#02 Merck Group Management Report 2011

The Year 2011 in Figures

Merck Group

Total revenues	EBITDA	EBIT	Employees
€ 10,276 million	€ 2,736 million	€ 1,137 million	40,676

Underlying free cash flow	R&D costs	Return on sales (ROS)	Global presence
€ 1,395 million	€ 1,517 million	9.6%	67 countries

Pharmaceuticals

Merck Serono → page 60

Total revenues	R&D costs
€ 5,920 million	€ 1,225 million

Employees	Operating result
16,867	€ 304 million

Underlying free cash flow	Return on sales (ROS)
€ 1,205 million	5.1%

Consumer Health Care → page 71

Total revenues	R&D costs
€ 496 million	€ 23 million

Employees	Operating result
1,226	€ 46 million

Underlying free cash flow	Return on sales (ROS)
€ 40 million	9.3%

Chemicals

Merck Millipore → page 75

Total revenues	R&D costs
€ 2,393 million	€ 135 million

Employees	Operating result
8,544	€ 226 million

Underlying free cash flow	Return on sales (ROS)
€ 309 million	9.4%

Performance Materials → page 79

Total revenues	R&D costs
€ 1,467 million	€ 134 million

Employees	Operating result
5,071	€ 525 million

Underlying free cash flow	Return on sales (ROS)
€ 492 million	35.8%

Overall Economic Situation

Growth of the global economy weakened significantly in 2011. Emerging markets and developing countries are the engines of global growth.

Although the German economy grew by another 3%, growth impetus tapered off especially in Europe owing to the debt and euro crisis, as governments reduced measures to stimulate the economy. Private demand was unable to offset this, particularly as consumers faced the risks and turmoil stemming from the debt crisis, the Japanese earthquake in March, and the Arab Spring uprisings in the Middle East and North Africa.

According to the International Monetary Fund (IMF), gross domestic product (GDP) of the industrialized countries increased by 1.6% in 2011, compared with 3.2% in 2010. The IMF stated that global GDP rose by 3.8% in 2011. The Organization for Economic Cooperation and Development (OECD) also expects the GDP of its 34 member states to increase by 1.9% in 2011. Therefore, according to both institutions, not the industrial countries, but emerging markets and developing countries were the engines of global growth.

Merck operates the businesses of its four divisions in two business sectors, Pharmaceuticals and Chemicals.

Pharmaceutical market

IMS Health, a provider of pharmaceutical industry market data, forecasts that global pharmaceutical sales will amount to around US$ 880 billion (around +6%) in 2011. According to IMS Health, the top global therapeutic classes in terms of sales are oncologics, lipid regulators, respiratory agents and antidiabetics. In geographic terms, the largest markets are as follows: the United States, followed by Japan, China and Germany.

According to the market research firm Nicholas Hall, the global volume of the over-the-counter drugs market rose by 4.5% in 2011 to € 81 billion. Europe is the most important market, followed by North America, Asia (excluding Japan), Japan and Latin America.

Chemical market

Dynamic development of chemical production +4% worldwide (VCI)

The chemical industry developed dynamically in 2011. According to ICIS, a chemical market research institute, global chemical industry growth will exceed that of global GDP in the coming years.

For specialty chemicals, a field in which Merck operates, ICIS expects global production to rise by 3.5% in 2011. In the course of 2011, the European Chemical Industry Council (Cefic) lowered its original annual forecast for production growth of its member companies from 4.5% to 2.5%.

For 2011, the German Chemical Industry Association (VCI) reported an increase in chemical production of 4% compared to 2010. Total sales of the German chemical industry rose by 9% in 2011 to € 186.5 billion. Consequently, Germany ranks fourth globally after the United States, China and Japan.

Financial Position and Results of Operations

2011 reflects the impact of the Millipore acquisition over a 12-month period. A better balance now exists between the Pharmaceuticals and Chemicals business sectors.

Solid business performance in a challenging environment

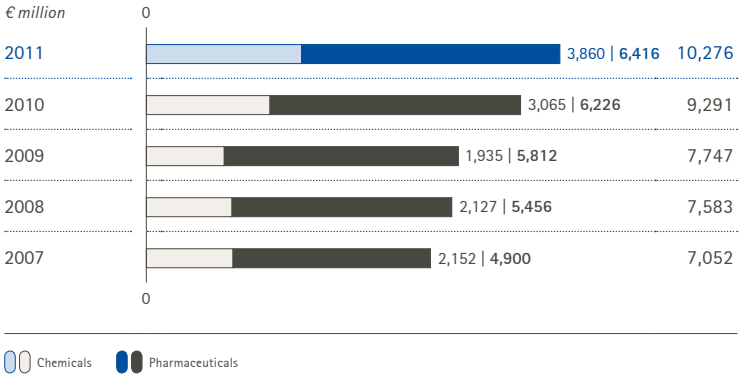
Total revenues exceed € 10 billion for the first time

In 2011, Merck delivered a solid business performance in a challenging environment. All four divisions contributed to this development. Total revenues of the Merck Group rose in fiscal 2011 by € 986 million or 11% to € 10,276 million. This increase was primarily due to the acquisition of Millipore Corporation, a leading U.S. life science company, which we completed in July 2010. Overall, acquisitions and divestments accounted for 6.4% of the increase in total revenues in 2011. Organically, i.e. excluding acquisitions, divestments and exchange rate effects, total revenues rose by 4.8%. Foreign exchange rates lowered total revenues by 0.6% compared to 2010.

Generally, the comparability of the income statement for 2011 with that for 2010 is impacted by the acquisition of Millipore. While the Millipore business was included in 2010 only as of July, fiscal 2011 reflects all of Millipore's expenses and income for 12 months.

At € 370 million, royalty, license and commission income, which is disclosed as part of total revenues, was slightly higher than in 2010.

Total revenues by business sector
(excluding Corporate and Other)



Cost of sales rose by 17% to € 2,788 million, growing somewhat more sharply than total revenues. In the year-on-year comparison of cost of sales, it should be noted that 2010 included a one-time expense of € 86 million, which was attributable to the market valuation of the acquired Millipore inventories within the scope of the purchase price allocation. Organically, cost of sales increased by 7.0%. Gross margin rose by 8.4% to € 7,488 million in 2011.

Marketing and selling expenses 2% higher on adjusted basis

Marketing and selling expenses rose by 7.1% to € 2,393 million from € 2,235 million in 2010. The increase is largely due to the fact that in 2010, the marketing and selling expenses of the Millipore companies were only included for six months. Adjusted for acquisitions and foreign exchange rates, the increase totaled 2.0%. In 2011, the ratio of marketing and selling expenses to total revenues declined slightly from 24% to 23%.

→ *Financial Position and Results of Operations*

Royalty, license and commission expenses rose to € 512 million from € 480 million. They are incurred for sales of products which we either co-market with partners or for which we pay royalty fees in order to market. This is especially the case for our Merck Serono products Rebif® and Erbitux®. Royalty, license and commission income and expenses include the royalty, license and commission income reported in total revenues as well as the expenses for marketing licenses and to a lesser extent production licenses. The components are as follows:

Royalty, license and commission income and expenses by division in 2011

€ million	Total	Merck Serono	Consumer Health Care	Merck Millipore	Performance Materials	Corporate and Other
Royalty + license expenses	–216	–187	–2	–13	–14	–
Royalty + license income	354	340	2	10	2	–
Total	**138**	**153**	**–**	**–3**	**–12**	**–**
Commission expenses	–296	–291	–2	–3	–	–
Commission income	16	16	–	–	–	–
Total	**–280**	**–275**	**–2**	**–3**	**–**	**–**

Royalty, license and commission income and expenses by division in 2010

€ million	Total	Merck Serono	Consumer Health Care	Merck Millipore	Performance Materials	Corporate and Other
Royalty + license expenses	–183	–163	–	–7	–13	–
Royalty + license income	340	323	2	7	8	–
Total	**157**	**160**	**2**	**–**	**–5**	**–**
Commission expenses	–297	–293	–	–3	–1	–
Commission income	22	22	–	–	–	–
Total	**–275**	**–271**	**–**	**–3**	**–1**	**–**

Administration expenses rose by 5.6% to € 505 million. This increase was due primarily to changes in the scope of consolidation. Organically, these expenses rose by only 0.3%.

Assets impairment of production plant in Switzerland

Showing a net expense of € 582 million, the line item "Other operating income and expenses" was 49% higher than the net expense of € 390 million reported in 2010. This sharp increase is due largely to the asset impairment of the Large-Scale Biotech production plant (LSB) at the Merck Serono Biotech Center in Switzerland. Owing to expected overcapacity, an asset impairment of € 165 million was recognized on the LSB in 2011. Due to a reassessment of the business potential of cladribine tablets and the related decision to no longer pursue the global approval process, one-time expenses of € 13 million were recognized. Additionally, in this context, provisions were set up for research services still to be performed. Transaction and integration costs for Millipore amounted to € 38 million in 2011, which compares with € 87 million in 2010. Write-downs of receivables were recorded mainly for outstanding receivables from state hospitals and health care organizations in Italy, Spain, Greece and Portugal.

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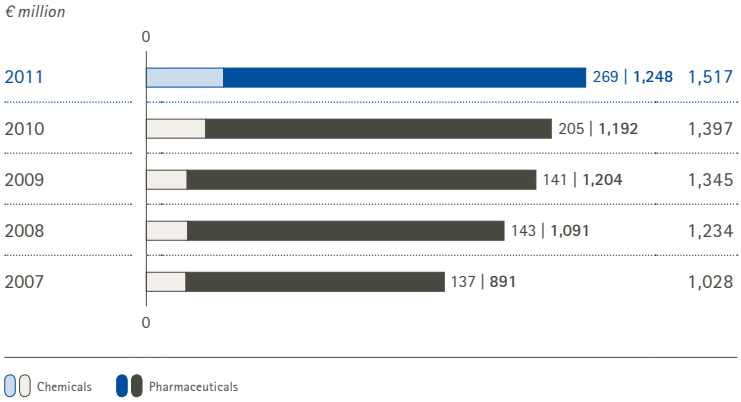
At € 1,517 million, research and development spending was 8.6% higher than in 2010. This was mainly attributable to expensive late-stage clinical trials of drug candidates in the Merck Serono division. At the same time, we recorded expenses of € 42 million for research and development services still to be performed in connection with the return of the rights to safinamide to Newron Pharmaceuticals S.p.A., Milan, Italy. Despite the decision to discontinue the development and commercialization of safinamide for the treatment of Parkinson's disease, we will maintain the ongoing clinical trial program with safinamide. In order to secure and expand our market positions in the Merck Millipore and Performance Materials divisions, we spent a total of € 269 million on research and development (2010: € 205 million). At 15%, the ratio of R&D expenses to total revenues remained at the previous year's level.

Research and development spending by business sector



Amortization of intangible assets increased sharply to € 1,005 million in 2011 from € 819 million in 2010. This total mainly includes amortization of intangible assets in connection with the purchase price allocations for Serono and Millipore. The increase is due, on the one hand, to the fact that the amortization of intangible assets from the purchase price allocation for the Merck Millipore division are included for a full year, whereas 2010 only included amortization for the second half of the year. In addition, in the second quarter of 2011, the estimate of the remaining useful life of Rebif ® was shortened by two years owing to the increasing market influence of oral forms of treatment for multiple sclerosis. This increased amortization by € 51 million in 2011. This item also includes expenses for amortization of intangible assets resulting from the Serono purchase price allocation. Owing to our decision to no longer pursue the global approval process for cladribine tablets, the residual book value of € 50 million was written off. In 2011, in order to focus our research activities, all ongoing research projects were subjected to an intensive assessment. In connection with changes in the development plan for safinamide, a potential add-on therapy for Parkinson's disease, we wrote off the residual book value of € 63 million. Further impairments amounting to € 35 million resulted from the decision to discontinue the development of IMO-2055, a candidate for cancer treatment. In addition, owing to the termination of a further research project in the Merck Serono division, an

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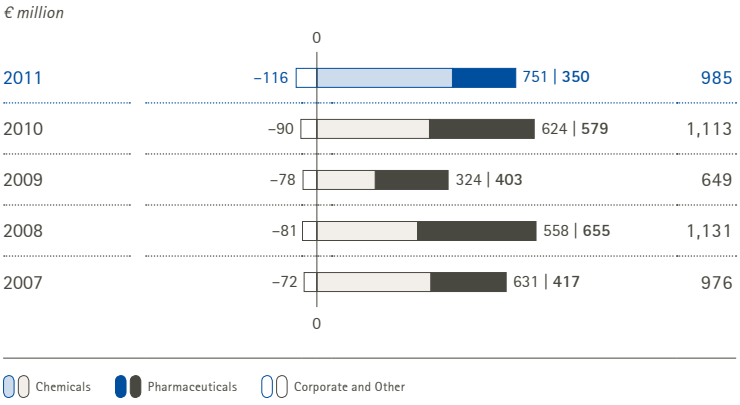
Impairments impact the operating result

impairment loss of € 9 million was recognized on an intangible asset. Impairment losses of € 9 million on various patents in the Performance Materials division were recorded in 2011.

The operating result of the Merck Group totaled € 985 million in 2011. This corresponds to a year-on-year decline of 12%, which was due in particular to the aforementioned one-time expenses.

Operating result by business sector



Exceptional items

In 2011, gains totaling € 152 million were disclosed under exceptional items. These relate in particular to the gain on the divestment of the Crop BioScience business amounting to € 157 million. Further information on this can be found in the Notes under "Scope of consolidation". Furthermore, in 2011 exceptional items also included a subsequent gain of € 19 million from the sale of distribution rights in connection with the divestment of Théramex in 2010 as well as income of € 9 million owing to the adjustment of previous exceptional items. In addition, provisions for environmental protection measures amounting to € 29 million as well as expenses of € 4 million in connection with the litigation regarding Dey Inc., USA, are reported under exceptional items.

Financial result

The financial result showed an expense balance of € 286 million compared to € 252 million in 2010. The marked increase of 14% was due mainly to expenses resulting from exchange rate differences.

Profit after tax

Adjusted for exceptional items, the tax ratio was 26.1%, compared to 25.3% in 2010. It should be noted that a change in the applicable tax rate led to an adjustment of a deferred tax liability in 2011. The resulting one-time deferred tax income had a favorable impact on the tax ratio.

Profit after tax amounted to € 629 million, which is 2.0% less than in 2010.

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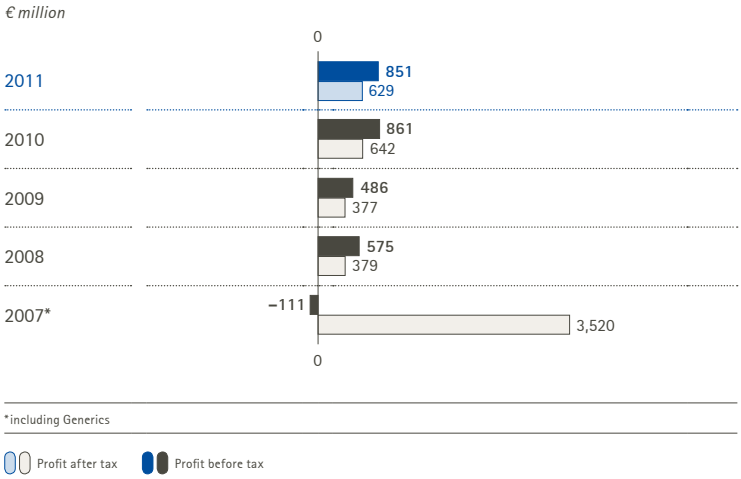
Profit before and after tax



Dividend proposal: Increase to € 1.50

Dividend proposal

We will propose to the Annual General Meeting on April 20, 2012 to raise the dividend from € 1.25 to € 1.50 per share.

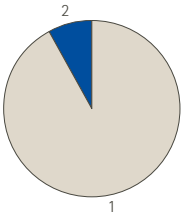
Pharmaceuticals accounts for two-thirds of Group total revenues

Solid growth in the Pharmaceuticals business sector

The Pharmaceuticals business sector, which comprises the Merck Serono division for innovative prescription drugs and Consumer Health Care for over-the-counter pharmaceuticals, increased its total revenues in 2011 by 3.1% to € 6,416 million. This business sector accounted for 62% of the Merck Group's total revenues in 2011. Total revenues of the Merck Serono division increased by 2.9% and of the Consumer Health Care division by 5.1%.

Pharmaceuticals | Total revenues by division

€ million / % of Pharmaceuticals total revenues



1	Merck Serono	5,920	92%
2	Consumer Health Care	496	8%

The operating result of the Pharmaceuticals business sector fell by 40% to € 350 million. The positive development of the Consumer Health Care division, which more than tripled its operating result from € 14 million to € 46 million, was overshadowed by the sharp decline of 46% in the operating result of the Merck Serono division, which totaled € 304 million. With respect to the increase in the operating result

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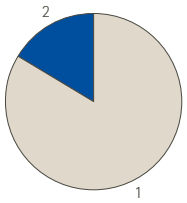
of the Consumer Health Care division, it should be noted that 2010 was adversely affected especially by restructuring charges in China as well as a warehouse fire in the United Kingdom. Apart from higher cost of sales in the Merck Serono division as well as increased R&D spending, high one-time expenses adversely affected the operating result. These related mainly to the asset impairments of the Large-Scale Biotech production plant in Switzerland, cladribine and safinamide. The underlying core operating result, which excludes Merck Serono-related amortization of intangible assets and integration costs as well as other one-time charges, increased in 2011 by 6.9% to € 1,382 million from € 1,292 million in 2010.

The Pharmaceuticals business sector generated 32% of the Group operating result (excluding Corporate and Other). Return on sales (ROS) declined sharply from 9.3% to 5.5%. Based on the underlying core operating result, the return relative to total revenues was 21.5% (2010: 20.8%).

Pharmaceuticals | Operating result by division

€ million / % of Pharmaceuticals operating result



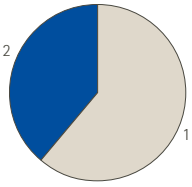
1 Merck Serono	304	87%
2 Consumer Health Care	46	13%

Chemicals business sector

The Chemicals business sector comprises the Merck Millipore division with its three business units BioScience, Lab Solutions and Process Solutions, as well as the Performance Materials division with its two business units Liquid Crystals and Pigments & Cosmetics. In 2011, the Chemicals business sector achieved a sharp rise in total revenues, which increased by 26% to € 3,860 million. Chemicals accounted for 38% of total revenues and 68% of the operating result of the Merck Group (excluding Corporate and Other). Return on sales (ROS) decreased slightly from 20.4% to 19.5%. Total revenues of the Merck Millipore and Performance Materials divisions increased by 48% and 1.0%, respectively. However, for the Merck Millipore division, it should be noted that the Millipore companies were only included in the financial statements for six months in 2010. Organically, meaning adjusted for acquisition and exchange rate effects, total revenues of the Chemicals business sector increased by 4.2%.

Chemicals | Total revenues by division

€ million / % of Chemicals total revenues



1 Merck Millipore	2,393	62%
2 Performance Materials	1,467	38%

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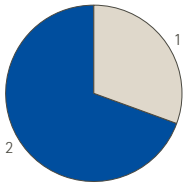
Chemicals | Operating result by division

€ million / % of Chemicals total revenues



1	Merck Millipore	226	30%
2	Performance Materials	525	70%

The operating result of the Chemicals business sector increased by 20% to € 751 million, with the operating result of the two divisions developing differently in 2011. While Merck Millipore increased its operating result from € 48 million to € 226 million, Performance Materials sustained a decline of 8.9% in its operating result, which totaled € 525 million.

Growth by quarter

Total revenues by quarter *€ million*	1st quarter	2nd quarter	3rd quarter	4th quarter	2011	2010
Total	**2,564**	**2,555**	**2,532**	**2,625**	**10,276**	**9,291**
Pharmaceuticals	1,544	1,598	1,602	1,672	6,416	6,226
Chemicals	1,020	957	930	953	3,860	3,065

Components of growth by quarter

Change in total revenues vs. 2010 in %	1st quarter	2nd quarter	3rd quarter	4th quarter	2011	2010
Organic growth	3.1	5.1	6.9	3.7	4.8	7.9
Pharmaceuticals	0.9	6.3	8.7	4.2	5.0	4.9
Chemicals	9.1	2.4	3.9	2.7	4.2	16.9
Exchange rate effects	3.2	–3.1	–2.2	–0.1	–0.6	3.7
Acquisitions/divestments	15.8	13.7	–0.9	–0.5	6.4	8.4
Total	**22.1**	**15.7**	**3.8**	**3.1**	**10.6**	**19.9**

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Europe remains our top sales region

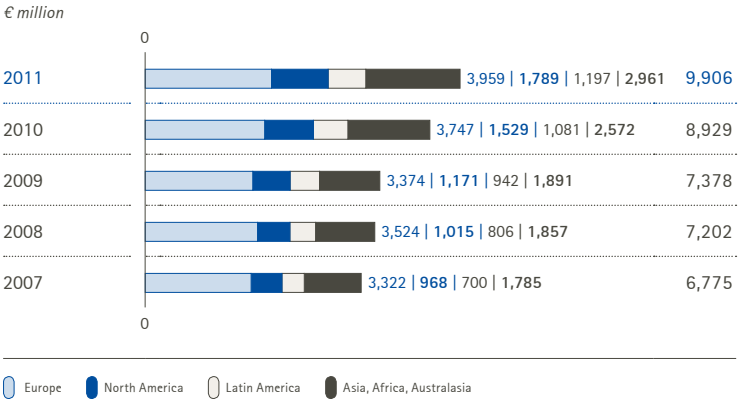
Germany is our top-selling country in Europe

Accounting for 40% of sales, Europe remains our largest sales region, followed by Asia, Africa, Australasia (30%), North America (18%) and Latin America (12%). At € 3,959 million, sales in Europe were 5.7% higher than in 2010. Within this region, Germany is the top-selling country (+6%, € 826 million in 2011 compared to € 779 million in 2010), followed closely by France (+2.4%, € 731 million in 2011 compared to € 714 million in 2010) and less closely by Italy (+2.8%, € 376 million in 2011 compared to € 366 million in 2010).

Within Europe, France contributed the highest share of pharmaceutical sales in the Merck Serono and Consumer Health Care divisions, then followed by Germany. Like many other European countries, both these markets recorded sales declines with prescription drugs. By contrast, we generated increasing revenues with prescription drugs in some eastern European countries.

Both Chemicals divisions achieved sales growth in Europe. The increase in the Merck Millipore division was higher than in Performance Materials. However, this is the result of limited comparability since in the previous year, Merck Millipore's sales were only consolidated as of July 2010.

Merck Group | Sales by region



Asia, which is the second-largest sales region of the Merck Group, achieved sales growth of 16% to € 2,674 million. With sales of € 587 million (+26% compared to € 468 million in 2010), Japan is our largest market in Asia. Prescription drugs, the Performance Materials and Merck Millipore divisions each accounted for roughly the same share of sales in Japan. Ranking second in Asia, Taiwan generated sales of € 581 million, which was at the same level as in 2010. Business in Taiwan is dominated by the liquid crystals activities of our Performance Materials division, which are also mixed locally in Taiwan for our customers and account for 89% of sales in the country. China, including Hong Kong, generated sales of € 412 million (+50% or € 137 million more than in 2010) ranked third in terms of our sales in Asia. Prescription drugs accounted for 53% of sales in China, which doubled. Merck Millipore and Performance Materials each accounted for almost one-quarter of our sales in China. With sales of € 401 million (+11% compared to € 360 million in 2010), South Korea ranks fourth in Asia followed by India, where sales totaled € 179 million (+15% compared to € 156 million in 2010). More than half of our sales in India are attributable to Merck Millipore; slightly more than one-third to Merck Serono.

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Sales in the United States increase by 17%

Sales in North America, our third-largest sales region, grew by 17% to € 1,789 million. The United States accounted for 92% of this figure, with sales increasing by 17% to € 1,642 million from €1,403 in 2010. Merck Millipore's contribution more than doubled to now more than one-third of our U.S. sales. A declared aim of the acquisition of Millipore was to increase our sales contribution from the Chemicals business sector in the United States. Prescription drugs from the Merck Serono division generated 59% of our sales in the United States.

In Latin America, Brazil is our largest market, followed by Mexico. We increased our sales in Brazil by 13% to € 404 million in 2011 from € 359 million in 2010. Merck Serono accounted for 79% and Merck Millipore for 16% of sales.

We consider Mexico to be a strategic market. Sales increased by 2.8% to € 204 million and were generated mainly by Merck Serono (70%). Consumer Health Care accounted for 15% of sales and Merck Millipore for 10% of sales.

Acquisitions: Merck Millipore division further strengthened

By acquiring the shares in Beijing Skywing Technology Co. Ltd., Beijing, China, in early 2011, the Merck Millipore division expanded its business in the Process Solutions business unit to include a leading supplier to the biopharmaceutical sector in China. In addition, in March 2011 the division acquired the industrial microbiology business of Biotest AG, based in Dreieich, Germany. The activities of Biotest were integrated into the Lab Solutions business unit and have expanded the portfolio of biomonitoring test systems. The acquisition of Amnis Corporation based in Seattle, Washington (USA), which was announced in August 2011, closed in the fourth quarter of 2011. Amnis is a manufacturer of flow cytometry instruments for cell analysis and has been assigned to the BioScience business unit.

High equity ratio

The total assets of the Merck Group amounted to € 22,120 million as of December 31, 2011. This represents a decrease of € 268 million or 1.2% over 2010. The decline is primarily due to the partial covering of pension obligations of Merck KGaA. As part of a Contractual Trust Arrangement (CTA), in 2011 Merck KGaA transferred liquid assets amounting to € 520 million to a trustee, Merck Pensionstreuhand e.V., Darmstadt. The trustee used € 218 million of these liquid assets to acquire Merck Capital Asset Management Limited, Malta, which holds the financial assets to cover pension obligations. These assets were previously disclosed separately in the balance sheet. As a result of netting the new plan assets against the pension obligations, total assets declined accordingly in 2011.

The equity ratio was 47.4% as of December 31, 2011, increasing by 1.1 percentage points compared to December 31, 2010 (46.3%).

Net financial debt lowered by € 1 billion

The considerably higher level of net financial debt (financial debt minus cash and cash equivalents as well as short-term securities/financial assets) resulting from the acquisition of Millipore in 2010 was reduced by € 1,000 million from € 4,484 million at the end of 2010 to € 3,484 million as of December 31, 2011. This is mainly attributable to the very good development of free cash flow in 2011.

The two rating agencies Standard & Poor's and Moody's adjusted their ratings in 2010 owing to the higher debt level resulting from the Millipore acquisition. While Standard & Poor's issued a rating of BBB+ with

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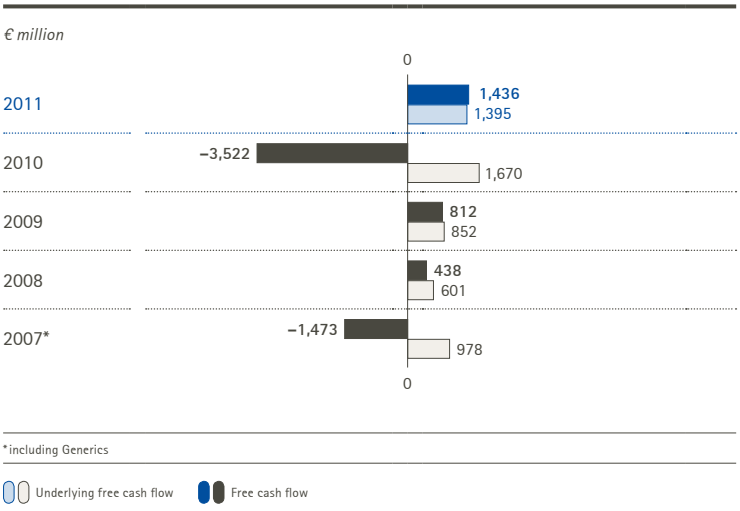
a stable outlook on March 2, 2010 (previously: A-), Moody's changed its rating on July 16, 2010 from A3 before the acquisition to Baa2 (stable outlook). The ratings remained unchanged in 2011.

Solid development of free cash flow and underlying free cash flow

Free cash flow of the Merck Group amounted to € 1,436 million in 2011 compared to € –3.522 million in 2010. While the 2010 figure was characterized by the purchase price payment for Millipore, cash inflows of € 201 million from the divestment of the Crop BioScience business were recorded in 2011. In addition, the receipt of the purchase price payment for Théramex, our former women's health business which we sold in 2010, had a positive impact of € 270 million on free cash flow in 2011. In 2011, € 161 million was spent on acquisitions. Moreover, in 2011, free cash flow was lowered by payments of € 119 million in connection with litigation. The corresponding provisions had been set up for this amount. Payments to externally finance the pension obligations of Merck KGaA (CTA) lowered free cash flow by € 302 million. The balance of interest paid and interest received also resulted in a decline in free cash flow compared to 2010. The cash outflow from interest paid increased in 2011 to € 163 million (2010: € 97 million). This increase is due to the interest payment date in March 2011 for major bonds issued in 2010 in order to finance the Millipore acquisition.

Underlying free cash flow, i.e. adjusted for the payments to externally finance pension obligations of Merck KGaA (CTA) as well for effects of acquisitions and divestments, decreased by 16% to € 1,395 million from € 1,670 million in 2010. This decline is mainly attributable to Corporate and Other, which also includes interest and tax payments, as well as to the Pharmaceuticals business sector. The cash outflow of Corporate and Other increased significantly by 31% from € –496 million to € –652 million. The contribution of the Pharmaceuticals business sector to underlying free cash flow decreased in 2011 by 8.0% to € 1,245 million. At € 801 million, the contribution of the Chemicals business sector to underlying free cash flow remained at the same level as in 2010 (€ 812 million).

Free cash flow and underlying free cash flow



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Capital spending at a high level

In 2011, capital spending (including leasing) totaled € 372 million, which was € 24 million or 6.1% less than in 2010. As a result, the ratio of capital spending to total revenues was 3.6% in 2011, compared to 4.3% in 2010.

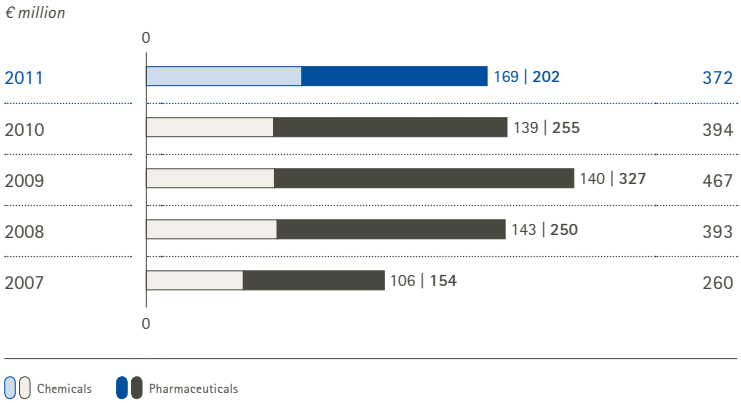
Over 75% of capital spending in Europe

Individual capital investment projects, each with a value of more than € 1 million, accounted for nearly 54% of capital spending. In regional terms, Europe, primarily Germany and Switzerland, accounted for around 76% of the total. In Germany, Merck invested € 135 million in both new and expanded production capacities as well as in research and development facilities in Darmstadt and Gernsheim in particular, our two largest production sites. In Switzerland, capital spending totaled € 75 million, mainly for the expansion of our biopharmaceutical production facilities.

In North America, we spent € 38 million – about € 29 million for the Chemicals business sector and around € 9 million for Pharmaceuticals – and in Latin America € 19 million. Our subsidiaries in Asia accounted for a total capital spending volume of € 30 million, particularly for the Chemicals business sector.

Capital spending by the Pharmaceuticals business sector totaled € 202 million, with the Merck Serono division accounting for most of this amount. In 2011, the main focus of the investments was on the expansion of our biotech production capacities in Corsier-sur-Vevey, Switzerland. As in previous years, this represents the single largest capital investment project of the Merck Group. Around 26% of capital spending in Pharmaceuticals related to headquarters in Darmstadt, Germany.

Capital spending on property, plant and equipment
(excluding Corporate and Other)



Both Chemicals divisions focus capital spending on Darmstadt and Gernsheim

Capital spending on property, plant and equipment in the Chemicals business sector amounted to € 169 million, with the Merck Millipore division accounting for € 105 million and the Performance Materials division for € 64 million. Performance Materials invested chiefly in the Darmstadt and Gernsheim sites, our main locations (both in Germany), in order to expand and modernize existing production facilities and to improve infrastructure.

→ *Financial Position and Results of Operations*

The capital spending of the Merck Millipore division also focused mainly on Darmstadt and Gernsheim as well as the United States. Around € 43 million of the division's total capital spending was attributable to the former Millipore companies.

Key financial performance indicators of the Merck Group

Return on sales (ROS) – the ratio of operating result to total revenues – and underlying free cash flow on revenues (FCR) are currently the two key financial performance indicators that the divisions use to steer their business. We also use them for short- and long-term internal target agreements.

ROS declined from 12.0% in 2010 to 9.6% in 2011. Despite increased total revenues, return on sales declined in both the Pharmaceuticals and Chemicals business sectors. This was attributable to a significant decrease in the operating result due to higher operating costs, but mainly also owing to one-time expenses in connection with impairment losses in the Merck Serono division.

FCR also fell short of the good previous year's level of 18%, decreasing to 13.6% in 2011. Both indicators, ROS and FCR, are presented by division in the Segment Reporting, starting on page 175.

EBITDA is becoming an important key financial indicator

Earnings before interest, taxes, depreciation and amortization (EBITDA) is also a key financial indicator for Merck that will become increasingly important in the future. For EBITDA, as per the definition, depreciation and amortization of non-current assets are added back to earnings before interest and taxes (EBIT). Since the acquisitions of Serono and Millipore, amortization of intangible assets has been significantly lowering the operating result. When high impairment losses are also incurred, as was the case in 2011, the operating result alone does not reflect the actual earning power of the business. EBITDA increased in 2011 by 11% to € 2,736 from € 2,457 million in 2010.

Value added

Value added is a measure of the economic strength of a company and indicates how the corporate result is achieved and for what it is used. Our corporate result, meaning the sum of total revenues, other income and financial income, amounted to € 10,685 million in 2011 (2010: € 9,552 million). After deducting the costs of materials as well as other purchased services and expenses, gross value added amounted to € 5,769 million compared to € 5,008 million in 2010. Following the deduction of depreciation and amortization, net value added in 2011 amounted to € 4,169 million (2010: € 3,750 million). With a share of 71%, the majority of value added amounting to € 2,974 million benefited employees in the form of personnel expenses. Financial expenses increased over 2010 to € 344 million. At € 222 million, income taxes remained virtually unchanged. Profit after tax decreased to € 629 million from € 642 million in 2010.

→ *Financial Position and Results of Operations*

Net value added statement

€ million	2011	2010
Total revenues	10,276	9,291
Other income	351	221
Financial income	58	40
Corporate result	**10,685**	**9,552**
Cost of materials	–1,453	–1,246
Other purchased services/expenses	–3,463	–3,298
Gross value added	**5,769**	**5,008**
Depreciation and amortization	–1,600	–1,258
Net value added	**4,169**	**3,750**

Distribution of net value added

€ million	2011	2010
Personnel expenses	2,974	2,597
Financial expenses	344	291
Taxes on income	222	220
Profit after tax	629	642
Net value added	**4,169**	**3,750**

Capital and shares

The following information comprises disclosures pursuant to section 315 (4) of the German Commercial Code (HGB) and the explanatory report pursuant to section 176 (1) sentence 1 of the German Stock Corporation Act (AktG).

As of the balance sheet date, the company's subscribed capital is divided into 64,621,125 no-par value bearer shares plus one registered share. Each share therefore corresponds to € 2.60 of the share capital. The holder of the registered share is E. Merck Beteiligungen KG. It is entitled and obliged to appoint one-third of the members of the Supervisory Board representing the limited liability shareholders. If the holder of the registered share is a general partner, he or she has no such right of appointment. The transfer of the registered share requires the company's approval. The approval is granted at the sole discretion of the personally liable general partner with an equity interest, namely E. Merck KG.

According to the Articles of Association of Merck, the general partners not holding an equity interest who form the Executive Board are admitted by E. Merck KG with the consent of a simple majority of the other general partners. A person may only be a general partner not holding an equity interest if he or she is also a general partner of E. Merck KG. In addition, at the proposal of E. Merck KG and with the approval of all general partners not holding an equity interest, further persons who are not general partners not holding an equity interest may be appointed to the Executive Board.

→ *Financial Position and Results of Operations*

The Articles of Association can be amended by a resolution of the General Meeting that requires the approval of the general partners. The resolutions of the General Meeting are, notwithstanding any mandatory statutory provisions to the contrary, adopted by a simple majority of the votes cast. Where the law requires a capital majority in addition to the voting majority, resolutions are adopted by a simple majority of the share capital represented in the vote. The Articles of Association specify the authorized share capital. The Executive Board is authorized, with the approval of the Supervisory Board and of E. Merck KG, to increase the share capital on one or several occasions until April 3, 2014 by up to a total of € 56,521,124.19 by issuing new shares against cash or contributions in kind. If the authorized capital is utilized, the Executive Board is authorized, with the approval of the Supervisory Board, to exclude shareholders' subscription rights in the case of a capital increase of up to 10% of the share capital by issuing new shares against cash contributions if the issue price of the new shares is not materially lower than the market price. In addition, with the approval of the Supervisory Board, the shareholders' subscription rights can be excluded in order to enable E. Merck KG to exercise its right pursuant to Article 32 (3) of the Articles of Association to participate in a capital increase by issuing shares or freely transferable share subscription rights. Lastly, with the approval of the Supervisory Board, the subscription rights can also be excluded in order to enable E. Merck KG to exercise its right pursuant to Article 33 of the Articles of Association to convert its equity interest into share capital. The Articles of Association also encompass contingent capital. Accordingly, the share capital is contingently increased by up to € 66,406,298.40 divided into 25,540,884 shares. The contingent capital increase serves to grant exchange rights to E. Merck KG in accordance with Article 33 of the Articles of Association to enable it to convert its equity interest into shares. The company is not authorized to acquire its own shares.

The company has not entered into any material agreements subject to a change of control pursuant to a takeover offer nor has it concluded any compensation agreements with the members of the Executive Board or employees in the event of a takeover offer.

Summary assessment

Solid balance sheet, decline in financial debt

Overall, Merck's business performance in 2011 was solid.

As of the beginning of 2011, both the Pharmaceuticals and Chemicals business sectors recorded higher total revenues compared to year-earlier quarters. Particularly the Chemicals business sector contributed significantly to the increase in total revenues as a result of the acquisition of Millipore in 2010. In 2011, the operating result of the Merck Group was heavily impacted by one-time expenses – particularly by impairment losses in the Pharmaceuticals business sector – and consequently fell short of the very strong result of 2010. EBITDA, where depreciation and amortization of non-current assets are added back to earnings before interest and taxes (EBIT), increased in 2011.

The balance sheet ratios and the key financial indicators remained very solid in 2011 and reflected a conservative finance policy. For example, the high equity ratio of 2010 improved further. Group net financial debt was also considerably reduced in 2011 as a result of continuing strong free cash flow.

Corporate Responsibility

Our corporate culture has always been characterized by responsible behavior – whether with respect to our products, our employees, the environment, or society. That is because not only ownership, but also business success creates responsibility.

Firmly establishing responsible behavior throughout the company is one of the basic principles of company management at Merck. In order to sustainably implement these principles, a Corporate Responsibility committee discusses relevant overarching issues. This committee includes representatives from the individual divisions and Group functions such as Environmental Protection and Quality Assurance, Human Resources and Legal.

In 2011, the Executive Board signed the Access to Health Charter, which focuses on important health care issues in developing countries. Likewise in 2011, Merck launched the Merck Bioethics Advisory Panel (MBAP), which convenes at least once a year in order to advise the company on scientific, legal and ethical evaluations of bioethical topics. The MBAP comprises six external members from the fields of science and ethics, as well as experts from Merck.

Merck is a member of the FTSE4Good Index, a leading international stock index for sustainable investment. Companies are included in this index based on criteria such as effective environmental protection as well as adherence to and support of human rights principles. In 2011, Merck was also included in the sustainability index of Deutsche Börse.

Materiality analyses serve as a basis for CR activities

Corporate responsibility activities and key issues are selected on the basis of materiality analyses. These activities and issues are described on the following pages, on our website, and in our extensive Corporate Responsibility Report, which we publish every two years. Merck conducts these materiality analyses at regular intervals in order to identify and prioritize the sustainability topics that are most important to the company. The analysis took into account the perspectives of various stakeholder groups, including, for instance, employees, business associates, site neighbors, and investors.

Employees

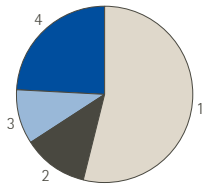
As of December 31, 2011, our company had 40,676 employees, which represents a minimal change compared to 2010 (40,562 employees). Merck was represented in 67 countries by 228 companies and had 65 production sites located in 24 countries.

In several countries, there were significant changes in the number of employees. In Germany, the workforce increased by 560 employees. This was mainly attributable to both the acquisition of Biotest AG's microbiology business, as well as to chemicals production, where we increased the number of permanent employees and reduced the share of temporary workers. In China, the number of employees rose by 167, which is primarily due to the acquisition of Beijing Skywing Technology Co., Ltd. and to the expansion of the Merck Serono operations there. In Argentina, the workforce decreased by 256. This was partly attributable to the transfer of CardioMetabolic Care and General Medicine commercial activities to the Argentinean company Laboratorio Elea SACIFyA in Buenos Aires; it was also a result of the divestment of the Crop BioScience business, which was based in Argentina and employed the majority of the employees there.

→ *Corporate Responsibility*

A total of 523 young people were enrolled in vocational training programs in 23 different occupations at the Darmstadt site, the largest of the Merck Group.

Number of employees as of December 31, 2011/ percentage of total workforce



1	Europe	21,830	54%
2	North America	4,962	12%
3	Latin America	4,198	10%
4	Asia, Africa, Australasia	9,686	24%
	World	40,676	100%

Core topics of our international human resources work

Globally uniform HR programs, structures and processes

As an integrated global company, Merck implements uniform HR programs, structures and processes worldwide. For instance, we broadened the target group of the Performance Management Process to include a larger portion of the workforce; we enhanced the Global Rewards Policy and implemented the Talent & Succession Management Process at a global level. All global programs were initiated in newly added businesses such as Merck Millipore. These programs aim to develop a performance culture based on the joint strategic direction of the company, to establish a performance-related, market-oriented compensation structure, and to fill positions with the right people.

Merck is using the motto "Make great things happen" to position itself in the global job market. The aim is to convey to potential applicants a sense of what makes Merck unique: an inspiring, motivating work environment in which innovations thrive; an environment in which all employees have the opportunity to apply their ideas and commitment to benefit customers and the company, while at the same time developing themselves further.

Performance management

Performance management is of crucial importance for promoting entrepreneurial success and for identifying and developing employee potential. Key features here are clear objectives, differentiated feedback in performance management, transparent performance assessment, and the preparation of individual development plans. Currently, 21,429 employees are participating in the globally uniform Performance Management Process.

→ *Corporate Responsibility*

Global Rewards Policy

The Global Rewards Policy applies to all Merck companies worldwide and ensures a systematic compensation structure. The policy describes the principles governing how employees are compensated depending on their performance and capabilities, and on the situation in the respective labor market. In order to take into account the changing needs of our global business, we further developed existing compensation systems, especially with regard to variable compensation.

Career opportunities

Merck wants to offer its talented employees the opportunity to have an interesting career and to continually develop themselves both personally and professionally within the company. The Talent & Succession Management Process and the Expert Talent Process are two systematic processes that Merck uses to identify and specifically promote employees who show potential for a management position or an expert career path. These programs enable Merck to appoint the right people to management positions while at the same time retaining talented employees. In 2011, 78% of promotions to management positions were filled by internal candidates.

In addition, we complemented these processes by externally recruiting personnel to fill several key positions with the aim of combining new global perspectives with our existing experience.

Employee engagement survey

Group-wide employee survey conducted regularly

Motivated and committed employees are our most valuable asset. Merck wants to offer its employees adequate scope for them to make their best individual contribution to the success of the company. In order to create the right conditions for this, Merck regularly conducts a Group-wide employee survey in which employees are able to express their assessment of Merck as an employer, their motivation and identification with the company, as well as their needs. The results are incorporated into measures that we use to continuously improve the framework conditions. Altogether 87% of employees participated in the most recent survey, which was conducted in September 2011 in 28 languages. The overall results show that the majority of employees identify strongly with Merck and engage themselves for the success of the company. The results are at or above industry averages in most categories.

Occupational health and safety

In terms of accident prevention and occupational health and safety, we again made significant progress in lowering the most important indicator, the lost time injury rate (LTIR). This internationally used key figure describes the number of workplace accidents resulting in lost time per one million working hours. Merck had set itself the goal of reducing the LTIR to 2.5 by 2015. In 2011, we even outperformed this goal, achieving an LTIR of 2.0.

In order to maintain this good result, we are continuing the BeSafe! program we launched in 2010, with the aim of further strengthening our safety culture. The program has a globally uniform structure, but also features local programs to meet the specific requirements of the individual sites. BeSafe! focuses on establishing the safety culture as a management task and on empowering the independent responsibility of our employees.

→ *Corporate Responsibility*

Accidents

	2011	2010	2009	2008	2007
LTIR (Lost Time Injury Rate)	2.0	3.0	3.5	3.9	4.7
Number of fatalities	–	1	–	1	3

Not portfolio-adjusted

Diversity in the workforce

As an international company, Merck endeavors to achieve a good balance between different cultures and nationalities, between different age groups, and between male and female employees. We are convinced that workforce diversity promotes team performance, contributing to the company's entrepreneurial success. In order to sustainably anchor this diversity, we want to further develop existing measures.

Ratio of men and women

Goal: To increase the percentage of women wherever they are underrepresented

Women currently make up 43% of the workforce. The ratio of female to male employees varies among individual business areas, functions and regions. In the Pharmaceuticals business sector, 47% of all employees are female, in Group functions 41%. and Chemicals 38%. In North America, 47% of all employees are female, in Europe 45%, in Latin America 44%, and in Asia 33%. At 52%, the proportion of women in research and development is highest, followed by administration with 50%. The lowest percentages of women are in production (34%) and infrastructure (29%). Merck has set itself the goal of increasing the percentage of female employees wherever they are underrepresented.

Internationality

74% of all employees come from countries other than Germany. One of our basic principles is to hire and develop employees from the countries in which we operate. The internationality of our workforce, which we want to further intensify, is also bolstered by the fact that the divisional headquarters of Merck Serono are located in Geneva (Switzerland), and the headquarters of the Merck Millipore division are located in Billerica, Massachusetts (USA).

Demographics

Demographic change, and the associated aging of the population, is not equally noticeable in all countries in which we operate. However, we must adapt to it, particularly in Germany, some other EU countries, and the United States. In these countries, the average age of our employees exceeds 40 – and we assume that this figure will increase further. In Europe, we are addressing these demographic challenges through various programs. These include adapting workplaces to the needs of older employees and establishing a health management program to maintain their ability to do their job.

→ *Corporate Responsibility*

Entrepreneurial opportunities through balanced diversity

Management positions

Balanced diversity among the executive staff enhances career advancement opportunities for talented employees. However, it also enables the company to leverage a broad base of experience and allows for more differentiated entrepreneurial decision-making.

The percentage of women in management positions, meaning Global Grade 14 and higher, is currently 23% calculated across the entire company (excluding Merck Millipore employees since the global grading system has not yet been fully implemented for them). The percentage is higher at the legal entities in the countries than at corporate headquarters in Darmstadt; it is also higher in the Pharmaceuticals business sector than in Chemicals. The ratio of women in management positions is lower in certain Group functions, such as IT for example. We set ourselves a global objective of increasing the percentage of women in management positions to 25% to 30% by 2016. In order to attain this goal, we have local measures already in place, such as the Cross-Company Mentoring and the Women in Mentoring programs, as well as greater work-life balance opportunities. However, we also intend to develop further programs; in April 2011, we therefore created the function of Chief Diversity Officer to support the implementation of such measures.

56% of all management positions (Global Grade 14 and higher) are held by persons of non-German nationality – altogether 54 different nationalities are represented in such positions. The internationality of our management levels reflects the global nature of our business activities.

Responsibility for products and the environment

We are committed to ensuring that no dangers arise from our products if used correctly. When developing new products, we take the sustainability aspects of their entire life cycle into account. Extensive documentation of product properties and compliance with all legal requirements are a high priority for us. Our expertise in this area enables us to offer our customers added value; for instance, we provide them with informational material and training.

Merck products are tested extensively before being launched onto the market, for example in toxicological and clinical trials for drugs; or toxicological and ecotoxicological studies for chemicals. The cornerstones are quality, usefulness and safety for people and the environment. We also offer reliable product storage and safe transport.

→ *Corporate Responsibility*

REACH: Phase 2 has begun

In the phase-wise implementation of the EU regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals), we successfully completed Phase 1, and have now begun to register all substances that we produce in volumes ranging between 100 and 1,000 metric tons per year. These substances must be completely registered with the European Chemicals Agency (ECHA) by June 1, 2013. At Merck, this currently applies to around 75 substances, which we have compiled into a priority list.

Our goal is not only to meet regulatory requirements, but also to ensure the availability of raw materials as well as the marketability of our products. In order to remain up to date in regulatory matters, we are also working with external expert groups, which enables us to exchange ideas directly with the relevant EU agencies.

Global Product Strategy (GPS)

Providing relevant information on product safety

We have committed ourselves to the Global Product Strategy (GPS), which is an integral part of the Responsible Care Charter. It aims to achieve a globally uniform standard for evaluating product safety. At Merck, we are implementing the GPS by compiling online product safety summaries that are available on websites such as the GPS portal of the International Council of Chemical Associations (ICCA). These use generally understandable language to describe chemical, physical, ecological, and toxicological substance properties, along with potential hazards and risks when handling chemicals. They also explain which measures are required in order to use the products safely. Together with our safety data sheets, we offer our customers an abundance of information on how to safely handle and further process our products.

Merck Bioethics Advisory Panel set up

To ensure that we meet our own high standards, the Merck Bioethics Advisory Panel met for the first time in 2011. Composed of independent, high-profile scientists and bioethicists from various countries, this panel acts in an advisory capacity on bioethical issues. The panel specifically addresses bioethical topics that arise at Merck, such as questions regarding biopharmaceuticals or nanotechnology. It also recommends to the Executive Board how standards of ethics and integrity can be maintained, improved and harmonized.

Merck confirmed its position especially regarding stem cell and fertility research in two policy papers: the "Merck Stem Cell Policy" and the "Merck Fertility Research Policy". These define how Merck conducts discovery and development, how it does business, and which limits apply.

→ *Corporate Responsibility*

Improving access to medicine in developing countries

Access to Health initiative launched

We utilize our scientific expertise and global market presence to provide products and services that focus on patients. For many years, Merck has been promoting and working on programs to increase access to medicine, such as our two lighthouse projects, the Merck Praziquantel Donation Program and the Minilab, a compact mobile laboratory offered by the Global Pharma Health Fund (GPHF), as well as a range of local initiatives. To enable an integrated, comprehensive approach, Merck launched its Access to Health initiative in 2011. This constitutes a uniform framework spanning all divisions and functions of the company, allowing us to more effectively address the complex issues relating to access to medicine and health in developing countries. Topics include the research and development of medicines for neglected diseases, as well as counterfeit medicines, product donations, pricing, patents, and intellectual property.

Environmental protection spending

Spending on environmental protection, health and safety totaled € 141 million in 2011. This figure includes investments made in the reporting period, as well as operating costs.

EHS management system

Our responsibility to protect the environment derives from the Merck Values and our corporate strategy. The basis for steering environmental protection activities is the Corporate EHS Policy with its principles and strategies for the environment, health and safety. The EHS Policy is implemented through internal guidelines and instructions for compliant behavior, such as the Merck Group EHS, Security and Quality Manual. Our guidelines are oriented primarily to the key elements of the global Responsible Care Charter, which was formulated in 2005 by national and international associations of the chemical industry.

ISO 14001 confirmed

In the course of the annual audit, the ISO 14001 group certificate was confirmed for our environmental management system for 2011 as well. As part of this, the three largest production sites of the former Millipore organization were examined by our certifier and included into the group certificate. The other production sites of the former Millipore organization are currently setting up environmental management systems that conform to ISO 14001, with the goal of integrating these into our group certificate by the end of 2012.

Reducing greenhouse gas emissions by 20%

We want to continually improve our performance as well as use energy, water and materials economically and efficiently. We are doing this to reduce our impact on the environment as well as to achieve cost savings derived from efficiency. We are currently focusing on climate protection: By 2020, we aim to reduce our total direct and indirect greenhouse gas emissions by 20% – measured against 2006 levels.

→ *Corporate Responsibility*

Energy

	2011	2010	2009	2008	2007
Energy consumption (in GWh)	1,454	1,465	1,341	1,462	1,473
Purchased energy					
Natural gas (in million m³)	76.3	77.4	72.1	78.0	75.0
Light heating oil (in kilotons)	8.2	8.1	6.2	8.3	9.1
Heavy heating oil (in kilotons)	0.1	0.3	0.2	0.6	0.9
Electricity (in GWh)	509	513	475	515	538

Portfolio-adjusted in accordance with the Greenhouse Gas Protocol

CO_2eq emissions (eq=equivalents)

Emissions in kilotons	2011	2010	2009	2008	2006*
Direct CO_2eq emissions	317	351	302	304	319
Indirect CO_2eq emissions	204	208	192	215	227
Total CO_2eq emissions	521	559	494	519	546

Portfolio-adjusted in accordance with the Greenhouse Gas Protocol
* Base year for our climate targets

Air emissions

Emissions in kilotons	2011	2010	2009	2008	2007
VOC (volatile organic compounds)	0.2	0.2	0.2	1.9	1.9
Nitric oxides	0.1	0.2	0.1	0.2	0.2
Sulfur dioxide	0.02	0.03	0.03	0.05	0.03
Dust	0.03	0.02	0.02	0.02	0.02

Not portfolio-adjusted

EDISON climate protection program expanded

In order to achieve its climate goals, Merck launched a climate protection program called EDISON in 2009. This initiative pools all Merck Group activities worldwide that are aimed at climate protection and energy efficiency. The objective is to reduce energy consumption, thus cutting costs, conserving resources and protecting the environment. In 2011, energy checks were conducted at the Chemicals production sites in Altdorf, Switzerland; Savannah, GA, United States; and Taicang, China. Another energy audit was performed at the Merck Serono site in Semoy, France. In Darmstadt and Gernsheim, production plants were also systematically reviewed as part of an in-depth process.

Thanks to the various energy checks, we have identified numerous potential ways to save energy. The Executive Board additionally earmarked around € 10 million for 2012 in order to leverage this potential by implementing concrete measures throughout the Group.

→ *Corporate Responsibility*

Lower energy consumption and a proactive safety culture

Energy Star and national model for construction safety

There are many examples of achievements and activities in this area. In February 2011, the Merck Millipore site in Billerica, MA (United States) received an Energy Star label from the U.S. Environmental Protection Agency for the building's outstanding energy efficiency with regard to use of photovoltaics, among others. Only those buildings that use 35% less energy overall and therefore generate fewer greenhouse gas emissions than conventional buildings earn this designation.

The Harvard School of Public Health classified our new pharmaceutical research facility, likewise located in Billerica, as a national model for construction safety. During its construction, which involved a total of 370,000 work hours, not a single recordable loss-time accident occurred. Furthermore, a proactive safety culture in the design and construction stages laid the foundation for end-users to work in a safe environment.

Green³ concept

An increasing number of display manufacturers are driving the development of eco-friendly, economical, safe technologies. With its Green³ concept, the Liquid Crystals business unit, a leading manufacturer of materials for liquid crystal displays, is making an important contribution to this development. We develop innovative, eco-friendly materials for energy-efficient displays; we help our customers design ecological production processes and support them in the development of eco-friendly LC displays. For example, Merck liquid crystals for PS-VA technology (polymer-stabilized vertical alignment) enhance the energy efficiency of displays by significantly reducing background lighting, which is one of the most expensive components to produce as well the biggest energy consumer. In 2011, the Green³ concept was expanded to also include cosmetics products from our Performance Materials division.

Product carbon footprint

A carbon footprint quantifies the total amount of greenhouse gas emissions that a product causes throughout its entire life cycle. In view of the growing importance of the topic, Merck has started pilot assessments of product carbon footprints for sample product groups in order to develop both a fundamental concept and a realistic approach for determining greenhouse gas emission totals.

→ *Corporate Responsibility*

Responsibility for society

Our social commitment comprises local and regional charitable projects that the Merck subsidiaries implement independently as part of the existing Corporate Responsibility concept, as well as global projects. The latter include the Merck Praziquantel Donation Program, the Global Pharma Health Fund (GPHF) and the Deutsche Philharmonie Merck.

Merck Praziquantel Donation Program: Combating schistosomiasis

Goal: To eliminate schistosomiasis in Africa

In 2007, we entered into a partnership with the World Health Organization (WHO) to combat the worm disease schistosomiasis in African school children. As part of this collaboration, Merck is donating Cesol® 600 tablets containing the active ingredient praziquantel. Schistosomiasis is the most common tropical disease in Africa after malaria, causing primarily children to suffer. More than five million children were treated in 2011. We extended the partnership to fight schistosomiasis, which was originally planned for a period of ten years, and will continue donating Cesol® 600 until the disease has been eliminated in Africa.

Global Pharma Health Fund: Protection from counterfeit medicines

The Global Pharma Health Fund (GPHF), which is funded by Merck, is combating counterfeit medicines in developing and emerging countries. According to WHO estimates, between 10% and 30% of the medicines offered worldwide are either counterfeit or of inferior quality. Many African and Asian countries are especially affected by this since they lack effective regulatory and enforcement systems for medicines. In order to effectively identify counterfeits and quickly remove them from circulation, around 470 compact mobile laboratories, or GPHF-Minilabs, were in use in more than 70 countries at the end of 2011. These Minilabs make it possible to rapidly identify 57 different drug active ingredients and to immediately detect inferior or ineffective medicines.

Deutsche Philharmonie Merck: Cultural promotion

The Deutsche Philharmonie Merck is one example of how we promote culture. With up to 80 professional musicians and a very diverse concert repertoire, this orchestra is not only an integral part of the cultural life in the vicinity of our corporate headquarters in Darmstadt – it also tours internationally. In autumn 2011, the Deutsche Philharmonie Merck performed in seven cities in India as part of the "Year of Germany in India 2011–2012", and then went on to play in Bangkok to celebrate the 20th anniversary of the Merck entity in Thailand. Nearly 10,000 people attended the concerts in Asia.

The Divisions of the Merck Group → 1/4

Merck Serono

→ *Merck Serono* is the largest division of Merck. It markets innovative prescription drugs of chemical and biological origin. The division offers its leading brands in around 150 countries. Merck Serono focuses on highly specialized therapeutic areas such as multiple sclerosis, oncology, fertility, and endocrinology. The division also offers classic branded products in the area of cardiometabolic care, particularly adapted to the medical needs of patients in emerging markets.

Key products by therapeutic area

- **Multiple sclerosis (MS):** REBIF®
- **Oncology:** ERBITUX® (solid tumors)
- **Fertility:** GONAL-F®, PERGOVERIS™, LUVERIS®, OVIDREL®/OVITRELLE®, CRINONE®, CETROTIDE® (infertility treatment)
- **Endocrinology:** SAIZEN® (growth disorders), SEROSTIM® (HIV-associated wasting), EGRIFTA® (HIV-associated abdominal lipohypertrophy), KUVAN® (metabolic disorder hyperphenylalaninemia)
- **CardioMetabolic Care:** CONCOR® franchise (cardiovascular diseases), GLUCOPHAGE® franchise (type 2 diabetes), EUTHYROX® (thyroid disorders)

Key developments in 2011

- Sales of ERBITUX® rise 4.3% to € 855 million, REBIF® sales increase by 1.4% to € 1,691 million
- Extended indication of REBIF® to treat patients with early signs of multiple sclerosis approved in Europe
- Application to extend the indication of ERBITUX® to first-line therapy of advanced or metastatic non-small cell lung cancer in patients with high EGFR expression submitted again in the EU
- Following negative feedback from the drug regulatory authorities in the United States and the EU, Merck Serono decides not to pursue further the worldwide approval process for cladribine tablets
- All rights for safinamide returned to Newron as part of the review and reprioritization of the R&D pipeline
- Launch of three new pre-filled pens for the self-administration of GONAL-F®, LUVERIS® and OVIDREL® in select markets

→ *Merck Serono*

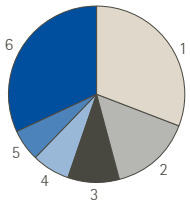
Growth also thanks to classic products

Sales of the Merck Serono division increased slightly over 2010. More than half of this growth was attributable to the three top-selling products in our CardioMetabolic Care portfolio.

The Merck Serono division increased total revenues by 2.9% to € 5,920 million in 2011. Sales rose nominally by 2.9% as well, with foreign exchange rates and divestments exerting a negative impact. Organic growth amounted to 5.1%. The classic branded products from the Glucophage® and Concor® franchises as well as our thyroid products were responsible for more than half of the sales growth driven by emerging markets. Our five top-selling biopharmaceuticals – Rebif®, Erbitux®, Gonal-f®, Saizen®, and Serostim® – generated 60% of sales. Rebif®, our drug to treat relapsing multiple sclerosis, was once again our leading product with sales of € 1,691 million (+1.4%). Erbitux®, our targeted cancer therapy, achieved sales of € 855 million (+4.3%).

Our five top-selling drugs by sales in 2011

€ million / % of divisional sales



1	Rebif®	1,691	31 %
2	Erbitux®	855	15 %
3	Gonal-f®	526	9 %
4	Concor® franchise	397	7 %
5	Glucophage® franchise	346	6 %
6	Other products	1,749	32 %

Operating result declines due to one-time effects

At € 356 million, royalty, license and commission income was higher than in 2010. Gross margin increased slightly to € 4,888 million (+2.0%). Research and development expenses increased by 5.0% to € 1,225 million. The operating result declined by 46% to € 304 million owing to one-time write-downs totaling € 322 million and additional one-time expenses. The largest single effect was the asset impairment of our biotech production plant in Corsier-sur-Vevey (Switzerland) amounting to € 165 million owing to overcapacity. Exceptional items amounted to € 25 million mainly due to a gain of € 19 million in connection with the divestment of Théramex to Teva in 2010. This gain relates to milestone payments for the transfer of distribution rights to Théramex products in a number of countries, including Spain and Brazil. Return on sales (ROS) declined to 5.1%; underlying free cash flow decreased by 7.8% to € 1,205 million.

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Merck Serono | Key figures

€ million	2011	2010	Δ in %
Total revenues	5,920	5,754	2.9
Gross margin	4,888	4,793	2.0
R&D	1,225	1,167	5.0
Operating result	304	565	–46
Exceptional items	25	69	–63
Free cash flow	1,475	1,298	14
Underlying free cash flow	1,205	1,308	–7.8
ROS in %	5.1	9.8	

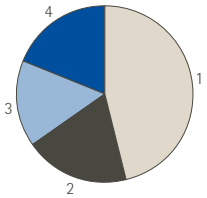
Double-digit sales growth in Latin America

Asia and Latin America drive growth

Europe was once again Merck Serono's top-selling region in 2011, accounting for nearly half of the division's sales, or € 2,545 million. The 3.3% decline was due mainly to the divestment of the Théramex women's health business in 2010. Despite negative exchange rate movements, sales in North America increased by 2.6% to € 1,063 million, mainly thanks to the good performance of Rebif®. Sales in Latin America rose by 11% to € 897 million mainly as a result of the strong growth of our CardioMetabolic Care products and Erbitux®. Geographically, Asia accounted for the largest share of the division's sales growth and recorded a 16% increase in sales to € 865 million. However, this rise was largely due to lower year-earlier sales in China resulting from a change in our local distribution strategy in the third quarter of 2010.

Merck Serono | Sales by region

€ million / % of divisional sales



1	Europe	2,545	46%
2	North America	1,063	19%
3	Latin America	897	16%
4	Asia, Africa, Australasia	1,059	19%

Oncology

The targeted oncology drug Erbitux® (cetuximab) is currently approved for use in colorectal cancer in 90 countries and in head and neck cancer in 88 countries. It is used as a standard treatment in combination with chemotherapy for all lines of therapy or as a monotherapy for pretreated patients in epidermal growth factor receptor (EGFR)-expressing, KRAS wild-type metastatic colorectal cancer (mCRC). In addition, the monoclonal antibody is a standard first-line therapy for the treatment of recurrent and/or metastatic squamous cell carcinoma of the head and neck (SCCHN) in combination with platinum-based chemotherapy,

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as well as in combination with radiotherapy for locally advanced head and neck cancer. We are exploring further indications in additional studies. Sales of Erbitux® rose by 4.3% to € 855 million in 2011.

In the first half of 2011, we sustained a decline in sales in Japan. This was attributable to increased competitive pressure and the introduction of the KRAS biomarker test, which, in line with our commitment to personalized cancer therapy, was introduced after label expansion into first-line metastatic colorectal cancer. As of the third quarter, sales in Japan began to stabilize and then to recover slowly. Sales in the rest of Asia as well as Latin America rose markedly; Europe also saw slight growth.

Erbitux® for lung cancer: Indication extension submitted in the EU

In March, we submitted an indication extension application to the European Medicines Agency (EMA). The application relates to the indication for Erbitux® in combination with standard first-line platinum-based chemotherapy in patients with advanced or metastatic non-small cell lung cancer (NSCLC) with high epidermal growth factor receptor (EGFR) expression. We have established the latter as a predictive biomarker for Erbitux® in the disease. In 2009, the Committee for Medicinal Products for Human Use (CHMP) of the EMA previously adopted a negative opinion on the use of Erbitux® in NSCLC.

Multiple Sclerosis

Continued growth of Rebif® sales despite new competition

With Rebif® (interferon beta-1a), we offer a leading drug for the treatment of relapsing multiple sclerosis (MS). Rebif® is registered in more than 90 countries. According to estimates, around 2 million people suffer from MS worldwide. In spite of the availability of a new oral drug on the market, the sales development of Rebif® remained satisfactory, increasing slightly by 1.4% to € 1,691 million in 2011. With sales of € 773 million, North America was, for the first time, our largest market for Rebif®. Sales grew by 2.9% over 2010. In Europe, sales of Rebif® were slightly below the previous year's level and totaled € 742 million (–1.4%). The highest sales were achieved in Germany and Italy, where we recorded growth rates of 6.8% and 2.7%, respectively. In Latin America, sales increased by 3.2% to € 111 million; in Asia, Africa, Australasia, growth amounted to 14%. The human serum albumin-free formulation of Rebif® is now available in 40 countries around the world. We launched this product, which has improved injection tolerability, in 2007. After having evaluated feedback from the U.S. Food and Drug Administration (FDA), we decided not to pursue registration in the United States any longer.

As of the end of 2011, roughly 30,000 patients outside of the United States were using Rebismart™, the only electronic injection device in MS. Launched in 2009, Rebismart™ allows Rebif® patients to customize their injection settings, and an electronic injection history also enables active adherence management.

Merck Serono is actively supporting the MS community. For example, with the digital platform "UniteMS.net", we created an international social MS network. We also set up the Web portal "MS World Council" especially for health care professionals in 2011. We are also involved in several collaborations designed to advance research into MS, such as our collaboration with Fast Forward, a not-for-profit organization established by the American National Multiple Sclerosis Society.

Based on feedback from the regulatory authorities in the EU and the United States, we decided in June to not pursue further the worldwide approval process for cladribine tablets. Attempting to fulfill the requirements of the European Medicines Agency and the FDA would have necessitated a new, multi-year clinical trial program. In Australia and Russia, where cladribine tablets were registered under the brand name Movectro®, we discontinued market supply of the product in close coordination with the authorities.

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Fertility

We are a global leader with our portfolio of medicines to treat infertility. Merck is the only company that offers recombinant versions of the three main reproductive hormones. The Fertility business unit increased its sales in 2011 by 6.1% to € 697 million and expanded its market share. Europe accounted for nearly half our sales, which remained at the previous year's level. We recorded double-digit growth rates in Asia, Africa, Australasia and Latin America, while sales declined in North America.

Gonal-f® shows strong growth in Asia, Africa, Australasia

Gonal-f® (follitropin alfa for injection) is a recombinant form of natural follicle-stimulating hormone (FSH). It is approved in more than 100 countries and is the world's leading fertility drug. Sales of this product increased by 4.3% to € 526 million thanks to strong, mainly organic growth of 18% in Asia, Africa, Australasia. Sales in both China and Japan grew by around one-third. In Europe, which is our top-selling region for Gonal-f®, sales increased slightly. In North America, sales of Gonal-f® fell by 6.4%, mainly owing to a decrease in the generally declining U.S. market.

Cetrotide® is a medication used to prevent premature ovulation. The use of this class of drugs (gonadotropin-releasing hormone antagonists) is increasing and Cetrotide® benefited from this trend. Sales increased by 32% to € 50 million. Ovidrel®/Ovitrelle® is the only recombinant version of the natural hormone hCG. It is used to trigger follicle maturation and ovulation and generated a 10% increase in sales to € 50 million, mainly thanks to good growth outside of Europe. Our combination treatment Pergoveris™ is used to stimulate follicular development in infertile women with severe luteinizing hormone (LH) and follicle-stimulating hormone (FSH) deficiency. Worldwide sales, which were attributable almost exclusively to Europe, declined by 7.5% to € 29 million.

Three new injection devices expand options for patients

We expanded our range of user-friendly injection devices in 2011 to include three pre-filled pens for the self-administration of the liquid formulations of Gonal-f®, Luveris® (lutropin alfa; recombinant luteinizing hormone) and Ovidrel®. The new pens are approved in Europe, Australia, New Zealand and Canada, and market launches are ongoing.

Endocrinology

The specialized drugs and user-friendly injection devices offered by the Endocrinology business unit can help improve the lives of patients with endocrine and metabolic disorders. Sales increased by 8.0% to € 342 million, based on growth in all regions. Our recombinant human growth hormone Saizen® is approved in around 80 countries for the treatment of a variety of diseases. According to estimates, the incidence of growth hormone deficiency in children is between 1 in 4,000 and 1 in 10,000. Non-childhood-related adult growth hormone deficiency can also be a significant problem which affects 3 in 10,000 each year.

Saizen® generated sales of € 225 million, which was 0.5% less than in the previous year. We nearly offset a decline in prices in several regions of the world (United States, Latin America, Europe) with good volume growth in almost all countries where the product is marketed. At € 105 million, sales in Europe were slightly lower (–1.6%) than in 2010.

Since 2007, around 30,000 patients have used our electronic injection device Easypod™ for the administration of Saizen®. In 2011, we introduced in select markets Easypod™ Connect software, a new approach to monitoring patients' adherence to Saizen® injected using Easypod™.

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Significant sales growth for Kuvan®

Kuvan® (sapropterin) is the first drug approved in Europe for treatment of hyperphenylalaninemia (high levels of phenylalanine in the blood) in patients with the genetic metabolic disorder phenylketonuria (PKU) or a deficiency of the key coenzyme tetrahydrobiopterin (BH4). According to estimates, around 50,000 people are affected in Europe; 20% to 50% of PKU patients could benefit from treatment with Kuvan®. By launching Kuvan® in new markets and expanding the number of patients, we increased global sales of the product by 72% to € 34 million.

Since the registration of Egrifta® (tesamorelin for injection), a registered trademark of Theratechnologies Inc., in the United States at the end of 2010 as a therapy for reducing excess abdominal fat in HIV patients with lipodystrophy, we now offer two drugs for the treatment of HIV-related diseases. The other product Serostim® is used in the United States to treat patients suffering from HIV-associated wasting. Sales of our two drugs used in HIV totaled € 82 million (+17%).

CardioMetabolic Care and General Medicine

The CardioMetabolic Care and General Medicine business unit comprises our drugs for treating diabetes, cardiovascular diseases and thyroid disorders, as well as other globally and regionally marketed products. Sales increased by 1.8% to € 1,976 million. Adjusted for the sales of our Théramex subsidiary, which we divested in 2010, growth amounted to 6.5%. We continued to grow especially in emerging markets by making full use of our medical expertise in conducting intensive life-cycle management programs for our products. In this way we were also able to limit the effects of generic competition in mature markets.

Concor® performs strongly in emerging markets

The branded Concor® products such as Concor®COR and Lodoz®, which contain the active ingredient bisoprolol, achieved sales of € 397 million, which was 6.4% more than in 2010. We succeeded in maintaining sales at a virtually consistent level in France, our top-selling market, despite strong generic competition. At the same time, we achieved strong sales gains in the growth markets of Asia and Latin America. In 2011, we launched Concor AM®, a combination product containing two complementary active ingredients: the beta-blocker bisoprolol and the calcium channel blocker amlodipine. We launched Concor AM® in Hungary in 2011. Launches in additional markets in Europe and Latin America will follow in 2012.

Globally, around 366 million people have diabetes, and the prevalence of this disease is rising. The active ingredient metformin, which is contained in our product Glucophage®, remains the drug of choice for first-line treatment of type 2 diabetes. More than seven million patients worldwide rely on our oral metformin products to treat this condition. The branded products from the Glucophage® range generated sales of € 346 million – an increase of 9.6%. Performance in growth markets was particularly dynamic. Sales of the Glucophage® range rose by 44% in Asia to € 100 million and by 18% in Latin America to € 94 million. We recorded sales declines in Europe because at times we reached our production capacity limits.

Drugs to treat thyroid disorders: Sales increase in China

Merck is the world's largest supplier of medicines to treat thyroid disorders. Sales of our key product, the thyroid hormone Euthyrox®, increased by 19% to € 175 million. Sales of all Merck thyroid products grew by 17% to € 199 million. Emerging markets also drove growth in this field. For instance, sales in China increased by 69% to € 20 million. This market offers tremendous potential as around 90 million people in China have thyroid disorders yet only 2% of them currently receive drug therapy.

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Thanks to their good competitive position in key markets outside of Europe, our other products generated sales of € 1,034 million. Sales of the Neurobion® range increased by 10% to € 198 million. Neurobion® is a multivitamin to treat and prevent vitamin B deficiency. Neurobion® products are available in more than 70 countries.

Status of our innovative compounds

Therapeutic area	Compound	Indication	Status
Oncology		Non-small cell lung cancer (NSCLC)	EU: filed
		Adjuvant colorectal cancer[2]	Phase III
	Erbitux® (cetuximab, anti-EGFR monoclonal antibody)[1]	Gastric cancer	Phase III
	Cilengitide (integrin inhibitor)	Glioblastoma (brain tumor)	Phase III
	Stimuvax® (cancer immunotherapy)[3]	Non-small cell lung cancer (NSCLC)	Phase III
		Head and neck cancer (SCCHN)	Phase II
	Cilengitide	Non-small cell lung cancer (NSCLC)	Phase II
		Metastatic colorectal cancer (mCRC)	Phase II
	Anti-integrin monoclonal antibody (DI17E6)	Metastatic prostate cancer (mCRPC)	Phase II
	Pimasertib (AS703026/MSC1936369B, MEK inhibitor)	Solid tumors and hematological malignancies	Phase I
	Novel combinations of pimasertib with one of two PI3K inhibitors from sanofi-aventis U.S. Inc.[4]	Solid tumors	Phase I
	MEK inhibitor (AS703988/MSC2015103B)	Solid tumors	Phase I
	c-Met kinase inhibitor (EMD1214063)[5]	Solid tumors	Phase I
	NHS-IL12 (cancer immunotherapy)[6]	Solid tumors	Phase I
Multiple Sclerosis	Human serum albumin-free formulation of Rebif®	Treatment of patients with early signs of MS	EU: approved
	ONO-4641 (oral S1P receptor modulator)	MS	Phase II
	ARX 424 (long-acting interferon)	MS	Phase I
	ATX-MS-1467 (immune tolerance therapy)[7]	MS	Phase I
	Extended-release formulation of interferon beta-1a[8]	MS	Phase I
	Plovamer (PI-2301, second-generation peptide copolymer)	MS	Phase I
	DI Fc-IFN beta variant (long-acting interferon)	MS	Phase I
Rheumatology	Atacicept (anti-BLyS/anti-APRIL fusion protein)[9]	Systemic lupus erythematosus (SLE)	Phase II
		Cartilage injury	Phase II
	Fibroblast growth factor (FGF) 18[9]	Osteoarthritis	Phase I
Endocrinology	Kuvan® (sapropterin)	PKU in children under the age of 4[10]	Phase III

[1] Collaboration between Merck KGaA, Darmstadt, Germany, and ImClone LLC, a wholly-owned subsidiary of Eli Lilly and Company. Erbitux® is a trademark of ImClone, used under license by Merck
[2] Study sponsored and coordinated by the Fédération Francophone de Cancérologie Digestive (FFCD)
[3] Exclusive worldwide licensing rights acquired from Oncothyreon Inc.
[4] Combined with PI3K/mTOR inhibitor (SAR245409), conducted by Merck, or combined with PI3K inhibitor (SAR245408), conducted by sanofi-aventis U.S. Inc.
[5] Scientific collaboration with M. D. Anderson Cancer Center
[6] Sponsored by the National Cancer Institute (NCI), USA
[7] Collaboration with Apitope Technology (Bristol) Ltd.
[8] Collaboration with Flamel Technologies S.A.
[9] In-licensed from ZymoGenetics, Inc., a wholly-owned subsidiary of Bristol-Myers Squibb Company
[10] Phase IIIb study as part of the EMA's requirements for registration

NSCLC: Non-small cell lung cancer
SCCHN: Squamous cell carcinoma of the head and neck
mCRC: Metastatic colorectal cancer
mCRPC: Metastatic castration-resistant prostate cancer
S1P: Sphingosin-1 phosphate
PKU: Phenylketonuria

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Opportunities in Research & Development

At € 1,225 million, research and development spending in 2011 was 5.0% higher than in 2010. This was partly due to the continued high number of costly trials in late-stage clinical development. We operate research centers in Europe, the United States and Asia. This allows us to optimally exploit strong local networks and ensures diversity. The pipeline comprises eleven programs in Phase I clinical trials, seven in Phase II and five in Phase III.

Oncology, multiple sclerosis and immune system-related disorders are our key areas of focus. In addition, we continue to conduct product development in Fertility and Endocrinology. We intend to increasingly apply our strengths in biotechnology to immune-related diseases and explore new indications in this area.

In order to balance our presence globally, we are increasing our R&D activities in the United States and China. We expanded our engagement in the Beijing area through a strategic partnership with Pharmaron and opened an R&D laboratory on the Pharmaron campus in August 2011. As of December 31, 2011, around 2,850 people worked for the research and development function of the Merck Serono division.

New organization

To meet the growing demands on pharmaceutical companies, we are realigning our R&D organization. Research and Early Development was separated from late-stage Development and Medical. The transition between the two takes place at "proof of confidence," when the available data is sufficient to justify significant investment in further clinical development. Our aim is to create an agile, flexible and innovative organization for research and early-stage development, strongly supported by scientific networks and focusing on translational science and medicine. In late-stage clinical development, we are aiming to ensure that standardized processes run reliably, effectively and in compliance with the highest quality standards in order to enhance our chances of satisfying the requirements of regulatory authorities for drug approval.

We worked further to build a collaborative scientific enterprise in 2011, investing specifically in partnerships with pharmaceutical companies, small biotech firms as well as academic institutions. Having the appropriate tools is one of the levers in the discovery of new medicines and we are therefore engaging in new technologies.

Strong scientific network

In 2011, we further expanded our relationship with Ablynx and entered into a third agreement to co-discover and co-develop Nanobodies® against two targets in osteoarthritis. Nanobodies® are a novel class of antibody-based therapeutic proteins that combine the advantages of antibodies with those of small-molecule drugs. The agreement with F-Star is another example of our engagement in new technologies. Here our intention is to discover new antibody-derived therapeutics against inflammatory disease targets, using F-Star's modular antibody technology. We initiated our relationship with F-Star in 2010 through Merck Serono Ventures, our corporate venture capital fund.

In 2011, we set up the Merck Serono Israel Bioincubator Fund, a strategic and corporate initiative targeting Israeli biotechnology start-ups. The fund will offer both seed financing and the opportunity to use certain labs at Merck Serono's Israeli R&D center. We will commit a total of € 10 million to the program over a seven-year period.

→ *Merck Serono*

Oncology: Strong data underscore the potential of Erbitux®

The results of the retrospective analysis of data from the Phase III CRYSTAL trial in metastatic colorectal cancer (mCRC) were published in 2011. The new analysis examined the benefits of first-line treatment with Erbitux® in combination with standard chemotherapy (FOLFIRI) in KRAS wild-type patients, dependent on metastatic site. Results showed that in patients with advanced metastatic disease that had spread beyond the liver, the additional administration of Erbitux® compared to chemotherapy alone led to a significant increase in overall survival of more than five months in palliative treatment.

In 2011, a further analysis of the randomized Phase II OPUS trial demonstrated an association between early tumor shrinkage and long-term median overall survival of more than two years in metastatic colorectal cancer patients with KRAS wild-type tumors who were treated with Erbitux® in combination with the standard chemotherapy FOLFOX. These results confirm earlier outcomes of a similar analysis of the pivotal Phase III CRYSTAL trial.

In 2011, recruitment was completed into the pivotal Phase III EXPAND clinical trial investigating the efficacy of Erbitux® in patients with advanced gastric cancer. This international study has recruited more than 870 patients since commencing enrollment in 2008.

Stimuvax® cancer immunotherapy: Development progressing on schedule

Since 2007, we have been studying the efficacy and safety of the cancer immunotherapy Stimuvax® in patients with inoperable stage III non-small cell lung cancer in the pivotal Phase III START trial. We completed patient recruitment in 2011.

Merck Serono entered into two collaboration agreements with Ono Pharmaceutical to strengthen its multiple sclerosis and cancer franchises. The oncology agreement provides Ono with rights to co-develop and co-market Stimuvax® in Japan.

We completed patient enrollment into the global pivotal Phase III clinical study CENTRIC in June. In this trial, we are assessing the safety and efficacy of cilengitide in glioblastoma, the most aggressive type of brain tumor. Cilengitide is the first integrin inhibitor in oncology to have entered Phase III clinical development.

Early-stage pipeline: Priority given to the most promising projects

In December 2010, we signed a worldwide research and development agreement with sanofi-aventis U.S. Inc. This collaboration provides mutual access to experimental compound combinations. The novel combinations include one of our MEK inhibitors as well as two early-stage development compounds from sanofi-aventis. The trials in solid tumors are in Phase I.

Overall, we are investigating five projects in Phase I trials in patients with solid tumors and hematological malignancies. A further four Phase II trials are underway in head and neck cancer, non-small cell lung cancer, colorectal cancer as well as prostate cancer.

In order to be able to forge ahead with the most promising projects, we intend to terminate or transfer to partners projects with risk-benefit profiles that do not meet our requirements. We therefore discontinued clinical development of Erbitux® in triple-negative breast cancer as well as of the immunomodulator IMO-2055. Clinical development of one of the two c-Met kinase inhibitors in Phase I was also terminated based on the available comparative data.

→ *Merck Serono*

Multiple sclerosis: Indication extension for Rebif® approved in the European Union

In Neurodegenerative Diseases, our focus is on new therapeutic options for patients with multiple sclerosis. In November, the Committee for Medicinal Products for Human Use of the European Medicines Agency (EMA) issued a positive opinion on our application to extend the indication for our MS drug Rebif®. EU marketing authorization was granted in January 2012. The indication extension relates to the use of Rebif® in patients who have experienced a single demyelinating event, an early sign of the disease, and who are at high risk of converting to MS. The marketing authorization application submitted in June was based on the results of the two-year REFLEX study with over 500 patients. Rebif® significantly delayed the onset of MS in these patients. A three-year double-blind extension of the REFLEX study, called REFLEXION, is currently ongoing in order to provide long-term follow-up data. We also submitted marketing authorization applications for the new indication in Canada and Switzerland.

Compounds to treat MS added to pipeline

We further expanded our portfolio of compounds for the treatment of MS, acquiring from Peptimmune the global exclusive rights to plovamer (PI-2301), a second-generation peptide copolymer thought to enhance the regulatory response of the immune system, which has successfully completed Phase Ib trials in MS. In addition, we were granted a license by Ono Pharmaceutical to develop and commercialize ONO-4641, an oral investigational sphingosine-1-phosphate (S1P) receptor modulator, in Phase II in MS, worldwide except in Japan, Korea and Taiwan.

Parkinson's disease: Rights to safinamide returned

In October, we announced our decision to return all rights for safinamide in Parkinson's disease and other therapeutic applications to our partner Newron Pharmaceuticals effective April 2012. Our decision was made as part of the ongoing review and re-prioritization of our R&D pipeline. In Merck Serono's view, safinamide has a more limited market potential than originally expected. We fully wrote off the book value of safinamide by the end of the second quarter of 2011. We will meet our contractual and ethical commitments regarding the ongoing clinical development program for safinamide in Parkinson's disease and will work with Newron to conduct an appropriate transfer of the program to Newron. This applies in particular to the two Phase III studies MOTION and SETTLE, for which patient recruitment was completed in the summer. We will continue to pursue innovative therapeutic options in the field of neurodegenerative diseases above and beyond MS and are currently investigating suitable indications.

Fertility: Advancing the science of infertility treatment

Up to € 1 million granted to promote applied fertility research projects

The objective of our Fertility research and development work is to help infertile couples in every phase of the reproductive cycle from follicular development to pregnancy. We focus on drugs, delivery technologies and support services for the benefit of patients. Our innovative drugs address unmet medical needs and our application devices offer patients ease of use. Our research efforts concentrate on non-invasive methods to assess embryo quality and on the successful implantation of the embryo into the uterus.

Complementary to our own activities, we are supporting applied fertility research projects through the Grant for Fertility Innovation program. In 2011, for the second time, we awarded up to € 1 million to support five innovative projects with the same common goal: to improve the chances for couples to conceive.

→ *Merck Serono*

Endocrinology: Expanding the understanding of our drugs

The aim of our Endocrinology research and development work is to offer patients with growth disorders and selected metabolic diseases new therapeutic options. We also want to continuously enhance the understanding of the products in our portfolio. In the PKU area we started the Phase IIIb trial SPARK in June. It is investigating the effects of Kuvan® in 50 European PKU patients younger than four years of age, for whom the drug is not yet approved. Additionally, with KAMPER, a multinational observational registry which started in 2009, we are studying the long-term safety of Kuvan®. Patient recruitment is still underway. For our growth hormone Saizen® we are using a two-pronged strategy in select countries to investigate how patients can achieve their full outcome potential. In the multinational observational study ECOS, which began in February, we are assessing patient adherence and its impact on treatment outcomes. The study aims to recruit and monitor at least 1,000 pediatric patients receiving Saizen® therapy via the Easypod™ injection device over a period of up to five years. In the pharmacogenetic program PREDICT, we are studying genetic markers that correlate with response to growth hormone treatment.

Rheumatological diseases: Treating lupus and damaged cartilage

Our research and development work in Rheumatology is centered on molecules that modulate key pathogenic mechanisms. We are investigating the recombinant protein atacicept as a potential treatment for systemic lupus erythematosus (SLE) in a clinical trial. SLE is a chronic autoimmune disease that primarily affects women. As recommended by the Independent Data Monitoring Committee of the trial, the high-dose arm was discontinued in February because the risk-benefit profile for this group of patients was considered unfavorable. The study is being continued with the lower-dose and placebo groups.

We reset the SLE program to Phase II since the optimum dose regimen for Phase III trials still needs to be identified. In 2011, we started a new Phase I study in lupus nephritis (LN), a particularly severe form of SLE affecting the kidneys. Following a fatal cardiovascular event, the study was discontinued. The causality between this fatal event and the administration of atacicept is still being investigated.

Second Phase I trial completed for FGF 18 for osteoarthritis of the knee joint

Fibroblast growth factor 18 (FGF 18) is another recombinant protein in our rheumatology pipeline. Thanks to its novel mechanism of action, it could be the first disease-modifying treatment for osteoarthritis and the repair of damaged cartilage. We successfully completed the second Phase I trial of this agent in patients with osteoarthritis of the knee joint. Phase II trials are scheduled to begin in 2012. We are also investigating the efficacy of FGF 18 in the treatment of knee cartilage injury in an ongoing Phase II study.

The Divisions of the Merck Group ⟶ 2/4

Consumer Health Care

⟶ The *Consumer Health Care* division offers over-the-counter products for preventive health care and the self-treatment of minor ailments. The portfolio includes global branded products trusted by consumers and backed by science. Our Consumer Health Care business operates successfully in Europe, Latin America, Asia and Africa.

Key products

- **Mobility:** Products to strengthen the joints and relieve pain, including the brands SEVEN SEAS®, FLEXAGIL® and KYTTA®
- **Everyday health protection:** Probiotic multivitamin products from the BION® and MULTIBIONTA® ranges; vitamins and minerals sold under brand names such as CEBION® and DIABION®
- **Women's and children's health:** FEMIBION®, products with folic acid and METAFOLIN® for pregnant and nursing women; KIDABION® (HALIBORANGE®), a vitamin product range for children
- **Cough and cold:** Cold treatment NASIVIN® (ILIADIN®)

Key developments in 2011

- Growth course significantly expanded; particularly strong growth in Germany, France and Belgium as well as in key future markets such as Russia, Brazil and India. Sales decline in the United Kingdom, Poland, Mexico, and Indonesia; sales grow in all regions
- Total revenues increase by 5.1%, operating result more than triples following one-time effects in 2010
- Improved cost structure and profitability lead to an ROS of 9.3%
- Brands strengthen further; double-digit sales growth for BION®, KYTTA® and CEBION®
- Innovative business models such as Intelligent Healthcare Solutions® in Germany and Lamberts Healthcare in the United Kingdom post sales growth of 76% and 6.8%, respectively

→ *Consumer Health Care*

Strong growth

The Consumer Health Care division posted significantly stronger growth than in 2010, outperformed the market and substantially raised its profitability. Global sales of our strategic and local brands developed well. Thanks to our well-balanced portfolio, we grew in established and emerging markets.

Focus on four health themes

Consumer Health Care specializes in over-the-counter pharmaceutical products and focuses on four health themes: Cough and Cold, Mobility, Everyday Health Protection, and Women's and Children's Health. The main distribution channels for our products are pharmacies as well as retail chains, drug stores and mail order in some countries and certain markets.

Consumer Health Care | Key figures

€ million	2011	2010	Δ in %
Total revenues	496	472	5.1
Gross margin	339	317	6.9
R&D	23	25	–8.1
Operating result	46	14	231
Exceptional items	–	–	
Free cash flow	40	45	–12
Underlying free cash flow	40	45	–12
ROS in %	9.3	2.9	

General business performance

Total revenues of the Consumer Health Care division rose by 5.1% to € 496 million in 2011. Organic growth was 4.9%, which exceeded average market growth of 4.5%.

The operating result of the division more than tripled to € 46 million. This was due to the fact that the division was less impacted by negative one-time effects than in 2011. As part of systematic efforts taken primarily in the fourth quarter to improve the division's cost structure, marketing, selling and administration expenses declined. ROS amounted to 9.3%, which also represented a significant improvement over the previous year's level of 2.9%.

The division's EBIT was € 46 million compared to € 14 million in 2010. Free cash flow was € 40 million. At € 23 million, R&D spending was slightly lower than in 2010.

Strong brands

Bion® – our top-selling brand worldwide

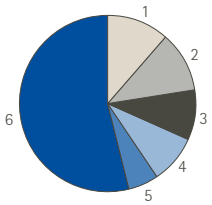
We have a well-balanced portfolio of global and local brands that in many countries rank either first or second in their respective market segments. Innovation based on scientific evidence and consumer insights is our top priority when developing our pipeline. Recent launches include Bion® Energie Plus, Bion® Allergo and Femibion® Intima.

→ *Consumer Health Care*

With the exception of Seven Seas®, all our key brands generated strong single- and double-digit sales increases. Global sales of the Bion® brand grew by 17% to € 63 million, with France accounting for € 36 million of this amount. At € 43 million, sales of Femibion® rose by 4.7%. Sales of Nasivin®, the well-known brand that turned 50 in 2011, increased by 4.7% to € 49 million. Sales of the other local brands in the Cough & Cold category grew by 7.8% to € 55 million. Sales of the Kytta® brand rose by 18% to € 18 million and sales of Cebion® increased by 13% to € 30 million. Seven Seas® sustained a slight sales decline of 2.3% to € 43 million owing to a difficult market environment in the United Kingdom, its core market.

Top five brands by sales in 2011

€ million / % of divisional sales



1	Bion®	63	13%
2	Nasivin®	49	10%
3	Femibion®	43	9%
4	Seven Seas®	43	8%
5	Cebion®	30	6%
6	Other products	266	54%

More than two-thirds of sales generated in Europe

By region, Europe accounts for 69%, Latin America for 17%, Asia, Africa, Australasia for 13%, and North America for 1% of our sales. Europe thus remains our largest market with sales of € 341 million, an increase of 3% over 2010. We performed well in emerging markets such as India, Russia and Brazil, with growth rates of 22%, 21% and 20%, respectively.

France is our largest market

Number one in the French OTC market

France remains our top-selling country, recording sales of € 104 million in 2011, 3.2% more than in 2010. Our subsidiary is meanwhile the number-one company in the French consumer health care market. The Bion® range again performed well, also thanks to a new advertising campaign. Sales rose by 13% to € 36 million. Bion® Energie Plus was launched in 2011. In addition to the ingredients of classic Bion®3 – vitamins, minerals and probiotic bacteria – the new product contains extracts from the Chinese medicinal herb schisandra, ginseng and a special co-enzyme to replenish the body's energy reserves.

Germany

We generated sales of € 62 million in Germany, which was 8.3% more than in 2010. Sales of Intelligent Healthcare Solutions®, our brand of diet and beauty products for direct sales, for example via the home shopping networks QVC and HSE24, developed well, increasing by 76% to € 18 million. Sales of Kytta® remained stable despite heavy investment by competitors. Additional indications were approved, namely acute back pain and knee osteoarthritis.

→ *Consumer Health Care*

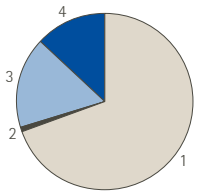
United Kingdom and other European countries

In the United Kingdom, which is currently characterized by a generally difficult market environment, sales declined by 3.4% to € 52 million. We expanded the well-established Seven Seas® portfolio to include a range of health oils. These are fish oil products with different combinations of health-promoting additives, such as calcium, zinc, biotin, L-cysteine, garlic, gingko and vitamin B1. Sales of nutritional supplements for direct sales by our British subsidiary Lamberts Healthcare rose by 6.8%.

Belgium, another important European market, saw a 6.1% increase in sales to € 29 million, for which Femibion®, Bion®, and the local Mobility brands, were responsible. We performed strongly in Russia, generating sales of € 12 million. The majority of these sales were attributable to Nasivin®, which posted growth of 24%.

Consumer Health Care | Sales by region

€ million / % of total divisional sales



1	Europe	341	69%
2	North America	4	1%
3	Latin America	86	17%
4	Asia, Africa, Australasia	63	13%

Latin America

Strong growth in Brazil, Venezuela and Chile

The Consumer Health Care division also performed well in Latin America, where sales grew by 6.6%. We also recorded a 20% increase in sales in Brazil to € 9.5 million. Sales in Venezuela surged by 42% to € 21 million. Sales of Cebion®, our main product in this market, advanced by 66%. In Chile, sales increased by 22%. Bion® is a success story in this market, where sales of this product grew by 35% to € 4.2 million. In Mexico, our largest market in Latin America, sales declined by 11% to € 31 million. This was mainly due to inventory reductions by a key wholesaler and the sharp drop in sales of Diabion®, a vitamin product for people with diabetes, following strong rebate activities in 2010.

Asia, Africa, Australasia

Sales also rose in Asia, increasing by 12%. India was a growth driver of the region, posting a 22% increase in sales. Nasivion® became the leading nasal spray prescribed by physicians, yet it is also available without a prescription. Nasivion® sales in India grew by 29% and totaled € 4.3 million. Indonesia, our largest market in the region, saw a 13% decline in sales, whereas business in Malaysia and the Philippines remained stable. South Africa, our largest market in Africa, again achieved a slight improvement in sales, which totaled € 9.5 million.

The Divisions of the Merck Group ⟶ 3/4

Merck Millipore

⟶ The *Merck Millipore* division is a leading supplier to the global life science industry, offering a broad range of innovative products and services used in the research, development and production of biotech and pharmaceutical drugs as well as general laboratory applications.

Key product groups

- Products and services to support life science researchers in both industry and academia who are seeking to understand complex biological systems and identify new therapeutic targets. Examples include biomarker discovery assays, cell analysis tools and flow cytometry instrumentation.
- Laboratory instrumentation and services for a wide variety of life science research and industrial applications, including organic and inorganic chemistry, chromatographic analysis, and environmental monitoring in the pharmaceutical industry. Examples include laboratory chemicals, laboratory water purification systems, microbiology media, test kits and systems.
- Products and services that enable pharmaceutical and biopharmaceutical manufacturers to improve productivity, minimize complexity, reduce risk and lower cost – from scale-up to full-scale production. Examples include raw materials, active pharmaceutical ingredients (API), cell culture media, excipients and regulatory services, as well as products to support clarification, purification, viral clearance, sterile filtration and process development.

Key developments in 2011

- Strong sales performance driven by growth in the Americas and Asia and demand from biopharma and laboratory customers
- BioScience, Lab Solutions and Process Solutions strengthen their offerings through acquisitions of Amnis Corporation, Biotest AG's microbiology business and Beijing Skywing Technology Co., Ltd.
- New, state-of-the-art Biopharmaceutical Technical and Training Center opened in Shanghai, China
- New Merck Millipore brand launched

→ *Merck Millipore*

Solid growth in a challenging market

Despite a global economic downturn, the Merck Millipore division, which was formed after Merck's acquisition of Millipore in 2010, reported solid organic revenue growth in 2011. This was mainly achieved through new product launches and acquisitions. The division's three business units – BioScience, Lab Solutions and Process Solutions – all increased their sales in 2011.

Total revenues for 2011 were € 2,393 million, a 48% increase over 2010. Organic revenue growth was 4.3%. Foreign exchange rates reduced revenue growth by 1.2% and acquisitions added 45% growth for the year.

Merck Millipore | Key figures

€ million	2011	2010	Δ in %
Total revenues	2,393	1,613	48
Gross margin	1,387	845	64
R&D	135	74	80
Operating result	226	48	-
Exceptional items	-	–	-
Free cash flow	141	–4,672	
Underlying free cash flow	309	263	17
ROS in %	9.4	3.0	

The gross margin of the division increased by 64% to € 1,387 million in 2011. Gross margin in 2010 included one-time charges of € 86 million for the step-up of inventories from Millipore as part of the purchase price allocation.

Higher spending on marketing and sales and R&D

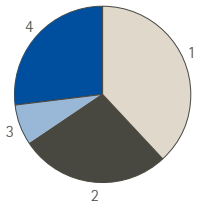
To support future growth, the division continued to increase operational spending, making investments in marketing and selling as well as in R&D. The operating result totaled € 226 million in 2011 compared to € 48 million in 2010. The operating result includes € 190 million of amortization of intangible assets.

Merck Millipore's solid performance was led by sales growth in North America, Latin America and Asia. As a leader in the life science industry on the forefront of emerging technologies, all three business units of the Merck Millipore division continued to invest in innovation, which was reflected in R&D spending. The division's long-term growth is tied to its ability to bring new, value-added products and services to the marketplace – to develop better, simpler and more effective solutions to customers' productivity and safety challenges.

→ *Merck Millipore*

Merck Millipore | Sales by region

€ million / % of divisional sales



1	Europe	906	38%
2	North America	648	27%
3	Latin America	183	8%
4	Asia, Africa, Australasia	646	27%

BioScience: Expanding its product portfolio

The BioScience business unit provides products and services to support life science researchers in both industry and academia. It consists of two business fields: Life Science and Discovery & Development Solutions.

Sales in Asia and Latin America rise sharply

BioScience reported sales of € 421 million in 2011. Growth was driven by a broad portfolio of products and services. Geographically, sales gains were primarily driven by Asian and Latin American markets. BioScience sales were fueled by strong growth in strategic market segments such as multiplexing and flow cytometry and hampered by a slowdown in academic and government funding. New BioScience product innovations, such as the Scepter™ handheld automated cell counter and the Samplicity™ filter system, continued to win industry accolades in 2011 and establish Merck Millipore as a life science leader.

In 2011, with the acquisition of Seattle-based Amnis Corporation, the BioScience business unit gained access to leading technology in high-speed cell imaging instrumentation used in flow cytometry applications. This acquisition, which complements the business unit's Guava product range, puts Merck Millipore at the forefront of cell analysis and helps the division address several unmet customer needs.

Lab Solutions: Leveraging its global footprint

The Lab Solutions business unit supplies laboratory chemicals, instrumentation and services for a wide variety of life science research and industrial applications, most notably for the pharmaceutical industry. It comprises three business fields: Lab Essentials, Lab Water and BioMonitoring.

In 2011, Lab Solutions generated sales amounting to € 1,006 million. Growth was fueled by strong sales in Lab Water and BioMonitoring. Geographically, growth was strongest in the Asia, Africa, Australasia region as well as in North America and Latin America. In Europe, growth was slower due primarily to macroeconomic weakness.

→ *Merck Millipore*

Innovation was a major driver for Lab Solutions. An example is a new collection and recycling program developed by Lab Water that addresses customer requests for sustainable solutions.

Acquisition of Biotest's microbiology business expands the product portfolio

In 2011 Lab Solutions expanded its product portfolio with the acquisition of Biotest AG's microbiology business, which includes the Hycon and heipha Dr. Müller GmbH product ranges. This acquisition has strengthened the BioMonitoring business field and the division's position in the fast-growing industrial microbiology testing market.

Process Solutions: Delivering innovative products and services

The Process Solutions business unit provides fully integrated solutions that enable pharmaceutical and biopharmaceutical manufacturers to develop and produce drugs safely and efficiently. It consists of two business fields: Pharm Chemicals Solutions and Biopharm Process Solutions.

Process Solutions sales totaled € 956 million in 2011. Growth was driven by strong performance in emerging markets and sales to global biotech customers, who increased their production of biologic drugs and vaccines in the second half of the year.

Larger range of products for upstream production of biopharmaceuticals

Process Solutions stepped up its new product launches in 2011 with the introduction of a number of new products, including high-quality customized cell culture media, the Mobius® CellReady 200 L bioreactor and Eshmuno® HCX chromatography media.

In 2011, Process Solutions also strengthened its upstream processing offerings to customers in China, through the acquisition of Beijing Skywing Technology Co., Ltd., a leading supplier of cell culture media, corresponding technical services and bioreactors for the biotech industry in China.

The Divisions of the Merck Group → 4/4

Performance Materials

→ Liquid crystals from Merck are used throughout the world, in LCD TVs, monitors, tablet computers, notebooks, and mobile phones. We also focus on materials for energy-saving lighting using LEDs (light-emitting diodes) and OLEDs (organic LEDs), as well as for OLED smartphone displays. Pigments for the coatings, plastics and printing industries as well as pigments and active ingredients for cosmetic applications are another important part of *Performance Materials* portfolio. The division is the market leader for pearl luster effect pigments – a highly specialized niche within the pigment market.

Key products

- LICRISTAL® – Liquid crystal mixtures for displays
- ISIPHOR™ – Phosphors for energy-efficient, high-quality LED lighting
- LIVILUX® – Materials for OLEDs (organic light-emitting diodes) in displays and for innovative lighting
- ISISHAPE® – Efficient, eco-friendly materials for structuring solar cells and touchscreens
- IRIODIN®, XIRALLIC®, COLORSTREAM® – Effect pigments for use in coatings, packaging and product design
- TIMIRON®, COLORONA®, RONAFLAIR®, XIRONA® – Effect and functional pigments for cosmetic formulations
- RONACARE® – Cosmetic active ingredients for skin care

Key developments in 2011

- Continuing strong demand for high-tech liquid crystals from Merck: Total revenues of the LC business rise by 8.0% despite pressure on prices
- Despite a sales decline of 5.4% in the Pigments & Cosmetics business unit, total revenues of the division increase to € 1,467 million
- After the earthquake in Japan on March 11, production of XIRALLIC® effect pigments resumes at the Onahama site in May
- Decision to commission a new XIRALLIC® production line in Germany to increase supply reliability
- Reactive mesogens add new impetus to the LC business
- Divestment of the Crop BioScience business to Novozymes A/S in Denmark

→ *Performance Materials*

A broad portfolio

The Performance Materials division comprises our materials businesses and activities. The product portfolio ranges from liquid crystal mixtures for flat-panel LC displays to effect pigments and cosmetic active ingredients. The Performance Materials division consists of the Liquid Crystals and the Pigments & Cosmetics business units. Advanced Technologies develops materials for lighting technologies, photovoltaics and energy storage.

Restrained growth

Despite declining demand from customer segments of the Pigments business, as well as the partially stagnating LC display market, total revenues of the division rose in 2011 by 1% to € 1,467 million, from € 1,452 million in 2010. While the division reported an underlying core operating result of € 525 million, the divestment of the Crop BioScience business in February hindered stronger growth of total revenues. Exceptional items amounted to € 157 million from the divestment of the Crop BioScience business to Novozymes A/S in Denmark.

Performance Materials | Key figures

€ million	2011	2010	Δ in %
Total revenues	1,467	1,452	1.0
Gross margin	874	951	–8.1
R&D	134	131	2.9
Operating result	525	576	–8.9
Exceptional items	157	–1	-
Free cash flow	693	542	28
Underlying free cash flow	492	549	–10
ROS in %	35.8	39.7	

High level of R&D spending maintained

The Performance Materials division generated more than 70% of its total revenues with liquid crystals. The 8.0% increase in total revenues of the LC business was offset by a decline in the Pigments & Cosmetics business unit, where total revenues were 5.4% lower than in 2010. The division's gross margin decreased by 8.1% to € 874 million from € 951 million in 2010. Consequently, the operating result fell by 8.9% to € 525 million from € 576 million in 2010. This decline was mainly attributable to decreased production capacity utilization at times, increased raw materials costs, as well as additional expenses for new product launches. However, the division's profitability was lower than in 2010; return on sales (ROS) amounted to 35.8% in 2011, compared to 39.7% in 2010. In order to defend and expand our leadership position, we invested steadily in research and development. R&D spending rose to € 134 million in 2011 from € 131 million in 2010.

The earthquake and tsunami that struck Japan in March 2011 and paralyzed the infrastructure in the north-eastern part of the country hardly impacted the division's liquid crystals business. We took advantage of having multiple LC production sites in Asia, using all three to supply our customers in this emergency situation. While the natural disaster did cause damage to the pigments production plant in Onahama, this only slightly impacted the pigments business in the first half of 2011. Production at this site

→ *Performance Materials*

resumed in May after an interruption of only four weeks. Merck will additionally begin producing Xirallic® pigments, which are in high demand for automotive coatings, at its German site in Gernsheim in 2012.

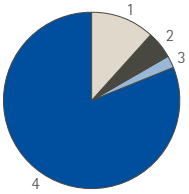
Liquid Crystals: Higher demand in a stagnating market

Falling prices of televisions impact display producers

Flat-screen display manufacturers particularly felt the economic impact of the sharp decline in television prices in 2011. Although our customers responded to the overall weaker economic situation by reducing inventories, total revenues of the Liquid Crystals business unit increased by 8.0% to € 1,094 million from € 1,013 million in 2010. The effects of declining prices and negative foreign exchange rate effects were offset by high sales volumes. This was attributable to the continuing strong demand for our broad portfolio of innovative liquid crystal mixtures used in flat-panel TVs, computer monitors, smartphone touchscreens, and tablet computers. Therefore, the Liquid Crystals business unit, which accounts for the majority of the division's total revenues, continued its solid growth in 2011. This stemmed from the ongoing demand, particularly for IPS (in-plane switching) technologies for smartphone touchscreens and PS-VA (polymer-stabilized vertical alignment) as well as VA (vertical alignment) technologies for TV displays.

Performance Materials | Sales by region

€ million / % of divisional sales



1 Europe	167	11%
2 North America	74	5%
3 Latin America	30	2%
4 Asia, Africa, Australasia	1,194	82%

Success with reactive mesogens

In addition, the business with reactive mesogens developed very positively; sales soared to € 19 million from € 4 million in 2010. Reactive mesogens are polymerizable liquid crystals that can be used, for instance, as a material for optical films, including film-patterned retarder (FPR) products for 3D screens.

With the inauguration of an application laboratory for liquid crystals in Shanghai, we laid the cornerstone for further intensifying cooperation with our customers. We invested around € 1 million in this center.

→ *Performance Materials*

OLED technology progressing rapidly

Besides liquid crystal technology, our researchers are working on materials for innovative displays. The special focus of development here is on OLED materials, which are already being used in mobile phones and MP3 players. Having commissioned the OLED Application Development Laboratory (ADL) in Poseung, South Korea, in October, we are further expanding our position in the OLED market of this country. Apart from applications in the display sector, OLED materials can also be used for lighting. They make it possible to create new types of lighting elements that offer diffuse, glare-free light and are extremely energy-efficient. They lend a special atmosphere not only to living spaces, but also any setting requiring unique lighting.

Broad range of innovative LED lighting materials and high-tech materials for photovoltaic technologies

Alternatives to light bulbs and energy-saving lamps

In addition, our researchers are working on innovative lighting materials for LEDs, which are an alternative to conventional light bulbs and energy-saving lamps. Light-emitting diodes increase the color intensity of light and display, consume less energy and help reduce CO_2 emissions.

In the photovoltaics sector, we are developing materials and printing technologies for solar cell production. With the isishape® range, we offer manufacturers printable structuring materials that improve solar cell efficiency and permit eco-friendly production processes. Parallel to this, we are working with leading partners around the world on new technologies, for example dye-sensitized solar cells that imitate nature's photosynthesis process.

Pigments & Cosmetics: Economic developments and inventory reductions impact business

As a result of a decline in demand, total revenues of the Pigments & Cosmetics business unit decreased to € 372 million in 2011 from € 393 million in 2010. Besides the natural disaster in Japan and the associated production outages at our site in Onahama, global economic developments also impacted our Pigments business. Consequently, after a strong start to the year, many of our customers began to reduce inventories. Business with cosmetic active ingredients performed well in the course of the year.

Prices for pigments and cosmetic raw materials raised

Owing to continuously rising energy and raw material costs, effective November 1, Merck increased its prices for pigments and cosmetic raw materials by 5% to 15% – in individual cases by as much as 30%. The prices for Xirallic® pearl effect pigments were also raised. These pigments are used in high-quality automotive coatings and continue to be a mainstay of our Pigments business. Our decision to establish a second production site for Xirallic® effect pigments outside of Japan will enable us to significantly increase our supply reliability for this very important part of our portfolio.

In 2011, Merck significantly strengthened its expertise both in cosmetic functional fillers and active ingredients as well as in the core business with pearl effect pigments. In addition, we continue to focus our innovation efforts on high value-added segments. We are achieving this by developing products that make it possible to design entirely new effects and by resolutely expanding our highly specialized applications expertise.

Corporate and Other

Corporate and Other comprise Group administration expenses, the financial result, taxes as well as certain exceptional items not allocated to the individual divisions.

Group administration expenses relate primarily to Merck KGaA and consist of typical holding company functions. These include, for example, the Group finance and accounting, tax, procurement, communications, and human resources departments to the extent that their services cannot be allocated to the divisions. Corporate costs also include expenses for central, non-allocated IT functions and corporate IT projects in connection with the expansion and harmonization of IT systems within the Merck Group.

The operating result of Corporate and Other totaled € –116 million in 2011 compared to € –90 million in 2010. In 2011, exceptional items amounted to € –30 million (2010: € –68 million) and mainly include expenses of € 29 million owing to provisions for environmental protection measures. Expenses reported as exceptional items for this segment in 2010 were primarily due to litigation. The financial result was € –286 million compared to € –252 million in 2010. At € –222 million (2010: € –220 million), tax expenses consist of corporation and trade income taxes for the companies domiciled in Germany as well as comparable income taxes for companies domiciled abroad. This item contains not only effective taxes but also deferred taxes, which take into consideration the difference in the carrying values between the tax accounts of the Group companies and the consolidated balance sheet. The latter result primarily from the purchase price allocations for Serono and Millipore.

Free cash flow amounted to € –913 million in 2011 compared to € –736 million in 2010. In 2011, payments amounting to € 119 million (2010: € 241 million) were made in connection with existing legal risks. Payments to externally finance pension obligations of Merck KGaA (CTA) lowered free cash flow in 2011 by € 302 million. Cash outflows from interest paid less interest received amounted to € 163 million in 2011. This was € 66 million more than in 2010 (€ 97 million). This increase is due to the interest payment date in March 2011 for major bonds issued in 2010 in order to finance the Millipore acquisition. In addition, free cash flow includes Group administration expenses and tax payments. The balance of tax payments and tax refunds increased to € 358 million in 2011 from € 317 million in 2010.

In the reconciliation of free cash flow to underlying free cash flow, cash inflows from the divestment of the Generics business amounting to € 41 million (2010: cash outflows of € 240 million) as well as the payments for the external financing of pension obligations of Merck KGaA (CTA) amounting to € 302 million were eliminated in 2011. Underlying free cash flow of Corporate and Other amounted to € –652 million, which was 31% lower than in 2010.

Corporate and Other | Key figures

€ million	2011	2010	Δ in %
Total revenues	–	–	-
Gross margin	–	–	-
R&D	–	–	-
Operating result	–116	–90	30
Exceptional items	–30	–68	–55
Free cash flow	–913	–736	24
Underlying free cash flow	–652	–496	31

Risk Report

Risks are inherent to entrepreneurial activity. We have put systems in place to identify risks at an early stage and minimize them by taking appropriate action. Currently no risks can be identified that could jeopardize the continued existence of the Merck Group.

Risk and opportunity management

Merck is part of a complex, global business world and is therefore exposed to a multitude of external and internal influences. Every business decision is therefore based on the associated risks and opportunities. Through our risk management activities, we recognize, assess and manage risks early on and implement appropriate measures to minimize them. Opportunity management is conducted in the operating units on the basis of the corporate strategy. More information can be found in the Report on Expected Developments starting on page 91.

Within the context of the Group-wide risk management process, the division heads, managing directors of Merck subsidiaries, and the heads of Group functions are specified as employees with responsibility for risks. Every six months, these risk managers assess their active risk status and report their entire risk portfolio to Risk Management. Risks are assessed based on their potential impact on EBIT and the likelihood of their occurrence. Risk Management uses this information to determine the current risk portfolio for the Merck Group and for the individual legal entities, reporting this to the Executive Board, the Supervisory Board and the Finance Committee. Significant changes in the assessment of already known risks as well as new, significant risks are reported on an ad hoc basis.

Internal control system for the consolidated accounting process

The objective of the internal control system for accounting is to implement controls that provide assurance that the financial statements are prepared in compliance with the relevant accounting laws and standards. It covers measures designed to ensure the complete, correct and timely transfer and presentation of information that is relevant for the preparation of the consolidated financial statements and the management report of the Merck Group.

The control system is subject to continuous further development and is an integral component of the accounting and financial reporting processes in all relevant local units and Merck Group functions. With respect to the accounting process, the internal control system measures are intended to minimize the risk of material false statements in the consolidated accounting process of the Merck Group.

Key tools

The internal control system is geared to ensuring the accuracy of the consolidated accounting process and the preparation of compliant financial statements. The Group function Accounting & Subsidiaries centrally steers the preparation of the consolidated financial statements of Merck KGaA as the parent company of the Merck Group. This Group function defines the reporting requirements that all the Merck subsidiaries must meet as a minimum requirement. At the same time, this function steers and monitors the scheduling and process-related requirements of the consolidated financial statements.

The Group-wide accounting guidelines form the basis for the preparation of the statutory financial statements of the parent company as well as of the German and foreign subsidiaries; the guidelines are adapted to reflect changes in the financial regulatory environment and are updated in accordance with

→ *Risk Report*

internal reporting requirements. One of the requirements of the Group-wide guidelines is to present Group-internal business processes as the basis for proper settlement of intercompany balances. Additional controls have been implemented in the consolidation process.

The Group function Accounting & Subsidiaries also ensures the timely central management of changes to the equity holding structure and correspondingly adapts the Merck Group's scope of consolidation.

The individual companies have a local internal control system. Where finance processes are handled by a Shared Service Center, the internal control system of the Shared Service Center is additionally applied. They ensure that accounting complies with IFRS (International Financial Reporting Standards) and with the Merck Group accounting guidelines. The Group function Accounting & Subsidiaries provides support to the local contacts and ensures a consistently high quality of reporting throughout the entire reporting process.

The accounting process is designed at all levels to ensure a clearly defined segregation of duties and assignment of responsibilities to the units involved in the accounting process at all times within the scope of continuous dual control.

For the assessment of balance sheet items, the Group function Accounting & Subsidiaries closely cooperates with Merck Group Risk Management in order to correctly reflect potential balance sheet risks. For special issues, such as the evaluation of intangible assets and pension obligations, external experts are additionally involved where necessary. For the Group accounting process, Merck globally uses a standard SAP software tool. Via a detailed authorization concept to limit user rights on a need-to-have basis, the system contains both single entity reporting and the consolidated financial statements.

The effectiveness of Merck's internal control system with regard to accounting and the compliance of financial reporting of the individual companies is confirmed by both the local managing director and the head of finance by signing the single entity reporting. All the structures and processes described are subject to constant review by Internal Auditing based on an annual audit plan specified by the Executive Board. The results of these audits are dealt with by the Executive Board, the Supervisory Board and the Finance Committee.

The internal control system at Merck makes it possible to lower the risk of materially false accounting statements to a minimum. However, no internal control system – regardless of its design – can prevent a residual risk.

Business-related risks

Total revenues and the operating result of the Merck Group depend on a large number of pharmaceutical and chemical products for various industries. This diversification lowers risk since the markets differ in their structure and economic cycles. This is also an expression of the Merck strategy to remain an integrated pharmaceutical and chemical company. Merck integrates its risk management system into the ongoing business planning processes. Potential negative developments, for example changes in customer demand or new political framework conditions, are described and evaluated in the Risk Report. We can, therefore, take countermeasures in a timely manner if any events lead to deviations from the business plan. Risks in connection with investment decisions are minimized by the use of detailed guidelines.

→ *Risk Report*

Political and regulatory risks

As a global company, Merck faces political and regulatory changes in many countries and markets. In 2011, increasingly restrictive requirements were imposed in the pharmaceutical environment in terms of drug pricing, reimbursement and approval, a trend that can be seen in many countries. These requirements can negatively impact the profitability of our products and jeopardize the success of market launches and new approvals. Close communication with health and regulatory agencies serves as a preventive measure to avert risks. The destabilization of political systems, possible erection of trade barriers and monetary policy changes can lead to declines in sales in certain countries and regions. Diversification in terms of products, industries and regions serves to mitigate potential negative effects.

Research and development risks

For Merck, innovation is a major element of the strategies of its Pharmaceuticals and Chemicals business sectors. Research and development projects can experience delays, expected budgets can be exceeded or targets remain unmet. Research and development are of special importance to the Pharmaceuticals business sector. Research and development projects are constantly monitored by a portfolio management system. In the course of portfolio management, we regularly evaluate and, if necessary, refocus research areas and all R&D pipeline projects. Sometimes development projects are discontinued after high levels of investment at a late phase of clinical development. Decisions – such as those relating to the transition to the next clinical phase – are taken with a view to minimizing risk. Furthermore, there is a risk that the regulatory authorities either do not grant or delay approval, which can have an impact on earnings. Additionally, there is the danger that undesirable side effects of a pharmaceutical product could remain undetected until after approval or registration, which could result in a restriction of approval or withdrawal from the market.

Product quality and availability risks

Merck is exposed to product liability risks. This includes complying with the highest quality standards in the production of pharmaceuticals (Good Manufacturing Practices) and is monitored by the regulatory authorities. Quality controls along the entire value chain minimize these risks. This starts with the qualification of our suppliers. Quality controls also include comprehensive quality requirements for raw materials, purchased semifinished products and plants, as well as long-term strategic alliances in the case of supply- and price-critical precursor products.

Financial risks

As a company that operates internationally and due to its presence in the capital market, Merck is exposed to various financial risks. These are primarily liquidity, default, and market-price risks; fluctuations in the valuation of pension obligations; and risks of changing fair values of tangible and intangible assets.

In order to ensure its continued existence, a company must be able to fulfill its commitments from operating and financial activities at all times. Merck therefore has a central Group-wide liquidity management process to reduce potential liquidity risks. In addition, we have a € 2 billion syndicated multicurrency credit facility, which expires in 2014. This ensures Merck's continuing solvency in case any liquidity bottlenecks occur despite the Group's positive operating cash flow. As our loan agreements do not contain any financial covenants, these agreed lines of credit can be accessed even if Merck's credit rating should deteriorate. In

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fiscal 2009, Merck set up a debt issuance program that forms the contractual basis for the issue of bonds. In 2010, the volume of this program was increased from € 5 billion to € 10 billion.
Default risks arise in connection with financial investments, loans and financing commitments as well as receivables in operating business. Due to the impact of the financial crisis in the eurozone, an increased default risk continues to exist. Merck has therefore reviewed all its positions with trading partners in the respective countries and has adjusted its default risks as necessary.

Merck minimizes these risks by spreading its financial positions and the associated active management of its trading partners. Significant financial transactions involving credit risk are only entered into with banks that have a good credit rating and a minimum rating of A- from Standard & Poor's. In addition, Merck's large banking syndicate – the existing credit line of € 2 billion was syndicated by 17 banks – reduces possible losses in the event of default. Nevertheless, the default of individual trading partners cannot be fundamentally excluded, even if they have an excellent credit rating.

Companies with international business operations in different currency and interest rate regions are inevitably exposed to currency and interest risks. Merck is also affected by these market price risks owing to its global group structure and the associated financial transactions, receivables and liabilities in operating business, as well as expected future cash flows from sales and costs in foreign currency. Merck therefore uses derivative financial instruments to minimize currency risks and financing costs caused by exchange rate or interest rate fluctuations. Financial transactions, receivables and liabilities recognized in foreign currency are generally hedged. In certain cases, the company also hedges anticipated sales and future costs for a period of up to three years. (More information can be found in the consolidated financial statements as of page 125).

The values of individual items in the balance sheet are exposed to the risk of changing market and business circumstances and thus also to changes in fair values. The need for write-downs could significantly impact profit and lead to changes in balance sheet ratios. This applies in particular to the high level of intangible assets including goodwill, which have become significantly more important in the consolidated financial statements due to the acquisitions of Serono in 2007 and Millipore in 2010, as well as the related purchase price allocations. Further details can be found under Intangible assets.

Merck has commitments in connection with pension obligations. The present value of these obligations can be influenced by changes in the relevant valuation parameters, e.g. the interest rate or death probabilities. Pension obligations are regularly evaluated by preparing annual actuarial valuations. Part of these obligations is covered by the pension provisions disclosed in the balance sheet, while the other obligations are externally funded (more information can be found under Provisions for pensions and other post-employment benefits). As far as pension obligations are covered by plan assets consisting of interest-bearing securities, shares, real estate, and other financial assets, decreasing or negative returns on these assets can adversely impact the value of the plan assets and thus result in further additions to pension provisions. The risk of market fluctuations in the value of plan assets is reduced by a diversified investment strategy.

Assessments by independent rating agencies

The capital market makes use of the assessments published by rating agencies in order to assist lenders in evaluating the risks of a financial instrument. Merck is currently rated by the agencies Standard & Poor's and Moody's. Neither Standard & Poor's nor Moody's adjusted their credit ratings for Merck in 2011. While Standard & Poor's issued Merck a BBB+, Moody's issued it a Baa2 rating, both with a stable outlook.

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Legal risks

Merck is exposed to litigation risks. These include in particular risks in the areas of product liability, competition and antitrust law, pharmaceutical law, patent law, tax law, and environmental protection. As a research-based company, Merck has a valuable portfolio of industrial property rights, such as patents and brand names. These can become the target of attacks and infringements.

We are engaged in legal proceedings and government investigations, the outcome of which cannot currently be predicted. We also continue to bear the risks from certain proceedings against companies of the Generics group that we sold to Mylan in 2007. Therefore, Merck continues to be responsible for risks arising from cases concerning drug pricing in the United States. In addition, the Merck Serono division is involved in a licensing dispute in Israel. In the United States, Merck faces certain risks in connection with the commercialization of a product. In Germany, Merck is involved in antitrust proceedings concerning its exclusive distribution agreement with the laboratory wholesale distributor VWR International. Owing to a decision by the German Federal Antitrust Office, Merck is obliged to supply a number of products from its Laboratory business to other laboratory wholesale distributors in Germany.

The company has taken all possible measures to protect its own legal position. Generally, Merck strives to minimize and manage its legal risks. We have taken the necessary precautions to identify threats and defend our rights where necessary.

A compliance program applies for our employees worldwide, which enjoins them to comply with laws and guidelines, as well as provides them with the relevant training and support. The core of the program is the Merck Code of Conduct, which defines ethical behavior guidelines.

Insofar as possible and practical, the company limits liability and damage risks through insurance coverage, the type and scope of which is continually adjusted to current requirements.

Human resources risks

Merck's future success and growth is highly dependent on its innovativeness. Therefore the competence, capabilities and engagement of employees in all sectors in which Merck operates are crucial to the success of the company.

The talent markets relevant to Merck are characterized by intensive competition. The competition is additionally intensified by the scarcity of qualified specialists in the sectors in which we operate and by demographic challenges in the global markets. Therefore sourcing, recruiting and retaining key specialists and talents within Merck is one of the key priorities for the company.

In order to address the talent challenges that Merck faces, Merck is globally implementing integrated programs to ensure future success. These global programs enhance a series of different aspects that are important in order to be successful in the talent markets.

Merck is investing in a global employer brand, which communicates the Merck Values and the unique employer value proposition that Merck provides to its current and future employees. In addition to that, we will be streamlining and ensuring an integrated global recruiting process.

Merck regularly measures the engagement of its employees. The results of the employee survey show managers and employees the key challenges for Human Resources; they identify the key improvement areas for Merck to focus on in order to motivate and retain employees.

Merck has been investing in talent processes for a number of years. Through a global talent and succession management approach, Merck analyzes current and future capability gaps for the business. Merck's

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sourcing strategy is aligned with the outcomes of the Talent & Succession Management Process. In addition to all of the above, the Reward and Development strategy is being more strongly aligned to the needs of the business. Through our Total Rewards Policy, we ensure that we offer competitive compensation in all relevant markets.

Information technology risks

Non-uniform IT systems and processes jeopardize the optimum focus, compromising adequate support of the globalization process at Merck.

Risks resulting from the complexity of internal and external requirements

IT risks with an impact on the business result occur when information is unavailable or erroneous, unintentionally disclosed or when the processes to be depicted have been implemented in IT systems in a way that is too inflexible, too complex or illegal. Security gaps and insufficient emergency planning measures can quickly become incidents that affect the entire company.

Data protection violations owing to incorrect authorizations create a negative external impression. The increasing dependency on IT as well as the growing interconnectivity of IT landscapes make it necessary for companies to invest heavily in maintenance and enhancement. In conjunction with constantly new legal requirements, data processing represents a time-consuming and costly activity. As the complexity of the IT landscape increases, so do the potential risks.

Risks resulting from external threats

The general risk situation means more professional threats can be expected, with the trend moving toward targeted industrial espionage and sabotage. Significant risk scenarios for Merck include the failure of the central IT systems, the publication of classified confidential research and business development data, the manipulation of IT systems in chemical process control, and the revocation of drug registrations due to deficient validation of the relevant IT systems.

Risk minimization strategy

Merck ensures the necessary availability of business-critical application systems and access to business-relevant data by means of redundant structures of technical components, networks and sites, as well as suitable, tested contingency measures. Security guidelines are in place for the entire Merck Group. They include appropriate organizational and technical precautions for access control, access rights, virus protection and data protection. The efficacy of these measures is continuously monitored and reviewed by Internal Auditing as well as external auditors. A dedicated process ensures that IT risks are evaluated and appropriate measures taken. Based on the measures taken, we assume that the likelihood of a serious IT risk occurring is low.

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Environmental and safety risks

Merck is a company with global production operations and is exposed to risks of possible damage to people, goods and its image. We minimize the risks to people and the environment by means of auditing, advising and training in matters of environmental protection as well as occupational health and safety. In order to ensure the continuity of plant and equipment, Merck monitors these risks both at our own locations as well as at suppliers and contract manufacturers. By adhering to high technical standards, our rules of conduct, and all legal requirements in environmental protection and occupational health and safety, Merck ensures the preservation of its goods and assets.

Management assessment of the overall risk situation

Currently no risks can be identified that could jeopardize the continued existence of the Merck Group. This is the finding of this Risk Report, which was prepared in accordance with German Accounting Standard 5.

Report on Expected Developments

The Executive Board expects total revenues of the Merck Group to increase slightly in both 2012 and 2013. At Group level, EBITDA before exceptional items will rise slightly in 2012 and then improve further in 2013. In view of expected economic developments, overall we expect operating business to develop positively. However, it cannot be ruled out that the operating result will be adversely impacted by one-time expenses for the introduction of efficiency-enhancement and cost-reduction measures.

Forecast for overall global economic development

For 2012, the International Monetary Fund (IMF) forecasts a 3.3% increase in global gross domestic product (GDP), including a 1.2% rise in the industrialized countries. According to the estimate, in 2012 industrialized countries with good economic ties to Asia will perform best. According to the IMF, the sovereign debt crisis in the EU is threatening the global economy and the eurozone will experience a weak recession in 2012.

For developing countries and emerging markets, the IMF expects GDP growth of 5.4%. The IMF assesses the prospects for emerging markets more moderately owing to the situation in Europe as well as weaker domestic demand. The IMF forecasts global GDP growth of 3.9%. GDP growth is expected to improve by 1.9% in industrialized countries in 2013.

The Organization for Economic Cooperation and Development (OECD) assumes that for the coming years, overall global economic growth measured by GDP will continue to be driven primarily by developing countries and emerging markets, and not by OECD member states. For its member states, the OECD expects GDP to increase by 1.6% in 2012 and by 2.3% in 2013. However, should the euro crisis intensify and the U.S. economy deteriorate, the aforementioned figures would be meaningless and would need to be lowered. In this scenario, GDP of the United States would decline by 1.8% (2012) and 0.1% (2013); in the eurozone GDP would likely fall by 2.1% (2012) and 2.3% (2013). However, if the euro crisis is quickly contained, GDP developments would be as follows: GDP would grow by 2.8% (2012) and 3.4% (2013) in the United States and by 1.3% (2012) and 3.3% (2013) in the eurozone.

The forecasts for 2012 made by Datamonitor, a provider of economic data, are similar to those of the IMF and OECD and therefore underpin their assumptions of upcoming developments.

As far as possible, our forecast takes into account uncertainties in relation to overall economic developments as well as in certain markets.

General forecast for the pharmaceutical sector

According to calculations by the pharmaceutical data provider Evaluate Pharma, the global market for prescription and over-the-counter (OTC) products will increase by 2.7% to US$ 765 billion in 2012. For 2013, sales are predicted to increase by 3.8% to US$ 794 billion compared to 2012. Evaluate Pharma also assumes that the share of biopharmaceuticals among the 100 top-selling pharmaceutical products will increase to 44% in the coming years.

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The pharmaceutical market research firm IMS Health (Intercontinental Marketing Services Health) forecasts that the global pharmaceutical market will grow by between 3% and 6% annually up until 2015, based on sales of US$ 856 billion in 2010. In the five preceding years, the market grew by an average of 6.2% per year. According to the data, overall market volume should increase by between US$ 210 billion and US$ 240 billion up until 2015, then reaching a total volume of between US$ 1,065 billion and US$ 1,095 billion. While the U.S. market represented 36% of the global market in 2010, this share is expected to decline to 31% by 2015. The United States will then still be the world's largest market (US$ 320 billion to US$ 350 billion). IMS Health sees Japan remaining in second place in 2015 (11% share, US$ 110 billion to US$ 140 billion), followed by China (US$ 115 billion to US$ 125 billion) and Germany (US$ 38 billion to US$ 43 billion).

General forecast for the chemical industry

For the years 2012 and 2013, ICIS market researchers expect that global chemical production will grow by 5.3% and 4.7%, respectively, provided that a recession does not occur. Rising energy prices, declining construction activity as well as the debt crisis in the United States and Europe could have a negative impact on the forecasts.

According to ICIS, global capital spending will increase to more than US$ 1 trillion in 2016 from US$ 548 billion in 2011. ICIS forecasts that emerging markets will show stronger growth than the industrialized countries, above all China, which is already the world's largest producer of chemicals. India will also achieve high growth rates. For specialty chemicals, a market in which Merck operates, ICIS expects global production to rise by 4% in 2012 and by 2.9% in 2013.

The European chemical industry association Conseil Européen de l'Industrie Chimique (Cefic) expects chemical production by European chemical companies to increase by 2.5% in 2012. In 2013, it may become possible to achieve the level last seen in 2007, before the serious crisis of 2008. The Cefic member companies represent 21% of global chemical production.

The German Chemical Industry Association (VCI) forecasts that sales will grow by 2% in 2012, based on sales of € 186.5 billion in 2011. Production should increase by 1%.

In November 2011, the French chemical industry association Union des Industries Chimiques (UIC), which holds a leading position in Europe alongside the VCI, revised its outlook for production growth in 2012 from 2.4% to 1.8%. The reasons given were the perceptible economic crisis and the associated reluctance of customers to restock their warehouses.

Forecast for sales and operating result of the Merck Group

Merck has an extensive risk and opportunity management system, which is described in the Risk Report (page 84 et seq.). Relative to the forecast period of two years published here, we mainly see business-related opportunities and risks. Owing to Merck's diversification and broad product portfolio, a very different spectrum of important opportunities and risks results for each individual division. The relevant explanations are given for the respective divisions in the Management Report.

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Our forecasts for Merck take into account the company's weighing up of risks and opportunities in accordance with our operational plans and medium-term assumptions. However, possible acquisitions, divestments and other exceptional items are not included.

The forecasts assume a moderate development of energy and raw material prices, as well as increasing personnel costs. Since we produce specialty chemicals, the volatility of oil prices does not have a direct impact on our business. As a company that operates globally, Merck is exposed to a variety of foreign exchange risks, arising especially from the U.S. dollar and the Swiss franc. Targeted hedging measures are taken to offset these risks to a certain degree.

Against the background of expected overall economic developments, the Executive Board assumes that total revenues of the Merck Group will increase slightly in 2012 and 2013. However, in both the Performance Materials division and the Pharmaceuticals business sector, we see ourselves exposed to relative price pressure especially as a result of the structural problems faced by health care systems. This could potentially impact total revenues.

Furthermore, the Executive Board expects that before exceptional items, the EBITDA of the Merck Group will increase slightly in 2012 and then increase further in 2013. Reported EBITDA could, however, be lower due to one-time expenses within the scope of the efficiency-enhancement and cost-reduction programs. Book value write-downs of intangible assets with definite useful lives that were measured at fair value in connection with the acquisitions of Serono and Millipore will also have a negative impact on EBIT in 2012 and 2013. In addition, as of April 2011, the estimated remaining useful life of Rebif® was shortened by two years to 2019. Consequently, amortization amounting to € 17 million in the first quarter of 2012 will have an additional adverse impact in comparison with 2011. The commissioning of the Large-Scale Biotech production plant in Switzerland in 2012 will also increase depreciation of property, plant and equipment by € 26 million per year. Merck is aiming for the ratio of R&D expenses to total revenues to amount to around 14% in 2012. In 2013, we expect research spending to decline further. We continue to expect a tax ratio of around 25% in both 2012 and 2013.

We expect free cash flow from operating business to be high in 2012 and 2013. Should payments for litigation be necessary, this would have a negative impact on free cash flow. The financial liabilities of the Merck Group will steadily decrease in the coming years, also as a result of our high free cash flow. Capital spending on property, plant and equipment will increase moderately to around € 360 million to € 380 million in 2012 and will remain roughly at this level in 2013. We expect the equity ratio to increase slightly and remain at a high level in both 2012 and 2013.

Apart from Europe, Merck considers Brazil, China, India, Japan, Mexico, Russia, South Korea, and the United States to be strategically important. Details on the respective business forecasts and expected developments for these countries can be found in the forecasts for the divisions.

For fiscal 2011, we intend to maintain our existing, long-term dividend policy and are proposing to the Annual General Meeting the payment of a dividend of € 1.50 per share. Based on our earnings expectations for the next two years, the family of owners and Merck shareholders can continue to expect to receive an earnings-oriented dividend.

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Merck largely achieved the growth forecasts it made for 2011 total revenues in a difficult global economic environment. Due to negative one-time effects in the second quarter of 2011, the growth forecast made for the 2011 operating result could not be achieved. The target set for the operating result would have been achieved had these one-time effects not occurred.

The actual results of the Merck Group and its divisions may deviate substantially from the expectations of the likely developments. This would be the case if one of the uncertainties mentioned here, or others, were to occur, or if the planning assumptions were to prove inaccurate.

Forecast for the Merck Serono division

Cancer and multiple sclerosis are of particular importance to the Merck Serono division as they are diseases for which we offer patients therapeutic options. In the diabetes field, our product Glucophage® is the drug of choice for first-line treatment of type II diabetes.

External market observers such as IMS Health consider oncology drugs as the world's largest pharmaceutical market by therapeutic class. While the volume of this market amounted to US$ 57.1 billion in 2010, it is estimated to increase by 5% to 8% annually to between US$ 75 billion and US$ 80 billion by 2015. Evaluate Pharma shares this estimation. This market is expected to grow annually by an average of 7.1% to € 90.5 billion by 2016. According to estimates by Evaluate Pharma, Erbitux® will generate global sales of US$ 2.23 billion by 2016, which includes the sales figures for Merck, Bristol-Myers-Squibb and Eli Lilly.

According to Evaluate Pharma, in 2012 the global market for drugs to treat multiple sclerosis will be dominated by Copaxone (Teva Pharmaceuticals, 28.1% market share), followed by Avonex (Biogen Idec, 20.8%), Rebif® (Merck, 16.1%), Betaferon/Betaseron (Bayer, 10.9%) as well as Tysabri (Elan, 6.9%). Evaluate Pharma expects a total market volume of US$ 14.5 billion for MS drugs by 2016; the market is expected to grow by an average of 4.5% annually.

According to the forecasts prepared by IMS Health, the market for drugs to treat multiple sclerosis will rank 13th among all therapeutic classes in 2015 and have a volume of between US$ 12 billion and US$ 15 billion, corresponding to annual growth of between 5% and 8%.

According to IMS Health, antidiabetic agents will represent the second-largest category of global health care spending in 2015. By 2015, the market is likely to reach a volume of between US$ 43 billion and US$ 48 billion, which corresponds to an annual increase of between 4% and 7%. This expectation is also confirmed by Evaluate Pharma. This market is expected to grow by an average of 7.5% per year to US$ 47.3 billion in 2016 and will be the therapeutic class with the second-largest market volume after oncology drugs.

For the Merck Serono division, we expect total revenues in 2012 to remain at the level of 2011 and increase slightly in 2013. The efficiency-enhancement and cost-reduction program could adversely affect reported EBITDA primarily in 2012, yet also in 2013. However, in 2012 EBIDTA before exceptional items should slightly exceed the good level of 2011. If the efficiency-enhancement measures are successfully implemented, EBITDA before exceptional items can be expected to increase further in 2013. Free cash flow of the Merck Serono division will initially decline substantially in 2012 compared to 2011 owing to the proceeds of around € 270 million from the 2010 divestment of the Théramex business booked in 2011. However, compared with 2012, free cash flow should increase in 2013 owing to moderately higher earnings and a stable capital spending level.

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As a regularly recurring expense, divisional EBIT includes book value write-downs of intangible assets with definite useful lives that were measured at fair value within the scope of the Serono acquisition. Amortization is expected to amount to around € 660 million in 2012 and to decline to around € 600 million in 2013 owing to the expiration of the useful lives of several assets. Marketing and selling expenses, administration expenses and R&D costs could decrease significantly in 2012 and 2013 as a result of the efficiency program.

Merck Serono assumes that the sales of Rebif®, its top-selling product, will decline in the coming years owing to increased competitive pressure among multiple sclerosis therapies. The oncology drug Erbitux® will continue to show slight growth in 2012 and 2013. For the Fertility as well as CardioMetabolic Care and General Medicine business units, we also expect to see slight growth in both 2012 and 2013. Products such as Kuvan® and Egrifta™, which were approved in recent years, will help the Endocrinology business unit to achieve higher sales growth. The markets of Asia and Latin America will remain our geographic growth drivers in the coming years. Opportunities in Europe and the United States, Merck Serono's key sales markets, will result from life cycle management as well as the development of new dosage forms.

We see important opportunities and risks for the Merck Serono division closely linked to the successful launch of new products. Ongoing high levels of national debt in some countries and the associated potential reductions in health care spending could lead to further declines in sales. Moreover, litigation has been widespread in the pharmaceutical industry for years and this has also adversely impacted Merck Serono in the past. We cannot rule out the possibility of this also being the case in the coming years.

Forecast for the Consumer Health Care division

According to the market research firm Nicholas Hall, the global volume of the over-the-counter drugs market rose by 4.5% to € 81 billion in 2011. For 2012, Nicholas Hall expects stronger growth of 5.9% to around € 85.4 billion and for 2013 anticipates growth of 5.1% to around € 89.7 billion.

The market researchers forecast growth primarily in Latin America (slightly more than 10% annually) and Asia (slightly more than 9% annually). According to Nicholas Hall, the market in Europe is to grow by 4.3% in 2012 and 4.2% in 2013. For the United States, Nicholas Hall forecasts growth of 3.6% in 2012 and 2.4% in 2013.

Merck assumes that the total revenues of its Consumer Health Care division will increase slightly in 2012 and 2013. However, in both these years the focus will be on raising profitability. Therefore, EBITDA before exceptional items is expected to rise in 2012 and 2013. This will be achieved, for example, by strict cost control in all operating areas as well as by focusing on growth markets. In parallel to the increase in EBITDA before exceptional items, free cash flow is expected to develop positively in 2012 and 2013.

In 2012 and 2013, the opportunities and risks of the Consumer Health Care division will be closely linked to the development of the existing product portfolio and geographic reach. The focus here will be placed equally on strategic and local brands. Increasing the profitability of existing products will be one of the main priorities. Geographically, Consumer Health Care will continue to focus on Europe – its core market – as well as growth markets in Asia, Latin America and eastern Europe. The Consumer Health Care division faces risks especially from global changes in health care policy framework conditions and consumer purchasing behavior, factors that can negatively impact the business.

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Forecast for the Merck Millipore division

Market researchers from Frost & Sullivan expect that the market volume of laboratory products, one of Merck Millipore's main markets, will amount to US$ 39.2 billion (+3.7%) and US$ 40.5 billion (+3.5%) in 2012 and 2013, respectively.

Frost & Sullivan emphasizes that the markets in China and India will register double-digit growth, namely 17.5% in India from 2010 to 2013 and 16.6% in China in the same period. By the end of 2013, both markets would then each account for 9% of the total global market. Other markets would only show single-digit growth.

Evaluate Pharma forecasts that global research and development spending by the pharmaceutical industry, and thus the customers of Merck Millipore, will grow by an average of 2.5% per year from 2010 to 2016. According to Evaluate Pharma, R&D costs will then total US$ 134.1 billion (+1%) in 2012 and US$ 137.1 billion (+2.2%) in 2013.

It can be assumed that government-sponsored academic research will continue to suffer from public budget spending cuts. In the United States, for example, Frost & Sullivan market researchers believe this area of spending will increase by only 0.3% in 2012 and even decline by 0.7% in 2013. Overall, government spending on pharmaceutical and biotech research around the world will increase by 2.4% in 2012, according to Frost & Sullivan. In 2011, it declined by 1.1%.

The food industry is one of the sales markets for numerous products offered by the Merck Millipore division. Datamonitor, a provider of economic data, forecasts that the global market volume of the beverage industry will increase by 3.9% in both 2012 and 2013. For the food industry, Datamonitor expects growth rates of 3.3% in 2012 and 3.5% in 2013.

Against this background, the Merck Executive Board expects that the Merck Millipore division will achieve moderate total revenue growth in 2012 and 2013. Following the strong rise in EBITDA in 2011 due to the full-year consolidation of the Millipore business, EBIDTA before exceptional items is expected to rise again in 2012. We also assume that EBITDA before exceptional items will rise further in 2013 compared to 2012.

The division's EBIT includes book value write-downs of intangible assets that were measured at fair value in connection with the Millipore acquisition. These are expected to amount to around € 190 million in 2012 and 2013. Innovations and new product launches will be one focus of the division's future growth. For this reason, R&D costs are expected to rise further in 2012 and 2013. Despite higher capital spending on property, plant and equipment in 2012 and 2013 to support growth, free cash flow will be clearly positive in the coming years.

The BioScience business unit of Merck Millipore develops products that help scientists to better understand complex biological systems and to discover and develop new therapies. The extensive product portfolio of Merck Millipore is well positioned to grow in the dynamic bioscience market, parts of which will continue to face challenges. The slowdown in global economic growth in conjunction with cuts in government research budgets is currently causing the life science market to soften. For this business unit we see further risks particularly associated with the ongoing consolidation and restructuring of the pharmaceutical industry, but also with the expiration of patents and the development of new products. The Lab Solutions business unit supplies a broad portfolio of innovative, reliable, high-quality products for general laboratory applications in a wide variety of industries. The opportunities for the Process Solutions business

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unit lie especially in a comprehensive product and service portfolio, a geographic presence in future growth markets, as well as in potential volume increases that could develop as a result of demand from producers of biosimilars.

Apart from the established markets of Europe and North America, the geographic growth drivers of the Merck Millipore division will be China and India in particular. Significant risks for the division exist owing to the cost pressure in the biopharmaceutical industry. Overall, we aim to achieve further earnings growth in an uncertain market environment by offering a broad product portfolio, aligning our business globally and leveraging regional strengths.

Forecast for the Performance Materials division

Display Search, a market research firm for the display sector, forecasts that the number of liquid crystal displays sold will increase by 15% in 2012 and by 11% in 2013. Growth will primarily be attributable to LCD televisions, followed by increasing demand for LC displays for monitors. In both 2012 and 2013, the share of LCD televisions is expected to increase from 84% (2011) to more than 90% in 2012 and to 94% in 2013.

Some of our pigments are used in coatings for the automotive industry. The German Automobile Industry Association (VDA) expects that the automobile market will grow by 4% to 68 million units in 2012. According to VDA, growth is expected in India (+10%) and China (+8%), with both countries together accounting for one-quarter of the global automobile market. VDA is also optimistic for Brazil, for which it forecasts growth of 3%.

According to research by Datamonitor, the value of the market for skin care products is to increase by 4% in 2012 and in a similar range of 3.9% in 2013. This is also a market for products from the Performance Materials division. Datamonitor also expects that the global market for make-up cosmetics, a further sales market for our products, will grow by 4.2% in 2012 and by 4.1% in 2013.

The Performance Materials division consists of two business units, Liquid Crystals and Pigments & Cosmetics, as well as the Advanced Technologies unit, which is responsible for building new growth businesses. The Liquid Crystals business unit supplies materials for liquid crystal displays as well as for new lighting and display technologies. The Pigments & Cosmetics business unit supplies effect pigments for the plastics, printing and coating industries. Further key customers include cosmetic manufacturers, to whom we supply decorative pigments and active ingredients. The Advanced Technologies unit is driving forward the establishment of new businesses.

The division assumes that the Liquid Crystals business unit will maintain its market leadership position in LC mixtures in the coming years. At the same time, we expect market volumes to increase steadily. However, market pressure on the prices of LC mixtures will continue. Growth will be driven by new LC mixtures for innovative LCD technologies. To maintain our technological leadership in liquid crystals, R&D activities will continue at a high level. This also applies to promising future businesses with reactive mesogens, OLEDs and solid state lighting, which will account for an above-average share of the growth achieved by the Performance Materials division. We are prepared for the above-average growth of the Chinese display market and have invested locally to participate in it.

In addition, the Performance Materials division expects that the Pigments & Cosmetics business unit will grow only slightly. This development is due to the temporary weakening of economic activity.

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The Performance Materials division expects total revenues to grow slightly in 2012 and 2013. Volume growth especially in Liquid Crystals could possibly be offset by price pressure in the market. Therefore, in 2012, EBITDA before exceptional items should remain approximately at the level of 2011 and also remain roughly constant in 2013. Efficiency-enhancement measures could adversely affect reported EBITDA especially in 2012, yet also in 2013. Excluding the effects of divestments, free cash flow in 2012 and 2013 will remain at the high level of the previous years. This will be ensured by carefully managing capital spending and working capital, among other things.

Subsequent Events

On February 3, 2012, Merck announced the signing of a global agreement with Threshold Pharmaceuticals, Inc., South San Francisco, CA (USA), to co-develop and commercialize TH-302, Threshold's small molecule hypoxia-targeted drug.

Under the terms of the agreement, Merck will receive co-development rights, exclusive global commercialization rights and will provide Threshold an option to co-commercialize the therapeutic in the United States. In exchange, Threshold will receive an upfront payment of € 19 million (US$ 25 million) and could receive up to € 26.5 million (US$ 35 million) in additional development milestones during 2012. Threshold is also eligible to receive a € 15 million (US$ 20 million) milestone payment based on positive results from its randomized Phase II trial in pancreatic cancer.

In the United States, Threshold will have primary responsibility for development of TH-302 in the soft tissue sarcoma indication. Threshold and Merck will jointly develop TH-302 in all other cancer indications being pursued. Merck will pay 70% of worldwide development costs for TH-302.

Subject to FDA approval in the United States, Merck will initially be responsible for commercialization of TH-302 with Threshold receiving a tiered, double-digit royalty on sales. Under the royalty-bearing portion of the agreement, Threshold retains the option to co-promote TH-302 in the United States. Additionally, Threshold retains the option to co-commercialize TH-302 allowing the company to participate in up to 50% of the profits in the United States, based on certain revenue tiers. Outside of the United States, Merck will be solely responsible for the commercialization of TH-302 with Threshold receiving a tiered, double-digit royalty on sales in these territories.