



#### PROFILE

Akzo Nobel is a multinational company that serves customers around the world with healthcare products, coatings, chemicals, and fibers, employing approximately 86,000 people. With headquarters in the Netherlands, the Company has activities in almost 70 countries. Annualized\*) sales in 1998 were NLG 30 billion.

Akzo Nobel's combined fiber activities, operating as a stand-alone business under the name Acordis, are being prepared for demerger. Employing approximately 18,000 people, Acordis achieved annualized\*) sales of NLG 5.5 billion in 1998.

Akzo Nobel has a two-layer structure: the corporate center and business units. At the corporate level, key tasks are coordinated in such areas as strategy; finance and control; human resources; technology; health, safety, and environment; and information management.

\*) Including sales of the former Courtaulds activities on a full-year basis.

#### COMPANY STATEMENT

#### OUR COMPANY

Akzo Nobel is a multicultural company. We are market-driven and technologybased, serving customers throughout the world with healthcare products, coatings, chemicals, and fibers.

Akzo Nobel conducts its diversified activities through business units, which report directly to the Board of Management.

We maintain a product portfolio with leading positions in important market segments.

#### OUR PEOPLE

Akzo Nobel regards people as its most important resource.

We foster leadership, individual accountability, and teamwork.

Our employees are professionals whose entrepreneurial behavior is result-oriented and guided by personal integrity. They strive for the success of their own units in the interest of Akzo Nobel as a global company.

In return, our employees can count on opportunities for individual and professional development in an international working environment. We offer them rewarding and challenging assignments with room for initiative.

#### OUR COMMITMENS

We will focus our efforts on the success of our customers.

We will provide competitive returns on our shareholders' investments.

We will create an attractive working environment for our employees.

We will conduct our activities in a socially responsible manner.

OUR AMBITION To be the first choice of customers, shareholders, and employees, and to be a respected member of society.

#### Gross cash flow

Operating income before nonrecurring items plus depreciation of property, plant and equipment, and amortization of intangible assets

#### Cash flow per share

Net income excluding nonrecurring items plus depreciation of property, plant and equipment, and amortization of intangible assets, divided by the weighted average number of common shares outstanding

# Net income (excluding nonrecurring items) per share

Net income (excluding nonrecurring items) divided by the weighted average number of common shares outstanding

#### Shareholders' equity per share

Akzo Nobel N.V. shareholders' equity divided by the number of common shares outstanding at December 31

#### Working capital

Inventories and receivables less current liabilities, exclusive of dividends

#### Invested capital

Total assets less cash and cash equivalents and less current liabilities

#### Equity

Akzo Nobel N.V. shareholders' equity plus minority interest

#### Net interest-bearing debt

Long-term debt plus short-term borrowings less cash and cash equivalents

#### Net debt

Provisions plus long-term and short-term debt less cash and cash equivalents

Gearing Net interest-bearing debt divided by equity

**Interest coverage** Operating income before nonrecurring items divided by financing charges

In the computation of ratios, the amounts used for invested capital and shareholders' equity represent averages of the amounts at the beginning and the end of the year. The 1994 ratios have been adjusted to reflect the Nobel acquisition at the beginning of that year.

All (per) share data have been adjusted to reflect the four-for-one stock split on July 1, 1998.

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# FINANCIAL HIGHLIGHTS



				Millions of euros (EUR 1 = NLG 2.20371)		
	1998	1997	1998	1997		
Net sales Operating income	27,507	24,052	12,482	10,914		
– before nonrecurring items	2,737	2,471	1,242	1,121		
– after nonrecurring items	2,373	2,465	1,077	1,119		
Net income	1,343	1,615	609	733		
Net income excluding nonrecurring items	1,630	1,613	740	732		
Cash flow	2,883	2,978	1,308	1,351		
Shareholders' equity	4,010	9,035	1,820	4,100		
Property, plant and equipment						
<ul> <li>expenditures</li> </ul>	1,805	1,412	819	641		
- depreciation	1,457	1,293	661	587		
Per common share in NLG and EUR						
Net income	4.71	5.67	2.14	2.57		
Net income excluding nonrecurring items	5.71	5.66	2.59	2.57		
Cash flow	9.89	10.26	4.49	4.66		
Dividend	2.15	2.13	0.98	0.97		
Shareholders' equity	14.05	31.68	6.38	14.38		
Key ratios						
Operating income before nonrecurring items						
<ul> <li>as percent of net sales</li> </ul>	10.0	10.3				
<ul> <li>as percent of invested capital</li> </ul>	16.4	17.2				
Interest coverage	6.0	9.0				
Gearing	2.39	0.33				
Number of employees at year end	85,900	68,900				

For definitions of certain financial ratios and concepts see back cover foldout. Per share figures have been restated to reflect the 4-for-1 stock split.

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# CHAIRMAN'S STATEMENT



#### Dear shareholders,

We started 1998 under the banner of "More Dynamic Growth" and when we now look back on the year gone by, it is not difficult to conclude that it was indeed a dynamic year in which the Company has grown substantially.

Our sales grew to the level of NLG 27.5 billion, which is an increase of 14 percent over 1997. Acquisitions played an important part, notably the acquisition of Courtaulds, although we should not underestimate the double-digit organic growth of our Pharma operations. Our net profit, before nonrecurring items, was NLG 1,630 million, just over the level of the previous year. This was somewhat below our initial expectations, but in our opinion not unsatisfactory in light of the changed economic conditions halfway through the year. We are pleased to propose to the General Meeting of Shareholders a dividend of NLG 2.15 per share.

Our overall performance should be viewed against the backdrop of the economy in 1998. The first six months were strong and very much in line with the positive trend of the preceding year. However, in July a turning point came unexpectedly. The change was more abrupt than at previous turns of the business cycle. Our growth in operating earnings began to stagnate, and together with higher financing charges—related to the acquisitions—this caused a decline in net earnings relative to the corresponding period of 1997. The change was primarily caused by the indirect impact of the Asian crisis, which finally fed through the international trading system and began to make itself felt in our traditional markets. Serious volume and price effects built up in the European and American markets. This situation was further aggravated when, again unexpected by many, a banking crisis erupted in Russia, which affected part of our business, particularly Coatings. Latin America also experienced a serious economic slowdown.

In our traditional European and American markets, official growth estimates were adjusted downward but not dramatically. However, the economic climate has become increasingly more uncertain and volatile. Judging from our own observations, we find that the reduced public growth forecasts may be on the optimistic side in view of the developments in our markets: on a broad front volumes are on the decline and so are many prices.

In spite of these adverse developments, we were able to make substantial progress toward achieving some of our stated objectives. Pharma experienced aboveaverage market growth by introducing major new products to the market from a well-filled pipeline. Remeron<sup>®</sup> (an antidepressant) and Puregon<sup>®</sup> (a fertility product) developed as star performers and will continue to make promising contributions to the further growth of Organon. Other Pharma business units—particularly Intervet and Organon Teknika—showed equally satisfactory growth, not just in sales but also in operating income.

Coatings accounted for most of our acquisitions and grew by 25 percent. With the acquisition of Courtaulds, we brought our Coatings activities to the world leadership position. Our almost complete portfolio now positions us ideally for further penetration into the emerging markets where the real growth will be.

Chemicals made much headway in restructuring its portfolio. After the divestment of the North American salt operations in 1997, we sold our Soda Ash business in 1998 and announced the intended sale of our share in the ROVIN joint venture with Shell. On the other hand, strategic acquisitions and investment decisions were made in the field of chelates, where we are now one of the world leaders. At the end of the year we acquired the 50 percent of Elementis in our joint venture Akcros, giving us full control of that company.

In 1998, we were able to offer new prospects for our Fibers operations. The acquisition of Courtaulds enables us to place a well-focused, independent fibers company with a sound economic base in the market. The mental separation from Akzo Nobel took place quickly: a new business was born, named Acordis, which is being prepared for demerger.

The intended demerger necessitated a separation of the Fibers-related activities from our corporate staff. Simultaneously, we decided to restructure the central research activities. We discontinued centrally financed projects and transferred the remaining activities to the business units. By doing so we seek to achieve the highest probability of success as we are moving the direct responsibility of R&D closer to those who are ultimately responsible for the commercial introduction of new ideas. These measures aim to improve the effectiveness of our R&D activities and will further enhance our technology commitment. Finally, we investigated the extent to which we can outsource some central services, in particular Engineering and Information Services.

In conclusion, the Company has seen many and farreaching changes, both at the business units and at the corporate level. Consequently, when looking to the current year 1999, it is clear that we must now consolidate. Every acquisition requires much management attention to organization and integration. We have been successful on previous occasions, but we know that sufficient energy and time must be allocated to make sure the planned benefits materialize. Acquisitions also call for financial consolidation. Although we operate under an attractive long-term financing package, our debt load has reached a level that we wish to bring down. Priority has therefore been shifted from expansion through acquisitions to consolidation, with strict control of investment levels and working capital.

Such consolidation takes place in a totally different economic environment than in the preceding years. The strength of the economy has been replaced by uncertainty in many of our traditional markets. Prices and volumes are declining. Therefore, the task we are now facing is in some respects more complicated than the one after the Nobel acquisition, which was followed by an upturn in the economy.

In light of the economic uncertainties and the intended demerger of Acordis, we refrain from giving an income forecast for 1999. However, given the strong first six months of 1998, it will be difficult to match those earnings levels in 1999. Much will depend on the development of the economy in the second half of the year. We regret that the steady improvement of our safety record was not sustained in 1998. Unfortunately, we had to report three fatalities. We have again emphasized the high priority we attach to this critical area of responsibility of management in the interests of our employees, their families, and society alike.

1998 will be remembered as a year of great change. We made good progress in realizing two critical objectives: creating an independent Fibers company and achieving a global leadership position in Coatings. This would not have been possible without our employees' unwavering loyalty and commitment to Akzo Nobel. Their attitude and resilience produced these results. It is in their and in shareholders' interests that a high degree of change now is followed by a period of consolidation. We thank our employees for their contributions. We are confident that the changes of 1998 will be absorbed quickly, in line with our good reputation.

#### Board of Management

Has served in this or similar capacity since:

Cees J.A. van Lede (1942, Dutch), Chairman	1991
Fritz W. Fröhlich (1942, German), Deputy Chairman	1993
Folkert B. Blaisse* (1945, Dutch), Fibers/Acordis	1998
Paul K. Brons (1941, Dutch), Pharma	1994
Ove H. Mattsson (1940, Swedish), Coatings	1994
Rudy M.J. van der Meer (1945, Dutch), Chemicals	1993

\* until December 31, 1998

#### Secretary

Bart C.M.I. Beusmans (1940, Dutch)		
Senior Vice Presidents		
Frits H. Hensel (1943, Dutch), Finance	1997	
Olle Werner (1944, Swedish), Human Resources	1997	



Cees J.A. van Lede Chairman of the Board of Management

#### Profile of the Supervisory Board

The Supervisory Board exercises supervision over the Board of Management's policies and business conduct and provides advice in these areas. In the performance of their duties the members of the Supervisory Board act in the best interests of the Company.

The composition of the Supervisory Board should be such that the members can fulfill their tasks independently of one another and of the Board of Management. Membership of the Supervisory Board should reflect the variety of both the Company's businesses and its international character, while providing expertise in areas such as finance and societal relations. To ensure continuity the Supervisory Board should include one or, in special circumstances and for a limited period of time, two former members of the Board of Management.

#### Changes in the Supervisory Board

At the General Meeting of Shareholders of April 24, 1998, Abraham E. Cohen, Frits H. Fentener van Vlissingen, and Lo C. van Wachem, who resigned from the Board as their terms of office were expiring, were reappointed.

At the General Meeting of Shareholders of April 22, 1999, it will be proposed that membership of the Supervisory Board be increased by one and fixed at ten. Lars H. Thunell is nominated for appointment to the Supervisory Board effective May 1, 1999. L. Paul Bremer, III, Jean G.A. Gandois, and Maarten C. van Veen will resign from the Board as their terms of office are expiring. They are proposed for reappointment.

#### Changes in the Board of Management

Effective May 1, 1998, Herman A. van Karnebeek retired as Deputy Chairman of the Board of Management after a career of more than thirty years with the Company. He was succeeded by Fritz W. Fröhlich. At the General Meeting of Shareholders of April 24, 1998, Folkert B. Blaisse was appointed to the Board of Management to take over Mr. Fröhlich's responsibility for Akzo Nobel's Fibers activities. In the context of the formation of Acordis, Mr. Blaisse resigned from the Board of Management at December 31, 1998, to become Acordis' Chief Executive Officer.

At the General Meeting of Shareholders of April 22, 1999, it will be proposed that membership of the Board of Management be reduced by one and fixed at five.

#### **Changes in the Executive Council**

As announced in the 1997 Annual Report, Jean den Hoed, Executive Vice President – Finance and Control and Chief Financial Officer (CFO), retired on July 1, 1998, after serving the Company for almost thirty years. On the same date Mr. Fröhlich, Deputy Chairman of the Board of Management, also assumed responsibility for Finance and Control (CFO).

In December 1998, Joop F. Sistermans stepped down as Executive Vice President – Strategy and Technology. During his almost twenty-five year career with the Company Mr. Sistermans held several management positions. From 1989 he was business unit manager of Organon Teknika, and he went on to become Executive Vice President – Strategy and Technology of Akzo Nobel in 1994. He has been appointed Advisor for Strategy to the Chairman of the Board of Management as of January 1, 1999. His responsibilities have been transferred to individual members of the Board of Management. We are grateful for Mr. Sistermans' valuable contributions to the Company and are pleased that he will remain available for advice.

The Executive Council ceased to exist effective January 1, 1999.

#### Supervision

During the year, the Supervisory Board was regularly informed through business reports, rolling forecasts, strategic and operational plans, and presentations by the Board of Management. The Supervisory Board periodically consulted with the Board of Management on strategy, financial planning, human resources, acquisitions and divestments, and major investment projects. The Supervisory Board also met without the Board of Management being present to discuss among other things—the functioning and composition of the Supervisory Board and of the Board of Management.

In 1998 the Supervisory Board engaged in in-depth discussions on such issues as:

- the Company's overall strategy, economic and market developments, and potential risks;
- the acquisition of Courtaulds, its financing, and the contemplated demerger of the Fibers activities;
- the potential impact of the financial crises in Asia and Russia;

- the amendment of the Company's Articles of Association, including the elimination of the restriction of voting rights, as adopted at the General Meeting of Shareholders on April 24, 1998;
- the Supervisory Board's profile and procedures in the context of best practice recommendations on Corporate Governance.

Furthermore, the Supervisory Board discussed and authorized several acquisitions, as well as a number of major investment projects and financing arrangements.

The *Audit Committee* held consultations with the Chairman of the Board of Management, the CFO, and the external and internal auditors on such issues as internal control, administrative organization, the Company's handling of the millennium issue, and the introduction of the euro. In January 1999, preparations for the 1998 Financial Statements were extensively discussed with the Board of Management, the external auditor, and the internal auditor.

The Nomination and Remuneration Committee prepared proposals for nominations to the Supervisory Board and advised the Board of Management on its nomination proposals. The Committee regularly screens and determines, on behalf of the Supervisory Board, the remuneration and other benefits of the members of the Board of Management.

#### **Financial Statements and Dividend Proposal**

We herewith submit for shareholders' approval at the General Meeting of April 22, 1999, the financial statements of Akzo Nobel N.V. for 1998 as prepared by the Board of Management. These financial statements have been audited by KPMG Accountants N.V. Their report can be found on page 84.

We have approved these financial statements as well as the Board of Management's proposal made therein with regard to the allocation of profit, and the dividend proposal, as stated on page 14. We recommend that shareholders adopt the financial statements and discharge the members of the Board of Management of their responsibility for the conduct of the business, and the members of the Supervisory Board for their supervision.

Arnhem, February 19, 1999

The Supervisory Board

#### Supervisory Board

	similar capacity since:
Aarnout A. Loudon (1936, Dutch), Chairman 1)	1994
Former Chairman of the Board of Managemen	nt
of Akzo Nobel N.V.	
Member of the Dutch Upper House	
Frits H. Fentener van Vlissingen (1933, Dutch)	, 1984
Deputy Chairman <sup>1)2)</sup>	
Managing Director of Flint Holding N.V.,	
the Netherlands	
L. Paul Bremer, III (1941, American)	1997
Former U.S. Ambassador to the Netherlands	1001
Managing Director of Kissinger Associates Ind	C.
Abraham E. Cohen (1936, American) <sup>2)</sup>	1992
Director on a number of boards of U.S. corpor	rations
Jean G.A. Gandois (1930, French)	1989
Former President of the Conseil National du	1905
Patronat Français	
Hilmar Kopper (1935, German) <sup>2)</sup>	1990
Chairman of the Supervisory Board of Deutsc	he Bank AG
Maarten C. van Veen (1935, Dutch)	1997
Former Chairman of the Board of Managemen	
Koninklijke Hoogovens N.V., the Netherlands	
Lo C. van Wachem (1931, Dutch) $^{\eta}$	1992
Chairman of the Supervisory Board of	
Royal Dutch Petroleum Company	
Dieter Wendelstadt (1929, German) $^{\eta}$	1993
Chairman of the Supervisory Board of	1995
AXA Colonia Konzern AG, Germany	
,	

Has served in this or

Member of the Nomination and Remuneration Committee.
 Member of the Audit Committee.

# MILESTONES IN 1998

#### March Sale of the soda ash business

#### April

Cash offer of NLG 6.1 billion for Courtaulds (GBP 4.50 per ordinary share)

#### May

Acquisition of BASF's European decorative coatings business

#### June

Green light to third generation oral contraceptives for German market reaffirmed by Administrative Court in Berlin

Conditional approval by European Commission of Courtaulds acquisition

#### July

Offer for Courtaulds declared wholly unconditional

Launch of  $\mathsf{Mircette}^{\circledast}$  oral contraceptive in the United States

Acquisition of a controlling interest in Turkish paint company Marshall Boya

#### August

Shareholding in decorative coatings company Astral, Tunisia, increased from 5 to 60 percent

#### September

Celebration of Organon's 75th anniversary

Launch of Acordis as the name for the integrated Akzo Nobel and former Courtaulds fibers activities

Announcement of corporate restructurings regarding central R&D, Engineering, and Information Services

#### October

Acquisition of remaining 50 percent of the shares of Akcros (PVC-additives)

Purchase of the amides business of Daejin Fine Chemicals, South Korea

#### November

FDA approval of Diosynth's new pharmaceutical raw materials factory at Oss, the Netherlands

A/A2 long-term credit ratings from Standard & Poor's and Moody's

Completion of refinancing of Courtaulds acquisition bridge financing

Sale of former Courtaulds Plastic Packaging business, and Laminate and Aluminium Tubes activities

Sale of former Courtaulds Architectural Coatings business in the United States

#### December

Expansion of nonstick coatings business through majority stake in Coatings & Chemicals Corp. (CCC)

Reinforcement of Pharma's R&D structure through new Organon laboratory at Newhouse, Scotland

Sale of former Courtaulds Packaging Coatings

# GENERAL

#### STRATEGY

Our strategy is well understood inside the Company, in the investment community, and in the business environment in which we operate. Our actions in 1998, in particular our acquisitions, investments, and divestments as discussed in this report, should be viewed in the light of that strategy.

We aspire to leadership positions with structural profitability in world markets in the areas of healthcare, coatings, specialty chemicals, and fibers. Our activities should have the critical mass needed to play an active role in the restructuring of the industries in which we operate. We give priority to growth of our Pharma and Coatings operations, while Chemicals first focuses on improving returns and portfolio composition. We intend to create an independent fibers company, thus participating in the restructuring of that industry in Europe.

Specific financial targets have been set in terms of return on sales (ROS) and return on invested capital (ROI), which will be stated in the appropriate sections of this report.

#### The acquisition of Courtaulds—1998's main event

In April 1998, Akzo Nobel made a public offer for Courtaulds plc of GBP 4.50 per ordinary share. Early in July, the offer was declared unconditional and by the end of September the buyout procedure was completed. The total acquisition price for all ordinary shares was NLG 6.1 billion. The related goodwill of NLG 4.8 billion was written off against equity. The former Courtaulds accounts have been consolidated since the beginning of July 1998.

The acquisition of Courtaulds enables us to realize two important strategic objectives:

- to become the world's number one in coatings;
- to form a stand-alone fibers company to be prepared for demerger.

The integration of the former Courtaulds activities is progressing well. We are confident that we will realize the strategic objectives as planned in the acquisition process.

#### FINANCIAL PERFORMANCE

#### Earnings slightly higher

Net income excluding nonrecurring items of NLG 1,630 million slightly exceeded the previous year's record of NLG 1,613 million. This translated into per share amounts of NLG 5.71 and NLG 5.66, respectively. Nonrecurring charges of NLG 287 million (after taxes), mainly relating to various restructurings and asset write-downs, reduced net income to NLG 1,343 million (1997: NLG 1,615 million).



Fritz W. Fröhlich, Deputy Chairman and CFO

The first half of the year was marked by significant gains in earnings. However, in the second half of 1998, our growth in operating earnings began to stagnate, and together with financing charges—related to the acquisitions made during the year—this caused a decline in net earnings relative to the corresponding period of 1997. Including acquisition financing charges, the former Courtaulds activities rendered a net negative contribution of NLG 55 million, mainly as a consequence of the unexpected decline in the fibers markets.

*Operating income before nonrecurring items* of NLG 2,737 million exceeded the previous year's figure by 11 percent, to which the former Courtaulds activities contributed 5 percent. The remaining rise was mainly attributable to Pharma. Currency translations had a slight net negative effect.

Operating income in 1998 included *nonrecurring items* of NLG 364 million (after taxes: NLG 238 million), principally relating to the consequences of the discontinuation of corporate funded research and development as well as various restructurings and asset write-downs at Chemicals, Acordis, and Coatings.

#### Continued earning gains at Pharma and Coatings; Chemicals almost at exceptionally high 1997 level; Acordis results improved

**Pharma's** operating income before nonrecurring items of NLG 1,058 million was up 14 percent from the previous year. This gain was largely attributable to a further increase in earnings at Organon and a better performance of Organon Teknika, both favored by strong volume growth. Intervet achieved excellent results, while Diosynth's earnings remained strong but failed to reach the previous year's figure. Chefaro's earnings were slightly lower.

**Coatings'** operating income of NLG 883 million, before nonrecurring items, was 18 percent higher than in 1997. Of this gain, 14 percent was due to the contribution made by the former Courtaulds activities from July 1998. Overall, Coatings' return on sales was 8.4 percent, against 9.0 percent in 1997. Car Refinishes, Industrial Products, and Resins had a strong year. Results of Aerospace Coatings and Sealants were up. Decorative Coatings' results were flat, while Industrial Coatings and Printing Inks did not match 1997 performance. Protective Coatings were negatively affected by the crisis in Asia. Earnings of Coil Coatings were lower.

Excluding the divestment of Salt America in 1997, **Chemicals'** operating income before nonrecurring items of NLG 705 million was virtually on a par with the prior year. Results of Polymer Chemicals and Functional Chemicals surpassed the previous year's record levels. Base Chemicals also did better. Surface Chemistry's earnings were unchanged from 1997. Operating income of Pulp & Paper Chemicals was lower. Catalysts suffered from the continuing decline in its markets. The results of Plastics and Processing Additives weakened. Earnings of Salt were also lower but remained satisfactory.

**Acordis'** operating income before nonrecurring items grew to NLG 141 million (1997: NLG 93 million). The income gain was principally attributable to a better performance of Industrial Fibers, a turnaround for Textile Fibers' Viscose Filament, and the contribution from the former Courtaulds activities. Nonwovens also did better. Results of Aramid Products were negatively impacted by the crisis in Asia. Membrana's results were slightly lower than in 1997. Overall earnings performance of Viscose Staple was similar to that of the previous year. Tencel® fiber results were depressed due to overcapacities. Acrylic Fibers' margins were impacted by a sharp price fall in the second half of 1998. Results of Acetate Chemicals were down from 1997.

These developments are reflected in the *return on sales* percentages (before nonrecurring items) shown below.

	1998	1997
Pharma	20.7	20.2
Coatings	8.4	9.0
Chemicals	9.4	9.6
Acordis/Fibers	3.3	2.6
Akzo Nobel	10.0	10.3

Sales of NLG 27.5 billion were up 14 percent from 1997. On balance, acquisitions and divestments added 12 percent, with former Courtaulds accounting for 11 percent. Volumes gained 3 percent, while average selling prices were at the 1997 level. Currency translations had a negative effect of 1 percent.

The increase in *financing charges* from NLG 274 million in 1997 to NLG 456 million in 1998 was almost entirely due to interest on debt assumed in the context of acquisitions, predominantly Courtaulds. Interest coverage (based on operating income before nonrecurring items) decreased from 9.0 to 6.0.

*Income taxes* averaged 31 percent, somewhat higher than in 1997. The utilization of tax loss carryforwards from previous years, mainly in Sweden, reduced the tax charge by NLG 85 million, both in 1998 and 1997.

*Earnings from nonconsolidated companies* before nonrecurring charges were NLG 99 million, compared with NLG 119 million in 1997. The decrease was mainly due to lower results from Methanor. Flexsys recorded higher results. The nonrecurring write-down in 1998 of NLG 49 million relates to Akzo Nobel's share in Enka de Colombia.

#### Condensed statement of income

Millions of guilders	1998	pro forma* 1998	1997		
Net sales	27,507	24,804	24,052		
Operating costs	(24,770)	(22,187)	(21,581)		
Operating income					
before					
nonrecurring items	2,737	2,617	2,471		
Nonrecurring items	(364)	(364)	(6)		
Operating income,					
after nonrecurring items	2,373	2,253	2,465		
Financing charges	(456)	(278)	(274)		
Operating income					
less					
financing charges	1,917	1,975	2,191		
Taxes	(589)	(602)	(657)		
Earnings of					
consolidated com-					
panies after taxes	1,328	1,373	1,534		
Nonconsolidated					
companies					
<ul> <li>– earnings</li> </ul>	99	99	119		
<ul> <li>nonrecurring</li> </ul>					
write-down	(49)	(49)			
Earnings before					
minority interest	1,378	1,423	1,653		
Minority interest	(35)	(25)	(38)		
Net income	1,343	1,398	1,615		
Net income					
excluding					
nonrecurring items	1,630	1,685	1,613		

\* The pro forma figures exclude all effects of the Courtaulds acquisition.

#### Condensed balance sheet

Millions of guilders, December 31	1998	1997
Noncurrent assets	12,881	10,443
Working capital	5,729	4,380
Invested capital of consolidated companies	18,610	14,823
Nonconsolidated companies Cash and cash equivalents	1,027 1,180	1,277 699
Cash and cash equivalents		
	20,817	16,799
Equity	4,429	9,295
Provisions	4,632	3,775
Interest-bearing debt	11,756	3,729
	20,817	16,799

Invested capital at year-end 1998 amounted to NLG 18.6 billion, compared with NLG 14.8 billion at the beginning of the year. Acquisitions caused an increase of NLG 4.4 billion, while the decrease from divestments was NLG 0.7 billion. Lower exchange rates led to a reduction of NLG 0.8 billion. The remaining balance of NLG 0.9 billion mainly related to increased working capital and higher expenditures for property, plant and equipment.

The divestment of the last part of former Courtaulds' Polymer Products, Performance Films, is expected to be concluded in the near term. As a consequence of our undertaking to the European Commission we have initiated the divestment process of the Aerospace Coatings and Sealants business (as from January 1999 trading as PRC–DeSoto). The completion of these two divestments is expected to lead to an increase of Akzo Nobel's shareholders' equity in 1999.

# Return on shareholders' equity (ROE) lifted by gearing

Akzo Nobel's large borrowing capacity, based on low gearing (0.33 at the end of last year), enabled us to pay NLG 6.6 billion on acquisitions in cash, predominantly relating to Courtaulds (NLG 6.1 billion), Marshall Boya, and Akcros, with no additional funds raised from shareholders. Equity was reduced significantly due to the goodwill write-off of NLG 5.3 billion, while net interestbearing debt increased by NLG 7.5 billion.

The figures below (excluding nonrecurring items) demonstrate that the leverage effect of the much higher gearing strongly lifted ROE:

	1998	1997
ROE (in %)*	41	18
Gearing	2.39	0.33
Interest coverage		
– 1st half-year	10.3	8.8
– 2nd half-year	4.3	9.2

\* Calculated on the basis of shareholders' equity at year end.

Although the Company enjoys strong credit ratings, we are taking action to lower the present gearing and improve interest coverage by reducing debt through our strong cash flow, a restrictive investment and acquisition policy, and divestments.

#### Financial surplus from operations NLG 1.0 billion

Millions of guilders

Cash inflow from operations	3,387
Working capital increase	(548)
Net cash provided by operations	2,839
Investments in noncurrent assets	(1,881)
Financial surplus from operations	958
Dividend payments in 1998	(653)
Net cash effect of acquisitions	(6,557)
Proceeds from divestments	632
Funds balance	(5,620)

Ongoing operations and internal growth were financed without additional capital market transactions. We continued to use the money markets, including the U.S. commercial paper market, to bridge peak financing requirements for working capital.

#### Good credit ratings facilitate refinancing Courtaulds purchase

In April 1998 we arranged a short-term syndicated loan facility of GBP 2,000 million in support of our offer of GBP 1,830 million for Courtaulds plc (GBP 4.50 per ordinary share). The offer was successful and was declared unconditional in July. Under the facility we borrowed GBP 1,830 million for the purchase of all outstanding ordinary shares of Courtaulds. During the second half of the year we arranged the refinancing of this facility, which was canceled in full before year-end. Supported by long-term credit ratings of A by Standard & Poor's and A2 by Moody's, we approached the longterm bond markets. Through a bond issue in the Euro market we raised DEM 1,000 million with an interest coupon of 5.375 percent and a maturity of 10 years. In the U.S. market we issued bonds in a private placement to large institutional investors in the amount of USD 500 million with an interest coupon of 6 percent and a maturity of 5 years. We refinanced the remainder of the short-term loan facility from our free cash flow, through proceeds from some divestments, and in the money market. In this context we increased our U.S. commercial paper program to USD 1,000 million and our Euro commercial paper program to EUR 1,000 million.

With reconfirmed short-term credit ratings of A1/P1 we were able to actively use these programs. This short-term financing is supported by our existing and unused long-term credit facility of USD 1,000 million and a EUR 1,000 million short-term backup facility arranged with a syndicate of banks in November.

*Expenditures for property, plant and equipment* were NLG 1.8 billion (1997: NLG 1.4 billion), including expenditures of NLG 0.2 billion relating to former Courtaulds. Notably Pharma and Coatings exceeded their 1997 levels. Depreciation amounted to NLG 1.5 billion, compared with NLG 1.3 billion in 1997.

Authorizations for new projects totaled NLG 1.9 billion, an increase of NLG 0.2 billion compared to 1997, predominantly stemming from former Courtaulds.

The *invested capital turnover ratio* at year end was 1.65, practically at the previous year's level.

*Working capital* as a percentage of annualized sales (based on fourth-quarter figures) was 19.3 percent, compared with 18.5 percent in 1997. The increase was principally attributable to higher inventories and lower taxes payable.

The *number of employees* rose from 68,900 at the end of 1997 to 85,900 at year-end 1998. Acquisitions added 20,200, including 16,800 employees of former Courtaulds, while divestments caused a decrease of 2,900. Net of acquisitions and divestments, Pharma's personnel increased by 800, mainly at Organon, while there were staff reductions at Acordis, Chemicals, and Coatings.

#### The euro – a challenging opportunity

The introduction of the euro marks the final phase of a process of abolishing customs barriers and fostering free trade in Western Europe. This process, which has been going on for many years, has made European cross-border markets increasingly transparent. As more than half of our activities are in Europe, the euro will have a substantial effect on our Company. Price transparency will stimulate competition, notably in the consumer end of our business. However, pricing of pharmaceuticals in euros will increase the urgency to address the problem of divergent pricing and reinbursement policies by national governments.

One large—and therefore more liquid—capital market should provide opportunities for lower financing costs, while currency risks within the euro zone have been eliminated. We consider these developments to be positive in the long run. During 1998 we continued to assess risks and implement measures, both in operational and strategic terms, to permit a smooth changeover to the euro. So far the transition has been successful.

On January 1, 1999, Akzo Nobel's in-house banking system adopted the euro as base currency in line with the general policy in the financial world. Although the European rules allow for a transition period until 2002, Akzo Nobel encourages its business units to adopt the euro as their base currency already in 1999, but such adoption will also depend on the timing of the transition to the euro in their markets.

As from 1999 the euro will be Akzo Nobel's external reporting currency. In this report only the key figures as stated on page 2 are also given in euros.

#### Attacking the millennium bug

The millennium issue relates to the risk that systems, products, and equipment having date-sensitive components will not recognize the year 2000. Since 1996, professional teams—guided by the Millennium Committee and the Millennium Program Team—have been tracing critical potential millennium problems throughout Akzo Nobel. The identified problems and IT-systems, as well as embedded technology, have been investigated, and solutions have either been implemented or are in preparation.

A similar program already being implemented at Courtaulds has been integrated in Akzo Nobel's approach as of July 1998.

The investigations not only cover the Company's internal systems in business and functional areas but also involve external parties with whom the Company has direct operational contacts. The necessary conversions or replacements of systems critical to the business are expected to be completed on schedule in 1999.

Akzo Nobel, like any other business enterprise, is dependent on the environment in which it operates in the sense that it has no direct control over third parties, such as suppliers, customers, and infrastructure services (including energy and water). Therefore, potential indirect millennium risks affecting the Company's operations, including possible interruptions, cannot be ruled out. Throughout the Company, business and service unit teams, assisted by corporate support teams, are focusing on minimizing the internal and external effects of potential year 2000 failures. Contingency plans are in place or in preparation, but it is generally recognized that the year 2000 problem is too complex to guarantee complete remediation. The effects of any internal or external cases of noncompliance on the Company's business, results of operations, or financial condition cannot be fully assessed and may be material.

Over the years, total expenditures on solving millennium problems—investments as well as out-ofpocket expenses— will amount to approximately NLG 150 million.

#### **DIVIDEND PROPOSAL**

At the General Meeting of Shareholders of April 22, 1999, we will propose a 1998 dividend of NLG 2.15 per common share (1997: NLG 2.13). In November 1998 we declared and paid an interim dividend of NLG 0.65. Our proposal would result in a dividend payment of NLG 613 million, a payout ratio of 38 percent relative to net income excluding nonrecurring items.

Pages 15 through 18 addressing some general issues, and pages 19 through 64 providing details on the Company's business activities form an integral part of the Report of the Board of Management.

## OUTLOOK FOR 1999

In light of the uncertainties in many of our traditional markets and the intended demerger of Acordis, we refrain from giving an income forecast for 1999. However, given the strong first six months of 1998, it will be difficult to match those earnings levels in 1999. Much will depend on the developments of the economy in the second half of the year.

1999 will be a year of consolidation. We strive to achieve a financial surplus so as to reduce the present gearing and improve interest coverage. To this end we will concentrate on reducing the debt load through our strong cash flow, a restrictive investment and acquisition policy, and divestments. As a consequence, we expect expenditures for property, plant and equipment in 1999 in the order of NLG 1.7 billion.

Excluding deconsolidations and acquisitions, the number of employees is not expected to change materially in 1999.

Arnhem, February 19, 1999

The Board of Management

#### PEOPLE AT AKZO NOBEL

#### HR systems further improved

In 1998 we had to absorb the effects of the major strategic actions taken during the year, especially the acquisition of Courtaulds and the preparations for the intended demerger of Acordis. At the same time we continued our efforts to improve the efficiency of our human resources (HR) systems and align them to shifting market requirements in the geographic areas and the industries in which we are active. This is demonstrated by the following examples in the field of remuneration:

- Adjustment of the management option scheme to new Dutch legislation, while also extending it to further management layers with a broader geographic spread; the new scheme to be fully implemented during 1999.
- Improvement of the Management Long Term Performance Plan in the United States in order to comply better with the strong compensation trends in that market.
- Building know-how of remuneration and other HR practices in Central and Eastern Europe as well as in Asia Pacific in support of our expansion ambitions in these regions. New pension policies have been implemented for several countries there.

In the educational field we gave our introductory management program Akzo Nobel in the World to almost 60 participants in Singapore, underscoring our growing presence in the Asia Pacific region. This also served as a follow-up to the Akzo Nobel Managers' Conference held in Singapore in 1998.

In line with our aim to create more room for management of local origin we have intensified our recruitment efforts to attract future managers in the local markets.

Our business units play an increasingly important role in recruitment and career planning, as they generally have a widespread international presence and offer broad career prospects to their employees. In addition, considerable efforts are made at the corporate level to capitalize on cross business unit transfers of managers. Intranet facilities have been developed to make internal job vacancies more visible within the Company.

In the context of the organizational changes there have been frequent communications and deliberations with the various bodies representing our employees: works councils, labor unions, and the European Forum. We recognize that structural changes cannot be implemented faster than they can be absorbed by the people affected. They should be involved as closely as possible in the consultation process.

#### People, the key to the Company's success

A transition process as in 1998 inevitably puts pressure on people. The changes have affected the business units as well as the corporate activities. Sometimes the rationale for the changes may not be immediately understood by each individual, causing feelings of uncertainty. However, a certain degree of uncertainty is almost unavoidable to attain the long-term goals.

In such periods of strong change it is clearer than ever that people are our most important resource. The determination and ingenuity of those that have to do the job make the difference between real achievements and just average results. For that very reason we must address the concerns of our people to ensure their trust in our commitment.

In the longer term we have to make sure that not only our businesses but also the skills and competencies of our people evolve with the changes in our markets. If we are successful, these efforts will provide a sound basis for growth of our business and enhance the value of the individual employees. We thus strengthen the organization from within by stimulating its individual members to grow and cope with change.

#### Entrepreneurial spirit

One of the principal managerial tasks is to develop the entrepreneurial spirit of each employee, i.e. the ability to turn uncertainty into innovative thinking and action to adapt to new situations. This spirit is not satisfied by simply executing orders and fulfilling job descriptions. Entrepreneurs know how to handle change and feel confident in not so stable times. This attitude makes them consider change as an opportunity rather than a threat. Creating such a culture calls for fair treatment and respect for people, which is a top priority for our management at all levels. Only this approach can create an organization that feels comfortable with change.

#### Learning environment

Our decentralized two-layer organization supports these ambitions and offers our employees broad scope and responsibility in various disciplines, permitting them to develop their talents at an early stage of their careers. Akzo Nobel provides opportunities and resources; employees can use these to develop their skills and to be ready for change even before it becomes a necessity.

#### Taking risks

From our managers we expect bottom-line thinking, an entrepreneurial spirit, and a frame of mind that makes them feel challenged to achieve even under adverse conditions. We foster personal drive, initiative, and a high degree of informality, balanced with adherence to good practices and procedures. Our employees are not expected to be infallible but rather to learn from mistakes. Communicative and team-playing skills are other success factors, especially in a flat organization like ours.

Stimulating these qualities—which are central to Akzo Nobel's hiring process and development programs—is of prime concern to our management. The ability to develop new managers is an important management task.

#### People may move, knowledge must

Our diverse and widespread organization possesses a wealth of knowledge. In the years ahead we will intensify the exchange and spreading of "best practices." One way of doing this is to increase employee mobility by making our internal labor market more transparent. The other, when we cannot move people, is to create internal meeting places to let knowledge travel. Contacts between people are our strongest vehicle for exchange of knowledge and experience between units and across all kinds of borders. By stimulating such contacts we can utilize the potential synergy within our Company to the benefit of employees, customers, and shareholders.

#### **RESEARCH AND DEVELOPMENT**

In 1998, expenditures for R&D were NLG 1,432 million, against NLG 1,260 million in the previous year. The main driver was Pharma, which continued to account for roughly one half of these amounts. About half of the increase was caused by the R&D activities of former Courtaulds. For Pharma as a whole, R&D expressed as a percentage of sales was 15 percent. For each of Coatings, Chemicals, and Acordis this ratio was approximately 3 percent. Total R&D staff was 7,500 at year-end 1998, against 6,300 at the end of 1997.

#### Striving to improve R&D effectiveness

During 1998 the Board of Management made two major decisions on R&D. First of all, we resolved to discontinue the funding of corporate business development projects and corporate research programs. By now, almost all activities have been sold to third parties, terminated or transferred to the business units. Secondly, as of January 1, 1999, responsibility for the various Central Research Institutes, representing some 25 percent of our total R&D capacity, has been transferred to the business units/Groups concerned. With this step we have fully implemented our two-layer structure.

Despite the fact that these measures will result in a major capacity reduction at the former Central Research Institutes, the Board of Management is convinced that the effectiveness of the Company's R&D efforts will be improved by placing all R&D responsibility directly in the hands of those managers who are ultimately accountable for making a commercial success of R&D innovations.

Nevertheless, the Board of Management will critically follow developments within the business units to ensure that long-term R&D will receive sufficient emphasis, since the innovative power of Akzo Nobel remains the key to future success.

#### HEALTH, SAFETY, AND ENVIRONMENT (HSE)

#### We care about the health of our people

This is the message behind the Managing Total Health (MTH) training program developed in 1998. We are dedicated to becoming an outstanding company in terms of care for the health of employees.

#### No one comes to work to get hurt

Under this motto, Akzo Nobel has been intensifying actions to improve safety performance for several years. Since 1994, additional efforts on the part of employees and management, aided by safety training programs like Managing Total Safety (MTS), have reduced Lost Time Injuries (LTIs) by 50 percent.

Regrettably, our safety record did not improve in 1998; we had to report three fatal accidents. We will not relax our efforts, never forgetting that "No one comes to work to get hurt."

#### Environmental targets achieved ahead of time

Akzo Nobel achieved its targets for the reduction of waste and emissions to air and water in 1997, three years ahead of the envisioned final date. We are striving to make further reductions within the framework of Responsible Care and Coatings Care, in line with the principle of continuous improvement formulated in the ISO 14001 standard. Employee involvement in this field is encouraged through Managing Total Environment (MTE) courses.

More detailed information on HSE matters is presented in Akzo Nobel's 1998 Corporate Environmental Report, which will be published in the summer of 1999.

#### AKZO NOBEL IN SOCIETY

#### To be a respected member of society

In 1998, Akzo Nobel received the King Willem I Award, which was presented by HRH Prince Claus of the Netherlands. This distinction was awarded by the King Willem I Foundation for several reasons, including the Company's ability to successfully anticipate rapid international market developments, its leading role in the field of safety, health and environment, its stimulation of student interest in science and technology, and international cooperation with universities and scientific institutes.

The Akzo Nobel Science Award was conferred on Professor Rob Schilperoort of the University of Leiden for his international pioneering work on the genetic modification of plants. This method of transferring DNA to plant cells was developed in order to cultivate strong plants and thus reduce the need for biocides. The technology also makes it possible to produce plants that furnish the basic materials for the production of industrial enzymes and animal vaccines.

In 1998 the Education Fund sponsored a large number of projects. In China in the province of Yanqing, furniture was provided for schools in seven villages and in Garwhal, India, new classrooms were built for 450 pupils. The funds for these and other projects came from donations of Akzo Nobel employees and the Company. In addition to the Education-Industry Partnership program which aims to stimulate young children's interest in science and technology, numerous initiatives are being taken all over the world to strengthen the ties between our plants and the local communities. For example, the Industrial Coatings North America's Coil Coatings plant in Columbus, Ohio, has adopted a

Strengthening the ties with the local community in Columbus, Ohio.



Presentation of King Willem I Award by HRH Prince Claus of the Netherlands.

program to provide both financial and personal assistance for improving the infrastructure and quality of life in the neighborhood.

During 1998 Akzo Nobel continued to sponsor young talent in music and arts. In the Akzo Nobel for Young Talent program concerts were held in Singapore, Stockholm and Brussels. This program offers young winners of international music competitions an opportunity to perform in major cities throughout the world with renowned orchestras and conductors.

The Akzo Nobel Art Foundation made further additions to its collection of modern art. A selection of the finest works from the collection can be viewed via the Internet. The Foundation also provides consultancy in architecture, design, style, and color schemes.

Price of Akzo Nobel share ( \_ ) relative to Dow Jones Euro Stoxx 50 ( \_ ) and Dow Jones Euro Chemicals ( \_ ) (year-end 1996 = 100)



Net income, excluding nonrecurring/ extraordinary items, and dividend per share of NLG 5 (in guilders)



#### **AKZO NOBEL SHAREHOLDERS**

#### One share one vote

The April 1998 General Meeting of Shareholders approved the proposal to amend the Articles of Association, eliminating the previous restrictions on voting rights and giving shareholders influence proportional to their holdings.

#### Increased attention for private shareholders

The four-for-one stock split, as approved at that General Meeting, enhanced the tradability of Akzo Nobel's shares. In order to encourage and structure private shareholders' involvement with and representation toward their companies a number of large Dutch companies formed the Shareholder Communication Foundation in 1998. This foundation has set up a pilot project to establish a shareholder communication facility, which will also enable us to conduct a form of proxy voting in the Netherlands for shareholders who have deposited their shares at major Dutch banks. The voting system is expected to be introduced in the year 2000. This development, in which Akzo Nobel acted in the forefront, will facilitate shareholders to cast their votes at shareholder meetings. Some eight percent of the shares of Akzo Nobel, one of the initiators of the Foundation, is currently in private shareholders' hands.

#### Corporate Governance for shareholders' confidence

Shareholders need to be confident that their company has a coherent internal structure of management and control. Akzo Nobel fosters continuous awareness of Corporate Governance throughout the organization and requires managers of operational and service units to state once a year in a Letter of Representation how they have fulfilled their responsibilities in terms of appropriate systems of internal control and proper business conduct.

Akzo Nobel's common shares are listed at the following stock exchanges: Amsterdam, London, NASDAQ (as American Depositary Receipts), Vienna, Brussels, Paris, Frankfurt am Main, Stockholm (as Swedish Depositary Receipts), and the SWISS EXCHANGE. Akzo Nobel is also included in the Dow Jones Euro Stoxx 50.

In order to comply with the regulations of the U.S. Securities and Exchange Commission, the Company also files an Annual Report on Form 20-F. After filing, a copy of this report can be obtained free of charge at Akzo Nobel's Investor Relations Department.

For five-year summary, additional shareholder information, and financial calendar reference is made to pages 91 and 92.



# BUSINESS ACTIVITIES

AKZO NOBEL'S PRODUCTS AND MARKETS

KEY FIGURES AND RATIOS

PHARMA

COATINGS

CHEMICALS

**ACORDIS** 

# AKZO NOBEL'S PRODUCTS AND MARKETS

(All stated competitive positions are based on management estimates.)

Major Product Lines	Key Products/Applications	Competitive Position
P H A R M A		
Prescription drugs, hospital supplies, veterinary products, raw materials for the pharmaceutical industry, OTC products	<ul> <li>Oral contraceptives, infertility treatment, hormone replacement therapy, and CNS products (antidepressants, antipsychotics)</li> </ul>	<ul> <li>Among top four suppliers of oral contraceptives, second largest in infertility products; building up positions in CNS products</li> </ul>
1998 sales NLG 5.1 billion	Muscle relaxants, diagnostics	• World leader in muscle relaxants, strong in bacteriology
	• Veterinary vaccines, endocrine products, and antibiotics	One of the four major suppliers of veterinary vaccines
	Pharmaceutical raw materials	• Strong in heparins and a world leading supplier of steroids and industrial peptides
	Nonprescription drugs	Strong local positions in Europe
COATINGS		The world's leading coatings producer
Coatings and related products, adhesives, printing inks, and resins	Coatings for decoration and protection of architectural structures	Market leader in Europe
Annualized* 1998 sales NLG 11.7 billion	Car refinishes, finishes for commercial vehicles	Among top four global suppliers
	<ul> <li>Coatings for protection and decoration of hulls, interiors, and superstructures for ships and yachts</li> </ul>	• World leader
	<ul> <li>Industrial coatings in the form of powder, wood, metal, coil, and plastics coatings for such applications as construction and building products, automotive, aircraft, appliances, and furniture</li> </ul>	World leader in the selected markets
	Resins for coatings and printing inks	Leading in selected market niches
	Resin impregnated paper for surfacing of wood panels	World leader in the noncaptive market
	<ul> <li>Adhesives and resins for wood products such as wood panels, furniture, floors, doors, etc</li> </ul>	Leader in selected market niches
	<ul> <li>Printing inks for the graphic and packaging industries</li> </ul>	• Global leader in narrow web inks; market leader in the Nordic countries and Turkey

\* Including sales of the former Courtaulds activities on a full-year basis.

## Major Product Lines

## Key Products/Applications

**Competitive Position** 

		p
CHEMICALS		
Specialty, functional, and commodity chemicals 1998 sales NLG 7.5 billion	<ul> <li>Pulp bleaching, manufacture of paper and board</li> </ul>	<ul> <li>World leader in pulp bleaching chemicals, sodium chlorate, and hydrogen peroxide; strong worldwide position in paper chemicals</li> </ul>
	• Functional chemicals such as chelates, flame retardants, animal feed additives, and intermediates such as carbon disulfide, monochloroacetic acid, ethylene and methylene amines	Leading and strong worldwide positions
	<ul> <li>Surfactants and fatty acids used in detergents, cleaning, personal care, and for numerous industrial uses such as asphalt, oil, agro, mining, and textile. Thickeners, additives for paints and building materials</li> </ul>	Leading and strong worldwide positions
	Polymer producing industry	<ul> <li>Leading and strong worldwide positions in polymerization catalysts such as organic peroxides and metal alkyls</li> </ul>
	Chlorine, caustic soda for industrial applications	Leading positions in Northwest Europe
	• Salt for electrolysis, other industries, and consumer use	Leading position in Northwest Europe
	<ul> <li>Catalysts for the oil refining and chemical industries</li> </ul>	The world's second largest supplier of refinery catalysts
	Plastic additives such as stabilizers and radiation curing agents	Leading supplier in Europe, strong position     in North America

In a number of product areas Akzo Nobel also conducts chemical activities through joint ventures. In 1998, sales of these nonconsolidated companies aggregated NLG 4.5 billion on a 100-percent basis.

# **ACORDIS**

Product and Market information on Acordis is included in the Acordis section on page 54.

# KEY FIGURES AND RATIOS

	Net sales			Operating	ncome**		Invested ca	pital at year	end
		pro forma*			pro forma*			pro forma*	
Millions of guilders	1998	1998	1997	1998	1998	1997	1998	1998	1997
Pharma	5,120	5,099	4,615	1,058	1,057	931	3,098	3,052	2,756
Coatings	10,500	9,065	8,382	883	778	751	4,989	3,819	3,393
Chemicals	7,480	7,454	7,575	705	704	730	5,692	5,671	5,850
Acordis/Fibers	4,291	3,336	3,539	141	123	93	3,687	2,452	2,530
Other***	116	(150)	(59)	(50)	(45)	(34)	1,144	528	294
Total	27,507	24,804	24,052	2,737	2,617	2,471	18,610	15,522	14,823

	Operating income * * as % of net sales		Operating income* * as % of invested capital			Net sales/invested capital				
			pro forma*		pro forma*			pro forma*		
Ratios		1998	1998	1997	1998	1998	1997	1998	1998	1997
	Pharma	20.7	20.7	20.2	36.1	36.4	36.2	1.75	1.76	1.79
	Coatings	8.4	8.6	9.0	21.1	21.6	23.1	2.51	2.51	2.57
	Chemicals	9.4	9.4	9.6	12.2	12.2	12.6	1.30	1.29	1.31
	Acordis/Fibers	3.3	3.7	2.6	4.5	4.9	3.7	1.38	1.34	1.39
	Akzo Nobel	10.0	10.6	10.3	16.4	17.2	17.2	1.65	1.63	1.67

	Expenditur	es		Depreciatio	'n		Capital exp	enditures/	
	Property, plant and equipment			Property, plant and equipment			depreciation		
	pro forma*		pro forma*			pro forma*			
Millions of guilders/ratio	1998	1998	1997	1998	1998	1997	1998	1998	1997
Pharma	381	371	235	209	208	177	1.8	1.8	1.3
Coatings	428	368	287	294	259	241	1.5	1.4	1.2
Chemicals	612	611	579	565	564	544	1.1	1.1	1.1
Acordis/Fibers	298	184	184	290	249	239	1.0	0.7	0.8
Other***	86	66	127	99	84	92			
Total	1,805	1,600	1,412	1,457	1,364	1,293	1.2	1.2	1.1

\* The pro forma figures exclude all effects of the Courtaulds acquisition.

\*\* Before nonrecurring items.

\*\*\* Other activities, intercompany deliveries, and nonallocated items.

The terms and conditions for intercompany deliveries are negotiated at arm's length and are therefore, in principle, identical with the ones used in transactions with third parties.

International intercompany deliveries are made in accordance with standard procedures that take due account of tax, currency, and pricing regulations in effect in the countries concerned.

For definitions of certain financial ratios and concepts see back cover foldout. Responsible in Board of Management: Paul K. Brons Fritz W. Fröhlich (alternate)

**Group Director Technology:** *Koen Wiedhaup*  Business Units: Organon Organon Teknika Intervet Diosynth Chefaro

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Cunit 19

00 16;

General Managers: Tjeerd Kalff R.R.M. (Bob) Salsmans A.T.M. (Toon) Wilderbeek Johan C.C.B. Evers A.H.J.M. (Ton) Scheepens



10 20 21 22 23 24 25 26 27

# Pharma

1245

7070

5890

4715

335

236



Millions of guilders	1998	1997
Net sales	5,120	4,615
Operating income*	1,058	931
Depreciation and amortization	234	197
Gross cash flow	1,292	1,128
Expenditures for PP&E	381	235
R&D expenditures	742	641
Invested capital at year end	3,098	2,756
Key ratios		
Operating income*		
as percentage of:		
– net sales	20.7 36.1	20.2 36.2
<ul> <li>invested capital</li> </ul>	50.1	56.2
Net sales/invested capital	1.75	1.79
Expenditures for		
PP&E/depreciation	1.8	1.3
Number of		
employees at year end	16,600	15,700

\* Before nonrecurring items.

#### SALES AND INCOME

Pharma achieved strong growth in sales and income. Sales of NLG 5.1 billion surpassed the previous year's figure of NLG 4.6 billion by 11 percent, spurred by a volume gain of 12 percent. On balance, prices were practically at the 1997 level, while changes in currency exchange rates had a negative effect of 1 percent. Operating income before nonrecurring items rose 14 percent to NLG 1,058 million.

The main growth driver was again Organon with a sales increase of 13 percent. The continuous success of the antidepressant Remeron<sup>®</sup>, the fertility hormone Puregon<sup>®</sup> and the introduction of the oral contraceptive Mircette<sup>®</sup> resulted in sales growth of over 60 percent in the United States. Organon Teknika also improved its performance, favored by strong volume growth. Intervet achieved good sales growth and excellent results under difficult market conditions. Diosynth's operating results remained strong but failed to reach the previous year's figure. Chefaro's earnings were slightly lower in a stagnant market.

Pharma was able to increase return on sales to 20.7 percent despite significantly higher expenses for research and development as well as for product introductions. Return on invested capital was 36.1 percent in 1998, against a long-term target of 40 percent.

> For definitions of certain financial ratios and concepts see back cover foldout.

#### **BUSINESS REVIEW**

#### Continued healthy growth

In 1998, Pharma continued to pursue its strategy of autonomous growth. While worldwide the prescription drugs market is growing at about 6 percent in U.S. dollar terms, we managed to achieve a very healthy sales increase of 13 percent in this field. The launch of new innovative products and their good acceptance in the market, as well as our improved geo mix, were the major factors in this development.

We made considerable efforts to further improve our presence in the key U.S. market. Over the years, Organon Teknika and Intervet have been establishing bridgeheads in the U.S. market, partly through acquisitions and partly through a grassroots approach.

More recently, because of its lengthier product development tracks, Organon built a rapidly expanding base for its business in the United States. To service the successful launch of its oral contraceptives, fertility products, and Remeron<sup>®</sup> antidepressant, Organon has been making strong efforts to extend its U.S. field force, from a mere 470 in 1994 to some 1,100 people in 1999. Organon's sales in the United States increased 67 percent in 1998, contributing considerably to Organon's worldwide growth. Meanwhile, manufacturing, R&D, and medical service staff are preparing the launch in the United States of eight new innovative products for the coming two years.

Of course, adverse currency developments and the crisis in Asia also affected Pharma's sales. Organon and our veterinary business unit Intervet (which had aimed at expanding its positions in Asia) suffered from developments in that area. Nevertheless, Intervet achieved a healthy 8 percent growth worldwide, outperforming most of its competitors. In hospital pharmaceuticals, Organon Teknika had a quite successful year. In the highly competitive diagnostics area it was able to extend the so-called "installed base" for its key diagnostic equipment systems, which should further enhance its returns through growing reagent supplies for these systems in the years to come.

Diosynth registered increasing sales to noncaptive clients, who now account for more than 60 percent of its total output. In order to keep pace with expected growth in demand for sophisticated new pharmaceutical compounds, Diosynth is investing in additional biotechnological and downstream processing facilities. From a strategic point of view this will further strengthen the know-how base for our total Pharma operations.

Over-the-counter pregnancy tests of Chefaro maintained their leading position in Europe.

Over the years Pharma's steadily improving geo and product mix has resulted in a continuous growth of gross margin, permitting us to step up R&D, marketing, and service efforts.

All of Pharma's business units have been taking measures to structurally reinforce and streamline their facilities and organization. Organon continued to expand its second R&D site in Newhouse, Scotland, by opening new laboratories, while Intervet broke ground for a second European R&D facility in Angers, France. Some older production facilities in Europe were sold or closed. Organon Teknika integrated its headquarters with its main European R&D and production site in Boxtel, the Netherlands, closing down its Turnhout, Belgium, offices. Organon, an innovative producer of prescription drugs, expanded its second R&D site in Newhouse, Scotland, by opening new laboratory facilities (right). Knowledge of gene functioning allows for identification of new drug targets (see photo on page 23).



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#### **Developments in the Business Units**

#### **ORGANON – PRESCRIPTION DRUGS**

Sales NLG 2,880 million (1997: NLG 2,540 million)

#### Another successful year for 75-year-old Organon

Organon celebrated its 75th anniversary in 1998. Mr. Saal van Zwanenberg founded Organon in Oss, the Netherlands, in 1923. From its modest beginnings Organon has grown into a well-regarded and respected healthcare company with almost 10,000 employees (including 1,500 in R&D), having subsidiaries in 55 countries and selling its products in virtually every country in the world.

In 1998, Organon achieved a 13 percent increase in sales and a significantly higher operating income. In Europe, sales rose 10 percent. Growth rates of more than 25 percent were achieved in France, Spain, Sweden, Denmark, and—in Eastern Europe—the Czech Republic, Slovakia, and Rumania. In the Americas sales increased 38 percent, with the United States as the star performer at 67 percent growth. In Asia we faced a setback in sales of about 20 percent due to the economic and financial crisis. In Australia we did exceptionally well, with sales rising by 35 percent.

Sales growth by product group breaks down as follows: Contraception 5 percent, Hormone Replacement Therapy (HRT) 15 percent, Fertility 33 percent, and Central Nervous System (CNS) 52 percent. In Contraception the final outcome in the scientific debate about the second and third generation oral contraceptives was: *there is no difference in the prevalence of thrombosis.* The political outcome in one country remains uncertain.

In the United States, Mircette® oral contraceptive was launched, and its acceptance looks very positive. In HRT we continue to develop our unique tissue-specific Livial® brand into a leading product in the market of treatments of climacteric complaints and prevention of osteoporosis. In Fertility our rapidly growing Puregon®/Follistim® recombinant FSH product was very successful. In CNS we have the ambition to increase the worldwide market share of our novel Remeron® antidepressant to 6 percent by the year 2000. Our R&D focuses on innovation, with 16 to 17 percent of sales being spent in this field. New R&D facilities are under construction or planned in the United Kingdom, the United States, and the Netherlands. Our R&D strategy is to establish contacts with outside centers of excellence, simultaneously building a high quality, creative, and competitive R&D organization.

In Processing, we are concentrating our efforts on efficiency and improvement of equipment to meet high quality requirements. Production facilities in France, Spain, and Korea were sold to third parties.

Besides our R&D and Processing efforts, we will continue to focus on:

- HSE: implementing ISO 14001 standards;
- competitive intelligence: using contemporary IT facilities to optimize business decisions;
- health economics: demonstrating cost-effectiveness to convince new decision-makers;
- Information Technology: integrating business functions and facilitating international communication;
- logistics: creating higher customer-added value and optimizing inventories;
- time-to-market: reducing the time lag between regulatory approval, price approval, and product launch.

#### **ORGANON TEKNIKA – HOSPITAL SUPPLIES**

Sales NLG 1,010 million (1997: NLG 950 million)

#### Strong volume growth

Strong volume growth was the striking feature in 1998, for both Pharmaceuticals and Diagnostics. Operating income was well ahead of 1997. Sales and operating income were negatively impacted by lower rates for various currencies, such as the yen and the U.S. dollar that declined in the second half of 1998, and by the recession in Southeast Asia.

R&D focuses on Pharmaceuticals, mainly for anesthesiologists, and on the special Diagnostics fields of Immunodiagnostics, Microbiology, Hemostasis, and Nucleic Acid Diagnostics. Organon Teknika's international headquarters were moved in November 1998 from Turnhout, Belgium, to Boxtel, the Netherlands, and integrated with the European R&D, manufacturing, and distribution facilities to improve operational efficiency. Intervet, focusing on increasing its presence in the world animal health market, started the construction of a new R&D center in Angers, France (building site and computer image, right).



Sales of Pharmaceuticals made substantial progress compared to 1997, aided by incidental Norcuron<sup>®</sup> muscle relaxant sales in the United States. Esmeron<sup>®</sup> muscle relaxant (Zemuron<sup>®</sup> in the United States) shows satisfactory growth both by replacing Norcuron<sup>®</sup> and by further market penetration, demonstrating our world leadership in muscle relaxants. To aid anesthesiologists in monitoring muscle relaxation we have introduced TOF-Watch<sup>®</sup>. One of the year's highlights was the submission to the U.S. FDA of the New Drug Application (NDA) file for Raplon<sup>®</sup> rapid onset short duration muscle relaxant, in June 1998. Market introduction is anticipated in late 1999.

In Diagnostics, Microbiology performed well, continuing to show double-digit growth for its BacT/Alert® systems for automated blood culture. BacT/Alert® 3D, the new generation diagnostic for the culture and detection of bacteria (including mycobacteria) and fungi was introduced in May 1998 at the conference of the American Society of Microbiology in Atlanta, Georgia.

Nucleic Acid Diagnostics also registered strong sales growth, notably for its HIV and CMV assays. We also have high expectations for our NucliSens® Extractor introduced at the 12th World Aids Conference in Geneva, Switzerland. The extractor provides an automated solution for the extraction of nucleic acids from human body fluids, replacing labor-intensive manual procedures.

Immunodiagnostics reported a favorable development of sales, despite the economic situation in Southeast Asia. The FDA approved Vironostika® HTLV I/II assay for blood screening. Through an arrangement with Ortho Clinical Diagnostics (Johnson & Johnson), the combined assay for detection of types I and II Human T-cell Lymphotrophic Virus, a causal agent of certain types of leukemia, lymphoma, and neurological disorders, was successfully introduced in the U.S. blood screening market. A fourth generation HIV screening assay Vironostika® HIV Uni-Form II Ag/Ab was launched in late 1998. This assay helps reduce the period between infection and detection from three to two weeks.

Hemostasis improved its geographic mix by further placements of its MDA®-180 and Coag-A-Mate® MTX systems. Two new clotting assays (MDA® D-dimer assay and Simplastin® HTF assay) were FDA approved and introduced. Conventional assay sales failed to meet expectations in the United States, but higher sales outside the United States compensated for the shortfall. Organon Teknika's installed base of diagnostic systems improved substantially in 1998, providing an attractive platform for future growth in a highly competitive environment.

#### **INTERVET – VETERINARY PRODUCTS**

Sales NLG 780 million (1997: NLG 720 million)

#### Further expansion in difficult year

Intervet's product range comprises biologicals for use in farm animals, fish and pets, fertility products to enhance reproduction performance, corticosteroids, nonsteroidal anti-inflammatory drugs (NSAIDs), and antibiotics.

Although 1998 was a rather difficult year, particularly in Asia, satisfying sales and excellent income were achieved. Volume growth was good in Europe and the Americas. In particular, the range of biological products contributed to this positive development. During the year new Intervet subsidiaries were established in Korea and Taiwan. In Switzerland, Veterinaria AG was acquired, while in Australia—through the acquisition of AusVac—a foothold in the biological market was secured.

Worldwide, a number of new products were registered and introduced. In the United States various new animal vaccines were launched; in Europe registration for an NSAID for use in dogs was obtained. Several other vaccines were introduced in the various European markets. In Japan, eight new products were registered, creating sufficient potential for healthy growth in that country.

Our strategy continues to focus on achieving substantial autonomous growth through R&D and simultaneous improvements in the geo mix. Aside from this, Intervet remains interested in opportunities to acquire smaller businesses that fit this strategy. Construction of the new R&D center in France for the development of pharmaceutical products is on schedule. During the year the construction of a new NLG 50 million bacterin production plant in Boxmeer, the Netherlands, was authorized. DIOSYNTH – SPECIALIZED RAW MATERIALS FOR THE PHARMACEUTICAL INDUSTRY

Sales NLG 640 million (1997: NLG 620 million)

#### FDA approval for new chemical plant

After a careful commissioning and startup process of the new chemical production facility in Oss, much effort was spent on obtaining approval by health authorities. Early in 1998 the plant was inspected and approved by the Dutch Ministry of Health. The U.S. FDA was then invited for the final step in the approval program. In-depth FDA inspection in November resulted in a positive outcome. The FDA approval allows Diosynth to further extend its position as one of the leading global suppliers of specific active pharmaceutical ingredients, a high value-added segment in which Akzo Nobel is committed to grow.

Construction of a new downstream processing unit in Oss, the Netherlands, started in the last quarter of 1998.

Akzo Nobel's acquisition of Courtaulds was a welcome event as it enabled Diosynth to incorporate the fine chemical units in Buckhaven, United Kingdom, and La Plaine, Switzerland. Of modest size, the additions will nevertheless broaden our technology base in the fields of "acid" reactions and chiral chemistry.

Results in 1998 remained strong but did not reach the previous year's level. Sales of some biochemical products, manufactured in dedicated facilities, were down. Sales of heparin and some chemical products were up, but the gain was not sufficient to sustain double-digit growth.

Diosynth's unit Rosemont Pharmaceuticals Corporation in Denver, Colorado, realized substantial sales growth. Rosemont Pharmaceuticals Ltd. in Leeds, United Kingdom, continued to perform well.

#### CHEFARO – NONPRESCRIPTION PRODUCTS

Sales NLG 200 million (1997: NLG 200 million)

#### Improved positions in stagnant market

Improved product positions in main market segments compensated for the setback in seasonal products, which suffered from poor weather conditions in a stagnant European OTC market. The overall outlook for the self-medication (OTC) market remains healthy, however, and Chefaro continues to strengthen its longterm position as it intensifies support for its major brands.

Successful new products in the Davitamon<sup>®</sup> range reinforced Chefaro's leading position in the Dutch market for vitamins.

In the highly competitive European market for home pregnancy tests, Chefaro maintained its leading positions with Femtest<sup>®</sup> and Predictor<sup>®</sup> products. Strong progress was made in France, where double-digit growth lifted Predictor<sup>®</sup> to the position of market leader.

Responsible in Board of Management: Ove H. Mattsson Rudy M.J. van der Meer (alternate)

Senior Group Director: Neville D. Petersen

**Group Director Technology:** J. (Hans) D. Remijnse

# Business Units:

**Decorative Coatings:** 

- South

- North

Industrial Coatings:

– Europe

North America
 Car Refinishes
 Industrial Products
 Resins
 Printing Inks

Former Courtaulds:

Marine & Protective

Coatings

Aerospace Coatings and Sealants

**General Managers:** 

Rinus Rooseboom Jan Andersson

Göran Jönsson Robert J. Torba Cor J.L.M. de Grauw Lars-Erik Thomsgård Klaas Hielkema Bengt Knutsson

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Leif Darner Ted Clark Effective January 1, 1999, the industrial coatings activities of Akzo Nobel and former Courtaulds have been reorganized into two global business units named Industrial Coatings and Industrial Finishes, managed by Göran Jönsson and Robert J. Torba, respectively. Industrial Coatings includes General Industrial Coatings, Powder Coatings, Plastics Coatings, and Aerospace Coatings. Industrial Finishes includes Coil Coatings and Wood Coatings.

# Coatings



\* Including sales of the former Courtaulds activities on a full-year basis.

	pro forma*	
1998	1998	1997
10,500	9,065	8,382
883	778	751
294	277	241
1,177	1,055	992
		287
276	224	209
4,989	3,819	3,393
	0.0	0.0
		9.0
21.1	21.6	23.1
2 51	2 51	2.57
2.51	2.51	2.57
1.5	1.4	1.2
32,100	25,100	23,100
	10,500 883 294 1,177 428 276 4,989 8.4 21.1 2.51 1.5	1998       1998         10,500       9,065         883       778         294       277         1,177       1,055         428       368         276       224         4,989       3,819         8.4       8.6         21.1       21.6         2.51       2.51         1.5       1.4

#### SALES AND INCOME

Coatings' sales were NLG 10.5 billion in 1998, up 25 percent. The former Courtaulds activities accounted for 17 percent of this increase and other acquisitions for 6 percent. Volumes and average selling prices each were 1 percent higher. Currency translations had virtually no impact. Operating income before nonrecurring items was NLG 883 million, an increase of 18 percent. Of this gain, 14 percent was attributable to the contribution of former Courtaulds.

Car Refinishes, Industrial Products, and Resins again had a strong year and achieved higher operating income figures. Results of Aerospace Coatings and Sealants were up due to solid volume growth. Decorative Coatings' results were flat, in part due to poor weather conditions in Europe. As a consequence of the crisis in Russia, Industrial Coatings and Printing Inks were unable to match the performance of the previous year. Protective Coatings' activities were negatively affected by the crisis in Asia. Earnings of Coil Coatings operations in the United States were lower due to strong price pressure.

Return on sales was 8.4 percent—down from 9.0 percent in 1997—against the 10-percent longterm target. Return on invested capital was 21.1 percent in 1998, compared to the target of 25 percent.

\* The pro forma figures exclude all effects of the Courtaulds acquisition.

\*\* Before nonrecurring items.

#### **BUSINESS REVIEW**

#### Quantum jump through acquisitions

1998 saw a further restructuring of the coatings industry, with several acquisitions involving the major international companies. One of the driving forces is the clear trend toward internationalization, coupled with a search for synergy benefits in purchasing, R&D, production, and marketing and sales. The rate of internationalization varies with the type of market. In Car Refinishes, Marine Coatings, and in many of the Industrial Coatings sectors we see true globalization, as customers demand consistent quality and efficient service in markets all over the world. Developments in distribution and market restructuring within the Protective and Decorative Coatings sectors are more regionally defined.

Akzo Nobel's leading role in this process was more obvious than ever. During the year several acquisitions were made and new joint ventures were formed, reflecting our strong focus on achieving leading positions in selected markets and geographic areas. Most prominent was the acquisition of Courtaulds, making Akzo Nobel the world's leading coatings company. Our portfolio benefited from the addition of Marine & Protective Coatings. The geographic sales mix improved, strengthening our positions especially in Asia and South America. Large benefits were also achieved for Industrial Coatings, notably in Powder and Coil Coatings. In recent years major progress has also been made in building up business in Eastern and Central Europe.

Other 1998 highlights include:

- establishment of a world leadership position in nonstick coatings through the acquisition of Lambda (Italy), and the formation of a joint venture with CCC (United States);
- strengthening of our position on the decorative coatings market through the acquisition of BASF's Decorative Coatings activities in Germany and Marshall Boya in Turkey;
- establishment of a separate Printing Inks business unit and subsequent acquisition of the U.S./U.K. company Werneke Inks, making Akzo Nobel a leader in water-based and UV-curable inks for the tag and label market.

R&D focused on strengthening our proprietary coatings technology base to meet the market demands of environmentally adapted, technologically advanced, and economically attractive coatings concepts. Besides the R&D carried out within the business units, long-term R&D is conducted in eight Technology Centers located at major sites in various countries. These centers, which cooperate closely, place strong emphasis on creating new concepts, each in their own specific area.

Akzo Nobel Coatings enters 1999 with a sound product/market portfolio. Still, 1999 will be a year of integration and consolidation of the newly acquired activities. The business outlook is uncertain in many geographic areas.

#### Developments in the business units

#### **DECORATIVE COATINGS**

Sales NLG 3,730 million (1997: NLG 3,350 million)

Decorative coatings for the professional and do-ityourself (DIY) markets account for over half of the world demand for coatings. Traditionally, this is a very local business, with different national brands and distribution networks. However, in the last five years we have seen the emergence of multinational building and DIY retail chains, leading to regionalization of the market. Akzo Nobel, with its international presence, is well placed to serve these businesses.

In the decorative coatings business esthetics play a key role. Akzo Nobel is able to help and train painters and designers to make the right color selections, for anything from an individual room or property to an entire urban district or national monument. This competence is also reflected in product development, as is shown by the tactile and effect coatings launched in several countries in 1998.

The Decorative Coatings activities are organized in two business units that cooperate closely. Major brands include Sikkens<sup>®</sup>, Levis<sup>®</sup>, Astral<sup>®</sup>, Trimetal<sup>®</sup>, Flexa<sup>®</sup>, Crown<sup>®</sup>, Nordsjö<sup>®</sup>, and Marshall<sup>®</sup>. Leading adhesive brands are Schönox<sup>®</sup>, Cégécol<sup>®</sup>, and Casco<sup>®</sup>. Decorative Coatings South is responsible for operations in the Netherlands, Germany, France, Belgium, Italy, Spain, Portugal, Switzerland, Austria, Morocco, Tunisia, and North and South America as well as for business development in East Asia.

Decorative Coatings North is responsible for operations in the United Kingdom, Ireland, the Nordic countries, Russia, Rumania, Ukraine, the Baltic states, Hungary, Poland, Turkey, Greece, and the total adhesives business. The business unit made significant headway in its strategic assignment to further develop the Central and Eastern European markets.

#### DECORATIVE COATINGS NORTH

#### Further growth in sales and earnings

Decorative Coatings North achieved further earnings gains in 1998, even before acquisitions. Volume growth was strong for cement-based powder adhesives but generally flat for paints.

We have increased our market shares both in volume and value in a number of markets. However, business in the Nordic countries showed some stagnancy, reflecting a weak outdoor season due to poor weather conditions. The crisis in Russia affected results in the last quarters, but we will continue to pursue our objectives there via the joint venture Akzo Nobel Dekor ZAO, as this potential growth market is essential to our business in the long term. Construction of a new paint factory near Moscow is scheduled to start in spring 1999.

We acquired a majority share in the Turkish company Marshall Boya, which currently holds 25 percent of the decorative coatings market in Turkey. Via Marshall we also gained additional activities in Russia and a joint venture in Rumania. Marshall, which is listed on the Istanbul stock exchange, is our bridgehead for expansion into the Black Sea region.

In addition to our relatively strong position in adhesives in the Nordic countries, Germany, and France, we have laid the foundation for expansion in Central Europe, where a new organization was set up with a clear growth agenda. Our U.K. business has been successfully turned around as a result of restructuring efforts in recent years. Earnings also improved because of strong commercial performance, particularly in the retail business.

During 1998 a technical center for color mixing systems was introduced in Malmö, Sweden. This center will be the technical focal point for the business unit's tinting expansion. The development of tinting is an important prerequisite for our future success.

R&D efforts strongly focus on the development of low emission floor adhesives and waterborne trim paints.

#### DECORATIVE COATINGS SOUTH

#### Improving cost structure

After a strong first quarter, sales and earnings leveled off, failing to reach the 1997 level. Poor weather conditions had a negative impact on paint consumption for outdoor applications. Compared to 1997, prices of the white pigment titanium dioxide increased substantially, which had a negative effect on margins.

In spite of fierce competition, sales, profitability, and market share developed positively in France. Replacing three warehouses, the new distribution center in Montataire has improved the cost structure.

The German market remained hesitant. Through the acquisition of the European decorative activities of BASF we established a leading position in Germany in lacquers and translucents for professional end users, strengthened our position in dispersion paints, and achieved attractive complementary positions in other European countries, including Switzerland and France.

The cost structure of our operations in Spain improved. All production activities, including those of the newly acquired Parrot company, were concentrated on the San Adrian site in Barcelona, enabling us to shut down the Badalona site. Our network of Procolor centers continued to grow strongly, providing excellent market coverage and commercial distribution capabilities.
We increased our shareholding in Astral Tunisia to 60 percent. Together with our strong base in Morocco, this gives us an excellent platform for further growth in North Africa, where Astral<sup>®</sup> is the leading coatings brand.

To improve profitability a major restructuring program was implemented in our South American operations, which already started to pay off during the second half of 1998.

The crisis in Asia prompted us to slow down efforts to establish a presence in that region.

We successfully developed a complete range of topquality, solvent-free wallpaints for indoor application. For outdoor application our high solids and waterborne lines represent the best available technology. Color plays an important role in our company's culture and tradition. To commemorate the transition to the new millennium we decided to launch new color collections based on the choice of international experts in architecture and design. In 1998, we introduced under the Sikkens® brand a selection made by Sir Norman Foster, the world famous architect. The Sikkens Foundation conferred the 23rd Sikkens Award to Professor John Gage for his investigation of the impact and meaning of color in the history of western culture.

#### INDUSTRIAL COATINGS

Sales NLG 2,330 million (1997: NLG 2,180 million)

Until the end of 1998 the Industrial Coatings activities were organized geographically. Industrial Coatings Europe focused on the European and Middle East markets, and on the development of powder coatings activities in Asia. Industrial Coatings North America was responsible for the Americas and concentrated on the development of wood and coil markets in Asia Pacific. In response to the globalization of the market and in line with our strategy the Industrial Coatings activities have been organized in two global business units as from January 1, 1999. *Industrial Finishes* will be responsible for the Coil and Wood Coatings activities, while *Industrial Coatings* will manage the General Industrial, Powder, Plastics, and Aerospace Coatings. The industrial coatings activities of former Courtaulds are being integrated into these two business units.

#### INDUSTRIAL COATINGS EUROPE

#### Consolidating market leadership positions

Earnings in 1998 were slightly lower than in 1997 due to a downturn in the second half of the year when the economic crises in Asia and Eastern Europe had a negative impact on sales.

During the year Powder, General Industrial, Wood, Coil, and Plastics Coatings all maintained or increased market shares.

Integration of the former Courtaulds Industrial Coatings activities commenced and a new organizational structure was adopted. The combined powder coatings activities have made Akzo Nobel the new market leader worldwide. The acquisition of Courtaulds has also given us access to additional proprietary chemistry, which combined with our existing activities in this field should significantly improve our long-term competitiveness.

Plastics Coatings, already the European market leader, improved its position further. In response to continued restructuring of the market for general industrial coatings, we further developed our strategy of building strong positions in key niche markets. We substantially strengthened our presence in the important nonstick coatings market. After the acquisition of Lambda (Italy) and the formation of the joint venture with CCC (United States) we are now among the global market leaders. The internationalization of another niche, mirror coatings, gained momentum.

R&D efforts to improve the eco-efficiency of products by reducing toxicity and emission levels continued.

Powder coatings, one of the fastest growing sectors of the worldwide coatings industry, are finding increasingly more sophisticated applications, which exploit their outstanding toughness and durability.

The Stade de France (right) features our Polydrox® powders on roofing, glazing, lighting, ceilings, barriers, and safety gates.

Our new superdurable Interpon® D25 was used on paneling of the new Hong Kong airport (right, center).



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#### INDUSTRIAL COATINGS NORTH AMERICA

#### Solid platform for future growth

A positive business environment coupled with intensified efforts to reduce raw material costs were the ingredients in structural profitability. These results were obtained despite the economic turmoil in Asia and South America and a temporary price erosion due to overcapacity in the U.S. coil coatings market.

Geographic expansion continued with the acquisition of Oxylin Industrial Ltda, São Paulo, Brazil. This state-ofthe-art and competitive industrial coatings production facility will serve as a strategic bridgehead for our industrial coatings business in South America. In addition, a new production facility was commissioned in García, Nuevo Léon, Mexico.

Wood Coatings performed excellently, strengthening its position as a leading supplier of high-quality finishes to the furniture industry.

The coil coatings industry worldwide will remember 1998 as a year of tough competition and price erosion. We nevertheless managed to improve our market position through high-quality products and innovation. The process of integrating the former Courtaulds coil activities will result in a strengthened market position.

Commitment to R&D continues to be vital for the success of our business, yielding a stream of new products that keep renewing and enhancing our competitive position. For example, 1998 saw our Ceram-A-Star® coil coating systems, with their exceptional exterior durability and modest cost, increase their market penetration. Our waterborne Durasoft® soft feel coatings systems also gained greater acceptance in both the automotive and truck markets. In addition, we commercialized a new ultra-performing system for wooden office furniture and dining room tables, cured by ultraviolet light.

#### CAR REFINISHES

Sales NLG 1,300 million (1997: NLG 1,270 million)

#### Onward and upward

Car Refinishes enjoyed another successful year, with sales up from 1997 and an improvement in operating income. We made good progress in pursuing our fundamental strategy, which is to:

- consolidate and improve positions in established businesses in developed markets;
- grow in new market segments;
- grow in emerging markets.

Performance in Western Europe was considerably strengthened, as is reflected in gains in sales and operating income and in a larger market share. In the Sikkens® high-end segment, we successfully introduced waterborne and high-solids products to meet growing demand for products with a low VOC (volatile organic compounds) content. Upgraded versions of conventional products also sold well. In the middle segment Lesonal® sales continued to grow in Western Europe. We also achieved strong growth in the commercial vehicles segment, especially in emerging markets.

In North America we consolidated our Sikkens® business in a highly competitive market that is being transformed by the introduction of nationwide VOC legislation. Lesonal® sales developed well, enabling us to strengthen the distribution network. The commercial vehicles segment has become a key part of our market strategy in North America. The joint venture in Mexico again gained market share with the Sikkens® product lines, supported by the newly opened training center in Mexico City.

In Asia we concentrated on extending our market position. We took over operations from importers and set up operations of our own in South Korea, Malaysia, Singapore, and the Philippines. We also established two new branches in India. In China we opened a new training center and strengthened our sales force. In South America our consistent multi-segment, multibrand approach gave us a leading edge on our competitors. Satisfactory progress was made in extending sales beyond the established positions in Brazil and Argentina. In Brazil, further investments were made to upgrade the plant at São Bernardo do Campo. A new distribution center, opened in late 1998, is already contributing to earnings through lower costs and improved service.

In order to further explore the considerable growth potential in Eastern Europe we set up a new organization with headquarters in Poland. We have established positions in Hungary and Turkey and hold a strong position in Poland, aided by the acquisition of the Sikkens® products importer and by the Nobiles car refinishes business.

We made significant progress in the introduction of new technologies and products, especially in our two-track approach to lower VOC emissions with product lines such as Autowave<sup>®</sup>, a new waterborne basecoat system, and Autocryl<sup>®</sup> LV, a new low-VOC solvent-borne, single-stage topcoat system. Together these product lines enable bodyshops to meet even the most stringent environmental requirements, while maintaining high levels of performance, productivity, and profitability.

#### AD Aerospace Finishes

#### Exceptional growth in all sectors

AD Aerospace Finishes enjoyed another year of exceptional growth, in terms of sales and operating income, thanks to improvements in all business sectors. Declines in regional markets in Southeast Asia and Russia were more than compensated for by strong gains in Europe.

Our efforts to become stronger in the OEM (Original Equipment Manufacturer) sector secured us a larger share in the endline business with Airbus and other aircraft manufacturers. A number of airlines made livery changes, generating significant new business.

AD Aerospace Finishes is now in the early stages of introducing a revolutionary new primer system and continued its advance in the OEM sector as it gained several new approvals from European design authorities.

In January 1999 Akzo Nobel acquired full ownership of AD Aerospace Finishes through the purchase of the remaining 40-percent stake.

#### **INDUSTRIAL PRODUCTS**

Sales NLG 950 million (1997: NLG 900 million)

#### Best year ever

For Industrial Products, trading under the name Casco Products, 1998 was characterized by organic growth. Despite a weaker second half, sales reached an all-time high and operating income improved. The year started with strong demand, except in Southeast Asia. Sales to China continued to develop positively. However, the economic situation in Russia and a weakening market in Europe adversely affected results in the second half of the year.

During the year we placed a strong focus on South America and improved our presence there. We acquired Interquím S.A., Colombia, a producer of wood adhesives, giving us a foothold for expansion in that region.

R&D efforts started to pay off, producing a number of new products that should contribute to sales growth.

Impregnated Papers recorded higher volume. Aided by new products, the flooring market developed well, particularly in North America and China. Successful optimization and rationalization efforts in Europe contributed to higher earnings. The turnaround of impregnated paper companies acquired in the United States and Spain was completed. They are now profitable and will contribute to further growth.

For Wood Adhesives European sales held steady at the previous year's level. Sales in the United States developed well thanks to our system-selling concept. Sales in Russia and Asia failed to show the anticipated growth. Product innovations that contributed to sales growth in Western Europe include PUR (polyurethane) adhesives for nonwood sandwich panels and CPMS (Casco Products Modeling System), which enables particle board producers to operate with consistent quality at lower cost.

Sales of Expancel<sup>®</sup> expandable microspheres continued to grow rapidly. Marketing efforts were stepped up, particularly in the Americas. New polymerization capacity came on stream at Sundsvall, Sweden. The U.S. operations expanded facilities to meet growing demand of Expancel<sup>®</sup> microspheres on the American continent. Current R&D targets are environmentally compatible high-performance products with increased expandability and efficiency and new applications with high sales potential.

#### RESINS

Sales NLG 610 million (1997: NLG 590 million)

#### Upward trend continued

Business continued its upward trend, despite sluggish demand in Asia and South America. Results were better than in 1997. Cost containment and an improved product mix compensated for virtually unchanged sales volumes.

We strengthened our geographic and market positions during 1998. In Singapore we opened a regional office and increased our participation in Synthese Malaysia from 32 percent to 62 percent. In Argentina, a strategic alliance was set up for printing ink resins with the ASCONA group, which will help us strengthen our global competitive position in printing ink resins and give us access to a reliable source of gum rosin. Aside from providing critical mass, it will also allow us to improve production efficiency.

In the United States a major expansion was carried out at Baxley, Georgia, while the facility at Louisville, Kentucky, completed an important upgrading and expansion program for surface coatings resins.

We opened laboratory facilities in Louisville and Bergen op Zoom, the Netherlands, and reshuffled resources to form dedicated R&D groups, which will provide an even greater customer focus.

For the automotive OEM market we successfully introduced new products with a special focus on Asia and the Americas.

New acrylic dispersions, acrylic polyols, and DCPDbased resins were launched. A boost in exports enabled our plant at Surabaya, Indonesia, to largely compensate for local volume reductions.

In printing ink resins, we made progress in integrating our U.S. production sites and maintained a high pace of new product introductions.

#### **PRINTING INKS**

Sales NLG 400 million (1997: NLG 360 million)

#### World leadership in niche markets

Numerous acquisitions in the printing ink industry heralded a restructuring of the market. Printing Inks, until 1998 part of Industrial Products, had a promising start. The acquisition of Werneke Inks in the United States makes us the global market leader in narrow web inks, with water-based and UV-curing inks for the tag and label market. Geographic expansion continued with new activities in South Africa and India and the establishment of a sales office in Brazil.

The gloomy outlook for the markets in the former Soviet Union depressed sales. Aiming for a stronger market presence, we remodeled our organization to emphasize product lines. Concentration of production resources into so-called "mother plants" resulted in a more efficient international production structure.

The emphasis in R&D on environmental issues resulted in new product lines based on vegetable oil or on UVcuring, water-based systems.

#### FORMER COURTAULDS ACTIVITIES

The following sections relate to former Courtaulds coatings businesses which have been part of Akzo Nobel and included in consolidation since July 1998. During the second half of the year, integration of the former Courtaulds businesses into the Akzo Nobel organization started. To provide a better insight fullyear sales figures are stated in the headings.

#### MARINE & PROTECTIVE COATINGS

Full-year sales NLG 1,300 million (1997: NLG 1,300 million)

#### Performance maintained in difficult markets

The new Marine & Protective Coatings business unit, which trades as International Coatings, combines the Marine, Yacht, and Protective activities. In all three activities, the new business unit operates on a global scale and is the worldwide market leader. This gives us a substantial competitive advantage, particularly in the marine and protective coatings areas, where the ability to follow geographic market trends is essential for continued growth. Holding strong positions in the United States and many other geographic areas, Marine & Protective Coatings is a world leader in high performance coatings for the shipbuilding, ship repair, and yacht markets, and in heavyduty coatings for on-shore and offshore steel structures and equipment.



EDS



nternation

#### Marine Coatings

The effect of the economic problems in Asia has been most evident in Marine Coatings, much of whose business is with Asian shipbuilding and ship repair yards. Although the newbuilding backlog has remained strong in terms of tonnage on order, price competition has become intense. Furthermore, the slowdown in the economies of South America and Russia has put pressure on freight rates, and hence on price levels in the sector generally. Marine performance was helped by penetration into new growth markets. These included coastal and inland craft, the new construction cruise area, and seastores. In the United States the strong economy resulted in growth in the coastal and cruise business, but this was offset by a shift in repair activity to East Asia and a slowdown in the U.S. Navy programs. However, additions to manufacturing capacity at the Houston, Texas, plant are nearing completion and will deliver significant productivity improvement.

#### Protective Coatings

The slowdown in Asian economies also affected Protective Coatings, as major investment projects in the region were postponed or canceled. The acquisition of the Platt Protective Coatings business in Germany and that of a majority share in the Plascon protective business in South Africa helped fuel growth. The position in Europe was further reinforced by the merging of the former Courtaulds' protective coatings activities with those of Akzo Nobel, forming a business unique in this sector with a global scale and a uniform product range—a factor that has proved valuable in the market conditions prevailing in 1998.

#### Yacht Paints

Performance of Yacht Paints was relatively stable in 1998. In August the North American based Nautical Paints Industries was acquired, giving us the leading position in the growing private label segment and ownership of three prominent North American brands: Gloucester, Nautical, and KL-990. Investment in establishing a global support network led to impressive results in the Superyacht segment, as did the continued expansion by Epiglass into the large epoxy resin market. Efforts are being combined to further strengthen Yacht Paints' leading positions in each of its key market areas: Europe, the United States, and Asia Pacific.

#### R&D

R&D activity continued to focus on developing highperformance products to meet health, safety, and environmental legislation which is becoming increasingly stringent throughout the world. In Marine and Yacht coatings these efforts concentrate particularly on replacement of tin-containing antifouling coatings without loss of product performance. Market acceptance of these new products, such as Intersmooth® marine coatings and Micron® Optima yacht paint, has been very encouraging, and has given these businesses a significant competitive advantage. In Protective Coatings, a number of new products, both solid and waterborne, were introduced this year. The "Ecotech" initiative to promote the use of environmentally friendly coatings continues to be a leading force throughout the industry.

#### INDUSTRIAL

Full-year sales NLG 860 million (1997: NLG 850 million)

#### Powder

The combination of Akzo Nobel's powder coatings activities with such activities of former Courtaulds will create the world's largest powder coatings business, with global supply and powerful technology, supported by sophisticated R&D. To be completed in 1999, the integration is expected to bring significant synergy benefits.

Interpon's expansion program continued in 1998 with the successful commissioning of two new factories in Shanghai and Suzhou, China. New polyester resin facilities in the United Kingdom and Brazil also became fully operational, and the world's first and patentprotected powder coating color mixing service, Interpon® Express, was successfully launched in the United Kingdom and France. This service offers customers a unique 48-hour powder color mixing service in batches of 20 kg and upward. Sales of Interpon<sup>®</sup> Powder Coatings showed strong growth over 1997, despite particularly difficult trading conditions in Asia and South America. Good progress was made in the domestic appliance market, where patent-protected thin film Interpon<sup>®</sup> XTR powders became available from Interpon's worldwide network of class A production plants, and helped secure global supply contracts with a number of major international appliance manufacturers. In the architectural sector, penetration was assisted by our superdurable polyester powders, which are based on in-house resin technology. Projects included the prestigious new Hong Kong airport. Progress continued also with the Particle Managed Powder program, which was successfully extended to the industrial sector, where the cost savings made possible by Intern AF, an advanced fluidity powder coating, proved attractive to customers.

#### Coil

In Europe and Asia Pacific the unit is a major producer of coil coatings for the protection of steel strip used for buildings and appliances. The activities in Europe are conducted by a joint venture with Nippon Paint, Akzo Nobel Nippon Paint. The Asia Pacific operations of former Courtaulds are fully owned. Since its foundation in 1993, the coil business has grown strongly, both organically and through the acquisition in 1995 of the market leader in Germany, Mehnert & Veek. The integration of these activities into the business unit Industrial Finishes will significantly improve our position in this market.

Performance in 1998 was adversely affected by the strong sterling, poor demand in Russia, and increased imports of cheap Asian coated steel into Europe. Even so, volumes were up slightly. Prices, however, came under pressure, resulting in lower sales and earnings.

#### **AEROSPACE COATINGS AND SEALANTS\***

Full-year sales NLG 460 million (1997: NLG 410 million)

#### Market share further improved

Continued strong growth marked the performance of the Aerospace Coatings and Sealants business, which is the established global leader in both markets. Market share again improved as a result of the introduction of new products and geographic expansion.

A new high-solids, high-performance exterior coatings system under the brand name Desothane HS® for the commercial airliner, general aviation, and military aircraft markets was successfully introduced. Lightweight PRC brand aerospace sealants, based on our proprietary Permapol® polymers, have been specified for all Boeing and Airbus aircraft models. Geographic expansion, particularly in Asia, the Middle East, and Africa, has resulted in new airline customers specifying our products.

\* The European Commission decided on June 30, 1998, to clear the acquisition of Courtaulds Plc. by Akzo Nobel UK Holdings Plc. (Akzo Nobel). Akzo Nobel has given an undertaking, as a condition of the clearance, to divest the worldwide former Courtaulds Aerospace Coatings and Sealants Business or, as an alternative undertakina. Akzo Nobel's 60-percent interest in the Akzo Nobel Dexter Aerospace Finishes Joint Venture (ADAF) to Dexter Corporation, which already owned the remaining 40 percent. Pending the completion of either of these divestments the Aerospace Coatings and Sealants Business should be operated independently from the ADAF Business under a trusteeship in order to avoid the possibility of market coordination. Accordingly, the Aerospace Coatings and Sealants Business was placed under the trusteeship of Credit Suisse First Boston (CSFB). The alternative undertaking was abandoned in December 1998. Subsequently, in January 1999 Akzo Nobel acquired Dexter's 40-percent participation in ADAF. CFSB is currently proceeding with the divestment of the Aerospace Coatings and Sealants Business (as from January 1999 trading as PRC-DeSoto) on behalf of Akzo Nobel in order to give effect to Akzo Nobel's undertaking.

Responsible in Board of Management: Rudy M.J. van der Meer Ove H. Mattsson (alternate)

Group Director Technology: Conrad S. Kent

#### **Business Units:**

Pulp & Paper Chemicals Functional Chemicals Surface Chemistry Polymer Chemicals Base Chemicals Catalysts Plastics and Processing Additives Salt Energy

#### **General Managers:**

Dag Strömqvist Simon J. Vogelaar Jan Svärd Arend-Jan Kortenhorst H.C.J. (René) Scheffers W.W. (Jon) Meijnen

Kees van Nierop Floris A. Bierman Gert N. van Ingen

Statistics in the

# Chemicals





Rudy M.J. van der Meer



1997 1998 Millions of guilders Net sales 7,480 7,575 Operating income\* 705 730 Depreciation and amortization 583 554 Gross cash flow 1,288 1.284 Expenditures for PP&E 612 579 R&D expenditures 228 229 Invested capital at year end 5,692 5,850 Key ratios Operating income\* as percentage of: net sales 9.4 9.6 - invested capital 12.2 126 Net sales/invested capital 1.31 1.30 Expenditures for PP&E/depreciation 1.1 1.1 Number of employees at year end 14,100 13,100

\* Before nonrecurring items.

#### SALES AND INCOME

Chemicals achieved a volume growth of 3 percent, while lower average selling prices and changes in exchange rates each had a negative effect of 1 percent. Including the net negative effect of acquisitions and divestments (2 percent), Chemicals' sales amounted to NLG 7.5 billion, slightly below 1997. Excluding the divestment of Salt America in 1997, operating income before nonrecurring items of NLG 705 million was virtually on a par with the prior year.

Results of Polymer Chemicals and Functional Chemicals surpassed the previous year's record levels due to higher volumes sold. Base Chemicals also did better. Surface Chemistry's earnings were unchanged from 1997, despite a weak market in Asia. Operating income of Pulp & Paper Chemicals was lower than in 1997 due to a depressed market situation for Bleaching Chemicals in the United States. Catalysts has made decisions to streamline certain manufacturing units—particularly for intermediate products—in view of the continuing decline in its markets. The results of Plastics and Processing Additives weakened. Earnings of Salt were also lower but remained satisfactory.

Return on sales was a robust 9.4 percent, close to the target of 10 percent, despite the weakening business climate for chemicals. Return on investment was 12.2 percent, against a 15-percent target over the business cycle.

For definitions of certain financial ratios and concepts see back cover foldout.

Sales of Chemicals' nonconsolidated companies, on a 100-percent basis, aggregated NLG 4,500 million in 1998, against NLG 4,800 million in 1997. The consolidation of Akcros as from October 1998 caused a decrease of NLG 130 million. The share of Chemicals in earnings of the nonconsolidated companies decreased from NLG 120 million in 1997 to NLG 96 million in 1998, mainly caused by a strongly reduced contribution from Methanor (methanol). Flexsys (rubber chemicals) did better.

#### **BUSINESS REVIEW**

#### Robust margins

With Europe setting the pace, the trend in the worldwide chemical industry toward greater specialization in life sciences, petrochemicals/ polymers, and specialty chemicals gained momentum.

Akzo Nobel also took many steps to further improve its Chemicals portfolio: a mix of specialty, functional, and commodity chemicals based upon leading positions in selected segments of the chemical industry. The most important event in this respect was the acquisition of our partner Elementis' 50-percent share in Akcros Chemicals. Akcros is now a new business unit-named Plastics and Processing Additives-within the Chemicals Group. Additionally, Polymer Chemicals acquired a Korean amides company (Daejin); Surface Chemistry took an additional 15-percent share in its Malaysian fatty acids operation, resulting in a 65-percent majority; and Functional Chemicals concluded the acquisition of the EDA business from Bayer. Base Chemicals divested its Soda Ash business to Brunner Mond and decided to sell its 50-percent share in PVC joint venture ROVIN. The former Courtaulds CS, and Phosphorus businesses were integrated within Functional Chemicals. Surface Chemistry announced a further restructuring of its European surfactants business.

Other major events in 1998 include the decisions to invest in a paper chemicals plant in China; a chelates plant in Lima, Ohio; a phosphite transester plant in Eccles, United Kingdom; and a Crystex<sup>®</sup> plant in Malaysia (by rubber chemicals joint venture Flexsys). Furthermore, expansions were announced for micronutrients in Kvarntorp, Sweden; colloidal silica worldwide; SB-Latex paper coatings in Oulu, Finland; AKD-wax in Trollhättan, Sweden; and chlorine in Rotterdam, as well as a chlorine production upgrade in Skoghall, Sweden.

In general, the business in 1998 showed two completely different faces: an excellent first half in which earnings clearly surpassed expectations and the previous year's results and a second half in which the results of almost all business units were significantly impacted by the slowdown in the economy caused by the crises in Asia, Japan, and Russia.

Chemicals' priorities remain unchanged. First of all, efforts will be intensified to improve profitability in order to meet our targets of 10 percent ROS and 15 percent ROI over the business cycle. Secondly, we aim to grow in selected business areas with emphasis on a stronger presence in North America and organic growth in Asia.

#### **Developments in the Business Units**

#### PULP & PAPER CHEMICALS

Sales NLG 1,700 million (1997: NLG 1,660 million)

#### Growing global presence

Results for the business unit Pulp & Paper Chemicals known in the market as Eka Chemicals—were below those of 1997. The pulp market is under pressure, partly due to the economic downturn in Asia. This had a negative impact on the pulp industry in North America and Europe. As inventories increased in North America and the Nordic countries, so did pressure on price levels, and some pulp mills were forced to shut down temporarily. This adversely affected sales volumes of bleaching chemicals in North America. High power costs during the hot summer in North America also had a negative impact on results. Pulp & Paper Chemicals' joint venture Eka Polymer Latex Oy produces styrene butadiene (SB) latex, which is used to bind pigment particles to the base paper.

Production capacity at Oulu, Finland, (right) was recently increased to 60,000 tons per annum.





The continuing trend toward ECF (Elementary Chlorine Free) bleaching of pulp should benefit sodium chlorate sales. Environmental Protection Agency (EPA) Cluster Rules in North America will strengthen ECF bleaching. However, implementation of the EPA Cluster Rules has been somewhat slower than anticipated due to the economic downturn and impending litigation. Our leadership in the worldwide sodium chlorate market remains undisputed. New capacity in Mo i Rana, Norway, which will come on stream early in 1999, will strengthen this position and keep pace with market growth.

The hydrogen peroxide market in continental Europe improved substantially in 1998, but the North American market remains depressed.

Our paper chemicals business continued its positive development. Results were satisfactory and higher than in 1997. We strengthened our position in a number of major markets and entered several new ones. Operations in Asia, including the new plant in Surabaya, Indonesia, benefited from our enhanced competitiveness and delivered satisfactory results. Our global position in silica sol improved further from the completion of capacity expansion in Sweden, Germany, Taiwan, and North America. The styrene butadiene (SB) latex business, a 50-percent joint venture of Eka Chemicals and Polymer Latex GmbH, reported satisfactory results. Additional SB capacity came on stream in Oulu, Finland, early in 1999.

Akzo-PQ Silica v.o.f., our 50-percent joint venture with PQ Corporation, suffered from stiff competition in the Western European market for silicate commodities. Its position in specialty products, including deliveries of silica for the "green tire" market, further improved (silica filler in tires helps reduce fuel consumption and improves wet grip). Output from expanded capacity at the Düren site in Germany came on stream in the fourth quarter. Results were lower than in the previous year.

#### FUNCTIONAL CHEMICALS

Sales NLG 1,510 million (1997: NLG 1,340 million)

#### Upward trend continued

Functional Chemicals' results continued to improve with good contributions by all business areas.

Business conditions for monochloroacetic acid (MCA) were stable, but prices were under some pressure. Denak Co. Ltd., our 50-percent MCA joint venture in Japan, reported unchanged earnings despite the adverse economic developments in Asia. Our strategy of optimizing the product mix and developing specialties in the carboxymethylcellulose (CMC) unit was successfully pursued, resulting in higher earnings.

The results for methylamines stabilized. Higher sales volumes were partly offset by price erosion. Choline chloride—a trimethylamine-derived animal feed additive—was affected by significantly lower demand in Asia. A new plant came on line at Yixing Akzo Nobel Sanyuan Chemical Company Ltd., a choline chloride 65-percent joint venture in the People's Republic of China.

Chelates continued to implement its growth strategy. The U.S. chelates business of Hampshire Chemical Co., which was successfully integrated, provides a strong foothold in North America. Construction of a new chelates plant in Lima, Ohio, is under way and will come on stream in 2000.

Expansions of the micronutrients plant in Kvarntorp, Sweden, will become operational in 1999 and should reinforce our leadership in this market.

Overall, the carbon disulfide business continued to suffer from the stagnating rayon industry in the western world and the weak U.S. agrochemicals market. Despite the political turmoil in Indonesia we expect to start up the Cikampek carbon disulfide plant in Java—built to serve the Asian rayon industry—by mid-1999. The former Courtaulds carbon disulfide activities in the United Kingdom were shut down, following Akzo Nobel's acquisition of that company. Plants, like people, require a balanced diet. The role of major plant nutrients such as nitrogen, phosphorus, and potassium is understood and their use in fertilizers is taken for granted. Less well-known is the crucial part played by micronutrient elements such as iron, manganese, zinc, copper, and magnesium. Herkenbosch, in the Netherlands, (right) is one of the sites where Functional Chemicals produces these micronutrients.

Product

Datu

Phosphorus chemicals earnings continued to improve. Exports from the new plant in Bitterfeld, Germany, were strong, especially to Asia. Integration of the former Courtaulds flame-retardant business, including the production plant in Spondon, United Kingdom, is well under way.

Ethylene amines reversed the declining trend of recent years, producing improved results. An agreement was reached with Bayer to take over their ethylene amines business in combination with a tolling agreement. This has resulted in a strong leadership position in Europe and a full product range of both lower and higher ethylene amines.

#### SURFACE CHEMISTRY

Sales NLG 1,220 million (1997: NLG 1,200 million)

Further efficiency improvements in European surfactants business

Despite a weak market in Asia and unfavorable exchange rate developments at the end of the year, Surface Chemistry duplicated the previous year's earnings performance, reflecting improved results for surfactants in North America. Paint and building additives were still at a good level in the face of a slowdown of the market.

The European surfactants business, however, suffered from continued overcapacity, necessitating further restructuring to achieve cost reduction. The full effects of this restructuring program, which is expected to affect some 200 jobs, will be evident by the end of 1999. A substantial part of fatty amines production in Stockvik, Sweden, will be moved to Mons, Belgium, and Littleborough, United Kingdom, resulting in more efficient use of available capacity.

The investment program in Stenungsund, Sweden, is proceeding according to plan and will be completed during the first half of 1999. In addition to increased capacity and safety, improvements include more efficient handling of raw materials and end products. Investments in modernization of the North American production facilities are also progressing well. These will come into operation during 1999 and will be completed by the end of 2001. These investments and rationalizations are designed to ensure that the business can perform well, even in adverse economic circumstances.

During the year, our participation in the joint venture, Akzo Nobel Oleochemicals Sdn Bhd in Pasir Gudang, Malaysia, was raised to 65 percent to gain better control of the fatty acid business. The joint venture recently completed a major production expansion program.

The surfactants business of Akcros Chemicals was transferred to Surface Chemistry.

R&D focuses on environmental compatibility and improving our product range. New products, more than half of which are developed in close cooperation with customers throughout the world, are contributing strongly to earnings.

#### POLYMER CHEMICALS

Sales NLG 1,150 million (1997: NLG 1,110 million)

#### Growth sustained

The results of Polymer Chemicals exceeded the previous year's record performance. Earnings grew mainly in the first half of 1998, leveling off in the second half. A weaker U.S. dollar had a dampening effect. Demand from polyolefin producers, our major customers, was stable, although they suffered from overcapacity, as too many plant expansions came on stream at the same time. Volume gains in Europe and the Americas compensated for declining demand in Asia. Cost control and greater efficiency counterbalanced increased pressure on pricing from customers.

The two Japanese 50-percent joint ventures, Tosoh Akzo Corporation and Kayaku Akzo Corporation, continued to suffer from the weakness of the Japanese domestic economy and reduced export opportunities in Asia. The new Tianjin Akzo Nobel Peroxides Co. Ltd. 73-percent joint venture in China did well in its first full year of operation. The organic peroxides business continued its strong performance. In November, a successful Organic Peroxides Symposium was held in the Netherlands, with a special focus on improvement of customer profitability.

Our metal alkyls business developed nicely: a trimethyl aluminum capacity extension and a new pilot plant were completed at Deer Park, Texas. Specialty sales increased significantly, and the new plant in Rotterdam reached design capacity. Worldwide, price levels were still disappointing.

In October, we acquired the amides business of Daejin in Korea, strengthening our global market presence in this segment and allowing manufacturing efficiencies between plants in the United States, Europe, and Asia.

Better margins and volume growth of monomers for ophthalmic lenses resulted in satisfactory earnings.

Custom catalyst manufacture also had good results, especially in Europe, where plant capacity was fully utilized for the first time. Capacity is currently being expanded.

#### **BASE CHEMICALS**

Sales NLG 730 million (1997: NLG 850 million)

#### Creating future growth

Base Chemicals' operating income was slightly up from 1997, despite the divestment of the soda ash business to Brunner Mond plc. and the depressed PVC market. During 1998 we further strengthened our position, focusing increasingly on optimizing our chlor-alkali activities. We have already established close cooperation with ICI's polyurethane unit and are meeting the additional chlorine demand resulting from Shell's decision to expand its ECH/epoxies business. With the exception of chloromethanes, which suffered from the economic downturn in Asia, all activities contributed to improved results.

The membrane electrolysis plant in Rotterdam will be expanded by 60,000 tons to 335,000 tons to meet increased chlorine demand in the Rotterdam area. The Skoghall, Sweden, chlor-alkali plant will be upgraded to become a state-of-the-art membrane electrolysis plant. Both facilities are scheduled to come on stream in the second half of 1999. A three-year cost reduction program is progressing well, with completion scheduled for the end of 2000. Also, long-term relationships with customers will be strengthened through efforts emphasizing product stewardship and services.

The results of ROVIN v.o.f., the 50-percent VCM/PVC joint venture, were negatively impacted by the economic situation in Asia. In October 1998 we announced the intended sale of our interest in this business. The results of the 50-percent Elektro-Chemie Ibbenbüren joint venture were down, despite higher prices for caustic soda. Work is well ahead on the conversion of the existing diaphragm electrolysis plant in Bitterfeld, Germany, to a state-of-the-art membrane electrolysis plant. The new facility is expected to come on stream in the second half of 1999.

The results of the 30-percent joint venture Methanor v.o.f. in Delfzijl, the Netherlands, were considerably down, due to very low methanol prices and lower capacity utilization.

#### CATALYSTS

Sales NLG 550 million (1997: NLG 640 million)

#### Asia and oil industry downturn impact results

Catalysts' sales suffered from a decline in its key markets for both hydroprocessing (HPC) and fluid cracking (FCC). Continued cost reduction efforts failed to offset lower margins, and consequently results remained disappointing.

Markets shrank in response to low oil prices, continued low returns in the refining industry, and improved catalysts efficiency in terms of lifetime and regenerability. Dwindling volumes in European and American markets were not compensated for by growth in Asia/Pacific. This picture is not expected to change in the near future. The absence of market growth combined with overcapacity resulted in sustained low FCC prices. Under these circumstances the drive for price improvements led to somewhat higher price levels but also produced an unacceptable loss of market share. Several new technologies are now being tested. We expect these technologies to help us recapture market share and we will therefore market them aggressively.

On a more positive note, market growth in HPCs is expected to resume in part, driven by new environmental regulations for transportation fuels. New catalyst technologies now under development should enable refiners to meet these new regulations, thus bolstering our leading market position.

After its first year of operation the "MAKFining" alliance with Mobil, Kellogg, and Fina for the development and licensing of catalyst technology to convert heavy oil fractions into high quality fuels is producing commercial results. Market penetration efforts as a supplier of catalysts to existing hydrocracking units continued.

The results of the Eurecat group of companies improved, thanks to increased regeneration volumes.

The Japanese 50-percent joint venture for HPC, Nippon Ketjen Company Ltd., again produced good earnings, although these were somewhat lower than last year due to lower demand in Asia Pacific.

Performance at FCC-Fábrica Carioca de Catalisadores S.A., our Brazilian 40-percent joint venture which produces FCCs mainly for the Brazilian market, was reasonable.

#### PLASTICS AND PROCESSING ADDITIVES

Annualized sales NLG 600 million (1997: NLG 680 million)

#### Ready to grow

In 1998 we purchased the remaining 50 percent share of the joint venture Akcros Chemicals from Elementis plc., giving us full control over operations. Consolidated from the last quarter, results of the business unit (trading under the name Akcros) weakened due to falling prices in the plastics additives market and the strength of the pound sterling, which affected exports from the U.K. Due to the adverse economic conditions in Asia, exports to this region also suffered major setbacks. Production transfers were realized through a restructuring program, which should bring down costs. Production of UV/EB curing chemicals in the United States continues to grow, with new products finding a ready market. Overall results in the United States were up.

#### SALT

Sales NLG 510 million (1997: NLG 520 million)

#### Positions maintained in highly competitive market

Earnings in 1998 were below the 1997 level but still satisfactory. This slight decline was due to intensified competition caused by overcapacity, higher volume sales of low quality salt products in traditional evaporated salt markets, and lower demand for deicing salt due to the mild winter in Europe.

Salt maintained its position, albeit at lower prices. Despite a stagnant market, which affected shipments of bulk salt to the chemical industry, profitability remains structurally sound. Working closely with customers, Research & Technology is constantly looking for opportunities to further improve product quality. Our knowledge of salt and chlorine production, combined with low-cost production in our state-of-theart facilities, gives us a strategic edge over our competitors.

Salt specialties remained very competitive. The high quality of our customer service backed by excellent logistics helped bolster our already strong position. The sales force was reorganized and qualitatively improved.

To ensure continued growth in the generally stagnant European market, we are opening up new markets. Also in line with our strategy, we introduced three new premium brand products in the retail market.

In America, we have built up an attractive export position in the U.S. specialty market on the East Coast and in the chemical industry market, which we supply both directly and through local distributors. The solar salt facility under construction in Onslow, Western Australia, is expected to start shipping in the year 2000. Premarketing activities are under way in Asia Pacific to secure a smooth entrance into the market.

#### ENERGY

Sales NLG 280 million (1997: NLG 270 million)

#### Energy savings realized

In 1998, the Energy Efficiency Program (EEP) brought substantial savings at a number of production sites. Large state-of-the-art cogeneration projects scheduled to come on line in 1999 will result in cost-effective and more efficient use of energy as well as significantly lower emissions.

In Delfzijl, the Netherlands, the major cogeneration expansion project at the 50-percent joint venture Delesto B.V. is nearing completion. Preliminary trial runs were successful. In Mariager, Denmark, a new "clean" gas boiler replacing a coal boiler came on stream in early 1999.

Purchase contract conditions improved, as the European authorities adopted a new electricity and gas directive that opens the door to competition in the energy sector.

The business unit turned in an improved performance in 1998.

#### **OTHER ACTIVITIES**

#### Flexsys

As the global market leader in rubber chemicals, our 50-percent joint venture Flexsys continues to perform well. However, 1998 was a difficult year, mainly due to the economic downturn in Asia Pacific, which was reflected in prices for some key products that were below economic reinvestment levels.

Recently approved plans to construct a world-scale Crystex<sup>®</sup> insoluble sulfur plant in Malaysia demonstrate Flexsys' long-term commitment to investment in the Asian rubber industry.

The new rubber antidegradants plant in Antwerp, Belgium, has started running on the revolutionary clean technology that received the 1998 U.S. Presidential Green Chemistry Challenge Award. The product has now been approved and is used by customers worldwide.

#### Delamine

Earnings from Delamine B.V., our 50-percent European joint venture for the production of ethylene amines (EDA and higher amines), were well up in 1998, despite lower sales volumes in Asia Pacific. Lower priced raw materials for ethylene dichloride (EDC) and the impact of cost reduction programs contributed to this positive development. From January 1, 1999, Acordis acts as a stand-alone business. Its management, nominated in anticipation of the intended demerger, operates subject to the applicable Akzo Nobel rules and procedures under the responsibility of Akzo Nobel's Board of Management. **Board of Management** Folkert B. Blaisse **Chief Executive Officer** Patrick Shanley **Chief Financial Officer** Peter L. Rogers Deputy Chief Executive Officer, and responsible for the Industrial Group, consisting of Acetate, Aramid Products, Fine Chemicals, Industrial Fibers, Membrana, and Nonwovens Peter Wack\* Responsible for the Textile businesses Acrylic Fibers, Viscose Filament (Enka), Polyenka, Sympatex, Enka tecnica, and

**Textile Overseas Companies** 

David T. Wilkinson\* Responsible for the Textile businesses Acetate Filament (Novaceta), Cellulosic Fibers (Viscose Staple and Tencel), and Speciality Fibers *E. (Henk) Molenaar* Responsible for Research & Technology, Engineering, and Health, Safety, and Environment

\*) Mr. Wack and Mr. Wilkinson are jointly responsible for the Textile Group.

#### **Supervisory Board**

Gordon A. Campbell Chairman Fritz W. Fröhlich (Deputy Chairman and CFO of Akzo Nobel) Jean den Hoed (Former CFO of Akzo Nobel)



# ACORDIS

### ACORDIS PRODUCTS AND MARKETS

(All stated competitive positions are based on management estimates.)

lajor Product Lines	Key Products/Applications	Competitive Position
Polyester, nylon, viscose, acetate filament; aramid and carbon fibers; lyocell; acrylic staple and ow; speciality fibers; nonwovens;	<ul> <li>Industrial fibers for reinforcement of tires and conveyor belts, airbags, safety belts, nets, etc.</li> </ul>	• World leader in viscose industrial fibers, one of the few top producers of polyester and polyamide 6.6
membranes Annualized* 1998 sales NLG 5.6 billion	• Aramid fibers for optical fiber cable reinforcement, transmission belts, brake linings, ballistic fibers, tires, and industrial composites	One of the two global suppliers
	• Reinforcement carbon fibers for industrial and recreational products	The world's leading supplier for industrial applications
	<ul> <li>ENKA<sup>®</sup> viscose filament for outerwear and linings</li> </ul>	World leader in high quality viscose filamen yarn
	<ul> <li>Sympatex<sup>®</sup> wind- and waterproof breathable membrane for clothing and shoes</li> </ul>	One of the two global suppliers of breathable membrane
	Viscose staple for outerwear, home furnishing, and medical/hygiene products	• One of the top two in Europe and top three in the world, with a leading position in the United States
	• Lyocell staple fiber for outerwear, lingerie, industrial uses, and nonwovens	Worldwide leading position with Tencel® fiber
	• Acrylics for knitted apparel, household furnishings, and industrial uses	• One of the two top European and the three top producers in the world
	• Acetate yarns for woven and knitted apparel, and furnishings	• Leader in Europe and one of the two top producers in the world
	• Speciality gel-forming fibers for advanced woundcare; super-absorbent staple fiber for cable wrap and many other applications	Very strong or leading positions in the world markets
	<ul> <li>Cellulose acetate flake and tow for cigarette filter tips; cellulose diacetate film for packaging and adhesive tapes</li> </ul>	Strong positions; the world's leading producer of cellulose diacetate film
	<ul> <li>Reinforcement nonwovens in automotive, flooring, roofing and for roads, airports, landfills, etc.</li> </ul>	• Among the top three producers of fleece material for reinforcement; leading in geosynthetics
	Membranes for dialysis, oxygenation, and microfiltration	The world's leading independent supplier
	* Including sales of the former Courtaulds activ	rities on a full-year basis.

## ACORDIS



Millions of guilders	1998	pro forma* 1998	1997
Net sales	4,291	3,336	3,539
Operating income** Depreciation and	141	123	93
amortization	295	249	241
Gross cash flow	436	372	334
Expenditures			
for PP&E	298	184	184
R&D expenditures	117	106	103
Invested capital at year end	3,687	2,452	2,530
Key ratios			
Operating income**			
as percentage of:			
– net sales	3.3	3.7	2.6
<ul> <li>invested capital</li> </ul>	4.5	4.9	3.7
Net sales/			
invested capital	1.38	1.34	1.39
Expenditures for			
PP&E/depreciation	1.0	0.7	0.8
Number of			*
employees at			
year end	18,300	12,800	13,300 *
gear ena	10,000	12,000	10,000

#### SALES AND INCOME

The integration of the fibers activities of Akzo Nobel and former Courtaulds (included in consolidation as from July 1998) is progressing well. As of January 1, 1999, Acordis has operated on a stand-alone basis and is being prepared to take off as an independent company.

Acordis' sales of NLG 4.3 billion were up 21 percent and included NLG 1.0 billion of sales from the former Courtaulds fibers activities. Excluding these sales, there was a decline of 6 percent caused by divestments. Volumes and average selling prices were at the prior year's level, while also currency translation had no impact. Acordis' operating income before nonrecurring items grew to NLG 141 million (1997: NLG 93 million).

The income gain was principally attributable to better performances of Industrial Fibers and Textile Fibers as well as the contribution from the former Courtaulds activities. High capacity utilization, cost reductions, and improved productivity boosted earnings for Industrial Fibers. Textile Fibers achieved a turnaround in Viscose Filament from the very disappointing previous year, while Nonwovens also did better. Results of Aramid Products were negatively impacted by the crisis in Asia.

The pro forma figures exclude all effects of the Courtaulds acquisition.

\*\* Before nonrecurring items.

For definitions of certain financial ratios and concepts see back cover foldout.

In its state-of-the-art facilities in Obernburg, Germany, (right) and Scottsboro, Alabama, Industrial Fibers produces high performance airbag yarns. The market shows strong growth, reflecting the increasing number of traditional airbags installed in cars and new applications such as side impact airbags.



Membrana's results were slightly lower than in 1997 due to introduction costs for new products. Overall earnings performance of Viscose Staple was similar to that of the previous year.

Tencel<sup>®</sup> fiber results were depressed due to overcapacities. In the meantime it has been decided to concentrate all production of Tencel<sup>®</sup> at the new plant in Grimsby, United Kingdom, and to mothball the original plant in Mobile, Alabama. Acrylic Fibers' margins were impacted by a sharp price fall in the second half of 1998. Results of Acetate Chemicals were down from 1997 due to intensified competition.

Return on sales was 3.3 percent with a return on invested capital of 4.5 percent, compared to Acordis' long-term targets of 8 and 12 percent, respectively.

The share of Acordis in earnings of nonconsolidated companies was NLG 8 million, excluding the NLG 49 million nonrecurring write-down of the participation in Enka de Colombia. In 1997 earnings were NLG 10 million negative.

#### **BUSINESS REVIEW**

#### Acordis ready to take off

The principal events of the year were the acquisition of Courtaulds and the subsequent merging of the former Courtaulds fibers businesses with those of Akzo Nobel to form the new company Acordis. Acordis operates as an independent, self-supporting unit, with the ultimate objective of being demerged from Akzo Nobel. This will make Acordis the world's largest independent fibers company.

It is Acordis objective to be the world's leading supplier of value-enhancing fibers, fabrics, and other products.

Acordis manufactures a broad spectrum of fibers, fabrics and other products, and services a wide range of markets, in both the industrial and textile sectors, in roughly equal measure. It holds the number one or number two position in most markets in which it operates. The businesses of Akzo Nobel and former Courtaulds largely complement one another, making Acordis the largest producer of cellulose-based fibers. They also share common technologies and markets, and we expect synergy benefits to flow from the combination.

Acordis aims to maximize cash generation from its mature businesses and has formulated the following overall strategy:

- concentration on industrial end uses, textile specialities and medical-related end uses
- product and business innovation
- investment in attractive markets
- improvement of competitive edge
- initiation and active participation in restructuring of the man-made fiber industry.

The global fiber industry's need for consolidation and rationalization has increased as a result of the crisis in Asia. Acordis is in a unique position to initiate and participate in such restructuring of the industry.

Managing and motivating employees are critical success factors. Important qualities in this respect are accountability as well as preparedness and ability to accept and manage changes.

#### **Developments in the Business Units**

#### INDUSTRIAL FIBERS

Sales NLG 1,470 million (1997: NLG 1,570 million)

#### Resilience to Asian Flu

Industrial Fibers maintained strong market positions in Europe and achieved high capacity utilization rates. Cost reductions, lower raw material costs, and the ongoing drive for productivity improvement boosted earnings. Demand for polyester in Western Europe matched the all-time record of 1997, with tire yarns again producing 20 percent volume growth. Customers' approval procedures and high quality requirements for tire yarn and some technical yarn applications (in general, not matched by Asian producers) as well as innovative marketing led to a win-win situation for both Industrial Fibers and its customers in the technical yarn markets. As a result we were able to raise a line of defense against low-priced Asian imports. Nevertheless, these imports threaten to disrupt the European market in the medium term.

Backed by higher yields—thanks to the use of advanced new equipment in Scottsboro, Alabama, and by Cobafi in Brazil—the globalization strategy for polyester tire yarn paid off. We are working hard on improving our global presence in polyester technical yarns, based on the strong positions and unique application know-how we have in European markets.

The globalization of polyamide airbag yarns is also making headway, aided by strong patent positions and customers' global network. The market is developing very satisfactorily with double-digit growth rates, which is mainly attributable to the increased number of traditional airbags installed in cars and new applications such as side impact bags. Industrial Fibers is a global player with leading positions in Europe, local production in the important NAFTA market, and strategic alliances in East Asia.

Rayon (Cordenka®) tire yarn benefited from sustained growth in the high-performance tire market. At the world's largest and most cost-effective rayon plant in Obernburg, Germany, capacity was fully utilized, and results were satisfactory. With the launch of rayonreinforced extended mobility tires by leading tire makers, the future for this product looks promising.

#### **TEXTILE FIBERS**

Sales NLG 990 million (1997: NLG 1,090 million)

#### Turnaround in viscose

The newly formed Enka unit (viscose filament) achieved a turnaround after a disappointing 1997. Results significantly improved, reflecting the relocation of textile aftertreatment to Gorzów, Poland. A critical review of all internal processes led to major productivity improvements. A stronger focus on sales and marketing in more attractive market segments combined with price adjustments also brought a significant improvement in the results. Enka again clearly reinforced its position as the world leader in highquality viscose filament.

Sympatex Technologies was confronted with a disappointing market development. High sales volumes in 1997 had led to an overfilled textile pipeline. The mild winter also contributed to lower sales of Sympatex® products in 1998. In spite of this temporary slowdown, we will continue to pursue our strategy of achieving growth in new market segments and geographic areas. A new product range of bed covers for allergy sufferers was launched under the brand name Dureta®.

Enka tecnica, a leading supplier of spinnerets and components for the man-made fiber and textile industries, continued to produce satisfactory results, although the crisis in Asia significantly reduced orders from original equipment manufacturers.

Polyenka in Brazil suffered from very low international prices for polyester filament yarn. Restructuring measures designed to capture a greater share of the speciality products market are under way.

All nonconsolidated companies suffered from worldwide overcapacity in polyester filament and low prices. Enkador (Ecuador) managed to maintain its position. Enka de Colombia implemented a major restructuring program, resulting in significant cost reductions. In India, Century Enka successfully started up a new spinning section in Mahad, while increased sales led to almost full capacity utilization at the Rajashree plant. The results are not yet satisfactory, but the company is on the right track.

#### **ARAMID PRODUCTS**

Sales NLG 400 million (1997: NLG 450 million)

#### Foundation for growth in place

Sales and earnings of Aramid Products were lower than in the excellent year 1997. The principal causes were the crises in Asia, the downturn in the Japanese automotive industry, the weak yen, and problems in the electronics/chips industry. However, we remain positive about the medium- to long-term prospects for the aramid and carbon fiber markets. During the year many new applications of Twaron® aramid fiber came close to commercialization. Particular progress was made in the transport sector, where the reinforcement of extended mobility tires is showing great promise. An earlier interpretation of the U.S. law was reversed, and we are now free to sell Twaron® fiber in the U.S. military market. Shipments of Twaron® fiber for such applications as optical fiber cable reinforcement, specialty hoses, and transmission belts were higher, whereas ballistic shipments were lower, mainly due to the Asian crisis.

Fortafil Fibers Inc., our U.S.-based carbon fiber producer, experienced a more difficult year after a highly successful 1997, due to the economic turmoil in Asia and especially the problems in the electronics/chips industry. Substantial capacity additions by us and competitors changed the market situation, causing a squeeze on prices. Fortafil increased its capacity by 1,360 tons to 3,500 tons.

#### NONWOVENS

Sales NLG 290 million (1997: NLG 290 million)

#### Market positions bolstered, profitability improved

Industrial Nonwovens' customer-oriented approach and major cost savings resulted in a further income gain in 1998. Expanding our position as one of the leading suppliers of high-performance products, we will continue to direct R&D toward application services and innovative technology with the aim of becoming the lowest cost producer.

In line with our global expansion strategy, we strengthened our sales forces in Asia Pacific, the United States, and Europe. Our specialty product Colback<sup>®</sup>, a carrier for carpet and roofing materials, continued to perform reasonably well in East Asia. In the United States and Europe profitability increased substantially.

Geosynthetics faced a tough year due to the impact of the economic crisis in Asia Pacific. In major countries in this region infrastructural projects were postponed or even abandoned. In Europe and the Americas, however, business grew in line with expectations. Further internal growth can be expected from the broadening of our product range.

#### MEMBRANA

Sales NLG 210 million (1997: NLG 200 million)

#### Competitiveness increased

Membrana is the world's largest manufacturer and supplier of membranes for medical and technical applications. Major medical applications are hemodialysis and oxygenation. These medical segments are growing at a medium to rapid rate with constant pressure on prices. Membrana continues to introduce new products to meet changing market demands. A major restructuring of the organization, bringing significant improvements in efficiency and profitability, was started.

In our largest sector—hemodialysis—we have developed a synthetic membrane with a superior performance, making Membrana the sole supplier in the world with a full range of cellulosic and synthetic membranes for any desired type of treatment. By bringing innovation and cost effectiveness to the production of these membranes, we propose to remain the preferred supplier for the dialysis and cardiac segments. In 1998 we made good progress in achieving our targets.

Membrana is also steadily building a position in markets for technical applications. We are focusing on applications with above-average growth rates, where our products and application know-how can add value.

#### FORMER COURTAULDS ACTIVITIES

The following sections relate to former Courtaulds businesses which have been combined with Akzo Nobel's fibers operations and included in consolidation since July 1998. To provide a better insight full-year sales figures are stated in the headings.

#### **VISCOSE STAPLE**

Full-year sales NLG 580 million (1997: NLG 630 million)

#### Europe improves, United States still weak

Acordis produces viscose staple fibers in three locations: the United States, Germany, and the United Kingdom. Nontextile end-uses, notably absorbency products for medical and feminine hygiene applications, Tencel®, produced by an environmentally friendly process, is an upmarket fashion fiber by virtue of its unique combination of absorbency, tenacity, and esthetic qualities. Shown here (right) is the new European production facility in Grimsby, United Kingdom.





account for approximately one-third of sales. Textile sales are divided fairly equally between apparel and domestic textiles.

A cyclical downturn in textile demand, coupled with interfiber competition and excess capacity, has created difficult conditions for viscose over the past two years. Some recovery occurred in Europe, but the U.S. market is under increasing pressure from imports of Asianmade textiles and garments.

Overall, earnings performance in 1998 was similar to that of the previous year, with a significant improvement in Europe being offset by a decline in the United States. The European operations were profitable, and sales of speciality and nontextile products increased. In contrast, the financial performance in North America deteriorated. Industrial demand remained stable, but textiles fell sharply.

#### **TENCEL AND SPECIALITY FIBERS**

Full-year sales NLG 180 million (1997: NLG 190 million)

#### Potential very high

Tencel<sup>®</sup> was the world's first lyocell fiber when it was launched in 1992. Initially produced in the United States, Tencel<sup>®</sup> was developed as an upmarket fashion fiber by virtue of its unique combination of absorbency, tenacity, and esthetic qualities. The fiber is made by an environmentally friendly process. Demand grew rapidly in denim and peachskin end-uses and, geographically, in Asia. A combination of changing fashions and the Asian economic crises caused growth to plateau. However, with Tencel<sup>®</sup> fiber being used in an increasingly wide range of textile products, the basis for resumed growth has been established. The first European facility was commissioned in late 1998. It is capable of producing a new variant of Tencel® fiber: A100. Tencel® A100 has surface characteristics which should further enhance the opportunities for Tencel® products. The high costs associated with R&D, marketing, and commissioning new facilities, combined with stalled growth, inevitably meant that the Tencel® fiber business was in loss for the year. These costs are being carefully managed to ensure that the balance between expenditure and growth is sustained.

Speciality Fibers serve medical markets and the superabsorbent market. Sales are growing rapidly, with good margins.

#### ACRYLIC FIBERS

Full-year sales NLG 640 million (1997: NLG 740 million)

#### Innovation helps to offset difficult conditions

Acordis' Acrylic Fibers are produced in Spain, Germany, and the United Kingdom. The majority of its sales are to the textile industry, but products for industrial enduses, such as carbon fiber precursor for the aerospace, sporting goods, and reinforcement markets, are growing rapidly. Amicor, a new fiber with locked-in antimicrobial properties to increase comfort and preserve personal freshness, has been well received.

The European acrylic fiber industry exports roughly 50 percent of its installed capacity and is therefore sensitive to changes in demand, in particular in the Asian market. During the second half of 1998, prices fell quite sharply, with the inevitable impact on margins. In the face of these problems, costs are being reduced through productivity improvements, while the business is continuing to use its R&D resources to increase the share of differentiated and industrial products.

#### NOVACETA

Full-year sales NLG 360 million (1997: NLG 370 million)

#### Market leader in niche business

Novaceta, a joint venture with Snia Fibre, is a specialist producer of acetate filament yarns for dress fabrics, linings, and lingerie from five plants in the United Kingdom and Italy. It is the European market leader in its sector and occupies a niche position in the European filament yarn market. The European market remained reasonably strong during the first half of 1998. In the second half, however, reduced exports of textiles from Europe weakened demand for yarn. Overall sales and profits for the year declined slightly.

#### ACETATE CHEMICALS

Full-year sales NLG 500 million (1997: NLG 550 million)

#### Investment promises high productivity growth

With three factories in the United Kingdom, Acordis manufactures acetate flake, acetate plastics, and filter tow for use in the packaging, photographic, and tobacco industries. It also produces aliphatic esters and aroma chemicals. The carbon disulfide business in Stretford, United Kingdom, was shut down at the end of the year.

A substantial proportion of output is exported from the United Kingdom, and so the strength of sterling, intensified competition in the European filter tow market, and pricing pressures in Asia adversely affected performance in 1998. Both sales and overall earnings declined.

The decrease in acetate's results was mitigated by continued growth in fine chemicals, cost cutting measures, and the favorable influence of sterling's strength on the price of raw materials. In addition, costs and quality will benefit in the future from the commissioning of a new acetate flake facility in October 1998. Productivity will double, providing a much more robust cost base for the future.

#### Annualized \* 1998 net sales (NLG 30.0 billion)



# GEOGRAPHIC INFORMATION

Number of employees at December 31, 1998 (85,900)

					Operatin	g income			Expenditu	ures for
	Net sales,		Net sales,		before no	n-	Invested of	capital,	property,	plant
	by destina	ation	by origin		recurring	items	Decembe	r 31	and equip	oment
Millions of guilders	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997
The Netherlands	1,757	1,737	5,634	5,743	601	546	4,251	3,811	431	359
Germany	2,951	2,671	3,585	3,262	241	207	1,869	1,695	162	120
Sweden	1,142	1,092	2,169	1,904	218	237	1,555	1,557	176	217
United Kingdom	2,203	1,767	2,104	1,316	123	111	2,611	540	197	54
Other European countries	8,627	7,420	5,745	4,735	892	777	2,806	2,249	325	195
USA and Canada	6,282	5,391	5,773	5,080	477	391	3,609	3,481	328	296
Latin America	1,740	1,563	1,244	1,122	94	125	993	1,003	68	89
Asia	1,666	1,576	878	686	44	53	652	365	84	63
Other regions	1,139	835	375	204	47	24	264	122	34	19
Total	27,507	24,052	27,507	24,052	2,737	2,471	18,610	14,823	1,805	1,412

#### Limited exposure in emerging countries

With the acquisition of Courtaulds we added to our presence in Asia—especially for Coatings—albeit that our total exposure in these emerging countries is still limited. We will continue a policy of prudent expansion in Asia.

Courtaulds also enlarged our bases in the United Kingdom, United States, Germany, Italy, Spain, and Latin America.

In the Netherlands earnings for Chemicals and Coatings were up. In Germany, Pharma and Acordis did better. The lower Swedish results were due to Chemicals. In the United Kingdom, higher Coatings earnings were partially offset by lower Pharma contributions.

		Net sales, by origin		Invested of Decembe	1 /	Number o December	f employees, <sup>-</sup> 31
Millions of guilders		1998	1997	1998	1997	1998	1997
	Europe	3,400	4,010	1,900	1,900	2,100	2,600
	North America	630	510	420	370	400	700
	Latin America	190	620	190	620	500	2,400
	Other regions	1,040	1,110	770	800	4,300	4,300
	Total	5,260	6,250	3,280	3,690	7,300	10,000

#### Nonconsolidated companies (on a 100-percent basis)

#### COUNTRIES WITH CONSOLIDATED AND NONCONSOLIDATED COMPANIES\*

Pharma	•	Europe	
Coatings	•	Netherlands	• • • • •
Chemicals	0	Germany	$\bullet \bullet \bullet \bullet \circ$
Acordis	0	Sweden	•••
Other**	0	Austria	• • •
		Belgium	$\bullet \bullet \bullet \bullet \circ \circ$
		Bulgaria	•
		Croatia	• •
		Cyprus	• •
		Czech Republic	• •
		Denmark	•••
		Estonia	•
		Finland	• • •
		France	$\bullet \bullet \bullet \bullet \circ \circ$
		Greece	• • •
		Hungary	•••
		Ireland	• •
		Italy	••••
		Latvia	•
		Lithuania	•
		Luxembourg	0
		Norway	• • •
		Poland	• • • •
		Portugal	• • •
		Russia	•••
		Serbia	•
		Spain	• • • •
		Switzerland	••••
		Turkey	• • •
		Ukraine	•
		United Kingdom	••••

United States	•	•	0	0	С
Canada	•	•	0		
Latin America					
Brazil	•	•	0	0	С
Argentina	•	•	0		С
Chile	•		0		
Colombia	•	•	0	0	
Ecuador	•			0	
Mexico	•	•	0		
Netherlands Antilles	;		0		С
Venezuela	•		0		

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Asia

Japan Bangladesh

China

India

Cambodia

Indonesia

Lebanon

Malaysia

Pakistan

Philippines

Singapore

Thailand United Arab Emirates

Vietnam

South Korea Taiwan

Saudi Arabia

Africa	
Algeria	• •
Egypt	• •
Ivory Coast	٠
Morocco	• •
Nigeria	۲
South Africa	• • •
Tunisia	٠

Australia/Oceania

Fiji	•
New Zealand	• •
Papua New Guinea	٠
Western Samoa	٠

\* At december 31, 1998.

\*\* Including country organizations.

For definitions of certain financial ratios and concepts see back cover foldout.