

As a trusted  
corporate citizen ...

... we drive progress with  
business excellence ...

**SIEMENS**

Corporate Responsibility Report 2002

... and advanced  
technologies.

BUSINESS EXCELLENCE

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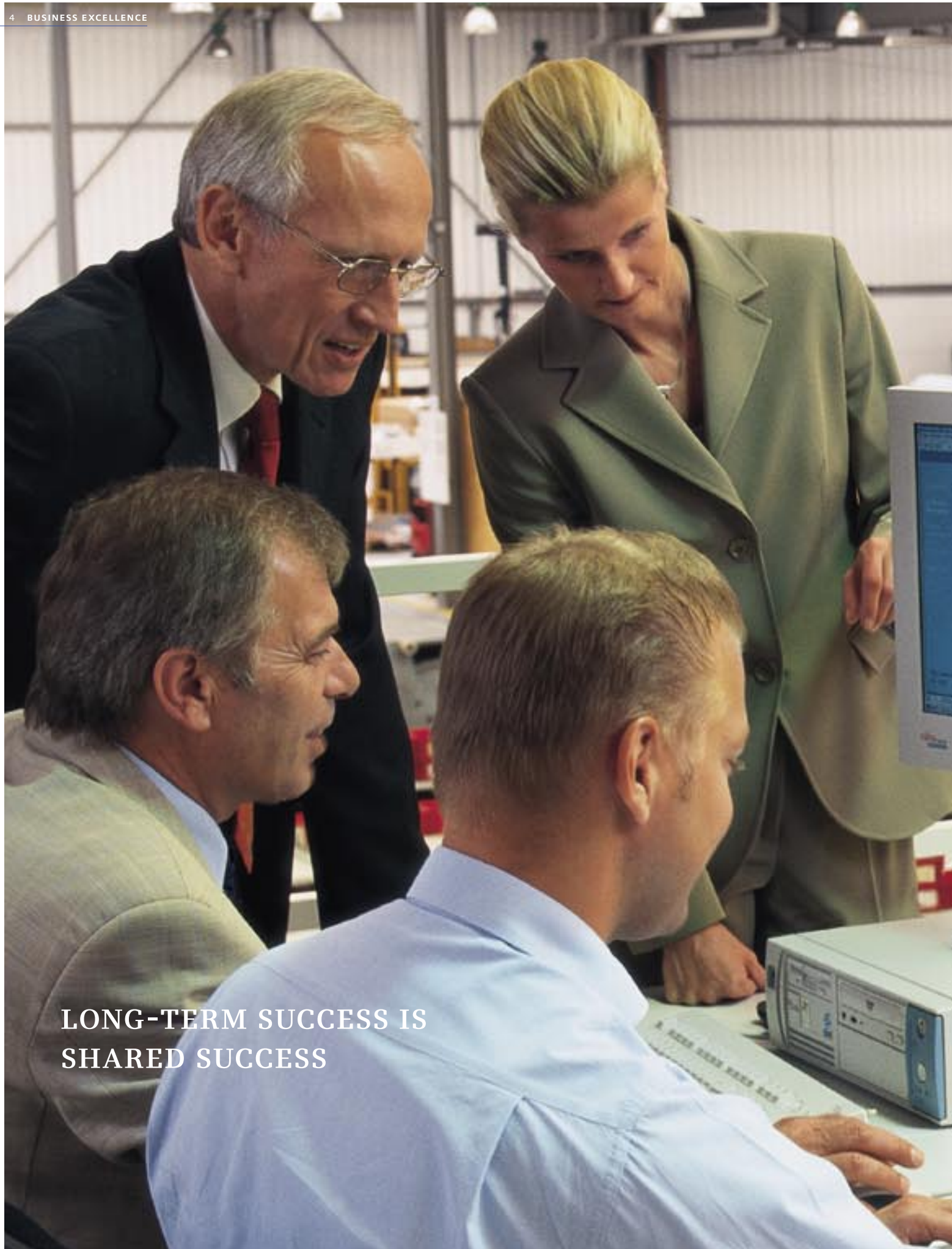
The future is inherent in everything we do. To master its challenges and sustain profitable growth, we believe in upholding our commitment to responsible leadership, environmental stewardship and corporate citizenship wherever in the world we do business.

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LONG-TERM SUCCESS IS  
SHARED SUCCESS



With more than 150 years of experience in business, we understand that continued excellence means maintaining strong, mutually beneficial relationships among workers, managers, and customers. Here at Siemens Transportation Systems' plant in Uerdingen, Germany, and throughout the company, we strive to create optimum solutions exactly aligned with customers' needs. That's why we hire the best and the brightest people we can, give them the tools and training they need to succeed, and make our managers accountable for the success of their teams. Behind all these efforts are our Corporate Principles, which set a high standard for ethical conduct in every area of our business.

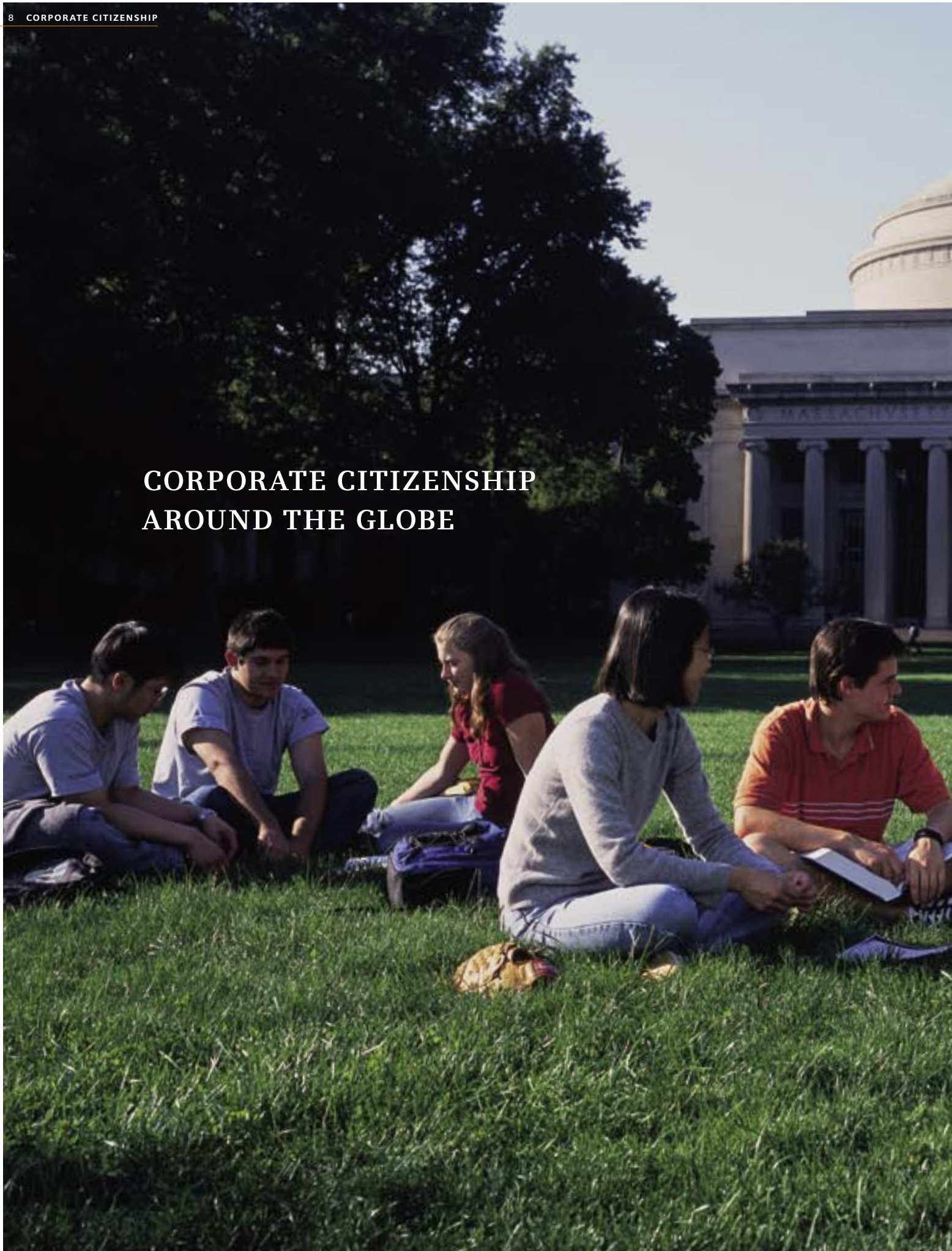
# INNOVATING TODAY FOR A BETTER WORLD TOMORROW





Our products, systems, and solutions touch so many people in so many areas of life that we are keenly aware of how innovation today can serve the needs of society tomorrow. Our passion is to continue achieving important new advances in energy, manufacturing, transportation, communications, and health care, and to make our solutions more efficient and compatible with the environment we all share. Driven by the desire to build a better world – and backed by advanced technology like our Virtual Reality Lab in Munich, a tool we use to model and visualize new living and working environments – we can explore new ways to enhance the quality of life for today's and tomorrow's generations.

## CORPORATE CITIZENSHIP AROUND THE GLOBE





Siemens is a richly varied organization with employees and customers in nearly every country in the world. This presence reminds us every day that our company plays a meaningful role in society, where business excellence and environmental stewardship go hand in hand with good corporate citizenship. To achieve this, we maintain a dialogue with people and organizations throughout society. Understanding what is important to them enables us to help in ways that matter. One priority issue for us, science education, has led to key partnerships with several universities, including the Massachusetts Institute of Technology (MIT) in Boston, many of whose students have won the prestigious Siemens Westinghouse Science and Technology Award.



## Dear Reader,

Our first Corporate Responsibility Report marks an important milestone in the history of reporting at Siemens. Building on the previous Environmental and Corporate Citizenship reports, this publication is our first to link these issues to business topics, resulting in a comprehensive new report reflecting our understanding of corporate responsibility. This encompasses a commitment to business excellence, environmental stewardship, and corporate citizenship – core values that shaped the life's work of our founder, Werner von Siemens, and have been embraced by every subsequent generation in our company.

Today, governments, investors, customers, employees and the general public are devoting increasing attention to issues like corporate governance, responsibility and integrity. We are convinced that an open dialogue about our long-term business strategy is more essential than ever for strengthening public trust and building our market leadership. At Siemens, we are committed to the highest ethical standards, and we are working to improve the daily lives of people around the world.

Siemens' Corporate Principles and our Business Conduct Guidelines describe the basic values that govern our actions worldwide. The guidelines, which are binding for all Siemens employees, mandate honesty, integrity, and full compliance with human rights and the law wherever the company operates.

Our ongoing stream of groundbreaking innovations to the benefit of society and the environment is the source of our sustainable business success, and we are committed to building on this tradition. The company's substantial investments in R&D enable it to offer a broad portfolio of technologies that provide both economic value and environmentally benign, resource-conserving, cutting-edge solutions to the customers and communities we serve.

*"An open dialogue  
strengthens public trust  
in our company."*

"Sustainable business success is not only based on solid quarterly profits, but also on long-term orientation."

As an infrastructure provider, Siemens plays a major role in scores of countries around the globe. In addition to providing innovations and solutions, the company contributes to local economies every day by promoting technology transfer and cooperating closely with local partners, customers and suppliers, who benefit from access to our knowledge and experience.

Vocational training and continuing education programs for our people are another pillar of our long-term business strategy. Not only do well-trained and highly qualified employees have better career opportunities; they also ensure the company's status as an innovation leader. Working individually or in teams, their ideas and creativity play a vital role in improving living conditions and promoting development around the world.

Out of a commitment to good corporate citizenship, we not only strive to promote education and to enable people in less developed countries to benefit from our technological expertise, we also help those in need, such as the victims of the floods that struck the Czech Republic, Austria and Germany in the summer of 2002. We are proud that our support of educational initiatives, the arts, cultural events, and numerous employee volunteer programs meet with broad public respect and recognition.

We hope the strategies and examples highlighted in our Corporate Responsibility Report will give you new insight into the many ways Siemens is working not just to safeguard the future of the company, but to improve lives in the communities in which we are a respected neighbor. We want to go beyond the scope of our Annual Report to inform the public about our commitment to corporate responsibility. As part of our effort to engage in open dialogue with all stakeholders, we encourage you to contact us with your comments, suggestions and ideas for improvement.

We are convinced that sustainable business success is not based on solid quarterly or annual profits alone. Sustainable success requires more. And this "more" – which Siemens has stood for since its founding – is the focus of our Corporate Responsibility Report.



Dr. Heinrich v. Pierer,  
President and Chief Executive Officer, Siemens AG

## CORPORATE POLICY AND ORGANIZATION

A company like Siemens – with so many people, production sites, products, and partners all over the world – needs a solid foundation of legal and ethical principles. We sought to create that kind of foundation from the very beginning, and we continue to build on it today.

### Our Corporate Principles

Siemens is a prolific innovator and a strong player in the global business arena. The knowledge, skills and dedication of our people are crucial to our continued success as a company. Our Corporate Principles are an expression of who we are and what we believe [www.siemens.com/principles](http://www.siemens.com/principles).

### Corporate governance:

#### Principles of sound management

Responsible and transparent company management and monitoring structures – focused on achieving sustainable growth in company value – are indispensable for earning and maintaining trust in Siemens and its business policies. That is why all

our decision-making and monitoring processes, as well as our cooperation with shareholders, are based on the principles of good corporate governance [www.siemens.com/corporate\\_governance](http://www.siemens.com/corporate_governance).

As a global company headquartered in Germany, Siemens must ensure that its internal management and monitoring structures comply with German laws governing corporations, codetermination and the capital markets, with our Articles of Association and with our company-specific implementation of the recently issued German Corporate Governance Code.

As a result of our U.S. listing, we are also subject to the licensing requirements of the New York Stock Exchange and U.S. capital market legislation – above all, the Sarbanes-Oxley Act of July 2002 – as well as the rules and regulations of the Securities and Exchange Commission (SEC).

Because its registered offices are located in Berlin and Munich, Siemens is subject to the German

## Our Corporate Principles: Guiding beliefs and self-perception

### We strengthen our CUSTOMERS – to keep them competitive



Our success depends on the success of our customers. We provide our customers with our comprehensive experience and solutions so they can achieve their objectives fast and effectively.

### We push INNOVATION – to shape the future



Innovation is our lifeblood, around the globe and around the clock. We turn our people's imagination and best practices into successful technologies and products. Creativity and experience keep us at the cutting edge.

### We enhance company VALUE – to open up new opportunities



We generate profitable growth to ensure sustainable success. We leverage our balanced business portfolio, our business excellence and synergies across all segments and regions. This makes us a premium investment for our shareholders.

### We empower our PEOPLE – to achieve world-class performance



Our employees are the key to our success. We work together as a global network of knowledge and learning. Our corporate culture is defined by diversity, by open dialogue and mutual respect, and by clear goals and decisive leadership.

### We embrace corporate RESPONSIBILITY – to advance society



Our ideas, technologies and activities help create a better world. We are committed to universal values, good corporate citizenship and a healthy environment. Integrity guides our conduct toward our employees, business partners and shareholders.

Corporation Act (AktG). Consequently, the company has a two-part management and oversight structure (two-tier model) comprising a **Managing Board** and a **Supervisory Board**. The **Annual Shareholders' Meeting**, the assembly of shareholders, is our third company body. All three bodies are obligated to serve the interests of both the shareholders and the company.

All Siemens businesses are part of a **matrix organization** that combines a centralized strategic orientation with decentralized business and regional responsibilities. The Corporate Executive Committee of the Managing Board is responsible for coordinating the matrix.

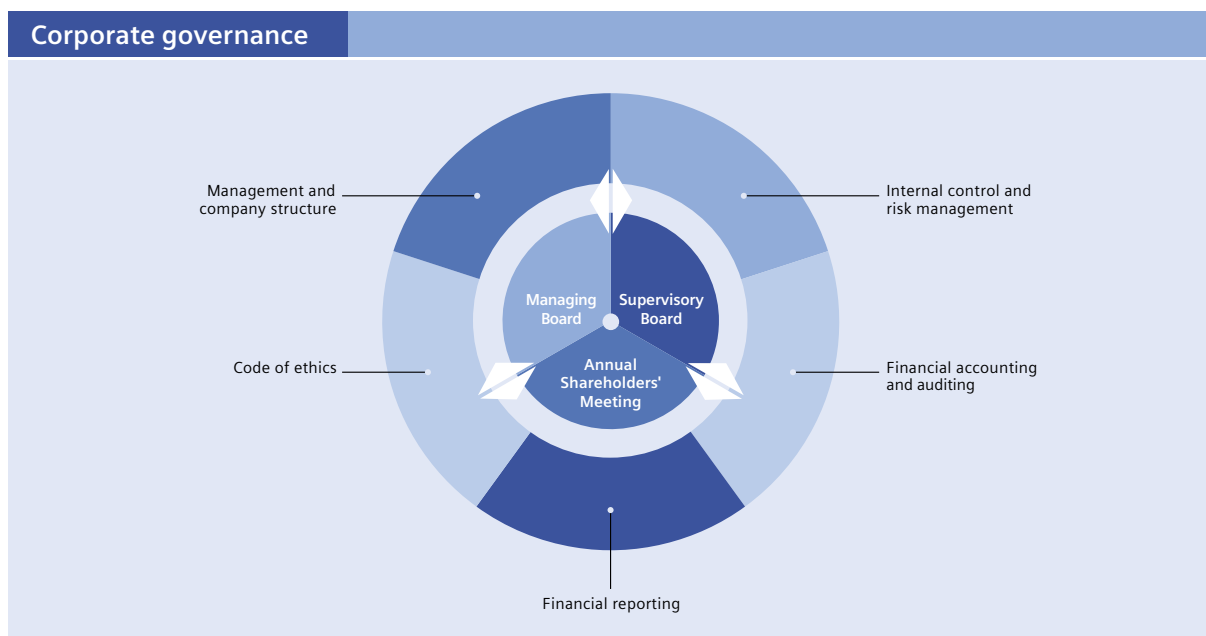
As global entrepreneurs, Siemens' Groups are individually responsible for their worldwide businesses. Each Group has its own Executive Management, which is responsible for running Group business in accordance with company policies defined by the Managing Board of Siemens AG. The Groups determine how their resources will be used. They develop their own strategies, manage their own assets and generate earnings in their respective market segments.

The Groups' international activities are conducted via regional units which are responsible for Group-related business and earnings in a particular country or countries. The regional units, in their capacity as regional entrepreneurs, implement target agreements which they have concluded with the Groups.

### Management and leadership

Our management and leadership structure is aligned with our corporate policy and its strategic focus on value creation. Our goal is to sustain profitability throughout the company and to increase company value over the long term. To succeed in this, each of our businesses has to generate positive economic value added (EVA) – in other words, each must earn at least enough to cover the charge for the capital it employs. Our value creation targets serve both as an internal measure of business performance and an external measure of earnings.

At Siemens, our style of leadership centers on promoting goal-driven, cross-border cooperation in an open atmosphere of mutual trust. It is essential that we align our business objectives – in other words,



corporate management's strategies and their implementation globally and locally by our Groups and our regional units – with the common and uniting values, perceptions and attitudes traditionally associated with our company name. This is the remit that we encourage and expect management to fulfill.

### **Our Business Conduct Guidelines**

Differences in culture, perceptions of morals and ethics, and legislative frameworks are all part of doing business on a global scale. To deal with these differences, both strategically and in day-to-day business, we apply high ethical and legal standards in everything that we do.

Key values such as courtesy, loyalty, tolerance, and respect for the law are the hallmarks of our corporate culture and all our dealings with our workforce and with business partners. Each of our employees around the world contributes to the image we as a company project and shares in our responsibility toward our communities.

Our Business Conduct Guidelines – binding on the whole of the company, worldwide – define our code of ethics [www.siemens.com/business\\_conduct\\_guidelines](http://www.siemens.com/business_conduct_guidelines). These guidelines are in place in order to help all of our employees proceed appropriately when faced with ethical and legal challenges. They therefore play a crucial part in promoting confidence in our corporate policy and business practices.

### **A global commitment to good corporate citizenship**

Globalization is an everyday reality. We see the immense opportunities for greater prosperity that globalization can create for businesses and for the whole of humankind. In our perception, globalization promotes international partnerships, the sharing of expertise, and worldwide trade and investment. The global network that unites our workforce – well over 400,000 people worldwide, of whom one-third work at locations outside Germany – builds bridges between cultures, continents and nations.

Through the employment and training opportunities we provide, and through our R&D and manufacturing centers around the world, we make available our experience, expertise, and technology in many different countries and help advance knowledge and build new competencies there. Our innovative products strengthen our customers and help them succeed in global markets. We regard technology transfer as an important contribution toward the development of open world markets. We support the goal of creating equal export opportunities for developing countries in all economic sectors.

We believe in being a good local citizen in every community around the world in which we do business. Through our Regional Companies, we contribute actively to the economies of the countries in which we operate. Besides respecting local laws and customs, we also believe in being a good neighbor in other regards: We source goods and services locally whenever possible, we work to provide high quality jobs, and we pay local taxes. By purchasing local goods and services – something we consider to be especially important – we encourage the development of a strong base of suppliers and, indirectly, the creation of new jobs in our communities.

We also seek to foster a sense of good citizenship and responsibility among our local suppliers. One important prerequisite for working with us is that they submit a declaration stating that they agree to uphold baseline employment, environmental and citizenship standards [www.siemens.com/click2procure/declaration](http://www.siemens.com/click2procure/declaration). This includes agreeing to respect human rights, to pursue a policy of non-discrimination, and not to employ child or forced labor.

## This is Siemens

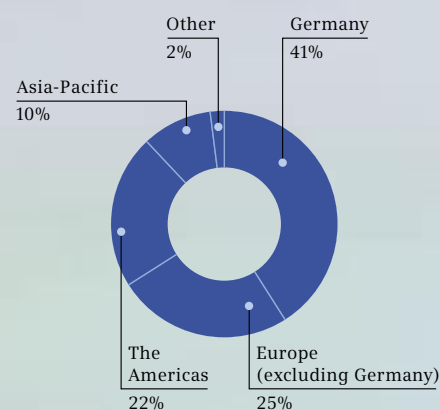
For 155 years, the Siemens name has been synonymous with cutting-edge technologies and continuous growth in profitability.

With our wide array of products, systems and services, we are world leaders in information and communications, automation and control, power, medical solutions, transportation and lighting.

Sustainable success is our number one priority. Our activities focus on meeting the needs of our customers and creating value for our shareholders and employees. Our innovations – generated in our own laboratories and in cooperation with customers, business partners and universities – are our greatest strength. Siemens' GLOBAL NETWORK OF INNOVATION is developing new products and services for a world that – while limited in resources – is boundless in possibilities.

## Employees worldwide

At the end of fiscal 2002 (September 30), Siemens had 426,000 employees – 58,000 fewer than a year earlier. The drop in the headcount was due partly to changes in our business portfolio (in particular, the de-consolidation of Infineon and an attendant reduction by 34,000 in our employee base) and partly to structural adjustments in line with changes in our markets, above all in our Information and Communications area.



## Sales by region (billions of euros)

	2002	2001	2000
Other	6%	5%	5%
Asia-Pacific	12%	13%	13%
The Americas	29%	30%	27%
Europe (excluding Germany)	32%	30%	31%
Germany	21%	22%	24%
<b>Total</b>	<b>84.0</b>	<b>87.0</b>	<b>77.5</b>

In fiscal 2002, sales decreased 3 percent year-over-year to €84.0 billion. This slight decline is attributable to currency effects, acquisitions and dispositions. Sales totaled €18.1 billion in Germany and €20.3 billion in the United States. Business was stable in Asia-Pacific. China continued to account for the largest share of sales in the region, contributing €3.2 billion.

## Financial highlights

(millions of euros)	2002 <sup>1)</sup>	2001 <sup>1)</sup>	2000 <sup>1)</sup>
<b>New orders</b>	86,214	92,528	83,426
<b>Net sales</b>	84,016	87,000	77,484
<b>Net income</b>	2,597	2,088	8,860
<b>Net cash provided by operating activities</b>	5,564	7,016	6,154
<b>Net cash used in investing activities</b>	(810)	(5,886)	(435)
<b>Research and development expenses</b>	5,819	6,782	5,848
<b>Shareholders' equity (September 30)</b>	23,521	23,812	28,480
<b>Employees (September 30, in thousands)</b>	426	484	448

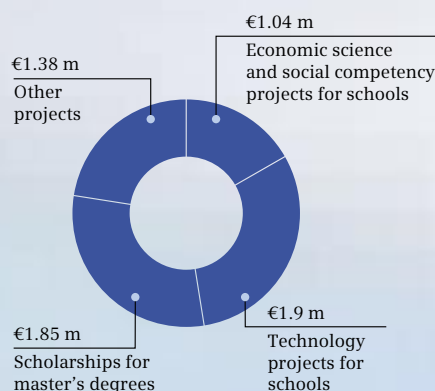
<sup>1)</sup> Fiscal year (October 1 – September 30)

## Siemens' structure

Siemens' company structure is designed to allow decentralized entrepreneurial responsibility and to maximize our market reach. The aim is to nurture close ties to customers and to ensure that we can conduct our business flexibly. Our portfolio comprises six business areas with a total of 14 Groups, each responsible globally for its own research and development, manufacturing, sales and EVA performance. These Groups are independent entrepreneurial units with a clearly defined market position and competitive profile.

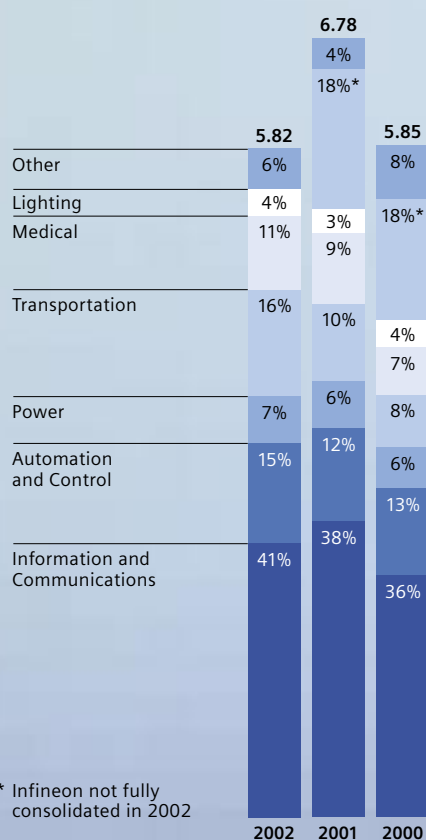
Our regional units are tasked with meeting the Groups' business targets and are responsible for their own profitability. In Germany, the Groups conduct business through their own networks of Regional Offices, whereas in other countries, we follow the principle of uniform representation, presenting a single face to the customer. Our Regional Companies operate as entrepreneurs at the local level. Our Corporate Departments and Corporate Centers support executive management by fulfilling a variety of staff functions, such as personnel management, finance, and communications.

## Youth and Knowledge



Siemens' Youth and Knowledge advancement program was launched in 1997 to support the education and training of school and university students. In schools, we seek primarily to advance tuition in technology, the natural sciences and economic science. In addition, we operate a number of international exchange programs focused particularly on assisting university students pursuing degrees in engineering and technology-oriented fields of science.

## R&D expenditures (billions of euros)



\* Infineon not fully consolidated in 2002

In fiscal 2002, our researchers and developers turned out more than 7,000 inventions, and we filed over 4,500 patent applications. With worldwide competition intensifying due to ever greater globalization, the importance of patents has increased dramatically. According to the official statistics for 2001, Siemens AG was the largest patent applicant at the German Patent and Trade Mark Office and at the European Patent Office. In the U.S., too, we ranked among the leading patent holders.

## The Global Corporate Citizenship Initiative and the Dow Jones Sustainability Index

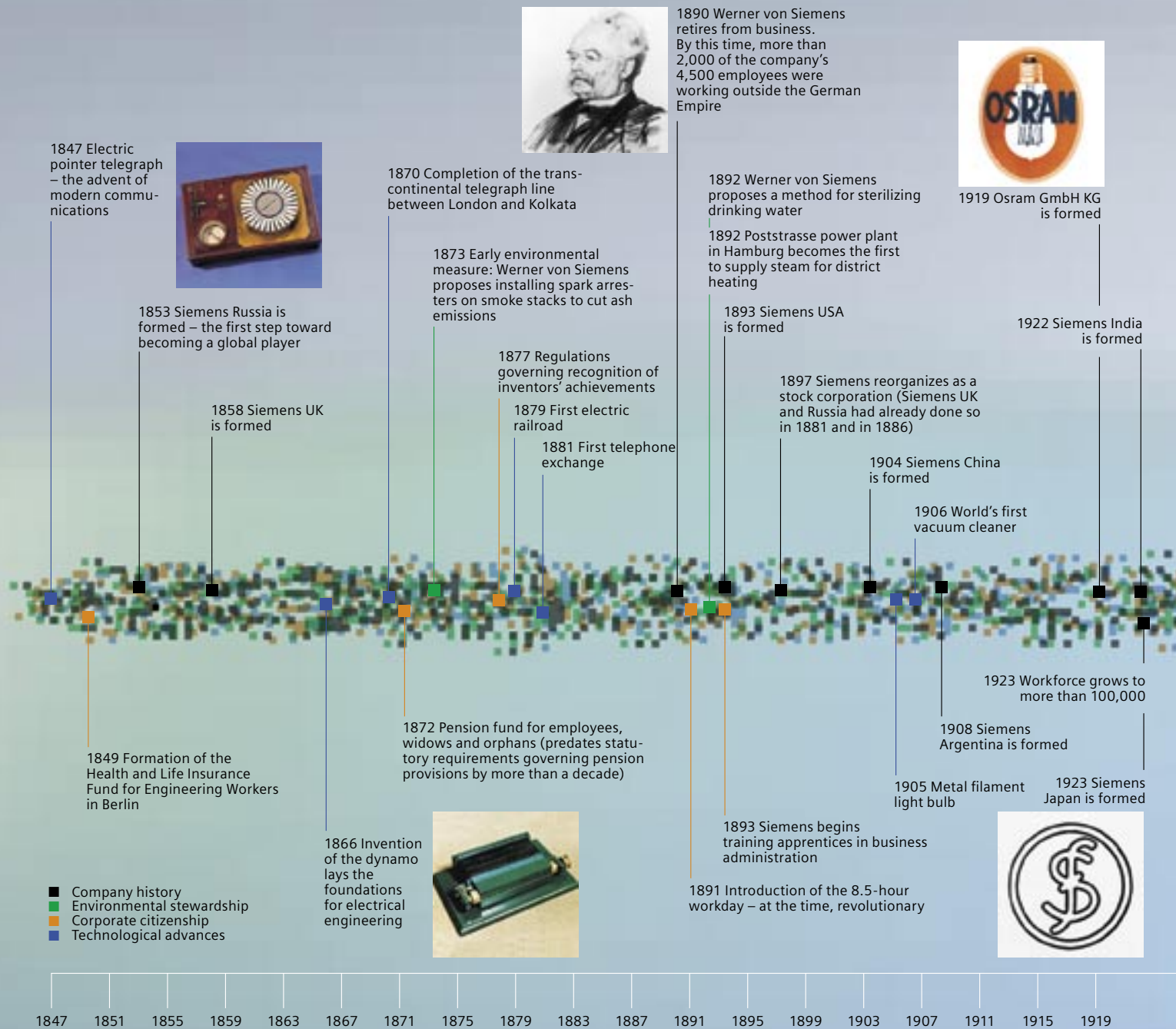
Through our participation in the World Economic Forum's Global Corporate Citizenship Initiative, we underscore the emphasis that we as a company place on corporate responsibility. In early 2002, Siemens' President and CEO, Dr. Heinrich v. Pierer, and 35 other CEOs of international companies signed a declaration endorsing the WEF initiative.

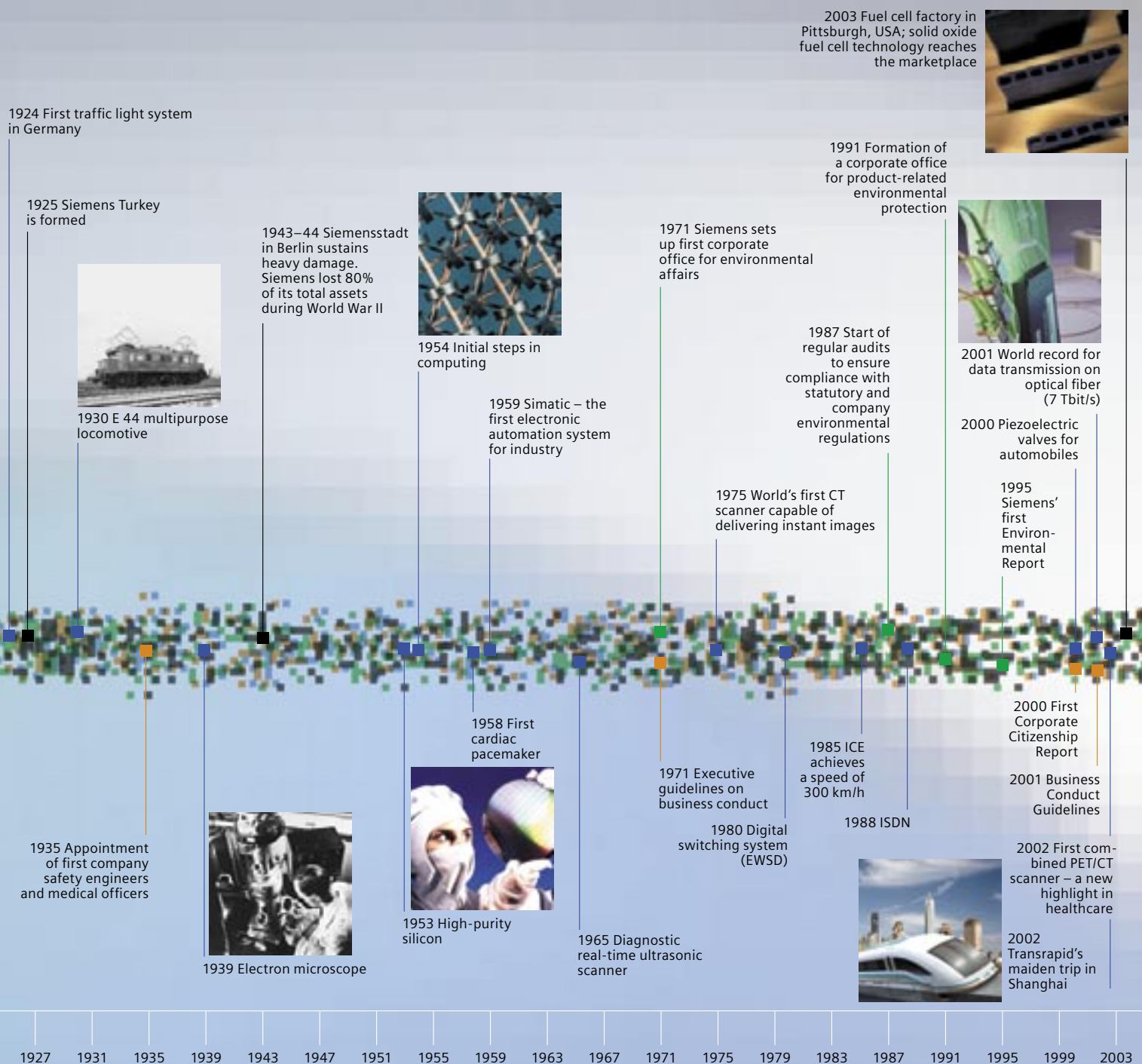


In addition, Siemens has been listed on the Dow Jones Sustainability Index (DJSI) since September 2000. The DJSI tracks the performance of leading international companies that set best practices in good corporate citizenship and environmental stewardship.



## MILESTONES





Since the company's beginnings as a small workshop in Berlin in 1847, Siemens has grown into a GLOBAL NETWORK OF INNOVATION. From the outset, the company concentrated specifically on electrical engineering. Many things that we now take for granted – in the home, in hospitals, on the factory floor, and in the public infrastructure – were originally Siemens inventions and were landmark achievements in their time. Our founder, Werner von Siemens, laid the cornerstone of a corporate culture that to this day builds on the individual's sense of responsibility and on a commitment to good corporate citizenship. The time line above highlights a number of major milestones in Siemens' history.

# Business excellence



## Long-term success is shared success

In every company, management has to decide on what actions to take in order to safeguard profitability over the long term. That's management's duty – not just toward shareholders and investors, but also toward

the company's employees and other stakeholders. At Siemens, our corporate policy centers on constantly taking steps to ensure that the measures we implement are capable of safeguarding the continuation of our

155-year success story. These measures are focused primarily on four action areas: customers, innovation, a qualified and motivated workforce, and a continuous improvement in our economic value added.

The company Siemens grew from a single key innovation: In 1847, our founder Werner von Siemens invented the pointer telegraph. During the decades thereafter, the company produced a string of new inventions and technological advances, many of which were patented. Siemens today holds almost 84,000 patent rights, including some 42,000 patents. For a high-tech conglomerate like Siemens, it's essential to stay on the cutting edge of technology, because innovations not only mean new products, they often open up completely new avenues of business, too. That's why we invest billions in research and development and have large numbers of R&D people worldwide, working toward that goal.

We are also always aware of innovations' capacity to change our world. One prominent example, micro-electronics, has not merely revolutionized information and communications technology, but has also shaped many aspects of our business and private lives. Because we feel a sense of duty toward society and the environment, we also take into account the possible long-term impact of our innovations.

Even the most promising invention or exceptional product is worthless if it fails to meet customers' needs and expectations. That's why we place such emphasis on staying customer-focused. To equip us better to gauge – and fulfill – customers' specific needs we operate usability labs, where we have a cross-section of typical users test prototypes of new products. Our account managers coordinate cross-Group customer care in those projects involving several different Siemens operating units. We also operate call centers, customer

care centers and hotlines to provide customers with the assistance they need and to make sure they remain satisfied with our products and services.

Innovative products and customer satisfaction are important success factors. Both, however, are impossible to achieve without well-trained and motivated employees – our greatest guarantee of success.

At Siemens, we are fully aware that our performance as a company depends to a critical degree on a highly qualified workforce with a commitment to excellence. We therefore try to recruit highly promising individuals to work for us; we train and qualify them; and we offer them promising career opportunities. Moreover, part of our corporate culture as a good corporate citizen is about motivating our people in a variety of ways, including helping them to achieve a good work-life balance. We regard cultural diversity as enriching for our organization. As a global company, we seek to make the most of the ideas and the potential inherent in different social groups and cultures.

In today's global competitive arena, merely maintaining a market presence is no longer sufficient. In order to achieve any kind of lasting success as a company we need to bring all our operations into leading market positions. This is why we launched our *top+* business excellence program, company-wide, in 1997. It consists of a range of levers intended, among other things, to boost productivity and, ultimately, to improve business units' EVA results. The program helps all of our businesses to score measurable successes toward strengthening our competitiveness in the long term.

## “WE STRENGTHEN OUR CUSTOMERS”

This, the first of our Corporate Principles, underscores our commitment to maintaining a clear customer focus. As Siemens President and CEO Dr. Heinrich v. Pierer has stated, “Our customers everywhere need to feel that they have our undivided care and attention whenever they work with us.”

In this regard, our account managers – sales professionals who are responsible for a particular customer, region or sales area – play an important role. Today, effective account management is crucial to our success, because the only way to network data and business workflow effectively is through seamless, end-to-end solutions. A hospital construction project, for example, might involve several Siemens operating units: Healthcare services today rely heavily on infotech, building systems, security and safety systems, and, of course, medical equipment. In addition, providing solutions that truly meet patients’, healthcare professionals’ and administrators’ needs calls for an exact understanding of hospital processes.

Some 40 percent of our customers – particularly those engaged in major projects like sports stadiums, train stations or airports – source products and services with several Siemens units at once. To ensure that these projects go smoothly and that customers get the solutions they require, account plan process managers work with them to map out business development plans, clarify what they wish to accomplish in the longer term, and establish what they expect from a partnership with Siemens. Often, we and our customers find new sales opportunities in the process.

### Answers on call

Employees at the Siemens Customer Care Center in Frankfurt, Germany, respond to inquiries regarding all our products and assist callers who lodge complaints. The center’s agents rapidly organize a suitable contact to handle a given problem and stay on the case until a solution is reached. Our long-term goal is to set up similar “one-stop” call centers outside Germany, too. Our operating units run their own support centers

in foreign countries. These centers fulfill an equally important function in maintaining close ties with customers. The Siemens Business Services hotline, for example, took some 2.8 million calls in fiscal 2002. One important resource that helps hotline staffers to handle inquiries more effectively is the Siemens Sales Contact Directory (SSC), a comprehensive electronic index with several thousand entries listing products and their respective sales contacts. The index is updated and enhanced constantly. In addition, all of our Groups have officers who are responsible for customer satisfaction. Their job is to conduct surveys in order to identify areas in which Siemens still has room to improve.

### Continuously improving products

We put our products through extensive trials before they reach the marketplace in order to ensure that customers like them. At Siemens’ usability labs in Munich, Princeton, and Beijing, a cross-section of users tests the whole of our product range – everything from mobile phones to computed tomography scanners to full-scale control centers for power plants. Teams of engineers, IT specialists, designers and psychologists use the experience acquired in the labs to improve our equipment and software systems, which, ideally, should be completely intuitive to use.

### Putting people before profits

Products like our gesture computer, designed to help people with disabilities, show that potential profits are not always our primary concern when developing new technologies. People with Parkinson’s disease or multiple sclerosis often have tremors that prevent them from using a standard computer keyboard. In collaboration with Serono, a pharmaceutical company, and a number of other partners, we designed a computer workstation based on our SIVIT virtual touch screen. The monitor image is projected onto a surface, and users can control cursor movement by pointing with their fingers. Special software compensates for any tremors in a user’s hand. The gesture computer is just one example of the range of products and systems we develop in order to meet special human needs.

## INNOVATING FOR TOMORROW

At Siemens, innovation is our lifeblood. We are a GLOBAL NETWORK OF INNOVATION uniting some 53,100 research and development professionals at well over 100 locations in 31 different countries. Together, our people work to create solutions that enable our customers to enhance their profitability and help us to increase the value of our company. In fiscal 2002, we spent €5.8 billion – nearly 7 percent of sales – on our R&D programs. Producing 18 inventions a day on average, Siemens is one of the leading innovators among companies worldwide [www.siemens.com/research](http://www.siemens.com/research).

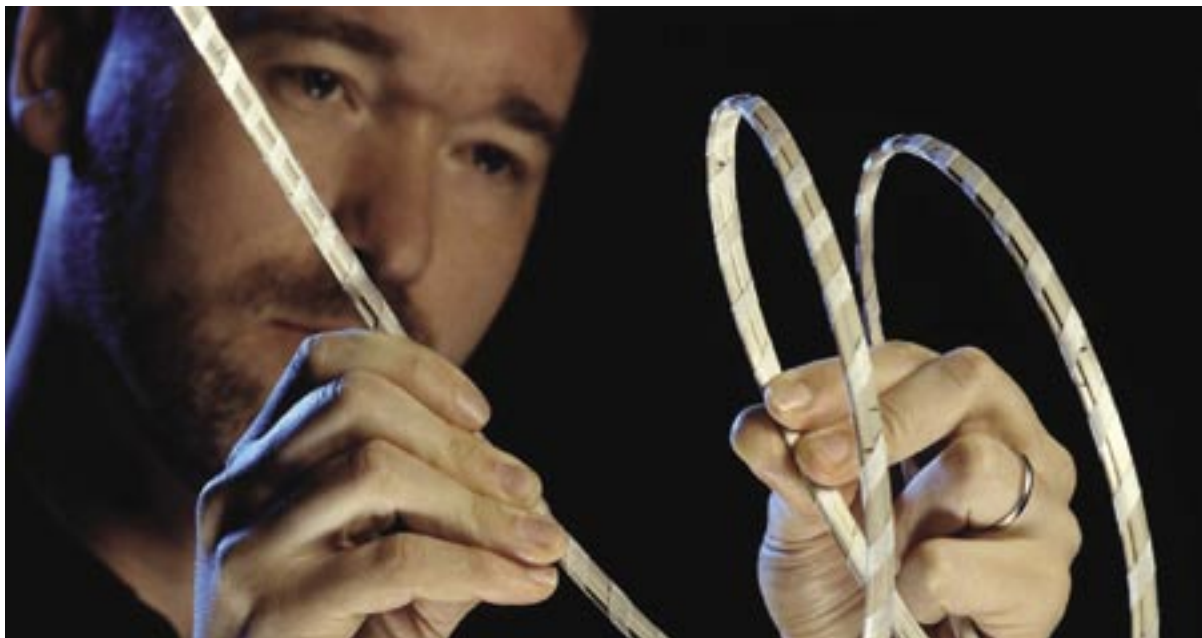
### Setting market trends

The term “innovation” encompasses a wide variety of topics [www.research-innovation.com](http://www.research-innovation.com). These range from innovations in business strategy – advanced business models, for example, that enable us to serve new customer groups and market segments – to innovations in manufacturing, business and logistics processes, to organizational innovations and, lastly, technological innovations. Siemens is active in all of

these fields. Innovations in technology, more than in any other area, are the key factor governing not just our ability to compete successfully, but also our job security, and our prosperity. To establish and retain a lead in the marketplace and generate high returns, you have to stay at the forefront of developing technology in the longer term. Those areas of business in which Siemens has a technological lead generate a substantially higher EBIT than those in which we are on a par with, or trail, our rivals. This is why our innovation drive, one of the instruments in our company-wide *top+* business excellence program, centers on shaping trends, channeling innovation resources effectively and establishing new markets.

One of the yardsticks by which we gauge a company's qualities as an innovator is the speed with which new products reach the marketplace. Siemens generates more than three-quarters of its sales revenue today with products that are less than five years old; in areas like telecommunications and internet technology, the figure is much higher. As innovation cycles

Wires made of high-temperature superconductors (HTS) are just one of many examples that underscore our qualities as an innovator. These HTS wires can be used to build motors and transformers that are much smaller, lighter and have lower electrical losses than their conventional counterparts.



accelerate, fast and effective collaboration between research, development, production, marketing and sales becomes all the more crucial.

But maintaining a lead on rivals these days involves much more than merely assembling a group of creative and ingenious inventors and letting them loose on projects. Instead, what's needed is a systematic and organized idea-finding and selection process capable of turning concepts with the greatest potential into viable market opportunities. In keeping with this principle, our industry research in the last couple of decades has shifted its focus away from the development of new technologies and toward markets, products, processes, and customer benefit.

#### Inventing the future

Inventing the future is more important strategically today than at any time previously. Working in tandem with our operating groups, Siemens Corporate Technology has developed a new methodology, Pictures of the Future, to help us do just that. These are complex models of future scenarios that chart Siemens' technology visions in key areas – information and communications, automation, power, transportation and health care. Besides technological possibilities, these scenarios also take into account political, industrial, structural, economic, societal and, of course, environmental factors. We attempt to map out and project a holistic vision of the future from which we can draw conclusions regarding our innovation strategy.

The Pictures of the Future enable us to address three goals in particular. First, we want to acquire an overview of those technologies that will play a key role in the future. These encompass the technologies that will drive market growth, the technologies that will have multiple impact on many different businesses, and the technologies that will lead to discontinuities – in other words, developmental leaps forward. Our second goal is to identify systematically new business opportunities. And our third is to communicate, externally and internally, that Siemens is a visionary and innovative company [www.siemens.com/pof](http://www.siemens.com/pof).

An extensive portfolio of patents, too, is a reflection of innovative strength, and helps strengthen our competitive position. Siemens is one of the most prolific inventors in the world. In 2002 alone, our research and development people came up with more than 7,000 inventions, including around 4,500 for which we submitted patent applications.

We are not just the most frequent patent applicant at the German and European patent offices; in the U.S., Siemens as a whole – our corporate parent plus consolidated companies – ranks sixth in terms of the number of patents awarded, putting us in a strong position in the global competitive arena.

#### An innovative approach

Part of our long-term approach to promoting innovation involves assisting new businesses at various stages in the start-up process by providing crucial capital and expertise. We have three business units that specialize in the early seed phase: Siemens Technology Accelerator, based in Munich, provides professional advice and financing to start-ups and spin-offs and to company units engaged in implementing Siemens technologies outside the usual focus of our operating groups [www.sta.siemens.com](http://www.sta.siemens.com). The Siemens Technology-To-Business Center in Berkeley, California, advances revolutionary new business ideas (mainly from within the U.S. and many from sources outside Siemens) that are of strategic relevance to our core business, and matures these ideas to the point that they are ready for market entry [www.ttb.siemens.com](http://www.ttb.siemens.com). And Siemens Mobile Acceleration GmbH (smac) concentrates on innovative business opportunities emerging in the field of mobile communication. Smac assists start-ups around the world by offering coaching and initial funding during the seed phase prior to market entry [www.smac.siemens.com](http://www.smac.siemens.com). A fourth unit, Siemens Venture Capital (SVC), specializes in subsequent financing rounds following the seed phase. To date, SVC has invested more than €500 million in over 70 start-ups and 25 venture capital funds, mostly in the U.S., Europe and Israel. These investments are focused on young, innovative companies working in areas of technology that are of strategic relevance for Siemens – information and communications, automation, medical engineering, and energy, for example – and have the potential to produce higher-than-average returns. Fourteen of the companies in Siemens Venture Capital's portfolio are already listed on the NASDAQ or on stock exchanges in Germany [www.siemensventurecapital.com](http://www.siemensventurecapital.com).

## GETTING BETTER ALL THE TIME – WITH *top+*

Our business excellence program *top+* helps all Siemens businesses to achieve measurable successes in their efforts to effect lasting improvements in our competitive strength. The *top+* program builds on three binding principles:

- **Clear goals:** Each year, all our business managers agree on the contribution to be made to company value by their respective units. Every department and every employee plays a role in reaching the designated goals. To this end, managers agree with their employees on specific performance targets that are aligned with the company's economic value added target.
- **Concrete measures:** The exact measures implemented by each business in order to achieve its goal are tailored specifically to its individual situation. Managers have at their disposal an array of ten *top+* tools. These tools consist of thoroughly documented examples of how to apply methods that reflect established best practices within Siemens. Our Regional Company in the U.S., for example,

introduced measures to improve its earnings situation that are part of our *top+* U.S. Business Initiative.

- **Rigorous consequences:** The effectiveness of the agreed measures is reviewed on a regular basis. All of Siemens' Group presidents meet quarterly with the Corporate Executive Committee to deliver progress reports. Their performance has consequences that are of direct bearing on future business procedures, as well as on these senior executives' personal development and remuneration.

The *top+* program has achieved a number of prominent successes, including successful turnarounds at a number of our Groups. To allow the whole of the company to reap the benefits of the knowledge gained, various *top+* events on best practice sharing are held each year. One such event is the *top+* award. Last year's winning teams, which achieved EVA improvements worth roughly €600 million, presented their successful projects to colleagues and senior management at the awards ceremony.

Cross-departmental units like this team in Norway are tasked with implementing the designated *top+* measures.



## DIVERSITY – A WELLSPRING OF CREATIVITY

In the workplace, the term “diversity” is used to describe variety among employees – differences of age, gender, ethnicity, religion, and nationality. In a global company like Siemens, diverse teams are commonplace and bring us significant benefits: Teams capable of seeing problems from different perspectives arrive at better solutions. We have introduced numerous programs designed specifically to recruit greater numbers of women and to increase the ethnic diversity throughout the company. Rather than expecting this to prove to be an instant and immediate solution, we regard this as a long-term initiative that will continue to require an intense effort in the future.

In countries such as the U.S. and Britain, which have an ethnically diverse population, Siemens has had equal opportunity policies in place for many years. In Hong Kong, too, we introduced an Employment and Promotion Policy in September 2001 that prohibits discrimination on grounds of gender, marital status, disability, age, ethnicity, nationality, or confession.

In the U.S., Siemens hopes its five-year Diversity Strategic Initiative will help the company tap into new potential. The initiative’s primary action areas are recruitment, the filling of key jobs, mentoring, and communication. In addition, employees nationwide are being put through training so that they understand the strategic significance of diversity and can better appreciate their own contribution.

In Germany, our Promoting Diversity project concentrates on improving women’s work situations and opportunities [www.siemens.com/promoting\\_diversity/en](http://www.siemens.com/promoting_diversity/en). The project’s foremost goal is to increase substantially the number of women throughout the company, particularly in specialist and leadership roles. This is why diversity is an integral element in our recruitment, human resources development, and training initiatives. It also features prominently in the personnel advertisements that we run in news media or post at universities, as well as in the selection, advancement, and training of high potentials. Our long-term focus is evident from programs like Yolante, which seeks to

encourage young women to pursue careers in technology professions [www.siemens.com/yolante/en](http://www.siemens.com/yolante/en).

### Helping disadvantaged groups

In a multicultural society like South Africa’s, diversity is an issue with special significance. Businesses are playing an important role in the country’s process of transformation. At Siemens, our efforts are not focused solely on our own workforce. As part of our Empowerment Policy in South Africa, we provide assistance to former Siemens employees from previously disadvantaged groups who wish to set up their own businesses. For example, Sizakahle, a company specializing in electrical installations for major customers, was formed in 1998 with our support. Sizakahle now employs 194 people and receives 30 percent of its orders from non-Siemens customers. We also assist smaller information and communications businesses by providing their workers with basic training. Many of these businesses later benefit from franchising agreements with Siemens. We currently source 10 to 12 percent of our procurement volume with the empowerment companies, and we plan to increase this to 55 percent by 2006. In 2002, Siemens’ committed efforts to advance the empowerment process earned the company its first-ever City Power Johannesburg Presidential Award.

### Integrating people with disabilities

Siemens in the Netherlands is going to considerable lengths to create jobs that help integrate people with learning difficulties. Project supervisors and coworkers conduct an analysis of the work that needs to be completed in a given department to identify those tasks that are less demanding. These tasks serve as the basis for a job description, and the company can then look for someone suitable to fill the post. By taking this approach, the company attempts to avoid problems resulting from a hiree’s inability to fulfill work assignments. A mentor is on hand to oversee the project and to counsel the employees involved. Since the project was launched in 1999, it has created eight new jobs that offer people with learning problems a productive opportunity to make the most of their abilities.

## EXCELLENT EMPLOYEES GUARANTEE OUR SUCCESS

Siemens needs the best and the brightest people in order to achieve excellent business results. We want to be the employer of choice for highly qualified applicants, and we want to offer them exceptional long-term potential. This is why we place particular emphasis on recruitment, training, continued education, and development opportunities within the company.

### Attracting high-potential employees

Recruitment has to be a rapid, professional and transparent process because the most promising applicants are generally only available in the labor market for a short time. Here at Siemens, e-cruiting – recruiting through jobs and career pages on the Internet – is playing an increasingly important role [www.siemens.com/career](http://www.siemens.com/career). At the same time, we continue to use classic methods of recruitment, including job advertisements, university contacts, job fairs and exchanges, and career days. Siemens USA, for example, runs a joint recruiting campaign with its operating companies, holding

an on-campus open house for students at six selected universities. An important recruiting activity we've undertaken to encourage an interest in the company among minorities is to visit student organizations and to discuss important trends and issues as well as career opportunities at Siemens.

Siemens employs different recruiting methods, depending on the target group and the circumstances – from classic job interviews to structured interviews to assessment centers. In Germany, we use special human resources software developed in-house to support applicant selection online. Applying innovative test methods, the software allows us to gauge applicants' networked thinking skills, ability to work in teams, and motivation, as well as to create a detailed profile of their strengths and weaknesses. This greatly increases the efficiency of the recruitment process, and this is partly why Siemens ranks as one of the best companies to work for in surveys carried out among students and young people who recently embarked on their careers.

On-campus recruitment events at several U.S. universities give students an opportunity to talk to Siemens employees and find out more about our company.



### Training employees

For more than 100 years now, our company apprenticeship programs have played an important role in securing the next generation of employees. In fiscal 2002 – at a total cost to the company of around €200 million – we put roughly 12,300 youngsters worldwide through apprenticeship training, including 3,600 outside Germany.

The unit responsible for training is Siemens Professional Education (SPE), which works in close collaboration with Siemens' operating groups and companies, particularly when it comes to planning curricula, conducting training, and developing new career tracks.

Our training programs enjoy an excellent reputation outside as well as inside the company. In 2002, for example, other firms put 2,800 vocational trainees – mainly in information technology – through apprenticeships with Siemens. For those in Germany with a university entrance level qualification, one alternative to pursuing a university degree in electrical engineering or computer science is to take a practically oriented two-year industrial engineering course at one of five institutes of technology. Some 900 young people are currently engaged in these programs.

One exceptional feature of our training in Germany are our dual-track degrees that combine theory classes with practical experience in a business environment. These are organized in association with a number of places of higher education, including the technical universities in Berlin and Ingolstadt, which currently offer our Bachelor of Business Administration degree program.

Siemens Ltd. in China has successfully adopted our traditional style of vocational training, and since 1996 has offered three-year apprenticeship programs in its joint ventures. To date, some 330 young people have embarked on industrial and technical training at the Siemens Vocational Training Centers (SVTC) in Beijing and Shanghai. The courses cover a variety of technological fields, including mechanical engineering, industrial electronics, mechatronics, power electronics, and communication electronics. The vocational training

offered in China by Siemens is modeled after Germany's dual vocational system and has been adapted to the needs of China's industries. Apprentices attend theory classes at Chinese technical colleges and receive parallel hands-on training at our SVTCs. SPE assists the Siemens Technical and Management Training Company (STMT) with its vocational programs through the provision of consulting services and tuition documents. STMT is also working with Tongji University in Shanghai to prepare an onward training program for teachers in technical colleges, including practical courses in digital technology and automation.

With branches in China, Portugal, France and the U.S., our business unit Siemens Qualification and Training (SQT) plays a key role in competency building and knowledge management. More than 100,000 people attended SQT seminars in the past fiscal year. Our Groups and Regional Companies also offer training programs of their own.

Management Learning is a modular management development program set up by Siemens to equip everyone from prospective managers to top executives with the knowledge, experience and people skills they need to perform well in business.

### Around the world



**Netherlands:** Siemens offers employees courses in foreign languages, information technology, management, sales, and communications. The training is geared specifically to the needs of the respective target groups. ● **Britain:** At several locations, Siemens organizes an orientation day for new employees. This gives them an overview of the company and helps them to integrate rapidly. Siemens also organizes similar events in other countries. ● **Finland:** The Summer University holds two-day continuation training courses for Siemens employees. Courses are available on a range of topics, including cultural differences and appropriate negotiation strategies in business. ● **Colombia, Venezuela, Peru, Ecuador:** In the Andina Region, young high school graduates are able to attend vocational training programs for technology professions.

### Developing employees and leaders

We seek to advance our employees to enable them to unfold their full potential and to achieve excellence by offering them targeted and individually tailored development opportunities. Because we work in an international business environment, our approach is governed around the world by two key principles – employee empowerment and transparent processes. One central element of Siemens' human resources development initiatives is the Staff Dialogue, a meeting conducted at regular intervals between an employee and his or her supervisor to discuss the employee's goal achievement, to agree on new and binding targets for the future, to analyze strengths, weaknesses, and potential, and to establish concrete steps to be taken in the future.

Motivated employees are our best guarantee of achieving the excellent results we need in order to compete effectively in the international arena. We believe that the leadership employees receive from their immediate supervisors can account for as much as 70 percent of their motivation. Therefore, leadership excellence creates a foundation for sustained business

excellence. With the Siemens Leadership Framework, we have defined a set of standards for all management-level employees worldwide. Our foremost leadership principle is "Dialogue and Commitment," because open communication between employees and their supervisors is essential to foster both an atmosphere of mutual trust and a firm commitment to achieving jointly agreed goals. We gauge managers' performance on their results in four categories: finances, employees, customers, and processes. To assess their ability to manage people, we obtain feedback from employees by means of a questionnaire. This evaluation of managers' results and individual abilities plays a central role in their remuneration and career development.

Our management-level employees have full access to a comprehensive range of advancement opportunities throughout Siemens worldwide. In our International Job Market on the corporate intranet, they can view details of current vacancies all over the world. In addition, our management development experts are able to view information in our International Development Database on employees who are ready to make their next career move.

Telecommunications career tracks feature prominently in Siemens' apprenticeship programs.



## A MOTIVATED WORKFORCE IS OUR MOST IMPORTANT ASSET

To be successful, a company needs committed and highly motivated employees who enjoy making the most of their creativity and are willing to go that extra mile when it's needed. That means empowering employees and involving them in decision-making processes. Sustaining motivation also calls for a corporate culture that promotes a style of working and leadership that gives people the freedom to let their talents unfold.

### Achieving a better work-life balance

We offer a variety of options for organizing worktime to give our employees the independence they need in order to balance their work and personal life. At many of our locations around the world, we have flexitime arrangements in place – in some cases, trust-based and annualized – as well as part-time working models with different numbers of work hours and fixed or flexible attendance requirements. We also support job-sharing, variable shift models, sabbaticals, and phased retirement schemes. The exact nature of such arrangements at each company location depends on local statutory requirements.

At many Siemens facilities, telecommuting has become commonplace. Thanks to technological advances, workers now have the freedom to collaborate on projects without constraints of time or place. Telecommuting also helps achieve a better balance between work and family life. To function successfully, though, it calls for a flexible style of management and a responsible attitude on the part of employees toward their new-found independence. Mobile telecommuting has proved especially successful with employees involved in sales, service, and installation monitoring. Alternating between telecommuting and coming into the office works well for people on project teams who don't need to be on site all the time. The amount of worktime spent at home can range from occasional to almost exclusive, depending on the employee's and the company's needs.

The desire to work and the desire to raise a family should not be mutually exclusive life choices. Siemens

is keen to recruit as many skilled and qualified women as possible and to keep them on in the company after they have had children. This is why we make provisions to enable women to return to work after taking time out to start a family. We also welcome the current trend among young mothers and fathers to split this time between them or to bridge the gap with a part-time working arrangement. In many cases, an Internet connection at home is enough to prevent recent parents from losing touch with current projects.

The childcare support we offer employees depends heavily on local factors. In Norway, for example, we give financial assistance to kindergartens attended by our employees' children. In other places, we work with outside agencies specializing in childcare. In Germany, our family service finds people to look after not just children but also other family members in need of home care. During school vacations in particular, working parents often run into difficulties with their schedules. This is why Siemens in Belgium for six years now has organized summer camps for employees' children. Kids can come to work with their parents for a week and are taken care of in separate rooms on campus. This year, more than 250 children took part. Two major locations

### Around the world



**Spain:** Employees with handicapped children face special life challenges. To help them cope better with their situation, they receive additional child support each month. ● **Brazil:** Siemens assists some 200 children of employees financially so as to enable them to obtain a school education. All employees' children under the age of 12 receive a gift at Christmas. ● **Hungary:** The company holds a special open house day for children each year and organizes theatrical performances for employees and their families. ● **Netherlands:** Physiotherapists and company social workers are on hand to take care of employees if needed. ● **Italy:** Employees and their families can obtain reduced-price tickets for concerts and museum visits. ● **Colombia, Venezuela, Peru, Ecuador:** Besides offering employees financial support to enable their children to attend school, Siemens also provides building loans.

in Germany also provide vacation care programs, partly in association with local community organizations.

#### **Organized leisure activities**

How our employees choose to spend their spare time is very much up to them. Nevertheless, Siemens locations all over the world promote a wide choice of leisure activities. In Germany, for example, many current and former employees and their families are members of company-supported leisure groups devoted to a variety of sports, arts, and crafts. These include photography, cinema, and art clubs, as well as orchestras, choirs, and drama groups. Siemens in China and several other Regional Companies have football teams that compete actively at tournament level. Because swimming is extremely popular in China, the company also pays a large proportion of the costs of a swimming club used by around 700 employees. Our Regional Companies in Lithuania, Latvia and Estonia organize the Baltic Summer Games for their employees each year. Here, it's the taking part that counts: In each of the various disciplines the focus is on participation and on fostering a Siemens team spirit rather than on winning.

#### **Company pensions and stock options**

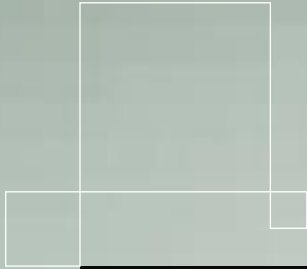
For many of our employees, company pensions today supplement statutory national pension schemes and private retirement provisions. This is part of a long tradition that began in 1872, when Werner von Siemens set up the first company pension fund. Today, we operate company pension schemes in more than 30 countries. The financing methods and the legal framework vary greatly from one country to the next. In addition to provident and pension funds, we also have insurance solutions and pension commitments based on balance-sheet accruals.

Stock options not only encourage employees to identify with the company's goals, they also provide a way of acknowledging every individual's contribution to the company's success. This is why for a long time now Siemens has offered employees in Germany the opportunity to purchase Siemens stock as a means of asset formation. Our companies in the Netherlands, Ireland, France, Australia and the U.S. have now followed this lead, and similar plans are taking shape in Britain and South Africa. In each case, the exact details depend on the local legal framework.

One of the activities on the program for employees' children at Siemens in Belgium's summer camp is a computer-based journey of discovery.



# Environmental stewardship



## Innovating today for a better world tomorrow

### What constitutes a “better world?”

As we see it, it’s a world in which as much of humankind as possible can enjoy the benefits of essential commodities and important advancements: work, sufficient food, shelter, a safe environment, energy, clean water, health care, and suitable means

of transportation and communication. It’s also a world that conserves natural resources to the greatest extent possible for generations to come. With a wide range of innovative and environmentally sound products, plus an array of environmental stewardship programs in place at

our 600 manufacturing locations and service centers in over 190 countries, Siemens contributes in many ways to this kind of world. In doing so, we act in our own interest, because our long-term success as a company depends on tomorrow’s generations and tomorrow’s resources.

The customer benefit, quality and value of our products and services are top priority. Increasingly, energy efficiency and environmental compatibility are also becoming important discriminators for our customers. With time, it has become evident that cost-efficiency and environmental compatibility need not be mutually exclusive but, in fact, can go hand in hand with one another. The increasing degree of miniaturization of many types of equipment is a typical case in point: It preserves resources and helps lower costs. In our manufacturing operations, too, environmental measures frequently pay for themselves within a short period of time and help keep costs down in the longer term.

Besides creating innovative technologies that enable customers to achieve cost savings through resource conservation, we’ve also gone a step further by offering specialty services that, in effect, turn the process of saving into a product in its own right. For example, we conduct detailed analyses of building systems or goods manufacturing processes to identify where customers can potentially save sizeable amounts of energy, water, time and therefore money. Technological advances in this area achieve important benefits for the environment, too.

### Clearly defined rules and responsibilities

Environmental stewardship features prominently in our company policy, as one would expect for a company with locations all over the world. We fulfill the responsibility of good stewardship by adopting and complying with a set of clearly defined goals. These address the need to utilize natural resources economically and to implement technologies to minimize emissions impact-

ing the air, water, and soil. We also take into account possible environmental factors in our manufacturing operations when we begin designing new products or processes. Back in 1993, we published our first Siemens standard for environmentally compatible product design. This standard, which we require all our product designers and engineers to follow, enables us to take a systematic approach to designing environmentally sound products.

The recycling of used electrical and electronics goods and equipment is also becoming increasingly important. In the future, this will be governed by a European Union directive. We have already started several initiatives in this area, and our experiences – above all with our takeback, remanufacturing, and remarketing programs for pre-owned medical equipment and for machinery used to mount electronic components on circuit boards – have been highly positive. It’s worth noting that we’re not doing this merely in anticipation of statutory requirements likely to follow from pending legislation; we’re also trying to tap new market opportunities and create win-win situations that benefit both our business and the environment.

### Successes in industrial safety and health

Siemens understands that its workforce’s wellbeing is an important success factor. This is why the company is committed to its people’s health and safety. We’re proud of our successes in this area, and today, Siemens has high standards. Even so, any accident is always one accident too many, and we will continue to work to improve safety and health and to create a “better world” for our employees.

## ECO-COMPATIBLE AND ECONOMICAL PRODUCTS, SOLUTIONS AND SERVICES

All our activities center on a constant quest to create better products and solutions – in energy, information and communications technology, automation solutions, transportation systems, healthcare, and lighting systems.

### Energy

Across all sectors of power generation and distribution, Siemens is at the forefront of technology, delivering a constant stream of new ideas and innovations. We create solutions designed to generate electric power more efficiently from a variety of sources, including coal, gas, oil, wind and biomass – to help customers cut costs and to benefit the environment by lowering emissions and resource consumption.

Power plant turbines' efficiency – their output in relation to inputs such as the coal, gas or oil they consume – is increasing all the time. Siemens' standard steam turbines have an efficiency of 48.5 percent; with our combined-cycle turbines, it's as high as 58 percent [www.siemens.com/combinedcycle](http://www.siemens.com/combinedcycle).

### New lease on life

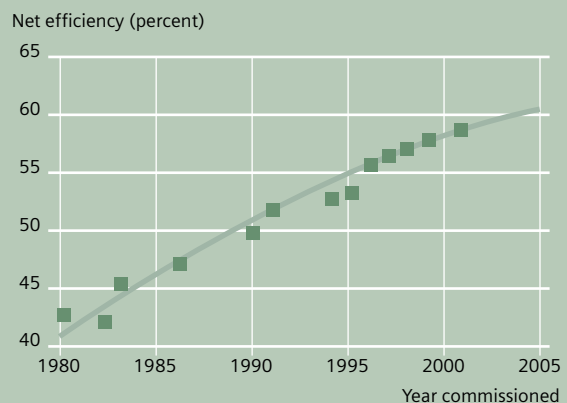
Thanks to optimized processes that enable process steam production and district heating, our combined-cycle co-generating plant in Vienna, Austria, for example, achieves a fuel efficiency in excess of 86 percent during the winter months. This marks a new world record in terms of costs saved and environmental benefits. Although the plant in Vienna has the same output as the two power units it replaced, it consumes roughly 150 million cubic meters less natural gas per year and has substantially lower emissions. Today, more than 4,300 Siemens steam turbines of all sizes are in operation worldwide. They account for some 19 percent of the world's total steam turbine generating capacity.

The older a power plant, the less efficient it tends to be, and the higher its service and maintenance costs. As energy markets deregulate and competitive pressures grow, this soon amounts to an economic liability that plant operators find difficult to afford. Even so,

constructing a new facility isn't something to be undertaken lightly. Siemens has a range of simpler, more affordable and quicker alternatives that are finding a growing number of customers among power plants of all sizes around the world. Installing new high-tech turbines, state-of-the-art combined-cycle technology, and new instrumentation and control systems can transform an aging power plant into an efficient, environmentally compatible generating facility.

In Yabulu, Australia, for example, we converted a conventional 150 megawatt power plant into a highly advanced 220 megawatt combined-cycle facility without increasing the quantity of fuel it consumes. In Vilvoorde, Belgium, we retrofitted our combined-cycle technology to a 135 megawatt power plant originally built in the 1950s, with the result that it now produces 386 megawatts of power – sufficient to service three times as many households – and has an efficiency of 56 percent, compared to 38 percent prior to the refit. In the U.S., Siemens Westinghouse modernized the combustion stage of a combined-cycle plant in Massachusetts to raise the gas turbine's efficiency. The upgrade increased the generating facility's heat rate by more than 2 percent. For the plant's operator, this means a 2 percent reduction in fuel costs and markedly lower emissions compared to before the modernization.

Combined-cycle power plant efficiency



These are just a few of the many successful cases in which we have helped large-scale power generating facilities with an output in excess of 100 megawatts to achieve considerable efficiency gains. At the same time, though, Siemens is equally at home with projects that involve much lower generating capacity, yet are of even greater significance for the individuals and customers they benefit.

#### **Greater quality of life in Gabon**

Located right on the equator, the African state of Gabon experiences temperatures so high that medicines, vaccines, and many types of food spoil in a matter of a few hours if they are not kept sufficiently cool. Nevertheless, extending the country's energy grid into the interior to provide the requisite power to run refrigeration equipment was simply not financially viable. Instead, Gabon's government contracted Siemens Power Transmission and Distribution to equip 100 villages with decentralized, maintenance-free solar-driven power generating plants. These installations mean that the villages now have the electric power they need to cool their clinics' crucial vaccines and medicines

and to power water pumps, phones and lights. Gabon hopes that this important advance will help lower the country's high child mortality rate, currently at 8.7 percent.

#### **Energy from deep in the ground**

Today's steam and combined-cycle power plants typically burn fossil fuels to generate steam, which is then used to drive turbines. It's possible that in the future a new form of primary energy will come to the fore that will not involve combustion: geothermal energy, from beneath the earth's surface. Siemens today is working on ways to exploit this inexhaustible energy source. In association with Switzerland's Federal Institute of Technology (ETHZ) in Zurich and several partners in industry, Siemens in Switzerland is engaged in promoting geothermal energy within the scientific and political communities as a future power source. The goal of the partnership is to build a pilot geothermal facility in Basel to generate electric power using Hot Dry Rock (HDR) technology.

HDR is simple in principle: Water is pumped at high pressure down a bore hole to a depth of 5,000

Lining gas turbines with ceramics enables them to withstand extremely high temperatures – an important factor in raising efficiency.



meters, where the hot surrounding rock has a temperature of 200° C. The water absorbs heat from the rock and is pumped back up a second bore hole to the surface, where the heat is converted into electric power by means of heat exchangers, steam turbines, and generators. The technology has a number of advantages: It does not release carbon dioxide; it causes no noise pollution; it requires little space; it can be deployed more or less anywhere in the world; and it draws on an essentially limitless source of energy that's available around the clock. Ninety-nine percent of the earth's mass is hotter than 1,000° C. For all its undeniable advantages, this form of energy extraction is still very much at a preliminary stage, because drilling bore holes through hard rock and at such depths is very difficult indeed.

#### **Transmission instead of generation**

Sometimes it's possible to avoid building power plants altogether – for example, when technology is available that enables low-loss transmission of energy in the requisite quantities to the place where it's needed, even if that place is, say, an oil drilling platform located 100 kilometers or more off shore. Until recently, the high costs and the technical difficulties involved in transmitting alternating current meant building small power plants out at sea. Plants of this kind are generally costly to service and maintain and have high carbon dioxide and nitrogen oxide emissions. However, with our new, extremely compact high-voltage direct-current transmission technology, HVDC PLUS, and self-commutated converters, it's now possible to connect drilling platforms to the mainland power grid across an ocean cable [www.siemens.com/HVDC-PLUS](http://www.siemens.com/HVDC-PLUS). Besides being far more economical than operating a power plant at sea, this approach is also better for the environment.

#### **Saving natural resources**

Siemens has almost a million different products ranging from tiny electronic control units to complete power plants and from vacuum cleaners to telephone systems. A growing number of these products have two features in common that contribute to their success:

They are mature technically, and they offer their users or operators immense savings potential. This means that during their life cycle, they require considerably less maintenance and consume less time and energy than other products. Besides our products, we also offer an increasingly broad range of services designed to help customers to cut costs.

We have developed a special analysis system to identify potential savings in resource consumption, servicing, and maintenance. Known as the Resource and Service Management System, it has already demonstrated its worth. At Ford's manufacturing plant in Saarlouis, Germany, deploying just our basic energy management tool allowed the auto maker to cut its energy costs per finished car by 10.3 percent. The system tracks the use of power, water, heat, and coke gas at every point of consumption, and immediately issues a warning if quantities suddenly increase.

In the Netherlands, we entered into a contractual agreement with linoleum manufacturer Forbo Krommenie B.V., undertaking to reduce substantially the quantity of power consumed by the company's manufacturing processes by implementing demand-side energy management. The service package we put together consisted of detailed analysis and optimization of all energy sources, including electric power, steam, compressed air, and gas. We improved the insulation of chambers and valves and eliminated superfluous

#### **Potential savings of €1.5 billion**

Siemens' energy saving motors, as their name implies, consume substantially less power than conventional drive units. Given that energy accounts for more than 97 percent of a motor's life-cycle costs, this is a major benefit. The German Electrical and Electronics Manufacturers' Association has estimated the potential savings in connection with electric drive systems at around 20 terawatt hours a year in Germany alone. That would translate into a cost saving of around €1.5 billion, and would eliminate around 11 million metric tons of carbon dioxide emissions. Siemens is helping to make these savings happen: Since 2001, all of our electric motors – across the full range of performance ratings and for all kinds of applications – have met EFF1 and EFF2 class (improved efficiency) energy saving requirements.

process-heat lines. Thanks to the new streamlined system, Forbo Krommenie now saves around 500,000 cubic meters of natural gas a year.

Siemens also has a new software tool named Water Design Optimization. This can achieve reductions of as much as 30 percent in the amount of water consumed by manufacturing processes. The system analyzes current installations and identifies possible solutions for prolonging the use of process water as well as for recirculating and reusing it.

#### **Intelligent financial solutions**

With industry projects in particular, financing is especially important, because achieving significant cost savings involves an up-front investment in new technology.

This is where our energy performance contracting services come in. We assess our customers' energy management and then create a financing model in which the requisite investment by the customer pays for itself through the gain in energy efficiency. After the amortization phase, the energy savings simply lower costs for the customer.

In the U.S., we completed a project for the University of Michigan which involved preparing an energy saving solution for a campus comprising 88 buildings. Phased in over a period of several years, the solution consisted of migrating the heating, ventilation and air-conditioning systems in each building to direct digital control technology, as well as installing and networking automatic control systems in all the buildings. It successfully recouped the US\$20 million initial investment in the space of just five years. Energy performance contracting has now become an important financing model, particularly in connection with the modernization of building systems.

#### **Transportation**

Worldwide, the automobile industry is working to develop drive systems that are fuel and emission efficient. Diesel engines are becoming increasingly promising and successful in this context. With the advent of direct fuel injection, these power units have become around 30 percent more fuel efficient than gasoline engines. In the past, this advantage was tempered to a certain extent by the diesels' noisy running and typical clatter,

**Siemens VDO Automotive manufactures highly successful piezo injection systems that enhance the fuel combustion in gasoline and diesel engines.**



but with Siemens VDO Automotive's common rail injection system, all that has changed. One recent innovation in this area are so-called piezo actuators. Capable of operating far faster than conventional solenoid valves, they ease designing the extremely complex array of high-speed processes involved in direct fuel injection. We have also successfully recast this technology for use in direct injection systems for gasoline engines.

Power units are not the only critical factor in fuel economy: Transmission systems, too, have a significant impact on fuel efficiency. With our new technology for automatic gearboxes, we can reduce consumption between 5 percent and 15 percent. Our "intelligent" gearbox control unit uses fuzzy logic to learn on the fly and adapt to a driver's preferred driving style. The system tracks any manual intervention by the driver and then adjusts how it operates in automatic mode to meet the driver's needs. This makes for greater driving comfort and improved mileage. Moreover, Intelligent Transportation Systems (ITS) from Siemens can help reduce congestion – and the associated vehicle emissions – by monitoring vehicle flow and road conditions, and by implementing the appropriate transportation management and control strategies.

Rail is an exceptionally environment-compatible mode of transportation. Energy consumption and pollutant emissions per passenger are far lower than in road or air transport. For many years now, Siemens has played a leading role in the development of locomotives, streetcars, light rail and mainline rolling stock, power supply systems for rail installations, and even complete rail systems. One prominent example of successful environmentally sound design in the rail sector is the InterCity Express (ICE) 3. With its aerodynamic form, innovative drive system, even distribution of weight, and energy-conserving braking system, the train is extremely economical to run. The high-quality, low-emission materials used in its interior are easy to recycle, and its air-conditioning system is CFC-free [www.siemens.com/trains/en](http://www.siemens.com/trains/en).

### Clean, safe ocean travel

A new breed of booster drive system developed by Siemens has been fitted to a number of large, ocean-going vessels operated by Chinese, Swedish, Italian, Japanese, French and German shipping companies. The system involves installing an electric motor attached to the propeller shaft between the main engine and the screws. The booster eases the load on the main engine, not just allowing the ship to conserve fuel without forfeiting speed, but also reducing engine maintenance expense – both significant factors affecting ships' overall cost-efficiency.

Our innovations for large ships also include an interesting new system in the area of marine propulsion, the Siemens-Schottel Propulsor, a kind of "outboard motor." This pod-type propulsion system, which consists of a permanent-magnet motor and twin screws and has already been fitted to ships like the *Nils Holgerson* and the *Peter Pan*, produces much less noise and vibration, adding greatly to passengers' comfort. For shipping companies, the twin-propeller system also brings with it important cost advantages: It is as much as 10 percent more fuel efficient than conventional marine propulsion systems, and the fact that the motor is outside the hull means that more space can be used for cargo.

### More light

Light-emitting diodes (LEDs) manufactured by our subsidiary Osram are being used more and more as brake lights in automobiles. They are also becoming increasingly common in traffic lights and have been in widespread use as signal lights along rail tracks for some time now. In the near future, LEDs will also be used to light airport taxiways. Just a few millimeters in size, these tiny electronic components are far more efficient than halogen or conventional filament lamps at converting electric power into light. Osram has developed new LEDs that consume 75 percent less power and last much longer – around 50,000 hours, compared to a maximum of 4,000 hours for standard LEDs [www.osram-os.com](http://www.osram-os.com).

## ENVIRONMENTAL PROTECTION AT SIEMENS

Historically, Siemens has been at the forefront of corporate environmental awareness and stewardship. For example, in the 1960s, we were among the first to introduce environmentally compatible manufacturing processes throughout our electroplating plants. Today we can look back on a proud tradition of environmental programs and initiatives, while continuing to pioneer new approaches.

### Building on solid foundations

Siemens first established a corporate environmental office in 1971. We have come a long way since then: What began as a small corporate unit has now grown into a company-wide environmental organization. Today, we've deployed highly effective ISO 14001 management systems and we continually train our employees – by offering environmental seminars at our manufacturing locations throughout the world, by developing model solutions to problems, and by promoting the sharing of best practices. This commitment, spanning several decades, has enabled us to make great progress in many different areas. In an international compari-

son of corporations published by the *Financial Times* in early 2002, Siemens ranked among the ten most respected companies worldwide and earned praise for its excellent environmental management. We believe we are making good progress toward accomplishing the goals outlined in our environmental mission statement: "In our global operations, with their great diversity of processes, products and services, our company is concerned with sustaining the natural resources essential to life."

Our activities in the field of environmental protection and technical safety are organized around a system that distinguishes between supervisory and technical responsibility at three separate levels within the company: at the Managing Board level, at the Group level, and at the plant and facility level. This system helps us ensure that the same rules apply throughout Siemens.

Four corporate offices with 25 employees in total form the hub of Siemens' environmental and technical safety activities. Each of these offices oversees programs company-wide within a given specialist field.

### Our environmental organization

	Supervisory responsibility	Technical responsibility
<b>Level 1</b>	A member of the Managing Board of Siemens AG	Corporate Offices for Environmental Affairs and Technical Safety
<b>Level 2</b>	Members of Group Executive Management	Group Offices for Environmental Affairs and Technical Safety
<b>Level 3</b>	Plant and facility managers	Officers for environmental protection, pollution control, water protection, waste management, industrial incidents, radiation protection, laser protection, nuclear engineering safety, fire protection, hazardous material transports, and industrial disaster prevention

Their duties include advising supervisors and experts on an extensive range of topics. These include ways to reduce the resources consumed by manufacturing processes; the deployment of environmental management systems at company locations; the reduction of products' environmental impact across the whole of their life cycle; safeguards to protect employees, customers and the environment from ionizing or non-ionizing radiation (for example from x-ray equipment or lasers); the preparation of safety and protection programs to prevent fire and minimize fire damage; and support for employees responsible for the transportation of hazardous material.

#### **Case study: Siemens in Canada**

Achieving our stated environmental goals means taking appropriate steps to ensure our production processes are environmentally sound. Frequently, these efforts result not only in a reduced environmental footprint, but also in considerable production-cost savings.

With a workforce of almost 7,000, Siemens in Canada posted net sales of US\$2.08 billion in the past fiscal year. Throughout our Canadian locations, environmental protection is a priority concern that often brings the additional benefit of lowering costs through the use of environmentally friendly methods and technologies. A number of notable innovations to emerge from Canada in the area of manufacturing processes have since served as models for Siemens' manufacturing operations in other countries. For example, our electric motors manufacturing facility in London, Ontario, developed a method of saving sizeable quantities of copper and brass. The four-pole compact electric motors produced there are now fitted with two brushes instead of four, creating an annual saving of around 2.4 million brushes, or more than three tons of copper and over nine tons of brass.

In our office buildings, too, Siemens employees go to great lengths to protect the environment and reduce costs. One initiative involved installing motion detectors in all office areas and research and development labs to switch off the lights automatically when rooms are not occupied. Installation costs ran to US\$7,600, but

the company now saves the same amount annually in energy costs as a direct result.

The components Siemens makes at its facility in Windsor, Ontario, include injection molded air intake manifolds. A heat transfer fluid named Lutron®, a modified polyglycol ether, is used in the manufacturing process to separate the molded plastic parts from the metal core material. Once the manifolds are melted out, they are washed in hot water. Until recently, this was done in a two-stage spray wash machine that consumed large quantities of fresh water and generated a substantial amount of wastewater with a high residual concentration of Lutron®. This has since been superseded by a new wash system with seven water tanks that recovers a large amount of the Lutron® and returns it to the meltout tank for reuse. As a result, the plant has succeeded in lowering the quantity of fresh water it consumes by almost 2.5 million liters a year; it has reduced by roughly the same amount the quantity of wastewater containing a residual 0.5 percent Lutron® concentration; and it has cut the annual Lutron® requirements by 11,150 liters. Furthermore, heating the meltout tank now consumes 153,000 kilowatt hours less electric power, reducing the facility's annual energy spending by US\$7,500.

#### **Environmentally sound product design**

The quantities of raw materials needed to make a product, the amount of energy consumed during its manufacture and service life, and the emissions generated are all aspects determined during the planning and development phase. By taking into account each new product's possible environmental impact throughout its life cycle and by taking steps to reduce that impact, we not only succeed in making major environmental progress, we frequently also achieve sizeable cost savings. This approach to product development is commonly referred to as integrated product policy, or IPP.

In Europe, the political and business communities are working to establish an appropriate framework for IPP. For example, European Union environmental ministers made IPP a focal agenda item at their informal meeting in May 1999. In February 2001, the European

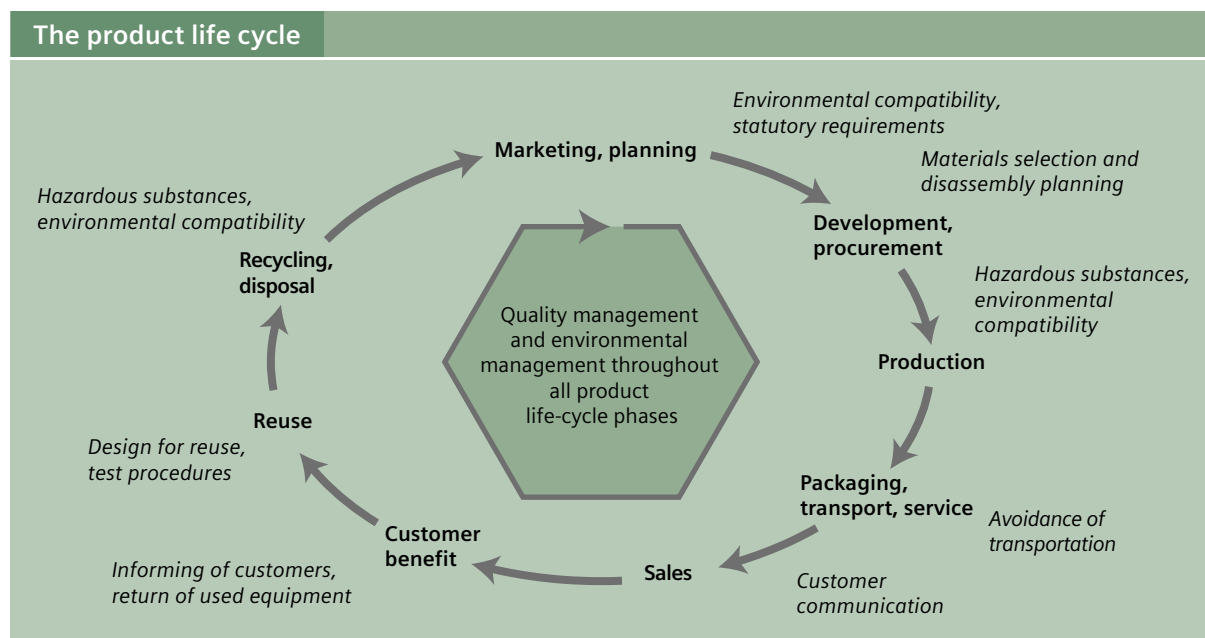
Commission published an IPP Greenbook. Siemens, too, is working on ways to bring about advances in this area. As part of a model project in Bavaria which centered on IPP in the automotive sector, Siemens successfully optimized an engine management system in accordance with IPP principles. Although Siemens VDO Automotive has devoted considerable time and effort over the years to designing environmentally compatible and recyclable products, the team that conducted the optimizations was nevertheless able to introduce important improvements, such as a 42 percent drop in weight, a reduction in the variety of component materials, and a 10 percent improvement in the utilization of the circuit board's surface area.

Integrated product policy is a long-standing practice at Siemens, although not necessarily under that particular name. In 1993, we published our own in-house standard governing environmentally compatible design, which we have steadily revised and extended over the years. To this day, it is used by all our product designers. In 2001, we published a set of guidelines on how to put the standard's requirements into practice. The purpose of these guidelines is to assist developers and designers with the difficult task of ensuring that products are both economical and environmentally compatible "from cradle to grave."

### Eliminating lead and other problematic substances

One crucial aspect of designing environmentally sound products is the need to do away with certain materials such as lead and bromine compounds. However, this is easier said than done: Many manufacturing processes have been using these substances for a long time and for sound reasons; developing and testing reliable alternatives involves time, effort and innovative thinking, and in some cases there are no alternatives that can produce a product of the same quality. Successfully eliminating lead and bromine from all our product manufacturing processes and solving all of the attendant problems (such as ensuring sufficiently robust solder joints and effective flame retardance) will require a sizeable R&D initiative. Even so, we've made promising initial progress in this area.

In 2002, Siemens ICM Cordless Products began marketing its first environmentally compatible Digital European Cordless Telephone (DECT) handset. In addition to being made of a halogen-free base material, the phone's circuit board also uses a halogen-free solder resist, and features lead-free solderable surfaces. Moreover, all of the electronics are assembled using lead-free solder. A pilot series of around 10,000 lead- and halogen-free Gigaset 4000 Micro phones has



now been shipped to customers, and operation has been trouble-free. We aim to build on the experience we acquired with the pilot series in the development of future products so as to be ready to comply with the European Union's directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (ROS) and to migrate all of ICM Cordless Products' range to lead-free manufacturing processes by mid-2006.

Elsewhere, too, we are pressing ahead successfully with the transition to lead-free production. All the headlights made for the automotive industry by our subsidiary Osram are now lead-free and already comply fully with the requirements detailed in Annex II of the EU's Directive on End-of-Life Vehicles. Our joint venture Fujitsu Siemens Computers also achieved a major milestone with the introduction of its first motherboards manufactured completely without lead, halogen, chlorine or bromine. And in Brazil we now make our complete range of low-voltage switchgear not just without lead, but also without cadmium, halogen, chromium or PVC. Through these and similar initiatives, we are preparing to meet the requirements

arising from legislation taking effect in the foreseeable future, including an extension of the European Union's ROS directive that will likely impose a complete ban on lead and other substances throughout the electrical and electronics industry.

Even in cases where laws have already been enacted, Siemens and its subsidiaries actively seek to continue to optimize products and processes in a wide variety of ways. Osram, for example, is a founder member of AGLV, an organization in Germany set up to promote the recycling and environmentally compatible disposal of used discharge lamps. Given that around 80 million fluorescent light tubes are sold each year in Germany alone, each containing around eight milligrams of mercury, this is an important initiative. Using a recycling method developed by Osram, which involves cutting off the tubes' metal caps, it's possible to recover pure fractions of metal, glass, and fluorescent material at a recycling rate approaching 98 percent. This method allows glass fragments, metals, rare earth (tri-phosphor) fluorescent material, and mercury to be returned to the materials cycle.

**In anticipation of EU legislation slated for 2006 that will limit use of hazardous materials, we have already started manufacturing lead- and halogen-free cordless phones.**



## OUR ENVIRONMENTAL GOALS

Throughout Siemens, we have countless distinct and highly specific environmental goals – not least due to the company's sheer size and the number and the variety of locations that are environmentally relevant and, as such, are required to report on their environmental performance. These goals are part of a process of continuous improvement in all our business units and locations, and we're proud of the many individual successes, both large and small, that this process has produced. In addition, we've been working toward two overarching strategic goals: the global implementation of environmental management systems, and the deployment of an advanced international system to facilitate communication of necessary environmental information within the company. Here, too, progress has been good.

### **Environmental management systems – worldwide**

Our stated goal is to finish rolling out environmental management systems at all relevant manufacturing locations around the world by 2004. The purpose of this initiative is to ensure that responsibilities for environmental protection are clearly defined. All those systems that have already been implemented will be further enhanced to reflect the principles of the ISO 14001 standard. We are doing this because ISO 14001 is a globally recognized rather than purely European standard and as such is better suited to our international orientation as a company. To date, independent auditors have granted ISO 14001 certification to environmental management systems at 250 Siemens units in 28 different countries, including 25 organizations in seven non-OECD states.

Progress in this area since 2000 has been as follows: In Germany, the number of environmental management systems subject to regular internal audits has reached 100 percent; in other European countries, the number has risen 25 percent to roughly 50 percent; and in the rest of the world, it has increased by 100 percent, to around 20 percent of all plants and facilities. We hope to bring this initiative to a successful conclusion during the next two years.

Thirty of our manufacturing locations in Europe have been validated in accordance with the EU's Eco-Management and Audit Scheme (EMAS). Through our internal audit system, all of our production sites worldwide are checked at regular intervals to ensure that they comply with our own in-house regulations as well as statutory requirements. These audits are conducted according to internal regulations that are more stringent than the requirements laid out in the ISO 14001 standard.

We continue to seek certification through external auditors as and when appropriate. One important factor to consider here is that of our 600 locations, the 300 that are classed as environmentally relevant are located in 41 of the 190 plus countries in which Siemens operates, and 75 of these facilities are in Germany. In the remaining countries, our assembly lines and sales organizations have no significant environmental aspects.

### **A global environmental information network**

For over ten years now, we have kept detailed environmental records for all of Siemens' locations in Germany. Our goal now is to record relevant environmental data on a worldwide scale, and since 1999 we have devoted a considerable effort to the creation of an international system to do just that. Progress has been excellent. The system's first module, which covers industrial environmental protection, is already in operation. During the coming year, the system will give us global access to a comprehensive set of environmentally relevant company data.

On completion of the Siemens Environmental and Technical Safety Information System project, we will have implemented a worldwide information and reporting platform for important environmental and technical-safety issues. The system will also support environmental performance analyses to a common baseline for all company locations. We will then be able to use this resource to conduct statistical evaluations, identify potential for improvement within the company, track and gauge environmental performance, and improve our communications with external stakeholders.

## WORK SAFETY AND HEALTHCARE PROVISIONS

Part of Siemens' corporate culture is to pay special attention to ensuring the safety and health of all our employees. This has a long tradition that dates back to 1849 when, two years after forming the company, Werner von Siemens helped found a health insurance organization for engineering workers. In 1888, Siemens began setting up doctors' offices at company plants. Today, emergency medical care is available at all our key locations. Healthcare professionals and safety experts also seek to raise employees' awareness of important health issues by holding informational events and lectures and by providing personal counseling. Their work is governed by Siemens' global health and safety guidelines, a canon of principles that complements local statutory requirements and standards specific to the countries in which we operate. Through a process of learning and continuous improvement, we make every effort to remain a leader in workplace health and safety [www.siemens.com/health\\_and\\_safety/en](http://www.siemens.com/health_and_safety/en).

### Advancing safety

During the past fiscal year, fewer than ten Siemens employees in every 1,000 in Germany were involved in some form of accident, either in the workplace or on their way to or from work. Compared to an average of 25 or more per 1,000 within our industry, our track record here is outstanding – so much so that finding further room to improve will be difficult. Nevertheless, it's a goal to which we remain committed, because every accident is one accident too many. Accordingly, we continue to go to considerable lengths to determine the exact causes of accidents, and we train our safety specialists to teach employees about safety requirements. Interest in work-safety issues is high, so we regularly organize meetings for our safety officers.

We also have a number of task forces dedicated to advancing safety and health strategies in a variety of fields, such as building and construction, power, and transportation safety. Our tropical and infectious diseases task force, for example, focuses on issues of disease prevention and inoculation in preparation

for tours of duty in regions with a potential danger of infection.

Since ensuring work safety is impossible without the active participation of all our employees, keeping them informed is essential. Siemens in Italy, for example, holds special seminars on how to properly handle potential dangers specific to individual employees' work environments. One such seminar describes how best to lift and handle heavy objects; another addresses safety issues involved in working with laser equipment. The company also organizes events aimed at promoting a wider understanding of work safety and health. In the past fiscal year, more than half of our employees in Italy attended seminars of this kind.

Two of Corporate Environmental Affairs & Technical Safety's four units – the office responsible for fire protection and industrial disaster prevention, and the office for radiation safety and hazardous material transports – play a prominent role in defining and implementing company safety provisions. In building construction and remodeling projects, for example, our fire officers work closely with architects and builders during the planning and design process. This is typical of the precautions we take and the principles we apply throughout the company. Our safety strategies include instruments and methods consistent with internationally accepted standards. Besides regular site inspections and audits, computer-based simulations, and risk analyses, these also include information and awareness-raising programs for the benefit of employees. Industrial disaster prevention involves carrying out continuous analyses of all potential system failures that could have an impact on our day-to-day operations and processes. These analyses allow us to eliminate a large number of problems and to create contingency plans in preparation for dealing with any incidents that might still occur. The system we have in place allows us to mount a swift and effective response to an extensive array of problems – including natural disasters and the failure of mission-critical manufacturing and production facilities – and to limit the material damage to the greatest extent possible.

Working with lasers and other optical radiation sources, electromagnetic fields, and ionizing radiation remains an unavoidable necessity in connection with a number of our manufacturing methods and products. To protect our employees, we have implemented suitable safeguards at work stations wherever necessary. We also design our products to avoid any kind of health risk. Through our radiation protection department and the supervisors and officers responsible for radiation safety in our operating units, plants, and facilities, we ensure that effective protection against radiation plays an integral part in Siemens' proactive risk management. We also conduct hazardous-material transports with the same degree of care and attention: A company-wide network of specially trained personnel is responsible for ensuring that long- and short-haul hazmat transports are conducted without posing a danger to company employees, customers or the population in general.

#### **Health is a global issue**

Over the past fiscal year, health was a focal issue in projects organized by many Siemens locations all over the world. For example, as part of European Safety

and Health Week, Siemens Energy Devices (formerly, Siemens Metering) in Britain held a series of informational events on a number of important issues, including first aid, fire safety, stress management, alcohol, nicotine, and weight loss. In the South American countries of Ecuador, Colombia, Peru and Venezuela, we ran an AIDS education campaign in order to raise employee awareness of the disease. In Italy, Siemens organized an information drive on breast cancer. Besides highlighting means of prevention and early detection, it also featured reports from women affected by the disease, and a lecture by a psychologist on dealing with the psychological aspects associated with developing cancer. In Germany, company medical officers undertook a range of initiatives, including seminars and personal counseling sessions, to educate employees on effective health maintenance strategies.

Today, environmental medicine has become an important issue for company healthcare professionals. Half of our medical officers have now obtained additional qualifications in environmental medicine so as to be able to provide counseling in this field as part of regular consultations.

**In consultations with employees, Siemens' medical officers emphasize the importance of regular screening and check-ups.**



# Corporate citizenship



## Corporate citizenship around the globe

**For Siemens, corporate citizenship and sustained, long-term business success are closely intertwined. Clearly, as a global player, it's essential that we be attentive to the needs and concerns of our communities and that we contribute actively toward the common good. We are also aware**

**of our responsibility toward our workforce: We remain committed to promoting greater diversity among employees, to advancing their training and development, and to ensuring their safety and health (see pages 26 to 31 and 44 to 45). Wherever in the world we do business, we also focus**

**on making specific contributions to our communities through a broad array of programs and initiatives that aim to support education, advance research, promote culture and the arts, address societal problems, and foster an open dialogue with all parts of society.**

According to our Corporate Principles, “we embrace corporate responsibility to advance society.” At Siemens, this engagement is nothing new. In the nineteenth century, our founder, Werner von Siemens, contributed actively to a wide range of initiatives aimed at benefiting society. Out of the wish to advance education in science for upcoming generations of engineers, he helped found the Electrical Engineering Association, which encouraged universities to set up faculties in that field. He was also one of the sponsors who helped found Germany's Imperial Physical-Technical Institute, and played a prominent role in reorganizing the country's patents system. His descendants followed his good example. His grandson Ernst von Siemens, for instance, not only formed the Carl Friedrich von Siemens Science Foundation in 1958, he was also the foremost patron of the arts in the company's history, setting up important foundations to support both music and the arts.

Our founding family's philanthropic and community initiatives began a tradition that the company has maintained to the present day. Now, at the beginning of the twenty-first century, we remain no less committed to upholding the same values. We continue to work actively to support the education of young people and to advance the sciences. As a leading technology company, we collaborate closely with universities and schools – partly, of course, with the aim of recruiting talented people and tapping into new ideas. We are as dedicated to promoting interaction between the scientific community and industry as we are to encouraging youngsters the world over to develop an interest in technology and the sciences.

Patronage of art and cultural programs, too, remains important to Siemens. In 1987, we set up the Siemens Arts Program, a major initiative to advance contemporary art, launched in the same spirit as the Siemens foundations. Supporting the arts gives us an opportunity to shape the relationship we share with our communities. As an innovative high-tech company, an interest in artistic and cultural achievements is important to us because of the role they can play as a source of ideas and inspiration for our own work.

The fostering of trust and the sharing of ideas and inspiration are also key goals in our intensive dialogue with many segments of society. We make a point of communicating actively with all those who have an interest in our company – political leaders, students, our neighbors in the communities around our company locations, and a wide variety of other social groups, including those with a critical stance toward us. We take an active interest in our stakeholders' ideas and opinions and seek to exploit these as a valuable source of new perspectives on our actions.

When people in our communities face sudden and acute hardships, we try to offer swift and appropriate assistance. We align the efforts we undertake with specific local needs. Ranging from child and youth aid programs to support for socially disadvantaged groups to financial backing for public charities to rapid and unbureaucratic emergency aid in the wake of natural disasters like the flooding in Germany, Austria and the Czech Republic in the summer of 2002, Siemens' local initiatives are as diverse as the 190 countries in which we do business.

## DIALOGUE CREATES UNDERSTANDING

Dialogue, openness and transparency with all stakeholders is a top priority at Siemens. Regular interaction with all our constituencies, including the interested public, political leaders and non-governmental organizations (NGOs), is a continuing source of new impetus and ideas for the company. Whether through our corporate web site [www.siemens.com](http://www.siemens.com), our detailed quarterly and annual reports, or through other means, we foster understanding for our business activities by addressing the economic, social and environmental challenges and expectations of the countries in which we operate.

### Dialogue with the general public

Visited by more than 200,000 people a year, the SiemensForums in Berlin, Erlangen, Munich, Vienna and Zurich are key platforms for dialogue with the general public. Exhibitions like *Living City – Habitat – Problems – Solutions – Visions* and *City of the Future* provide information about recent technological, environmental, and cultural developments, while conferences and other public events afford opportunities to discuss social and political topics with business and political experts.

Through its Academy of Life, the SiemensForum in Vienna provides Austria's high-potentials with a chance to discuss success strategies with world-famous figures. Young entrepreneurs and managers meet with prominent individuals from the worlds of culture, politics and business. Former German Chancellor Helmut Schmidt, McDonald's International Senior Vice President Andreas Hacker and the novelist Donna Leon are just a few of the distinguished guests to have been invited to the Academy since its founding in 1999.

Integration into our communities and dialogue with our neighbors are of special importance to us. Many of our facilities around the world regularly open their doors to the families of company employees and the people living nearby so that they can get to know us better. For example, 35 Siemens locations in Germany and Austria sponsor an annual Girls' Day. To encourage a greater interest in technology and our company, they

invite young students aged between 12 and 19 to come and look over their parents' shoulders while they work and to take part in a number of hands-on labs.

### Dialogue with political leaders

We are involved in discussions with leading politicians worldwide through our membership of a variety of business associations and similar organizations. Siemens' President and Chief Executive Officer, Dr. Heinrich v. Pierer, for example, chairs the Asia-Pacific Committee of German Business and represents the company's interests in the World Economic Forum (WEF). Siemens also takes part in the Transatlantic Business Dialogue. In Singapore, the company is a member of the Economic Review Committee (ERC), formed by the government in 2001 in the wake of the Asia crisis. The ERC, which includes representatives of leading companies, issues comprehensive recommendations on Singapore's future economic and political orientation.

Siemens is also a member of the European Round Table of Industrialists [www.ert.be](http://www.ert.be), an association of leading industrial companies representing the interests of the business community to the European Commission and national governments. In the United

## Around the world



**Britain:** In association with the Hansard Society, Siemens issued a report examining ways to improve communication between the parliaments in Westminster, Scotland, Wales and Northern Ireland. **● Singapore:** As a member of the Institute of Policy Studies, Siemens took part in an exchange of ideas involving representatives of societal, scientific and political organizations. **● Lithuania:** Siemens created a plan to develop the infrastructure in Vilnius, the country's capital. **● Poland:** We took part in an international initiative launched by the Technical University of Warsaw to bring together experts to discuss the influence of telecommunications on the development of a mobile and open society. **● Brazil:** As a member of the Associação Brasileira Infraestrutura Indústria de Base, we are helping to advance the development of the country's basic industries.

States, Klaus Kleinfeld, President and Chief Executive Officer of Siemens Corporation, is a member of the Business Roundtable, an “invitation only” forum of Fortune 500 CEOs working to improve public policies. In addition, Siemens is a member of the New York City Partnership, the principal government-business body for New York City. We play a key role in the Partnership’s Infrastructure Committee, which is helping to oversee the plans for rebuilding those areas of downtown Manhattan that were destroyed in the terror attack of September 11, 2001.

In addition, we are in regular contact regarding economic and company-relevant issues with the members of the German and European parliaments from all democratic parties. Siemens also engages in open communication with members of the U.S. Executive and Legislative Branches of Government on a variety of topics.

Many of our employees are active in the political sphere as public officials. In Germany, almost 500 of our people currently hold some form of public office at the national, state or local level. Siemens employees also hold numerous public offices on a part-time or

honorary basis in neighboring countries like Switzerland and France. We welcome their commitment and we make provisions to ease combining this with a career, and because they continue to represent the company when working in a public office, we update them regularly on business policies at corporate, regional and Group levels as well as on local, social and political issues.

In Germany, Siemens is in continuous dialogue with the churches – for example, through Politics – Church – Business, an organization based in Bavaria, and through the Church – Business Committee of the Confederation of German Employers Associations (BDA).

#### **Contact with non-governmental organizations (NGOs)**

We also engage in constructive dialogue with groups taking an interest in our actions and policies. We cooperate with Transparency International, a major worldwide NGO involved in the fight against corruption. In addition, we discuss issues of direct relevance to us with a number of established NGOs, including those environmental groups and critics of globalization who are interested in a fair and open dialogue.

**Siemens managers and employees actively seek opportunities for dialogue with groups and individuals interested in our company.**



## PROTECTING OUR FUTURE THROUGH EDUCATION

At Siemens, we take pride in supporting education and research around the world. Whether helping young people develop their interests in science and technology or training the next generation of scientists and engineers, we've been busy helping to promote people's careers and the sciences every day for over 100 years. Only by encouraging and recruiting the best and the brightest can we safeguard our company's leadership in innovation.

### Dedicated teachers mean motivated students

Given the crucial role that a solid fundamental schooling plays in achieving higher goals, Siemens provides extensive support to places of education. In Germany alone, Siemens currently partners with more than 150 schools, including 36 named after prominent figures closely associated with the company.

Dedicated and creative teachers are one of the most effective ways of motivating students. This is why we support teacher training in a variety of ways, including company-sponsored workshops. Through the Teachers in Industry project, for example, a public-private partnership operating in Germany, we offer teachers the chance to spend a year working at Siemens, either in an office job or in manufacturing. By taking part in this project, we offer teachers a chance to experience first-hand what it is like to work in a business environment.

As part of our Europe-wide Youth and Knowledge advancement program [www.siemens.de/knowledge-zone/en](http://www.siemens.de/knowledge-zone/en), we launched the "Multimedia w dydaktyce" project in Poland with €150,000 in yearly funding. Its goal is to introduce teachers to multimedia applications to help prepare them for teaching related classes. They can pass on the knowledge they acquire to their students and are also better equipped to assist students preparing projects to enter in our Join Multimedia competition in Europe.

For students, technology and the sciences can seem uninspiring compared to the engaging world of multimedia applications. For this reason, we teamed up with

the Norsk Teknisk Museum in Norway to mount our own exhibition called *Electricity in Everyday Life*, which shows how and where electric power has played a role in day-to-day life during the past 100 years. Siemens is also a primary sponsor of a new knowledge center devoted to science and technology. The Norsk Teknisk Museum attracts a particularly large number of youth visitors, and we hope that our exhibition will succeed in inspiring an interest in the world of technology among as many school students as possible.

### Good universities, successful students

Since 1999, as part of the Youth and Knowledge program, we have been operating two scholarship programs in association with the German Academic Exchange Service [www.daad.org](http://www.daad.org) to advance engineers from Central and Eastern Europe and from Asia by enabling them to take degrees in Germany. Through these two programs, which each have a budget of €6 million and will continue through to 2007, we hope to assist 100 trainee engineers from 16 countries. For many years

### Around the world



**USA:** Each year, the Siemens Foundation awards US\$1 million in grants and prizes to exceptional students. ● **Poland:** Siemens sponsored President Kwaśniewski's Internet in Schools program and donated 100 computers. ● **Hong Kong:** We help especially promising students by paying their university tuition fees for a full year. ● **Australia:** Siemens awards an annual Prize for Innovation. ● **Vietnam:** We set up automation labs in Hanoi and Ho Chi Minh City's Technical Universities. ● **Hungary:** We donated €96,000 to Budapest's Technical University to advance education and research projects. ● **Chile:** Siemens awards an annual scholarship to exceptional students to enable them to attend MBA programs in Germany. ● **Britain:** Siemens funded the purchase of Robolab kits for 12 schools. Created by LEGO Dacta, Robolab is a modular system that gives children an introduction to the field of robotics. ● **Romania:** Each year, we present five Werner von Siemens Excellence Awards for the best undergraduate dissertations in electrical engineering and computer science.

now, the Youth and Knowledge program has also sought to promote partnerships with universities around the world. Besides offering grants to students with the requisite qualifications to enable them to spend a semester in Germany, the program also gives them an opportunity to take an internship with Siemens. Through the Siemens Student Program [www.siemens.com/career/ssp](http://www.siemens.com/career/ssp) we currently support over 700 students worldwide, mostly from Asia, Eastern Europe and Latin America, and we offer them work placements at Siemens locations parallel to their undergraduate studies.

#### **Success factor knowledge sharing**

In many cases, our partnerships with places of higher education deliver important ideas for the onward development of our products and solutions. The Research Nucleus for Simultaneous Engineering in Brazil is a prominent example of successful collaboration between our company and the research community. The organization conducts concurrent simulations of interdependent project phases so as to eliminate possible errors in advance. Students are able to participate in real industry projects, to contribute ideas of their

own, and to acquire practical experience. One of India's leading training institutes for engineers, the Veermata Jijabai Technological Institute (VJTI) in Mumbai, received support from Siemens with the installation of a high-voltage laboratory. Besides contributing €120,000 in funding, we also managed the whole project. The lab is available not just to industry but also to universities and government organizations.

As a tech company, we are concerned by the digital divide, the gap separating industrial and developing nations in terms of their opportunities to benefit from information technology. Siemens is therefore involved in a variety of projects aimed at helping to close this gap, including the World Economic Forum's Digital Divide Initiative and the Euclides project initiated by our Regional Company in Belgium. Euclides helps train information and communications technicians and engineers in Africa. In February 2002, five university professors from Kenya traveled to Belgium to be briefed on the latest technology in this area so that they can set the project in motion. In the future, training will be web-based using a special distance-learning tool created specially by Siemens.

One of the goals of our Europe-wide Join Multimedia prize competition for schools is to encourage an interest in technology among students.



## COMMITTED TO HELPING PEOPLE

Providing support for social issues has a long tradition at Siemens. All over the world, we participate actively in a wide range of public welfare and community programs and work to promote society's progress and integration for the benefit of all.

### Employee volunteerism

Thousands of Siemens employees donate their time to community-based programs. Just a few of the many examples of volunteer projects include collecting and distributing food and clothing to the needy, mentoring at-risk youth, renovating housing for the aged, and working with disabled children. In the U.S., these programs are organized by the Siemens Caring Hands Foundation [www.usa.siemens.com/SiemensCares](http://www.usa.siemens.com/SiemensCares), which seeks to enrich the communities in which we live and work. Siemens shows its appreciation and support for employees' efforts in the community through the Caring Hands Community Excellence Awards, which honor the achievements of exceptional and innovative volunteer projects. In June 2002, 34 teams of volunteers from 15 Siemens companies were presented with the Manager's Award; the best five of these were honored with the Chairman's Award.

Another example illustrating our shared philanthropic initiatives is the Siemens Community Support Fund in Britain. Here, employees can choose to have donations deducted from their salaries automatically and sent to the charity projects of their choice. Siemens matches each donation, doubling it. Many different projects are supported in this way. The Employees in the Community Award is another successful program: Each month, an aid project chosen by Siemens employees is sent a donation of €400.

### Social integration

In Brazil, one issue high on the agenda in Siemens' corporate citizenship initiatives is the social integration of people with disabilities. SuperAção, for example, is a model project that helps smooth the path to employment for mentally handicapped youngsters by

developing their computer skills. Besides creating new career perspectives, the courses in personal computing help attendees achieve recognition within their family and social environments. Siemens' contributions to SuperAção partly include developing computer-based training software in association with the University of Anhembi Morumbi in São Paulo.

One key project organized by Siemens in Austria is the support of the Bienenhaus therapy center, a facility run by SOS Children's Villages to take care of children with integration problems and behavioral difficulties. The center provides an environment in which they can overcome such traumatic experiences as neglect and abuse. Our support comprises cash donations as well as the organization of benefit concerts and children's matinees; we also created a web site for the center.

In South Africa, too, we try to support society's most needy. Through our Youthscape program, we

### Around the world



**Hong Kong:** Siemens employees visit children in hospitals and donate money for the purchase of computers, scanners, medical equipment and gifts.

● **Switzerland:** Siemens supports a research institute for paraplegia. ● **Italy:** Siemens funds a music therapy room for people with disabilities. ● **Singapore:** As part of the Adopt a Family project, ten underprivileged families receive financial support to enable their children to attend school.

● **Norway:** Siemens donations support an initiative to fight AIDS in developing countries. ● **Greece:** Siemens organized a benefit concert for handicapped children.

● **Indonesia:** Siemens provided emergency aid for the victims of flooding. ● **Vietnam:** A kindergarten and two schools in Ho Chi Minh City receive financial assistance. ● **Finland:** Siemens supports an institute engaged in research into Alzheimer's disease. ● **Ecuador:** Siemens promotes a literacy program for street children.

● **France:** The Siemens Foundation provides SAMU SOCIAL, an organization in which doctors take care of the socially disadvantaged, with medical equipment and training. ● **Chile:** Siemens employees spontaneously collected US\$20,000 for flood victims and donated their time to help build shelters. ● **Germany:** Siemens employees with severe disabilities train with other sports people to develop their physical fitness and build their confidence.

look after street children, not just by providing shelter, food, clothing and schooling, but also by helping them to find their way back into society. They receive guidance from our social workers to help them to overcome the difficulties that they have experienced and to face the challenges of society. The project's scope is being widened to include other regions in South Africa.

#### **Education against poverty**

One focus of our public welfare efforts is to improve disadvantaged people's opportunities for education, particularly in developing regions. One such initiative, the Siemens Hope School China program, has succeeded in building and equipping schools in two of the country's remote provinces. In Lincang, in China's Yunan province, Siemens has also financed a night hostel for 120 youngsters. Previously, they had to spend between three and eight hours daily walking on difficult tracks – in some cases, across mountainous terrain – in order just to get to school and back.

With Rally to Read, Siemens in South Africa is assisting a READ Foundation project to enhance school students' literacy and ability to communicate in

English. We are supporting the project by supplying schools in remote rural areas with books and educational toys, and by providing a variety of continued education opportunities for teachers.

#### **Emergency aid**

When several regions in the Czech Republic, Austria and Germany were hit by severe flooding in August 2002, Siemens immediately made €5 million available, partly in the form of vouchers, each worth €500, that could be used to purchase Siemens home appliances or other products. The vouchers were distributed to private households that had sustained the worst damage. To help those people who had also lost their homes, Siemens set up a web site and a 24-hour call center to organize relief accommodation nationwide. In November 2002, the *Prestige*, an oil tanker, foundered and sank off the coast of northern Spain, causing a major environmental disaster. Besides organizing shuttle services to bus volunteers from several cities to the disaster area to help with cleanup operations, Siemens Caring Hands in Spain also launched a number of fund-raising initiatives.

**In October 2002, 170 employees from Siemens Management Consulting volunteered their time to build a ropes course in Bamberg, Germany, for at-risk youth. Besides building confidence and improving coordination, the adventure course encourages teamwork and communication.**



## OVERCOMING BARRIERS WITH ART

Human creativity expresses itself in many different forms. Like the arts and culture, technological innovations are capable of spawning new ideas and redefining boundaries. At the same time, the points of contact between art and technology are increasing: Design, for example, plays an essential role in the success of our products. Advances in the technological arena, too, give rise to new media of expression in the world of art. This is why Siemens in many ways seeks an active dialogue with artists – company-wide, not just at individual locations.

### The Siemens Arts Program

The Siemens Arts Program, a corporate-level initiative launched sixteen years ago [www.siemens.de/artsprogram/en](http://www.siemens.de/artsprogram/en), works in partnership with a number of different organizations to implement and support a wide variety of projects involving new and experimental forms of artistic expression, primarily in the visual and performing arts, music, and contemporary and cultural history. Although originally intended for an audience comprising Siemens employees and the general public in Germany and Europe, the program's work is becoming increasingly intercontinental in scope.

Since July 2001, the Siemens Arts Program and Siemens USA have been actively involved in the Silk Road Project, a program initiated by the renowned cellist Yo-Yo Ma in 1998. The project consists of a series of concerts, festivals and presentations in Europe, Asia and North America featuring a musical journey along the Silk Road. In the project's most recent phase, Siemens USA is sponsoring six musicians as artists in residence. These artists live in the homes of Siemens employees and are given space in Siemens facilities where they experience everyday working life and can use this experience as a potential source of inspiration for their work. The first such artist in residence was Uzbek composer Dimitri Yanov-Yanovsky, who enjoyed a two-month residency during August and September 2002 at the Siemens Hearing Instruments facility in Piscataway, New Jersey [www.silkroadproject.org](http://www.silkroadproject.org).

### Thinking global, acting local

Like the corporate Siemens Arts Program, most of our Regional Companies also promote a variety of local arts projects. The support ranges from the provision of exhibition venues for up-and-coming artists to the organization of concerts and even the creation of an Internet gallery – a smart idea that originated in our Regional Company in Austria. The artLab web gallery [www.artLab.at](http://www.artLab.at) created a public platform and marketplace that allows young artists to show their work to a wider audience and even sell pieces online over the Web. Parallel to this, artLab also has a brick-and-mortar gallery in Vienna. Our subsidiary Osram, too, runs a gallery – real, rather than virtual – at its corporate headquarters in Munich, Germany, where the company hosts around five exhibitions of work by prominent contemporary artists each year. Details of the current exhibition program are published on the Web [www.osram.com/gallery](http://www.osram.com/gallery).

### Around the world



**Colombia:** Siemens sponsored the eighth Ibero-American drama festival, Around the World in Eighty Plays, held in Bogotá. ● **Australia:** As a partner of the Melbourne Symphony Orchestra, we supported the Mozart Plus concert series. ● **Britain:** Siemens co-sponsored an exhibition by young designers from the Royal College of Arts. ● **Indonesia:** Grants from Siemens helped fund a series of classical concerts in Jakarta. ● **Greece:** Siemens organized two evenings of classical music at the Athens Opera House to mark the company's centenary in Greece. ● **Belgium:** Siemens was one of the lead sponsors of Bruges as the cultural capital of Europe in 2002. ● **Slovakia:** We regularly hold art exhibitions on the company premises. ● **Japan:** In Tokyo, Yokohama and Osaka, we sponsored concerts of classical music. ● **Norway:** Siemens is a sponsor of the National Opera. ● **Ireland:** We provide grants to support the Royal Hibernian Academy's annual exhibition. ● **Spain:** Siemens is a patron of several theaters and museums. ● **Singapore:** In association with the Goethe Institute, we help organize regular classical music recitals. ● **Finland:** Working with art and design students from the University of Helsinki, we took part in the Arabianranta Project. Together with Siemens, the students designed a city of the future.

The arts also have a firm place in the programs and events organized in Germany, Austria and Switzerland by our SiemensForums. Young Soloists, a free concert series, offers musicians from Munich's College of Music the opportunity to perform for an audience of Siemens employees. In Vienna, the SiemensForum held a Museums Night featuring a variety of art and technology exhibits, and offered the general public a chance to see Eva Flatscher's *Painting with Light*, a performance combining music, dance, painting and computer-generated effects.

In Israel, Jeunesses Musicales, a summer camp for young musicians, highlights art's abilities to overcome barriers. This year's camp, the fifteenth in the series, took place in July 2002 and was attended by youngsters ranging in age from 13 to 18 years, who met to hear workshops by well-known teachers on composition, improvisation, jazz and folk music. The presence of ten Arab musicians – members of a recently formed Israeli-Arab orchestra led by conductor Wissam Jubraan – was especially gratifying to see. For a number of years now, Siemens has contributed to a fund that enables disadvantaged youngsters to attend the camp.

### The Foundations

The Music Foundation set up in 1972 by Ernst von Siemens [www.evs-musikstiftung.ch/en](http://www.evs-musikstiftung.ch/en) supports young composers, ensembles and musicological organizations. One prominent project to benefit from the foundation's support was the Related Rocks music festival held in London in December 2001 by Finnish composer Magnus Lindberg. Since 1974, the foundation has also awarded the highly regarded Ernst von Siemens Music Prize to an outstanding composer, performer or musicologist each year. In 2002, the prize, endowed with €150,000, was awarded to Austrian conductor, cellist and musical scholar Nikolaus Harnoncourt.

The Ernst von Siemens Art Foundation, set up in 1983 – partly with funding from Siemens AG – supports public museums and art collections close to major Siemens locations. The foundation provides grants toward the purchase of important works by artists no longer living, the mounting of exhibitions, and the publication of collection's catalogues. Last fiscal year, for example, we assisted Munich's Pinakothek of Modern Art with the acquisition of a self-portrait by Ernst Ludwig Kirchner.

A residency at Siemens' location in Piscataway, New Jersey, served as a source of creative inspiration for Uzbek composer Dimitri Yanov-Yanovsky (right).



# Russian spirit, German tech, and a global network



Moscow's first electric-powered streetcar line was commissioned in 1899.

Faced with a company name like Obshchestvo Ogranichennoi Otvetstvennosti Siemens – Russian for Siemens Ltd. – you’d likely expect to be dealing with a Russian operation. There again, given the family name it contains – a byword in Russia for quality workmanship for 150 years now – you could be forgiven for assuming that the firm was German. At the same time, considering that Siemens does business in 190 different countries, the company could be international. In fact, it’s a Russian company, with local content, that’s part of our GLOBAL NETWORK OF INNOVATION [www.siemens.ru/en](http://www.siemens.ru/en).

From Siemens’ standpoint, Russia has always had a special status. In 1853, a mere six years after forming our company in Berlin, Werner von Siemens opened up a branch office in St. Petersburg – Siemens’ first location outside Germany. Orders for the construction of Russia’s first telegraph lines helped the fledgling company, known then as Telegraphen-Bauanstalt von Siemens & Halske, to remain in business when its home state of Prussia canceled contracts. In 1854, Siemens’ sales in Russia totaled 500,000 talers, compared to just 60,000 talers in Germany. Around that time, the com-



pany soon began to play a significant role in the Russian economy. Siemens may since have had to weather periods of problematic relations between Germany and Russia as well as difficult phases in the course of Russia’s history, but our unwavering and long-standing commitment to Russia has been a cornerstone of our success there.

#### Prominent business successes

A glance at history reveals a degree of continuity in our ties with Russia in each of our main business areas: Between 1851 and 1870, for example, Siemens & Halske connected the Russian empire to the main international telegraph line running between Britain and India; in 1996 Siemens participated in setting up the world’s longest radio relay link, between Moscow and Khabarovsk. In 1883, Siemens installed electric lighting to replace the gaslights on Nevsky Prospekt, St. Petersburg’s grand boulevard; in 2001, we installed an automatic traffic light control system on that same street. And in 1887, Siemens installed electricity in the Winter Palace in St. Petersburg, the czar’s imperial residence; today, we’re responsible for the electrical installations in

Left: A Siemens-built automatic traffic light system regulates the flow of traffic on Nevsky Prospekt in St. Petersburg. Right: The system’s control software was written by teams at our Switching Software Center.



Konstantinovsky Palace, the government's new international congress center.

All of Siemens' operating groups today have plenty of orders from Russia on their books: Besides equipping two Gazprom pipelines between the Arctic Circle and the Black Sea with instrumentation and control systems, Industrial Solutions and Services is in the process of automating the world's most advanced rolling mill, in Magnitogorsk – contracts worth several million euros. Automation and Drives is automating the NORCI refinery in Nizhni Novgorod, operated by one of Russia's largest petrochemicals collectives. Information and Communication Mobile is installing €50 million worth of telecommunication exchanges for Russia's leading mobile operator. Information and Communication Networks succeeded in extending its market share in switching systems by 30 percent in the Russian Federation to become the country's foremost supplier of digital switching technology. Siemens Business Services' customers in Russia include not just the majority of government ministries and agencies, but also most leading businesses and international companies. Power Generation has a €20 million order to supply a 156 megawatt gas turbine, complete with instrumentation and control systems, to Tyumen in western Siberia. Power Transmission and Distribution is installing the equipment for a power supply network and a data link to Finland for MES North-West, one of Russia's largest utilities. Medical Solutions supplies equipment to hospitals all over the country. Our Audiological Technology division has succeeded in building up a network of more than 90 sales partners and now leads the market for hearing aid products. Together with a local partner in Saransk, Transportation Systems manufactures power supply blocks for Russian trains.

Thanks to these major projects, Siemens in Russia's net sales and new orders both grew in double digits in the past fiscal year, rising to €550 million and €702 million, respectively. Says country spokesperson Agnesa Frantik, "These successes are not merely due to solid growth in Russia's economy as a whole, they're also largely attributable to our well-qualified workforce and to picking the right strategy." The latter, she explains, centers on promoting local content.

In 1878, Siemens began making cables in Russia. Much like today, the only way to succeed in the Russian marketplace then was to manufacture products locally. By 1882, Siemens & Halske had received authorization from the czar to label company products made in Russia with the imperial emblem, the two-headed eagle, as a mark of quality. To this day, government agencies in particular prefer to purchase Russian-made products. After the cable factories in St. Petersburg, Siemens went on to set up electrical engineering plants and a telephone factory in Nizhni Novgorod. By 1913, Siemens' workforce in Russia had already grown to 4,000. Over the past decade or so – since the period of political transformation and the end of the era of economic stagnation – Siemens has been investing heavily in Russia again and has formed several joint ventures. These include Izhtel, a telecommunications company based in Izhevsk (EWSD systems), Kamatel in Perm (digital communications engineering), Inter-automatica in Moscow (instrumentation and control systems and maintenance services for fossil power plants), and Interturbo in St. Petersburg (assembly and sale of gas turbines).

Our executives in Russia aim to expand business in the future by marketing complete systems and services, rather than just products. Initial steps have already been taken: Information and Communication Mobile (ICM) is supplying telecommunication exchanges to two of Russia's top three mobile network operators. IT specialists at the Siemens Switching Software Center in St. Petersburg are writing the requisite programs. Besides adapting the code to accommodate the antiquated, mechanically operated relay stations, they're responsible for system testing and debugging. ICM is also training mobile operators' engineers at its Training and Human Resources Center in Moscow.

Another focus is on promoting greater cross-Group collaboration. Medical Solutions and Siemens Business Services, for example, are currently working with the Russian Military Medical Academy in St. Petersburg to install an information network. The academy is already equipped with a comprehensive range of medical equipment from Siemens.

Siemens in Russia has also extended its reach beyond the country's borders and now develops products and solutions targeting international markets. Our subsidiary Interautomatica, which makes and installs instrumentation and control systems for fossil power plants, has already shipped systems to customers as far afield as China, Yugoslavia, and Bangladesh. Interturbo, which builds turbines under license from Siemens, has not just scored successes in the local marketplace, but has now also installed 11 gas turbines in other countries.

Competing successfully in the international arena calls for highly qualified and committed workers. Today, Siemens' workforce in Russia numbers 1,100, of whom 1,060 are Russian, and many of our local management-level employees have risen through the ranks. This is the result of goal-driven human resources management, which involves annual meetings between workers and their supervisors to discuss performance and development potential. Depending on the outcome of these meetings, each employee is given the chance to attend two to three onward qualification programs specific to their field, plus an equal number of general training programs. Siemens' training and qualifica-

tion offering in Russia is particularly extensive, and since 1997 has included opportunities for university graduates to complete one-year vocational programs in business administration.

The company is aiming to pool its available expertise in Russian centers of competence and to make that expertise available to the whole of Siemens' global network. Doing so will help create first-rate jobs at locations like Information and Communication Networks' software center in St. Petersburg, where our engineers not only develop and maintain telecommunication systems for the whole of Siemens, but also write technical reference material on communication engineering used by countless customers and telecoms professionals.

#### **Environmental awareness**

We're setting new environmental standards in Russia, and our technology is helping to lower energy consumption and reduce emissions: 500 energy saving lamps installed by Osram in a Moscow metro station cut power requirements by 80 percent. Fifty water pumping plants supplied to 11 cities in the south of Russia succeeded in reducing power con-

St. Petersburg's Northwest co-generating plant cut its emissions dramatically by installing two Siemens gas turbines.



sumption by 30 percent. Siemens control systems have greatly improved the efficiency of a sewage treatment facility in Butovo, near Moscow. Using Simatic automation equipment, the Lukoil Nizhegorod Nefteorgsintez refinery in Nizhni Novgorod installed a programmable flare control system and other environmentally important installations. These are pilot projects, designed to promote the development of an environmentally compatible infrastructure. Likewise two gas turbines supplied by Power Generation to St. Petersburg's Northwest combined heat and power plant: These operate with an efficiency of around 58 percent and have extremely low emissions. By contrast, legacy gas-fired plants from the soviet era typically have an operating efficiency of 35 percent. Using Siemens technology, Russia could save around 40 million of the 135 million cubic meters of gas consumed each year to generate power and heat. One notable step in the right direction was a project to install an integrated energy management system – the first in the country – in the Russian government's new international congress center, Konstantinovsky Palace, to automatically control the heating, ventilation and air-conditioning.

### Community-based programs

As a company strongly rooted in Russia, we feel a special bond with the nation's people and enjoy sharing our success with them. In the period running up to Siemens' 150th anniversary, we donated a new ventilation system for the famous concert hall of the Moscow Tchaikovsky Conservatory. This too is a hark back to an earlier era, because the old system – installed in 1901, and still in working order to this day – was originally built by Siemens.

We regularly provide grants to the Annual Conference of the State Medical Academy in Jaroslavl, to the Romanov Rehabilitation Center for Children in St. Petersburg, a public Internet center in Maloyaroslavets, the St. Petersburg Ballet, and Moscow's Modern Dance Ensemble. Siemens employees also play an active role in the Association of German Industry in Russia, the European Business Club, and the Foreign Investment Advisory Council (FIAC), a panel of 25 leading foreign investors who draft legislation proposals for the government. Agnesa Frantik and Ilya Klebanov, Russia's minister for industry, co-supervise Industry & ICT Development, one of FIAC's working groups.

**The new ventilation system installed by Siemens in the Moscow Tchaikovsky Conservatory will greatly improve air quality in the concert hall.**



Parallel to its basic and continued training programs for employees, Siemens in Russia also operates a number of initiatives designed to promote education for young people. For example, Siemens funds scholarships for the most promising students at the Ioffe Physical-Technical Institute in St. Petersburg and at the Moscow Energy Institute (MEI). Over the last five years, we have donated more than €250,000 in the form of DAAD scholarships for advanced courses of study at universities in Germany. Siemens experts teach as guest lecturers in Moscow, St. Petersburg and Magnitogorsk. Siemens also donated technical systems and equipment for an MEI laboratory and for an office of Berlin's Humboldt University at the Moscow School of Economics. This year, 465 teams of school and university students from 62 cities in Russia submitted entries in the multimedia design competition organized by Siemens' Youth and Knowledge program.

#### Future plans

Siemens is eager to advance the development and modernization of the country's infrastructure, and with

the solutions competency available throughout our operating groups, we are well equipped to do so. Initial successes have enabled Siemens to more than double its business volume in Russia since the economic crisis of 1998, and we hope to see our business volume and earnings grow in double digits. According to Alexander von Thielmann, the head of business administration, Siemens in Russia has defined four strategic action areas as part of the company's *top+* business excellence program in order to achieve these targets: increase local content, particularly in the area of technical services; widen the company's presence on the ground in Russia's regions; improve account management to build stronger partnerships with customers; and streamline portfolio management. Clearly, achieving objectives like these would be impossible without the dedication and commitment of all our employees. And in contrast to 150 years ago, Siemens in Russia today has an added advantage: It's backed by 63 other Regional Companies that actively share their knowledge and best practices through Siemens' global knowledge network.

Siemens is equipping the Tchaikovsky Conservatory with a new ventilation system – the second in 100 years.



#### Market of the future

Measuring 17.1 million square kilometers, the Russian Federation is the largest country in the world. Its 89 separate regions are home to a population of 144.2 million and generate a gross domestic product of €2,400 per capita. Since the crisis of 1998, the country's economy has expanded steadily, and GDP growth is now running at around 4 percent. The high and stable oil price and the introduction of important economic reforms have both helped to create more favorable conditions for economic growth. For Siemens, the country has enormous future potential as a market. At present, only one in five households has a fixed-line telephone; and outside the metropolitan areas, only 1 percent of the population has a mobile phone. The energy sector and 67 percent of Russia's co-generating facilities are running antiquated gas-fired systems; almost half of the power plants are considered to be outdated; and 70 percent of the iron and steel industry's manufacturing plants are ready to be torn down, at least according to western standards. We estimate that the country needs to invest some US\$20-30 million in the telecoms, energy and transportation sectors alone over the next ten years.

# Facts and figures 2002



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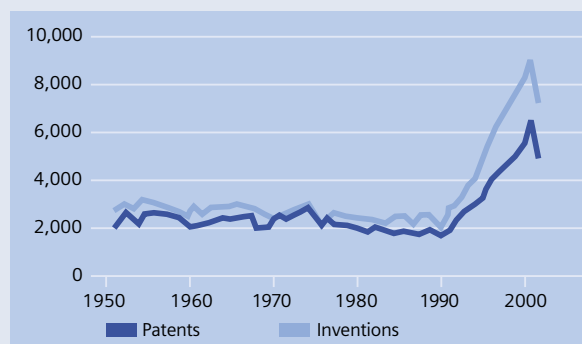
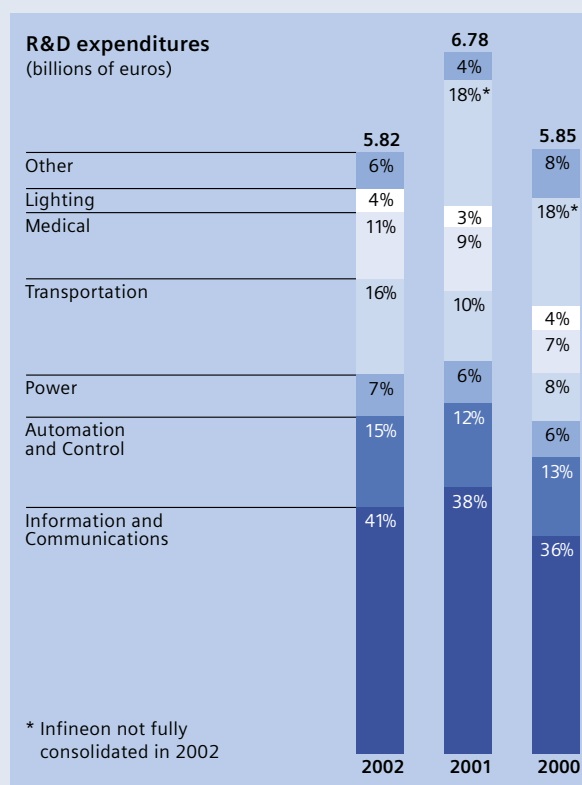
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## Business excellence

### Research and development

The pointer telegraph invented by Werner von Siemens in 1847 was more than just the first product of its kind worldwide: It also heralded the advent of modern telecommunications. A constant stream of discoveries and inventions since then has made Siemens the GLOBAL NETWORK OF INNOVATION that it is today. To help keep us at the forefront of innovation, we spent some €5.82 billion on research and development in fiscal 2002. We also plan our R&D strategies systematically using a method known as Pictures of the Future. Working from detailed future scenarios for each of our business areas, we map out technology trends and market potential and balance these with customer requirements and business opportunities.

In fiscal 2002, our researchers and developers turned out 7,092 inventions, including 4,566 for which we submitted patent applications [www.siemens.com/intellectual\\_property](http://www.siemens.com/intellectual_property).



### Employees

Siemens had 426,000 employees at the end of fiscal 2002 (September 30), as continued contraction in telecoms markets left its mark on the company. In spite of the generally slow economy, though, we have succeeded in keeping our business on course and, unlike a number of our rivals, we have not had to reduce our headcount on a company-wide scale. Despite the difficult situation, we have been able to retain 94 percent of our workforce. One notable positive is that the number of women in our workforce has increased from 26 percent to 28 percent.

### Employees worldwide (excluding Infineon)

Number of employees in 2002: 426,000



Number of employees in 2001: 450,000



Women Men

### Employees' qualifications

In our sector of industry, employees with scientific, technical or industry-specific qualifications are in high demand, and competition to recruit the best and the brightest is intense. Our employees' motivation, creativity and knowledge drive our GLOBAL NETWORK OF INNOVATION. Siemens' workforce includes 147,400 university-trained employees, of whom 75 percent graduated in the sciences, engineering, or computer sciences.

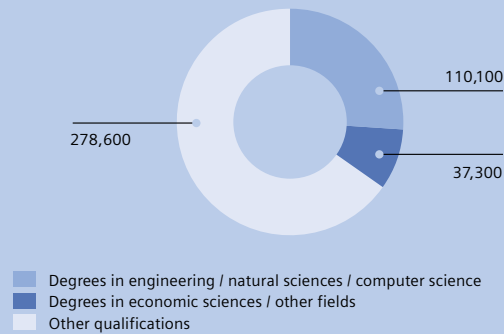
### New hirings

In fiscal 2002, we hired 35,300 people to fill vacancies and new jobs. We succeeded in recruiting university graduates for 32 percent of the posts. The number of women among our new hirings was higher proportionally than in the workforce as a whole – 35 percent, compared to 28 percent.

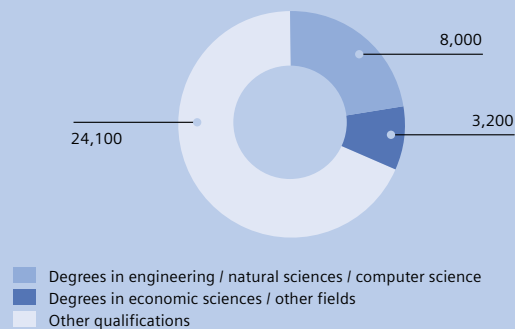
### Employees by function

Our range of products and services includes goods, systems, and industrial installations, as well as consulting, engineering, integration and maintenance services. We make roughly a million different products – from state-of-the-art computed tomography scanners, to floodlighting systems for sports stadiums, to autonomous cleaning robots. All these products must satisfy customers' expectations if we are to succeed in today's competitive arena. Our 53,100 R&D employees are working to develop key technologies for tomorrow. Another 173,900 employees in manufacturing ensure that our products uphold the high quality standards on which we have built our reputation the world over.

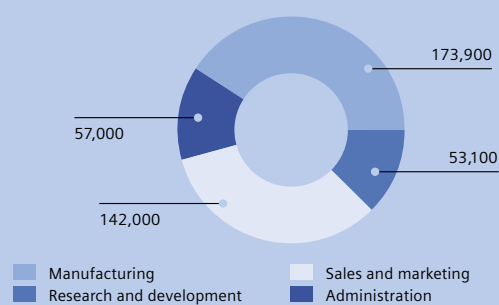
**Total employees: 426,000**  
**University-trained: 147,400**



**Total hirings: 35,300**  
**University-trained: 11,200**



**Employees by function**



## Training

Our expenditure on employee training in fiscal 2002 again ran to around half a billion euros, just as in fiscal 2001. This is a volume roughly equivalent to the typical annual budget of a large university in Germany. We view our spending in this area as an investment in our future. By equipping our employees and our apprentices to keep pace with today's rapidly changing business environment, we not only prepare our company for the future, we also improve our people's employability from a labor market point of view. During the past fiscal year, more than half of our employees attended training programs.

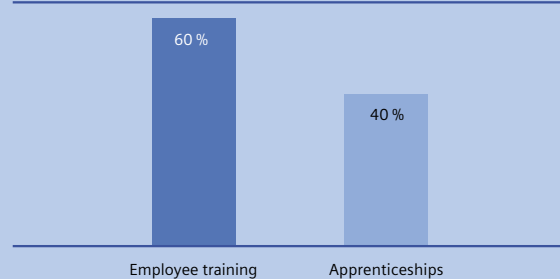
## Apprentices

Almost two-thirds of the places we offer on apprenticeship programs are for technical professions. These places are mainly filled by men; only 11 percent of applicants are women. In an effort to encourage a greater interest in technology among women, Siemens has participated in a number of initiatives, including Girls Day and special training and technical adventure camps for women. In years to come, we hope to see a steady increase in the number of young women taking part in our apprenticeship programs for technology professions.

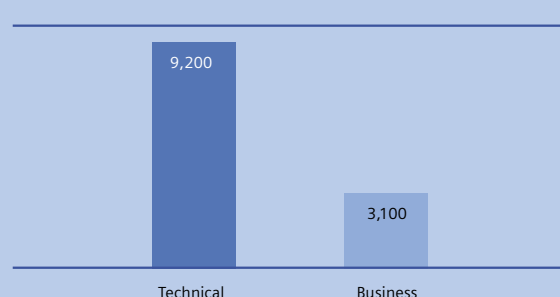
## Management

Employees' motivation depends to 70 percent on the quality of the leadership they receive. People only perform to the best of their abilities if they can work toward clearly defined goals and are convinced of the merits of the task in hand. Since it's our managers' job to deliver the right kind of motivation, their skills as leaders are crucial to our success as a company. We evaluate managerial achievement through the Siemens Leadership Framework, a program set up to ensure quality leadership, both now and in the future. In the past fiscal year, employees in middle and lower management totaled 57,200, accounting for approximately 13 percent of Siemens' workforce; members of senior management numbered 6,200, or 1.5 percent.

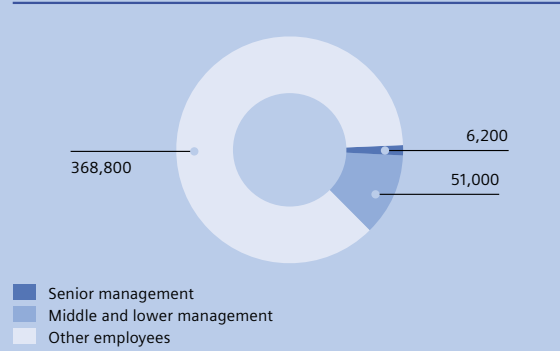
Training expenditures  
(about €500 million)



Apprentices: 12,300



Total employees: 426,000  
Management-level employees: 57,200



## Environmental stewardship

**We have made further progress with the international rollout of our environmental data collection system. In addition to information previously published on manufacturing locations in Germany, we are now able to present a growing quantity of information from our sites in other countries. We plan to use our system to review information from manufacturing facilities and service centers in roughly 40 of the 50 or so countries in which we have manufacturing operations – in all, 300 of our 600 company locations worldwide.**

All the data supplied here pertains to fiscal 2001 (year ending September 30, 2001). Due to the complexities involved in deploying a comprehensive and uniform system of reporting in different manufacturing facilities and countries at once, we are not yet able to provide figures for the most recent fiscal year. However, we hope to publish figures for fiscal 2002 on the Web shortly [www.siemens.com/environment](http://www.siemens.com/environment).

To date, Osram GmbH, a wholly owned Siemens subsidiary, has published its own environmental reports and has not yet been incorporated into the reporting system. We plan to change this in the future. We have already included Osram in the section on energy.

### Continuous improvement in our environmental reporting

A key initial milestone along the road leading toward deployment of our worldwide data collection system was the creation of a new information system based on intranet technology to manage our environmental programs at factory and product level. The system is modular in structure and has now been extended to take fire safety and disaster prevention into account. Designed to be applicable globally in spite of differences in local environmental legislation, the system will allow us to gradually incorporate all our Groups and Regional Companies into our overall environmental reporting system. In addition, we will extend this information resource to include hazardous material transports and industrial safety.

We have defined four key categories of environmentally relevant installation for the purpose of recording environmental data at our locations around the world:

- installations with air emissions
- installations with water emissions (discharge)
- installations for the collection of waste
- installations for handling water pollutants

Besides meeting an information need within the company itself, we believe that it is important to report on fundamental issues of environmental protection and resource consumption in the interests of transparency and credibility. We also participate actively in a number of committees so as to share the experience we have accumulated in company reporting. As a multinational company, we place particular emphasis on identifying ways forward that are globally viable. We are convinced that our customers and investors appreciate transparent and comparable reporting on environmental performance and impact.

### Environmental performance in Germany

Our data collection system covers virtually all of our environmentally relevant locations in Germany. It currently details 85 facilities in total, including eight new Siemens VDO Automotive locations, with 501 installations in all that are either notifiable or require authorization. These comprise 177 with air emissions, 104 with water emissions, six that collect waste, and 214 that handle water pollutants.

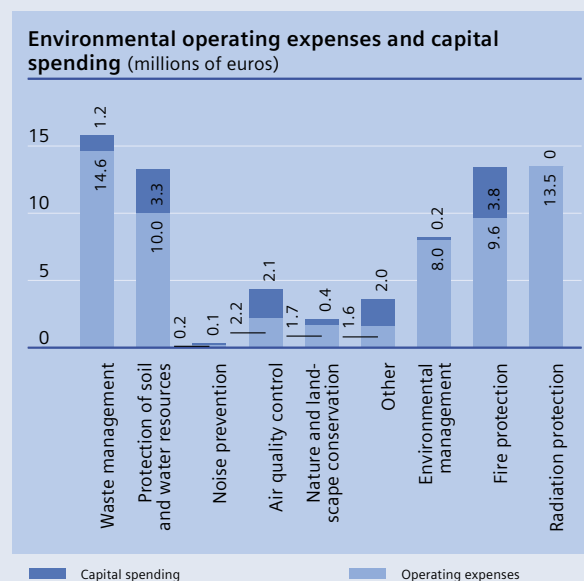
### Environmental operating expenses and capital spending

In the records we keep concerning operating expenses and capital spending on environmental protection, we classify expenditure according to strict criteria. Capital spending and operating expenses have to be associated with a specific environmentally relevant field, such as air quality control or noise protection, in order to be classed as environmental protection costs. Alternatively, they must have obvious environmental relevancy in connection with a particular installation. This applies both to end-of-pipe solutions and to production-integrated protection measures. We also keep records of our environmental protection officers' costs and our spending on fire precautions, disaster prevention and control, and radiation protection.

#### *Current environmental operating expense and capital spending*

Our operating expenses and capital spending on environmental protection ran to more than €61 million and roughly €13 million, respectively, in fiscal 2001. As in previous years, most of the spending was on waste management and the protection of water resources. It is now evident that costs have reached a lower limit in Germany as a result of our investments in integrated plant technology during the past ten years.

Spending on environmental management encompasses all of the costs involved in setting up and maintaining our environmental management system – mostly expenditure on human resources, materials needed by environmental officers, and corporate functions involved in environmental protection. Costs of environmental communications work and information systems are also included. In addition, because of the preventive role they play in environmental protection, fire and radiation protection costs are also taken into account here, even though they should strictly be classed in the technical safety category.



## Waste

The transition to our new data collection system has meant switching to an internationally applicable system that differentiates not just between hazardous and non-hazardous waste in terms of its impact but also between waste for recycling and waste for disposal in terms of the method of treatment. Due to the fact that construction and demolition rubble has a strong influence on the overall waste balance and can vary greatly in volume from one year to the next, it is reported in a separate category.

### Waste volumes

In recent years, we have significantly reduced the overall waste volume in Germany by carefully collecting, sorting and separating waste and by introducing effective methods of avoidance and reduction. In fiscal 2001, our overall waste volume increased because of several additional factories in our portfolio. Also, two large-scale demolition projects led to a marked increase in the amount of construction and demolition rubble.

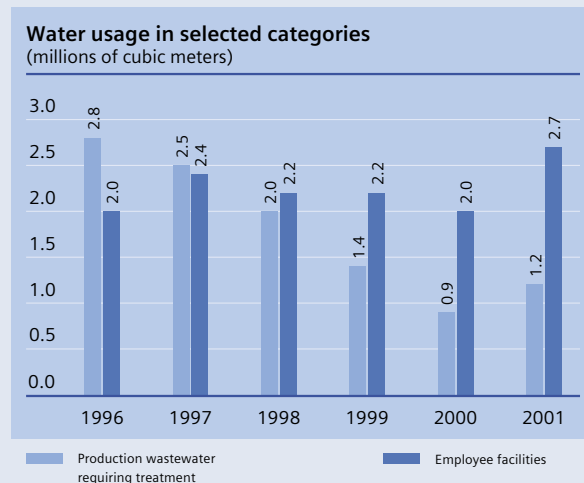
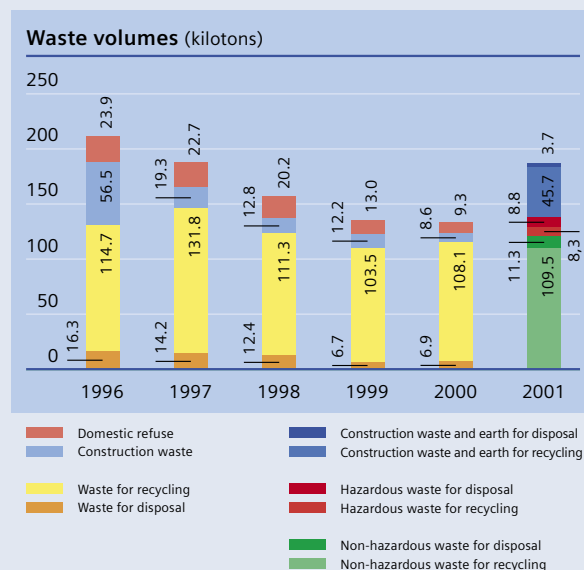
## Water

In fiscal 2001, Siemens purchased roughly 25.1 million cubic meters of water and discharged 24.2 million cubic meters of water. The difference in the volumes is largely due to evaporation losses. We obtain most of our water from our own bore holes. In terms of our total water requirements, we source only about 14 percent from the public mains supply. Most of the water is used as a coolant and is discharged without any payload. Our wastewater volume has increased in line with our water procurement. The only water we discharge directly is uncontaminated cooling water. All other wastewater is discharged to municipal biological treatment plants after any pre-treatment needed has been carried out in our own facilities.

### Water usage in selected categories

Our new environmental information system also tracks our water usage in a number of separate categories. Wastewater from manufacturing processes and wastewater from canteens and employee facilities are regarded as two distinct categories. Due to the addition of new company locations, these quantities, too, have increased year on year.

The change in these definitions also means we have no baseline for comparisons with previous waste statistics. As a result, we quote historical data with its old designations, and we apply the new nomenclature to environmental data recorded since 2001. The statistics only cover waste generated by Siemens AG. They do not encompass waste that we dispose of under contract from our customers or transfer to third parties.



## Energy

For many years now, our Real Estate and Infrastructure Working Group's building management unit has been working to promote transparency and raise the environmental and economic efficiency of energy utilization within Siemens. In recent years, the unit has accomplished a great deal.

### Energy consumption

Aside from the aforementioned changes in how we collected data, such factors as the weather, production capacity utilization, changes in our product range, and corresponding shifts in our power requirements led to a reduction in our overall energy consumption in Germany. Water consumption was calculated on the basis of ten kilowatt hours per cubic meter of water. The trend in recent years in favor of district heating and natural gas continued. Heating oil consumption has declined. The potential for achieving further gains in heat recovery is limited by technical and economic factors.

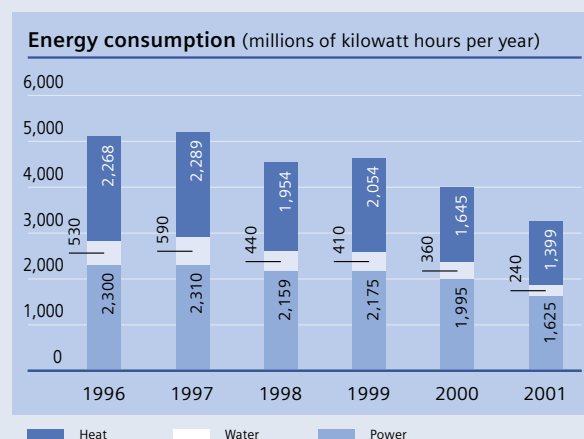
### Business travel

In fiscal 2001 we recorded for the first time the distances covered by employees on business trips. In total, they traveled 1.8 million person-kilometers.

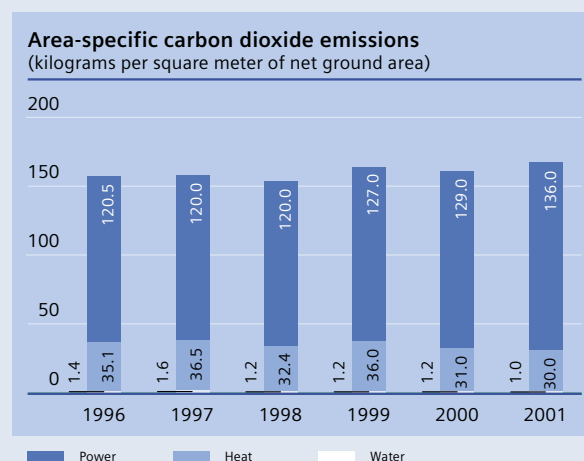
### Greenhouse gases

We record details of the carbon dioxide emissions arising from the generation and distribution of power, district heating, and water. In 2001, Siemens in Germany's carbon dioxide emissions totaled roughly 1.4 million tons of CO<sub>2</sub> equivalent (not extrapolated to reflect our total real estate). It is important to note that the majority of these emissions were not self-generated but resulted from the procurement of secondary energy, on which we have no influence.

Not included here are figures for logistics – specifically, for goods shipments. We are currently in the initial phase of developing a solution to track this data.



Mode of transport	Person-kilometers (million)
Air	1,196
Rail	55
Road	556



## Environmental performance in Europe, the Americas and Asia-Pacific

Our current reporting covers all our locations in Germany and around half of our locations in other countries. The majority of our manufacturing facilities today have already deployed highly efficient environmental management systems. Even so, all remaining environmentally relevant locations still have to be incorporated into our reporting system in the next few years. Another task we need to complete is to improve data collection in those plants not yet doing so according to a uniform system. We will continue to pursue these objectives rigorously in the years ahead.

The environmental data available is representative in that it pertains to the whole of our product range and to the most important regions in which we do business. We are not yet able to present a time-series comparison of the kind we have prepared for our locations in Germany for many years now, but one thing is nevertheless evident from the compiled data: We are analyzing the flow of materials and energy within the company on an international scale. It also shows differences in our locations'

### Contributing countries by region

Europe (except Germany)	Americas	Asia-Pacific
France (8)	USA (16)	China (4)
United Kingdom (8)	Canada (8)	India (4)
Spain (7)	Brazil (6)	Korea (3)
Czech Republic (7)	Mexico (3)	Malaysia (1)
Switzerland (5)	Argentina (1)	Pakistan (1)
Greece (4)	Colombia (1)	
Austria (3)		
Norway (3)		
Sweden (3)		
Hungary (2)		
Italy (2)		
Egypt (1)		
Finland (1)	*) The figures in brackets show the number of locations that submitted reports.	
Portugal (1)		
Romania (1)		

energy requirements and waste volumes. Recycling rates of the kind that we have achieved in Germany have yet to become the norm in other countries. The data we have collected is helping us to identify potential for environmental advancements that we can pursue in the near future.

Field	Category	Germany	Europe ex. Germany	Americas	Asia-Pacific	World total
Organization	Number of locations surveyed	85	56	35	13	189
Infrastructure	Total area (thousands of square meters)	10,500	3,000	4,920	657	19,077
	Paved areas (thousands of square meters)	3,600	1,140	840	212	5,792
Operating costs and capital spending	Capital spending (millions of euros)	13.10	1.80	1.90	0.04	16.84
	Operating costs (millions of euros)	61.40	3.20	2.00	0.14	66.74
Installations	Installations requiring authorization/notifiable installations	502	196	101	6	805
Waste	Waste for disposal (metric tons)	20,100	10,510	6,480	480	37,570
	Waste for recycling (metric tons)	117,800	26,525	10,481	235	155,041
	Construction waste (metric tons)	49,400	10,870	1,640	40	61,950
	Waste costs (millions of euros)	9.40	2.40	1.27	0.12	13.19
	Revenue from waste recycled (millions of euros)	6.70	1.30	0.50	0.03	8.53
Water	Water from mains supply (thousands of cubic meters)	3,500	1,010	1,240	415	6,165
	Water from own bore holes (thousands of cubic meters)	25,100	630	103	85	25,918
Energy	Heating energy consumption (millions of kilowatt hours)	1,400	341	226	11	1,978
	Power consumption (millions of kilowatt hours)	1,625	420	370	38	2,453

## Corporate citizenship

### Youth and Knowledge

We launched the Youth and Knowledge advancement program in 1997 on the occasion of Siemens' 150th anniversary. Set up to support the education and training of students in schools and universities, the program has proved a major success.

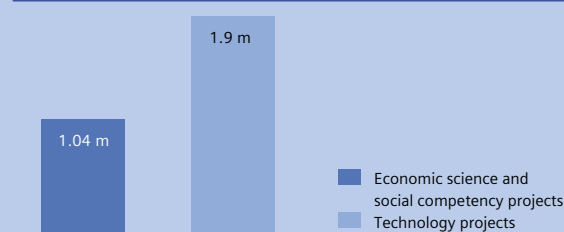
Youth and Knowledge – Schools primarily promotes technology, the natural sciences and economic science through a variety of projects and activities, including Join Multimedia, a Europe-wide competition for schools. The goal of the competition is to awaken greater interest in technology among youngsters. In recent years, the competition has become increasingly popular. In 2002, for example, 1,668 teams of students from 24 European countries submitted entries. The winners received prizes worth over €130,000 in total.

Teachers frequently show a special interest in new technologies that they can use in class. To address this interest, Youth and Knowledge last fiscal year organized a program of courses on multimedia in three countries in Eastern Europe that were attended by close to 2,300 teachers, who took the opportunity to find out more about the possibilities of multimedia in the classroom.

Youth and Knowledge – Universities is focused mainly on students in Central and Eastern Europe, Asia-Pacific, and Latin America. In fiscal 2002, we provided 143 students from these regions with grants to enable them to pursue master's degrees at German universities and technical colleges. Thirty percent of the grant recipients were women. Although we mainly make grants available for degree programs in engineering and technology-oriented fields of science, we also support university students studying for degrees in economic science.

In fiscal 2002, the Youth and Knowledge program was equipped with a budget of €6.17 million.

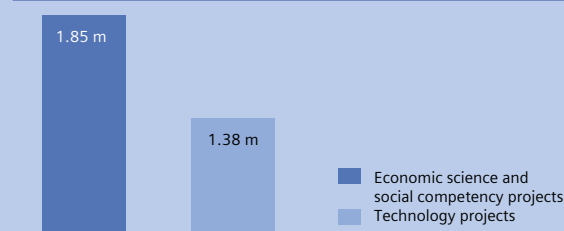
#### Youth and Knowledge – Schools Funding in 2002: €2.94 million



#### Youth and Knowledge – Schools: Focus countries

Austria	Iceland	Romania
Belgium	Italy	Russia
Croatia	Latvia	Slovenia
Czech Republic	Lithuania	Spain
Denmark	Luxembourg	Sweden
Finland	Norway	Switzerland
Georgia	Poland	Ukraine
Germany	Portugal	United Kingdom
		Yugoslavia

#### Youth and Knowledge – Universities Funding in 2002: €3.23 million



#### Youth and Knowledge – Universities: Focus countries

FAR EAST:	CENTRAL/EASTERN EUROPE:	LATIN AMERICA:
Bangladesh	Bulgaria	Argentina
China	Czech Republic	Bolivia
Hong Kong	Estonia	Brazil
India	Georgia	Mexico
Indonesia	Greece	
Korea	Hungary	
Malaysia	Latvia	
Taiwan	Lithuania	
Thailand	Poland	
Vietnam	Russia	
	Slovakia	
	Ukraine	
	Yugoslavia	
		AFRICA:
		Tunisia

**The Siemens Foundation**

The Siemens Foundation in the U.S. was set up to advance learning and education. The foundation’s numerous initiatives include the Siemens Westinghouse Science & Technology Competition, awarded annually for outstanding achievements by students in the field of science and technology. Last year, the foundation was endowed with €3.7 million.

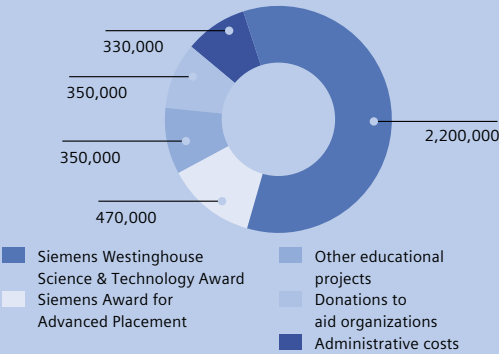
**Siemens Caring Hands**

The Siemens Caring Hands Foundation was set up in order to provide aid quickly and unbureaucratically to people in need. Last year, Siemens Caring Hands in Germany, for example, issued goods vouchers worth €5 million to help victims of the severe flooding in Germany, Austria and the Czech Republic in August 2002.

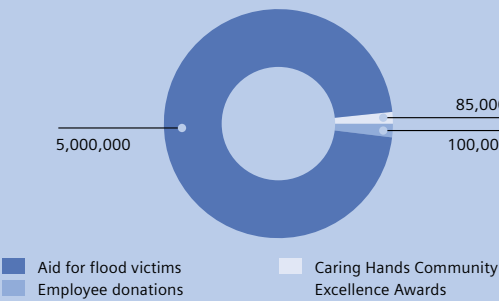
In the U.S., the Caring Hands Foundation gave a total €85,000 in awards to employees who volunteered their time for charity projects in their communities. In addition, the foundation raised €100,000 in employee donations to help fund community programs.

In Spain, Caring Hands provided support to volunteers cleaning up the major oil spill on the coast of Galicia.

**The Siemens Foundation  
Budget in 2002: €3.7 million**



**Siemens Caring Hands  
Budget in 2002: €5.2 million**



### The Siemens Arts Program

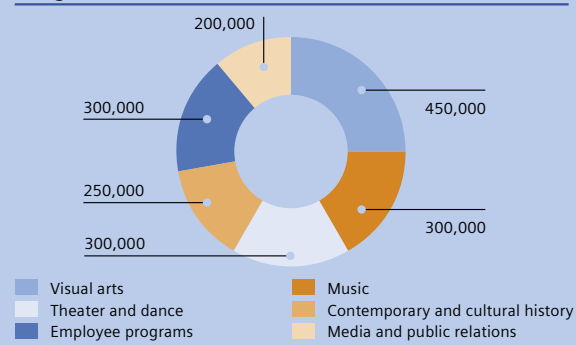
Formed in 1987, the Siemens Arts Program works in tandem with various organizations to promote the arts and culture. Besides highlighting contemporary issues in culture and art, it focuses on themes uniting art and industry.

Equipped with a budget of €1.8 million, the Siemens Arts Program was able to mount several exhibitions in fiscal 2002, including *Arts & Economy* in Hamburg, and organize events such as the *Entraînements* series, hosted by the Centre Pompidou in Paris.

### The SiemensForums

The SiemensForums in Berlin, Erlangen, Munich, Vienna and Zurich seek to promote a dialogue with society. They serve both as a contact point for a wide range of groups within the community and as a platform for the sharing and exchange of ideas. Last year, the SiemensForums received €9.75 million in program and event funding.

**The Siemens Arts Program**  
Budget in 2002: €1.8 million



## Key terms

<b>Affirmative action</b>	The practice of making special provisions that specifically benefit members of formerly disadvantaged groups.
<b>Asset management</b>	The process of managing corporate assets in order to enhance operational efficiency while minimizing costs and associated risks.
<b>Audit</b>	A formal examination of the whole or parts of an organization to verify its compliance with specific requirements. At Siemens, we conduct internal audits to ensure that operating units and locations comply with our own and statutory environmental regulations.
<b>Business conduct guidelines</b>	Moral principles concerning both ideal and unacceptable behavior by corporations and individual businesspeople.
<b>Business portfolio</b>	The aggregate total of business areas in which Siemens is active.
<b>Certification</b>	Confirmation of compliance with the criteria defined in a standard following an audit by a verification organization.
<b>Change management</b>	The systematic tracking and evaluation of internal and external factors and processes affecting corporations.
<b>Corporate citizenship</b>	A corporation's activities and initiatives in the community, undertaken out of a sense of social and environmental responsibility.
<b>Corporate governance</b>	The system by which business corporations are directed and controlled.
<b>Corporate principles</b>	A set of principles describing a company's values and perception of itself. Siemens' Corporate Principles were defined in 1997, the year of the company's 150th anniversary, based on a worldwide employee survey. The Principles were revised in 2002.
<b>Corporate responsibility</b>	The continuing commitment by business to behave ethically and to contribute to economic development while improving the quality of life of the workforce, as well as of the local community and society at large.
<b>Digital divide</b>	The yawning gap between those people and communities who can make effective use of information and communication tools – in particular the Internet – and those who cannot. Industrialized countries, with only 15 percent of the world's population, are home to almost 90 percent of all Internet users.
<b>Diversity</b>	The variety of cultures, religions, nationalities, and age, ethnic and social groups represented within a company's workforce.
<b>Dow Jones Sustainability Index (DJSI)</b>	A set of indexes created to track the performance of leading companies in the field of corporate sustainability. The DJSI's current rankings comprise some 300 companies whose products, processes, and management systems meet the principles of sustainable development. → sustainability
<b>EBIT</b>	Short for "earnings before interest and taxes." Net income before interest cost and income tax expense.
<b>Economic Value Added (EVA)</b>	EVA is equal to net operating profit after taxes (NOPAT) less a charge for the capital employed in the business (cost of capital).
<b>econsense</b>	Formed by the Federation of German Industry (BDI) in 2000, "econsense – Forum for Sustainable Development" was set up to develop sustainability strategies and to promote dialogue with other groups in society. Siemens is a founder member of econsense.
<b>Efficiency</b>	The ratio of energy input to useful energy output. In power plants, an efficiency rating shows how much of the primary energy consumed (e.g., coal, oil or gas) is converted into electric power.
<b>EMAS</b>	The EU's Eco-Management and Audit Scheme. Participants in the scheme undertake voluntarily to introduce an environmental management system and to continuously improve environmental protection. Regular audits are conducted by independent environmental verifiers.

<b>Emissions</b>	Noise, exhaust gases, radiation, vibration, waste, wastewater, heat, etc. produced by industrial installations, forms of transport, residential buildings, products, etc.
<b>Employability</b>	The skills and qualifications that are likely to be valued by an employer and determine an individual's suitability to work in a given capacity.
<b>Empowerment policy</b>	Systematic, business-oriented development of employee and business partner competency through qualification initiatives designed to eliminate deficiencies.
<b>Environmentally relevant installation</b>	An installation whose air and/or wastewater emissions have a significant environmental impact. Usually, public authorities need to be notified of installations of this kind, or official approval for operation of such installations must be obtained.
<b>Geothermal energy</b>	Energy in the form of heat below the earth's surface that can be used for heating or to generate electric energy.
<b>ISO 14001</b>	International standard that forms the basis for setting up, auditing and certifying environmental management systems.
<b>Non-governmental organization (NGO)</b>	An organization that is neither profit-oriented nor represents a government. NGOs are often single-issue pressure groups working for issues such as human rights or the environment, but an NGO can also represent mainstream activities such as business.
<b>Operations</b>	The most important of the three major components of Siemens, comprising all activities of the Siemens organization worldwide with the exception of Financing and Real Estate and the Domestic Pension Fund.
<b>Public private partnership</b>	An instance of project-specific collaboration between a private-sector business and public institutions – for example, in the area of development aid or education.
<b>Rating</b>	Standardized evaluation of issuer's credit standing and debt instruments, carried out by specialized agencies.
<b>Renewable energy</b>	Strictly, energy extracted from biomass, biogas, or vegetable oil obtained from sources that can re-grow. Other sources like solar, wind, hydro and geothermal energy, although technically not renewable, are frequently also classed in the same category.
<b>Shareholder value</b>	Concept that focuses strategic and operational decision-making on steadily increasing corporate value, ensuring that investors receive a reasonable return on their investment.
<b>Stakeholder</b>	An individual or organization directly or indirectly affected by the activities of a company – for example, a customer, employee, shareholder, supplier, or community.
<b>Sustainability / sustainable development</b>	Sustainable development is based on the idea of striking a balance between economic, ecological and social factors. Some U.S. companies also refer to this as the → triple bottom line. The concept is frequently associated with Agenda 21, passed at the UN's 1992 Earth Summit in Rio de Janeiro.
<b>Triple bottom line</b>	A term referring to the three pillars of sustainability: social, environmental and financial accountability. According to the concept of TBL, a balance must be maintained between all three pillars for a company to remain successful and profitable in the long term.
<b>Validation</b>	The environmental statement of a production plant is declared valid only after an accredited environmental verifier has checked and validated compliance with all the EMAS requirements, the functioning of the environmental management system and the reliability of the data and information in the environmental statement.

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# Information resources



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In a world in which resources are limited yet the opportunities are boundless, we believe that responsible leadership calls for sound environmental stewardship and good corporate citizenship.

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