BAYER AKTIENGESELLSCHAFT
Form 20-F
March 15, 2005

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As filed with the Securities and Exchange Commission on March 15, 2005

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 20-F

(Mark One)

o **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2004.

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number 001-16829
BAYER AKTIENGESELLSCHAFT
(Exact name of Registrant as specified in its charter)
BAYER CORPORATION*
(Translation of Registrant s name into English)
Federal Republic of Germany
(Jurisdiction of incorporation or organization)
Bayerwerk, Gebäude W11
Kaiser-Wilhelm-Allee
51368 Leverkusen, GERMANY
(Address of principal executive offices)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of Each Class:	**Name of Each Exchange on Which Registered:**
American Depositary Shares representing Bayer AG ordinary shares of no par value	New York Stock Exchange
Bayer AG ordinary shares of no par value	New York Stock Exchange**

Securities registered or to be registered pursuant to Section 12(g) of the Act.
None
(Title of class)
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.
None

(Title of class)

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the period covered by the annual report.

As of December 31, 2004, 730,341,920 ordinary shares, of no par value, of Bayer AG were outstanding.

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes þ No o Not applicable.

Indicate by check mark which financial statement item the registrant has elected to follow:

Item 17 o Item 18 þ

* Bayer Corporation is also the name of a wholly-owned subsidiary of the registrant in the United States.

** Not for trading, but only in connection with the registration of American Depositary Shares.

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Defined Terms and Conventions

Bayer AG is a corporation organized under the laws of the Federal Republic of Germany. As used in this annual report on Form 20-F, unless otherwise specified or required by the context, the term Company , Bayer or Bayer AG refers to Bayer AG and the terms we , us and our refer to Bayer AG and, as applicable, Bayer AG and its consolidated subsidiaries.

Due to rounding, numbers presented throughout this document may not add up precisely to the totals we provide and percentages may not precisely reflect the absolute figures.

Forward-Looking Information

This annual report on Form 20-F contains forward-looking statements that reflect our plans and expectations. As these statements are based on current plans, estimates and projections, you should not place undue reliance on them. We generally identify forward-looking statements with words such as expects , intends , anticipates , plans , believes estimates and similar expressions.

Forward-looking statements involve known and unknown risks, uncertainties and other factors. We caution you that a number of important factors may cause our actual results, performance, achievements or financial position to be materially different from any results, performance, achievements or financial position expressed or implied by forward-looking statements. These factors include, but are not limited to:

Cyclicality in our industries;

Reduced demand for older products in response to advances in technology;

Increasingly stringent regulatory controls;

Increased raw materials prices;

The expiration of patent protections;

Environmental liabilities and compliance costs;

Failure to compete successfully, integrate acquired companies or develop new products and technologies;

Risks from hazardous materials;

Litigation and product liability claims; and

Fluctuations in currency exchange rates.

A discussion of these and other factors that may affect our actual results, performance, achievements or financial position is contained in Item 3, *Key Information Risk Factors,* the various Strategy sections in Item 4, *Information on the Company,* Item 5, *Operating and Financial Review and Prospects* and elsewhere in this annual report on Form 20-F.

Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update publicly any of them in light of new information or future events.

Enforceability of Civil Liabilities under U.S. Federal Securities Laws

We are a German corporation. All of our directors and executive officers are residents of Germany. A substantial portion of our assets and those of such individuals is located outside the United States.

As a result, although a multilateral treaty to which both Germany and the United States are party guarantees service of writs and other legal documents in civil cases if the current address of the defendant is known, it may be difficult or impossible for you to effect service of process upon these persons from within the United States.

Also, because these persons and assets are outside the United States, it may be difficult for you to enforce judgments against them in the United States, even if these judgments are of U.S. courts and are based on the civil liability provisions of the U.S. securities laws.

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If you wish to execute the judgment of a foreign court in Germany, you must first obtain from a German court an order for execution (*Vollstreckungsurteil*). A German court may grant an order to execute a U.S. court judgment with respect to civil liability under the U.S. federal securities laws if that judgment is final as a matter of U.S. law. In granting the order, the German court will not enquire whether the U.S. judgment was, as a matter of U.S. law, correct. However, the German court must refuse to grant the order if:

the U.S. court lacked jurisdiction, as determined under German law;

the person against whom the judgment was obtained did not receive service of process adequate to permit a proper defense, did not otherwise acquiesce in the original action and raises the lack of service of process as a defense against the grant of the execution order;

the judgment would conflict with the final judgment of a German court or with the final judgment of another foreign court that is recognizable under German law;

recognition of the judgment would violate an important principle of German law, especially basic constitutional rights; or

there is a lack of reciprocity between Germany and the jurisdiction whose court rendered the original judgment.

You should be aware that German courts hold certain elements of some U.S. court judgments, for example, punitive damages, to violate important principles of German law. Judgments for ordinary compensatory damages are generally enforceable, unless in an individual case one of the reasons described above would forbid enforcement.

If you bring an original action before a German court based on the provisions of the U.S. securities laws and the court agrees to take jurisdiction over the case, the court will decide the matter in accordance with the applicable U.S. laws, to the extent that these do not violate important principles of German law. However, the court may refuse to accept jurisdiction if another action is pending before a U.S. or other foreign court in the same matter. Furthermore, the court might decide that, for a lawsuit brought by a U.S. resident under U.S. law against a defendant that, like Bayer, has a significant presence in the United States, a U.S. court would be the more proper forum.

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PART I

Item 1. ***Identity of Directors, Senior Management and Advisors***

Directors and Senior Management

Not applicable.

Item 2. ***Offer Statistics and Expected Timetable***

Not applicable.

Item 3. ***Key Information***

Selected Financial Data

We derived the following selected financial data for each of the years in the five-year period ended December 31, 2004 from our consolidated financial statements. We have prepared our consolidated financial statements in accordance with International Financial Reporting Standards, or IFRS and, where indicated, in accordance with U.S. Generally Accepted Accounting Standards, or U.S. GAAP. Since 2002, IFRS is the term for the entire body of accounting standards issued by the International Accounting Standards Board (IASB), replacing the earlier International Accounting Standards, or IAS. Individual accounting standards that the IASB issued prior to this change in terminology continue to use the prefix IAS . Note 44 to our consolidated financial statements included in Item 18 of this annual report on Form 20-F describes the reconciliation of significant differences between IFRS and U.S. GAAP.

Since January 1, 1999, we have prepared our financial statements in European Union euros ( ). In this annual report on Form 20-F, we have translated certain euro amounts into U.S. dollar amounts at the rate of $1.3538 = 1.00, the noon buying rate of the Federal Reserve Bank of New York on December 31, 2004. We have translated these amounts solely for your convenience, and you should not assume that, on that or any other date, one could have converted these amounts of euros into dollars at that or any other exchange rate.

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The financial information presented below is only a summary. You should read it together with the consolidated financial statements included in Item 18.

Consolidated Income Statement Data

	Year Ended December 31,					
	2000	**2001**	**2002**	**2003**	**2004**	**2004**
						$
	(In millions, except per share data)					
IFRS:						
Net sales from continuing operations	(1)	21,702	22,038	22,178	23,045	31,198
Net sales from discontinuing operations	(1)	8,573	7,586	6,389	6,713	9,088
Net sales	30,971	30,275	29,624	28,567	29,758	40,286
Operating result from continuing operations	(1)	1,466	781(2)	520(2)	1,790	2,423
Operating result from discontinuing operations	(1)	210	737(2)	(1,639) (2)	18	24
Operating result	3,287	1,676	1,518(2)	(1,119) (2)	1,808	2,447
Non-operating result	(297)	(561)	(562) (2)	(875) (2)	(823)	(1,114)
Income before income taxes	2,990	1,115	956	(1,994)	985	1,333
Income taxes	(1,148)	(154)	107	645	(385)	(521)
Income after taxes	1,842	961	1,063	(1,349)	600	812
Minority stockholders interest	(26)	4	(3)	(12)	3	4
Net income	1,816	965	1,060	(1,361)	603	816
Average number of shares in issue	730	730	730	730	730	730
Operating result from continuing operations per share	(1)	2.01	1.07(2)	0.71(2)	2.45	3.32
Basic net income/loss per share	2.49	1.32	1.45	(1.86)	0.83	1.12
Diluted net income/loss per share	2.49	1.32	1.45	(1.86)	0.83	1.12
Dividends per share	1.40	0.90	0.90	0.50	N/A(3)	N/A(3)
U.S. GAAP:						
Net income	1,783	800	1,277	(1,445)	653	885
Basic and diluted net income per share	2.44	1.10	1.75	(1.98)	0.89	1.21

(1) We do not present discontinuing operations for 2000 because we were unable without unreasonable effort and expense to restate these years financial data to reflect the operations we classified as discontinuing operations in all more recent periods.

(2)

2002 and 2003 data have been restated for these items because of a change in the reporting of funded pension obligations. For more details, see Note 7 to the consolidated financial statements appearing elsewhere in this annual report on Form 20-F.

(3) The dividend payment for 2004 has not yet been decided on. Our Supervisory Board has accepted our Board of Management s proposal to recommend at our annual general shareholders meeting a dividend for 2004 of 0.55 per share, for a total dividend of 402 million.

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Consolidated Balance Sheet Data

	Year Ended December 31,					
	2000	2001	2002	2003	2004	2004
						$
	(In millions, except per share data)					
IFRS:						
Total assets	36,451	37,039	41,692	37,445	37,804	51,179
of which discontinuing operations	(1)	8,813	6,077	4,648	4,934	6,680
Stockholders equity	16,140	16,992	15,335	12,213	12,268	16,608
Liabilities	20,074	20,019	26,237	25,109	25,425	34,420
of which long-term financial liabilities	2,803	3,071	7,318	7,378	7,117	9,635
of which discontinuing operations	(1)	3,489	2,824	2,190	2,351	3,183
U.S. GAAP:						
Stockholders equity	19,110	18,300	16,734	13,327	13,047	17,663
Total assets	38,740	37,831	42,668	38,012	38,496	52,116

(1) We do not present discontinuing operations for 2000 because we were unable without unreasonable effort and expense to restate these years financial data to reflect the operations we classified as discontinuing operations in all more recent periods.

Dividends

The following table indicates the dividends per share paid from 2002 to 2004. Shareholders who are U.S. residents should be aware that they will be subject to German withholding tax on dividends received. See Item 10, *Additional Information Taxation.*

	2002	2003	2004
Total dividend (in millions)	657	365	N/A(1)
Dividend per share ( )	0.90	0.50	N/A(1)
Dividend per share ($)	1.22	0.68	N/A(1)

(1) The dividend payment for 2004 has not yet been decided on. Our Supervisory Board has accepted our Board of Management s proposal to recommend at our annual general shareholders meeting a dividend for 2004 of 0.55 per share, for a total dividend of 402 million.

See also Item 8, *Financial Information Dividend Policy and Liquidation Proceeds.*

Exchange Rate Data

The following table shows, for the periods and dates indicated, the exchange rate of the U.S. dollar to the euro based on the noon buying rate of the Federal Reserve Bank of New York. Fluctuations in the exchange rate between the euro and the U.S. dollar will affect the market price of the shares and the ADSs, the U.S. dollar amount received by holders of shares and the ADSs on conversion by the Depositary of any cash dividends paid in euro and the U.S. dollar translation of our results of operations and financial condition.

Year	Period End	Average	High	Low

		(U.S. dollar per euro)		
2000	0.9388	0.9233	1.0335	0.8270
2001	0.8901	0.8909	0.9535	0.8370
2002	1.0485	0.9454	1.0485	0.8594
2003	1.2597	1.1321	1.2597	1.0361
2004	1.3538	1.2438	1.3625	1.1801

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Previous Six Months	High	Low
	(U.S. dollar per euro)	
September 2004	1.2417	1.2052
October 2004	1.2783	1.2271
November 2004	1.3288	1.2703
December 2004	1.3625	1.3224
January 2005	1.3476	1.2954
February 2005	1.3274	1.2773

The exchange rate of the U.S. dollar to the euro based on the noon buying rate of the Federal Reserve Bank of New York on March 3, 2005 was $1.3130 = 1.00. In this annual report on Form 20-F, we have translated certain euro amounts into U.S. dollar amounts at the rate of $1.3538 = 1.00, the noon buying rate of the Federal Reserve Bank of New York on December 31, 2004.

Risk Factors

An investment in our shares or ADSs involves a significant degree of risk. You should carefully consider these risk factors and the other information in this annual report on Form 20-F before deciding to invest in our shares or ADSs. The risks described below are the ones we consider material. However, they are not the only ones that may exist. Additional risks not known to us or that we consider immaterial may also have an impact on our business operations. The occurrence of any of these events could seriously harm our business, operating results and financial condition. In that case, the trading price of our shares or ADSs could decline and you could lose all or part of your investment.

Our transactions relating to LANXESS expose us to continuing liability

As announced in November 2003, Bayer combined its former Bayer Chemicals segment (except for Wolff Walsrode and H.C. Starck) with parts of its former Bayer Polymers business to form the LANXESS subgroup with economic effect from July 1, 2004 as part of its portfolio realignment. LANXESS AG became a legally independent company on January 28, 2005, when its spin-off was registered in the Commercial Register (*Handelsregister*) for Bayer AG at the Local Court of Cologne (*Amtsgericht Köln*), Germany.

Our liability for prior obligations of the LANXESS subgroup following its spin-off is governed by both statutory and contractual provisions. Under the German Transformation Act, all entities that are parties to a spin-off are jointly and severally liable for obligations of the transferor entity that are established prior to the spin-off date. Bayer AG and LANXESS AG are thus jointly and severally liable for all obligations of Bayer AG that existed on January 28, 2005. The company to which the respective obligations were not assigned under the Spin-Off and Acquisition Agreement, dated September 22, 2004, between Bayer AG and LANXESS AG ceases to be liable for such obligations after a five-year period.

Under the Master Agreement between Bayer AG and LANXESS AG of the same date, each of Bayer AG and LANXESS AG agreed to release the other party from those liabilities each has assumed as principal debtor under the Spin-Off and Acquisition Agreement. The Master Agreement contains provisions for the general apportionment of liability as well as special provisions relating to the apportionment of product liability and of liability for environmental contamination and antitrust violations between Bayer AG and LANXESS AG. The Master Agreement applies to all activities of Bayer AG and LANXESS AG units throughout the world, subject to certain conditions for the United States. For a description of these agreements, please see Item 10, *Additional Information Material Contracts*.

We may bear expenses in the future relating to liabilities of the former LANXESS subgroup under the German Transformation Act or pursuant to the Spin-Off and Acquisition Agreement or the Master Agreement. These could have a material adverse effect on our financial condition and results of operations.

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Cyclicality may reduce our operating margins or cause operating losses

Several of the industries in which Bayer operates are cyclical. This applies particularly to our Materials and Systems segments. Typically, increased demand during peaks in the business cycle in these industries leads producers to increase their production capacity. Although peaks in the business cycle have been characterized by increased selling prices and higher operating margins, in the past these capacity increases have led to excess capacities because they have exceeded demand growth. Low periods in the business cycles are then characterized by decreasing prices and excess capacity. These factors can depress operating margins and may result in operating losses.

Excess capacities can affect our operating results especially with respect to those commodity businesses that are characterized by slow market growth. We believe that some areas of the isocyanate business, in particular, face slow growth in demand together with substantial excess production capacity. Excess capacity in polycarbonates has declined but continues to affect the structure of the polycarbonates market. Future growth in demand may not be sufficient to absorb current excess capacity or future capacity additions without significant downward pressure on prices and adverse effects on our operating results.

The agriculture sector is particularly subject to seasonal and weather factors and fluctuations in crop prices, which may have a negative influence on our business results. As climate conditions and market prices for agricultural products change, the demand for our agricultural products generally also changes. For example, a drought will often reduce demand for our fungicides products.

Failure to develop new products and production technologies may harm our competitive position

Bayer s operating results significantly depend on the development of commercially viable new products and production technologies. We devote substantial resources to research and development. Because of the lengthy development process, technological challenges and intense competition, we cannot assure you that any of the products we are currently developing, or may begin to develop in the future, will become market-ready or achieve commercial success. If we are unsuccessful in developing new products and production processes in the future, our competitive position and operating results will be harmed.

Competitive pressure from new agrochemical compounds that achieve similar or improved results with better ecotoxicological profiles and smaller doses may reduce the sales of our existing products. The growing importance of plant biotechnology in the crop protection field could reduce market demand for some of our agrochemical products and, to the extent that our competitors supply those biotechnological products, could lead to declines in our revenues.

Regulatory controls and changes in public policy may reduce the profitability of new or current products

We must comply with a broad range of regulatory controls on the testing, manufacturing and marketing of many of our products. In some countries, including the United States, regulatory controls have become increasingly demanding. We expect that this trend will continue and will expand to other countries, particularly those of the European Union (EU). A proposed EU chemicals policy could mandate a significant increase in the testing and assessment of all chemicals, leading to increased costs and reduced operating margins for these products. Although we have adopted measures to address these stricter regulations, such as increasing the efficiency of our internal research and development processes in order to reduce the impact of extended testing on time-to-market, stricter regulatory regimes could substantially delay our product development or restrict our marketing and sales.

Our Pharmaceuticals, Biological Products segment and our Consumer Care, Diagnostics segment are subject to particularly strict regulatory regimes. Failure to achieve regulatory approval of new products in a timely manner or at all can mean that we do not recoup our research and development investment through sales of that product. We do not know when or whether any approvals from regulatory authorities will be received. Withdrawal by regulators of an approval previously granted can mean that the affected product ceases to generate revenue. This can occur even if regulators take action falling short of actual withdrawal or direct their action at over-the-

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counter (OTC) products that do not require regulatory approval. In addition, in some cases we may voluntarily cease marketing a product even in the absence of regulatory action.

Pharmaceutical product prices are subject to controls or pressures in many markets. Some governments intervene directly in setting prices. In addition, in some markets major purchasers of pharmaceutical products (whether governmental agencies or private health care providers) have the economic power to exert substantial pressure on prices. Price controls limit the financial benefits of growth in the life sciences markets and the introduction of new products. We cannot predict whether existing controls will increase or new controls will be introduced, further limiting our financial benefits from these products.

Changes in governmental agricultural policies could significantly change the structure of the overall market for agricultural products in affected countries in which we operate. A substantial change in the level of subsidies for agricultural commodities could negatively affect the level of agricultural production and the extent of the area under cultivation. As a consequence, existing markets could change with a corresponding negative impact on our CropScience subgroup s sales and operating results. As it is impossible at present to determine precisely what changes, if any, may occur, whether and when such changes will be implemented and the extent of their impact, close monitoring and analyses of the related political developments are necessary. We expect the operating result of our CropScience business to reflect the uncertainties of this industry.

Our operating margins may decrease if we are not be able to pass increased raw material prices on to customers or if prices for our products decrease faster than raw material prices

Significant variations in the cost and availability of raw materials and energy may reduce our operating results. We use significant amounts of petrochemical-based raw materials and aromatics (benzene, toluene) in manufacturing a wide variety of our products. We also purchase significant amounts of natural gas, coal, electricity and fuel oil to supply the energy required in our production processes. The prices and availability of these raw materials and energy vary with market conditions and may be highly volatile. There have been in the past, and may be in the future, periods during which we cannot pass raw material price increases on to customers. Even in periods during which raw material prices decrease, we may suffer decreasing operating profit margins if the prices of raw materials decrease more slowly than do the selling prices of our products. In the past, we have entered into hedging arrangements with respect to raw materials prices only to a limited extent. If the market for these hedging arrangements attains sufficient liquidity and we can obtain their protection at a reasonable cost, we would consider making more extensive use of these hedging instruments.

Shortages or disruptions of supplies to customers due to unplanned capacity decreases or shutdowns of production plants may reduce sales

Production at some of our manufacturing facilities or the supply of raw materials to them could be adversely affected by technical failures, strikes, natural disasters, regulatory rulings and other factors. Our Biological Products division, in particular, generally faces complicated production processes that are more subject to disruption than is the case with other processes and therefore pose increased risk of manufacturing problems, unplanned shutdowns and loss of products. Production capacities at one or more of our sites or major plants could therefore decline temporarily or longer term. If, however, the capacity of one or more material facilities is reduced or manufacture of material products is shut down for a prolonged period and we are unable to shift sufficient production to other plants or draw on our inventories, we can suffer declines in sales revenues and in our results, be exposed to damages claims and suffer reputational harm.

Litigation and administrative claims could harm our operating results and cash flows

We are involved in a number of legal proceedings and may become involved in additional legal proceedings. See Item 8, *Financial Information Legal Proceedings.* Each of these proceedings or potential proceedings could involve substantial claims for damages or other payments. These proceedings include claims alleging product liability, claims alleging breach of contract and claims alleging antitrust violations. If our opponents in these lawsuits obtain judgments against us or if we determine to settle any of these lawsuits, we could be required to pay substantial damages and related costs.

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We are also plaintiff in lawsuits to enforce our patent rights in our products. If we are not successful in these actions, we would expect our revenue from these products to decline as generic competitors enter the market.

In cases where we believe it appropriate, we have established provisions to cover potential litigation-related costs. Increased risks currently result from litigation commenced in the United States after we voluntarily withdrew *Lipobay/ Baycol* (cerivastatin) from the market and voluntarily stopped marketing products containing phenylpropanolamine (PPA).

Since the existing insurance coverage with respect to Lipobay/ Baycol and PPA is exhausted, it is possible depending on the future progress of the litigation that Bayer could face further payments that are not covered by the provisions already established. We will regularly review whether further accounting measures are necessary depending on the progress of the litigation. Please see also *Existing insurance coverage may turn out to be inadequate.*

The loss of patent protection or ineffective patent protection for marketed products may result in loss of sales to competing products

During the life of its patent related to the compound *per se,* a patented product is normally only subject to competition from alternative products. After a patent expires, the producer of the formerly patented product is likely to face increased competition from generic products entering the market. This competition is likely to reduce market share and sales revenue of the formerly patented product. See Item 4, *Information on the Company Intellectual Property Protection,* for a discussion of the scheduled expiration dates of our significant patents. In addition, generic drug manufacturers, particularly in the United States, may seek marketing approval for pharmaceutical or agricultural products currently under patent protection by attacking the validity or enforceability of a patent. If a generic manufacturer succeeds in voiding a patent protecting one of our products, that product could be exposed to generic competition before the natural expiration of the patent. See Item 8, *Financial Information Legal Proceedings,* for a discussion of several important patent-related proceedings in which we are involved.

The extent of patent protection varies from country to country. In some of the countries in which we operate, patent protection may be significantly weaker than in the United States or the European Union. Piracy of patent-protected intellectual property has often occurred in recent years, particularly in some Asian countries. In particular, these countries could facilitate competition within their markets from generic manufacturers who would otherwise be unable to introduce competing products for a number of years. We do not currently expect any proposed patent law modifications to affect us materially. Nevertheless, if a country in which we sell a substantial volume of an important product were to effectively invalidate our patent rights in that product, our revenues could suffer.

Failure to compete successfully or integrate newly acquired businesses may reduce our operating results

Bayer operates in highly competitive industries. Actions of our competitors could reduce our profitability and market share. In some commodity areas (especially within our Materials and Systems segments), we compete primarily on the basis of price and reliability of product and supply. All of our segments, however, also compete in specialty markets on the basis of product differentiation, innovation, quality and price. Significant product innovations, technical advances or the intensification of price competition by competitors could harm our operating results.

From time to time, we acquire all or a portion of an established business and combine it with our existing business units. Integration of existing and newly-acquired businesses requires difficult decisions with respect to staffing levels, facility consolidation and resource allocation. We must also plan carefully to ensure that established product lines and brands retain or increase their market position. If we fail to effectively integrate a new business or if integration results in significant unexpected costs, our results of operations could suffer.

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Risks from the handling of hazardous materials could negatively impact our operating results

Bayer s operations are subject to the operating risks associated with pharmaceutical and chemical manufacturing, including the related risks associated with storage and transportation of raw materials, products and wastes. These risks include, among other things, the following hazards:

pipeline and storage tank leaks and ruptures;

fires and explosions;

malfunction and operational failure; and

releases, discharges or disposal of toxic and/or hazardous substances resulting from these or other causes.

These operating risks have the potential to cause personal injury, property damage and environmental contamination, and may result in the shutdown of affected facilities and in business interruption and the imposition of civil or criminal penalties, and negatively impact the reputation of the company. The occurrence of any of these events may significantly reduce the productivity and profitability of the affected manufacturing facility and harm our operating results. Furthermore, our property damage, business interruption and casualty insurance policies may not be adequate to cover fully all potential hazards incidental to our business.

For more detailed information on environmental issues, see Item 4, *Information on the Company Business Governmental Regulation.*

Environmental liabilities and compliance costs may have a significant negative effect on our operating results

The environmental laws of various jurisdictions impose actual and potential obligations on Bayer to remediate contaminated sites. These obligations may relate to sites:

that we currently own or operate;

that we formerly owned or operated;

where we disposed of waste from our operations;

where our toll manufacturers operate or operated; or

where property owned by third parties was contaminated by the emission or spill of contaminants for which we bear responsibility.

The costs of these environmental remediation obligations could significantly reduce our operating results. In particular, our accruals for these obligations may be insufficient if the assumptions underlying these accruals prove incorrect or if we are held responsible for additional, currently undiscovered contamination. See Item 4, *Information on the Company Business Governmental Regulation.*

Furthermore, Bayer is or may become involved in claims, lawsuits and administrative proceedings relating to environmental matters. An adverse outcome in any of these might have a significant negative impact on our operating results and reputation.

Stricter health, safety and environmental laws and regulations as well as enforcement policies could result in substantial liabilities and costs to Bayer and could subject our handling, manufacturing, use, reuse or disposal of substances or pollutants to more rigorous scrutiny than is currently the case. Consequently, compliance with these laws and regulations could result in significant capital expenditures and expenses as well as liabilities, thereby harming our business and operating results.

Existing insurance coverage may turn out to be inadequate

We seek to cover foreseeable risks through insurance coverage. Such insurance coverage, however, may not fully cover the risks to which the company is exposed. This can be the case with respect to insurance covering legal and administrative claims, as discussed above, as well as with respect to insurance covering other risks. For

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certain risks, adequate insurance coverage may not be available on the market or may not be available at reasonable conditions. Consequently, any harm resulting from the materialization of these risks could result in significant capital expenditures and expenses as well as liabilities, thereby harming our business and operating results.

Significant fluctuations in exchange rates affect our financial results

Bayer conducts a significant portion of its operations outside the euro zone. Fluctuations in currencies of countries outside the euro zone, especially the U.S. dollar and Japanese yen, can materially affect our revenue as well as our operating results. For example, changes in currency exchange rates may affect:

the relative prices at which we and our competitors sell products in the same market;

the cost of products and services we require for our operations; and

the euro-denominated items in our financial statements.

Although these fluctuations can benefit us, they can also harm our results. From time to time, we may use financial instruments to hedge some of our exposure to foreign currency fluctuations. As of December 31, 2004, we had entered into forward foreign exchange contracts and currency swaps with a total notional value of 4.9 billion (excluding cross currency interest rate swaps included in our 7.2 billion notional amount of interest rate hedging contracts). For further information on these products, see Item 11, *Quantitative and Qualitative Disclosures about Market Risk.*

Negative developments affecting capital markets may make additional contributions to our pension funds necessary and changes in the yield assumptions could have an impact on the valuation of liabilities

Fund assets generally have to cover future pension obligations. Changes and movements in the equity, fixed income, real estate and other markets could significantly change the valuation of the assets of our plans. A change in yield assumptions could also have an impact on the discounted present value of our pension obligations. In addition, changes in pension and postretirement benefit plan assumptions, such as rates for compensation increase, retirement rates, mortality rates, health care cost trends and other factors can lead to significant increases or decreases in our pension or postretirement benefit obligations, which would affect the reported funded status of our plans and therefore could also negatively affect the net periodic pension cost or course cash contributions in the future.

We cannot assure you that any future expenses or cash contributions that become necessary under our pension or postretirement benefit plans will not have a material adverse effect on our financial condition and results of operations.

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Item 4. ***Information on the Company***

HISTORY AND DEVELOPMENT OF THE COMPANY

Bayer Aktiengesellschaft, or Bayer AG, is a stock corporation (*Aktiengesellschaft*) organized under the laws of the Federal Republic of Germany.

Bayer AG was incorporated in 1951 under the name Farbenfabriken Bayer AG for an indefinite term and adopted its present name in 1972. Bayer AG s registered office (*Sitz*) and principal place of business are at the Bayerwerk, 51368 Leverkusen, Germany. Its telephone number is +49 (214) 30-1 and its home page on the World Wide Web is at www.bayer.com. Reference to our website does not incorporate the information contained on the website into this annual report on Form 20-F. The headquarters of Bayer AG s U.S. subsidiary, Bayer Corporation, are located at 100 Bayer Road, Pittsburgh, Pennsylvania 15205-9741.

The major acquisitions and divestments of the Bayer Group during the last three years are listed below. For capital expenditures (excluding acquisitions) for these years please refer to Item 5, *Liquidity and Capital Resources 2002, 2003 and 2004 Capital Expenditures*. For capital expenditures by individual business segment for the last three years refer to the segment data in *Notes to the Consolidated Financial Statements of the Bayer Group Key Data by Business Segment.*

Our expenditures on acquisitions in the past three years were as follows:

In 2002, we spent a total of 7.9 billion on acquisitions, mainly for the acquisition of Aventis CropScience effective June 1, 2002 from Aventis and Schering. Approval of this acquisition by the relevant antitrust authorities, particularly in Europe and the United States, was conditional upon our divesting or outlicensing a number of products, which we completed in the course of 2004. In 2002, we also acquired Visible Genetics Inc. in Canada and Tectrade A/ S in Denmark.

In 2003, we spent a total of 72 million on acquisitions, mainly for increasing our interest in the Bayer Polymers Sheet Europe Group (formerly known as Makroform) to 100 percent.

In 2004, Bayer spent a total of 0.4 billion on acquisitions. Of this amount, approximately 0.1 billion was used for the purchase of Crompton Corporation s 50 percent stake in the Gustafson joint venture (seed treatment business) based in the United States, Canada and Mexico, in which Bayer already held a 50 percent share.

In July 2004, Bayer announced the acquisition of Roche s global over-the-counter (OTC) consumer health business except in Japan with a total purchase price of approximately 2.4 billion. The acquired business comprises consumer brands such as *Rennie*® and *Bepanthen*®, vitamins and nutritional supplements and also includes Roche s 50 percent stake in the U.S. Bayer-Roche joint venture. 50.4 percent of 2004 sales of the acquired OTC business were generated in Europe and 49.6 percent outside Europe. The acquisition is primarily being financed through the use of our own funds, although loans were taken out in several countries for legal and tax reasons. By the end of 2004, we had paid approximately 0.2 billion to acquire the remaining 50 percent stake in the U.S. Bayer-Roche joint venture and 0.2 billion (which is not included in the 2004 total acquisition amount of 0.4 billion) as a first payment for the business in the rest of the world. After the approval of the acquisition by European antitrust authorities, which was subject to minor conditions, control of most of the business has passed to Bayer at the beginning of 2005. We expect to assume full operating control by the end of the first half of 2005.

Our principal divestitures in the past three years were the following:

In 2002, we divested the following businesses: Haarmann & Reimer (1.7 billion); the remaining 30 percent share in Agfa-Gevaert N.V. for 0.7 billion (70 percent had already been divested in 1999); our 94.9 percent interest in Bayer Wohnungen GmbH (0.5 billion); our French and Spanish generic pharmaceutical operations (0.1 billion); and a large part of the global household insecticides business of our Consumer Care division (0.4 billion).

In 2003, we sold the remaining parts of the household insecticides business (0.3 billion), our 50 percent interest in PolymerLatex (0.1 billion) and our stake in the biotechnology company Millennium

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Pharmaceuticals, Inc. (0.3 billion). As part of the conditions imposed by the European, U.S. and Canadian antitrust authorities in connection with the Aventis CropScience acquisition, a number of active ingredients especially in the area of insecticides and fungicides were divested (1.3 billion).

In July 2004, we sold, pursuant to contractual obligations, our 15 percent interest in the KWS Saat AG, a seed company acquired as part of Aventis CropScience in 2002.

As announced in November 2003, Bayer combined its former Bayer Chemicals segment (except for Wolff Walsrode and H.C. Starck) with parts of its former Bayer Polymers business to form the LANXESS subgroup with economic effect from July 1, 2004 as part of its portfolio realignment. LANXESS AG became a legally independent company on January 28, 2005, when its spin-off was registered in the Commercial Register (*Handelsregister*) for Bayer AG at the Local Court of Cologne (*Amtsgericht Köln*), Germany. The LANXESS subgroup represents 20.3 percent of total sales revenues and 4.1 percent of total operating result of the Bayer Group in 2004. Those portions of our business that were combined into our LANXESS subgroup and subsequently spun off are shown as discontinuing operations in the consolidated financial statements and the notes to those financial statements included elsewhere in this annual report on Form 20-F. These discontinuing operations data are intended to present the LANXESS subgroup as an integral part of Bayer and not on an independent group basis.

In December 2004, we announced the divestment of our Plasma business to two U.S. financial investors. The total consideration to be received by Bayer amounts to approximately 450 million, including cash, a 10 percent equity interest in a newly-formed corporation, retention of selected working capital items and contingent payments of about 40 million. 12.2 percent of 2004 sales from this business were generated in Europe and 87.8 percent outside Europe. The transaction is subject to regulatory approvals and is expected to be closed in the first half of 2005.

BUSINESS

We are a global company offering a wide range of products, including ethical pharmaceuticals, diagnostics and other health care products, agricultural products and polymers. Bayer AG is headquartered in Leverkusen, Germany and is the management holding company of the Bayer Group, which includes approximately 350 consolidated subsidiaries.

Following our strategic alignment culminating in the spin-off of the LANXESS subgroup, our business operations are now organized in three subgroups:

Bayer HealthCare (consisting of our three health care segments: Pharmaceuticals, Biological Products; Consumer Care, Diagnostics; and Animal Health) develops, produces and markets products for the prevention, diagnosis and treatment of human and animal diseases.

Bayer CropScience (consisting of our CropScience segment) is active in the area of chemical crop protection and seed treatment, non-agricultural pest and weed control and plant biotechnology.

Bayer MaterialScience (comprising our Materials segment and our Systems segment) primarily develops, manufactures and markets products in the polyurethane, polycarbonate, cellulose derivatives and special metals field.

Three service organizations provide support functions to the three subgroups, Bayer AG and third parties. They are:

Bayer Technology Services, which provides engineering functions.

Bayer Business Services, which provides information management, accounting and reporting, consulting and administrative services.

Bayer Industry Services, which operates the Bayer Chemical Park network of industrial facilities in Germany and provides site-specific services. Since July 1, 2004, Bayer Industry Services GmbH & Co. OHG has been 60 percent held by Bayer AG and 40 percent held by LANXESS Deutschland GmbH.

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Our strategic alignment on core competencies should enable us to increase investment in growth businesses and innovative technologies. We expect that this will allow us to play a leading role in these attractive markets and to expand our current strong positions. We intend to optimize the allocation of resources as well as continue with our cost-saving and efficiency-improvement programs in order to increase Bayer s corporate value over the long term.

Bayer s long-term strategy and activities are guided by the role of a socially and ethically acting corporate citizen and the principles of *sustainable development,* whose objectives are to meet the economic, ecological and social needs of today s society without compromising the ability of future generations to meet their own needs. We contribute to sustainable development by participating in the worldwide *Responsible Care*® initiative developed by companies in the global chemical industry.

For the year ended December 31, 2004, Bayer reported total sales of 29,758 million, an operating result of 1,808 million, and a net income of 603 million. Sales from continuing operations amounted to 23,045 million. As of December 31, 2004, we employed 113,000 people worldwide. Based on customers location, Bayer s activities in the Europe region accounted for 43 percent of the group s total sales in 2004; North America for 28 percent of sales; the Asia/ Pacific region amounted to 17 percent; and the region Latin America/ Africa/ Middle East accounted for 12 percent of total sales.

With effect from January 1, 2004, we have adjusted our segment reporting and restated the financial information of previous years to reflect the realignment of the Bayer Group. Haarmann & Reimer (formerly part of the Chemicals segment) and PolymerLatex (formerly part of the Plastics, Rubber segment), which were divested in 2002 and 2003, respectively, are now shown as part of the Reconciliation.

The following table shows the external sales per subgroup and respective reporting segments for the last three years.

	2002	2003	2004
		(Euros in millions)	
HealthCare	9,372	8,871	8,485
Pharmaceuticals, Biological Products	4,767	4,745	4,388
Consumer Care, Diagnostics	3,755	3,336	3,311
Animal Health	850	790	786
CropScience	4,697	5,764	5,946
MaterialScience	7,659	7,453	8,597
Materials	2,875	2,777	3,248
Systems	4,784	4,676	5,349
LANXESS	6,241	5,776	6,053
Reconciliation	1,655	703	677
Total Bayer Group	29,624	28,567	29,758

BAYER HEALTHCARE

PHARMACEUTICALS, BIOLOGICAL PRODUCTS

Overview

This segment comprises the Pharmaceuticals and Biological Products divisions. It formerly consisted of a single division responsible for both pharmaceutical and biological products. Beginning in 2002, we have

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organized the segment internally into two separate divisions. The following table shows the segment s performance for the last three years.

	2002	2003	2004
	(Euros in millions)		
External net sales	4,767	4,745	4,388
Percentage of total sales	16.1	16.6	14.7
thereof discontinuing operations	679	613	660
Intersegment sales	33	51	42
Operating result	(200)	(408)	302
thereof discontinuing operations	(113)	(349)	(56)
thereof special items[1]	(333)	(832)	(148)

(1) The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data*.

The segment s sales by region for the past three years are as follows:

	2002	2003	2004
	(Euros in millions)		
Europe	1,411	1,419	1,582
North America	2,084	2,154	1,565
Asia/ Pacific	884	809	854
Latin America/ Africa/ Middle East	388	363	387
Total	4,767	4,745	4,388

Our Pharmaceuticals business unit generated 3,688 million sales in 2002, 3,635 million in 2003 and 3,166 million in 2004, whereas our Biological Products business unit generated 1,079 million in 2002, 1,110 million in 2003 and 1,222 million 2004. The following table shows our sales during the past three years from the products that account for the largest portion of segment sales.

	2002		2003		2004	
Product	**Sales**	**Percentage of Segment Sales**	**Sales**	**Percentage of Segment Sales**	**Sales**	**Percentage of Segment Sales**
	(Euros in millions)		**(Euros in millions)**		**(Euros in millions)**	
Ciprobay®/ Cipro® (Pharmaceuticals)	1,411	29.6	1,411	29.7	837	19.1
Adalat® (Pharmaceuticals)	800	16.8	676	14.2	670	15.3

Kogenate® (Biological Products)	400	8.4	497	10.5	563	12.8
Gamimune® *N*/*Gamunex*® (Biological Products)	333	7.0	304	6.4	343	7.8
Avalox®/ *Avelox*® (Pharmaceuticals)	280	5.9	299	6.3	318	7.2
Glucobay® (Pharmaceuticals)	287	6.0	273	5.8	278	6.3
Levitra® (Pharmaceuticals)	6	0.1	144	3.0	193	4.4
Trasylol® (Pharmaceuticals)	154	3.2	157	3.3	171	3.9
Prolastin® (Biological Products)	151	3.2	166	3.5	166	3.8
Other	945	19.8	818	17.3	849	19.4
Total	4,767		4,745		4,388	

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Segment Strategy

Pharmaceuticals

In connection with the new alignment of the Bayer Group, we have begun to position Pharmaceuticals as a medium-sized enterprise with the appropriate structures. We focus on the areas: Infectious Diseases, Cardiovascular Risk Management including Diabetes, Urology and Oncology.

The strategic priorities include:

focusing our research activities on the areas: Cardiovascular Risk Management including Diabetes and Oncology; and

working on regional co-operations, alliances and licensing, all as appropriate in light of the local circumstances.

In addition to our immediate priorities, life cycle management remains a continuing element of our strategy. Successful life cycle management enables us to extend the commercial success of established products. See *Research and Development Life Cycle Management.*

Bayer HealthCare decided to adopt a global pharmaceutical research and development initiative to suit changed business conditions in the Pharmaceuticals division, by bringing research and development in line with the Pharmaceuticals division s strategy of concentrating on specific therapeutic segments and increasing regional differentiation. This global initiative allows greater efficiencies and focus with respect to specific therapeutic segments, allowing headcount reductions and other cost cutting measures. See *Research and Development.*

In 2004, we entered into a strategic alliance with Schering-Plough. See *Markets and Distribution.*

Biological Products

Our strategic priority for the Biological Products division in the medium-term future is to focus on growth of the *Kogenate*® brand while maintaining profitability. To achieve this, the *Kogenate*® strategy is to continue to aggressively differentiate *Kogenate*® from competitors products and gain market share by improving our focus on patient needs, shifting current therapy paradigms and enabling severe bleeders to enjoy a higher quality of life.

Pharmaceuticals

Overview

Our Pharmaceuticals division focuses on the development and marketing of ethical pharmaceuticals. Ethical pharmaceuticals are medications requiring a physician s prescription and are sold under a specific brand name.

Major Products

Ciprofloxacin, marketed under the trademark *Cipro*®, mainly in the United States, and *Ciproxin*®, *Ciproxine*®, *Ciprobay*®, *Ciproxina*®, *Baycip*®, *Ciflox*® and *Uniflox*® in other countries, is a broad-spectrum antimicrobial agent of the fluoroquinolone class. *Cipro*® is our leading pharmaceutical product in terms of sales. *Cipro*® s main uses are in the treatment of urinary tract infections and in severe hospital infections. It is also approved for the treatment of anthrax. In June 2004, market exclusivity for the active pharmaceutical ingredient in *Cipro*® expired in the United States.

Adalat® is the brand name for nifedipine, a representative of the dihydropyridine class of calcium antagonists. Calcium plays an important role in the body s regulation of blood pressure and the supply of blood to the heart tissues. Calcium antagonists can reduce blood pressure and improve blood supply to heart tissue.

Moxifloxacin, marketed under the trade name *Avelox*®, mainly in the United States, and *Avalox*®, *Izilox*®, *Actira*® and *Octegra*® in other countries, is an antibiotic used to treat common bacterial respiratory tract infections. It is indicated for the treatment of community-acquired pneumonia, acute exacerbations of chronic bronchitis, acute sinusitis and uncomplicated skin and skin structure infections.

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Acarbose®, marketed under the trademark *Glucobay*®, *Glucor*® in most countries, *Precose*® (in the United States) and *Prandase* (mainly in Canada) is an oral antidiabetic product that delays carbohydrate digestion. *Glucobay*® improves metabolic control in diabetics alone or in combination with other antidiabetic drugs.

Trasylol® is a natural proteinase inhibitor obtained from bovine lung tissue. Used prophylactically, it reduces blood loss during coronary bypass surgery, reducing the patient s need for blood transfusions.

Vardenafil, our erectile dysfunction medication marketed under the trade name *Levitra*®, has been launched in the United States and all of our major markets. We market the product in co-operation with GlaxoSmithKline in some markets and also jointly perform life cycle management. See Item 8, *Financial Information Legal Proceedings* for a discussion of the intellectual property status in the United States of *Levitra*® and other erectile dysfunction medications.

CardioAspirin (e.g., *Aspirin*® *Protect* in Germany and *Aspirin Regimen Bayer* in the United States) refers to Bayer s collective group of products (in both our Consumer Care and Pharmaceuticals divisions) that are professionally indicated for the prevention of a MI (myocardial infarction or heart attack) in either those individuals who have already had an initial MI (secondary prevention) or in individuals deemed at risk for a first MI by their physician (primary prevention). These products vary in status (whether or not a prescription is required) based on local regulations. We face competition in the cardiovascular marketplace from both over-the-counter and prescription drugs which claim secondary and/or primary prevention benefits.

Markets and Distribution

The Pharmaceuticals division s principal markets are North America, Western Europe and Asia (especially Japan).

We do not experience any significant seasonality.

We generally distribute our products through wholesalers, pharmacies and hospitals as well as, to a certain extent, directly to patients. Where appropriate, we actively seek to supplement the efforts of our sales force through co-promotion and co-marketing arrangements. In November 2001, we entered into a co-promotion agreement with GlaxoSmithKline for *Levitra*® (vardenafil), our erectile dysfunction medication. In January 2005, we terminated the *Levitra*® co-promotion agreement with GlaxoSmithKline in most of the world outside of the United States. This enables us to exercise the marketing rights ourselves. In September 2004, we entered into a strategic alliance with Schering-Plough. Under this alliance, Schering-Plough will market and distribute selected primary care pharmaceutical products in the United States, e.g., *Cipro*®, *Avelox*® and *Levitra*®. Furthermore, we will co-promote certain Schering-Plough oncology products for a certain period of time in the United States and selected major European markets; e.g., in Germany, France and Italy. Both parties intend to cooperate in marketing Schering-Plough s *Zetia*® in Japan after its approval by the Japanese regulatory authorities.

We currently produce the active ingredients for our ethical pharmaceutical products almost entirely in Wuppertal, Germany. Bayer facilities throughout the world compound our raw materials and package the finished product for shipment. Our main pharmaceutical production facilities are in Leverkusen, Germany; Garbagnate, Italy; and Shiga, Japan.

We obtain the raw materials for our active ingredients in ethical pharmaceuticals, partly from the spun-off subgroup LANXESS and partly from third parties mainly in Europe and Asia. We maintain strategic reserves of our products to avoid breaks in the supply chain. Where a required material is available from only one supplier, our policy is to amass a strategic reserve, while mounting an intensive search for potential alternative suppliers. We obtain additional ingredients and packaging materials from diverse suppliers on a worldwide basis. For building blocks and intermediates, used to manufacture active ingredients, we either approve several suppliers or enter into global contracts. This also helps us to reduce the effects of price volatility.

We encounter competition in all of our geographical markets from large national and international competitors. Our main competitors are Pfizer, GlaxoSmithKline, and Abbott Laboratories in the antibacterial products market; Pfizer, Novartis, AstraZeneca and Merck & Co. in the area of hypertension and coronary heart

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disease therapy; Takeda, GlaxoSmithKline, Aventis and Bristol-Myers Squibb in the oral antidiabetics market; and Pfizer and Eli Lilly in the erectile dysfunction market.

Research and Development

Bayer HealthCare allocates the largest part of its research and development budget to the Pharmaceuticals division. Within this division, we focus our research and development activities on therapeutic areas in which we believe there is a high degree of inadequately met medical need and where we expect our research and development investment to yield high productivity.

We have decided to adopt a global pharmaceutical research and development initiative as previously discussed under *Segment Strategy* (including headcount reduction) to suit changed business conditions in the Pharmaceuticals division, by bringing research and development in line with the Pharmaceuticals division s strategy of concentrating on specific therapeutic segments and increasing regional differentiation. In the future, research at Bayer HealthCare will concentrate on the therapeutic fields of cancer and cardiovascular risk management including diabetes at its sites in West Haven, Connecticut, and Wuppertal, Germany. The Research Center in West Haven, Connecticut will focus on cancer and diabetes. Activities in the Wuppertal Research Center are concentrated in the field of cardiovascular risk management relating to coronary heart disease and thrombosis.

Development projects in other therapeutic segments such as anti-infectives and urology will be continued until the next development stage has been reached. We subsequently plan to examine different internal and external options for exploiting the potential of these projects, and related technologies and patents. New active substance classes for the treatment of viral and bacterial infections or urological disorders are no longer on the research agenda.

At the same time, the Pharmaceuticals division will establish its own unit for product-related research in Wuppertal. This unit will be assigned the task of exploiting the potential of late-stage development candidates and products that have already been launched on the market, including what is known as life cycle management, *i.e.*, the further development of marketed drug products and the scientific assessment of licensing projects.

Biotechnology respiratory projects of the Pharmaceuticals division were contributed to a new company, Aerovance, by way of a contribution in kind in exchange for a minority equity stake in the company. Aerovance, which is based in Berkeley, California, will continue the development and future commercialization of these projects.

Life Cycle Management

We apply life cycle management measures to our marketed products to expand the scope of possible treatment opportunities by identifying new indications and improved formulations. *Adalat*® is a prime example of successful life cycle management: nineteen years after the patent protection for the active ingredient nifedipine, its key component, expired, the drug generated 670 million in sales in 2004. Similarly, we are implementing life cycle management measures, such as improved formulations and dosage forms, for other major products.

Phase II/ III Trials

BAY 59-7939 is an oral direct Factor Xa inhibitor, being developed to meet currently unmet clinical needs in the anticoagulation market for prevention and treatment of thrombotic events. Phase IIb trials are ongoing.

In 2004, the United States Food and Drug Administration (FDA) granted BAY 43-9006 fast track and orphan drug designation for the treatment of metastatic renal cell carcinoma, an advanced form of kidney cancer. Orphan drug designation has also been granted in the EU by the Committee for Orphan Medicinal products (COMP) of the European Medicines Agency (EMEA). BAY 43-9006, co-developed by Bayer and Onyx, is a novel Raf Kinase and VEGFR inhibitor that is intended to prevent tumor growth by combining two anti-cancer activities: inhibition of tumor cell proliferation and tumor angiogenesis. It is currently undergoing Phase III evaluation for the treatment of advanced kidney cancer and Bayer and Onyx intend to initiate additional Phase II and Phase III trials in other tumor types.

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Drug candidates in Phase II/ III of clinical development are listed in the following table with their respective indications:

Project	Indication	Status
Factor Xa inhibitor	Thrombosis	In Phase II
Raf Kinase & VEGFR inhibitor	Cancer	In Phase III

The listed compounds represent a snapshot of the Bayer pipeline. The nature of drug discovery and development is such that not all compounds can be expected to meet the pre-defined project target profile, so it is possible that the above listed projects under clinical development may have to be discontinued due to scientific and/or commercial reasons and will not result in marketed products. It is also possible that the requisite FDA, EMEA or other regulatory approval will not be granted for our Factor Xa inhibitor or our Raf Kinase and VEGFR inhibitor.

The development program for repinotan, a substance for the treatment of acute ischemic stroke patients, was terminated in December 2004. Repinotan did not meet the primary endpoints of a Phase IIb clinical trial and the anticipated clinical benefit could not be demonstrated. Other options for the future of this compound are being considered. It was decided to discontinue development of Novel Taxane since the data from recently completed Phase II clinical studies did not meet the pre-defined clinical target profile. Development activities for the PDE IV inhibitor were stopped and further options to exploit the potential of the compound are under investigation.

Microbial resistance to antibiotics

The development by microbes of resistance to antibiotics is a cause for concern for the medical community. Resistance development is a natural process. It is almost certainly impossible to be eliminated altogether. Although emergent ciprofloxacin or moxifloxacin resistance could become a problem on an isolated, individual-patient basis, we do not believe that microbial resistance will impair the general clinical usefulness of these two products in large patient populations in the foreseeable future.

We actively encourage health care professionals to adopt standards of appropriate antibiotic use to avoid facilitating the development of resistance. To provide physicians and patients with information on how they can use antibiotics appropriately, we have initiated the LIBRAINITIATIVE.COM project to collect data on bacterial resistance on a global basis.

Collaborations

To supplement our internal research and development efforts, we have established an integrated program for collaborations with research-oriented companies that are leaders in their technologies. Our research collaboration program brings together major research companies to create a pool of expertise covering the entire research cycle, from discovery of pharmaceutical mechanisms through characterization of new active compounds to identification of a novel development candidate.

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Research Collaborations

The following table illustrates the phases of the typical pharmaceutical research cycle, the various disciplines and techniques involved and the major companies that provide us with active assistance in our research efforts.

Research Cycle	Discipline/Technique	Research Company
Understanding the disease mechanism and identifying new targets	**Functional genomics** (*functional analysis of genetic data*)	Millennium; Affymetrix; CuraGen
	Proteomics (*mapping protein expression and function in an organism or tissue*)**/Target Validation**	Galapagos; Pharmagene; Dharmacon; Cenix; Cellzome; Artemis
	Bioinformatics (*applying the tools of Information Technology to biological data analysis*)	Lion Bioscience
Screening the candidate substances	**High-throughput screening** (*rapid, automated testing of compounds for potential effectiveness against a given target*)	Axxam; Discovery Partners
	Toxico- and Pharmacogenomics (*increasing the quality and probability of success of drug candidates*)	CuraGen
Increasing the pool of potential drug candidates by small-chemical molecules and macromolecules (*proteins, peptides*)	**Combinatorial chemistry** (*techniques for increasing the number and diversity of test compounds*)	ComGenex
	X-ray crystallography	Structural Genomix
	Pharmacophore informatics	Lion Bioscience
	Pool of Bayer biomolecules (*for example, monoclonal antibodies and conjugates*)	Morphosys; Seattle Genetics

Three of our research collaborations those with Millennium Inc., LION Bioscience and CuraGen are or have been of particular importance.

Millennium

We had engaged in a substantial collaborative effort with Millennium to use the tools of genomics to identify new drug targets. The collaboration ended, as planned, in October 2003, but was amended to provide Bayer extended access for up to seven years to a pool of more than 280 additional proprietary targets which have for technical reasons not yet been configured into assays. At the end of the seven-year period, the targets remaining in the pool will be returned to Millennium.

LION Bioscience

We had established two collaboration projects with LION Bioscience, a bioinformatics technology provider, both of which were completed in 2004. Under the first project, LION established a subsidiary in Cambridge, Massachusetts, LION Bioscience Research Inc. (LBRI). LBRI provided our life sciences effort with a strong IT platform and software development program and allowed us to review drug-relevant target gene data for further use in our laboratories. The option to acquire LBRI after completion of the collaboration in June 2004 was not exercised. The second collaboration project in the field of pharmacophore informatics resulted in the development

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of software tools to cross-link biological and chemical data. This project was successfully completed in October 2004. We are currently in the process of finalizing a follow-up pharmacophore informatics development agreement.

CuraGen

In 2001, we initiated two collaborative projects with CuraGen. In the first project, CuraGen agreed to provide drug targets during an initial five-year period. The goal is to identify drug candidates for obesity and diabetes treatment for clinical development over a 15-year period. Our agreement provides that, during this period, we will share the expenses of pre-clinical and clinical development. In October 2004, Bayer and CuraGen advanced an investigational compound from this collaboration for the treatment of Diabetes to the pre-clinical phase of drug development. The goal of the second project is to compile a database of gene-based markers and information to predict potential drug toxicities, understand how specific drugs function and identify new disease conditions.

Product Development Collaborations

The major collaborations in the area of product development are described below:

Onyx

Bayer and Onyx are co-developing Bay 43-9006, a novel Raf Kinase and VEGFR inhibitor that is intended to prevent tumor growth by combining two anti-cancer activities: inhibition of tumor cell proliferation and tumor angiogenesis. This collaboration results in Onyx funding 50 percent of the development costs for this compound. In return, Onyx has a 50 percent profit share in the United States, where the companies may co-promote the product. Everywhere else in the world except Japan, Bayer intends to market the product exclusively and will share the profits equally with Onyx. In Japan, Bayer will develop and market the product exclusively and Onyx will get a royalty.

Schering-Plough

In September 2004, Bayer entered into a strategic alliance with Schering-Plough. The alliance also includes co-operation in life cycle management mainly for *Avelox*® and *Levitra*®.

GlaxoSmithKline

Vardenafil, the active ingredient of *Levitra*®, researched by Bayer, is being marketed in co-operation with GlaxoSmithKline in some markets. The co-operation also includes life cycle management. In January 2005, we terminated our *Levitra*® co-promotion agreement with GlaxoSmithKline in most of the world outside of the United States in order to exercise the marketing rights ourselves.

Paratek

The Collaborative Development and License Agreement with Paratek Pharmaceuticals for a novel aminomethylcycline antibiotic was terminated in 2004.

Indena

It was decided to discontinue development of Novel Taxane since the data from recently completed Phase II clinical studies did not meet the pre-defined clinical target profile. Therefore, this collaboration with Indena was terminated in 2004.

In-licensing activities

We supplement our portfolio of products of our own research and development with in-licensed products, both on a global and a national level. Recent examples are *Zetia*®, a remedy to treat hypercholostemia, which we intend to co-market with Schering-Plough in Japan, and *Emselex*®, a remedy to treat urinary incontinence, which

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we will distribute for Novartis in Germany. *Zetia*® is presently under regulatory review in Japan (and has been launched elsewhere). *Emselex*® has been launched in January 2005.

Biological Products

Overview

Our Biological Products division focuses on recombinant protein therapies and biological products (for example, blood plasma products).

In December 2004, Bayer AG announced that an agreement had been signed to sell the assets of its worldwide plasma products business to a newly-formed corporation controlled by affiliates of Cerberus Capital Management, L.P., New York, New York and Ampersand Ventures, Wellesley, Massachusetts. The agreement covers the products, facilities and employees representing the plasma portion of the division. Key products include *Polyglobin*®, *Gamimune*® *N*, *Gamunex*® and *Prolastin*®. The *Kogenate*® business is not affected by this agreement.

Major Products

Kogenate®

Kogenate® *FS* (*Kogenate*® *Bayer* in the EU) is a genetically engineered recombinant version of the protein FVIII. Patients with Hemophilia A cannot produce sufficient FVIII, and their blood therefore cannot clot properly. Physicians use both plasma-derived and recombinant FVIII to treat Hemophilia A. Because recombinant products like *Kogenate*® do not derive from human donors, the risk that their users will inadvertently contract infection with HIV, hepatitis or other viruses occasionally present in plasma-derived products is greatly reduced.

We supply recombinant FVIII to ZLB Behring (established in connection with the acquisition of Aventis Behring by CSL Ltd.) which markets it under the brand name *Helixate*® *FS.*

Plasma Products (our plasma business will be sold)

Gamunex® is a plasma-derived concentrate of human antibodies (chromatography-purified Immune Globulin Intravenous or IGIV-C) registered with the health authorities in the United States (August 2003), Canada (August 2003) and Germany (February 2004). *Gamunex*® represents the first completely new IGIV therapy development by Bayer.

Gamimune®/*Polyglobin*® is a plasma-derived concentrate of human antibodies (IGIV). Physicians use it to treat immune system deficiencies as well as for the treatment of some autoimmune disorders, in which the immune system mistakenly attacks the body s own tissues.

Prolastin® (alpha1-proteinase inhibitor human) is a plasma-derived product, used for chronic therapy in individuals with emphysema related to congenital alpha1-antitrypsin (AAT) deficiency. AAT deficiency is an inherited disorder that causes insufficient AAT in the body. This deficiency can cause serious lung disease and, ultimately, emphysema.

Markets and Distribution

The Biological Products division s principal markets are North America, Europe and Japan.

We generally distribute our products through governmental agencies, wholesalers, pharmacies and hospitals as well as, to a certain extent, directly to patients.

We do not experience any significant seasonality.

We produce plasma-derived products and, under a license from Genentech, recombinant FVIII at our facilities in Clayton, North Carolina and Berkeley, California in the United States. We obtain raw plasma as well as some intermediates and supplies for plasma-derived products from third-party U.S. suppliers. As Biological

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Products does not own plasma collection centers, we have to buy raw plasma from third-party collection centers or other manufacturers. The price and availability of raw plasma depends on the available donor base, ongoing consolidation between larger collectors and regulatory procedures. For our product *Kogenate®,* we obtain raw materials and packaging materials from diverse third-party suppliers worldwide. As a rule, we approve our suppliers for each required material. Where a required material is available from only one supplier, our policy is to amass a strategic reserve. We currently obtain a plasma-derived intermediate for *Kogenate*® from the Clayton facility. Upon successful divestiture of the Clayton facility, our Berkeley facility intends to purchase the plasma-derived intermediate from the new owner.

Our main competitors in the blood coagulation, proteinase inhibitors and immune globulins markets are Baxter and ZLB Behring.

Research and Development

Key research and product development projects include *Kogenate® Next Generation, Kogenate® BIOSET, Prolastin® (Alpha C)*, and *IGIV-C (Gamunex®) Expanded Indications*.

Phase II/III Trials

Product	Indication	Status
IGIV-C	Multiple Sclerosis New Indication	Phase II
IGIV-C	ITP (idiopathic thrombocytopenic purpura) Rapid Infusion	Phase III
IGIV-C	CIDP New Indication (Chronic inflammatory demyelinating polyneuropathy)	Phase III
IGIV-C	PID (primary immune deficiency) Rapid Infusion	Phase III

Kogenate® Next Generation

We have identified five constructs for potential *Kogenate® Next Generation* development; evaluation of proteins and technology is ongoing and the decision to proceed with the initiation of clinical trials is targeted for 2005.

In June 2003, Bayer signed an exclusivity agreement with Opperbas Holding B.V. for use of *Kogenate® FS* in proprietary formulation development. In August 2004, Bayer and Opperbas Holding B.V. signed a binding term sheet describing exclusive licensing and development milestones.

In November 2004, Bayer signed a license agreement with Zilip-Pharma, a subsidiary of Opperbas Holding B.V., under which Zilip-Pharma granted Bayer rights to develop Zilip s patented liposome technology for Factor VIII. Bayer plans to develop and commercialize a new, long-lasting *Kogenate*® product and start Phase 1 trials utilizing *Kogenate® FS* in combination with liposome technology in 2005.

The agreement with Avigen, signed in 2000, to develop Factor IX gene therapy for Hemophilia B patients, was terminated.

Kogenate®-FS BIO SET® Delivery System

Kogenate® with BIO-SET® is a recombinant Factor VIII with a self-contained delivery system that eliminates the risk of accidental needlestick injuries during reconstitution. The application for approval in the United States was submitted to the FDA in the fourth quarter of 2003. *BIO-SET*® received regulatory approval from Health Canada in May 2004 and in Europe from the Commission of the European Union in September 2004. A phased global launch is planned to begin in 2005.

Plasma Products (our plasma business will be sold)

Prolastin® Aerosolized AAT and Alpha-1 MP

The Alpha-1 Modified Process (Alpha-1 MP; formerly Alpha-C) project is the development of an improved Alpha-1 Proteinase Inhibitor (A1-Pi, *Prolastin*®) with greater purity and higher yield. It will be developed as an

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intravenous formulation to treat congenital Alpha-1 antitrypsin (AAT)-deficient patients and as an aerosol to treat patients suffering from Cystic Fibrosis (CF). The intravenous pharmacokinetic trial and a safety study in AAT deficient patients is planned to start in the first half 2005 with an anticipated launch in the United States in late 2007.

In October 2003, Bayer acquired exclusive rights for a new advanced inhalation technology (AKITA) for the administration of A1-Pi from Inamed GmbH, Germany. A launch of the aerosol for treatment of CF patients is expected in the United States in 2010.

IGIV-C Expanded Indications

A number of studies are being conducted to enhance marketability of *Gamunex*®. For the purpose of obtaining labeling for new indications, a Phase II multiple sclerosis trial is planned to be completed in 2005; and a Phase III CIDP (neuropathy) trial is planned to be completed in 2006. To support existing indications, rapid infusion in PID Phase III (primary immune deficiency) and ITP Phase III (ideopathic thrombocytopenic purpura) patients was completed in 2004 and submitted to the FDA for rapid infusion labeling.

R&D Facilities

The division s main research and development facilities are located in the United States, specifically in Clayton, North Carolina, for Bioanalytic Development and Plasma Technology and Berkeley, California, for Process Technology (*Kogenate*®).

CONSUMER CARE, DIAGNOSTICS

Overview

This segment comprises the Consumer Care, Diagnostics and Diabetes Care divisions. On June 1, 2004, the former Diagnostics division was divided into two divisions (Professional Testing Systems and Self Testing Systems), which are now named Diagnostics and Diabetes Care, respectively.

The following table shows the segment s performance in the last three years.

	2002	2003	2004
		(Euros in millions)	
External net sales	3,755	3,336	3,311
Percentage of total sales	12.7	11.7	11.1
Intersegment sales	2	4	18
Operating result	593	601	400
thereof special items[1]	214	268	(30)

[1] The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data.*

The segment s sales by region for the past three years are as follows:

	2002	2003	2004
		(Euros in millions)	
Europe	1,194	1,122	1,186
North America	1,581	1,504	1,440
Asia/ Pacific	456	302	289
Latin America/ Africa/ Middle East	524	408	396
Total	3,755	3,336	3,311

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The following table shows our sales during the past three years by division:

Division	2002	2003	2004
		(Euros in millions)	
Consumer Care	1,716	1,403	1,336
Diagnostics (formerly Professional Testing Systems)	1,310	1,308	1,322
Diabetes Care (formerly Self Testing Systems)	729	625	653
Total	3,755	3,336	3,311

2004 sales of the segment s material products were 627 million for the *Ascensia*® brand (representing 18.9 percent of total segment sales; compared to 578 million, or 17.3 percent, in 2003 and 689 million, or 18.3 percent, in 2002), 615 million for *Aspirin*®[1] (representing 18.6 percent of total segment sales; compared to 574 million, or 17.2 percent, in 2003 and 589 million, or 15.7 percent, in 2002) and 441 million for the *Advia*® *Centaur* System (representing 13.3 percent of total segment sales; compared to 387 million, or 11.6 percent, in 2003 and 340 million, or 9.1 percent, in 2002). Apart from these three products, no product of this segment accounted for more than 5 percent of total segment sales in 2004, 2003 or 2002.

Segment Strategy

Consumer Care

The objective of our Consumer Care division is to outpace market growth in the over-the-counter (OTC) market and to improve our global position.

The key strategic focus to exploit our organic growth potential is on our analgesics business, mainly through *Aspirin*®. In parallel, we are considering further external growth opportunities in order to strengthen both our product portfolio and our regional presence. On July 19, 2004, Bayer announced that it had agreed to acquire Roche Consumer Health. Additionally, Bayer will acquire Roche s 50 percent share of the 1996 Bayer/ Roche joint venture in the United States and five production sites. The combined organization will have its global headquarters in Morristown, New Jersey. The transaction had, for the most part, closed by January 1, 2005. On December 10, 2004, it was announced that Bayer HealthCare had entered into an agreement with Bristol-Myers Squibb under which Bayer Consumer Care would handle OTC sales and marketing for *Pravachol*® (pravastatin) 20mg in the United States, should the FDA approve OTC use of the drug. Bristol-Myers Squibb additionally announced on December 10, 2004 its intent to pursue FDA approval of *Pravachol*® (pravastatin sodium) as an OTC cholesterol-lowering therapy.

Diagnostics

Our Diagnostics division consists of four strategic areas: Central Laboratory Testing, Near Patient Testing, Molecular Testing (former Nucleic Acid Diagnostics) and Viterion TeleHealthcare LLC as a joint venture with Matsushita Electric Industrial Co., Ltd.

The overall objective of Diagnostics is to exceed industry sales growth rates in the markets where we compete and to achieve a long-term sustainable position with above industry average profitability.

We strive to reach these objectives by introducing innovative solutions to improve the overall operating efficiencies of our diagnostics customers by focusing our efforts in building a product portfolio with breadth and depth.

Diabetes Care

The Diabetes Care division s objective is to increase market share and improve profitability to reach average industry benchmarks.

(1) The figures include CardioAspirin, which is partially distributed by our Pharmaceuticals division.

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To achieve our overall goal in the Diabetes Care division, we are expanding our product offering by developing second and third generations of meters and strips that are more intuitive and easier to use, resulting in glucose testing with minimal pain for diabetic patients. To support our objectives, we continue to develop our strategic partnerships in desired areas of expertise to complement our in-house strengths.

Consumer Care

Overview

Our Consumer Care division develops and markets OTC medications (analgesics, cough and cold, dermatological and gastrointestinal remedies), as well as vitamin and nutritional supplements.

Major Products

Analgesics

The analgesics market comprises pain relief products both in oral form (for example, pills and tablets) and for topical use (for example, ointments and salves). We concentrate primarily on the oral products segment. Our OTC products face competition from prescription drugs, for example cyclooxygenase (COX-II) inhibitor pain relievers.

Aspirin® (*Bayer*® brand aspirin in the United States) is a nonsteroidal anti-inflammatory drug (NSAID). It is used for pain relief and, in countries where so indicated, for the prevention of heart attacks. *Aleve*® is a nonprescription strength version of the analgesic naproxen sodium. *Aleve*® is a long-lasting pain reliever and can be used for fever reduction. Our *Midol*® product family, which competes in the menstrual pain relief category, comprises several specific products, for example, Maximum Strength Menstrual Formula, Teen Formula, PMS and Cramp Pain and, in 2004, we introduced *Midol*® *Extended Relief* (tm).

CardioAspirin (see Pharmaceuticals Major Products)

CardioAspirin (e.g., *Aspirin*® *Protect* in Germany and *Aspirin Regimen Bayer* in the United States) refers to Bayer s collective group of products (in both our Consumer Care and Pharmaceuticals divisions) that are professionally indicated for the prevention of an MI (myocardial infarction, or heart attack) in either those individuals who have already had an initial MI (secondary prevention) or in individuals deemed at risk for a first MI by their physician (primary prevention). These products vary in status (whether or not a prescription is required) based on local regulations. We face competition in the cardiovascular marketplace from both over-the-counter and prescription drugs which claim secondary and/or primary prevention benefits.

Cough/ Cold

Within the total cough and cold market, we concentrate on the cold/flu remedy segment. This OTC category faces threats from non-medicinal remedies (for example, nutritional or herbal products), as well as from preventive medicines available by prescription or under development.

Alka-Seltzer Plus®, marketed in the United States, is a product to relieve symptoms accompanying the common cold. *Tabcin*®, primarily marketed in Latin America, is a product line similar to *Alka-Seltzer Plus*®. *Aleve*® *Cold & Sinus* is a long-lasting combination of analgesic naproxen sodium and nasal decongestant.

Dermatologicals

The dermatological category includes a broad range of skin treatments. Within this market, we focus on the antifungal category, which in turn consists of three sub-segments: gynecological, dermatological and general topical/other antifungals. All topical dermatologicals face significant threats from the prescription drug area, as well as from locally marketed generic products and low-price brands.

Canesten® is a treatment for vaginal yeast infections, athlete s foot and other dermatological fungal problems. *Rid*® is a topical head lice treatment marketed only in the United States.

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Gastrointestinals

The gastrointestinal (GI) category includes antacids, anti-gas products, digestives, laxatives and anti-diarrheals.

Alka-Seltzer® is used for speedy relief of acid indigestion, sour stomach or heartburn with headache, or body aches and pains. *Phillips Milk of Magnesia*® is a saline laxative used as an overnight remedy for constipation and acid indigestion, heartburn or sour stomach that may accompany it. *Talcid*® is used for the relief of symptoms from heartburn and acid indigestion.

Nutritionals

The nutritionals category is very broad, encompassing vitamins, minerals, multi-vitamins/minerals, herbals, sports nutrition and specialty supplements in many different forms. Applicable regulations vary greatly, both from country to country and across nutritional segments (for example, herbals vs. vitamins). As a general rule, however, regulation of nutritionals tends to be less stringent than that of other OTC products. Bayer s primary interests in the nutritionals field are in the vitamin and mineral (especially multi-vitamins/minerals) areas.

One-A-Day® multivitamins offer a variety of special formulations, such as Men s, Women s, 55 Plus, Maximum, Essential and WeightSmart™ formulas. *Flintstones*® are multivitamin dietary supplements containing (depending on type) 10-19 essential nutrients for children ages 2-12.

Major brands acquired in the Roche Consumer Health acquisition include *Supradyn*®, *Bepanthen*®, *Rennie*®, *Redoxon*®, *Aleve*®, *Flanax*® and *Berocca*® (formerly, *Aleve*® sales and profits in the United States were shared with Roche as part of the Bayer/ Roche joint venture see *Consumer Care, Diagnostics Segment Strategy Consumer Care*).

In 2004, we launched *Midol*® *Extended Relief* (tm) and several new *One-A-Day* line extensions.

Markets and Distribution

Our Consumer Care division focuses on the OTC market for medicinal products that consumers may generally purchase without a prescription.

The division experiences moderate seasonality, primarily due to the cough/cold market.

The typical sales and marketing channels of the division outside Europe are supermarket chains, drugstores and other mass marketers. In Europe, however, pharmacies are the usual distribution channel.

Consumer Care procures some high-volume raw materials internally from within Bayer HealthCare. Our major externally procured high-volume raw materials are sodium citrate, sodium bicarbonate, citric acid and ascorbic acid. These are readily available and are usually not subject to significant price fluctuations. Changes in oil and energy prices can affect a few key items, such as phenol, a basic material for our major ingredient acetylsalicylic acid and aluminum foil. We diversify our raw materials sources internationally to help balance business risk.

We regard GlaxoSmithKline, Johnson & Johnson, Pfizer and Wyeth as our major competitors in the Consumer Care business.

Research and Development

Consumer Care focuses its research and development activities on identifying, developing and launching products and initiatives that can contribute to achieving business growth through:

- efficient development of new products and indications to support current brands; and
- product development, clinical and regulatory strategies, which provide opportunity to capitalize on new technologies, expanded label indications and reclassifications of products from those for which a prescription is required to those dispensed over-the-counter.

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The division s primary research and development facilities are located in Morristown, New Jersey. After the acquisition of the Roche Consumer Health business, research and development for the new organization is performed at Bayer Consumer Care headquarters in Morristown, New Jersey and at the Roche Consumer Health site in Gaillard, France.

Diagnostics

Overview

The Diagnostics division is headquartered in Tarrytown, New York. We support customers with an extensive portfolio of products for the Central Laboratory, Near Patient Testing, and Molecular Testing environments. These products serve in the assessment and management of health in such areas as infectious diseases, cardiovascular disease, oncology, virology, women s health and the home health care sector.

Major Products

Central Laboratory Testing (formerly Laboratory Testing)

The *ADVIA*® family of products is the centerpiece of our Central Laboratory Testing portfolio, which provides a wide range of solutions for the laboratory. *ADVIA*® products include medium- and high-throughput systems for immuno-diagnostics (the measurement of such substances as proteins, steroids, drugs and antibodies in patients blood), clinical chemistry, hematology and other diagnostic disciplines. The main systems include *ADVIA Centaur*®, *Advia*®*2400* and, for the laboratory integration and automation solutions, *LabCell*® and *WorkCell*(TM). In addition to broadening our *ADVIA*® product line, we have continued to strengthen its market position in 2004 with the introduction of two FDA-approved Hepatitis B assays: anti-HBc IgM and anti-HBs. FDA approval for three additional Hepatitis assays (two Hepatitis B and one Hepatitis C) was received in late 2004. These assays will be launched in 2005. FDA clearance was also received for two additional claims for our BNP test, a high-value cardiac marker.

Near Patient Testing

We provide a variety of solutions for the Near Patient Testing environment, both in the hospital and in physicians office laboratories. For the critical care environment, we offer the *Rapid*(TM) family of instruments and reagents for the measurement of blood gases and electrolytes. In the field of urinalysis, we offer the *Multistix*® family of urine reagent strips for visual reading of up to 10 parameters and the *Clinitek*® line of instruments for automated sample analysis. We also offer the *DCA 2000*®+ system that provides diagnostic tests for diabetes and kidney disease management.

Molecular Testing (formerly Nucleic Acid Diagnostics)

Molecular Testing offers a complete virology infectious disease portfolio including quantitative and qualitative analysis as well as genotyping and resistance testing. For highly specific testing of infectious diseases, we offer a family of DNA probes under the *VERSANT*® brand for the testing of HIV and Hepatitis B and C. Molecular techniques detect nucleic acids such as DNA and RNA to allow for effective treatment of infectious and other diseases. In December 2003, we received CE mark certification for our Genotypic HIV resistance test. This genotyping kit contains the first CE-cleared product for genotypic HIV resistance testing and will allow us to commercially distribute the product in Europe.

TeleHealthcare

The joint venture with Matsushita Electric Industrial(TM) Co. Ltd. established the subsidiary *Viterion*(TM) TeleHealthcare LLC, an independent company that is marketing products and services for the telemedicine sector, in 2003. Main products are the *Viterion*(TM) 100 TeleHealth Monitor, a compact home health care monitor and the *Viterion*(TM) 500 TeleHealth Monitor, a state-of-the-art home health care monitor.

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Products launched in 2004 include the following:

Product/Brand Name	Principal application	Status[1]
ADVIA Centaur® menu expansion	Infectious disease, two additional claims for BNP	Launched throughout 2004
ADVIA IMS® 800i menu expansion	Integrated immunodiagnostics and clinical chemistry	Launched throughout 2004
ADVIA® 1200	Low- to medium-volume clinical chemistry analyzer	Launched in November 2004
ADVIA® 2120	2nd generation hematology platform to *ADVIA® 120*	Launched in May 2004

(1) The term throughout refers to the fact that there are various versions of the products that were launched at different times throughout the year; launched in refers to a single product.

Markets and Distribution

Our Diagnostics division markets its products both directly and through a network of distributors. Our principal markets include North America, Western Europe and Japan.

Diagnostics division sales are typically lower in the first quarter, but show a slightly stronger performance in the fourth quarter.

We market our Central Laboratory and Molecular Testing products, as well as most of our Near Patient Testing products, directly to customers, who are primarily reference or private laboratories and hospitals. In the Near Patient Testing segment, we market urine chemistry primarily through distributors. We market our TeleHealthcare products directly to home health care agencies, disease management companies and the government.

We manufacture or assemble a significant portion of our own products. In order to do so, we rely on a supplier management process to supply raw materials, sub-assemblies and finished goods on an OEM (original equipment manufacturer) basis. Most of our direct materials are readily available commodities. Typically, these materials are not subject to significant changes in price or availability. We do require some direct or OEM materials, for example antigens and blood chemistry systems, for the *ADVIA*® systems. If these were to become unavailable, the division s results of operations would be impacted. In these instances, we maintain strategic reserves of selected direct materials or finished products to avoid interruptions in our customers continuous and reliable supply.

Our primary competitors are:

Central Laboratory Testing: Abbott, Roche, Beckman Coulter, Dade Behring and Johnson & Johnson;

Molecular Testing: Roche, Abbott and Gen-Probe;

Near Patient Testing: Roche, Radiometer and Instrumentation Laboratory;

TeleHealthcare: HomMed, American Telecare, Health Hero, Philips Medical, Alere Medical.

Research and Development

Our Diagnostics division focuses its research and development activities primarily on strengthening its core product lines and on entering the market for genomic-based assays:

in Central Laboratory Testing, through development of the *ADVIA*® family of systems and in the expansion of assays in growth areas;

in Molecular Testing, through menu expansion of assays for infectious disease and automation; and

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in Near Patient Testing, through enhancements of our Rapid systems and Clinitek products, and entry into the point-of-care immunoassay market.

The division s primary research and development facilities are located in the United States: Tarrytown, New York; Edgewater, Cambridge and Walpole, Massachusetts and Berkeley, California.

We currently have a number of products in late stages of development. Depending on completion of clinical trials and subsequent grant of any necessary FDA approvals, we expect to launch these products during the periods indicated below. These products are:

Product/Brand Name	Principal Application	Status[1]
ADVIA Centaur® CP	Medium-volume immunoassay analyzer	Launch planned for 2005
Rabidlab® 1200	Blood gas/electrolyte analyzer	Launch planned for 2005
ADVIA Centaur® menu expansion	Completion of full infectious disease panel, autoimmune and transplant drug monitoring	Launch planned throughout 2005
ADVIA IMS® 800i menu expansion	Menu expansion for clinical chemistry	Launches planned throughout 2005

(1) The term launch(es) planned throughout refers to the fact that there are multiple products that we expect to launch at different times throughout the year; launch planned for refers to a single product.

In July 2004, we entered into a collaboration with peS Gesellschaft fuer medizinische Diagnosesysteme mbH and Siemens Medical Solutions. The partners plan to develop and commercialize a point-of-care immunoassay system that will allow rapid and accurate diagnosis of various pathological conditions.

We continue to maintain an exclusive worldwide development and supply agreement with Amersham Biosciences Corp. for the joint development of assays and instrumentation in the field of human immunodeficiency virus (HIV) sequencing, as well as sequencing of other important infectious disease-causing pathogens.

Diabetes Care

Overview

The Diabetes Care division is headquartered in Elkhart, Indiana and is a midsize Diabetes Care player. We support customers by delivering innovative products and services that empower people with diabetes to improve their quality of life.

Major Products

In the Diabetes Care division, we continue to expand the *Ascensia®* brand by introducing several new blood glucose monitoring products. Our key products include the *Ascensia® Breeze®/ Confirm®* and the *Ascensia® DEX®/* ESPRIT® blood glucose meters, which incorporate a 10-test disc to provide greater convenience to patients who test their blood sugar levels several times per day. Another key product is the *Ascensia® Contour®* meter, which uses a single test strip. The *Ascensia ELITE®* is a versatile blood glucose meter that serves a wide spectrum of patient needs.

In October 2004, we launched the *Ascensia® BRIO®*. *Ascensia® BRIO®* is a single-strip, whole blood glucose monitoring system targeted to compete in selected lower priced markets; *i.e.*, in Italy and France as well as in selected segments in the U.S. market, *i.e.*, Medicare/ Medicaid.

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Markets and Distribution

We channel our Diabetes Care products to the consumer market through distributors and large pharmacy and retail chains. Our principal markets include North America, Western Europe and Japan.

Diabetes Care sales are typically lower in the first quarter, but show a slightly stronger performance in the fourth quarter.

Our single manufacturing facility of Diabetes Care is located in Mishawaka, Indiana. We manufacture and/or assemble approximately one third (by units) of our own products with the balance coming from OEM suppliers. We rely on a supplier management process to supply raw materials, sub-assemblies and finished goods, of which most are contractually controlled and are not subject to significant changes in price or availability.

We do require some direct or OEM materials that would impact our results of operations if they were to become unavailable. These materials include, for in-house manufacturing, customized integrated circuits and sensors for the *Ascensia*® *Breeze/ Confirm*® bloodsugar monitoring system, as well as OEM *Ascensia*® *Contour/ Entrust*® meters and strips. In these instances, we maintain strategic reserves of selected direct materials or finished products to avoid interruptions in our customers continuous and reliable supply. We maintain a global supplier base with the majority of materials and products being sourced from South-East Asia.

Our primary competitors in the diabetes care market are: Roche Diagnostics, Lifescan (a Johnson & Johnson company) and Abbott Diagnostics.

Research and Development

Our Diabetes Care division focuses its research and development activities primarily on strengthening its core product lines and on expanding into high growth/high margin segments of the market. We achieve this through internal development and OEM of mass market, user-friendly whole blood glucose monitoring systems and by focusing research on a minimally invasive system, requiring only a small blood sample and having a short testing time, coupled with the convenience of no test strip handling. We are also investing in technologies that will allow glucose monitoring without painful invasive sampling of body fluids.

The division s research and development facility is located in the United States in Elkhart, Indiana.

During 2003 and 2004, several new *Ascensia*® systems have been introduced in the marketplace. During 2005, our research and development will continue the support of these newer systems and also will be developing next generation systems that we intend to introduce in 2006 and thereafter.

We continue to maintain a licensing agreement with Sontra Medical Corporation for their continuous non-invasive glucose monitoring technology, including exclusive worldwide rights to the intellectual property in Sontra s *SonoPrep*(tm) ultrasonic skin permeation technology for the continuous non-invasive glucose monitoring field.

ANIMAL HEALTH

Overview

Our Animal Health segment researches, develops and markets new products for the health care of animals. These products are divided between the two business units Food Animal Products (formerly Livestock Products) and Companion Animal Products. This range of products is supplemented by a line of farm hygiene products as well as cosmetic care products.

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The following table shows the segment s performance for the last three years.

	2002	2003	2004
	(Euros in millions)		
External net sales	850	790	786
Percentage of total sales	2.9	2.8	2.6
Intersegment sales	1	8	4
Operating result	168	172	157
thereof special items[1]	(11)	22	0

[1] The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data*.

The Animal Health segment sales by region for the past three years are as follows:

	2002	2003	2004
	(Euros in millions)		
Europe	243	242	245
North America	337	305	295
Asia/ Pacific	136	122	120
Latin America/ Africa/ Middle East	134	121	126
Total	850	790	786

The following table shows our sales during the past three years for the two business units.

	2002	2003	2004
	(Euros in millions)		
Food Animal	414	383	375
Companion Animal	436	407	411
Total	850	790	786

2004 sales of the segments material products were 206 million for the *Advantage*® (including Combi)/*K9Advantix*® product family (representing 26.2 percent of total segment sales; compared to 196 million, or 24.8 percent, in 2003 and 205 million, or 24.1 percent, in 2002) and 160 million for *Baytril*® (representing 20.4 percent of total segment sales; compared to 170 million, or 21.5 percent, in 2003 and 183 million, or 21.5 percent, in 2002). Apart from these two products, no product of this segment accounted for more than 12 percent of total segment sales in 2004, 2003 or 2002.

Segment Strategy

Animal Health aims to be a worldwide leading company in the Food Animal and Companion market and strives to be the preferred partner for and provider of veterinary solutions.

It is part of our business strategy for Animal Health to sustain its current profit position by focusing on attractive countries and markets. Furthermore, Animal Health pursues a policy of organic growth by exploiting existing core brands supported by new business development activities. To complete our existing product portfolio, Animal Health periodically evaluates the possibility of acquisitions or strategic alliances. The Animal Health segment collaborates closely with our Pharmaceuticals division and CropScience segment as well as other life science companies in research and development in order to bring to the market new active ingredients and products that combat diseases in animals.

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Major Products

Parasiticides

K9 Advantix® is a flea and tick control product in an easy-to-use spot-on application form with additional repelling effect against ticks and mosquitoes for dogs.

Advantage® is a flea control product in an easy-to-use, spot-on application form for dogs and cats.

The *Droncit*® and *Drontal*® product family offers solutions for the control of tapeworm and roundworm for dogs and cats.

Bayticol® is a topical product against major tick species that attack livestock animals.

Baycox® is a product for controlling coccidiosis in poultry and in piglets.

Antimicrobials

The *Baytril*® family is our line of fluoroquinolone antimicrobials for the treatment of severe bacterial infections in animals.

Biologicals

These products consist of vaccines covering Foot-and-Mouth Disease (FMD-vaccines) for livestock animals.

Nutritionals

These are premixes or feed additives, e.g., vitamins, minerals and others, to support our business model with proprietary products like *Baytril*® and *Baycox*®.

Farm Hygiene

Integrated into our Food Animal Products business is our biosecurity management process that includes Farm Hygiene products. These products include insecticides for fly control, rodenticides against rats and mice (which now belong to our CropScience segment but are also marketed by Animal Health in some countries) and disinfectants against bacteria.

Markets and Distribution

The Animal Health business covers worldwide markets, including emerging markets such as China, Vietnam and others in South-East Asia. We divide our marketing activities into two main business areas: marketing for food-producing animals, and marketing for companion animals including horses.

On a worldwide basis, the activities of the Animal Health segment are not subject to any significant seasonal effects.

Depending on national legislation, Animal Health products may be available to end users on a prescription or non-prescription basis. End users may purchase prescription products directly from veterinarians or pharmacies with a written prescription issued from a licensed practicing veterinarian. Also, based on national legislation, non-prescription products may be available through over-the-counter retailers, cooperatives, pet shops, integrators in the livestock segment and other specialized channels in the companion animal market.

We currently obtain the active pharmaceutical ingredients for our veterinary pharmaceutical products either within the Bayer Group or from third parties worldwide. We obtain additional ingredients and packaging materials from diverse suppliers on a worldwide basis. As a rule, we approve our suppliers for each required material. We take measures in order to assure continuous product supply and to reduce the effects of price volatility. This includes entering into long-term contracts or building strategic reserves of the material in question.

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Our main pharmaceutical production facilities devoted to formulation and packaging of our products for shipment are Kiel, Germany and Shawnee, Kansas.

Merial, Pfizer and Intervet are our main competitors, with Merial and Pfizer being active in both segments companion and livestock animals and Intervet concentrating mainly on Food Animal products. The global animal health market is characterized by market consolidations and increasing competitive pressure from generic products.

Research and Development

The Animal Health segment focuses its research and development activities on antimicrobials, parasiticides and active ingredients useful for the treatment of non-infectious diseases such as renal failure, pain management, oncology and congestive heart failure. A particular goal of our research and development efforts is to provide the segment with innovative and patent-protected products (new active ingredients, formulations and application technologies).

The segment s primary research and development facilities are located in Monheim, Germany and Kansas City, Missouri.

We currently have several products or product families in late stages of development or they are subject to regulatory approval. We expect to launch these products between 2004 and 2009. Major products are:

Projects/Products	Indication	Status
Endoparasiticide and ectoparasiticide combinations	Control of fleas, ticks, heartworm and gastrointestinal worms in cats and dogs	Launch/in registration/in clinical development
Red mite control remedy	Poultry	Submitted
Baycox® calves	Coccidiosis control in calves	In registration
Baytril® swine (North America)	Antimicrobial infections in pigs	In registration
Pradofloxacin	Antimicrobial for dogs and cats	In clinical development, two formulations in EU already submitted

BAYER CROPSCIENCE

Overview

Bayer CropScience develops and markets chemical crop protection products, seeds and integrated plant biotechnology solutions for agricultural and non-agricultural uses. Bayer CropScience operates through three business groups: Crop Protection, Environmental Science and BioScience. Crop Protection markets chemical crop protection products for the control of insects, weeds and fungi (plant diseases) and develops products for enhanced effectiveness against these target pests. Environmental Science serves non-agricultural professional and consumer markets worldwide, by developing and marketing products for professional pest control, the green industry (including the treatment of golf courses, lawn care and industrial vegetation management), lawn, garden and household care, termite and vector control, and rural hygiene. BioScience focuses on the research,

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development and marketing of conventional seeds as well as plant biotechnology products. The following table shows Bayer CropScience s performance for the last three years.

	2002[1]	2003	2004
	(Euros in millions)		
External net sales	4,697	5,764	5,946
Percentage of total sales	15.9	20.2	20.0
Intersegment sales	90	69	57
Operating result	(112)	342	492
thereof special items[2]	67	(81)	(30)

(1) The figures contain sales from the acquired Aventis CropScience business since June 2002.

(2) The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data.*

Bayer CropScience s sales by region and totals for the past three years are as follows:

	2002	2003	2004
	(Euros in millions)		
Europe	1,851	2,296	2,238
North America	1,024	1,339	1,412
Asia/ Pacific	797	963	927
Latin America/ Africa/ Middle East	1,025	1,166	1,369
Total	4,697	5,764	5,946

The following table sets forth Bayer CropScience s sales for the last three years, broken down by category of activity.

	2002	2003	2004
	(Euros in millions)		
Crop Protection	4,002	4,801	4,957
Insecticides	1,250	1,376	1,378
Fungicides	1,030	1,168	1,277
Herbicides	1,452	1,848	1,855
Seed Treatment	270	409	447
Environmental Science	605	692	678
BioScience	90	271	311
Total	4,697	5,764	5,946

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The following table shows the sales during the past three years from the products that account for the largest portion of segment sales.

	2002		2003		2004	
Product	**Sales**	**Percentage of Segment Sales**	**Sales**	**Percentage of Segment Sales**	**Sales**	**Percentage of Segment Sales**
	(Euros in millions)		**(Euros in millions)**		**(Euros in millions)**	
Confidor®/ Gaucho®/ Admire®/ Merit®[a] (Insectides/ Seed Treatment/ Environmental Sciences)	561	11.9	590	10.2	603	10.1
Folicur®/ Raxil® (Fungicides/ Seed Treatment)	260	5.5	315	5.5	411	6.9
FLINT®/ Stratego®/ Sphere® (Fungicides)	159	3.4	200	3.5	240	4.0
Puma®[b] (Herbicides)	92	2.0	226	3.9	227	3.8
Basta®/ Liberty®[b] (Herbicides)	70	1.5	159	2.8	197	3.3
Decis®/ K-Othrine®[b] (Insecticides/ Environmental Science)	87	1.9	159	2.8	172	2.9
Betanal®[b] (Herbicides)	41	0.9	143	2.5	144	2.4
Fenikan®[b] (Herbicides)	71	1.5	115	2.0	118	2.0
Temik®[b] (Insecticides)	59	1.3	90	1.6	109	1.8
Aliette®[b] (Fungicides)	64	1.4	107	1.9	99	1.7
Other	3,233	68.7	3,660	63.3	3,626	61.1
Total	4,697		5,764		5,946	

[a] The active ingredient imidacloprid contained in these products is also used in the Animal Health segment s *Advantage®* product.

[b] Sales after the acquisition of the Aventis CropScience group (June 2002).

Segment Strategy

We aspire to be a leading partner for the production of quality food, feed and fiber. Our mission is to become the world s leading provider of innovative products and combined solutions for agriculture and environmental health. We strive to build long-term, consistent, predictable and mutually beneficial partnerships with our customers. We conduct our business responsibly, aiming to fulfill our commitment to sustainable agriculture and to achieve long-term

profitable growth.

Key factors in achieving our profitability targets are new product launches, the realization of synergies, strict cost management and portfolio streamlining. In 2004, we launched an initiative to further enhance efficiency in all areas of Bayer CropScience by improving internal business processes and through adjustments in the field of research and development which are intended to lead to a reduction of R&D costs in the medium term.

With its Crop Protection business, Bayer CropScience strives to maintain its leading position in the crop protection industry (based on sales)[(2)] by utilizing its broad regional representation and a well-balanced portfolio comprising innovative, high-performance insecticides, fungicides, herbicides and seed treatment products. A key growth driver is the continuous introduction of new products from our research and development pipeline and an innovative life cycle management.

Environmental Science is among the leading suppliers for non-agricultural pest control solutions worldwide (in terms of sales). Our objective is to strengthen this market position by focusing on the continuous optimization

(2) This statement is based on 2003 and first half of 2004 data published in *AgriFutura, The newsletter of Phillips McDougall Agriservice, No. 53 (March 2004) and No. 58 (August 2004)*; data for the full year 2004 have not yet been published.

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of our portfolio, strong partnerships with our customers and proximity innovation , the ability to offer brand-connected solutions which are customized to meet the needs of our professional and consumer customers.

BioScience is an international player in the research, development and marketing of seeds and solutions derived from plant biotechnology and breeding. Our strategic approach comprises three specific business fields:

Agricultural Crops focuses on delivering seeds and crops with improved performance and productivity, particularly with respect to our core crops cotton, oilseed rape (canola) and rice.

In New Business Ventures, we are developing innovative plant-derived materials for applications in fields such as health, biomaterials and nutrition.

In the Vegetables field, where the Nunhems unit of BioScience is among the leading developers and suppliers of high quality vegetable seed varieties (based on sales), we intend to pursue growth opportunities.

Major Products

Crop Protection

Insecticides

Imidacloprid (major brands: *Confidor*®, *Admire*®) is an active ingredient in the chemical class of neonicotinoids. It controls a broad range of pests, including aphids, thrips, whiteflies, leafhoppers, locusts, leafminers, wireworms and many species of beetles, and is suitable for a wide variety of application methods, including foliar spray, soil drench, seed treatment and drip irrigation. Imidacloprid is now marketed in more than 100 countries for use on numerous important crops.

Deltamethrin (major brand: *Decis*®) is a broad-spectrum pyrethroid insecticide. It is being used primarily against chewing and biting insects, and is also effective against various sucking pests. *Decis*® is marketed in more than 100 countries for use on a wide range of crops (including cotton, soybeans, vegetables and cereals).

Aldicarb (major brand: *Temik*®) is a broad-spectrum carbamate insecticide and nematicide in granular form. *Temik*® is applied to soil to protect crop roots from insects and nematodes and to protect against pests such as aphids or mites. *Temik*® is used on a large number of crops, such as cotton, citrus and potatoes.

Fungicides

Tebuconazole (major brand: *Folicur*®) is a broad-spectrum fungicide sold in about 100 countries and effective in more than 90 crops. *Folicur*® is especially effective against Fusarium and rusts as well as many other fungal diseases in cereals. *Folicur*® has very good efficacy against soybean rust. *Folicur*® and other tebuconazole containing mixtures are available in many liquid or solid formulations adapted to our customers needs.

Trifloxystrobin (major brand: *Flint*®), the active ingredient of the *Flint*® product family is sold in about 80 countries. The product range consists of solo products and several co-formulations (e.g., *Stratego*®, *Sphere*®), all tailor-made to meet the specific requirements of highly diverse crop production systems under various climatic conditions. Good crop safety and a broad and well-balanced disease control spectrum, complemented by beneficial physiological effects on yield, quality and shelf-life of fruit and grain, make these products well-suited for use in fungicide spray programs on a wide range of crops.

Fosetyl-Al (major brand: *Aliette*®) is a fungicide used especially against downy mildew fungi in vines, fruits and vegetables. A key property of Fosetyl-Al is its upward and downward mobility in plants. Sprayed on leaves, it is absorbed and transported inside the plants downward to the roots to protect them against attack from fungi in the soil and it is re-directed inside the plants upward to protect newly emerging leaves. Fosetyl-Al is used in foliar sprays and soil drenches as a straight product under our lead brand *Aliette*® and in various combinations under brands, such as *Mikal*® or *Valiant*®.

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Herbicides

Fenoxaprop-P-ethyl (major brand: *Puma*®), Bayer CropScience s best selling herbicide, is used in more than 73 countries and is one of the leading products used worldwide against grass weeds in cereals, rice, soybeans and canola. It offers a consistently high level of control of grass weed problems under a wide range of conditions.

Glufosinate-Ammonium (major brand: *Basta*®) is a post-emergence herbicide with a broad spectrum of efficacy against annual and perennial weeds and grasses. It is primarily used on perennial tree crops, vegetables, non-crop areas and as a harvest aid. *Liberty*®, introduced in Canada and the United States, refers to the registered trade name of glufosinate-ammonium applied on herbicide-tolerant crops.

The active ingredients phenmedipham, desmedipham and ethofumesate make up the *Betanal*® product family, the basis of weed control systems for various beet varieties. Ongoing improvements in the efficiency and range of uses of these products have extended the life cycle of the product family, resulting in its strong position in the sugar beet market.

Seed Treatment

The insecticidal active ingredient imidacloprid (major brand: *Gaucho*®) is Bayer CropScience s best selling seed treatment product. It is marketed in over 70 countries for the treatment of early season pests and soil and leaf pests in key crops such as sugarbeet, corn, cereals and cotton.

Clothianidin (major brand: *Poncho*®) is a new active ingredient in the chemical class of neonicotinoids, jointly developed by Sumitomo Chemical Takeda Agro Co. Ltd. and Bayer CropScience AG. The active ingredient was developed primarily for the control of the major soil and early season pests in corn, sugarbeet, oilseed rape (canola), sunflower and cereals. In 2003 and 2004, clothianidin has been introduced in, among other countries, the United States, New Zealand and Austria.

Tebuconazole (major brand: *Raxil*®) is registered in our most important markets worldwide as a seed treatment to control seed and soil-borne diseases in cereals.

Environmental Science

Imidacloprid-based *Premise*® is a termite control product launched in the United States in 1996. *Merit*®, another imidacloprid-based product, is used in the green industry segment, in particular in turf and ornamentals. It controls a large spectrum of insects such as grubs and cutworms.

Deltamethrin (major brands: *K-Othrine*®, *Deltagard*®), another important insecticide marketed by Environmental Science, controls a large spectrum of flying and crawling insects. Deltamethrin is recommended by the World Health Organization and has been used for many years to control insect-borne diseases such as malaria.

Maxforce® is an insecticide used in passive treatment applications such as gels and baits. It contains hydramethylnone or fipronil. *Maxforce*® s range of products includes a large number of insecticides controlling crawling insects.

Our products targeting non-professional users are marketed under the umbrella brands *Bayer Advanced*® in the United States and *Bayer Garden*® in Europe.

BioScience

With Nunhems (*Nunhems*®), Bayer CropScience is one of the leading developers and suppliers of high-quality vegetable seed varieties that are marketed to professional outdoor and greenhouse growers, plant raisers and the food processing and service industries. The main crop seeds are carrots, onions, melons, leeks and tomatoes.

FiberMax® cottonseed brand was launched in the U.S. market in 1998. It was also introduced in Greece, Spain, Turkey and some Latin American countries. *FiberMax*® varieties offer cotton growers high performance in lint yield and quality as well as advanced technologies for insect and herbicide control.

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InVigor® hybrid canola (oilseed rape) varieties are available to farmers in Canada and the United States. *InVigor*® hybrid canola varieties provide high yield and require less cultivation. These hybrid varieties also have tolerance to glufosinate-ammonium.

Arize(tm) is the trademark for our hybrid rice seed offering a high-yield, high quality solution requiring less seeds per hectare than conventional rice. It has been introduced in India and the Philippines.

Markets and Distribution

Europe has traditionally been Bayer CropScience s strongest market, accounting for nearly 40 percent of our sales in 2004.

Due to the fact that more than 80 percent of Bayer CropScience s business is realized in the northern hemisphere, the business is affected by the seasonality of the various crop and distribution cycles.

Bayer CropScience obtains a significant part of its raw materials from within the Bayer Group (through 2004, including the LANXESS Group) but also enters into agreements with non-Bayer companies. Some raw materials can be subject to price volatility caused by fluctuation in the price of oil, energy or transport costs.

We market our Crop Protection products through a two- or three-step distribution system, depending on local market conditions. Under this system, products are sold either to wholesalers or directly to retailers.

Environmental Science products are directed towards professional and consumer markets. For each of these markets, the products run through different distribution channels. For professional markets, products are sold to the pest control industry, the green industry, as well as the public health and rural hygiene sectors. In the consumer business, lawn and garden products are sold to end user consumers through specialized distribution channels. Also, active ingredients are sold to marketers of household products.

BioScience markets its seeds to end users, distributors and processing industries. Plant biotechnology traits are either distributed through out-licensing to seed companies, which produce commercial seeds on the licensor s behalf, or via their own seed companies mainly through either the *InVigor*® or *FiberMax*® brands. In some cases, traits are provided to other companies that utilize the technology in their own research and products.

Our main competitors in the Crop Protection business are Syngenta, Monsanto, BASF, Dow AgroSciences and DuPont. Dow AgroSciences and Syngenta are our main competitors in the overall Environmental Science business. In the business of plant biotechnology-based products and seeds, DuPont, Monsanto and Syngenta are the market leaders.

Research and Development

Bayer CropScience operates a global research and development network. While research is concentrated in specialized sites, its development activities range from central facilities to field testing stations across the globe, enabling product testing in the relevant geographical areas.

Crop Protection

Crop Protection Research and Development is globally represented with main facilities in Monheim (headquarters) and Frankfurt, Germany; Lyon and Sophia Antipolis, France; Stilwell, Kansas and Raleigh, North Carolina; and Yuki City, Japan.

The responsibility of the Crop Protection Research and Development function is to discover and develop customer-focused, innovative and profitable solutions in crop protection.

Research covers activities to identify new active ingredients that can be developed as insecticides, fungicides or herbicides. Genomics, high-throughput screening and combinatorial chemistry are part of the technological platform to identify new lead structures. Collaborations with research companies supplement our internal research activities.

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Once a compound is identified for development, its biological, environmental and toxicological profile, as well as its economic potential, is assessed. Suitable candidates are launched in the market after having obtained any required regulatory approvals.

Bayer CropScience actively supports its products through continuous life cycle management. This includes the development of new formulations for existing active ingredients and products, expanding their applicability to additional crops and countries or improving handling and facilitating application of the product by the end user.

Environmental Science

The molecules discovered by Crop Protection Research are also tested and evaluated in Environmental Science for potential development. Molecules from other companies may be tested and purchased if suitable. Development projects include passive treatments (gels, baits) and innovative formulations to control insects, as well as new herbicide products and new mixtures of fungicides for the turf and ornamental market segments.

BioScience

The primary BioScience research and development facilities are located in Lyon, France; Haelen, The Netherlands; Gent, Belgium; and Potsdam, Germany.

Plant biotechnology research and development is predominantly directed towards agronomic and quality improvement. The technologies include all relevant tools from identifying the gene of interest to development to improve key crops (cotton, oilseed rape (canola), rice) for growers and industrial partners. Research activities range from the exploration of novel agronomic traits to the discovery of new plant-based specialty products for the Nutrition, Health and BioMaterials markets.

The following new active ingredients were launched in 2004 or are expected to be launched subject to regulatory approval in 2005:

New active ingredients	Product Family	Status
Prothioconazole	Fungicides	Launched in 2004
Spiromesifen	Insecticides	Launch expected in 2005
Fluoxastrobin	Fungicides	Launch expected in 2005

Prothioconazole (major brand: *Proline*®) is the most recent development in triazole chemistry for broad spectrum disease control. As part of crop resistance management, prothioconazole-containing products will be used for foliar (*Proline*®, *Prosaro*®, *Input*®) and seed treatment applications (*Redigo*®) in cereals, oilseed rape (canola), peanuts, dry beans and other crops.

Spiromesifen (major brand: *Oberon*®) belongs to a new chemical class named tetronic acids. *Oberon*® is a new insecticide/miticide for foliar application in annual crops against all important whitefly, mite and psyllid species. *Oberon*® has been developed for worldwide use on vegetables, fruits, cotton, corn, beans, tea and some ornamentals.

Fluoxastrobin is a leaf-systemic, broad-spectrum strobilurin with curative and protective properties. Products containing fluoxastrobin will be used for foliar (major brand: *Fandango*®) and seed treatment applications (*Bariton*®, *Scenic*®) in cereals, potatoes, vegetables, peanuts and other crops.

BAYER MATERIALSCIENCE

In the course of forming the LANXESS subgroup (corresponding to our LANXESS segment), Wolff Walsrode and H.C. Starck, which are parts of our former Chemicals segment, and parts of our former Polymers business were combined in the Bayer MaterialScience subgroup. The subgroup comprises our Materials and Systems segments.

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MATERIALS

Overview

Our segment Materials comprises the business units Polycarbonates, Thermoplastic Polyurethanes and the two subsidaries Wolff Walsrode and H.C. Starck. The following table shows the segment s performance for the last three years.

	2002	2003	2004
	(Euros in millions)		
External net sales	2,875	2,777	3,248
Percentage of total sales	9.7	9.7	10.9
Intersegment sales	24	23	27
Operating result	174	58	293
thereof special items[1]	(2)	(29)	0

[1] The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data*.

The segment s external sales, by region and in total, for the past three years are as follows:

	2002	2003	2004
	(Euro in millions)		
Europe	1,229	1,246	1,382
North America	724	608	703
Asia/ Pacific	766	747	947
Latin America/ Africa/ Middle East	156	176	216
Total	2,875	2,777	3,248

The following table sets forth the segment s external sales, broken down by category of activity, for the past three years.

	2002	2003	2004
	(Euro in millions)		
Polycarbonates	1,742	1,713	2,035
Thermoplastic Polyurethanes	181	177	182
Wolff Walsrode	345	323	328
H.C. Starck	607	564	703
Total	2,875	2,777	3,248

2004 sales of the segments material products were 1,088 million for the *Makrolon*® product family (representing 33.5 percent of total segment sales; compared to 903 million, or 32.5 percent, in 2003 and 943 million, or 32.8 percent, in 2002) and 360 million for *Bayblend*® (representing 11.1 percent of total segment sales; compared to

312 million, or 11.2 percent, in 2003 and 339 million, or 11.8 percent, in 2002). Apart from these two products, no product of this segment accounted for more than 5 percent of total segment sales in 2004, 2003 or 2002.

Segment Strategy

Our goal is to continue expanding our global market positions by exploiting the growth potential of the new optimized portfolio and focusing on our Asian investment projects. We are primarily pursuing an organic growth strategy supported by both product and process innovation and active portfolio management to maintain a well-balanced commodity/specialty product mix. Additionally, we also explore possibilities for external growth through cooperations and joint ventures.

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We aim to improve profit margins by continually streamlining our existing product portfolio, implementing efficient cost structures, eliminating capacity constraints and further exploiting our regional growth potential. Through optimized petrochemical purchasing strategies for all our businesses, we aim to mitigate the risk of low operating results associated with high feedstock prices.

For our polycarbonates business, we strive to achieve cost-competitive world-scale facilities with state-of-the-art technology.

To achieve further performance improvements, we are continuing our stringent cost and efficiency programs in the Materials segment. As announced in 2002, these programs also include headcount reduction. In 2003 and 2004, total headcount reduction amounted to 411.

Polycarbonates

Overview

With its broad product portfolio, our business unit Polycarbonates (Polycarbonates, Polycarbonate Blends, Polycarbonate Films and Sheets) includes some of the leading global suppliers and manufacturers of engineering polycarbonates (based on capacity). Our Bayer Sheet Europe GmbH (formerly Makroform GmbH) has a strong position as a leading supplier of polycarbonate sheets. Our products have chemical and physical properties that enable them to resist very low or very high operating temperatures as well as corrosive chemicals and solvents.

Major Products

Polycarbonates (Makrolon®/ APEC®)

Polycarbonates are plastics that are transparent and highly stable across a wide temperature range. Polycarbonates almost completely dominate the field of optical data storage media, such as pre-recorded and recordable CDs and DVDs, and are widely used throughout the electrical/electronics segments in general for injection molding purposes. The construction industry is also a major user of polycarbonates, for example, for polycarbonate sheet applications. *Makrolon*® is our leading polycarbonate product range. Its key characteristics include high transparency, heat resistance and toughness. It can be both sterilized important for the food and medical industries and recycled. Our other polycarbonates include the *APEC*® range for high temperature usage such as components for automobile headlights.

Polycarbonate Blends (Bayblend®/ Makroblend®)

Blend technology can transform a palette of a few basic polymers into a wide range of new, advanced polymers with tailored properties, creating user-specific solutions. Polycarbonate Blends are widely used in the automotive, electric/electronic and business machine industries. *Makroblend*® is our brand name for engineering thermoplastics blends based on Polybutylene Terephthalate (PBT) or Polyethylene Terephthalate (PET). The *Bayblend*® product lines of amorphous, thermoplastic polymer blends based on polycarbonate and ABS (acrylonitrile/butadiene/styrene) are our leading blends.

Polycarbonate Films

Polycarbonate films, *Makrofol*®, are made of our polycarbonate *Makrolon*® and are characterized by product attributes such as high heat resistance, good printability and a very good graphic quality. The polycarbonate films of our *Makrofol*® range are used for applications such as instrument dials, automotive heater control panels, nameplates and a variety of film insert moulding parts (a combination of a backprinted and formed foil with *Makrolon*® and *Bayblend*®) as well as for high security identification cards.

Bayfol® is the trade name of our films made of polycarbonate blends and other polymers. *Bayfol*® CR films are noted for their superior chemical resistance and enhanced flexibility compared with pure polycarbonate film. The main application area is the IT industry with applications in keypads or housings.

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Polycarbonate Sheets (Fabricated Products)

We also produce solid and multiwall sheets with a broad range of characteristics for a wide variety of applications. These materials consist of polycarbonates, polycarbonate blends or thermoplastic polyesters. We market our sheets as *Makrolon®, Bayloy®,Vivak®* and *Axpet®.*

Markets and Distribution

We sell the products of our Polycarbonates business entities to thousands of customers worldwide. These customers include injection-molding operators and a large number of plastic-component manufacturers, whose products are overwhelmingly used in the automotive, electrical, electrical engineering, construction, data technology, medical and leisure fields.

Depending on the region and the general economic situation, sales of polycarbonates may show moderate seasonality. Generally, sales are lower in the first quarter in all regions.

Bayer does not produce basic petrochemicals. The principal petrochemical raw materials consumed by our Polycarbonates business unit are acetone and phenol, supplied exclusively by third parties. We do produce Bisphenol-A, which is a major precursor of polycarbonate based on phenol and acetone. Our costs are affected by fluctuations in raw material prices, mainly driven by the price volatility of crude oil and benzene prices. We typically procure third-party raw materials under long-term oriented contracts that contain cost-based and market price formulas, partially reducing raw material price fluctuation.

We market substantially all our plastic products through regional distribution channels, supported by regional competence centers and by our head office. In addition, we also use trading houses and local distributors to work with small volume customers. We are using e-commerce tools to market our products.

Our most significant global competitor is General Electric Advanced Materials. We also compete with several other companies, most notably Dow Chemical and particularly in the Far East with local competitors such as Teijin, Chi Mei, Idemitsu, Mitsubishi Engineering Plastics and LG Chemical, which are also important market players.

Research and Development

Our Polycarbonates business unit allocates resources for research and development both to process and product development with the aim to constantly improve our manufacturing processes and to develop new formulations and applications of our products. The primary research and development facilities are located in Krefeld-Uerdingen, Leverkusen and Dormagen, Germany and Pittsburgh, Pennsylvania.

We are currently working on the fine-tuning and improvement of our new polycarbonate melt manufacturing process for our investment in a new production facility in Caojing, China. Other current projects relate to the analysis of our existing manufacturing processes based on interfacial polycondensation to improve both product quality and cost performance.

In product development, we focus our activities on developing new blends, refining material for optical data storage, developing modified base materials for polycarbonate sheets and modifying the surface of polycarbonates using various coating technologies as summarized in the following table:

Product/Brand Name	**Application**
Surface-modified *Makrolon®*	Automotive
Improved *Makrolon®* ODS grade	Recordable ODS formats, such as DVD-R
Extension of *Bayblend®* FR series	Business machines/information technology
New Materials for *Makrolon®* Sheets	Electric/Electronic

In the area of polycarbonate glazing, Exatec, our joint venture with GE Advanced Materials, is progressing with implementing the glazing technology, especially in the automotive industry. A first license agreement for this technology has been signed in March 2005 between Exatec and a customer.

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Thermoplastic Polyurethanes

Overview

Our business unit Thermoplastic Polyurethanes develops and markets a wide variety of granules that serve as raw materials for extrusion, blow molding, calendering, or injection molding processed products. Additionally, our subsidiaries Epurex Films (Germany) and Deerfield Urethane (Massachusetts) manufacture different grades of thermoplastic polyurethanes films (TPU films).

Major Products

Thermoplastic polyurethanes belong to the high-performance thermoplastic elastomers family. A key property of thermoplastic polyurethanes is their resistance to high abrasion and wear which is substantially superior to the resistance exhibited by abrasion-resistant rubber compounds. We market our thermoplastic polyurethanes granulates under the trademarks *Desmopan*® and *Texin*®. Our TPU films are marketed under the trademarks *Walotex*®, *Walopur*®, and *Platilon*® (Epurex Films) and *Dureflex*® (Deerfield Urethane).

Markets and Distribution

Our Thermoplastic Polyurethanes business entities (TPU Granules, TPU Films) primarily serve customers of the sport and leisure, automotive, and packaging industries; other users include the textile, cable, and agricultural industries (e.g., animal ear tags).

Generally, our business is not subject to significant seasonality. All markets and regions taken as a whole generate relatively constant revenue throughout the year.

Temporary fluctuations in prices for raw material and energy can have an impact on the cost of our products. We secure our most important chemical raw materials through long-term contracts.

Our head office in Leverkusen, Germany, has the global responsibility for the business. We coordinate and carry out our sales and marketing from Leverkusen, Germany, for the region Europe, Middle East, Africa and Latin America as well as from our regional hubs in NAFTA (Pittsburgh) and the Asian Pacific region (Hong Kong), and through our various national subsidiaries.

We regard the following companies as the main competitors of our business entities:

TPU Granules: BASF/ Elastogran, Lubrizol/ Noveon, Huntsman, Taiwan Uretec, Dow Chemical;

TPU Film: Stevens Urethane, Fait, Ding Zing.

Research and Development

The Thermoplastic Polyurethanes business entities focus their research and development activities on developing products that we can formulate into high-performance thermoplastic polyurethane granulates and films, such as plasticizer-free soft grades.

The business entities primary research and development facilities are located in Dormagen, Germany and Pittsburgh, Pennsylvania.

Wolff Walsrode

Overview

We operate the Wolff Walsrode business group primarily through Wolff Walsrode AG, our wholly-owned subsidiary, assisted by other companies of the Bayer Group. The business group develops, produces and markets cellulose derivatives as well as various plastic films and other additives.

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Major Products

Cellulose Derivatives

Walocel® M is an additive that regulates water balance. It improves the workability and adhesion of building materials such as tile adhesives, plasters, mortars and dispersion paints.

Walsroder NC serves in resin form in wood coatings and other industrial coatings as well as in printing inks for flexible packaging. It is also used as a component of nail polish and other specialty items.

Walocel® C is used primarily as a thickener and binder in water-based systems. It is used in pharmaceuticals, dairy products and toothpaste, as well as in ceramics compounding, textile and paper manufacture and oil drilling.

Other

Under the brand name *Walsroder®*, we offer a wide range of sausage skins for industrial or handcraft usage.

Markets and Distribution

Wolff Walsrode competes in the building materials, industrial coatings, flexible packaging ink and life sciences markets as well as in specialized industrial fields.

Wolff Walsrode generally conducts direct sales operations in Germany and the United States for its cellulose products. Outside these geographic areas, we ordinarily sell through Bayer s worldwide sales organization.

The main raw material for our cellulose derivatives is chemical-grade cellulose derived from wood pulp and cotton. Because we have developed technologies to use either wood pulp or pulp based on cotton linters and because we have qualified a number of suppliers for both types of pulp, we have not had any significant problems with availability. Prices for chemical-grade cellulose show only moderate fluctuations, as a result of our diversified supplier base (located in both the euro and dollar zones), the raw material mix and an increasing number of contracts with our suppliers having terms of one year.

Our main competitors in the cellulose derivatives business are Hercules (Aqualon), Dow, SE Tylose GmbH & Co.KG, Shin-Etsu Chemical Co., Bergerac NC/ SNPE, Nobel Enterprises, Nitroquimica Brasileira, Noviant and Akzo Nobel.

Research and Development

Wolff Walsrode is Bayer s competence center for cellulose chemistry. Our research on cellulose and other polysaccharides takes advantage of the unique structural and chemical properties of these important renewable materials. The work is focused on products such as additives for building materials, binders for printing inks and coatings, as well as formulation aids for food, cosmetics and pharmaceuticals. Besides product development, we are constantly improving our production processes.

Wolff Walsrode s primary research and development facilities, including a state-of-the-art pilot plant, are at industrial site Industriepark Walsrode , Bomlitz, near Walsrode, Germany.

H.C. Starck

Overview

Our subsidiary H.C. Starck develops, produces and markets metallic and ceramic powders and fabricated products for various markets and applications. H.C. Starck continues to pursue a policy of forward integration (further developing the product portfolio in order to fulfill more directly customers needs).

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Major Products

Metallic products and compounds

H.C. Starck produces a broad portfolio of products ranging from ceramic materials to metals such as tungsten, molybdenum, tantalum and niobium and their alloys and compounds for industrial customers in the aerospace, medical, chemical, electronic, lighting, tooling and optical components industries. We manufacture these products both in the form of ceramic or metallic powders and as solid intermediates or finished parts.

Kulite® is the trade name for our fabricated parts made from tungsten alloy powders. These products are used, for instance, as balance weights in the aerospace industry.

Molyform® powders are molybdenum disulfide solid lubricants. We market a range of powdered lubricants under the brand name *Lubriform*®. Our customers use these compounds to produce lubricants. The automotive industry also uses *Molyform*® for the production of brake linings.

Battery intermediates

Ampergy® is the trade name of our nickel hydroxide and cobalt suboxide battery intermediates. Our customers in the electrochemical industry use *Ampergy*® to manufacture rechargeable batteries for modern communications devices and in large-scale industrial batteries.

Chemical catalysts

Amperkat® is the trade name of our chemical catalysts. The chemical industry uses these products in a variety of applications, such as chemical synthesis, plastics production and hydration processes.

Thermal spray powders

Amperit® is the trade name of our thermal spray powders. Our customers use these powders for a variety of functional coatings. *Amperit*® customers include the machine tool, power generation and aeronautics industries.

Ceramic powders and parts

We produce a broad range of intermediates for advanced ceramics. H.C. Starck Ceramics produces functional ceramic parts from silicon carbide and silicon nitride for various applications such as pump seal rings, foundry parts and ball bearings.

Markets and Distribution

Some of our markets are affected by pressure on prices and fluctuations in demand. Sales are also influenced by currency exchange rates. We expect steady growth in our customer industries for the foreseeable future.

China is the primary source of raw materials for tungsten products. In the past, China limited production, thus causing shortages. Since we have our own tungsten production and recycling facilities, we are only partially dependent on Chinese imports. The price of molybdenum, historically less volatile, has increased substantially throughout the second half of 2004. If prices increase further, we cannot exclude an impact on our future business. Tantalum raw material prices have remained relatively stable during the past two years. For this raw material, we secure our supply through long-term contracts generally lasting three to five years.

H.C. Starck has its own international sales organizations in Europe, the United States and Japan, which are the company s most important markets. In addition, we have liaison offices in Scandinavia, the Benelux countries, France, Italy and the United Kingdom. These maintain direct contact with our customers. We also have liaison offices in Shanghai and Hong Kong for China and in Singapore for the Southeast Asia region. In other countries, we either rely on the Bayer sales organizations or use third-party sales agents.

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We regard the following companies as our chief competitors:

Metallic products and compounds: Wolfram Bergbau- und Hütten GmbH, Cabot Group (including its associated joint ventures), Mitsui, MolymetOMG, Osram Sylvania, Japan New Metals, Plansee AG, Phelps Dodge;

Battery intermediates: Tanaka Chemical, Umicore;

Chemical catalysts: Johnson Matthey, Degussa, Grace-Davison, Engelhard;

Thermal spray powders: Praxair, Sulzer Metco, Fujimi;

Ceramic powders and parts: Denki Kagaku, SB Boron; GE Advanced Ceramics, Tokuyama.

Research and Development

H.C. Starck focuses its research and development activities on innovative products and system solutions. For example, we are developing high-capacity tantalum and niobium powders as intermediates for capacitors, and precursors for thin metallic films in microelectronic devices. We are also working on high-purity tantalum and niobium compounds for electroceramics and surface acoustic wave filters for computers and mobile telephones. Additionally, H.C. Starck is committed to developing materials for more technically advanced batteries, fuel cells, hybrid vehicles and other energy storage and power generation applications.

The primary research and development facilities of this subsidiary are located in Goslar, Germany, Newton, Massachusetts, and Mito, Japan.

We currently have eleven product groups in late stages of development, and expect to start and continue their launch during 2005, the most important projects being:

Product/Brand Name	**Application**
Powder and components for SOFC	SOFC (Solid Oxide Fuel Cells)
Niobium Oxide 60, 80 and 120 K	Capacitors
Tantalum 70/80, 100/120 and 150 K powder	Capacitors
Molybdenum plates for PVD	Flat panel displays

SYSTEMS

Overview

Our segment Systems comprises the business units Polyurethanes, Coatings, Adhesives, Sealants and Inorganic Basic Chemicals.

The following table shows the segment s performance for the last three years.

	2002	**2003**	**2004**
		(Euros in millions)	
External net sales	4,784	4,676	5,349
Percentage of total sales	16.1	16.4	18.0
Intersegment sales	303	297	339
Operating result	(78)	(455)	348
thereof special items[(1)]	(296)	(715)	(27)

(1)

The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data*.

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The segment s external sales, by region and in total, for the past three years are as follows:

	2002	2003	2004
	(Euros in millions)		
Europe	2,085	2,107	2,494
North America	1,536	1,406	1,483
Asia/ Pacific	677	678	822
Latin America/ Africa/ Middle East	486	485	550
Total	4,784	4,676	5,349

The following table sets forth the business entities external sales for the last three years, broken down by category of activity.

	2002	2003	2004
	(Euros in millions)		
Polyurethanes	3,274	3,228	3,872
Coatings Adhesives Sealants	1,318	1,191	1,237
Inorganic Basic Chemicals	181	218	218
Others	11	39	22
Total	4,784	4,676	5,349

2004 sales of the segments material products were 1,708 million for *Desmodur*® products (representing 31.9 percent of total segment sales; compared to 1,567 million, or 33.5 percent, in 2003). Apart from *Desmodur*® and two other products, each of which accounted for less than 10 percent of segment sales in 2004, no other product of the segment accounted for more than 5 percent of segment sales in 2004. Due to reorganization and introduction of a new reporting system in 2003, we are unable to provide sales per product for 2002 without unreasonable effort.

Segment Strategy

Our goal is to continue expanding our global market positions by exploiting the growth potential of the new optimized portfolio and focusing on our Asian investment projects. We are primarily pursuing an organic growth strategy supported by both product and process innovation and active portfolio management to maintain a well-balanced commodity/specialty product. Additionally, we also explore possibilities for external growth through cooperations and joint-ventures.

We aim to improve profit margins by continually streamlining our existing product portfolio, implementing efficient cost structures, eliminating capacity constraints and further exploiting our regional growth potential. Through optimized petrochemical purchasing strategies for all our businesses, we aim to mitigate the risk of low operating results associated with high feedstock prices.

For our polyurethanes business, we strive to achieve cost-competitive world-scale production facilities with state-of-the-art technology.

To further achieve performance improvements, we will continue our stringent cost and efficiency programs, which were announced in 2002, in all business units of the Systems segment. As part of these programs, we reduced headcount by a total of 1,127 in the course of 2003 and 2004.

Polyurethanes

Overview

Our Polyurethanes business entities (MDI, TDI, Polyether) focus on the development, production and marketing of isocyanates and polyol materials for polyurethane formulations and systems used in producing a wide variety of polyurethane polymers for a broad range of industrial and consumer applications.

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Major Products

Polyurethanes are polymers formed through the reaction of two liquid chemicals: an isocyanate typically diphenylmethane diisocyanate (MDI) or toluene diisocyanate (TDI) and a polymeric alcohol such as polyether polyols. We produce a range of different isocyanates and polyether polyols under such brand names as *Desmodur*® and *Desmophen*®. The characteristics of a given polyurethane depend on both the material components used as well as the precise proportion of each in the mix.

Our customers use our isocyanates or polyether polyols, or both, to create their own specific polyurethane formulations In addition, upon request, we design and evaluate custom blends to meet specific customer requirements. The customer receives a ready-to-use two-component system. The precise formulation of each custom blend is proprietary.

Typical applications for which our customers use our polyurethane materials include furniture, mattresses, shoes, automotive components, appliances, sport and leisure equipment and construction.

Markets and Distribution

Europe and the NAFTA nations remain the primary markets for our Polyurethanes business entities, with the Asian market showing the strongest growth. Our external sales were 3.9 billion in 2004.

The predominant cushioning material for upholstered furniture nowadays is flexible polyurethane foam. For our customers applications, there are no man-made or natural substitute materials that could replace significant amounts of flexible polyurethane foams in the near future. Rigid polyurethane foam is used for thermal insulation purposes competing with other insulating materials such as mineral fibers or polystyrene foam. Conversely, polyurethane elastomers compete with other thermoplastic materials on cost, performance and fit with the production mix at the customer s site.

In the automotive area, there is constant competition between polyurethanes and other polymers in many applications due to required physical properties, costs, design or functional requirements.

On a worldwide level, the Polyurethanes business entities sales are not subject to significant seasonality. On the regional level, business can display seasonality where, for example, revenue depends on such seasonal industries as construction and other outdoor applications.

The basic raw materials for our isocyanates and polyols are petrochemical raw materials. We typically purchase these on the open market mostly under long-term contracts, as Bayer generally does not produce petrochemicals. However, through a global joint venture with Lyondell, we have acquired a source for propylene oxide, one of our key raw materials. These petrochemical raw materials are subject to price fluctuation driven by supply and demand factors and price volatility in the crude oil and derivates markets.

The Polyurethanes business entities sell their products directly to customers and, to a much smaller degree, through system houses and traders. System houses are focused regionally and typically serve smaller-volume customers.

To further increase efficiency along the supply chain, we have established regional service centers. They act as a central point of contact for customers on all issues concerning order processing, logistics and billing.

Our main competitors are BASF, Dow Chemical and Huntsman.

Production facilities

Bayer has polyurethane raw material production facilities strategically located around the world to support its global product line. The business unit s main production sites, which meet ISO 9001:2000 quality standards, are located in Antwerp, Belgium; Brunsbüttel, Dormagen and Krefeld-Uerdingen, Germany; Fos-sur-Mer, France; Tarragona, Spain; Baytown and Channelview, Texas, and South Charleston, West Virginia. Further production facilities are located in Brazil, France, Germany, Indonesia, Italy, Japan, Mexico, Taiwan and the United States. In addition, we are planning to build up capacities at our site in Caojing, China.

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We have terminated the consolidation phase regarding our production facilities by closing our TDI plant in Japan in March 2004. Further plants have already been closed during 2003 in Mexico, Germany, Belgium and the United States.

Research and Development

The business entities primary research and technical development facilities are located in Dormagen and Leverkusen, Germany; Pittsburgh, Pennsylvania, South Charleston and New Martinsville, West Virginia; Amagasaki, Japan; and Shanghai, China.

The main areas of innovation in the polyurethane field are currently the development of new or improved polyether polyol types and blends as well as the improvement of manufacturing processes. The Polyurethanes business entities concentrate their research and development efforts with respect to aromatic isocyanates on improving existing products and technologies for their manufacture. Some research activities go into new structures for isocyanates. High-throughput experiments are used for the development of new formulations and will help to reduce time-to-market for new products.

Coatings Adhesives Sealants

Overview

Our Coatings, Adhesives, Sealants business entities develop and market a wide variety of products that serve as raw materials for lacquers, coatings, sealants and adhesives.

Major Products

Resins and Hardeners

Polyurethane lacquers are formed through the combination of an isocyanates component with a polyol-like polyester or polyacrylate. We offer a variety of polyol components branded as *Desmophen*®, *Rucote*®, *Crelan*® and *Bayhydrol*® (Resins) and polyisocyanates such as *Desmodur*®, *Desmodur BL*® and *Bayhydur*® (Base- and modified isocyanates). This variety enables us to provide custom-tailored solutions for a number of different applications.

Special raw materials

Our special material unit produces such specialty products as *Pergut*® (Resins) for coatings and adhesives, *Impranil*®, our polyurethane coating systems for textiles, and *Baybond*® for glass fiber sizing.

Adhesive raw materials

Dispercoll®, *Desmocoll*® and *Baypren*® (Resins) are our raw materials for adhesives. Their primary users are shoe manufacturers, though we also have customers from the automotive, furniture and building industries.

Markets and Distribution

Our Coatings, Adhesives, Sealants business entities are a major producer of raw materials for coatings and adhesives. The primary ultimate end users of our products are the automotive, furniture, plastics, construction and adhesives industries; other users include the textile, shoe and building industries.

Generally, our revenue is not subject to significant seasonality. Some of the individual markets and regions that we serve experience seasonal fluctuation, such as the building industry during the winter months or southern Europe during the summer. All markets and regions taken as a whole, however, produce relatively constant revenue throughout the year.

Temporary fluctuations in prices, such as the price of crude oil or energy, can have a significant effect on the cost of our raw materials. We secure our most important chemical raw materials through long-term contracts.

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We coordinate and carry out our sales and marketing from our head office in Leverkusen, Germany, as well as through our various national subsidiaries. Our key account managers serve our globally active major customers directly.

We regard the following companies as the chief competitors of our Coatings, Adhesives, Sealants business entities.

Resin components (RES): Cytec/UCB, Cray Valley, DIC;

Aliphatic isocyanates (BMI): Rhodia, Degussa, BASF, Asahi Kasei, NPU (Nippon Polyurethane Industry);

Aromatic isocyanates (BMI): Dow, Mitsui Takeda, SAPICI.

Research and Development

The Coatings, Adhesives, Sealants business entities focus their research and development activities on developing products that we can formulate into high performance coatings, such as aliphatic and aromatic polyisocyanates and resin components. We are also exploring ways of reducing the amount of solvent needed by technologies such as high solids and waterborne and powder coatings systems.

The business entities primary research and development facilities are located in Leverkusen, Germany, and Pittsburgh, Pennsylvania.

Inorganic Basic Chemicals

Overview

The business unit Inorganic Basic Chemicals (IBC) produces inorganic basic chemicals such as chlorine, caustic soda, hydrogen and hydrochloric acid. The focus is on the safe and cost-efficient supply of chlorine to the customers. IBC has one of the largest production capacities of any chlorine manufacturer in Europe.

Major Products

Inorganic basic chemicals are of major importance for Bayer MaterialScience (BMS): about 60 percent of its sales are dependent on chlorine. Chlorine is used for the production of intermediates that are subsequently processed into a variety of products, such as polyurethanes (foams, insulating materials) and polycarbonates (CDs, glazing). In most cases, chlorine is used only as an auxiliary product and is no longer contained in the end product. The four IBC production sites in Leverkusen, Dormagen and Krefeld-Uerdingen, Germany and Baytown, Texas, have a total chlorine capacity of around 1.4 million metric tons per year: chlorine is manufactured on an industrial scale by means of sodium chloride electrolysis (1.2 million metric tons) and hydrochloric acid electrolysis (0.2 million metric tons). Currently, 90 percent of the sodium chloride electrolysis capacity is based on the environmentally-friendly, energy-efficient membrane process. At sites where Bayer does not produce any chlorine, IBC supports external chlorine procurement.

In addition to chlorine, sodium chloride electrolysis generates caustic soda and hydrogen. These by-products, as far as they are not used internally, are sold to external markets.

During the processing of chlorine into intermediate products, hydrochloric acid may be produced. IBC is responsible for managing the balance of hydrochloric acid: if it is not sold or used internally, it is transported to the hydrochloric acid electrolysis units of IBC in Leverkusen and Dormagen, Germany and Baytown, Texas.

Markets and Distribution

In general, chlorine is supplied by pipeline to internal and external customers located at Bayer sites where chlorine is produced. IBC markets the caustic soda and hydrochloric acid that is not used internally to customers from various industries worldwide.

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The main raw materials for chlorine production are sodium chloride and power. Sodium chloride is purchased on the open market under long term contractual agreements and therefore generally not subject to price volatility. Power is purchased from Bayer Industry Services. Recently, costs of power have increased due to regulatory requirements of the EU and Germany.

Our main competitors are Dow, Solvay, Akzo Nobel, BASF, Vestolit and Ineos.

Research and Development

Processes and plants are continuously enhanced and optimized within IBC while keeping in mind environmental compatibility. The main area of innovation in chlorine production is currently the development of the Oxygen Depolarized Cathode (ODC) in chlor alkali (sodium chloride) and hydrochloric acid membrane electrolysis to increase energy savings. At the BMS Brunsbüttel site, a hydrochloric acid electrolysis unit utilizing ODC technology was developed by IBC and a number of partners. It began production in late 2003.

LANXESS

Overview

In November 2003, Bayer announced that the Bayer Group intended to maintain its focus on its core businesses and therefore combine the Bayer Chemicals segment (except for Wolff Walsrode and H.C. Starck) with certain parts of the Bayer Polymers business in a new company. LANXESS was created with economic effect from July 1, 2004, and Wolff Walsrode and H.C. Starck were grouped together with the remaining parts of the Bayer Polymers business in a wholly-owned subsidiary of the Bayer Group now called Bayer MaterialScience. Bayer s shareholders approved the spin-off at an extraordinary general meeting on November 17, 2004. The spun-off company, LANXESS AG, became a legally-independent company on January 28, 2005, when its spin-off was registered in the Commercial Register (*Handelsregister*) for Bayer AG at the Local Court of Cologne (*Amtsgericht Köln*), Germany.

Throughout 2004, the LANXESS businesses were operated as the LANXESS segment of the Bayer Group. This segment had a comprehensive product portfolio in polymers and basic, specialty and fine chemicals. At the end of 2004, it consisted of more than 50 operating companies and produced polymers and chemicals at 50 locations in 18 countries.

The business activities of our LANXESS segment were structured in 17 businesses combined into the four business units Performance Rubber, Engineering Plastics, Chemical Intermediates and Performance Chemicals. The following table shows the segment s performance for each of the last three years. These figures are also presented in the segment reporting as discontinuing operations.

	2002	2003	2004
		(Euros in millions)	
External net sales	6,241	5,776	6,053
Percentage of total sales	21.1	20.2	20.3
Intersegment sales	501	557	659
Operating result	(128)	(1,290)	74
thereof special items[1]	(244)	(1,204)	(99)

[1] The significant special items are detailed in Item 5, *Operating and Financial Review and Prospects Operating Results 2002, 2003 and 2004 Segment Data*.

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The following table shows our LANXESS segment s sales by region for the past three years:

	2002	2003	2004
	(Euros in millions)		
Europe	3,072	3,045	3,134
North America	1,558	1,320	1,372
Asia/ Pacific	1,040	899	981
Latin America/ Africa/ Middle East	571	512	566
Total	6,241	5,776	6,053

The following table sets forth the segment s sales for the last three years, broken down by category of activity:

	2002	2003	2004
	(Euros in millions)		
Chemical Intermediates	1,107	1,062	1,132
Performance Chemicals	2,081	1,884	1,856
Engineering Plastics	1,484	1,339	1,586
Performance Rubber	1,459	1,358	1,400
Other	110	133	79
Total	6,241	5,776	6,053

The Performance Rubber entities comprise the Butyl Rubber, Polybutadiene Rubber and Technical Rubber Products businesses. The Engineering Plastics entities comprise the Styrenic Resins, Semi-Crystalline Products and Fibers businesses. The Chemical Intermediates entities consist of the Basic Chemicals, Fine Chemicals and Inorganic Pigments businesses. The Performance Chemicals entities comprise the businesses Material Protection Products, Functional Chemicals, Leather, Textile Processing Chemicals, Paper, Rhein Chemie, Rubber Chemicals and Ion Exchange Resins.

Major Products

Performance Rubber

The Polybutadiene Rubber business uses three different catalyst systems in manufacturing polymers, each type imparting specific characteristics to the resulting polymers. Polybutadiene rubber is used principally in tire treads, invariably compounded with other rubbers to give the desired balance of properties such as long life, skid resistance and improved fuel economy, but is also used in polystyrene modification. The product family of the Polybutadiene Rubber business includes solution-polymerised styrene-butadiene rubbers.

The Butyl Rubber business produces a range of standard and halogenated butyl rubber, the principal characteristic of which is impermeability to air and gases.

The portfolio of the Technical Rubber Products business comprises polychloroprene, ethylene-propylene co- and terpolymers, nitrile rubber and styrene-butadiene copolymers as well as hydrogenated nitrile rubber and ethylene-vinyl acetate copolymers specialities. These products offer customers an array of varying characteristics, including processability, hardness, flexibility and wear, heat and chemical resistance, to suit their specific needs.

Engineering Plastics

The products of our Styrenic Resins business include the ABS (acrylonitrile/butadiene/styrene) copolymers *Novodur*®, *Lustran*® and *Absolac*®, the SAN (styrene/acrylonitrile) resins *Lustran*® and *Absolan*®, as well as the blends *Triax*® and *Centrex*®.

The Semi-Cystalline Products business provides a range of polyamides and polyesters. Polyamides are tough, strong, high-performance plastics. They are resistant to chemicals and can often replace metal and other

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materials. In addition, LANXESS uses these materials in producing halogen-free flame retardant products. Semi-crystalline thermoplastic polyesters like polybutylene terephthalate (PBT) and engineering plastics polyethylene terephthalate (PET) show high resistance to chemicals, heat distortion and stress cracking and feature low water absorption.

The Fibers business focuses on the development, production and marketing of fibers for the textile industry and for technical applications.

Chemical Intermediates

The Basic Chemicals and Inorganic Pigments businesses focus on the development, manufacture and marketing of a wide range of basic chemicals, mainly aromatic compounds and iron-oxide pigments. Industrial chemicals are produced in bulk quantities using few synthesis steps. *Bayferrox*® is an iron-oxide based anorganic colorant, which is available in a variety of colors for a wide range of uses.

The Fine Chemicals business focuses on custom manufacturing for the pharmaceuticals and agrochemicals sectors.

Performance Chemicals

The Material Protection Products and Functional Chemicals businesses comprise, among other products, industrial biocides, organic colorants and plastic additives. The Leather, Textile Processing Chemicals and Paper businesses produce chemicals for the leather, textile and paper industries. Rhein Chemie produces a wide variety of substances used in rubber manufacture and processing as well as in the lubricant oil and polyurethane industry. The Rubber Chemicals business produces a broad range of chemical products for use in the rubber compounding and production process. The Ion Exchange Resins business offers a broad range of ion-exchangers, adsorbers and catalysts. These products provide solutions, among other applications, for drinking or industrial water, food or chemical processing industries.

Markets and Distribution

The principal markets for the LANXESS business entities in 2004 were the chemicals/plastic industry, the automotive industry and the tire industry.

LANXESS is not subject to significant seasonality. Some of the individual markets and regions that it serves experience seasonal fluctuation, such as the agriculture industry (which mainly affects the Fine Chemicals business) and the building industry (which mainly affects the Inorganic Pigments business). All markets and regions taken as a whole, however, produce relatively constant revenue throughout the year.

The five most important raw materials used in the LANXESS production activities are acrylonitrile, 1,3-butadiene, cyclohexane, raffinate 1 and styrene. These raw materials are purchased from a large number of different external companies, in part pursuant to long-term contracts.

LANXESS produces part of its chemicals in dedicated, continuous-process manufacturing plants using advanced technologies. The other products are manufactured in batch-processing plants. The plants are predominantly located in Leverkusen and other German sites while others are located around the world in order to serve the local markets more economically.

LANXESS products are marketed mainly through a worldwide network of LANXESS business entities. In a number of countries in which LANXESS is not represented through a foreign affiliate, local distributions are consummated primarily on the basis of commercial agency agreements with companies of the Bayer Group.

LANXESS main competitors are:

Performance Rubber: Dupont Dow Elastomers, ExxonMobil, Goodyear;

Engineering Plastics: BASF, DSM, DuPont, General Electric, Invista, Rhodia;

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Chemical Intermediates: BASF, Degussa, Dow Chemical, DSM, Elementis, Jiangsu Yangnong, Kureha, Lonza, Merisol, Rhodia, Rockwood, Tessenderlo and Chinese companies (e.g., Hunan Three-Rings, Dequing Huayuan);

Performance Chemicals: Akzo, Albemarle, Arch Chemicals, BASF, ChiMei, CHT, Ciba, Clariant, Cognis, Dow Chemical, EKA, Ferro, Flexsys, FMC, Hercules, Kemira, LG Chem, Lonza, Mitsubishi Chemical, Nalco, Purolite, Rohm & Haas, Stahl, Sun Chemicals, TFL, Thor.

Research and Development

LANXESS operates research and development facilities throughout the world, with main locations in Leverkusen, Dormagen and Krefeld-Uerdingen (Germany) and Sarnia (Canada). As a recent result of its development activities, LANXESS presented *Therban® AT* at the trade fair K 2004 . *Therban® AT* is a new hydrogenated nitrile rubber grade featuring low Mooney viscosity. Low Mooney viscosity speeds up the injection molding process (therefore generally resulting in increased output) and allows for more complex and detailed structures to be manufactured.

INTELLECTUAL PROPERTY PROTECTION

To succeed, Bayer must continually seek new products that provide our customers with better solutions for existing problems and new solutions for emerging problems. This requires us to expend significant effort on research, development, manufacturing and marketing. To preserve the value of our investment, we rely on the patent and trademark laws of the jurisdictions where we do business. In addition, our production technologies typically incorporate specialized proprietary know-how.

We have both developed intellectual property internally and acquired it as assignee through acquisitions. In addition, Bayer may from time to time grant licenses to third parties to use our patents and know-how, and may obtain licenses from others to manufacture and sell products using their technology and know-how.

Patents

We seek to protect our products with patents in major markets. Depending on the jurisdiction, patent protection may be available for:

individual active ingredients;

specific compounds, formulations and combinations containing active ingredients;

manufacturing processes;

intermediates useful in the manufacture of products;

genomic research; and

new uses for existing products.

The protection that a patent provides varies from country to country, depending on the type of claim granted, the scope of the claim s coverage and the legal remedies available for enforcement. For example, although patent protection in the United States is generally strong, under some circumstances, U.S. law permits generic pharmaceuticals manufacturers to seek regulatory approval of generic products before the patents expire. See Item 8, *Financial Information Legal Proceedings.* In addition, some developing countries have announced plans to reduce patent protection for some drugs.

The advance of genomic research has accelerated our patent filings for biological products. We typically seek protection upon determining a gene s function.

We currently hold thousands of patents, and have applications pending for a significant number of new patents. Although patents are important to our business, we believe that, with the exception of the patents

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covering *Adalat*®, *Avelox*®, *Cipro*®, *Levitra*® and imidacloprid, no single patent (or group of related patents) is material to our business as a whole.

Term and Expiration of Patents

Patents are valid for varying periods, depending on the laws of the jurisdiction granting the patent. In some jurisdictions, patent protection begins from the date a patent application was filed; in others, it begins on the date the patent is granted.

The European Union, the United States, Japan and certain other countries extend or restore patent terms or provide supplementary protection to compensate for patent term loss due to regulatory review and substantial investments in product research and development and regulatory approval. Our policy is to obtain these extensions where possible.

Patent protection in our major markets for some of our key products is scheduled to expire in the near term. Although the expiration of a patent for an active ingredient normally results in the loss of market exclusivity, we may continue to derive commercial benefits from:

subsequently-granted patents on processes and intermediates used in manufacturing the active ingredient;

patents relating to specific uses for the active ingredient;

patents relating to novel compositions and formulations; and

in certain markets (including the United States), market exclusivity under laws other than patent laws.

The following table sets forth the expiration dates in our major markets of the patents covering *Adalat*®, *Avelox*®, ciprofloxacin, imidacloprid and vardenafil:

	Market							
Product	**Germany**	**France**	**U.K.**	**Italy**	**Spain**	**Japan**	**U.S.A.**	**Canada**
Adalat®								
Crystal patent (Retard)							2010	
Adalat® CC (Coat Core)	2008	2008	2008	2008	2008	2008	2008	2009
Avelox®								
Compound	2009	2009	2009	2014	2009	2009	2014	2016
Hydrochloride-Monohydrate	2016	2016	2016	2016	2016	2016	2016	2016
Tablet formulation	2019	2019	2019	2019	2019	2019	2019	2019
Ciprofloxacin								
Active ingredient				2009				
IV formulation	2006	2006	2006	2006	2006	2006	2007	2008
Tablet formulation	2007	2007	2007	2007	2007	2007	2011	2009
Imidacloprid	2006	2006	2006	2006	2007	2005	2006	