

Sigma-Aldrich is a Leading Life Science and High Technology Company.

Our biochemical and organic chemical products and kits are used in scientific and genomic research, biotechnology, pharmaceutical development, the diagnosis of disease and chemical manufacturing. We have customers in life science companies, university and government institutions, hospitals and in industry. Sigma-Aldrich operates in 34 countries and has 6,000 employees providing excellent service worldwide.

Our Vision

We are committed to the success of our Customers, Employees and Shareholders through leadership in **Life Science, High Technology** and **Service**.

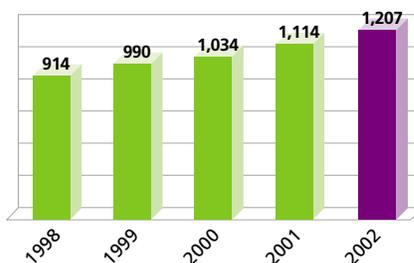
Financial Highlights (Continuing Operations)

Years Ended December 31

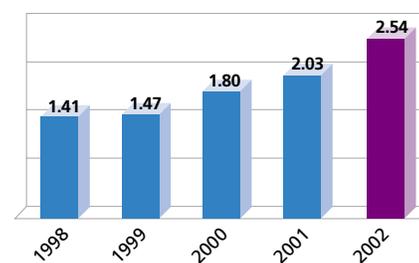
(In millions, except per share data and percentages)

| | 2002 | 2001 | % Increase |
|--------------------------------|-----------|-----------|------------|
| Net sales | \$1,207.0 | \$1,114.5 | 8.3 |
| Net income | 186.7 | 152.8 | 22.2 |
| Net income per share — diluted | 2.54 | 2.03 | 25.1 |

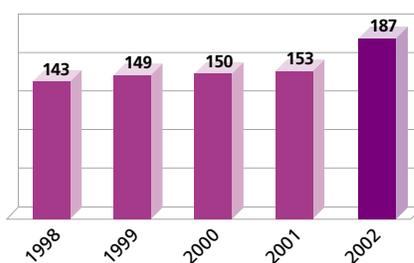
Net Sales
millions of dollars



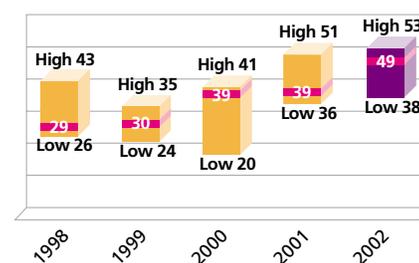
Net Income Per Share - Diluted
dollars



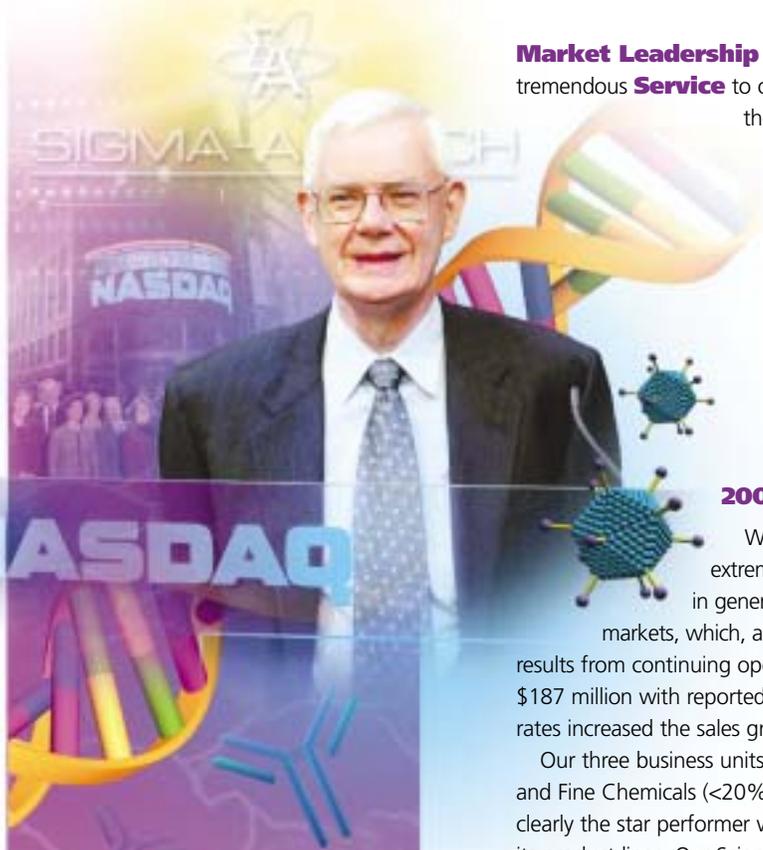
Net Income
millions of dollars



Stock Price Range
dollars



TO OUR SHAREHOLDERS



DAVID R. HARVEY
Chairman, President
and Chief Executive Officer

"If there is anything that really characterizes Sigma-Aldrich, and I'm not exaggerating, it's unrivaled scientific knowledge. Nobody has as many products, nobody has as much information. That is why we are a leader in Life Science and High Technology."

- Market Leadership in:**
- Scientific Research
- Biotechnology
- Fine Chemicals

Market Leadership in **Life Science** and **High Technology** backed by tremendous **Service** to our customers and focused **Process Improvement** are the driving forces of **Sigma-Aldrich**.

With this approach, we believe the following long-term goals are realistic:

Sales – 10% growth internally (currency adjusted) plus 2% from acquisitions

Profit – Growth at least in line with sales

Return on Equity – 20%

Reaching and sustaining such aims would put us among the top performing U.S. public companies with sales in excess of one billion dollars and make us truly world-class.

2002

We did not quite meet our goals in 2002, which proved to be an extremely eventful year both for the Company and the business world in general. And we operated in an economy that adversely affected our markets, which, although recession-resistant, are not recession-proof. Looking at results from continuing operations, sales increased 8.3% to \$1.2 billion. Net income was \$187 million with reported diluted net income per share up 25.1% to \$2.54. Currency rates increased the sales growth by 1.4% and the diluted net income per share by \$0.01.

Our three business units (% sales), Scientific Research (60%), Biotechnology (>20%) and Fine Chemicals (<20%), all showed good sales growth. The Biotechnology unit was clearly the star performer with 12.4% growth as a result of increased demand for all of its product lines. Our Scientific Research (6.9% growth) and Fine Chemicals (8.1% growth) performance did not meet expectations due to the impact of weak demand, especially from the U.S. pharmaceutical companies. Geographically, sales in the U.S. (45% of total sales) and Europe (35%) grew in local currency at about the same rate, whereas International sales (20%) grew three times faster. Excluding unusual items, profits increased in line with sales as larger than expected costs in various areas were offset by a tremendous performance in process improvement.

We again focused on our balance sheet – another key factor for improving shareholder value. Here we managed our working capital very tightly! The result was our best operating cash flow (\$345 million) performance in the history of our Company.

There were also two major events during the year that affected our results. First, we announced the discontinuance of our Diagnostics business (representing just over 6% of sales) in April 2002. Here, we were just not able to turn around the unit's unsatisfactory performance. After selling various pieces, we expect to wrap up our activities in April 2003, having recorded a \$52.3 million one-time charge in 2002.

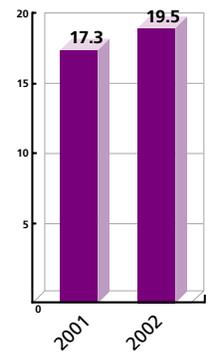
Second, the Wisconsin Department of Transportation acquired one of our facilities in Milwaukee for \$32.5 million in December 2002, resulting in an \$18.1 million net gain. We'll be relocating to new facilities at our other sites in Wisconsin in 2005, and expect the extra depreciation charges to be offset by operating efficiencies.

Overall, the return on equity improved again, and we're fast approaching our 20% goal.

Obviously the ultimate measure and recognition of any company's performance is, of course, its stock price. Ours ended the year well above the previous year's level in what was, as we all know, a very turbulent stock market.

So to sum up, 2002 was a reasonable year. We're certainly doing a lot of things well. This is illustrated by an independent survey of over 1,000 scientists by **BioInformatics** which ranked us first in service, catalogs and Internet and high regarding advertising and sales force effectiveness. However, it's clear that although our sales performance has improved in recent years, we fell a couple of percentage points short of

Return on Equity





Sigma-Aldrich Key Initiatives

Life Science and High Technology define our Company. And, leadership is our aim. Our investment in world class facilities and focus on new products will certainly fuel future growth and position us to attain our leadership goals.

Service is what built our Company and ensures our competitive edge. We continue to make major investments in production, warehousing and administrative support to provide the tools to remain competitive.

Process Improvement has become an integral part of our culture. Employees worldwide are running Plan, Do, Study, Act cycles to improve service, increase demand for our Life Science and High Technology products and take out tremendous costs.

our 10% internal sales growth goal in 2002. We could, of course, have used the economy as a legitimate excuse. But we felt it much more prudent not to be complacent about the state of our business. Consequently, during the latter half of 2002, we reviewed our strategic growth plan with particular focus on marketing, business development, R&D and direct sales. This again confirmed our belief that our customers viewed us very positively and that we had a "well-oiled" operational machine to serve them. However, it became apparent that we could better service our customers by further aligning our efforts across the Company. We now intend to do this and to place even more focus on sales and marketing worldwide. We believe these changes should result in increasing the sales growth rate.

Business Units

Sigma-Aldrich now has three strong, powerful businesses – Scientific Research, Biotechnology and Fine Chemicals. And we blend them together with our unifying initiatives relating to Life Science and High Technology, Service and Process Improvement. These are the very foundations of our Company and key to its future success.

Leadership in Life Science and High Technology

Sigma-Aldrich is a Life Science and High Technology company striving for leadership in the specific markets in which we choose to compete. We have the broadest biochemical and organic chemical scientific knowledge and expertise in the world – unrivaled scientific knowledge. We list 85,000 products and produce 40,000, many more than any other company in our industry.

Sigma-Aldrich is the leader in supplying specialty research chemicals, biochemicals and kits in the \$8 billion worldwide research market. In fact, we dominate the traditional life science and organic chemical markets. Furthermore, we have the strongest collection of varied biotechnology capabilities in our industry. You'll find our well-known brands in nearly every university, pharmaceutical company, chemical industry and hospital research laboratory worldwide. Our Fine Chemicals business, which is a derivative of our research units, supplies larger quantities of our research products to pharmaceutical, diagnostic, biotechnology and industrial chemical companies. Here we now rank in the top 25 suppliers in the \$50 billion Fine Chemical market. We really have no comparable competitors due to our enormously diverse production and unique sourcing capabilities.

Clearly we hold a leadership position in many of our markets. The challenge for us is simply to expand our market share in every sector. And to do this, we took many steps in 2002. Again, there was an aggressive drive for new products, both produced and purchased. And we were more active in the licensing of new products and technologies. We also settled into our new \$55 million R&D center in St. Louis, home to over 100 scientists, where Molecular Biology continues to be a major focus.

On the acquisition front, we reviewed many candidates but none came to fruition. Candidly, while market values have declined, sellers' expectations certainly have not, making it difficult for us to make deals that provide the desired return. However, we continue to actively pursue Life Science and High Technology opportunities.

Service

Every one of our 6,000 employees in 34 countries worldwide is committed to providing the best possible service to our customers. To maintain and improve service, we continue to make major investments in production, R&D, warehousing and administrative support. In 2002, we invested over \$60 million, including the completion of our Life Science and High Technology Center, new R&D and organic manufacturing facilities in Switzerland, an expansion of the oligo production facility in Texas, a major expansion of our Cell Culture production plant in Scotland and continued investment in our SAP computer software system.

During 2002 we smoothly implemented SAP at additional international locations. SAP is also fully integrated with our Web site – sigma-aldrich.com. The \$136 million sales in 2002 over the Internet were well above the previous year's \$70 million level and represented 16% of our worldwide research sales in the final quarter of 2002. We expect this growth to continue due to the ease of ordering and the wealth of informational content. Certainly the investment in



systems is making us a more unified company and increasing the level of service to our customers worldwide.

Process Improvement

We had a great year in 2002, reducing costs by \$18 million through our process improvement initiatives. There are ongoing, major worldwide projects underway in production, purchasing, packaging, distribution, labels and inventory in addition to numerous local initiatives. We're also using process improvement to increase the demand for our Life Science and High Technology products. Process improvement is now firmly entrenched as part of our culture and in the way we do business.

Organization

Our entire organization is focused on our key initiatives. And looking ahead, all our employees are fully aware we need to increase the sales growth rate! To better serve customers, we intend to align our efforts across the Company, in particular by the formation of teams working across the business units.

These teams – Sales, Marketing, Operations and Process Improvement – will be led by the Unit Presidents and the CFO/CAO. Apart from their additional responsibilities, Jai Nagarkatti (formerly Fine Chemicals) and Frank Wicks (formerly Scientific Research) have also switched divisional responsibilities while Mike Hogan (CFO/CAO) and Dave Julien (Biotechnology) remain in their present positions.

Additionally, many other employees are changing or assuming new responsibilities. Such changes broaden the experiences of the individuals involved and, overall, energize our organization.

Company Ethics

This past year has seen considerable turmoil in the business world. There's been the spectacle of executives being led away in handcuffs for deceit or just plain greed. And there's been new legislation (Sarbanes-Oxley Act) to protect the investor. How has this affected Sigma-Aldrich? The short answer is very little. We have always been a very financially conservative company. Furthermore, our executives have never had loans, lavish expense accounts or apartment house suites, and a corporate jet is only a fantasy. We also have a very independent Board of Directors! Certainly the new legislation imposes more administrative work, but we view this positively as we'll have even better internal documentation.

In this connection, we changed auditors from Arthur Andersen to KPMG. As a result of the discontinuance of our Diagnostics business, we were required to have KPMG reaudit our financial statements for 2000 and 2001. KPMG completed their audits with no changes to the previously reported financial statements.

Future Prospects

Life Science and High Technology are among the economic drivers both for governments and companies worldwide. Therefore, we can expect expenditures for chemical research and the use of specialty chemicals to continue to increase during our lifetime. The only question is how fast? Life Science certainly stands at the dawn of new discoveries, especially in the field of genetics. Just what new surprises are in store for humankind? Certainly John Steinbeck never knew how close he was to "reality" when titling his classic book *Of Mice and Men* – 80% of our genes have now been shown to be identical! There are obviously exciting times ahead, and we intend to play a major role.

Finally, I wish to thank our customers, our employees and you, our shareholders, for your support and continued confidence in Sigma-Aldrich. We all have a very promising future based on extending our Market Leadership in Life Science and High Technology.

David R. Harvey

David R. Harvey
Chairman, President and Chief Executive Officer



Best in Class

In 2002, a survey of life science customers, both in the industrial and academic segments, produced a "best in class" comparison of suppliers. More than 1,000 scientists were polled by *BioInformatics, LLC*, a leading provider of market research to the biotechnology industry. Sigma-Aldrich ranked Number 1 in catalogs, Web site, and customer and technical service. We also ranked high regarding our advertisements and sales force. In all categories we had considerably improved over the last five years. As we more fully integrate efforts across our Company worldwide, we're aiming for a Number 1 ranking in every category!





Market Leadership in Life Science and High Technology

Scientific Research

The World's Leading Supplier
of Research Biochemicals and
Organic Chemicals

Biotechnology

The Broadest Range of
Biotechnology Products

Fine Chemicals

Most Extensive Organic and
Biochemical Manufacturing
and Sourcing Capabilities

Sigma-Aldrich is a leading Life Science (75%) and High Technology (25%) company with \$1.2 billion in annual sales. Our biochemical and organic chemical products and kits are used in scientific and genomic research, biotechnology, pharmaceutical development, the diagnosis of disease and chemical manufacturing. We have customers in life science companies, university and government institutions, non-profit organizations, hospitals and in industry. Over one million scientists and technologists use our products. Sigma-Aldrich operates in 34 countries and has 6,000 employees providing excellent service worldwide.

Our Company

With over 85,000 unique products, 40,000 of which we make ourselves, Sigma-Aldrich is unequalled as a manufacturer and supplier of Life Science and High Technology products to customers worldwide. And we've continued to add over 5,000 new products each year. We are a leading supplier in the life science market with one of the strongest collections of varied biotechnology capabilities. In high technology, we're also a leader due to the wide range of chemical applications for our products. Overall, we have unrivaled scientific knowledge.



Our Business Units

Sigma-Aldrich is organized in three business units (% sales) Scientific Research (60%), Biotechnology (>20%), and Fine Chemicals (<20%) to best serve our customers. The units are closely interrelated in their activities, and they're all supported by our centralized Finance, Information Systems, Human Resources, Quality and Safety departments. Indeed, we're a very integrated company.

Life Science and **High Technology** define the activities of Sigma-Aldrich and its customers. Our aim is simple: to continue to lead in our areas of strength and to achieve leadership in new markets. The whole Company is unified by a commitment to both service and process improvement.



SIGMA-ALDRICH DIVISIONS

% Life Science

% High Technology

MARKET & COMPETITION

2002 SALES

Growth Reported

Currency Effect

SCIENTIFIC RESEARCH

World's leading supplier of high quality research chemicals and products for use in Life Science and High Technology applications.



\$8.0 billion market

Growth: <5%

\$713 million

Competition:

Top 5 of 300 companies

- EMerck/VWR
- Fisher
- Mallinckrodt
- Roche Biomolecular
- Wako

Sigma-Aldrich
Market Share: 13%

Sales Growth Goal: 8%

6.9% 1.5%

BIOTECHNOLOGY

Major supplier of biochemicals and kits for Biotechnology and genome Life Science research.



\$50 billion market

Growth: >10%

\$270 million

Competition:

Top 5 of 200 companies

- Amersham/Pharmacia
- Applied Biosystems
- Becton Dickinson
- Invitrogen
- Roche Biomolecular

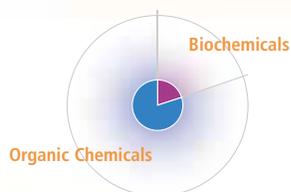
Sigma-Aldrich
Market Share: 10%

Sales Growth Goal: 12%

12.4% 1.2%

FINE CHEMICALS

Large-sized supplier of larger-scale organic chemicals and biochemicals used in Pharmaceutical, Biotechnology and High Technology industries.



SIGMA-ALDRICH

Sales Growth Goal: 10%

\$1,207 million

8.3% 1.4%

75%

25%

LIFE SCIENCE

HIGH TECHNOLOGY

OVERVIEW

World's largest supplier of research biochemicals, organic chemicals and kits and a major supplier to the Fine Chemical industry.

CUSTOMERS

- 40%** Pharmaceutical, Diagnostics, Biotechnology Companies
- 30%** Universities, Government Institutions, Non-Profit Organizations
- 20%** Chemical and Allied Industries, Industrial Companies
- 10%** Hospitals and Commercial Laboratories

We have over 60,000 accounts worldwide representing about one million individual customers!

EMPLOYEES

6,000

- 3,200 United States
- 2,800 International
- Operations in 34 countries

PRODUCTS

85,000

- 40,000 manufactured at 29 facilities in 8 countries
- 45,000 purchased and sourced from 10,000 suppliers

DISTRIBUTION

- 16 distribution centers in 13 countries

LOCATIONS

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Canada
- China
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Greece
- Hungary
- India
- Ireland
- Israel
- Italy
- Japan
- Korea
- Malaysia
- Mexico
- Netherlands
- Norway
- Poland
- Portugal
- Russia
- Singapore
- South Africa
- Spain
- Sweden
- Switzerland
- United Kingdom
- United States

• Sales • Distribution • Production





JAI NAGARKATTI

President, Scientific Research

"Our focus on the 'basics' – mailing list, pricing, new products – has produced great results. And customers appreciate the improved support they are getting from our expanded sales force. Furthermore, we've had a tremendous improvement in customer service worldwide that has particularly helped our international sales growth."

Market Leadership in Scientific Research

- World's Leading Supplier of Life Science and High Technology Research Chemicals
- Leader in Biochemicals: Antibodies, Buffers, Carbohydrates, Enzymes and Nucleotides
- Dominant Supplier of Organic and Organometallic Chemicals

Leadership

Sigma-Aldrich is the world's leading supplier of high quality research chemicals and products for use in traditional life science and specialty high technology applications. Almost three-quarters of the sales come from biochemicals, organic chemicals, reagents and other products used by customers for fundamental life science research. The remaining quarter of sales results mainly from complex and very pure organic and inorganic chemicals and analytical

reagents used in high technology research. Our Scientific Research division operates in about two-thirds of the \$8.0 billion total worldwide chemical research market.

A wide range of basic, applied and development research and testing is carried out using our products. We serve such diverse areas as biochemistry, organic, inorganic, macromolecular, physical, analytical and applied chemistry.

Brands

Known for our breadth (over 85,000 products) and quality, scientific research would indeed be unthinkable without the products provided by our Sigma, Aldrich, Fluka and Riedel-de Haën brands.

Our **Sigma** brand is the world leader in biochemicals, including antibodies, buffers, carbohydrates, enzymes, and nucleotides used in fundamental and genomic research. Much of fundamental life science research is increasingly related to the developments in genomics. We now know the sequence of the roughly 3 billion chemical "letters" (A,C,G,T) that represent our human DNA – life's instruction booklet. About 5% of our total DNA makes up the all-important genes. Humans with 30,000 genes have not many more than mice, worms or the common mustard weed. In fact, humans are 99.9% the same genetically.

To better understand the 0.1% difference between us, we expect pharmaceutical and biotechnology companies will increasingly be doing very fundamental, basic biochemical research to develop better diagnostic tools and products for the treatment of disease.

On the organic side, **Aldrich** is the global leader in providing the basic "building blocks" for chemical synthesis and a major supplier of very pure solvents. Using proprietary technology, we supply the highest purity inorganics (some approaching ascertainable limits of purity of greater than 99.9999%). Our 2001 acquisition of **Isotec** also makes us the world's largest producer of stable isotopes. The **Fluka** and **Riedel-de Haën** brands comprise a broad range of laboratory essentials and specialties. Fluka is a leader in providing products for a variety of analytical applications. And Riedel-de Haën is the recognized leader with its trademarked **HYDRANAL®** reagents used to determine water content in, for example, food or petroleum products.

Apart from use in pure research, our products are used "as is" or as components to help discover new drugs. Pharmaceutical companies often want to quickly obtain chemical compounds with a particular structure. Such compounds are then screened for drug activity. Sigma-Aldrich, with over 85,000 products, is the leader in supplying these needs. In addition, our "Rare Chemical Library," with over 132,000 additional



Sigma-Aldrich
Worldwide Sales



State-of-the-art analytical equipment provides the quality control to ensure the integrity of our products.



compounds, provides another valuable resource. Newer trends in drug discovery involve combinatorial chemistry and high throughput screening techniques that enable scientists to screen even more chemicals. Again, we supply a wide variety of products.

The diversity of biochemistry and organic chemistry manufacturing capabilities within our Scientific Research division is truly remarkable. It ranges from isolating milligrams of biochemicals from animal or plant tissue to synthesizing extremely complex organic molecules. And we make every effort to be at the forefront. Furthermore, we put great emphasis on maintaining and improving relationships with our 10,000 worldwide suppliers.

Academic Partnerships

We have quality control laboratories that are "second to none," and Sigma-Aldrich products set the standard for the industry. Our leading positions in so many areas are due in part to our close relationships with leaders in the academic community. We get lots of suggestions for new products and potential applications. This is typified by our market leadership position in boron chemistry. Herbert C. Brown, Purdue University Professor Emeritus and winner of the Nobel Prize in Chemistry in 1979, developed and Sigma-Aldrich commercialized the use of organic boron compounds in chemical synthesis. Building on Professor Brown's chemistry achievements, Akira Suzuki, Professor at Kurashiki University, developed the "Suzuki Coupling," a very widely used reaction in synthetic chemistry. Sigma-Aldrich supplies the necessary "building blocks" to enable Suzuki Coupling. In fact, we have relationships with many other "academic legends" in the field of biochemistry and organic chemistry. Our aim is to continue to add new products aggressively, further widening the gap over our competition.

Service to Customers

At Sigma-Aldrich, our most important product is, and always has been, service. We aim simply to provide customers with the broadest range of high quality products backed by the best possible service.

Meeting our customers' product needs requires teamwork across business units, departments and geographic boundaries. Here it is worth noting the breakdown of our sales: 45% U.S., 35% Europe and 20% International. Our aim is to provide top-notch service to all parts of the world through offices and facilities located in 34 countries, including Shanghai, China which opened in 2002.

We pride ourselves on our ability to ship most orders from stock the same day they are received.

And, we process over 15,000 orders daily. If a customer ordered 100 different products, over 95 percent would be on the shelf.

Every effort is made to keep backorders to an absolute minimum.

During 2002, new product additions were again very aggressive with over 5,000 products, both produced in-house and purchased, made available to customers worldwide. Customers can access these products through our over 3.5 million catalogs in the marketplace that contain a wealth of information and our award winning Web site, sigma-aldrich.com. In fact, a recent

Sigma-Aldrich offers a number of web tools that give researchers ready access to volumes of information about our products and their exact specifications. We currently offer on-line "Explorers" for our antibiotics, antibody, buffers, enzyme and peptide product lines and many more are planned.



Biochemicals

Sigma-Aldrich is the world market leader in biochemicals such as antibodies, buffers, carbohydrates, enzymes and nucleotides and a major supplier of biochemicals and kits for biotechnology, genomics and proteomics research applications – the "cutting edge" studies of life. Sigma is a key supplier in the important biotechnology areas of Cell Culture, Cell Signaling, Immunochemistry and Molecular Biology. Life science is a fast growing area where Sigma-Aldrich is a major supplier to universities, government institutions, non-profit organizations, pharmaceutical, diagnostic and biotechnology companies. The momentum in fundamental and genomic biochemical research and development offers tremendous opportunities for Sigma-Aldrich.





Sigma-Aldrich Worldwide

Sigma-Aldrich is truly a global company. Over 45% of sales are in the U.S. Another 35% are in Europe. The remaining 20% are in other countries. Our most notable presence is in Japan which has seen double digit growth in recent years.

Sigma-Aldrich Top 10 Countries in Sales

U.S.
Japan
U.K.
Germany
France
Italy
Korea
Canada
Switzerland
Netherlands

Bioinformatics study of over 1,000 life scientists names Sigma-Aldrich as the leader in both printed catalogs and Web site. With over one million technical documents on-line and innovative services like our "Enzyme Explorer," a searchable database of thousands of enzyme products, customers find our Web content invaluable.

Our Web site stands not only as a model for on-line information but also for conducting E-commerce. At sigma-aldrich.com, customers can search for products, check pricing and availability and place orders that print out directly in our distribution centers. The process is completely automated. Our site continues to win awards. In fact, Sigma-Aldrich was named to *Information Week's* top 500 in 2002. Our Web site sales have been doubling nearly every year and were almost \$140 million in 2002. Worldwide research sales now exceed 16% (24% in the U.S.) through this channel. Over 750,000 users access our site monthly. It's worth noting each user session generates on average about \$20 in sales!

Sigma-Aldrich Internet Sales %



Through strategic alliances with leading edge companies, Sigma-Aldrich is also becoming a leader in business-to-business E-commerce. Customers, including many well-known large companies and universities, use Sigma-Aldrich for more efficient methods of on-line purchasing and inventory management.

Sales Support

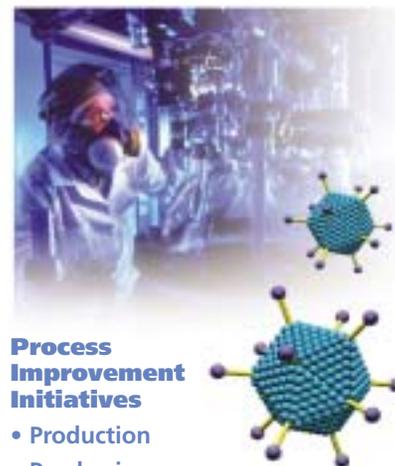
We also reach customers through our knowledgeable global sales force, top-notch customer service (also rated Number 1 by *Bioinformatics* in 2002) and highly valued technical service team that handles over one million customer inquiries annually.

And, we are implementing business partnerships to provide even better service to our customers, including collaborations for local stocking and system development to provide faster delivery of high volume chemicals.

To ensure this excellent level of service, we have made major investments in distribution, production and administrative support. We now have 16 distribution centers worldwide including state-of-the art, automated facilities in Milwaukee, Wisconsin and Schnelldorf, Germany. And we continue to upgrade them.

We are currently tying our various St. Louis production facilities together into a life science campus-like setting. And we've started to plan major new facilities in Milwaukee to replace those recently purchased by the Wisconsin Department of Transportation. In Europe, our new \$6 million Switzerland laboratory facility completed in 2002 will aid new product development and increase production capacity.

The best way we serve our customers, of course, is through our 6,000 dedicated employees who embrace service every day with an obsession. Service is what built our Company and ensures our competitive edge.



Process Improvement Initiatives

- Production
- Purchasing
- Packaging
- Labels
- Distribution



Process Improvement Worldwide

Looking for new and better ways to serve our customers and substantially reduce costs is key to our Company's continued success. Through faster cycle times in responding to orders from customers and shipping products to subsidiaries. Through reduced backorders. Through improved responsiveness in our call centers. And through enhanced productivity in packaging and better production yields, our Company has achieved major savings. Over the past three years, we expanded the use of process improvement methods across boundaries of every sort – departments, business units, countries and continents. It's clear that more and more of our employees are actively searching for "low hanging" and "high hanging" fruit where improvements can be made in their own operations. And they are also working together on successful, coordinated global initiatives in production, purchasing, packaging, labeling and distribution, all of which have helped us improve service and better manage inventory.

Initiatives

In production, our First Pass initiative to reduce batch failures has met with great success.

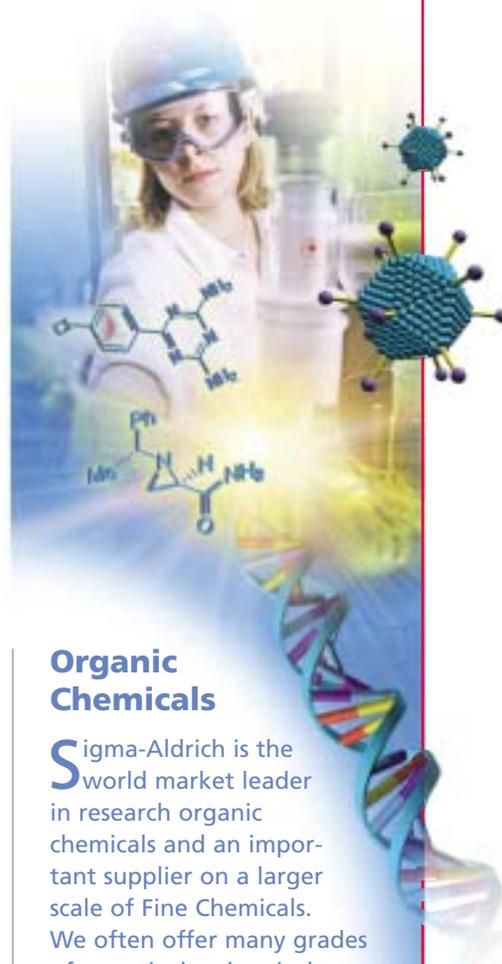
Bearing in mind that we purchase over \$250 million in chemicals and supplies every year, the potential here for cost savings is enormous. In 2002, we saved many millions by leveraging our negotiating power worldwide and through improved sourcing including our proprietary CHESS (Chemical Sourcing System) database containing over 10,000 suppliers and 250,000 compounds.

Packaging using "work cell" concepts coupled with better scheduling has not only increased productivity but has substantially reduced cycle times, resulting in the lowest levels of backorders worldwide in recent history.

The Labels on Demand project will help Sigma-Aldrich improve customer service, reduce backorders, increase plant utilization and control inventory because all product labels will be available from one system wherever Sigma-Aldrich products are packaged.

Distribution continues to be a focus for process improvement. Efforts aimed at reducing cycle time to our worldwide distribution centers and customers outside the U.S. have resulted in fewer backorders and better inventory control. We've also trimmed freight costs and distribution expenses overall. In addition to these major projects, changes are taking place in numerous other areas of our Company.

Clearly, process improvement takes out tremendous costs, improves our service and, above all, helps us to maintain our Market Leadership in Life Science and High Technology.



Organic Chemicals

Sigma-Aldrich is the world market leader in research organic chemicals and an important supplier on a larger scale of Fine Chemicals. We often offer many grades of a particular chemical to meet customer specific requirements in a cost-effective manner. The quality of these products sets the standard for the industry! Our manufacturing expertise is wide and excels in the multi-step synthesis of essential "building blocks," organometallic compounds and high purity solvents. And we carry out custom synthesis to meet customer specific requirements. "Chemists helping Chemists" is the aim at Sigma-Aldrich.



Our warehouse in Schnelldorf, Germany is designed to hold 1.2 million units of inventory and handle up to 5,000 orders a day. This facility ships to 14 different countries in Europe.





DAVID JULIEN

President, Biotechnology

"We have increased our R&D staff by over 100 scientists, built a \$55 million R&D Center and refocused our efforts more clearly on biotechnology to exploit rapid growth in the life science market. This targeted strategy has produced the desired results. All in all, our future looks bright."

Market Leadership in Biotechnology

- Broadest Range of Capabilities
- Key Supplier of Molecular Biology, Immunochemistry, Cell Culture and Chromatography Products
- Major Manufacturer of "Synthetic" DNA
- World Leader in Cell Signaling and Neuroscience

Leadership

Sigma-Aldrich has the broadest range of biotechnology capabilities. With our **Sigma** brand, we are a major supplier of biochemicals and kits for biotechnology, genomics and proteomics research applications – especially in the important areas of Molecular Biology, Cell Signaling and Neuroscience, Immunochemistry and Cell Culture.

Our Biotechnology division operates in about one-third of the \$8 billion total worldwide chemical research market.

In Molecular Biology, the study of life at the DNA level, we are becoming an important player (now ranked 5th) as we introduce many new and exciting products for DNA isolation, amplification, detection, sequencing and expression. **Sigma-Genosys** is a major producer of "synthetic" DNA (oligonucleotides) essential in Molecular Biology research and has production in many countries. These genome applications account for over \$100 million of our Biotechnology sales.

In Cell Signaling and Neuroscience, the study of brain function, we hold a clear leadership position (total Company sales over \$100 million). **Sigma-RBI** supplies very complex molecules used to study how cells communicate with one another.

We are a leading supplier of Immunochemicals (antibodies) that are produced in animals, in the laboratory by growing cells or by genetic engineering. Antibodies are used to identify, measure and isolate biological products such as cells, hormones and proteins. Excellent production facilities in the U.S. and Israel enable us to keep pace in this growing area.

Cell Culture is another area where we are a major supplier. These products are used to grow animal, plant and insect cells in the laboratory. Our plants in the U.S. and Scotland produce a wide range of products. We completed an \$11 million expansion in Scotland to further extend our capabilities and keep up with demand.

In the areas of sample preparation, analysis and purification, our **Supelco** brand chromatography products are used extensively in life science research and high technology applications and also find application in detecting the presence of contaminants in air, water and soil.

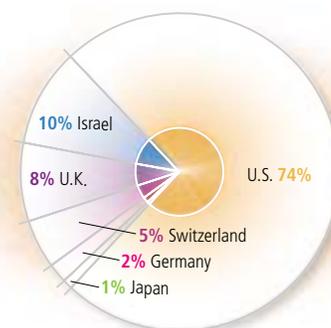
Clearly we have a very broad range of capabilities.

Genome

Much of fundamental life science research is increasingly related to genomics, which will ultimately improve the diagnosis and treatment of disease and play a major role in feeding the world by improved breeding of animals and higher yielding plant crops. A wide variety of Sigma-Aldrich products are specifically designed for pure genome research. We play a major role in providing Cell Culture products to grow the cells from which DNA is extracted. Our proprietary Extract-N-Amp™ kits are used to isolate DNA in large scale genomic testing at biotechnology and human genome facilities and have excellent performance characteristics. Sigma specialty enzymes are used to make (amplify) more DNA, a process that also requires "synthetic" DNA supplied by Sigma-Genosys. And we've combined Sigma-Genosys' DNA synthesis expertise with Compugen



Sigma-Aldrich in partnership with Compugen offers oligonucleotide libraries for mouse, rat and human genomes.



**Sigma-Aldrich
Worldwide R&D Personnel**



Ltd.'s computational platform to offer the most comprehensive DNA libraries to assist in the analysis of gene functions. So we're involved in providing products for the whole process of genome research.

Future

Now that the various genes have been decoded, the task becomes figuring out how genes turn on and off. Equally important is determining what proteins each gene represents and the role proteins play in the living cell. We are already providing gene arrays for humans/mice/microorganisms and "synthetic" DNA to help determine what triggers gene activity. The developing area of proteomics (the study of the cells' protein produced from the genes) again offers tremendous opportunities for our Company. Sigma-Aldrich has partnered with some of the world's leading proteomic companies, Shimadzu Biotechnology and Proteome Systems, to offer customers products for every step of the process. Our patented line of Flag™ products, which aid the detection and analysis of the proteins made by the gene, have better sensitivity than any other detection tag on the market and have been a great sales success. We have a long history in protein analysis and characterization, so we already have a broad range of products and a head start in this fast-developing market of proteomics.

We are at the onset of an exciting scientific journey and understanding the workings of genes and proteins is only the beginning. The unit of all life is the cell. Our Cell Signaling and Neuroscience products are already playing a major role in unraveling the mystery of what happens within the cell. And we're also developing Cell Culture products to grow embryonic stem cells that have the potential to replace diseased and damaged tissue or maybe even produce new organs.

Research and Development

This is, of course, key to our future. Our new \$55 million Life Science and High Technology Center, occupied at the end of 2001, is already producing a stream of new products. We're placing particular emphasis on fascinating life science products. Worldwide, the company has over 350 R&D scientists, half of whom work in biotechnology, in Israel, Switzerland, the U.K. and the U.S. We are continually working on improvements. Our experimental design software is accelerating product development and increasing our speed to market. We have also established a Scientific Advisory Board (whose members are also our customers) to help us identify new trends in research that will impact new product development.

Furthermore, we embarked on a number of manufacturing expansions during 2002. A new production center at Sigma-Genosys in The Woodlands, Texas gives a considerable boost to our DNA manufacturing capabilities. We've also expanded our Sigma-RBI plant in Natick, Massachusetts, which specializes in products for Cell Signaling and Neuroscience.

Of course, licensing agreements and patents will play an increasingly important role. Our recent access to Chromagen's fluorescence technology gives us the ability to develop powerful biochemical assays.

With the broadest range of capabilities and services, we intend to become an even stronger player in the biotechnology market.



Genomics

Sigma-Aldrich provides a wide variety of biochemicals and kits required for investigating the complexity of life – the intricate interrelationship of cell signaling (influenced by internal and external events) genes and proteins.

We have researchers worldwide actively working on exciting new products in all these sectors fueled by genomics.

These genomic developments, unthinkable but a few years ago, present major opportunities for Sigma-Aldrich.

Sigma-Aldrich's \$55 million Life Science and High Technology Center located in St. Louis, MO, considerably enhances our research capabilities. The building includes state-of-the-art laboratories and a 300-seat auditorium. It's key to our future in biotechnology.





FRANK WICKS
President, Fine Chemicals

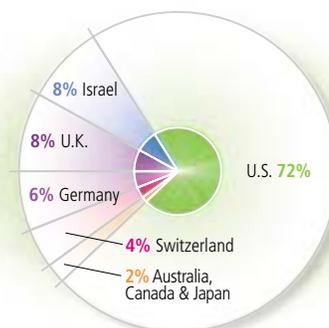
"Sigma-Aldrich is leveraging its technical know-how in synthesis and extraction. Our attack is to provide products used in developing pharmaceuticals or in chemical, high technology or industrial uses. We can make almost anything, and that's the essential strength of our Fine Chemicals business."

Market Leadership in Fine Chemicals

- Broadest Organic and Biochemical Manufacturing Technology Base (over 40,000 procedures on file)
- Global Sourcing 250,000 Compound Database
- Serving Pharmaceutical, Biotechnology and High Technology Industries

Our Fine Chemicals division is essentially a derivative of our Scientific Research and Biotechnology divisions, supplying larger quantities of their organic and biochemical products. Such semi-bulk quantities account for about 80% of the sales. The other 20% is from the production of "tailor-made" custom synthesis products.

We are unique in our ability to supply such an extensive range of complex organic chemicals (60% of sales) plus the widest variety of biochemicals (40% of sales). We now rank in the top 25 suppliers in the \$50 billion Fine Chemicals market where there are no dominant players. And, we're probably the most profitable! In this market, we really have no equivalent competitors due to our unique sourcing and varied production capabilities. We're supplying very sophisticated organic and biochemical products for high value applications to companies in the life science and high technology markets.



**Sigma-Aldrich
Worldwide Production**

Life Science

Over 75% of our Fine Chemicals are used in the development and manufacture of products for the diagnosis and treatment of disease. In particular, pharmaceutical companies are very important customers. Their focus is to be first and fastest to market with a steady stream of new drugs. These companies seek us out since our experience, expertise and stability in the industry helps streamline the process.

Once a good drug candidate has been identified by research, larger quantities are required for toxicity testing. Companies then need a fast, reliable source of the intermediates for scale-up of the drug. With our unsurpassed (over 40,000 procedures on file) manufacturing experience and sourcing capabilities, we are ideally suited to meet these needs.

Often when a customer comes to us for a product, it is likely we have either made it before or have made something similar. We are able to meet these demands with our excellent, large-scale, multipurpose manufacturing plants in the U.S. and Europe and 750 dedicated production employees worldwide.

With cGMP (current Good Manufacturing Practice)-compliant and FDA-regulated manufacturing plants located in the U.S. (St. Louis, Missouri and Sheboygan, Wisconsin) and Europe (Gillingham, U.K. and Buchs, Switzerland), Sigma-Aldrich can provide increased quantities of products used throughout the drug development process. And we do, in fact, manufacture several drugs, some of which are used in the treatment of rare cancers.

We are a major manufacturer of Cell Culture media and chemical buffers for the production of both human and animal vaccines. We believe that our large-scale Cell Culture facility in St. Louis is among the best in the world. And the \$11 million plant expansion in Scotland further improved our supply capabilities.

We are also a leading supplier of buffers (to control acidity/alkalinity) used in nearly every biotechnology application. It's our largest-scale product line – we make hundreds of tons every year. These life science applications are becoming even more "biotech" as companies exploit the fast-developing human genome knowledge.

Our high purity inorganic materials serve high tech segments in telecommunications, microelectronics, fuel cells and energy.



Looking ahead, production of proteins for pharmaceutical applications will in certain cases, for economic reasons, use transgenics. Here a human gene that “produces” a specific protein is inserted in either a plant or animal, which then produces the required human protein. We are increasing our processing capabilities to support companies doing such transgenic work.

High Technology

The other 25% of our Fine Chemicals sales are for high technology applications, mainly to the \$1.5 trillion Chemical and Allied Products industries. The applications are wide and numerous. Thus, our chemicals are used for a very diverse range of applications such as electronics, batteries, specialized stains and dyes and fuel cells. Often many of these products are unique, complex organic chemicals custom synthesized to meet customer specific requirements. Furthermore, we offer the widest range of organic chemicals to the Flavors and Fragrances industry. Obviously quality is of extreme importance in this human use application.

Our largest U.S. industrial organic production site, located on 500 acres in Sheboygan, Wisconsin, is where we specialize in air-sensitive reagents and high purity organometallics. The plant can operate at very low temperatures needed to manufacture certain products that find use in the electronics industry, including flat-screen displays, anti-reflective coatings and in the manufacture of computer chips. We also have the specialized packaging that is essential to maintain the integrity of the product.

The large-scale industrial applications of our products are clearly very diverse and involve complex chemistry. Most are in fast-growing high technology areas. This is our continuing focus as we make future investments in plants.

Service

Our Fine Chemicals products are supplied to customers either from our in-house manufacturing (60% sales) or via external sourcing (40% sales).

Regarding manufacturing, it's worth noting we now use about 50% of our capacity. And in 2002, a global team was created to determine how to increase the utilization of these resources.

We continue to build on our sourcing capabilities – certainly the best in the chemical industry. Our CHESS (Chemical Sourcing System) database, developed in-house, includes 250,000 products from over 10,000 suppliers.

During 2002, our Fine Chemicals division also took a very proactive approach regarding service, which is key to strengthening our market

position. New systems, developed using the Company's process improvement techniques, resulted in major enhancements in our service, particularly in on-time deliveries.

Overall, in addition to supplying the widest range of chemicals and biochemicals, we also aim to provide the best service in the Fine Chemicals industry.



At our Sheboygan, Wisconsin plant we produce organic chemicals for pharmaceutical, agrochemical and material science industries.



Biochemical and Organic Chemical Production

Sigma-Aldrich has the most extensive expertise in the Fine Chemicals sector.

Biochemicals – “Grind and Find” summarizes many of our activities as we isolate products from animals or plants. We also have particular strength in Cell Culture, Buffers, Enzymes and Fermentation.

Organic – We're able to produce complex, multi-step synthesis of high quality intermediates, air-sensitive organometallic compounds and active pharmaceutical intermediates in our world class plants.

We produce to the most stringent specifications including cGMP (current Good Manufacturing Practice), earning a leadership position for Sigma-Aldrich.



LEADERSHIP AND SUPPORT



MIKE HOGAN

Chief Administrative Officer, Chief Financial Officer and Secretary

"We're all committed to providing the best possible support with process improvement being the unifying and driving force of our Scientific Research, Biotechnology and Fine Chemicals units. Overall, a spirit of unconditional teamwork is at the heart of everything we do in making Sigma-Aldrich a great company."

Leadership

TERRY COLVIN
Vice President
Human Resources

KAREN MILLER
Controller

KIRK RICHTER
Treasurer

MIKE HOGAN
Chief Administrative Officer, Chief Financial Officer and Secretary

JIM METEER
Vice President
Process Improvement

ROD KELLEY
Vice President
Quality and Safety

LARRY BLAZEVIK
Vice President
Information Systems

The market leadership positions of our Scientific Research, Biotechnology and Fine Chemicals units depend on the committed, behind-the-scenes support of our administrative services departments.

Information Systems

The basic aim is to provide the best possible systems to support the various strategic initiatives of our Company. Our \$67 million investment in SAP computer software systems provides a unified approach to doing business worldwide. Over 90% of our worldwide orders (27 out of 34 countries are now on SAP) are processed on this system. We can now drop-ship product to customers from any warehouse worldwide. The benefits are two-fold, allowing us to decrease backorders and reduce inventory.

SAP has already made a major improvement to the way we do business. And, looking ahead, there are still many more gains to be made.

We are also one of a few companies that have truly integrated SAP with our Web site – sigma-aldrich.com. And our Web site continues to win awards for its technical content (over one million on-line documents) and E-commerce capabilities. Over 16% of our research sales are now coming through the web worldwide and we expect this to increase in the future. Certainly, we are becoming a leading-edge company with regard to systems.

Finance

In recent years, we've had considerable improvement in our transaction processing, control, risk management and decision support and analysis by using SAP technology and process improvement. In doing so, we've made tremendous strides in contributing to the financial performance of our Company. In particular, we've focused on a major driver of shareholder value creation – our balance sheet. In addition to using debt to improve returns, we managed working capital more effectively. With a sales growth of 8% in 2002, inventories decreased 1%. And accounts receivable balances improved from 60 to 57 days of sales outstanding. In addition, we've made real progress in better managing a highly complex multinational tax environment. All these efforts resulted in a record operating cash flow of \$345 million during 2002. Consequently, we're in a very strong position either to make acquisitions, further buy back our stock or reduce debt. And ending the year at 19.5%, we're very close to achieving our goal of a 20% Return on Equity. We're also continuing our annual training for all managers worldwide to improve their financial understanding and its application.

Safety and Quality

These are major foundations of Sigma-Aldrich's culture. We place tremendous emphasis on ensuring a safe workplace that also protects the environment and the neighborhood. It's worth noting this function reports directly to our Chairman, President and Chief Executive Officer. Our employees are fully aware of this commitment to safety.

Quantitatively, we obviously aim to keep the reportable injuries (accidents per 100 employees) to an absolute minimum. We rank among the best companies in our industry.

Quality is very much more than guaranteeing the specifications of our products. It encompasses every aspect of the way we do business. And in 2002, we again made great strides. We are aiming for ISO (International Organization for Standardization) certifications



Safety in 2002 was our best year ever with an OSHA recordable rate of 1.8 accidents per 100 employees, which is extremely low for our industry. It's a record we're proud of!



in several areas companywide. This increases our competitive position, as customers prefer buying from suppliers with accredited systems. Being ISO-certified also helps in assuring that our cGMP (current Good Manufacturing Practices) and FDA-approved plants meet the stringent regulatory requirements. Quality systems are simply good for business.

Process Improvement

Our passion for process improvement achieved great results during recent years. It has improved service, increased the demand for our life science and high technology products and dramatically reduced costs. 2002 was a tremendous year with increased activity worldwide, resulting in savings of \$18 million driven mainly by our global initiatives in packaging, distribution, labels, purchasing, production and inventory.

Process improvement is a methodology for testing and implementing changes – changes that will result in an improvement. At its simplest level, “Low Hanging Fruit,” we’re talking about using common sense ways to save money that produce immediate results. Such improvements are often a matter of doing the obvious. And no savings are too small to be addressed. All our employees know the formula \$1 saved = \$5 sales.

In comparison, our “High Hanging Fruit” projects require fundamental changes that produce substantial improvements. These projects often require teamwork across business units and country boundaries. In many cases the goal is often to transfer knowledge from one location to another.

The approach we’re using to implement change is one of trial and learning, the principles of which are outlined in *The Improvement Guide*, co-authored by our long-time consultant Tom Nolan, a winner of the prestigious Deming Medal from the American Society for Quality. First we define our aim – what are we trying to accomplish? Next we determine measures – how will we know that a change is an improvement? And finally, we consider possible changes that will result in an improvement. Then we test with a PDSA cycle (Plan, Do, Study, Act).

Process improvement has already been a great success story and transformed our Company. We now intend to raise the bar even higher in 2003 as we further align our efforts worldwide.

Human Resources

People are, of course, our greatest asset. And we have a very committed work force with 6,000 employees worldwide. Our “Pyramid” is the basis of our culture. To succeed, our employees must live our values, work safely, become involved in process improvement and strive for role model behavior. Unconditional teamwork is also expected as we share common knowledge and systems. 2002 was the best year ever in all these endeavors.

In 2002, we implemented a common worldwide performance appraisal of our employees.

Overall, we’re aiming for a merit-based, reward-driven culture focused on performance and behavior that encourages openness and learning. In addition, the level of communication and training, especially in finance and process improvement, was at its highest in our history. This will all aid our future growth and ensure our Market Leadership in Life Science and High Technology.

“One Company Pyramid” – defines our common approach to attain success both individually and as a company.



Process Improvement

Sigma-Aldrich places tremendous emphasis on process improvement throughout the world and at every level within the organization. Our aims are to look for new and better ways to serve our customers and substantially reduce costs.

Process improvement has already changed the way we do business at Sigma-Aldrich and will play an even more important role in the future.

Opportunities still lie all around us to improve service, increase the demand for our products and cut costs. All these activities will contribute to the sales and profit growth of Sigma-Aldrich.

