion	138	149
Floating	Floating	EMTN bond 2007/2012	JPY 30 billion	275	299
Floating	Floating	EMTN bond 2008/2013	JPY 10 billion	92	100
3.654%	3.575%	EMTN bond 2008/2018	JPY 15 billion	137	149
1.459%	1.459%	EMTN bond 2010/2017	JPY 10 billion	92	100
		Total		**7,589**	**7,340**

In June 2010, Bayer Holding Ltd. issued a corporate bond under the multi-currency Euro Medium Term Notes (EMTN) program with a nominal volume of JPY 10 billion and a coupon of 1.459%. The bond has a maturity of seven years.

In March 2009, Bayer Capital Corporation B.V. issued a corporate bond under the EMTN program with a nominal volume of €1,300 million and a maturity of five and a half years. The bond bears a coupon of 4.625%.

In December 2008, Bayer AG issued a bond under the EMTN program with a nominal volume of €200 million and a 4% coupon. It was redeemed at maturity on January 27, 2011.

In June 2008, Bayer Holding Ltd. issued a floating-rate bond with a nominal volume of JPY 10 billion under the EMTN program. The bond has a maturity of five years and a variable coupon comprising the three-month JPY LIBOR plus 56 basis points. In December 2008, Bayer Holding Ltd. also issued a bond with a nominal volume of JPY 15 billion under this program. This bond has a coupon of 3.575% and matures on December 19, 2018.

In June 2007, Bayer Holding Ltd. launched bond issues under the EMTN program. These included a five-year bond with a nominal volume of JPY 15 billion and a coupon of 1.955% and a floating-rate note with a nominal volume of JPY 30 billion. The latter has a maturity of five years and a coupon comprising the three-month JPY LIBOR plus 26 basis points.

In April 2007, Bayer AG issued a four-year bond under the EMTN program with a nominal volume of €200 million and a coupon of 4.375%. It was redeemed at maturity in April 2011.

In May 2006, Bayer AG launched a bond with a nominal volume of €1,000 million, a maturity of seven years and a coupon of 4.5% along with a sterling (GBP) bond with a nominal volume of GBP 250 million under its EMTN program as part of the financing of the Schering acquisition. A second tranche of the latter bond in the amount of GBP 100 million was issued in the same year. The sterling bond has a coupon of 5.625% and matures in 2018. The entire issue has been swapped into euros.

In July 2005, Bayer AG issued a 100-year subordinated hybrid bond with a volume of €1,300 million. This issue matures in 2105 and has a fixed coupon of 5% in the first ten years. Thereafter, interest is calculated quarterly at a floating rate (three-month EURIBOR plus 280 basis points). After the first ten years, Bayer AG has a quarterly option to redeem the bonds at face value. The coupon is payable in arrears. This bond is treated as 75% equity by Moody's and as 50% equity by Standard & Poor's and therefore improves the Bayer Group's rating-specific debt indicators.

In April 2002, Bayer AG issued a ten-year bond with a nominal volume of €2,000 million and a fixed coupon of 6% under the EMTN program. Interest is paid annually in arrears.

In February 1998, Bayer Corporation issued notes with a nominal volume of US$350 million to eligible institutional investors. The notes have a maturity of 30 years and a coupon of 6.65%. Interest is paid semi-annually. In September 1995 Bayer Corporation issued notes with a nominal volume of US$200 million and a 7.125% coupon. These 20-year notes mature in October 2015. Interest is paid semi-annually in April and October.

Bayer AG guarantees all the bonds issued by its subsidiaries.

The long-term liabilities to banks principally comprised bank loans to foreign subsidiaries.

As of December 31, 2011, the Group had credit facilities at its disposal totaling €6.3 billion (2010: €6.6 billion), of which €2.7 billion (2010: €2.3 billion) was used and €3.6 billion (2010: €4.3 billion) was unused and thus available for borrowing on an unsecured basis.

Lease payments totaling €657 million (2010: €704 million), including €103 million (2010: €142 million) in interest, are to be made under finance leases to the respective lessors in future years.

The liabilities under finance leases mature as follows:

Leasing Liabilities [Table 4.87]

	Dec. 31, 2010				Dec. 31, 2011		
Maturity	Lease payments	Interest component	Liabilities under finance leases	Maturity	Lease payments	Interest component	Liabilities under finance leases
	€ million	€ million	€ million		€ million	€ million	€ million
2011	79	29	50	2012	77	24	53
2012	66	25	41	2013	245	19	226
2013	236	20	216	2014	42	11	31
2014	40	12	28	2015	36	11	25
2015	34	11	23	2016	35	10	25
2016 or later	249	45	204	2017 or later	222	28	194
Total	**704**	**142**	**562**	**Total**	**657**	**103**	**554**

Further information on the accounting for liabilities from derivatives is given in Note [30].

28. Trade accounts payable

Trade accounts payable comprised €3,730 million (2010: €3,461 million) due within one year and €49 million (2010: €36 million) due after one year.

29. Other liabilities

Other liabilities comprised:

Other Liabilities [Table 4.88]

	Dec. 31, 2010		Dec. 31, 2011	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Accrued interest on liabilities	257	246	227	218
Liabilities to employees	143	120	175	153
Liabilities for social expenses	174	152	161	141
Other tax liabilities	264	264	358	303
Liabilities to non-controlling interest	67	-	61	-
Deferred income	341	103	389	136
Miscellaneous liabilities	742	632	733	679
Total	**1,988**	**1,517**	**2,104**	**1,630**

The €61 million (2010: €67 million) in liabilities to non-controlling interest included the third-party share of the equity of Currenta GmbH & Co. OHG and its subsidiaries Chemion Logistik GmbH and TECTRION GmbH.

The deferred income included €72 million (2010: €77 million) in grants and subsidies received from governments, of which €14 million (2010: €9 million) was reversed and recognized in profit or loss.

The miscellaneous liabilities included €172 million (2010: €116 million) from derivative hedging transactions and an advance payment of €79 million received from Agile Real Estate Pvt. Ltd., India, in connection with the sale of a parcel of land in Thane, India.

30. Financial instruments

The system used by the Bayer Group to manage credit risk, liquidity risk and the various types of market risks (interest-rate risk, currency risk and other price risks), together with its objectives, methods and procedures, is outlined in the Risk Report, which forms part of the Combined Management Report.

30.1 Information on financial instruments by category

The following table shows the carrying amounts and fair values of financial assets and liabilities by category of financial instrument and a reconciliation to the corresponding line item in the statements of financial position. Since the line items "Other receivables," "Trade accounts payable" and "Other liabilities" contain both financial instruments and non-financial assets or liabilities (such as other tax receivables or advance payments for services to be received in the future), the reconciliation is shown in the column headed "Non-financial assets/liabilities."

Carrying Amounts and Fair Values of Financial Instruments

	Dec. 31, 2010						
		Carried at amortized cost	Carried at fair value			Non-financial assets/ liabilities	
	Carrying amount Dec. 31, 2010	Fair value (for information)	Based on quoted prices in active markets: Carrying amount	Based on market-derived data: Carrying amount	Based on individual valuation parameters: Carrying amount	Carrying amount	Carrying amount in the statement of financial position
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Trade accounts receivable	6,668						6,668
Loans and receivables	6,668	6,668					6,668
Other financial assets	971		701	476	24		2,172
Loans and receivables	816	821					816
Available-for-sale financial assets	54		701		3		758
Held-to-maturity financial assets	101	105					101
Derivatives that qualify for hedge accounting				201			201
Derivatives that do not qualify for hedge accounting				275	21		296
Other receivables	823					1,011	1,834
Loans and receivables	823	823					823
Non-financial assets						1,011	1,011
Cash and cash equivalents	2,840						2,840
Loans and receivables	2,840	2,840					2,840
Total financial assets	**11,302**		**701**	**476**	**24**		**12,503**
of which loans and receivables	11,147						11,147
Financial liabilities	11,238			595			11,833
Carried at amortized cost	11,238	12,061					11,238
Derivatives that qualify for hedge accounting				252			252
Derivatives that do not qualify for hedge accounting				343			343
Trade accounts payable	3,165					332	3,497
Carried at amortized cost	3,165	3,165					3,165
Non-financial liabilities						332	332
Other liabilities	1,029			111	5	843	1,988
Carried at amortized cost	1,029	1,029					1,029
Derivatives that qualify for hedge accounting				86			86
Derivatives that do not qualify for hedge accounting				25	5		30
Non-financial liabilities						843	843
Total financial liabilities	**15,432**			**706**	**5**		**16,143**
of which carried at amortized cost	15,432						15,432
of which derivatives that qualify for hedge accounting				338			338
of which derivatives that do not qualify for hedge accounting				368	5		373

[Table 4.89]

	Dec.31, 2011						
	Carried at amortized cost		Carried at fair value			Non-financial assets/ liabilities	
	Carrying amount Dec. 31, 2011	Fair value (for information)	Based on quoted prices in active markets	Based on market-derived data	Based on individual valuation parameters		Carrying amount in the statement of financial position
			Carrying amount	Carrying amount	Carrying amount	Carrying amount	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	7,061						7,061
	7,061	7,053					7,061
	2,920		716	477	35		4,148
	2,770	2,781					2,770
	41		716				757
	109	114					109
				220			220
				257	35		292
	713					1,340	2,053
	713	712					713
						1,340	1,340
	1,770						1,770
	1,770	1,770					1,770
	12,464		**716**	**477**	**35**		**13,692**
	12,314						12,314
	11,149			530			11,679
	11,149	11,861					11,149
				211			211
				319			319
	3,466					313	3,779
	3,466	3,466					3,466
						313	313
	953			167	5	979	2,104
	953	954					953
				140			140
				27	5		32
						979	979
	15,568			**697**	**5**		**16,270**
	15,568						15,568
				351			351
				346	5		351

Loans and receivables and liabilities carried at amortized cost also include receivables and liabilities under finance leases where Bayer is the lessor or lessee and which therefore have to be measured in accordance with IAS 17.

The fair value stated for receivables, loans, held-to-maturity financial investments and primary liabilities is the present value of the respective future cash flows. This is determined by discounting the cash flows at a closing-date interest rate that takes into account the term of the assets or liabilities and the creditworthiness of the counterparty. If a market price is available, however, this is deemed to be the fair value.

Because of the short maturities of most trade accounts receivable and payable, other receivables and liabilities, and cash and cash equivalents, their carrying amounts at the closing date do not differ significantly from the fair values.

Income, expense, gains and losses on financial instruments can be assigned to the following categories:

Income, Expense, Gains and Losses on Financial Instruments [Table 4.90]

	2011					
	Loans and receivables	Held-to-maturity financial investments	Available-for-sale financial assets	Held for trading (derivatives only)	Liabilities carried at amortized cost	Total
	€ million	€ million	€ million	€ million	€ million	€ million
Interest income	75	3	4	175	198	455
Interest expense	-	-	-	(172)	(682)	(854)
Income from affiliated companies	-	-	2	-	-	2
Changes in fair value	-	-	-	42	-	42
Expenses from write-downs	(62)	-	(12)	-	-	(74)
Income from write-backs	42	-	-	-	-	42
Exchange gain (loss)	97	-	-	(25)	(158)	(86)
Gains/losses from retirements	-	-	10	-	-	10
Other non-operating income and expense	(1)	-	(1)	-	(3)	(5)
Net result	**151**	**3**	**3**	**20**	**(645)**	**(468)**

Income, Expense, Gains and Losses on Financial Instruments (Previous Year) [Table 4.91]

	2010					
	Loans and receivables	Held-to-maturity financial investments	Available-for-sale financial assets	Held for trading (derivatives only)	Liabilities carried at amortized cost	Total
	€ million	€ million	€ million	€ million	€ million	€ million
Interest income	56	3	1	152	119	331
Interest expense	-	-	-	(180)	(636)	(816)
Income from affiliated companies	-	-	6	-	-	6
Changes in fair value	-	-	-	(16)	-	(16)
Expenses from write-downs	(141)	-	(11)	-	-	(152)
Income from write-backs	53	-	-	-	-	53
Exchange gain (loss)	165	-	(1)	(152)	(86)	(74)
Gains/losses from retirements	-	-	2	-	-	2
Other non-operating income and expense	(1)	-	-	-	(3)	(4)
Net result	**132**	**3**	**(3)**	**(196)**	**(606)**	**(670)**

The interest income and expense from liabilities carried at amortized cost also includes the income and expense from interest-rate swaps that qualify for hedge accounting. The changes in fair values of financial assets held for trading related mainly to forward commodity contracts.

The changes in the net amount of financial assets and liabilities recognized at fair value based on individual measurement parameters were as follows:

Changes in the Net Amount of Financial Assets and Liabilities Recognized at Fair Value Based on Individual Measurement Parameters [Table 4.92]

	2010	2011
	€ million	€ million
Carrying amounts, January 1	**38**	**19**
Changes recognized in profit or loss	5	14
of which changes related to assets/liabilities recognized in the statements of financial position	6	6
Changes recognized outside profit or loss	4	-
Additions	-	-
Retirements	(28)	(3)
Reclassifications	-	-
Carrying amounts, December 31	**19**	**30**

Divestment gains of €1 million (2010: €2 million) were incurred in addition.

30.2 Maturity analysis

As of the closing date, the liquidity risk to which the Bayer Group was exposed from its financial instruments comprised obligations relating to future interest and repayment installments for financial liabilities and the liquidity risk arising from derivatives, as shown in the table in Note [30.3].

There was also a liquidity risk from an as yet unpaid €205 million (2010: €390 million) portion of the effective initial fund of Bayer-Pensionskasse VVaG, which may result in further payments by Bayer AG in subsequent years. This amount was reported under loan commitments.

Maturity Analysis of Financial Instruments

	Dec. 31, 2011	Cash flows January–March 2012		Cash flows April–December 2012	
	Carrying amount	Interest	Repayment	Interest	Repayment
	€ million	€ million	€ million	€ million	€ million
Financial liabilities					
Bonds and notes/promissory notes*	7,710	6	-	170	2,449
Liabilities to banks	2,657	18	444	68	285
Remaining liabilities	782	10	180	16	37
Trade accounts payable	3,466	-	3,301	-	115
Other liabilities					
Accrued interest on liabilities	227	39	-	179	-
Remaining liabilities	726	2	491	1	141
Liabilities from derivatives					
Derivatives that qualify for hedge accounting	351	-	24	-	152
Derivatives that do not qualify for hedge accounting	351	3	161	42	56
Receivables from derivatives					
Derivatives that qualify for hedge accounting	220	(12)	10	72	14
Derivatives that do not qualify for hedge accounting	292	(13)	68	73	51
Loan commitments	-	-	-	-	205
Financial guarantees	-	-	16	-	2

	Dec. 31, 2010	Cash flows January–March 2011		Cash flows April–December 2011	
	Carrying amount	Interest	Repayment	Interest	Repayment
	€ million	€ million	€ million	€ million	€ million
Financial liabilities					
Bonds and notes/promissory notes*	8,209	4	200	176	450
Liabilities to banks	2,271	9	254	40	506
Remaining liabilities	758	13	140	20	44
Trade accounts payable	3,165	-	2,984	-	162
Other liabilities					
Accrued interest on liabilities	257	60	-	186	-
Remaining liabilities	772	7	576	1	64
Liabilities from derivatives					
Derivatives that qualify for hedge accounting	338	-	53	13	73
Derivatives that do not qualify for hedge accounting	373	(8)	146	76	47
Receivables from derivatives					
Derivatives that qualify for hedge accounting	201	(10)	13	74	52
Derivatives that do not qualify for hedge accounting	296	(7)	33	67	75
Loan commitments	-	-	-	-	390
Financial guarantees	-	-	12	-	103

* Repayment of the €1,300 million 100-year hybrid bond is reflected at the earliest possible repayment date in 2015.

[Table 4.93]

	Cash flows 2013		Cash flows 2014		Cash flows 2015		Cash flows 2016		Cash flows after 2016	
	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	249	1,100	201	1,550	131	1,455	55	75	273	984
	69	194	63	155	60	643	31	268	36	672
	19	227	12	34	11	78	10	26	28	204
	-	32	-	5	-	2	-	12	-	-
	1	-	1	-	1	-	1	-	5	-
	-	6	-	7	-	4	-	6	-	72
	-	14	-	42	-	-	2	22	4	98
	16	41	15	1	28	1	-	-	-	2
	42	-	43	-	38	-	3	-	22	-
	13	38	21	17	14	2	-	2	-	8
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-

	Cash flows 2012		Cash flows 2013		Cash flows 2014		Cash flows 2015		Cash flows after 2015	
	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment	Interest	Repayment
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	368	2,414	246	1,092	199	1,550	126	1,450	311	1,019
	45	266	47	192	41	131	35	616	19	307
	25	42	20	218	12	61	11	43	44	215
	-	12	-	6	-	1	-	-	-	-
	2	-	1	-	1	-	1	-	6	-
	1	31	-	10	-	5	-	6	-	80
	5	40	1	3	1	36	3	-	9	110
	76	10	13	1	7	-	8	-	-	1
	52	2	20	-	5	-	-	-	-	-
	70	23	12	2	6	3	7	2	-	12
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-

30.3 Information on derivatives

Asset and liability fair values and future cash flows are exposed to currency, interest-rate and commodity price risks. Derivatives are used to reduce this risk. In some cases they are designated as hedging instruments in a hedge accounting relationship.

CURRENCY RISK

Foreign currency receivables and liabilities are hedged using foreign exchange derivatives without the existence of a hedge accounting relationship. A bond of Bayer AG denominated in British pounds was swapped on the issuance date into a fixed-rate EMTN bond by means of a cross-currency interest-rate swap. This interest-rate swap was designated as a cash flow hedge. Certain forward exchange contracts and cross-currency interest-rate swaps used to hedge intra-Group loans are also designated as cash flow hedges.

Fluctuations in future cash flows resulting from forecasted foreign currency transactions are avoided partly through derivative contracts, most of which are designated as cash flow hedges.

INTEREST-RATE RISK

The interest-rate risk from fixed-interest borrowings is managed in part using interest-rate swaps. The principal borrowings concerned are the US$200 million bond issued in 1995, the US$350 million bond issued in 1998, the €2 billion bond issued in 2002, the €1.3 billion bond issued in 2005, the €1 billion bond issued in 2006 and the €1.3 billion bond issued in 2009. Hedge accounting is applied to the respective borrowings and hedging instruments (fair-value hedge).

Gains of €54 million (2010: €25 million) were recorded on fair-value hedging instruments in 2011. Losses of €54 million (2010: €25 million) were recorded on the underlying hedged items.

COMMODITY PRICE RISK

Hedging contracts, some of which are designated as cash flow hedges, are also used to partly reduce exposure to fluctuations in future cash flows resulting from price changes on procurement markets.

FURTHER INFORMATION ON CASH FLOW HEDGES

In 2011, accumulated other comprehensive income decreased by €41 million (2010: €75 million) after taxes due to negative changes in the fair values of derivatives designated as cash flow hedges. Income of €3 million (2010: expense of €18 million), representing fair-value changes of derivatives designated as cash flow hedges, which originally had been recognized in accumulated other comprehensive income, was reclassified to profit or loss. Similarly, pro-rated deferred tax expense of €1 million (2010: deferred tax income of €6 million) previously recognized in accumulated other comprehensive income was reclassified to profit or loss.

No material ineffective portions of hedges required recognition in profit or loss in 2011 or 2010.

The principal component of the income and expense from cash flow hedges recognized in other comprehensive income comprised losses of €120 million (2010: €26 million) from the hedging of forecasted transactions in foreign currencies. The greater part of this amount will be reclassifiable to profit or loss in 2012.

The market values of contracts existing at year end in the major categories were as follows:

Fair Values of Derivatives [Table 4.94]

	Dec. 31, 2010			Dec. 31, 2011		
		Fair value			Fair value	
	Notional amount*	Positive fair value	Negative fair value	Notional amount*	Positive fair value	Negative fair value
	€ million	€ million	€ million	€ million	€ million	€ million
Currency hedging of recorded transactions	**8,759**	**56**	**(363)**	**10,375**	**89**	**(422)**
Forward exchange contracts	6,251	47	(107)	8,327	88	(205)
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	371	7	-	360	3	-
Cross-currency interest-rate swaps	2,508	9	(256)	2,048	1	(217)
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	2,173	9	(240)	1,746	-	(211)
Currency hedging of forecasted transactions	**4,399**	**68**	**(93)**	**4,494**	**31**	**(157)**
Forward exchange contracts	3,631	59	(86)	3,750	25	(146)
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	3,631	59	(86)	3,721	17	(140)
Currency options	768	9	(7)	744	6	(11)
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	-	-	-	-	-	-
Interest-rate hedging of recorded transactions	**8,169**	**275**	**(166)**	**8,564**	**306**	**(92)**
Interest-rate swaps	8,169	275	(166)	8,564	306	(92)
of which fair-value hedges	3,467	126	-	3,834	200	-
of which cash flow hedges	1	-	-	-	-	-
Interest-rate options	-	-	-	-	-	-
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	-	-	-	-	-	-
Commodity price hedging	**173**	**21**	**(66)**	**153**	**20**	**(17)**
Forward commodity contracts	138	4	(52)	153	20	(17)
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	19	-	(12)	-	-	-
Option commodity contracts	35	17	(14)	-	-	-
of which fair-value hedges	-	-	-	-	-	-
of which cash flow hedges	-	-	-	-	-	-
Total	**21,500**	**420**	**(688)**	**23,586**	**446**	**(688)**
of which current derivatives	11,072	237	(380)	15,484	228	(417)
for currency hedging	10,906	105	(258)	11,841	89	(355)
for interest-rate hedging**	-	113	(67)	3,490	119	(45)
for commodity hedging	166	19	(55)	153	20	(17)

* The notional amount is reported as gross volume, which also contains economically closed hedges.

** The fair value of long-term interest-rate swaps resulting from current interest payments was classified as current.

31. Contingent liabilities and other financial commitments

CONTINGENT LIABILITIES

The following warranty contracts, guarantees and other contingent liabilities existed at the closing date:

Contingent Liabilities [Table 4.95]

	Dec. 31, 2010	Dec. 31, 2011
	€ million	€ million
Warranties	53	49
Miscellaneous	247	263
Total	**300**	**312**

OTHER FINANCIAL COMMITMENTS

The other financial commitments comprised operating lease agreements, orders already placed under purchase agreements related to planned or ongoing capital expenditure projects, unpaid capital provided to Bayer-Pensionskasse VVaG for its effective initial fund, and commitments under cooperation agreements.

The non-discounted future minimum lease payments relating to operating leases totaled €656 million (2010: €595 million). The maturities of the respective payment obligations were as follows:

Operating Leases [Table 4.96]

Maturing in	Dec. 31, 2010	Maturing in	Dec. 31, 2011
	€ million		€ million
2011	182	2012	201
2012	132	2013	149
2013	94	2014	111
2014	71	2015	78
2015	49	2016	52
2016 or later	67	2017 or later	65
Total	**595**	**Total**	**656**

Financial commitments resulting from orders already placed under purchase agreements related to planned or ongoing capital expenditure projects totaled €341 million (2010: €231 million).

The unpaid capital provided to Bayer-Pensionskasse VVaG for its effective initial fund amounted to €205 million (2010: €390 million).

The Bayer Group has entered into cooperation agreements with third parties under which it has agreed to fund various research and development projects or has assumed other payment obligations based on the achievement of certain milestones or other specific conditions. If all of these payments have to be made, their maturity distribution as of December 31, 2011 was expected to be as set forth in the following table. The amounts shown represent the maximum payments to be made, and it is unlikely that they will all fall due. Since the achievement of the conditions for payment is highly uncertain, both the amounts and the dates of the actual payments may vary considerably from those stated in the table.

Other Commitments [Table 4.97]

Maturing in	Dec. 31, 2010	Maturing in	Dec. 31, 2011
	€ million		€ million
2011	119	2012	314
2012	235	2013	101
2013	154	2014	135
2014	200	2015	135
2015	120	2016	83
2016 or later	547	2017 or later	574
Total	**1,375**	**Total**	**1,342**

2010 figures restated

In addition to the above commitments there were also revenue-based milestone payment commitments totaling €1,265 million (2010: €1,186 million), of which €1,156 million (2010: €1,141 million) were not expected to fall due until 2017 (2010: 2016) or later. These commitments are also highly uncertain.

Should the achievement of the milestones or specific conditions become sufficiently probable, a provision or other liability is recognized in the statement of financial position, and this may also lead to the recognition of an intangible asset in the same amount. The above table includes neither current revenue-based royalty payments nor future payments that are probable and therefore already reflected in the statement of financial position.

32. Legal risks

As a global company with a diverse business portfolio, the Bayer Group is exposed to numerous legal risks, 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 or future settlements 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.

Legal proceedings currently considered to involve material risks are outlined below. The legal proceedings referred to do not represent an exhaustive list.

HealthCare:

PRODUCT-RELATED LITIGATION

Magnevist™: As of February 1, 2012, there were approximately 130 lawsuits pending and served upon Bayer in the United States involving the gadolinium-based contrast agent Magnevist™. Three other manufacturers of gadolinium-based contrast agents in the United States also have been named party to the same or similar lawsuits.

In the lawsuits, plaintiffs allege that patients developed nephrogenic systemic fibrosis (NSF) as a result of the use of Magnevist™ during medical imaging procedures. NSF is a rare, severe condition that can be debilitating and in some cases fatal. Plaintiffs seek compensatory and punitive damages under various theories, including strict liability and negligence and/or breach of warranty, claiming, among other things, that the product is defective and unreasonably dangerous and that Bayer knew, or should have known, of the risks associated with Magnevist™ and failed to disclose them or adequately warn its users.

All cases pending in federal courts have been consolidated in a multidistrict litigation (MDL) proceeding for common pre-trial management. As of February 1, 2012, Bayer had reached agreements, without admission of liability, with approximately 270 plaintiffs in the United States to settle their claims. Bayer will continue to consider the option of settling individual lawsuits on a case-by-case basis. However, Bayer believes it has meritorious defenses and will continue to defend itself vigorously against all claims that are not considered for settlement. Bayer has taken appropriate accounting measures.

Trasylol™ (aprotinin) is a drug approved for use in managing bleeding in patients undergoing coronary artery bypass graft surgery. As of February 1, 2012, there were approximately 360 lawsuits pending in the United States and served upon Bayer on behalf of persons alleging, in particular, personal injuries, including renal failure and death, and economic loss from the use of Trasylol™. Bayer also has been served with three class actions in Canada. Plaintiffs in both the United States and the Canadian cases seek compensatory and punitive damages, claiming, among other things, that Bayer knew, or should have known, of these risks and should be held liable for having failed to disclose them or adequately warn users of Trasylol™. All cases pending in U.S. federal courts have been consolidated in a multidistrict litigation (MDL) proceeding for common pre-trial management.

As of February 1, 2012, Bayer had reached agreements, without admission of liability, with approximately 950 plaintiffs in the United States to settle their claims. Bayer will continue to consider the option of settling individual lawsuits on a case-by-case basis. However, Bayer believes it has meritorious defenses and will continue to defend itself vigorously against all claims that are not considered for settlement. Bayer has taken appropriate accounting measures.

Yasmin™/YAZ™: As of February 1, 2012, there were about 11,300 lawsuits pending in the United States served upon Bayer on behalf of persons alleged to have suffered personal injuries, some of them fatal, from the use of Bayer's oral contraceptive products Yasmin™ and/or YAZ™ or from the use of Ocella™ and/or Gianvi™, generic versions of Yasmin™ and YAZ™, respectively, marketed by Barr Laboratories, Inc. in the United States. (For details on the generic versions of Yasmin™ and YAZ™, please refer to the section on "Patent disputes" below.) Pursuant to agreements in 2008 and 2010, Bayer manages product liability litigation for Ocella™ and Gianvi™, Bayer retains product liability for Ocella™ product supplied by Bayer with certain exceptions, and the parties have allocated potential product liability relating to Gianvi™ product supplied by Bayer. Plaintiffs seek compensatory and punitive damages, claiming, in particular, that Bayer knew, or should have known, of the alleged risks and should be held liable for having failed to disclose them or adequately warn users of Yasmin™ and/or YAZ™. All cases pending in U.S. federal courts have been consolidated in a multidistrict litigation (MDL) proceeding for common pre-trial management. Bayer has also been served with three putative class actions in federal court. The MDL court dismissed a class action brought by third party payors and plaintiffs did not appeal. The court also struck class claims in a putative nationwide class action brought by consumers also involving personal injury claims. A third class action for economic loss claims by California consumers remains pending. In Canada, 13 class actions have been served upon Bayer as of February 1, 2012.

In December 2011 the MDL court stayed the first case set for trial and ordered the parties to participate in a mediation process. As of February 13, 2012, Bayer had reached agreements, without admission of liability, to settle the claims of approximately 70 plaintiffs in the U.S. at terms and conditions which Bayer views to be reasonable. Bayer will continue to consider the option of settling individual lawsuits in the U.S. on a case-by-case basis.

Additional lawsuits are anticipated. Bayer believes that it has meritorious defenses and will continue to defend itself vigorously against all claims that are not considered for settlement. Based on the information currently available, Bayer has taken appropriate accounting measures for anticipated defense costs and agreed settlements.

In connection with the above matters concerning Magnevist™, Trasylol™ and Yasmin™/YAZ™, Bayer is insured against product liability risks to the extent customary in the industry. However, going forward and depending on further developments of the Yasmin™/YAZ™ litigation, it is possible that the company's global liability insurance program may not be sufficient or fully applicable to cover all expenses and potential liability (if any) resulting from this litigation.

COMPETITION LAW PROCEEDINGS

Cipro™: Since the year 2000 multiple class action lawsuits against Bayer involving Cipro™, a medication used in the treatment of infectious diseases, have been pending in the United States. The plaintiffs sued Bayer and other defendants, alleging that a settlement to end patent litigation reached in 1997 between Bayer and Barr Laboratories, Inc. violated antitrust regulations. All actions filed in federal courts have been dismissed. The dismissals have been affirmed by two federal Courts of Appeals and the United States Supreme Court denied plaintiff's petitions for certiorari twice. The federal litigation has thus ended.

Further cases are pending before various state courts. The dismissal of a class action pending in state court which was brought by indirect purchasers from California has been affirmed by the California Court of Appeal. The California Supreme Court has accepted this case for review. Bayer believes that it has meritorious defenses and intends to defend itself vigorously.

PATENT DISPUTES

Yasmin™: In 2005, Bayer filed suit against Barr Pharmaceuticals, Inc. and Barr Laboratories, Inc. in U.S. federal court alleging patent infringement by Barr for the intended generic version of Bayer's Yasmin™ oral contraceptive product in the United States. In 2008, the U.S. federal court invalidated Bayer's '531 patent for Yasmin™. In 2009, the U.S. Court of Appeals for the Federal Circuit affirmed this decision. In 2010, the U.S. Supreme Court rejected Bayer's petition for review.

In 2008, Bayer and Barr Laboratories, Inc. signed a supply and licensing agreement for the supply of a generic version of Yasmin™ which Barr markets solely in the United States under the Ocella™ brand. Barr pays Bayer a fixed percentage of the revenues from the product sold by Barr. The agreement is under investigation by the U.S. Federal Trade Commission (FTC).

In 2008 Bayer received two and in 2010 another three notices of an Abbreviated New Drug Application with a Paragraph IV certification (an "ANDA IV") pursuant to which Watson Laboratories Inc., Sandoz Inc., Lupin Ltd., Famy Care Ltd. and Sun Pharma Global FZE each seek approval to market a generic version of Bayer's oral contraceptive Yasmin™ in the United States. Bayer has filed suit against Watson, Sandoz and Lupin in U.S. federal court alleging patent infringement for the intended generic version of Yasmin™. In reply, Watson and Sandoz have filed counterclaims alleging, among other things, the invalidity of various Bayer patents. Sandoz has further alleged that Bayer and Barr have made arrangements that are anticompetitive and violate antitrust and unfair competition laws; the U.S. federal court dismissed these allegations in 2011. In 2010, the U.S. federal court dismissed Bayer's infringement claims against Watson, Sandoz and Lupin. Bayer appealed these decisions to the U.S. Court of Appeals for the Federal Circuit. The appeals were consolidated and heard in December 2011.

YAZ™: In 2007 and 2008 Bayer received notices from Barr Laboratories, Inc., Watson Laboratories Inc. and Sandoz Inc., and in 2010 Bayer received notices from Lupin Ltd. and Sun Pharma Global FZE, that each company has filed an ANDA IV seeking approval of a generic version of Bayer's YAZ™ oral contraceptive in the United States. Bayer further received such notices from Famy Care and Pharmaceutics International Inc. in 2011 and 2012. Bayer has filed patent infringement suits against Watson, Sandoz, Lupin, Sun Pharma Global and Famy Care in U.S. federal court claiming that certain of Bayer's patents have been infringed. Bayer may take legal action against Pharmaceutics International at a later point of time. In its defense statement, Sandoz has alleged, among other things, that Bayer and Barr have made arrangements that are anticompetitive and violate antitrust and unfair competition laws. Sandoz withdrew these allegations in 2011.

In 2008 Bayer and Barr agreed that Bayer will grant Barr a license to market a generic version of YAZ™ in the United States starting July 2011 and will supply Barr with the product for this purpose. Barr agreed to pay Bayer a fixed percentage of the revenues from the product sold by Barr. In December 2008, Barr was acquired by Teva Pharmaceutical Industries Ltd. In 2010 Teva announced that it had commercially launched Gianvi™, a generic version of YAZ™, in the United States. Litigation between Bayer and Teva/Barr in several U.S. federal courts on infringement of certain of Bayer's patents by the distribution of Gianvi™ was settled in 2010. Bayer and Barr amended the aforementioned licensing and supply agreement of 2008, which is also under investigation by the FTC, and Bayer has supplied Barr with the product for Gianvi™ since December 2010.

Beyaz™: In 2012 Bayer received a notice from Watson Laboratories Inc. that Watson has filed an ANDA IV seeking approval of a generic version of Bayer's Beyaz™ oral contraceptive in the United States. Bayer has filed a patent infringement suit against Watson in U.S. federal court.

Yasmin™/Yasminelle™/YAZ™: In July 2011 a board of appeal of the European Patent Office revoked a formulation patent ("micronization") for Yasmin™, Yasminelle™ and YAZ™. Bayer filed a petition for review of the decision by the Enlarged Board of Appeal of the European Patent Office. In 2004, Hexal Pharmaforschung GmbH filed an opposition against Bayer's patent. An opposition division of the European Patent Office rejected the opposition in 2006. The latest ruling follows an appeal by Hexal of the 2006 decision. In December 2011, the European Patent Office revoked the other formulation patent ("dissolution") for Yasmin™, Yasminelle™ and YAZ™. Bayer will appeal. The appeal will have suspensive effect.

Blood glucose monitoring devices: In 2007 Roche Diagnostics Operations and Corange International commenced a lawsuit in the United States against Bayer and several other parties alleging infringement of two of Roche's patents relating to blood glucose monitoring devices. Two of the accused devices are sold by Bayer as part of its Breeze™ 2 and Contour™ systems. Bayer believes that these patents are covered by an existing license agreement between the parties, and the litigation has been dismissed in favor of an arbitration under this earlier license agreement. Roche has added to the arbitration four additional patents which Roche alleges the Bayer Contour™ systems infringe. The proceedings and findings of the arbitration are confidential. At this time, Bayer does not believe that the outcome of the arbitration will have a material effect on the Bayer results.

Betaferon™/Betaseron™: In 2010 Bayer filed a complaint against Biogen Idec MA Inc. in U.S. federal court seeking a declaration by the court that a patent issued to Biogen in 2009 is invalid and not infringed by Bayer's production and distribution of Betaseron™, Bayer's drug product for the treatment of multiple sclerosis. Biogen is alleging patent infringement by Bayer through Bayer's production and distribution of Betaseron™ and Extavia™ and has sued Bayer accordingly. Betaseron™ is manufactured and distributed in the United States by Bayer. Extavia™ is also a drug product for the treatment of multiple sclerosis; it is manufactured by Bayer, but distributed in the United States by Novartis Pharmaceuticals Corporation, another defendant in the lawsuit.

Levitra™: In 2009 Bayer filed a patent infringement suit in U.S. federal court against Teva Pharmaceuticals USA, Inc. and Teva Pharmaceutical Industries Ltd. Earlier that year, Bayer had received notice of an ANDA IV pursuant to which Teva seeks approval to market a generic version of Levitra™, Bayer's therapy for the treatment of erectile dysfunction, prior to patent expiration in the United States. Bayer has reached agreement with Teva to settle the patent litigation. Under the settlement terms agreed upon, Teva will obtain a license to sell its generic version of Levitra™ in the United States shortly before patent expiration in October 2018. The impact on the Levitra™ business in the U.S. is expected to be immaterial. Teva acknowledges the validity and enforceability of Bayer's patents.

Bayer believes it has meritorious defenses in the above patent disputes and intends to defend itself vigorously.

FURTHER LEGAL PROCEEDINGS

Wholesale prices in the U.S.: Bayer and a number of pharmaceutical companies in the United States are defendants in pending lawsuits in which plaintiffs, including states, are alleging manipulation in the reporting of wholesale prices and/or best prices for their prescription pharmaceutical products. The plaintiffs seek damages, including disgorgement of profits and punitive damages. Bayer believes it has meritorious defenses and intends to defend itself vigorously. In appropriate cases Bayer has agreed to settlements and will continue to consider this option in the future.

Bayer Pharma AG former shareholder litigation: In 2008 the squeeze-out of the former minority shareholders of Bayer Pharma AG (formerly named Bayer Schering Pharma AG), Berlin, Germany, became effective. As usual in such cases, several shareholders have initiated special court proceedings to review the adequacy of the compensation payments made by Bayer for the transfer of the shares in the squeeze-out. The adequacy of the compensation and the guaranteed dividend paid by Bayer in connection with the Bayer Pharma AG profit and loss transfer agreement made in 2006 is also being reviewed by the courts.

Kogenate™FS: A dispute with Recoly NV and its affiliate Zilip Pharma BV relates to the termination by Bayer of the KG-Lip project (longer acting Factor VIII using Recoly´s liposome technology). Bayer is seeking a declaratory judgment by an arbitration panel that it has exerted best commercial efforts to develop the product and that it is not contractually bound to pay a termination fee or to continue to develop the product. Recoly has counterclaimed for damages.

Compliance investigation: Bayer is conducting an internal investigation into compliance by a former operating unit of one of its U.S. subsidiaries with the United States Foreign Corrupt Practices Act. That statute prohibits, among other things, corrupt payments by U.S. persons to governmental officials outside the United States. The unit, which conducted Bayer's plasma-derived products business, was sold in 2005. The initial focus of the internal investigation has been on sales by that unit to certain eastern European and Middle Eastern countries. In order to evaluate Bayer's compliance efforts, Bayer is also reviewing sales practices in other units and countries. Bayer has voluntarily advised the United States government of the internal investigation. The United States government has not indicated what action it may take, if any, against Bayer or any individual, or whether it may conduct its own investigation. Because the internal investigation is ongoing, no statements on its outcome, or on any disadvantages for Bayer that may result therefrom, can be made at this point in time.

CropScience:

Proceedings involving genetically modified rice: As of February 1, 2012, Bayer was aware of a total of approximately 420 lawsuits, involving about 12,200 plaintiffs, pending in U.S. federal and state courts against several Bayer Group companies in connection with genetically modified rice in the United States. A large percentage of these cases will be dismissed upon completion of the settlement with rice growers, discussed below. The number of plaintiffs is calculated by totaling the number of plaintiffs identified in the complaints. However, the number of plaintiffs does not allow any conclusions on the number of farming operations involved. U.S. rice farmers often have a number of entities associated with their operations. In some cases just an individual sued, in others all the entities sued. In addition, a partnership and its individual partners are counted separately if they are listed as plaintiffs in the complaints.

Plaintiffs allege that they have suffered economic losses after traces of genetically modified rice were identified in samples of conventional long-grain rice grown in the U.S. All the actions pending in federal court were consolidated in 2006 in federal district court in St. Louis, Missouri, in a multidistrict litigation (MDL) proceeding. In 2008, this court denied plaintiffs' request to certify a class action. Plaintiffs' subsequent request for interim appeal was denied by the appellate court.

In development of the genetically modified rice ("LL RICE"), field testing was conducted in the United States in cooperation with third parties from 1998 to 2001. The genetically modified rice was never commercialized. The USDA and the FDA have stated that the genetically modified rice does not present a health risk and is safe for use in food and feed and for the environment. Additionally, in 2007, the USDA released its report concerning its investigation into how the genetically modified rice entered the commercial rice supply. The USDA was unable to determine a cause and indicated it would not pursue any enforcement actions against Bayer or any other party.

Bayer tried six cases in front of U.S. juries in 2009 and 2010, three in the federal MDL court and three in state courts in Arkansas. All six trials resulted in compensatory damage awards against Bayer. In two of the Arkansas state court trials, the juries also awarded punitive damages (of US$0.5 million in the first trial and approximately US$42 million in the second trial). The trial court in the second Arkansas trial held that the Arkansas statute placing a cap on the amount of punitive damages that could be awarded was unconstitutional and entered judgment for the full US$42 million for punitive damages.

In March 2011 Bayer tried its seventh jury trial in Arkansas state court. This case involved Riceland Foods, Inc., a large U.S. rice mill, and several farming-related operations. Shortly before the trial began, Bayer settled with the farming operation plaintiffs for US$4 million. At trial the jury awarded US$11.8 million in compensatory and US$125 million in punitive damages. In June 2011 the trial court held that the Arkansas statute imposing a cap on the amount of punitive damages was constitutional and reduced the amount of punitive damages to the statutory cap of US$1 million.

In December 2011 the Arkansas Supreme Court affirmed the judgment in the second jury trial awarding US$42 million in punitive damages, holding that the Arkansas statute imposing a cap on the amount of punitive damages was unconstitutional. That case has been settled for US$53.5 million. All other cases that were on appeal, except for the case involving Riceland Foods, have been resolved.

Bayer anticipates that the Arkansas Supreme Court, given this recent ruling, will direct the trial court in the Riceland Foods matter to decide whether and to what extent the jury's punitive damage award (US$125 million) violates constitutional protections afforded by due process and to enter a judgment for punitive damages in an amount that is not presently determinable.

Without acknowledging liability, in July 2011 Bayer reached settlement agreements with two groups of attorneys representing U.S. long-grain rice growers in the LL RICE litigation. One agreement involves those cases that are a part of the federal multi-district litigation; the other involves those cases in state courts. Under these agreements, Bayer will pay in total up to US$750 million to resolve claims submitted by growers. The settlement program is open to all U.S. farmers who had been growing long-grain rice during the period 2006 through 2010. The settlements are contingent on the participation of a sufficient number of growers to represent 85% of U.S. long-grain rice acreage during that time frame. The participation threshold has been met. While the final number of acres participating is not currently known, the participation rate will be in excess of 90% of all of the eligible rice acreage.

Two cases originally scheduled for trial in August 2011 involving approximately 25 farmer plaintiffs have been voluntarily withdrawn and were settled at the value determined by the settlement program.

18 cases remain pending in the U.S. with business entities that are not a part of the settlement program. Several cases are set for trial during 2012. The company is hopeful that many of these cases can also be settled. However, Bayer intends to continue to defend itself vigorously in all cases in which reasonable resolutions are not possible and to continue the appeal of the Riceland Foods case.

One of the remaining cases was brought by BASF to recover damages allegedly resulting from the contamination of its Clearfield 131 rice variety with LL RICE. In that case Bayer has filed a claim against BASF alleging that BASF was negligent in its handling of Clearfield 131 and that its negligence contributed to the damages allegedly suffered by rice growers, rice mills and others in this litigation. Bayer seeks contribution from BASF for all or a portion of the money that Bayer has paid in settlements in this litigation. Bayer has also brought Riceland Foods into this same case and seeks contribution from Riceland based upon its alleged negligence.

Without acknowledging liability, Bayer also settled the claims filed by six European rice importers, one U.S. rice exporter and four U.S. rice mills or rice dryers, two rice seed sellers and several farmers outside of the US$750 million master settlement at a total settlement value of about US$133 million, including the US$53.5 million settlement of the second Arkansas jury trial discussed above.

Bayer has established appropriate provisions for the settlement program as well as for legal and defense costs.

Asbestos: A further risk may arise from asbestos litigation in the United States. In many cases, the plaintiffs allege that Bayer and co-defendants employed third parties on their sites in past decades without providing them with sufficient warnings or protection against the known dangers of asbestos. Additionally, a Bayer affiliate in the United States is the legal successor to companies that sold asbestos products until 1976. Union Carbide has agreed to indemnify Bayer for this liability. Bayer believes it has meritorious defenses and intends to defend itself vigorously.

MaterialScience:

ANTITRUST PROCEEDINGS IN CONNECTION WITH RUBBER PRODUCTS

Companies of the Bayer Group are subject to civil damage claims in Europe based on alleged violations of applicable competition laws concerning rubber products that were subject to investigations by regulatory authorities. All of these investigations have been closed.

Since 2008, a group of plaintiffs who are primarily producers of tires have brought actions for damages before the High Court of Justice in London, U.K., against Bayer and other producers of butadiene rubber and emulsion styrene butadiene rubber. The plaintiffs claim damages resulting from alleged violations of E.U. competition law in the markets for butadiene rubber and emulsion styrene butadiene rubber. Proceedings brought to establish non-liability before a court in Milan to which Bayer joined as intervener were dismissed; Bayer is appealing. The High Court has taken jurisdiction over the actions and the main proceedings are at the disclosure stage.

The formerly reported class action in Australia has been settled.

Bayer is defending itself in the European litigations. The financial risk from these proceedings cannot yet finally be quantified. Bayer has taken appropriate accounting measures.

It remains possible that further civil damage claims may be filed in connection with public antitrust investigations reported on previously and now closed.

Notes to the Statements of Cash Flows

The statement of cash flows shows how cash inflows and outflows during the year affected the cash and cash equivalents (liquidity) of the Bayer Group as of the closing date. Cash flows are classified by operating, investing and financing activities in accordance with IAS 7 (Statement of Cash Flows). Effects of changes in the scope of consolidation are stated separately.

The cash flows reported by consolidated companies outside the eurozone are translated at average monthly exchange rates, with the exception of cash and cash equivalents, which are translated at closing rates. The "Change in cash and cash equivalents due to exchange rate movements" is reported in a separate line item.

33. Net cash provided by (used in) operating activities

The gross cash flow for 2011 of €5,172 million (2010: €4,771 million) is the cash surplus from operating activities before any changes in working capital. The cash flows by segment are shown in Note [1].

The net cash of €5,060 million (2010: €5,773 million) provided by operating activities (net cash flow) also takes into account the changes in working capital and other non-cash transactions.

An income-tax-related net cash outflow of €932 million (2010: €838 million) is included in the net cash flow for 2011. The changes in income tax liabilities, income tax provisions and claims for reimbursement of income taxes are shown in the line item "Changes in other working capital, other non-cash items." The transfers of a total of €477 million in government bonds to the U.S. and German pension funds were non-cash transactions and therefore did not result in an operating cash flow.

34. Net cash provided by (used in) investing activities

Net cash outflow for investing activities in 2011 amounted to €3,890 million (2010: €2,414 million).

Additions to property, plant and equipment and intangible assets in 2011 resulted in a cash outflow of €1,615 million (2010: €1,514 million). Disbursements for property, plant and equipment and intangible assets included those for the expansion of the production site for polymer products in Shanghai, China, and for marketing rights in the Pharmaceuticals segment. Cash inflows from sales of property, plant and equipment and other assets amounted to €275 million (2010: €61 million).

Acquisitions, including those of the animal health company Bomac in New Zealand and of Hornbeck Seed Company, Inc. and Pathway Medical Technologies, Inc. in the United States, resulted in cash outflows of €261 million (2010: €31 million). The prior-year figure mainly comprised the disbursements for the acquisition of Artificial Muscle, Inc., United States. Further details of acquisitions and divestitures are given in Notes [6.2] and [6.3], respectively.

Cash outflows for noncurrent and current financial assets amounted to €2,537 million (2010: €1,084 million). The transfers of a total of €477 million in government bonds to the U.S. and German pension funds were non-cash transactions and therefore did not result in an investing cash flow.

35. Net cash provided by (used in) financing activities

In 2011 there was a net cash outflow of €2,213 million (2010: €3,230 million) for financing activities. Net loan repayments amounted to €397 million (2010: €1,544 million).

Cash outflows for dividend payments amounted to €1,242 million (2010: €1,160 million). Net interest payments – including payments for and receipts from interest-rate swaps – increased to €570 million (2010: €517 million).

Other Information

36. Audit fees

The following fees for the services of PricewaterhouseCoopers Aktiengesellschaft Wirtschaftsprüfungsgesellschaft were recognized as expenses:

Audit Fees [Table 4.98]

	2010	2011
	€ million	€ million
Financial statements auditing	5	5
Audit-related services and other audit work	2	2
Tax consultancy	-	1
Other services	1	-
Total	**8**	**8**

The fees for the auditing of financial statements mainly comprise those for the audits of the consolidated financial statements of the Bayer Group and the financial statements of Bayer AG and its German subsidiaries. Fees for audit-related services primarily relate to audits of the internal control system, including project audits in connection with the implementation of new IT systems, and to reviews of interim financial statements.

37. Related parties

Related parties as defined in IAS 24 (Related Party Disclosures) are those legal entities and natural persons that are able to exert influence on Bayer AG and its subsidiaries or over which Bayer AG or its subsidiaries exercise control or have a significant influence. They include, in particular, non-consolidated subsidiaries, joint ventures, associates and post-employment benefit plans, as well as the corporate officers of Bayer AG whose compensation is reported in Note [38] and in the Compensation Report, which forms part of the Combined Management Report.

Transactions with non-consolidated subsidiaries, joint ventures, associates and post-employment benefit plans are carried out on an arm's-length basis.

The following table shows the volume of transactions with related parties that are included in the consolidated financial statements of the Bayer Group at amortized cost, by proportionate consolidation or using the equity method, and with post-employment benefit plans:

Related Parties [Table 4.99]

	2010			2011		
	Income	Receivables	Liabilities	Income	Receivables	Liabilities
	€ million	€ million	€ million	€ million	€ million	€ million
Non-consolidated subsidiaries	12	8	(37)	17	6	(29)
Joint ventures	35	2	-	44	11	-
Associates	31	10	(37)	22	4	(33)
Post-employment benefit plans	-	560	(84)	-	745	(78)

Bayer AG has undertaken to provide jouissance right capital (Genussrechtskapital) in the form of an interest-bearing loan totaling €150 million for Bayer-Pensionskasse VVaG. The entire amount remained drawn as of December 31, 2011. Loan capital was first provided to Bayer-Pensionskasse VVaG in 2008 for its effective initial fund. This capital amounted to €595 million as of December 31, 2011 (2010: €410 million).

No write-downs were made in 2011 or 2010 on receivables from related parties.

38. Total compensation of the Board of Management and the Supervisory Board and loans

The following table shows the compensation of the Board of Management according to IFRS. In addition to the directly effected compensation, this includes the fair value of the STI-based, stock-price-indexed compensation amounting to approximately 50% of the STI award for 2011. Unlike the aggregate compensation according to the German Commercial Code, the aggregate compensation according to IFRS does not include the fair value of newly granted stock-based compensation, but rather the stock-based compensation entitlements earned in the respective year plus the change in the value of stock-based compensation entitlements from previous years that have not yet been paid out. It also contains the current service cost for pension entitlements.

Board of Management Compensation according to IFRS [Table 4.100]

	2010	2011
	€ thousand	€ thousand
Directly effected compensation	10,019	6,775
Fair value of STI-based stock-price-indexed compensation based on the short-term incentive	2,621	3,445
Long-term incentive (stock-based compensation entitlements earned in the respective year)	1,079	732
Change in value of existing entitlements	(226)	(275)
Current service cost for pension entitlements earned in the respective year	2,847	1,134
Aggregate compensation (according to IFRS)	**16,340**	**11,811**

Further details are provided in the Compensation Report, which forms part of the Combined Management Report.

An amount of €5,718 thousand is recognized in the statement of financial position for future payments of stock-price-indexed compensation based on the short-term incentive to the currently active members of the Board of Management.

Pension payments to former members of the Board of Management and their surviving dependents amounted to €13,069 thousand (2010: €14,116 thousand). The figure for 2010 included payments totaling €1,850 thousand to resolve the claim of a former member of the Board of Management to pre-retirement leave. Pension provisions for former members of the Board of Management and their surviving dependents amounted to €134,179 thousand (2010: €131,599 thousand).

The compensation of the Supervisory Board amounted to €2,295 thousand (2010: €2,290 thousand), including €765 thousand (2010: €763 thousand) in variable components.

There were no loans to members of the Board of Management or the Supervisory Board outstanding as of December 31, 2011, nor any repayments of such loans during the year.

Leverkusen, February 14, 2012
Bayer Aktiengesellschaft

The Board of Management

Responsibility Statement

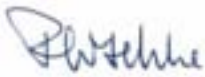
To the best of our knowledge, and in accordance with the applicable reporting principles for financial reporting, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Bayer Group, and the combined management report includes a fair review of the development and performance of the business and the position of the Bayer Group and Bayer AG, together with a description of the principal opportunities and risks associated with the expected development of the Bayer Group and Bayer AG.

Leverkusen, February 14, 2012
Bayer Aktiengesellschaft

The Board of Management

Dr. Marijn Dekkers
Chairman

Werner Baumann



Prof. Dr. Wolfgang Plischke

Dr. Richard Pott

Independent Auditor's Report

To Bayer Aktiengesellschaft, Leverkusen

REPORT ON THE CONSOLIDATED FINANCIAL STATEMENTS

We have audited the accompanying consolidated financial statements of Bayer Aktiengesellschaft, Leverkusen, and its subsidiaries, which comprise the consolidated income statement and statement of comprehensive income, the consolidated statement of financial position, the consolidated statement of cash flows, the consolidated statement of changes in equity and the notes to the consolidated financial statements for the business year from January 1, 2011 to December 31, 2011.

Board of Management's Responsibility for the Consolidated Financial Statements

The Board of Management of Bayer Aktiengesellschaft is responsible for the preparation of these consolidated financial statements. This responsibility includes that these consolidated financial statements are prepared in accordance with International Financial Reporting Standards, as adopted by the E.U., and the additional requirements of German commercial law pursuant to § (Article) 315a Abs. (paragraph) 1 HGB ("Handelsgesetzbuch": German Commercial Code) and that these consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the group in accordance with these requirements. The Board of Management is also responsible for the internal controls Management deems necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with § 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW) and additionally observed the International Standards on Auditing (ISA). Accordingly, we are required to comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing audit procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The selection of audit procedures depends on the auditor's professional judgment. This includes the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In assessing those risks, the auditor considers the internal control system relevant to the entity's preparation of consolidated financial statements that give a true and fair view. The aim of this is to plan and perform audit procedures that are appropriate in the given circumstances, but not for the purpose of expressing an opinion on the effectiveness of the group's internal control system. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Board of Management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Audit Opinion

According to § 322 Abs. 3 Satz (sentence) 1 HGB, we state that our audit of the consolidated financial statements has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements comply, in all material respects, with IFRSs, as adopted by the E.U., and the additional requirements of German commercial law pursuant to § 315a Abs. 1 HGB and give a true and fair view of the net assets and financial position of the Group as at December 31, 2011 as well as the results of operations for the business year then ended, in accordance with these requirements.

REPORT ON THE COMBINED MANAGEMENT REPORT

We have audited the accompanying group management report of Bayer Aktiengesellschaft for the business year from January 1, 2011 to December 31, 2011, which is combined with the management report of the company. The Board of Management of Bayer Aktiengesellschaft is responsible for the preparation of the combined management report in accordance with the requirements of German commercial law applicable pursuant to § 315a Abs. 1 HGB. We conducted our audit in accordance with § 317 Abs. 2 HGB and German generally accepted standards for the audit of the combined management report promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Accordingly, we are required to plan and perform the audit of the combined management report to obtain reasonable assurance about whether the combined management report is consistent with the consolidated financial statements and the audit findings, as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

According to § 322 Abs. 3 Satz 1 HGB, we state that our audit of the combined management report has not led to any reservations.

In our opinion, based on the findings of our audit of the consolidated financial statements and combined management report, the combined management report is consistent with the consolidated financial statements, as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Essen, February 23, 2012

PricewaterhouseCoopers
Aktiengesellschaft
Wirtschaftsprüfungsgesellschaft

Armin Slotta
Wirtschaftsprüfer

Anne Böcker
Wirtschaftsprüferin

Further Information

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Governance Bodies

Supervisory Board

Members of the Supervisory Board held offices as members of the supervisory board or a comparable supervising body of the corporations listed (as at December 31, 2011):

DR. MANFRED SCHNEIDER
Cologne, Germany
(born December 21, 1938)

Chairman of the Supervisory Board effective April 2002

Memberships on other supervisory boards:

- Daimler AG (until April 2011)
- Linde AG (Chairman)
- RWE AG (Chairman)
- TUI AG (until February 2011)

THOMAS DE WIN
Cologne, Germany
(born November 21, 1958)

Vice Chairman of the Supervisory Board, Member of the Supervisory Board effective April 2002

Chairman of the Bayer Group Works Council

Chairman of the Bayer Central Works Council

Memberships on other supervisory boards:

- Bayer MaterialScience AG

DR. PAUL ACHLEITNER
Munich, Germany
(born September 28, 1956)

Member of the Supervisory Board effective April 2002

Member of the Board of Management of Allianz SE

Memberships on other supervisory boards:

- Allianz Global Investors AG
- Allianz Investment Management SE, Chairman of the Board of Directors
- Daimler AG
- RWE AG

ANDRÉ AICH
Berlin, Germany
(born February 17, 1969)

Member of the Supervisory Board effective April 2007

Member of the Works Council of Bayer Pharma AG

WILLY BEUMANN
Wuppertal, Germany
(born April 12, 1956)

Member of the Supervisory Board effective February 2007

Chairman of the Works Council of the Wuppertal site of Bayer

Memberships on other supervisory boards:

- Bayer Pharma AG

DR. CLEMENS BÖRSIG
Frankfurt am Main, Germany
(born July 27, 1948)

Member of the Supervisory Board effective April 2007

Chairman of the Supervisory Board of Deutsche Bank AG

Memberships on other supervisory boards:

- Daimler AG
- Deutsche Bank AG (Chairman)
- Linde AG

Memberships in comparable supervising bodies of German or foreign corporations:

- Emerson Electric Co.

DR.-ING. THOMAS FISCHER
Krefeld, Germany
(born August 27, 1955)

Member of the Supervisory Board effective October 2005

Chairman of the Group Managerial Employees' Committee of Bayer

Memberships on other supervisory boards:

- Bayer MaterialScience AG

PETER HAUSMANN
Winsen/Aller, Germany
(born February 13, 1954)

Member of the Supervisory Board effective April 2006

Member of the Executive Committee of the German Mining, Chemical and Energy Industrial Union

Memberships on other supervisory boards:

- Evonik Services GmbH (until December 2011)

PROF. DR.-ING. E.H. HANS-OLAF HENKEL
Berlin, Germany
(born March 14, 1940)

Member of the Supervisory Board effective April 2002

Honorary Professor at the University of Mannheim

Memberships on other supervisory boards:

- Continental AG
- Daimler Luft- und Raumfahrt Holding AG
- Heliad Equity Partners GmbH & Co. KGaA
- SMS GmbH (until April 2011)
- SMS Holding GmbH (effective April 2011)

Memberships in comparable supervising bodies of German or foreign corporations:

- Ringier AG

REINER HOFFMANN
Wuppertal, Germany
(born May 30, 1955)

Member of the Supervisory Board effective October 2006

North Rhine District Secretary of the German Mining, Chemical and Energy Industrial Union

Memberships on other supervisory boards:

- Evonik Services GmbH
- SASOL Germany GmbH

DR. RER. POL. KLAUS KLEINFELD
New York, U.S.A.
(born November 6, 1957)

Member of the Supervisory Board effective April 2005

Chairman and Chief Executive Officer of ALCOA Inc.

PETRA KRONEN
Krefeld, Germany
(born August 22, 1964)

Member of the Supervisory Board effective July 2000

Chairman of the Works Council of the Uerdingen site of Bayer

Memberships on other supervisory boards:

- Bayer MaterialScience AG (Vice Chairman)

DR. RER. NAT. HELMUT PANKE
Munich, Germany
(born August 31, 1946)

Member of the Supervisory Board effective April 2007

Member of various supervisory boards

Memberships in comparable supervising bodies of German or foreign corporations:

- Microsoft Corporation
- Singapore Airlines Limited
- UBS AG

HUBERTUS SCHMOLDT
Soltau, Germany
(born January 14, 1945)

Member of the Supervisory Board effective January 1995

Member of various supervisory boards

Memberships on other supervisory boards:

- Dow Olefinverbund GmbH (Vice Chairman)
- E.ON AG
- RAG AG (Vice Chairman)
- RAG Deutsche Steinkohle AG (Vice Chairman)

PROF. DR.-ING. EKKEHARD D. SCHULZ
Krefeld, Germany
(born July 24, 1941)

Member of the Supervisory Board effective April 2005

Member of various supervisory boards

Memberships on other supervisory boards:

- AXA Konzern AG
- MAN SE (Vice Chairman)
- RWE AG
- ThyssenKrupp AG (until December 2011)
- ThyssenKrupp Elevator AG (until January 2011)
- ThyssenKrupp Steel Europe AG (until January 2011)

DR. KLAUS STURANY*
Dortmund, Germany
(born October 23, 1946)

Member of the Supervisory Board effective April 2007

Member of various supervisory boards

Memberships on other supervisory boards:

- Hannover Rückversicherung AG (Vice Chairman)
- Heidelberger Druckmaschinen AG

Memberships in comparable supervising bodies of German or foreign corporations:

- Österreichische Industrieholding AG
- Sulzer AG

ROSWITHA SÜSSELBECK
Leichlingen, Germany
(born March 19, 1954)

Member of the Supervisory Board effective July 2010

Vice Chairman of the Works Council of the Leverkusen site of Bayer

Memberships on other supervisory boards:

- Bayer CropScience AG (Vice Chairman)

* independent expert member pursuant to Section 100 Paragraph 5 of the German Stock Corporation Act (AktG)

DIPL.-ING. DR.-ING. E.H. JÜRGEN WEBER
Hamburg, Germany
(born October 17, 1941)

Member of the Supervisory Board effective April 2003

Chairman of the Supervisory Board of Deutsche Lufthansa AG

Memberships on other supervisory boards:

- Allianz Lebensversicherungs-AG
- Deutsche Lufthansa AG (Chairman)
- Loyalty Partner GmbH (Chairman)
- Voith GmbH
- Willy Bogner GmbH & Co. KGaA (Chairman)

Memberships in comparable supervising bodies of German or foreign corporations:

- Tetra Laval Group

PROF. DR. DR. H.C. MULT. ERNST-LUDWIG WINNACKER
Munich, Germany
(born July 26, 1941)

Member of the Supervisory Board effective April 1997

Secretary General of the Human Frontier Science Program, Strasbourg

Memberships on other supervisory boards:

- Medigene AG (Chairman)
- Wacker Chemie AG

OLIVER ZÜHLKE
Solingen, Germany
(born December 11, 1968)

Member of the Supervisory Board effective April 2007

Chairman of the Works Council of the Leverkusen site of Bayer

Chairman of the Bayer European Forum

Standing committees of the Supervisory Board of Bayer AG (as at Dec. 31, 2011)

PRESIDIAL COMMITTEE/ MEDIATION COMMITTEE
Schneider (Chairman), Achleitner, Schmoldt, de Win

AUDIT COMMITTEE
Sturany* (Chairman), Fischer, Hausmann, Henkel, Schneider, de Win

HUMAN RESOURCES COMMITTEE
Schneider (Chairman), Beumann, Kronen, Weber

NOMINATIONS COMMITTEE
Schneider (Chairman), Achleitner

HERMANN JOSEF STRENGER
Honorary Chairman of the Supervisory Board of Bayer AG, Leverkusen

Board of Management

Members of the Board of Management held offices as members of the supervisory board or a comparable supervising body of the corporations listed (as at December 31, 2011):

DR. MARIJN DEKKERS
(born September 22, 1957)

Chairman
(effective October 1, 2010)

Member of the Board of Management effective January 1, 2010, appointed until December 31, 2014

WERNER BAUMANN
(born October 6, 1962)

Member of the Board of Management effective January 1, 2010, appointed until December 31, 2012

- Bayer Business Services GmbH (Chairman)
- Bayer CropScience AG (Chairman)

PROF. DR. WOLFGANG PLISCHKE
(born September 15, 1951)

Member of the Board of Management effective March 1, 2006, appointed until February 28, 2014

- Bayer MaterialScience AG (Chairman)
- Bayer Technology Services GmbH (Chairman)
- Bayer Innovation GmbH, Shareholders' Committee (Chairman)
- Bayer Real Estate GmbH, Shareholders' Committee (Chairman)

DR. RICHARD POTT
(born May 11, 1953)

Member of the Board of Management effective May 1, 2002, appointed until May 31, 2013

Labor Director

- Bayer Chemicals AG (Chairman)
- Bayer HealthCare AG (Chairman)
- Bayer Pharma AG (Chairman)
- Currenta Geschäfts-führungs-GmbH (Chairman)
- Bayer Innovation GmbH, Shareholders' Committee

Organization Chart

[Graphic 5.1]

BAYER AG (HOLDING COMPANY)

Group Management Board

Marijn Dekkers
Chairman

Werner Baumann
Finance

Wolfgang Plischke
Technology, Innovation & Sustainability

Richard Pott*
Strategy & Human Resources

Corporate Center

Corporate Office
J. Krell
Communications
M. Schade
Investor Relations
A. Rosar
Corporate Auditing
R. Meyer

Law, Patents, Compliance & Insurance
R. Hartwig
Regional Coordination
I. Paterson
Group Accounting & Controlling
U. Hauck

Finance
P. Müller
Taxes
B.-P. Bier
Mergers & Acquisitions
F. Rittgen
Environment & Sustainability
W. Grosse Entrup

Corporate Human Resources & Organization
H.-U. Groh
Corporate Development
A. Moscho

BUSINESS AREAS

Bayer HealthCare

J. Reinhardt (photo)
Chief Executive Officer

M. Vehreschild
Chief Financial Officer

J.-L. Lowinski
Animal Health

E. L. Mann
Consumer Care

A. Main
Medical Care

A. Fibig
Pharmaceuticals

A. Busch
Global Drug Discovery

K. Malik
Global Development

H. Klusik*
Product Supply

N. Sheail
Global Business Development & Licensing

A. Bey
General Counsel

A. Günther
Human Resources

O. Renner
Communications and Public Affairs

Bayer CropScience

S. E. Peterson (photo)
Chief Executive Officer

M. A. Schulz
Chief Financial Officer

L. van der Broek
Chief Operating Officer

M. Haug
Human Resources

A. Klausener
Crop Protection Research

S. Kurzawa
Communications

G. Marchand
General Counsel

C. D. Nicholson**
Research & Development

A. Noack
Product Supply

F. J. Placke
Crop Protection Development

G. Riemann
Environmental Science

R. Scheitza*
Strategy & Business Management

Bayer MaterialScience

P. Thomas (photo)
Chief Executive Officer

A. Steiger-Bagel
Chief Financial Officer

T. Van Osselaer
Industrial Operations

P. Vanacker
Industrial Marketing

M. König
Polycarbonates

J. Wolff
Polyurethanes

D. Meyer
Coatings, Adhesives, Specialties

W. Miebach
Corporate Development

M. Bernhardt*
Human Resources

R. Northcote
Communications and Public Affairs

* Labor Director
** as of March 1, 2012

SERVICE AREAS

Bayer Business Services

Executive Board
D. Hartert (photo)
Chairman
N. Fieseler*

Bayer Technology Services

D. Van Meirvenne
Managing Director

Currenta

Executive Board
G. Hilken (photo)
Chairman
J. Waldi*

as of February 1, 2012

Glossary

A

A1CNow™ User-friendly device for measuring the long-term blood glucose level HbA1c at doctors' offices and diabetes outreach clinics

Adalat™ Drug product for the treatment of hypertension; active ingredient: nifedipine

Advantage™ product line (Advantix™ and other brands) Flea and tick control product for dogs and cats; active ingredient: imidacloprid

Alemtuzumab Humanized monoclonal antibody, currently being tested in multiple sclerosis (MS)

Aleve™/Apronax™/Flanax™ Analgesic; active ingredient: naproxen

Alion™ Herbicide; active ingredient: indaziflam; mainly used in plantation crops and sugarcane

Alka-Seltzer™ Drug product that binds excess gastric acid and reduces pain and fever

Alpharadin Novel alpha-emitting radiopharmaceutical currently undergoing clinical development for the treatment of cancer types that have formed bone metastases; active ingredient: radium-223 chloride

Angeliq™ Drug product for the treatment of menopause symptoms; active ingredients: drospirenone and estradiol

Antacids Drug products to treat heartburn and acid-related stomach complaints

Arize™ Hybrid rice seed

Aspirin™ World-famous analgesic; active ingredient: acetylsalicylic acid

Aspirin™ Cardio Drug product for protection against heart attack; active ingredient: acetylsalicylic acid

Avalox™/Avelox™ Drug product for the treatment of respiratory tract infections; active ingredient: moxifloxacin

B

Basta™ Herbicide; active ingredient: glufosinate-ammonium; mainly used in plantation crops, potatoes and vegetables

Bayblend™ Brand name for polymer blends based on polycarbonate and acrylonitrile butadiene styrene

Baycox™ Drug product to control coccidiosis, a parasitic infectious disease in young livestock; active ingredient: toltrazuril

Baycusan™ C Brand name for polyurethane dispersions used in cosmetic formulations

Bayer Garden™/Bayer Advanced™ Umbrella brands for consumer home and garden products

Baytril™ Drug for the treatment of severe veterinary infections; active ingredient: enrofloxacin

Belt™ Insecticide; active ingredient: flubendiamide; mainly used in vegetables, soybeans, cotton and rice

Bepanthen™ Range of skin-care and wound-healing products; active ingredient: dexpanthenol

Bepanthol™ Range of care products for dry, irritated skin; active ingredient: panthenol

Berocca™ Dietary supplement containing B-group vitamins, vitamin C, calcium, magnesium and zinc

Betaferon™/Betaseron™ Drug product for the treatment of multiple sclerosis (MS); active ingredient: interferon beta-1b

Beyaz™ Oral contraceptive containing folate; active ingredients: ethinyl estradiol, drospirenone, Metafolin™ (levomefolate calcium)

Breeze™ 2 Blood glucose meter for people with diabetes for simple, safe and rapid use at home or while traveling

C

Canesten™ Antifungal medication to treat skin infections; active ingredient: clotrimazole or bifonazole

Capital invested (CI) Capital invested comprises the assets on which the company must obtain a return by generating an appropriate cash inflow; in some cases the cost of ultimately reproducing the assets must be earned in addition.

Capreno™ Herbicide; active ingredient: thiencarbazone-methyl; mainly used in corn

Cash flow return on investment (CFROI) The cash flow return on investment is the ratio of the gross cash flow to the average capital invested for the year and is thus a measure of the return on capital employed.

Cash value added (CVA) This is the difference between the gross cash flow and gross cash flow hurdle. It is therefore the amount by which the gross cash flow exceeds the return and reproduction requirements. If CVA is positive, the investors' return and reproduction requirements have been satisfied.

Cipro™/Ciprobay™/Ciproxin™/Baycip™ Drug product for the treatment of infectious diseases; active ingredient: ciprofloxacin

Confidor™ Insecticide; active ingredient: imidacloprid; mainly used in vegetables, rice, fruit and potatoes

Contour™ Blood glucose meter for people with diabetes for simple, safe and rapid use at home or while traveling

Contour™ USB Blood glucose meter for people with diabetes, featuring USB capability and integrated diabetes management software

Core earnings per share (core EPS) Core earnings per share comprise core net income divided by the weighted average number of issued ordinary shares. Core net income is computed from EBIT plus amortization and impairment losses on intangible assets and impairment losses on property, plant and equipment, plus special items (other than amortization and impairments), minus non-operating result, minus income taxes, minus tax effects related to amortization, impairments and special items, minus income after taxes attributable to non-controlling interest. Core earnings per share are not defined in the International Financial Reporting Standards. The company considers that this indicator gives readers a clearer picture of the results of operations and ensures greater comparability of data over time.

Corporate compliance Corporate compliance comprises the observance of statutory and company regulations on lawful and responsible conduct by the company, its employees, and its management and supervisory bodies.

Corporate governance Corporate governance comprises the long-term management and oversight of the company in accordance with the principles of responsibility and transparency. The German Corporate Governance Code sets out basic principles for the management and oversight of listed companies.

Corvus™ Herbicide; active ingredient: thiencarbazone-methyl; mainly used in corn

Credit default swaps (CDS) Credit default swaps are tradable insurance contracts used to hedge against the default of a borrower.

D

Delta cash value added (delta CVA) Delta CVA is the difference between the CVAs of two consecutive periods. A positive delta CVA shows that a unit has created more value or destroyed less value in the second period than in the first.

Desmodur™ Brand name for various isocyanates

Desmopan™ Brand name for thermoplastic polyurethanes

Desmophen™ Brand name for various polyesters and polyols used in the manufacture of polyurethanes

Diane™ Treatment of androgen-dependent diseases, such as acne (when resistant to other therapies), especially if associated with very oily skin (seborrhea), development of excessive facial and body hair (hirsutism), male-pattern baldness and hair loss caused by excessive androgen action (androgenic alopecia) in women who desire oral contraception; active ingredients: cyproterone acetate and ethinyl estradiol

Drontal™ product line Dewormers for dogs and cats; active ingredients: combinations of praziquantel, pyrantel and febantel

E

Earnings before interest and taxes (EBIT) EBIT comprises the operating profit of a company before deduction of the non-operating result and taxes. In Bayer's Annual Report, EBIT is the operating result shown in the income statement.

Earnings before interest, taxes, depreciation and amortization (EBITDA) EBIT plus amortization and impairment losses on intangible assets and depreciation and impairment losses on property, plant and equipment, minus impairment loss reversals.

EBITDA, EBITDA before special items and the underlying EBITDA margin are not defined in the International Financial Reporting Standards. 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.

Earnings per share (EPS) EPS is calculated by dividing Group net income by the weighted average number of shares as defined in IAS 33.

EBITDA margin before special items The EBITDA margin before special items is calculated by dividing EBITDA before special items by sales.

EcoCommercial Building Program Innovative, globally aligned business model for a range of integrated energy and material solutions culminating in the zero-emissions building. This model has been included in the Sustainable Buildings & Climate Initiative (SBCI) of UNEP and forms part of Bayer's Sustainability Program.

Emesto™ Fungicide; active ingredient: penflufen; mainly used as a seed treatment in potatoes

EMTN and multi-currency EMTN program The Euro Medium Term Notes (EMTN) program is a documentation platform that enables Bayer to raise capital by quickly issuing debt on the European capital market. Securities issued under this program may be listed in Luxembourg or unlisted. Their maturities, currencies and conditions may vary considerably.

EQ™-Top Solution developed jointly by Bayer MaterialScience (BMS), Günther Kast GmbH and Karlsruhe Institute of Technology (KIT) for increasing earthquake protection in buildings. The concept uses a specialty adhesive based on polyurethane raw materials from BMS to firmly attach glass fiber fabric to building walls, thereby strengthening them over a large area.

Evergol™ Fungicide; active ingredient: penflufen; mainly used as a seed treatment in soybeans, corn, cereals, canola, cotton and rice

Extavia™ Drug product for the treatment of multiple sclerosis (MS); active ingredient: interferon beta-1b

EYLEA™ Drug product for the treatment of wet age-related macular degeneration; active ingredient: aflibercept

F

FiberMax™ Cotton seed

Florbetaben Novel ^{18}F-labeled tracer substance currently undergoing clinical development for the detection of beta-amyloid plaques in the brain using positron emission tomography (PET)

Fosrenol™ Drug product to manage phosphate levels in dialysis patients; active ingredient: lanthanum carbonate hydrate

Fox™ Fungicide; active ingredients: trifloxystrobin, prothioconazole; mainly used in soybeans and corn

G

Gadavist™/Gadovist™ Contrast agent for magnetic resonance imaging of the central nervous system that enables the number and location of lesions to be displayed in patients with brain metastases or multiple sclerosis (MS); active ingredient: gadobutrol

Gaucho™ Insecticide; active ingredient: imidacloprid; mainly used as a seed treatment in sugar beet, corn, cereals, cotton and canola

Global commercial paper program Commercial paper (CP) is a short-term, unsecured debt instrument normally issued at a discount and redeemed at nominal value. It is a flexible way of obtaining short-term funding on the capital market. Bayer's commercial paper program allows the company to issue commercial paper on both the U.S. and European markets.

Glucobay™ Drug product for the treatment of diabetes; active ingredient: acarbose

Glucofacts™ Deluxe Diabetes management software

GlyTol™ Herbicide tolerance trait; mainly used in cotton

Gross cash flow (GCF) The gross cash flow comprises income after taxes, plus income taxes, plus non-operating 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 the operating result (EBIT). It also contains benefit payments during the year.

Gross cash flow hurdle The GCF hurdle is the gross cash flow that needs to be generated to satisfy investors' return and reproduction requirements.

H

HDI Hexamethylene diisocyanate, a raw material for polyurethane coatings

Hybrid bond A hybrid bond is an equity mezzanine corporate bond, usually with either no maturity date or a very long maturity. Due to its subordination, issuer bankruptcy can lead to a complete financial loss.

I

InVigor™ Summer canola seed

Iopamiron Non-ionic intravascular contrast agent for all common X-ray analyses

K

Key performance indicators (KPI) Indicators used to evaluate the attainment of targets by the company

Kinzal™ Drug product for the treatment of hypertension; active ingredient: telmisartan

Kogenate™/Kogenate™ FS Drug product for the treatment of hemophilia; active ingredient: recombinant Factor VIII

L

LCS-12 Intrauterine contraceptive system; active ingredient: levonorgestrel

LEMTRADA™ Humanized monoclonal antibody, currently being tested in multiple sclerosis (MS); active ingredient: alemtuzumab

Levitra™ Drug product for the treatment of erectile dysfunction; active ingredient: vardenafil

Liberty™ Herbicide; active ingredient: glufosinate-ammonium; mainly used in genetically modified crops (cotton, canola, soybeans and corn)

LibertyLink™ Herbicide tolerance trait; mainly used in cotton, canola, soybeans and corn

LifeNet™ Nets based on a polypropylene fiber incorporating the active ingredient deltamethrin, to protect people from malaria mosquitoes

Life sciences Field of activities comprising particularly health care and nutrition. At Bayer this refers to the activities of the HealthCare and CropScience subgroups.

Luna™ Fungicide; active ingredient: fluopyram; mainly used in fruit, vegetable and potato crops

M

Magnevist™ Contrast agent for diagnostic imaging of the central nervous system and body; active ingredient: gadopentetate dimeglumine

Makroblend™ Brand name for polymer blends of polycarbonate and either polybutylene terephthalate or polyethylene terephthalate

Makrolon™ Brand name for polycarbonate

MDI Diphenylmethane diisocyanate, an important raw material for rigid polyurethane foam used in thermal insulation

Mirena™ Intrauterine contraceptive; active ingredient: levonorgestrel

N

Natazia™ (U.S.)/Qlaira™ Oral contraceptive whose estrogen component is based on estradiol; active ingredients: estradiol valerate, dienogest

Nativo™ Fungicide; active ingredients: trifloxystrobin, tebuconazole; mainly used in cereals, soybeans, corn and rice

Natria™ Product line in the Bayer Garden™ range of consumer products; based on natural or nature-derived active ingredients

Net cash flow Net cash flow is the cash flow from operating activities as defined in IAS 7.

Nexavar™ Cancer drug to treat patients with hepatocellular carcinoma or advanced renal cell carcinoma; active ingredient: sorafenib

Nortica™ Biological agent based on Bacillus firmus to protect against nematodes; main applications: lawns and golf courses

Nunhems™ Umbrella brand for the vegetable seed business

O

One A Day™ Multivitamin product

Over the Counter (OTC) The trading of securities outside of an organized exchange. OTC transactions are nevertheless subject to securities trading laws. In the health care field, OTC medicines are those obtainable without a prescription.

P

Poncho™ Insecticide; active ingredient: clothianidin; mainly used as a seed treatment in corn, canola, sugar beet and cereals

PPA Purchase price allocation

Price/cash flow ratio The price/cash flow ratio is the ratio of the share price to gross cash flow per share. It shows how long it would take for the company's cash flow to cover the share price.

Price/EPS ratio (price/earnings ratio) This is the ratio of the current share price to earnings per share. A high price/EPS ratio indicates that the market assigns a high value to the stock in the expectation of future earnings growth.

Pritor™ Drug product for the treatment of hypertension; active ingredient: telmisartan

Procox™ Parasiticide for the combined treatment of roundworm infections and gastrointestinal coccidiosis in dogs; active ingredients: emodepsid, toltrazuril

Prosaro™ Fungicide; active ingredients: prothioconazole, tebuconazole; used mainly in cereals and canola

Q

Qlaira™ Oral contraceptive whose estrogen component is based on estradiol; additional indication in the E.U. and Canada for the treatment of heavy menstrual bleeding in women without organic pathology who desire oral contraception; active ingredients: estradiol valerate, dienogest

R

Redoxon™ Vitamin product containing vitamin C and zinc

Regorafenib Novel oral multikinase inhibitor in clinical development for the treatment of advanced colorectal cancer and gastrointestinal stromal tumors (GIST)

Rennie™ Medicine to treat heartburn and acid-related stomach disorders; active ingredients: calcium carbonate and magnesium carbonate

Riociguat Active ingredient from a new class of vasodilative substances; stimulates soluble guanylate cyclase (sGC), an enzyme. Riociguat is currently being tested in a Phase III program to determine its efficacy and safety in the treatment of chronic thromboembolic pulmonary hypertension (CTEPH) and pulmonary arterial hypertension (PAH).

S

Sivanto™ Insecticide; active ingredient: flupyradifurone; mainly used in fruit and vegetables

Specticle™ Herbicide; active ingredient: indaziflam; mainly for lawncare by professional users

Squeeze-out Transfer of the shares held by minority stockholders in a stock corporation to the majority stockholder in return for a compensation payment. In Germany, a majority stockholder with an interest of 95 percent can request a squeeze-out. When a stock corporation is merged with a parent stock corporation, a squeeze-out can take place if the majority interest is 90 percent or greater.

Stoneville™ Cotton seed

Stratego™ Fungicide; active ingredients: trifloxystrobin, propiconazole; mainly used in corn, soybeans, cereals and rice

Stratego™ YLD Fungicide; active ingredients: trifloxystrobin, prothioconazole; mainly used in corn and soybeans

Supradyn™ Vitamin and mineral supplement with trace elements

Syndicated credit facility Credit line agreed with a group of banks. Generally used for extensive financing requirements, such as when making an acquisition, to increase available liquidity or as security for the issuance of debt instruments. The credit facility can be utilized and repaid flexibly, either in full or in portions, during its term.

T

Talcid™ Antacid to treat heartburn and stomach complaints; active ingredient: hydrotalcite

TDI Toluene diisocyanate, an important raw material for flexible polyurethane foam used in upholstery, mattresses and car seats

TwinLink™ Dual insecticide resistance and herbicide tolerance trait; mainly used in cotton

U

Ultravist™ Contrast agent for x-ray examinations including computed tomography; active ingredient: iopromide

V

VEGF Trap-Eye VEGF (vascular endothelial growth factor) is a natural growth factor that is also involved in the pathological formation of new blood vessels in the eyes, which leads to wet age-related macular degeneration (AMD). The recombinant drug product VEGF Trap-Eye specifically inhibits this process and other growth factors and is currently undergoing Phase III clinical trials for various eye diseases.

Veraflox™ Anti-infective to treat severe infections in dogs and cats; active ingredient: pradofloxacin

ViviTouch™ Brand name for actuators based on electroactive polymers that are used to provide high-definition tactile feedback, e. g. in mobile gaming consoles

Votivo™ Biological agent based on Bacillus firmus to protect against nematodes, mainly used as a seed treatment in combination with Poncho™ in corn, soybeans and cotton

Vulkollan™ Brand name for a high-performance polyurethane elastomer

W

Weighted average cost of capital (WACC) The weighted average cost of capital (WACC) represents the return required by investors on the capital invested in the company. It is computed as a weighted average of the cost of equity and debt. The cost of equity is derived from capital market information and represents the return expected by stockholders, while the cost of debt represents the conditions on which the company can obtain long-term financing.

World-scale production facility Very large production facility that allows substantial economies of scale

X

Xarelto™ Direct Factor Xa inhibitor in tablet form. The active ingredient rivaroxaban is being developed to prevent or treat thrombosis in a wide range of indications and has received marketing approvals under the name Xarelto™ for prophylaxis of venous thromboembolism (VTE) in adults following elective hip and knee replacement surgery, stroke prevention in patients with atrial fibrillation, and other indications.

Xpro™ Fungicide; active ingredients: bixafen, prothioconazole; mainly used in cereals

Y

YAZ™/Yasmin™/Yasminelle™ Oral contraceptives; active ingredients: ethinyl estradiol and drospirenone

Z

Zetia™ Cholesterol-lowering drug from Merck & Co., co-marketed by Bayer in Japan; active ingredient: ezetimib

INTERNET

For explanations of further specialist terminology, go to:
WWW.INVESTOR.BAYER.COM
> STOCK
> GLOSSARY

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Global Commitment to Sustainability

Sustainability at Bayer is an integral part of a corporate policy geared to long-term success and innovative solutions. This commitment is also evidenced by the company's participation in numerous initiatives and projects around the world. Logos relating to a selection of these activities appear in the left margin in the order in which the respective activities are described below.

Bayer has long practiced the concept of Responsible Care. To achieve continuous improvement in the areas of health, safety and environment, the company has been guided by the principles of the voluntary Responsible Care initiative of the chemical and pharmaceutical industry since 1994 and by the Responsible Care Global Charter, which was last revised in 2006.

A member of the World Business Council for Sustainable Development since 1997, Bayer was a co-founder of German industry's sustainable development forum "econsense" in 2000.

Bayer is a founding member of the United Nations Global Compact (UNGC) initiative, also established in 2000, actively promoting the 10 principles of the UNGC through its involvement in the corporate sustainability leadership platform LEAD, the "Caring for Climate" and "CEO Water Mandate" initiatives and numerous projects. In Brazil, for example, Bayer supports the Abrinq Foundation in its efforts to combat child labor, and in India the company participates in the "Learning for Life" initiative for the protection and advancement of children through education and vocational training.

Bayer's collaboration with the United Nations Environment Programme (UNEP) has been in place since 2004 and has set standards in public-private partnerships. Among the long-standing joint activities is the "Bayer Young Environmental Envoy" program, in which young people from 18 countries on three continents participate.

In 2009 the company joined the UNEP Climate Neutral Network, which promotes low-CO_2-emission industrial and social structures. To help reduce greenhouse gas emissions from relevant buildings worldwide, Bayer is also supporting the Sustainable Buildings and Climate Initiative of the U.N. Environment Programme (UNEP SBCI) as part of its EcoCommercial Building Program. In 2011 Bayer hosted the SBCI Annual General Meeting and Symposium in Leverkusen.

The company places maximum importance on climate protection. Bayer has been included for seven consecutive years in the Carbon Disclosure Leadership Index (CDLI) published by the Carbon Disclosure Project (CDP), an organization run on behalf of institutional investors, and since 2010 has also been included in the CDP's new Carbon Performance Leadership Index (CPLI).

For more than 50 years, Bayer has supported family planning programs in over 130 countries, focusing on cooperation with private and public relief organizations such as the United Nations Population Fund (UNFPA) and the United States Agency for International Development (USAID). As part of a new initiative, Bayer has offered contraceptives at reduced prices in countries of Sub-Saharan Africa since 2010. Activities in the area of family planning also include educating teenagers on sexuality and health issues. In Uganda, for example, Bayer cooperates with the German Foundation for World Population (DSW) in this field. In the fight against tuberculosis, Bayer is cooperating with the Global Alliance for TB Drug Development, a U.S. non-profit organization, with the aim of developing a new treatment that reduces treatment times.

Bayer is represented in major stock indices and investment funds that focus on companies pursuing responsible and sustainable corporate strategies. For example, Bayer is listed in the Dow Jones Sustainability Indices Europe and World, the FTSE4Good index series and the Advanced Sustainable Performance Indices (ASPI) Eurozone. It also qualified for inclusion in the Storebrand SRI Funds as a "Best in Class" company.

Our sustainability reporting is based on the guidelines of the Global Reporting Initiative (GRI), which Bayer supports as an organizational stakeholder.

At Home Throughout The World

NORTH AMERICA
In North America (United States and Canada), Bayer is represented in all strategic business areas. In 2011 Bayer's 15,800 employees in this region generated sales of €8.2 billion, which was 22.4% of the Group total.

EUROPE
In 2011 Bayer achieved sales of €14.4 billion on the European market, which accounted for 39.5% of the Group total. Numerous major production facilities and 53,600 employees (of whom 35,800 are based in Germany) give the company a strong presence in this region.

LATIN AMERICA/AFRICA/MIDDLE EAST
Bayer has been present in Latin America for more than 110 years. In 2011 the company's 16,400 employees in the Latin America/Africa/Middle East region generated €6.1 billion in sales – 16.6% of the Group total.

ASIA/PACIFIC
With its tremendous growth potential, this economic region is one of the most important markets of the future. In 2011 Bayer generated €7.8 billion in sales here – 21.5% of the Group total – with 26,000 employees.

Five-Year Financial Summary

[Table 1.2]

	2007	2008	2009	2010	2011
	€ million	€ million	€ million	€ million	€ million
Bayer Group					
Sales	32,385	32,918	31,168	35,088	36,528
Sales outside Germany	85.1%	85.4%	86.7%	87.4%	87.3%
EBIT (operating result)	3,154	3,544	3,006	2,730	4,149
EBIT before special items[1]	4,287	4,342	3,772	4,452	5,025
EBITDA[1]	5,866	6,266	5,815	6,286	6,918
EBITDA before special items[1]	6,777	6,931	6,472	7,101	7,613
Income before income taxes	2,234	2,356	1,870	1,721	3,363
Income after taxes	4,716	1,724	1,359	1,310	2,472
Earnings per share (€)[2]	5.84	2.22	1.70	1.57	2.99
Noncurrent assets	**34,712**	**35,351**	**34,049**	**33,188**	**32,697**
of which goodwill and other intangible assets	22,770	22,598	21,546	20,163	19,455
of which property, plant and equipment	8,819	9,492	9,409	9,835	9,823
Current assets	**16,582**	**17,152**	**16,993**	**18,318**	**20,068**
Inventories	6,217	6,681	6,091	6,104	6,368
Receivables and other current assets	7,834	8,377	8,177	9,374	11,846
Cash and cash equivalents	2,531	2,094	2,725	2,840	1,770
Financial liablities	**14,417**	**16,870**	**12,949**	**11,833**	**11,679**
Noncurrent	13,081	10,614	11,460	9,944	7,995
Current	1,336	6,256	1,489	1,889	3,684
Interest expense – net	(701)	(702)	(548)	(499)	(335)
Return on equity	31.8%	10.4%	7.7%	6.9%	13.0%
Gross cash flow[3]	4,784	5,295	4,658	4,771	5,172
Capital expenditures (total)	1,905	1,982	1,669	1,621	1,666
Depreciation and amortization	2,478	2,570	2,660	2,571	2,521
Personnel expenses (including pension expenses)	7,571	7,491	7,776	8,099	8,726
Number of employees[4] (Dec. 31)	106,200	108,600	111,000	111,400	111,800
Research and development expenses	2,578	2,653	2,746	3,053	2,932
Equity including non-controlling interest (total)	**16,821**	**16,340**	**18,951**	**18,896**	**19,271**
Capital stock	1,957	1,957	2,117	2,117	2,117
Reserves	14,864	14,383	16,834	16,779	17,154
Net income	4,711	1,719	1,359	1,301	2,470
Non-controlling interest	87	77	54	63	59
Liabilities (total)	**34,557**	**36,171**	**32,091**	**32,610**	**33,494**
Total assets	**51,378**	**52,511**	**51,042**	**51,506**	**52,765**
Equity ratio	**32.7%**	**31.1%**	**37.1%**	**36.7%**	**36.5%**
Bayer AG					
Net income	1,928	1,161	2,226	1,245	1,134
Allocation to (withdrawal from) retained earnings	896	91	1,068	5	(239)
Total dividend payment	1,032	1,070	1,158	1,240	1,364
Dividend per share (€)	1.35	1.40	1.40	1.50	1.65

[1] For definition see Combined Management Report, Chapter 4.2 "Calculation of EBIT(DA) Before Special Items".
[2] Earnings per share: as defined in IAS 33: net income divided by the average number of shares. For details see Note [16] to the consolidated financial statements.
[3] For definition see Chapter 4.5 "Liquidity and Capital Expenditures of the Bayer Group".
[4] Full-time equivalents

Financial Calendar

Q1 2012 Interim Report	**APRIL 26, 2012**
Annual Stockholders' Meeting 2012	**APRIL 27, 2012**
Planned dividend payment date	**APRIL 30, 2012**
Q2 2012 Interim Report	**JULY 31, 2012**
Q3 2012 Interim Report	**OCTOBER 30, 2012**
2012 Annual Report	**FEBRUARY 28, 2013**
Q1 2013 Interim Report	**APRIL 25, 2013**
Annual Stockholders' Meeting 2013	**APRIL 26, 2013**

MASTHEAD

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This Annual Report contains forward-looking statements based on current assumptions and forecasts made by Bayer Group or subgroup management. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual financial position, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports, which are available on the Bayer website at www.bayer.com. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

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