

**Corporate Social Responsibility** Report 2007/2008



# Timeline

With the acquisition of Florida Heat Pump Company (FHP), a leading U.S. manufacturer of electric heat pumps, Bosch strengthens its **renewable energies** business, an area with a promising future. As a founding member of a technology initiative launched by the German Federal Ministry of Education and Research (BMBF), Bosch enters the highly promising area of **organic photovoltaics**.

At the "**High-Tech Meeting**" in Schwieberdingen, Germany, 500 budding engineers are given an insight into research and development at Bosch.

			and development at bosch.		11.	
IV/ <b>2006</b>	1/2	2007		11/2007		111/2007
	Bosch is awarded first <b>prize</b> <b>for equal opportunities</b> (Baden-Württemberg state competition).	fu si	he <b>start-stop system</b> for redu uel consumption and cutting ions from vehicles goes into s roduction.	emis-		s an <b>endowed</b> e University of lifornia, U.S.).
	Franz Fehrenbach, chair- man of the Bosch board of management, is named <b>Eco- manager of the year</b> by the business magazine Capital and the environment founda- tion WWF Deutschland.	"\ D – ti	Inder the auspices of the Wissensfabrik – Unternehme Deutschland" (Knowledge Fac Companies for Germany) ini ive, the Bosch Group enters i hree <b>educational partnership</b>	n für tory tia- nto <b>95</b> .	Bosch researchers Andrea Urban and Dr. Franz Lärmer are named " <b>European Inven-</b> tors of the Year" by the EU Commission and the European Patent Office.	

Bosch joins the **Alliance for Synthetic Fuels** in Europe (ASFE).

# **About this report**

In this, our second, corporate social responsibility report, we identify the challenges to which our corporate strategy responds. These include global megatrends, such as climate change and the scarcity of resources, as well as the demands placed on our actions by politics and society. The expectations of our customers and associates are extremely important criteria for our actions, which is why we ask for their views in regular surveys. The focal points of this report have been set with the aforementioned challenges and expectations in mind. Apart from political representatives, local authorities, and the public at large, this report is addressed above all to our present and prospective associates, to our customers, and to our other business partners. The data section, which is aimed in particular at professional users, is included as a supplement.

The report and its separate data section are based on information from over 300 companies in the Bosch Group, spanning more than 60 countries around the world. A user-friendly and interactive graphic tool allows the key ecological and social data to be accessed on the internet.

In drawing up this report, we have oriented to the third and latest version of the guidelines of the Global Reporting Initiative (GRI). All content was reviewed by our specialist departments and approved by the Board of Management of Robert Bosch GmbH. The report covers fiscal 2007 and current developments until May Over 185,000 associates take part in the second global **associate survey**.

Bosch-Zünder is voted the **best in-house newspaper** in Germany for the third time. The Bosch "Corporate Social Responsibility" report 2005/2006 wins 15th place in the **sustainability report ranking**, which includes the 150 biggest German companies.

> A new management system for occupational safety is introduced, based on the internationally recognized standard OHSAS 18001.

With its acquisition of Holger Christiansen A/S, Bosch continues to expand its **remanufacturing activities** for used car parts.

11/2008

For the 23rd time in succession, Bosch supports the Baden-Württemberg heat of the German competition for **young researchers**.

#### IV/**2007**

Bosch is awarded the **Education and Training** initiative prize by the Otto Wolff Foundation and the German Chamber of Commerce and Industry (DIHK) for the project "Early childhood education and care - new departures in education", which is part of the "Wissensfabrik – Unternehmen für Deutschland" (Knowledge Factory -Companies for Germany) initiative.

The German automobile association ADAC presents Bosch with the 2008 "Gelber Engel" (yellow angel – named after the ADAC road patrol cars) award for its **CO<sub>2</sub> sensor** in the "Innovation and Environment" category.

At the senior executives' meeting, Bosch awards three developer teams with the **Robert Bosch Innovation Award** for the first time.

Bosch joins the "**Charter of Diversity**", which was set up by a number of German companies.

Bosch launches its international **Junior Managers Program** for trainees in 13 countries.

Bosch introduces its **"Code of Business Conduct"** to inform its associates and business partners of the companies guidelines and practices for legal compliance.

The U.S. Environmental Protection Agency EPA presents Bosch with the **"ENERGY STAR" award** for its household appliances for the second time.

2008, and includes our progress report on the Global Compact. The closing date for contributions was June 15, 2008. The figures will be updated annually and published on the internet.

Wherever we speak solely of associates, whether in this report or on the internet, we do so for the sake of simplicity. It goes without saying that we mean both the female and male members of our workforce. Our new "Responsibility" portal also provides supplementary and up-to-date information on all areas of our corporate and social responsibility. We use numbered links to refer to sections of this information in the report.

#### csr.bosch.com





# **The Bosch Vision** Creating value – sharing values

As a leading technology and services company, we take advantage of our global opportunities for a strong and meaningful development. Our ambition is to enhance the quality of life with solutions that are both innovative and beneficial. We focus on our core competencies in automotive and industrial technologies as well as in products and services for professional and private use.

We strive for sustained economic success and a leading market position in all that we do. Entrepreneurial freedom and financial independence allow our actions to be guided by a long-term perspective. In the spirit of our founder, we particularly demonstrate social and environmental responsibility – wherever we do business.

Our customers choose us for our innovative strength and efficiency, for our reliability and quality of work. Our organizational structures, processes, and leadership tools are clear and effective, and support the requirements of our various businesses. We act according to common principles. We are strongly determined to jointly achieve the goals we have agreed upon.

As associates worldwide, we feel a special bond in our values that we live by day by day. The diversity of our cultures is a source of additional strength. We experience our task as challenging, we are dedicated to our work, and we are proud to be part of Bosch.



If we want to work successfully as a team in a global and complex world, then we need a common image of the future for our company. This image – this vision – will help us bring our strategic thinking into clear alignment.

# **Responsibility** engenders trust

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#### Data and targets

Our performance figures, targets, and our communication on progress to the Global Compact office are published in a separate brochure, which is inserted in the back jacket cover. An updated version will be published as an interim report in the summer of 2009.

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# Megatrends

The term "megatrends" refers to global developments that we analyze on a regular basis. They reveal those areas in which we can use our expertise to help create technical solutions and promote sustainable development. Bosch thinks and plans for the long term. Our researchers and developers are working today on solutions for the future.

# Highlights from the Bosch world

At all its locations, Bosch has a long history of responsibility for the environment, associates, and society. Outstanding examples can be found on all continents across the globe. The projects selected in this report stand for the many initiatives of our plants and for the commitment of our associates. They are intended to give an insight into the range of Bosch activities and provide food for thought both inside and outside the company.







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# Energy of the future

Tackling climate change is not simply a question of a little energy efficiency here and some wind power there. It calls for extreme efficiency gains, new sources of energy, and pioneering innovations. We traditionally invest over seven percent of our sales in research and development. Today, finding new and efficient ways of generating and converting energy has become the dominant focus of this work. In this way, we are taking on two challenges at once: the urgent task of reducing carbon dioxide emissions and the need to meet the rising demand for energy around the world. For Bosch, the sun, the wind, and the sea are the energy sources of the future. We plan to redouble our efforts – in many cases in research networks – to unlock the potential of these resources, and to make this potential available on a sustainable basis. **Read more on page 30** 

### Foreword

Wolfgang Malchow Member of the Board of Management, with responsibility for Human Resources and Social Services; Legal Services; Taxes; Internal Auditing



#### Ladies and Gentlemen,

Responsibility is normally said to be accepted. At Bosch, we take it on. This is more than just a nuance of formulation. For us, responsibility is not some ethical demand that conflicts with the interests of our company, or indeed somehow supersedes them. Instead, taking on responsibility for social and ecological concerns is something that also makes sense for us economically. If society does not give us well-trained junior executives, or if the environment and climate are not protected, then the Bosch Group will not be able to achieve a strong and meaningful development over the long term. In taking on social responsibility, we safeguard our long-term future. So it is essential that we undertake to act beyond the bounds of our company. This is how we understand corporate social responsibility, and this is how we portray it in this, our second, Corporate Social Responsibility Report.

But regardless of whether responsibility is merely accepted or taken on, it means nothing without having the power to shape events and the ability to take a long-term perspective. And Bosch is more than equipped to offer both these qualities.

First, we are an international company and a major employer, even beyond the borders of Europe. We are also active in a wide range of areas, including consumer goods, industrial technology, building technology, and, of course, in our signature field of automotive technology. So we are in a position to shape events in a number of countries and across a number of industries.

And second, we are a company with a longterm mindset. This is not just something we derive from our special corporate constitution. Instead, it is evident in everything we do. One striking example of this mindset is the 3S program. This program, which helps to make driving safer, cleaner, and more economical, has guided our research and development work ever since the first oil crisis in 1973. Today, we say that Bosch technology is "Invented for life," a slogan that goes far beyond driving to include, for example, systems designed to unlock the potential of wind and solar power. Our innovations, including such beneficial solutions as the electronic stability program or high-pressure diesel injection technology, have often demanded of us patience in the face of setbacks and obstacles. We have seen these innovations through to success. We have staying power.

So the ability to shape events and the ability to take a long-term perspective are good things to have when taking on responsibility, also when

Franz Fehrenbach Chairman of the Board of Management



Peter Marks Member of the Board of Management, with responsibility for Manufacturing Coordination and Investment Planning; Environmental Protection



taking it on beyond the confines of our company. It all started with our company founder Robert Bosch, who never viewed entrepreneurial endeavor as an end in itself. Instead, he wanted to help shape a "meaningful social reality," and so do we. The many examples in this report will provide adequate evidence of this. The data section, which is included as a separate supplement for the first time, shows that entrepreneurial responsibility can also be quantified and expressed in defined targets and objectives. It will be updated each year. It also includes our communication on progress to the Global Compact Office. The UN Global Compact initiative helps us establish ecological and social standards across the globe. We have been able to achieve most of the targets that we

had set ourselves in the 2005-2006 sustainability program. In the future, we especially want to further improve collaboration within the Bosch Group with respect to our sustainability program, as well as to intensify exchange with our stakeholders.

Surveys conducted among our customers and associates provide us with a great deal of positive feedback, as well as valuable suggestions. Accordingly, we also look forward to hearing what you think about this report. To express your views, please log on to the new "Responsibility" page on our website. This page also provides additional information.

We hope you enjoy reading this report.

Reant Kebenbach Willy-

Franz Fehrenbach

Wolfgang Malchow

Maller Marks

# The Bosch Group at a Glance

The Bosch Haus Heidehof, the new management and conference center, and the former home of Robert Bosch, now the headquarters of the Robert Bosch Stiftung.



The Bosch Group is a leading global supplier of technology and services. In the areas of automotive and industrial technology, consumer goods, and building technology, some 271,000 associates generated sales of 46.3 billion euros in fiscal 2007. The Bosch Group comprises Robert Bosch GmbH and its more than 300 subsidiaries and regional companies in over 60 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. Each year, Bosch spends more than three billion euros for research and development, and applies for over 3,000 patents worldwide. The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as "Workshop for Precision Mechanics and Electrical Engineering."

The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. Ninetytwo percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

 Additional information can be accessed at www.bosch.com and www.bosch-stiftung.de

## The Bosch Group – Facts, Objectives, Values

Robert Bosch GmbH was founded in Stuttgart, the city that remains home to the company headquarters to this day. However, Bosch has now been present on every continent for many years, and manufactures its products at 292 locations, of which over 200 are outside Germany.

The Group's international presence reaches back to the 19th century, with Bosch establishing its first sales office outside Germany in the U.K. in 1898, and a first sales office in the U.S. in 1906. Just a few years later, branch offices were set up in China and Japan. In 1913, shortly before the first world war, Bosch was generating almost 90 percent of its sales outside Germany.

At the start of 2008, Bosch employed a workforce of around 271,000, roughly 10,000 more than a year previously. 159,000 associates work outside Germany. The Bosch Group's sales in 2007 amounted to 46.3 billion euros. Of this figure, around 75 percent was generated outside Germany. The biggest share of sales derives from Europe, accounting for 65 percent, followed by North and South America with 18 percent, and Asia Pacific with 17 percent.

Today, Bosch is not only the biggest automotive supplier in the world, but also the market leader in areas such as heat pumps. In the past few years, Bosch has stepped up its activities in industrial technology, consumer goods, and building technology in order to diversify its operations and to take advantage of business opportunities in the markets of the future. In summer 2008, Bosch reaffirmed this strategy through the acquisition of ersol Solar Energy AG, one of the leading solar-cell manufacturers in Germany. Besides opening up new areas of business in the alternative energy markets, Bosch is also looking to tap into new opportunities for growth in its established automotive business. This strategy is signaled by its cooperation with the Indian carmaker Tata, which was set up to develop a lowprice vehicle for emerging markets (see page 39), and the formation of a joint venture with Samsung to develop, manufacture, and market lithium-ion battery systems.



► 01 Acquisitions 2007





**Vision:** Our vision is our shared image of the future. It states where we want to go, and what drives our actions. It points the way forward for a strong and meaningful development of the Bosch Group.

**Mission:** BeQIK stands for greater speed in everything that we do, and it stands for quality, innovation, and customer orientation. Our objective is to continuously improve our internal processes.

Values: The Bosch values are the foundation upon which the successes of the past were built, and upon which we will build our future. They guide our actions and tell us what is important to us and what we are committed to. **Core competencies:** For well over a century our company has built upon a unique mix of interrelated core competencies – a mix from which we derive our competitive advantage, and which also forms the basis for the future development of our company.

#### **Bosch Business System (BBS):**

To be able to implement our Bosch Vision, we need to continuously develop and to manage change. This requires a systematic methodology that shows us in concrete terms where we need to reinvent ourselves, and how well we are mastering these shifts and structural changes in practice. With our BBS management system, symbolized by the multi-colored triangle, we have created just such a methodology.

#### Values and responsibility

It was a matter of crucial importance to Robert Bosch that his company be safeguarded in its substance by long-term investments, in both the company itself and the society in which it did business. This gave rise to a set of shared convictions to which the Bosch Group companies around the world still feel deeply committed. To make the cornerstones of these convictions crystal clear and enable associates to apply them in their everyday work, the board of management approved a code of values in 2002, listing these values as follows: future and result focus, responsibility, initiative and determination, openness and trust, fairness, reliability, credibility and legality, and cultural diversity. Both in this value code and in the Bosch vision, approved at the beginning of 2005 (see front flap), our corporate culture becomes apparent - a culture that has evolved organically over the years and serves as the basis for our

global and lasting success. Our values and our vision are also central elements of the "House of Orientation," which provides a frame of reference for our long-term road map and for the way we work together.

The Robert Bosch Stiftung GmbH carries on the social commitment of the company founder. It promotes forward-looking work in the areas of science, healthcare, international relations, education, society, and culture (see page 63). Since it was established in 1964, the Robert Bosch Stiftung has invested around 840 million euros in charitable and social causes through its programs and institutions.

#### ▶ 02

- The Bosch Values - Future and result
- focus - Responsibility
- Initiative and determination
- Openness and trust
- Fairness
- Reliability, credibility, and legality
- Cultural diversity

# Robert Bosch: an entrepreneur with a sense of responsibility

Entrepreneurial responsibility and charitable involvement were cornerstones in the life of Robert Bosch. He was convinced of their importance and their necessity, and passed this conviction on to his successors who today honor his legacy by continuing and building on this work.

His sense of responsibility led him to provide benefits for his associates. Bosch improved working conditions by providing modern workplaces, with good ventilation and lighting. He created an apprentice training scheme that offered a solid professional education. He also provided company pensions to care for retirees and their survivors.

Independence, family values, and early preoccupation with the pressing social issues of his time formed the roots of the charitable activities of Robert Bosch – from continuing education to international understanding. These activities culminated in the opening of the Robert Bosch Hospital in Stuttgart in 1940, two years before his death. He also made sure that these activities continued. In accordance with his will, Robert Bosch Stiftung GmbH, founded in 1964, is actively involved in the sciences, health, international understanding, society, and culture.

But Robert Bosch knew that only a profitable company would be able to realize his vision of corporate responsibility and charitable activity. For that reason, he and his – to date – five successors have invested all their experience and knowledge in helping the company to grow robustly – through innovative products, new business areas, modern manufacturing technologies, and an international focus.

The personality of the company founder, with his principles and guidelines, continues to be a defining influence for corporate culture. His legacy forms the basis for the special bond associates feel worldwide: they are proud to be part of Bosch.



"I would rather lose money than trust." Company founder Robert Bosch held true to this principle throughout his life. The southwest German entrepreneur not only shaped Germany's economic development, but also what we now regard as "responsible business practice."

#### Our business sectors

In 2007, Bosch Group sales were six percent up on the previous year. All three business sectors made a positive contribution to this development. With a sales increase of nine percent, the growth driver was the Industrial Technology business sector - above all due to positive developments at Bosch Rexroth. The Consumer Goods and Building Technology business sector also performed very well, improving its result by just under seven percent. The Automotive Technology business sector performed much better than expected, increasing its sales by 4.5 percent.

#### **Automotive Technology**

Automotive Technology is Bosch's largest business sector, making up 61 percent of total sales. With more than 165,000 associates, the four biggest business areas are injection technology for internal-combustion engines (gasoline and diesel), systems for active and passive vehicle safety (brakes, ABS, ESP®, airbag control units), electrical machines (starters, alternators, small-power motors), and products for mobile communication (car radios, navigation systems).

In 2007, Bosch generated sales of 28.4 billion euros in the automotive technology sector and strengthened its position as the world's leading automotive supplier. It owed its good performance above all to the demand for advanced diesel and gasoline injection systems, to the increasing number of vehicles equipped with an electronic stability program, and to innovative products such as the start-stop system and electric power steering.



<sup>3</sup>Bosch Rexroth AG (100% Bosch-owned) <sup>4</sup>Bosch Thermotechnik GmbH (100% Bosch-owned; until December 31, 2007, BBT Thermotechnik GmbH) <sup>6</sup>Bosch Sicherheitssysteme GmbH (100% Bosch-owned)

#### Industrial Technology

With over 38,000 associates, Bosch's activities in Industrial Technology include automation technology and packaging technology. The subsidiary Bosch Rexroth offers all major technologies for machine drive, control, and motion applications – hydraulics, electrics, mechanics, and pneumatics – often as integrated system solutions. In an extremely fragmented market, Bosch is the world's leading supplier of packaging technology, and specializes in producing packaging machinery and lines for the confectionery, foodstuff, and pharmaceuticals industries.

In Industrial Technology, sales rose to six billion euros in 2007. Once more, the growth driver in automation technology in 2007 was hydraulic technology for mobile applications, which includes components for off-road vehicles such as agricultural and construction machinery. Above all, Bosch Rexroth was able to benefit from the very high demand in Asia and Europe. Components for harnessing wind power are another fast-growing market, and one in which Bosch is expanding its business significantly.

#### **Consumer Goods and Building Technology**

With almost 59,000 associates, the Consumer Goods and Building Technology business sector performed well again in 2007, increasing its sales to 11.7 billion euros. All divisions – from Power Tools, Thermotechnology, and Security Systems to household appliances from BSH Bosch und Siemens Hausgeräte GmbH – were able to defend, or even extend, their leading market position. With its brands Bosch, Skil, and Dremel, Bosch is, for example, one of the world's largest manufacturers of power tools for the building trade, industry, and DIY enthusiasts. At the end of 2007, the company acquired RoboToolz Ltd (Hong Kong, China), a competitive manufacturer of laser measuring tools, and in 2008, the U.S. measuring technology manufacturer CST/Berger.

As demand for energy-efficient heating systems and eco-friendly technologies is growing worldwide, Bosch was able to maintain its leading position in Europe in the field of thermotechnology. We were especially successful with fuel-saving condensing appliances and heat pumps. Bosch is one of the world's leading suppliers of electronic security and communications technology, a position that was strengthened in 2007 with the acquisition of Extreme CCTV Inc., a Canadian company that specializes in video surveillance. BSH Bosch und Siemens Hausgeräte GmbH, in which Bosch and Siemens each hold a 50 percent share, is not just one of the world's leading suppliers of white goods. For many years now, the company has also led the way in especially environmentally friendly and energy-efficient products.



# Responsibility in **corporate leadership** means

- ▶ investing **3.6 billion euros** in R&D each year,
- implementing the same HR quality standards in
  330 HR departments around the world,
- committing all 200 preferred suppliers to implement a certified environmental management system from 2008 onwards,
- Introducing a mandatory information and training program on compliance for all 271,000 associates worldwide,
- remaining true to the principle of our company founder from 1919: "I would rather lose money than trust."

Some 29,000 Bosch associates work in research and development around the world. We maintain close links with research facilities, scientific institutes, and universities in order to recruit young talent to help drive forward technological progress in the field of energy conversion.



# Aligning strategy and principles

How will cars be powered in 20 to 30 years? Which raw materials will still be available? What sort of demands will people place on mobility and energy supply in the future?

Anyone who asks questions like these will find themselves confronted head-on with the change processes that are affecting us all, such as globalization, demographic developments, climate change, and the conservation of resources. That's why Bosch regularly analyzes the predicted development of underlying conditions known collectively as "megatrends."

#### **Analyzing megatrends**

Megatrends reflect long-term processes, ones that span decades. That's why the shortage of resources and continuing globalization have been on our agenda for a long time now. Individual trends can be pinpointed more precisely now than 15 years ago. And there has also been a shift in their relevance. Three megatrends are currently shaping society - the proper stewardship

Ranking of global megatrends					
Megatrends	15 years ago	Today			
Environmental and climate protection	5	1			
Accelerated globalization	2	2			
Scarcity of natural resources	3	3			
Lack of qualified staff	7	4			
Demographic change	1	5			
Technological progress	6	6			
Growing influence of capital markets	8	7			
Shift in political power blocks	9	8			
Increasing urbanization	11	9			
Migration and ethnic conflicts	4	10			
Polarization of societies	11	11			
Constant structural change	12	12			

of the environment, particularly climate protection, the accelerated globalization brought about by the development of emerging markets, and the scarcity of natural resources. Other key trends include the increasing lack of qualified specialists and the consequences of demographic change.

#### Shaping the future

We can't predict the future, but we can play a part in shaping it. This conviction characterizes our long and successful company history and is also reflected in our investment figures: for years now, we have spent over seven percent of our sales for research and development. The figure in 2007 was around 3.6 billion euros. But we can only develop new and future-safe solutions if we are prepared to make changes ourselves and do not simply rely on the further development of the status quo. It is for this reason that we have intensified exchange with our executives and associates. We will enhance the process of dialogue across all levels of the company, with all stakeholders. This will help us pick up new ideas and bring them into the company.

Source: Bosch

#### From vision to strategy

Three years ago, we formulated our vision (see front flap). We want to take advantage of our global opportunities and drive forward our company's development. We have thus formulated our three main strategic objectives accordingly:

- Internationalization we shall continue to press ahead with expanding our business worldwide, thereby further strengthening our international presence.
- Diversification we shall continue to balance out our sectoral sales structure. This means taking full advantage of our opportunities for growth in automotive technology, but at the same time growing by above-average rates in consumer goods, building technology, and industrial technology. In doing so, we shall concentrate on areas of business that fit our technological competence - this is what we call focused diversification.
- Innovation We shall focus our innovative strength on technology that is "Invented for life." We see significant economic opportunities arising with the attention given to ecological needs, since these needs require more, not less, technology.

#### **Recognizing opportunities and risks**

Megatrends present a challenge for our innovative strength, while at the same time offering a wealth of opportunities. Environmental protection, globalization, and dwindling resources all open up opportunities for profitable growth worldwide. When it comes to climate protection, we can score points with our technical expertise and generate real added value for customers through our products. Having said that, the emerging markets – particularly in Asia – are a source of increasing competitive pressure, and we are not alone in feeling the crunch in established markets. Demographic changes confront our HR management with new challenges. They are faced with the task of encouraging a sufficient number of young people to take an interest in technical or scientific jobs, of attracting this upcoming talent to the company, and of ensuring that associates of all ages have access to ongoing training programs.

#### International expansion

We already benefit from a broad-based international presence. Asia Pacific was once again the growth driver in 2007, with sales there up 17 percent in local currency. Since 1995, our sales in this region have increased fivefold, and in the Americas more than threefold. By 2015, we want these two regions together to account for half of our global business volume and will, therefore, push ahead with the expansion of manufacturing locations in these regions. At the same time, we also want to secure our existing locations, since the strategy of an international development and production network like the one at Bosch cannot be based solely on locations that offer special cost advantages. So it will be important to remain in close physical proximity to the engineering centers of our major customers, as well as to scientific research institutes in Europe.

Sales of the Bosch Group by region					
	2007	Target 2015			
Asia Pacific	17%	25%			
Americas	18%	25%			
Europe	65%	50%			

#### ▶ 03

- Affiliation
- Global Compact
- Global Reporting Initiative
- Transparency
  International –
  German chapter
- World Business Council for Sustainable Development

#### Expanding "green" fields of business

Bosch offers eco-friendly products in all its business sectors. In the area of sustainable mobility, these include technologies that help further reduce the fuel consumption and CO<sub>2</sub> emissions of vehicles. Energy efficiency and climate protection are also shaping the Industrial Technology and the Consumer Goods and Building Technology business sectors.

Green technologies, such as photovoltaics, wind power, or alternative heating systems, all promise to be in even greater demand in the future, thereby becoming a key growth driver for the Bosch Group. In 2008, Bosch acquired a majority stake in ersol Solar Energy AG, one of the leading German solar-cell manufacturers. The Group aims to use this acquisition to get a stronger foothold in the market for renewable energies. To find our way into these new markets and expand our expertise accordingly, we founded a venture capital company in 2007 with a starting capital of 200 million euros. It will invest two-thirds of its capital in start-ups and one-third in sector funds. We are thus already active in areas of technology that will be relevant for Bosch in ten to twenty years' time.

#### **Communicating with stakeholders**

We regularly check our strategic alignment in constructive dialogue with our executives – an approach that also serves to bolster our corporate culture. One stakeholder to whom we are particularly committed is the Bosch family. Our close relationship with the family keeps the legacy of our company founder alive and is part of our corporate culture. We attach equal importance to discussion with other groups inside and outside the company. In addition to our owners, these groups include our customers, our associates, employee representatives and unions, our suppliers, municipal authorities at our roughly 292 locations around the world, research institutes, NGO's, and initiatives of which we are a member.

As the world's leading automotive supplier, we cultivate close relationships with our customers. Car makers are informed early on of our development projects and are integrated as fully as possible into our development processes. We aim to establish long-term, fair partnerships. Therefore, our regular customer surveys are an important yardstick for determining our competitiveness (see page 36).

In addition to our role as an employer and contractor, we are also committed to being a "responsible neighbor." After all, the name "Bosch" stands for responsibility and environmental awareness worldwide, and thus for a commitment that applies to every one of our locations, regardless of whether they have a workforce of 50 or 5,000. As a technology company, intensive knowledge-sharing with science and research communities is crucial to our development. In 2007, we registered more patents - 14 per working day - than any other company in Germany. In Europe, we are ranked seventh overall, and take fifth place in terms of published patent applications at the World Intellectual Property Organization.

## Tapping into a growth market for heat pumps

Today, Sweden leads the way when it comes to using heat pumps – they are even used to heat Drottningholm Palace, the residence of the Swedish Royal Family.

After a pioneering phase at the end of the 1970's, the fortunes of the heat pump experienced a series of highs and lows. However, a sustained boom set in at the turn of the century, and Sweden has not looked back since. Now, some 90 percent of newly-built detached homes there are fitted with heat pumps. With 59,000 units sold in 2007, the country is one of the largest single markets for electric heat pumps in the world.

Bosch Thermotechnology has been active in this key growth market for renewable energy since the start of 2005, when it acquired the largest manufacturer of electric heat pumps in Sweden – IVT Industrier AB. In 2007, the market for electric heat pumps grew by 17 percent worldwide. With a sales share of 47 percent, Europe is the largest sales market for electric heat pumps.

Bosch Thermotechnology announced its intention of expanding the heat pump business on a global scale when it took over IVT back in 2005. The takeover of FHP Manufacturing Company – a leading U.S. manufacturer of electric water and heat pumps for heating and cooling – at the start of 2007 was the next step. This move opened up another key growth market for Bosch Thermotechnology. After all, nearly twenty percent of all heat pumps manufactured worldwide are sold in North America. Sales in Europe are expected to double by 2015 to more than 600,000 units a year.

In principle, heat pumps work in the same way as refrigerators, only in reverse. They draw in heat from the environment and "pump" it to a higher energy level to make it available for use in heating and hot-water systems. Heat pumps are heating systems that generate far more heat than they use as final energy, thus helping to save money and cut  $CO_2$  emissions.



#### Global management systems

To control change processes centrally and strengthen core processes worldwide, Bosch aligns its various management systems under the Group-wide umbrella of the Bosch Business System (BBS).

This includes, for example, the Bosch Human Resources System (BHS), which supports the change processes in human resources around the world, and our integrated management system for quality, environment, and safety. This system is based on Group-wide principles for occupational safety and environmental protection and ensures that we comply with high standards in these areas at all our locations worldwide.

#### **Strategic HR management**

The HR organization uses its human resources strategy to support the divisions in the pursuit of their objectives. This involves the consistent application of the balanced scorecard. This method is used by executives and associates alike to define strategic objectives - and to evaluate their achievement - with regard to processes, finance, and clients (both internal and external). The HR organization's mission contains globally applicable guidelines for its work. These are based on the House of Orientation (see page 8) and contribute to closer alignment with the strategic objectives of the company. It has thus become one of the core tasks of the HR organization to provide support for the organizational development of divisions and regional companies and to make them aware of necessary changes.

#### Support for regional HR departments

We use the Bosch Human Resources System to develop and disseminate worldwide standards for effective HR management. Bosch has some 330 HR departments around the world, and wherever they are located, they must apply the same quality standards. We structure processes in all the central HR areas - planning, resourcing, leadership, rewarding, development, and reorganization - according to the same rules and standards. In this way, associates across the globe - particularly those on international assignments - can be sure that they are treated and, above all, supported in their development and career advancement on the basis of established and standardized principles. To this end, we have initiated and systematically prepared 15 sub-projects. Sub-projects on executive planning, personnel marketing (see page 47), and associate development (see page 48), for example, have already been concluded and implemented successfully.

Several HR projects are also up and running in Asia Pacific. Up to ten associates from different countries in Asia participate in the project groups. In 2007, this region contributed 17 percent to the global sales of the Bosch Group. This figure is slated to rise to 25 percent by 2015. By the beginning of 2009, we shall have more associates in two Asian countries - some 23,000 in China and nearly 20,000 in India - than in any other country apart from Germany.

The HR departments support this growth through the worldwide use of tried and tested tools, such as the annual performance review discussion. Further projects are designed to promote global associate transfers within the Bosch Group, particularly in Asia Pacific. We are also planning to set up a Bosch Training Center in China. This internationalization will also be reflected

► 04 Mission of Bosch Human Resources in the development of new HR concepts. In the future, these concepts will no longer be developed solely by the corporate HR department in Germany, but will increasingly draw upon experience from the individual regions.

# Systematic approach to occupational safety and environmental management

Step by step, we have been expanding the environmental management systems at our sites since 1996. Now, 213 of our 292 sites have been certified to ISO 14001. This year, we are implementing a maturity model for all manufacturing and development sites, which will serve as the basis for further improvements in environmental protection, occupational safety, and fire safety. We also share best practice solutions that promote international cooperation.

Our worldwide network of DfE (Design for Environment) coordinators is continuously integrated into the environmental management system at Bosch. The Design for Environment team ensures that energy efficiency, recycling objectives, and material restrictions are factored into the product development processes and that Bosch products help protect the environment and conserve resources. As part of Bosch competence management (see page 52), a global training concept for Design for Environment is currently being put together. In terms of product-oriented environmental protection, a database helps determine and document relevant data on products and materials for old vehicles. This internal Bosch system is interfaced to the International Material Data System (IMDS). This system makes it easier for developers to enter data and improves data quality by means of integrated test processes.

Since 2007, we have been implementing a new occupational safety management system based on the globally recognized OHSAS 18001 standard. This new system is intended to simplify occupational safety and reduce ► 05 Organization of health, safety, and environmental protection

#### International expert meeting

Our international "HSE Steering Committee" (Health, Safety, Environmental and Fire Protection and Emergency Control) comprises twelve regional HSE coordinators and manages the worldwide implementation of our strategic goals and standards. These include optimized production processes. Binding worldwide Bosch standards and guidelines relating to occupational safety, fire safety, environmental protection, and emergency control supplement and define external standards such as the international management standards ISO 9001 (quality), ISO 14001 (environmental protection), OHSAS 18001 (occupational safety), and ISO/ TS 16949 (quality in the automotive industry). These Bosch standards, a new internal audit system, and Design for Environment were also the focus of an international meeting of regional HSE coordinators with the board of management in Blaichach (Germany) in June 2008.



► 06 Guidelines for purchasing and logistics the number of accidents at all our manufacturing and development sites around the world. One of the system's main functions is to detect potential accident and health risks for associates in order to take appropriate preventive measures in good time. The new system is to be implemented at all manufacturing sites in no more than four years. This makes Bosch one of the forerunners in the global implementation of the OHSAS 18001 standard.

#### Worldwide purchasing activities

As globalization gathers pace, our suppliers are also faced with new challenges. In 2007, our purchasing volume amounted to 24 billion euros, with Europe accounting for 69 percent of this sum. In 2015, we expect this proportion to be only around 55 percent. By this time, we are looking to make 25 percent of our purchases in Asia Pacific and 20 percent in America. The presentation of the Bosch Supplier Award, which recognizes our top suppliers, confirms this increasing internationalization. In 2007, 19 of the 47 award winners were located outside Germany.

# Agreeing environmental and social standards

We are aware that our responsibility for the environment and society stretches beyond our company boundaries and into the supply chain. That is why our purchasing guidelines are based on the ten basic principles of the United Nations' Global Compact. We draw up contracts with all our suppliers stipulating that they must comply with the basic labor standards of the International Labor Organization (ILO) and general environmental standards. These include, for example, declaration obligations and the prohibition of materials that are particularly harmful to the environment. Supplier audits are used to check that our suppliers are familiar with these requirements and comply with them. We refuse to work with suppliers who violate these regulations. As from 2008, we expect our 200 or so preferred suppliers to have a certified environmental management system in place.



#### **Building standards in China**

For Bosch, too, China is a rapidly growing market. This is also reflected in ten major building projects initiated by Bosch. These projects include completely new buildings or extensions, for example at the Group's sites in Changsha, Hangzhou, and Suzhou. We carried out the first building projects with local general contractors, as is customary in China, but we found that the project standards did not always fully comply with the globally applicable Bosch values. This was particularly the case with regards to the occupational safety and health protection of construction workers. Consequently, we changed our award procedure and reduced the scope of services of general contractors, so that we are now able to exert direct influence on suppliers when work packages are awarded. Improvements were quick to come about - not only as regards occupational safety and health protection, but also in terms of quality. Now, scaffolding is put up on time, construction workers live in appropriate accommodation with clean and fully-functioning sanitary facilities, and all workers have access to a canteen. Last but not least, suppliers can be sure that their invoices are paid as agreed, as their orders are processed directly by Bosch.

Junior executive **Marielle Cuevas Odiardi** (29) from Mexico works as a trainee in the Bosch purchasing department in Shanghai. Here, she learns to put the Bosch values into practice in an intercultural context.

Your stay in China is part of the Bosch trainee program, which also fosters the intercultural skills of junior executives. What have you learned in China? I've learned how Chinese culture places great value on personal relationships in business. Building trust is the basis of any successful partnership. I have also learnt about the importance of body language here. For example, handing over business cards with both hands is a sign of respect.

You are working for the Bosch purchasing department in Shanghai. What challenges are you facing at the moment?

The steep rise in the price of raw materials, for example copper and steel, is a huge challenge for buyers in China. Wage costs are also increasing faster in China than in other growth markets. Bosch is committed to meeting minimum social and ecological standards in the supply chain. How does that work in practice? Bosch takes its lead from international standards for occupational safety and environmental protection. If suppliers are not certified to standards such as ISO 14001 or OHSAS 18001, we carry out our own audits to check and assess their environmental and occupational safety guidelines.

The Bosch corporate culture is based on a clear system of values. Did this influence your decision to apply for a job with Bosch? Yes. It is important for me to be able to identify with the values of a company. Cultural diver-

sity and initiative in particular are values that I experience in my daily work. Here, I work with colleagues from China, Korea, Taiwan, and Germany, and learn from the cultural differences.



#### **Observing legal requirements**

As part of our Bosch value "Reliability, credibility, and legality," we are committed to unconditional compliance with the rule of law. To underline the significance of this principle, we have summarized the fundamental points of all key legal and company-internal regulations in our "Code of Business Conduct." The code explains why this principle is so important to us and provides our associates with a guide for conducting their day-to-day business. We expect that they comply unconditionally with all the relevant legal and internal regulations, including the "Basic principles of social responsibility at Bosch", which were approved in 2004. We also underpin the importance of the principle of legality through our membership of Transparency International, which we joined in 1995.

#### **Closer inspection**

To complement the Code of Business Conduct, Bosch is currently expanding its global compliance organization by setting up a corporate compliance committee and appointing compliance officers in the individual regions. This move serves to strengthen our current prevention and inspection activities, including the principle of dual control, job rotation in sensitive areas, strict separation of operative and monitoring systems, and regular audits. In addition, we keep all associates worldwide informed and will introduce a mandatory information and training program. The new compliance system is complemented by telephone hotlines and e-mail addresses for reporting compliance issues, as well as by the audits that have been conducted hitherto at locations and suppliers.

► 07 Code of Business Conduct

► 08 Basic principles of social responsibility

# Responsibility for **environmental and climate protection** means

- investing 1.5 billion euros more than 40 percent of our R&D expenditure – on products that help protect the environment and conserve resources,
- that 40 percent of all our patents registered in 2007 have a direct bearing on environmental protection and resource conservation,
- generating sales of roughly one billion euros in 2008 with systems that utilize renewable energy,
- certifying 213 of 292 manufacturing sites worldwide to the ISO 14001 international environmental management standard,
- cutting CO<sub>2</sub> emissions from our manufacturing sites
  by at least 20 percent from their 2007 level by 2020.

This double Pelton turbine, which was taken into operation in 1907, has been producing energy reliably for over a century. Half of the energy consumed at the Blaichach location is produced using this environmentally-friendly technology. We are investing 7.3 million euros in order to increase its power generation capability by around 50 percent by the end of 2010.



# Megatrend: Climate change and environmental protection

For a long time, discussion about climate change, its causes, and its effects was exclusively the domain of scientists, futurologists, and environmental organizations. Today, this issue has come to dominate public debate like no other. The forecasts of the Intergovernmental Panel on Climate Change have found an audience around the world – if greenhouse gas emissions remain undiminished, the average global temperature will rise, causing floods, heat waves, and droughts. The consumption of fossil fuels – particularly oil and coal – must therefore be reduced drastically and without delay. The principle of using finite resources economically also makes sense in terms of security of supply, costs, and our responsibility to future generations.

The scientific findings and the increasing awareness of the related problems in the public at large have prompted governments around the world to respond. The 20/20/20 formula devised by the European Commission points the way forward. It encompasses the goals of the European heads of state and government for 2020 – to cut carbon dioxide emissions (CO<sub>2</sub>) by 20 percent, to increase the share of renewable energies to 20 percent, and to improve energy efficiency by 20 percent. The Climate Change Conference in Bali showed that the governments are moving closer to defining mandatory targets on an international level.

Although there is still dispute in the business world as to which limit values are justifiable or indeed feasible, our task as a technology company is to face up to the major challenges of our time and use the technological expertise we have built up over more than 120 years to help solve the world's complex and pressing problems. And we believe that highquality technical innovations are needed now more than ever. We rely on the know-how of our more than 270,000 highly trained associates, who have already made technological advances in the past.



#### Source: Potsdam Institute for Climate Impact Research (PIK), 2007

## Technological solutions for ecological problems

Ecological globalization calls for the economical use of resources and the prevention of pollution on all continents. As we see it, anyone who thinks ecologically has to act technologically.

Bosch has always been an advocate of efficient energy conversion - converting diesel or gasoline into mechanical energy in cars, or oil and gas into heat for the home. We were quick to see how our automotive technology in particular could be used to help protect the environment and conserve resources. In the wake of the first oil crisis in 1973, we developed our 3-S program to make driving safer, cleaner, and more economical. This program has culminated in our current slogan "Invented for life." But our activities to protect the environment and the climate do not stop at automobiles. Our expertise in the area of metering, governing, and control means that we can help save energy and reduce emissions not only in automotive technology, but also in industrial technology and in consumer goods and building technology.

- We have set up such a broad regional and sectoral base that we can provide technological answers to the challenge of climate change that go beyond Europe and the automobile.
- We have branched out into new fields in order to promote technologies for harnessing renewable energies.

#### Internationalizing innovations

To meet the rising worldwide demand for reduced fuel consumption and  $CO_2$  emissions from vehicles, we intend to make the pioneering innovations we have introduced in Europe available the world over. In the second half of 2008, we shall fulfill the strict U.S. pollution standard (Tier 2 Bin 5) with our Denoxtronic system for exhaust-gas treatment. We expect this will also boost the sales of our clean diesel technology in the U.S., since it emits around 25 percent less CO<sub>2</sub> than a gasoline engine thanks to its reduced fuel consumption. In North America, we estimate that the share of newly registered light vehicles powered by diesel will increase from today's six percent to 15 percent by 2015. The "clean diesel" may become established even faster in Asia. The driving force behind this development is emission standards that can only be fulfilled with high-pressure injection systems. In 2007 alone, we sold a good 100,000 common-rail systems in China, and the same number in India. By 2010, there will be 900,000 such systems in India, and roughly 1.4 million in China. Even if we expect the share of new vehicles equipped with diesel to rise in Europe as a result of tighter carbon dioxide limits, the focus of growth is shifting to the other two major economic regions of the world. While we currently sell only one-fifth of our high-pressure injection systems in Asia and America, in 2015 this figure will be nearly 50 percent.

#### Leveraging potential for energy efficiency

We are working with automakers to unlock additional potential for cutting fuel consumption and thus for reducing  $CO_2$  emissions. For example, we are pressing ahead with further developments in diesel engine management, which will result in an additional reduction in  $CO_2$  emissions of up to ten percent – and this in an engine that is already very economical. And we are combining the internal-combustion engine and electric motor to create a hybrid drive system. Compared with a classic port-injection

► 09 Climate change as an opportunity

gasoline engine, a gasoline hybrid reduces CO<sub>2</sub> emissions by 25 percent. We have developed a prototype for the diesel hybrid that is even more economical. Above and beyond improvements in powertrain technology, we also envisage a series of technological solutions that will cut consumption and emission levels still further. We use the term "eco-innovations" to describe products and systems that save fuel during actual driving but which are not defined in the New European Driving Cycle, or only partly so. These include applications in thermal and vehicle electrical system management, and navigation systems that determine the most economical route in terms of fuel consumption. Examples of series-ready products include our ultra-efficient alternators, which reduce CO<sub>2</sub> emissions by between two and four percent, and the start-stop system, which was taken into series production in 2007. This innovation cuts emissions in urban traffic by as much as eight percent.

#### More solar and geothermal energy

There is also considerable potential for maximizing climate protection in private households. Take our energy-efficient household appliances, for example. The refrigerators we produce today use up to 79 percent less energy than the ones produced in 1990. In the U.S., Bosch is the only brand to be awarded the "ENERGY STAR" by the Environmental Protection Agency EPA in all product segments (see page 41). Our condensing boilers, which use up to 30 percent less gas or oil than conventional systems, also play a part in climate protection. Furthermore, we also use solar and geothermal energy to leverage potential when modernizing heating systems. In 2007, for instance, our Thermotechology division generated 12 percent of its sales with systems that utilize renewable energy. By 2015, these types of systems will account for a quarter of the European thermotechnology market. In Germany, this figure will already have risen to 30 percent in 2009. In response to this rapid development, we are expanding our manufacturing capacities for solar collectors, taking a new production line into operation in Aveiro, Portugal, in 2007. In the field of geothermal energy, we became the world market leader for electric heat pumps as a result of our acquisitions in Sweden and the U.S. (see page 17).

#### Investment in wind power

The large gear units and systems for rotorblade adjustment manufactured by our subsidiary Bosch Rexroth are the core components of wind turbines. With sales in 2007 increasing from 120 to 160 million euros, we intend to greatly expand our production capacities for gear units, investing around 300 million euros worldwide in the next few years (see page 42). At the same time, we are developing innovative solutions such as differential gears for multi-megawatt-class wind turbines. Bosch Rexroth is the largest independent supplier of wind turbine components in the industry.

# **Developing CO<sub>2</sub>-free sources of energy**

When the sun shines, the façade of the administration building of Bosch Thermotechnology in Wernau, Germany, turns out to be more than just a shell. When the building was refurbished in 2005, it was fitted with a 30 kilowatt photovoltaic system that can supply electricity equivalent to the amount consumed by 30 households in one year.

Not only in our products, but also at our manufacturing sites, renewable energies can look forward to a great future. In 2007, just over ten gigawatt hours of electricity were generated using hydropower, solar power, and geothermal power. Our real estate team has now launched a series of projects to ensure that this share rises strongly in the future.

Last year, the hydroelectric power plant in Blaichach, Germany, celebrated its 100th anniversary. It is fed by a nearby reservoir and has been producing eco-friendly electricity for our location there since 1960. By covering roughly half of Blaichach's energy requirements, it saves around 4,000 metric tons of  $CO_2$  from being released into the atmosphere each year. We plan to invest 7.3 million euros in the modernization of the power plant by the end of 2010, thereby increasing its power-generation capability by some 50 percent.

The Murrhardt location in Germany is also seen as a model for the future. The plant, where around 600 associates manufacture power tools and tightening and press-fit systems for Bosch Rexroth, already uses waste heat from machinery to provide up to 80 percent of its heating requirements during winter. Now, a new photovoltaic system with a footprint of 1,000 square meters has been taken into operation. We will use the experience gained from this project to increase our use of solar energy at other locations. Another photovoltaic system is already under construction for the new semiconductor plant in Reutlingen, Germany.



During the renovation or construction of buildings, the Bosch real estate department always checks whether it is feasible to make use of renewable energies. The aim is that photovoltaics, solar energy, and geothermal heating plants should help cover the locations' energy requirements and cut CO<sub>2</sub> emissions.

# Environmental protection and resource conservation at our locations

► **10** Energy efficiency by location

11 Efficient logistics

► **12** Cutting waste In both product development and production, we are working on minimizing environmental impact and continuously improving environmental protection. For this purpose, we have introduced an environmental management system at all our 292 manufacturing sites around the world. It is based on the ISO 14001 international standard for environmental management. So far, 213 of these locations have been certified by an independent organization. By 2020, we aim to cut CO<sub>2</sub> emissions by at least 20 percent from their 2007 level.

#### Saving thermal energy

In Europe, industry is responsible for some 16 percent of  $CO_2$  emissions. Bosch is working on cutting this share. By improving the utilization of waste heat, our locations have been able to cut  $CO_2$  emissions from heating by 1.5 percent in the last two years, to 360,000 metric tons. Established solutions include condensing boilers, heat pumps for the heating circuit, ventilation systems

with regenerative heat exchangers, heat recovery from air compressors, and building insulation. The solutions are employed across the globe.

#### **Reducing electricity consumption**

Since 2001, we have made greater use of energy-efficient lighting in new and renovated production facilities. The use of strip lighting and energy-efficient bulbs cuts electricity consumption by around 30 percent. The use of lighter colors for the interior design also helps. Spiral and turbo cooling machines have increased the efficiency of cooling systems by as much as 45 percent compared to 1985. As another way of saving electricity, we use efficient air compressors and optimize their deployment.

#### Protecting nature and the environment

In many of our plants across the globe, our associates are committed to protecting the environment. The project to reforest the slopes of the extinct volcano Nevado de Toluca was begun in 2001. In 2007, Bosch associates and apprentices at the Toluca location in Mexico planted over 3,000 trees there. In Japan, Bosch has signed an agree-



#### Campaign for clean air in India

In 2007, more than 2.8 million vehicles - most of them two-wheelers - were on the roads of Bangalore, a city in India with 5.7 million inhabitants. As the number of vehicles has risen, so, too, has the pollution. Therefore, the Bosch regional company in India launched a campaign in 2004 to make people there more aware of the consequences of motorization. The "Clean Air for Bangalore" campaign centers around emission measurements taken using a mobile test vehicle that Bosch has fitted with testing equipment. The aim of this project is to bring about a long-term reduction in the health risks for the population through air pollution. The campaign has met with such a positive response that we have now made a second vehicle available. We also try to raise awareness for environmental protection by giving lectures, showing videos, and running competitions at schools and universities in Bangalore. On World Environment Day 2007, the "Bosch Run" charity event tied in nicely with the "Clean Air" campaign, which is now to be extended to other cities.

**Susan Zhu** has been at the helm of the occupational safety and environmental protection department at Bosch in Shanghai for three years. With support from six staff members, she coordinates the HSE activities of all locations in China.

# What qualities do you need to be successful in your job?

As with other management roles, my position requires a strategic mindset, plus strong leadership and communication skills in order to be able to motivate associates. These factors are also important for successful integration into the organization as a whole. Of course, specialist experience in the area of occupational safety and environmental protection is also key to building a professional team and setting the right priorities.

# What do you see as your biggest challenges at present?

One challenge is ensuring that we meet the growing requirements with our existing resources. The rapid economic development in China is also driving forward growth at Bosch. At the same time, occupational safety and environmental protection are taking on greater importance for society, and the government is tightening the legal framework. Therefore, to ensure long-term success we need a reliable HSE management system and associates with plenty of experience in HSE. At present, we are concentrating our efforts on enhancing our HSE competence at all our locations.

How can the locations help cut energy consumption? Have you set any specific targets? Efforts must be made in all areas - both "top down" and "bottom up." Some plants are already making every effort to achieve such targets. Global targets, such as a reduction in the number of accidents and lower energy consumption, are stipulated by the board of management with support from the corporate department for Health, Safety, Environmental and Fire Protection and then passed on to all locations and units. All locations play their part in fulfilling these HSE targets and helping to improve HSE performance throughout the Bosch Group. I would like to emphasize that we count on the commitment of all our associates, and encourage them to do all they can to save energy. After all, every little contribution helps.



ment with the authorities to sponsor a woodland area near the city of Higashimatsuyama. Bosch supports the project by providing financial aid and participating in initiatives for the local recreation area, which covers several mountainsides and encompasses ecologically valuable wetlands.

# Awards for environmental protection and innovations

We won several awards in 2006 and 2007 for our ongoing commitment to the environment. The Confederation of Indian Industry (CII) presented Bosch with an award for its wastewater and rain water treatment and for raising the environmental awareness of its associates in India. In Slovenia, BSH Bosch und Siemens Hausgeräte GmbH received recognition as the country's most eco-friendly company. In recent years, the company has cut its water consumption by 50 percent, reduced its product-specific energy consumption by 21 percent, and lowered the amount of waste generated per product by 34 percent. At the start of 2007, the Environment Committee of Wujin in China presented our subsidiary Bosch Rexroth with an award for its commitment to the environment. We have also received awards for our innovations: In Germany, our CO<sub>2</sub> sensor was recognized by the ADAC automobile club in the category "Innovation and Environment." Bosch was also awarded a prize by the Brazilian Association of Automotive Engineering for its Denoxtronic system for exhaust gas treatment.

► 13 Regional commitment

# **Energy** of the future



We apply for more than 14 patents for developments each working day. In 2007, we filed patents for 3,281 innovations – more than any other company in Germany. Each year we spend more than seven percent of our sales for research and development work. Last year this figure came to some 3.6 billion euros. Much of this investment, i.e. more than 40 percent, goes toward protecting the environment and conserving resources. Especially when it comes to energy efficiency and climate protection, we want to demonstrate our innovative ability.

Our major research projects focus on technologies that utilize renewable sources of energy and new systems that store the energy obtained in this way. This helps conserve fossil energy reserves and provides greater independence from energy imports from politically unstable regions. To bolster our expertise and to accelerate the development process, we are entering into development partnerships with other companies, research institutions, and, not least, universities, with particular emphasis on organic photovoltaics, utilization of marine energy, and lithium-ion batteries. This setup also spreads the considerable development costs among several players. We are also involved in the high-tech strategy for climate protection which was initiated by the German Federal Ministry of Education and Research (BMBF) in 2007.

#### Dye-based solar cells

Solar cells do not necessarily have to be made from the expensive raw material silicon. We are currently working with BASF SE and Heliatek GmbH to develop solar cells based on organic dyes, which can be manufactured much more cost-effectively. The films that will be produced will be made up of several thin translucent layers coated with dyes. They will open up a whole range of applications. For example, it is conceivable that they could be used on windows or on car roofs, or even as foldaway cell-phone chargers. This technology is slated for market launch in 2015. By then, however, researchers will have to improve its efficiency from around five percent to at least ten percent.



#### Energy from the sea

When it comes down to it, systems that generate energy from marine currents are just underwater wind farms. Towers anchored in the seabed are equipped with rotors that are driven by tidal currents. In cooperation with partners, Bosch Rexroth is using the experience it has gained from manufacturing wind turbines to develop high-performance drives for marine energy plants. The first prototypes - with Bosch Rexroth transmission technology and hydraulic components - have been installed off the coasts of Norway and Great Britain. Although the technology is still very much in its infancy (much as wind energy was 40 years ago), it offers enormous potential that is well worth tapping. Marine energy is said to have the capacity to generate as much energy as roughly 100 nuclear power stations. For example, the Seaflow pilot marine power plant off the south coast of Great Britain generates enough electricity to supply 300 households. In the years to come, additional pilot plants will confirm whether the technology really is suitable for operation under water.

#### Battery-powered drives

Batteries form the heart of hybrid vehicles and electrically-powered cars. Although most batteries used in today's hybrid drives are of the nickel-metal hydride variety, the future belongs to lithium-ion rechargeable battery technology, which Bosch already employs successfully in its power tools. This is because lithium-ion rechargeable batteries are smaller, lighter, and lose virtually no charge when not in use for long periods. However, before this technology can be used in automobile drive systems, both its power density and range must be increased. That is why Bosch is participating in the BMBF's innovation alliance "Lithium-Ion Battery 2015," along with BASF, Evonik Industries, LiTec, and VW, to help drive forward the development of lithium-ion batteries for utilization in electric drives. What's more, we have also agreed to form a joint venture with Samsung to develop, manufacture, and market lithium-ion battery systems.

# Responsibility for **products and customers** means

- conducting worldwide customer satisfaction surveys in 11 languages among our customers in the Automotive Technology business sector to determine how satisfied they are with how we do business and with the quality of our products,
- having supplied half a million fuel-saving start-stop systems since production started in 2007,
- having increased Bosch Rexroth sales in the field of wind power in 2007 by 25 % to around 160 million euros,
- 50 percent of the vehicles newly registered in Europe in 2007 were fitted with ESP<sup>®</sup>,
- remanufacturing 2.6 million automotive parts every year as part of our eXchange program.
As a supplier of gear and drive technology, we have played a key role in shaping the technological progress of wind power. The power of the rotors has risen from 100 kilowatts to five megawatts, with the size of the wind turbines increasing accordingly.



### Megatrends: Globalization and scarcity of resources

Worldwide economic growth continues to be driven by the rapid development of the emerging markets. As a consequence, raw materials are becoming ever scarcer. The focal points of growth are shifting from industrialized countries to Asia in particular. Asia's share of global GDP is set to rise from 27 percent today to almost 35 percent by 2015. In this period, Asia will shoulder more than half the total growth of the world economy, catching up with western Europe, presently the world's strongest economic region.

The industrialization of the emerging markets is leading to a serious shortage of raw materials. Today, 25 to 30 percent of all industrial metals mined worldwide are being used to expand China's infrastructure. Prices in virtually all raw materials sectors are rising steeply. The price of copper, for example, doubled between 2003 and 2005, while the price of tungsten and titanium rose by 200 percent in the same period. As the world market price for coal increases, so, too, do energy costs.

We have prepared for these developments in our long-term business plan. By 2015, we want Asia Pacific and the Americas combined to account for half of our global business volume. To counter the price and supply risks we face with raw materials, we are cutting down on the use of very scarce resources and looking for alternatives in our product development operations. By remanufacturing used car parts, we are saving on raw materials, cutting back on material costs, and passing on these benefits to our customers. To counter rising energy prices, we are focusing on developing energy-efficient products and processes in all divisions. In addition, we are promoting the use of renewable energy.



### Think global - design products with the future in mind

Internationalization is nothing new for Bosch. As early as 1913, Robert Bosch GmbH was generating 88 percent of its sales outside Germany. Long before the term globalization had ever been coined, Bosch sales offices had been set up around the world – in London, Milan, Paris, Shanghai, Johannesburg, and New York. As a case in point, we shall be celebrating our 100th anniversary in China in 2009.

When we talk about globalization as a megatrend today, this refers to a new, sustained development that started in the middle of the 1990's. It is associated, among other things, with the creation of closely-networked global markets and the widespread use of the internet. How do we plan to respond to this development?

- We study the interaction between globalization and other megatrends.
- We think globally, but are also aware of the different market and customer requirements in the various regions.
- We pursue a differentiated, customercentered location policy for our manufacturing operations, and reduce transport distances by producing and purchasing locally.
- We promote environmental protection and occupational safety across the globe.
- Our purchasing is organized on a global scale (see page 19).
- We tailor our associate development to respond to global challenges (see page 52).

Economic and ecological globalization

Growth in the future will be driven both by the growth regions – Asia Pacific, the Americas, and central and eastern Europe – and by technological solutions for environmental and climate protection. For our business, this means we shall continue to push forward with our innovation strategy. As a company active in the field of energy conversion, ecological globalization is something that poses a particular challenge to our innovative strength. Despite all the opportunities offered by the growth regions, it is crucial for us to withstand the increasing competitive pressures originating above all in the emerging markets. These new markets, which include the fastgrowing market for low-price vehicles, are writing new rules. We must think lean when responding to the demands of our customers. There, we are confronted not only with ecological globalization, but also with the need to come up with ultra cost-efficient solutions.

#### Focusing on "green" future markets

Green technology offers enormous potential for growth. Sustained mobility, energy efficiency, eco-friendly power generation, recycling management, efficiency in dealing with raw and semi-finished materials, as well as sustainable water management are only some of the global lead markets that even today have a worldwide market volume of one trillion euros. This figure is set to more than double by 2020, equivalent to annual growth of over five percent. For Bosch with its numerous products that help protect the environment and conserve resources, this growth offers enormous potential. This is why we shall continue to invest strongly in the expansion of our "environmental portfolio."

Growth of market volume in lead markets			
	Growth to 2020 in billions of euros	CAGR <sup>1</sup> 2005-2020 in percent	
Energy efficiency	+ 450	5	
Sustainable water management	+ 290	6	
Sustainable mobility	+ 170	5	
Energy generation	+ 180	7	
Natural resources & material efficiency	+ 90	8	
Recycling management	+ 20	3	

<sup>1</sup>CAGR = Cumulated average growth rate

Source: German Federal Ministry for the Environment, Nature Conservation, and Reactor Safety (BMU)

#### Successful customer relationships

The requirements of virtually all our customers have changed over the last few years. They focus more closely on environmental and climate protection, and make increasing use of global purchasing platforms.

#### **Direct customer contact**

In order to enhance our customer relationships in the automotive technology sector, we have further improved our support concept. The automotive manufacturers are assigned a contact person at executive management level who is directly responsible for their affairs. These Bosch partners are located close to their respective customers, thus enabling us to identify customer requirements and needs in the different regions more quickly and more effectively. In the area of manufacturing, we have set up lead plants whose extensive experience with specific product lines enables them to serve as worldwide competence centers. These lead plants are located close to our key accounts or to one of our 50 development centers.

### Working together to push environmental technology

Bosch household appliances, heating systems, and automotive technology offer great potential for saving energy and lowering CO<sub>2</sub> emissions. However, all this amounts to nothing if customers do not use the products and technologies. If, for example, all the old white goods in households throughout Europe were replaced by new, efficient ones, this would reduce CO<sub>2</sub> emissions by around 22 million metric tons a year. That is equal to around six percent of the reduction to which Europe is committed according to the Kyoto Protocol. It's a similar story for heating systems - replacing an old system with state-of-the-art technology cuts energy consumption by over 30 percent.

#### **Determining customer satisfaction**

We place great value on building a stable relationship with our customers based on trust. That is why for the last ten years we have been asking our customers in the Automotive Technology business sector how satisfied they are with us and with the quality of our products. The specially devised questionnaire is available in ten languages, with Chinese having been added in 2007. In the latest survey, 14 percent of responses came from the growth market China. The results show that two-thirds of our customers are either satisfied or very satisfied with Bosch. There was particular praise for the way we conduct business relations, with the company's representatives being rated as fair, professional, and friendly. We also fared well with regards to technological expertise, corporate culture, and brand image. However, the survey also showed that there is room for improvement in some areas. Our customers are not happy with the long decision-making procedures still in place in some areas, and would like to see simpler processes and greater flexibility. As a result, we have identified areas for action and drawn up plans for appropriate measures under the supervision of our global key account managers.

#### Sustainable mobility solutions

Individual mobility is increasing worldwide, particularly in Asia and eastern Europe. Although this is a welcome development for us and our customers, it is in fact a doubleedged sword.

This is because greater individual mobility means more pollutants and CO<sub>2</sub> emissions, greater consumption of resources, and more accidents. That's why Bosch is striving to achieve a form of sustainable mobility which is low in pollutants and independent of fossil fuels. Working in tandem with our customers, we are researching the potential for powering vehicles by combining an internal-combustion engine with an electric motor or by using an electric motor on its own. However, to bridge the gap to these future-focused solutions and to offer consumers the best available technology today, we at the same time have to further increase the efficiency of the internal-combustion engine. As we plan for the long term but also want to offer improved solutions in the short term, we are pursuing a number of development paths in parallel:

- Our engineers are unlocking the energysaving potential of the internal-combustion engine – potential that is still far from exhausted.
- With smart technology along the full length of the drivetrain and with hybrid solutions, we shall help the car and the internal-combustion engine become increasingly clean and efficient.



- We are adapting the internal-combustion engine to work with alternative fuels produced either synthetically or from renewable raw materials.
- After several development stages involving transitional technologies, we can see growing opportunities in niche segments for electric drives that use a fuel cell as an energy converter to replace the internalcombustion engine.



#### **Cleaner and more efficient engines**

Internal-combustion engines will continue to be the dominant automobile drive system for the next 20 years. Together with automakers, we are committed to boosting the energy efficiency of the drivetrain and cutting CO<sub>2</sub> emissions. We are working on the next phase of technical developments to meet the stricter emission limits soon to be introduced in Europe, the U.S., and the emerging markets in Asia.

Clean diesel technology: Emissions standards are making electronically regulated injection technologies a must in diesel engines. Our improved common-rail system reduces nitrous oxide thanks to the variability of its injection operation. It will halve emissions of particulate matter and nitrous oxide in India and China, even if the number of passenger cars on the roads increases more than ten-fold. From 2008, the Denoxtronic urea metering system for exhaust-gas treatment will help our diesel systems meet the U.S. exhaust standard (Tier 2 Bin 5). Therefore, we anticipate a 20 percent rise in sales of high-pressure diesel injection systems worldwide in 2008. If more vehicles are equipped with diesel engines, this will lead to lower fuel consumption and lower CO<sub>2</sub> emissions.

**Combining technologies** 

So far, the necessity to cut fuel consumption and  $CO_2$  emissions has led to increased demand for our injection systems in particular. Our customers are now turning their attention to other technologies, including thermal and vehicle electrical system management, more efficient alternators, and our start-stop system.

These components can each help improve the energy efficiency of vehicles by several percentage points. In the last few years, we have been developing these components up to series production level, with the aim of combining them with energy-efficient drives and thereby maximizing energy saving in

## Technologies to cut CO<sub>2</sub> emissions\* Reduction in percent

	in percent
Start-stop system	4
Thermal management	1-2
Ultra-efficient alternators	1-2
Bio diesel 1st generation 2nd generation	up to <b>50</b> up to <b>90</b>
Diesel hybrid	40
Downsizing (same power with less displacement)	10
Electric power steering	5-6

\* Diesel engine

automobiles. In conjunction with downsizing solutions, the  $CO_2$  emissions of a standard two-liter gasoline-driven car weighing 1,600 kg, for example, can be cut from 182 to 142 grams per kilometer.

Start-stop system: The start-stop system is based on an intelligent combination of engine, brake, and battery management, which stops the internal-combustion engine when the vehicle is at a standstill in a traffic jam or at a red light. As soon as the driver depresses the clutch pedal, the system automatically restarts the engine. The electronics ensure that the driver can save fuel and cut CO<sub>2</sub> emissions without compromising on convenience. Depending on the vehicle, these savings can add up to eight percent in urban traffic. Sales of half a million startstop systems are planned for 2008, and the figure is likely to be more than one million in 2009.

► 14 Example of gasoline direct injection

#### ► 15 Example of an alternator

► 16 Example CO<sub>2</sub> sensor

### From two-wheelers to the "Tata Nano"

In India, it's not unusual to see four or five family members balancing precariously on a single motorbike. In the past, dreaming would be as close as many Indians ever got to owning a low-price car. However, economic growth and improved earnings mean that this may soon be about to change.

The "one lakh car" could be to India what the "Beetle" was to Germany and Brazil all those years ago. The Indian company Tata joined forces with Bosch to take on this challenge. We developed low-price components and systems for the "Tata Nano," which is to be launched on the Indian market in fall 2008 for a net price of around 1,700 euros.

For this project, we had to pay very close attention to local customer requirements. These differ quite considerably from what we are familiar with in our established markets. If the "Tata Nano" is to be a success with potential buyers, it must be extremely cost-effective to buy and run. It must also be family friendly and easy to repair. What's more, robust and straightforward technology is crucial in view of the poor road conditions in India. Nonetheless, it is also important to meet both current and future emissions regulations and safety standards.

Our engineers rose to the challenge. For the gasoline injection system, we honed the injection technology for two-wheelers and adapted it for use in a car. For the diesel engine, by contrast, we simplified a triedand-tested product. In the "Tata Nano," the injection pressure is not generated by a high-pressure pump, but by a more cost-effective plug-in pump. These two solutions enabled us to meet not only the cost limits, but also the exhaust gas limits that will come into force in India in 2010.



The "one lakh car" opens up a new and rapidly growing market segment. One lakh is 100,000, and 100,000 Indian rupees are the equivalent of roughly 1,700 euros. This means the "Tata Nano" only costs around 30 percent more than a well-equipped motorcycle, and is considerably safer.

#### ► **17** Hybrid drive

► 18 CO<sub>2</sub>-free drive

► 19 Using energy more efficiently (Bosch Thermotechnik)

#### Using alternative fuels

Our Flex-Fuel engine management system shows how internal-combustion engines can use alternative fuels. This technology enables gasoline engines to run on any blend of gasoline and ethanol, a fuel mix that is already widely used in Brazil. We also offer injection technology for other alternative fuels, such as compressed natural gas. Both compressed natural gas and an admixture of ethanol cut CO<sub>2</sub> emissions. The next step is to adapt our systems to run on synthetic biofuels.

#### Increasing safety

The ESP® electronic stability program launched by Bosch in 1995 plays a key role in improving road safety. Numerous international studies have shown that between 30 and 50 percent of fatal accidents involving cars could have been prevented with ESP®. In 2007, 50 percent of newly registered vehicles in Europe were fitted with ESP®. The European Union recommends that anti-skid protection should be made compulsory by 2011. In the U.S., legislation was passed in 2007 mandating ESP® as standard equipment for all passenger cars from model year 2012. In 2007, the International Automobile Federation FIA (Fédération Internationale de l'Automobile) awarded Bosch the internationally acclaimed "FIA World Prize for Road Safety, the Environment and Mobility" for its role in the creation and provision of ESP® technology.

ESP® also forms a fundamental basis for new functions currently being developed by our engineers. One example is the Combined Active and Passive Safety (CAPS) system, which aims to further improve accident prevention. It combines active and passive safety systems with driver assistance and vehicle communication functions. We hope that CAPS will help cut the number of road fatalities – studies on predictive safety systems estimate that deaths could fall by as much as 35 percent. Our pedestrian protection system at the front of the car is designed to mitigate the impact of accidents for other road users.

#### **Energy-efficient products**

Bosch offers its customers energy-efficient solutions in all its divisions – from modern heating systems and energy-saving cooling appliances to lawnmowers that have a 20 times better energy balance than conventional gasoline-powered mowers.

The EU estimates that primary energy consumption in residential buildings alone can be cut by 27 percent by 2020. In total, private households and small-scale users are responsible for 19 percent of Europe's  $CO_2$ emissions. That is around the same as the amount produced by traffic. The share generated by industrial production processes is 16 percent.

#### More eco-friendly heating

There are a number of ways to save energy in buildings - from heat insulation and more efficient heating systems to using renewable energy. Using a condensing boiler combined with a solar thermal system for heating drinking water and supporting the heating system generates 60 percent less CO<sub>2</sub> than a 30-year-old heating system. A new patented range of regulators, which the Bosch brand Junkers unveiled in 2007, optimizes the interaction between gas condensing boilers and solar collectors. The system registers how much solar energy is available for generating hot water and informs the heater. Innovative ideas like this system of constant regulation can help save up to 15 percent extra energy.

With heating systems, several renewable sources of energy, such as wood and solar energy, can be used in combination. In Germany, 40 percent of the new heating systems installed in 2006 run on renewable energies. In Europe, this figure is 17 percent.

### Saving energy with efficient household appliances

Compared with 1990, the energy consumption of Bosch household appliances has fallen by as much as 79 percent for refrigerators and by up to 40 percent for ovens, washing machines, and dishwashers. However, if these potential energy savings are to be manifested as an actual reduction in CO<sub>2</sub> then these new technologies must also become established in the market. The average age of the appliances in European households is still ten years. There are some 188 million old appliances throughout Europe today. If these were replaced with new highly-efficient appliances, we could save as much as 22 million metric tons of CO<sub>2</sub> a year. This equates to around six percent of the reduction in greenhouse gases

Potential for saving energy in Europe				
	Energy consumption in Mtoe <sup>2</sup> 2005	Energy consumption <sup>1</sup> in Mtoe <sup>2</sup> 2020	Energy-saving potential 2020 in percent	
Households	280	338	27	
Office buildings (tertiary sector)	157	221	30	
Traffic	332	405	26	
Industry	297	382	23	

<sup>1</sup>Estimated energy consumption given "business as usual"

<sup>2</sup>Mtoe = million tons of oil equivalent

Source: European Commission, EU-25-Basisszenario, and Wuppertal Institute, 2005

### agreed to by the European Union in the Kyoto Protocol.

In the U.S., Bosch has focused its marketing and communication activities on energy efficiency with a "Green Appliances" campaign. Bosch is currently the only manufacturer in the U.S. that meets the requirements of the "ENERGY STAR" program in all its product lines and household appliance models.



#### Solar house wins Solar Decathlon

The Technical University in Darmstadt was the only German university to qualify along with 19 other entrants for the Solar Decathlon, a prestigious international architecture competition run by the U.S. Department of Energy. The task was to plan and build a house powered entirely by solar energy. The house by the architecture students from Darmstadt won the competition. Bosch Thermotechnology supported the project from the beginning – both financially and through technical support on issues such as the solar thermal system, heat pumps, and control technology. Of the ten disciplines in the competition, the solar house achieved the highest marks in the energy balance category and ranked first in the categories architecture, lighting, and engineering. Other disciplines focused on using energy-efficient household appliances, an area where Bosch was also on-hand to help with its highly efficient products.

► Additional information at www.solardecathlon.de

#### Renewable energy

Energy is also one of the key issues of the future for our Bosch Rexroth subsidiary. The Wind Power business unit delivers solutions for generating renewable energy.

As a supplier for gear and drive technology, we have played a part in shaping the technological progress of wind turbines right from the outset. The power of these rotors has increased from a mere 100 kilowatts to a full five megawatts today. In 2006, the power of the new wind turbines being installed each year worldwide matched that of more than ten 1.4-megawatt nuclear power stations. This figure will more than triple in the next ten years. The markets in Australia, China, India, and the U.S. are exceptionally dynamic. Many governments are subsidizing wind power in order to cut emissions and reduce dependence on crude oil.

#### Growing with renewable energy

Renewable energy is the fastest-growing area of business at Bosch. It also includes the products of Bosch Thermotechnology for utilizing geothermal and solar thermal energy. Last year, our sales in the wind power sector rose by a quarter to around 160 million euros. In Germany, we are planning to build a further production facility for large wind-turbine gear units at our Nuremberg location, thus augmenting the existing production in Witten. The first large gear units are scheduled for delivery at the start of 2009. In Nanjing, China, we will start to build a manufacturing facility for solar collectors at the end of 2008. It will produce for the local market.

#### Recycling program

Recycling has been an important part of industrial production for several years, with companies focusing primarily on recycling products containing significant amounts of copper, steel, and aluminum.

The re-use of materials generates high material and energy savings, and now also cuts costs considerably, as raw materials are becoming increasingly scarce and, therefore, more expensive. In contrast to recycling, the remanufacturing of used parts is a relatively new development. This process is the direct result of regulations introduced over recent years through the German Waste Avoidance, Recycling, and Disposal Act ("Kreislaufwirtschafts- und Abfallgesetz"). The material that can be saved by remanufacturing totals around 14 million metric tons a year worldwide, with energy savings amounting to almost 35 billion kilowatt hours.

#### International expansion

In recent years, Bosch has continually expanded its portfolio for remanufacturing used car parts. Under the "Bosch eXchange" brand, we remanufacture around 5,200 different spare parts and sell them as costeffective alternatives with a warranty that is the same as for brand-new products. The range of remanufactured parts includes starters, alternators, and components for injection and braking systems. Each year, 2.6 million eXchange components are reused. In the case of starters and alternators, this saves 2,200 metric tons of steel, 440 metric tons of aluminium, 240 metric tons of copper, and 1,000 metric tons of CO<sub>2</sub> compared to new products.

This makes Bosch one of the leading international suppliers in this area, and it continues to expand its remanufacturing activities for used car parts, acquiring Holger Christiansen A/S in 2008. This dealer in automotive electrics spare parts primarily remanufactures starters and alternators at four manufacturing sites in Denmark, Germany, Slovakia, and the Ukraine and has eight sales locations – seven in Europe and one in the United States.

As part of his PhD thesis at Bosch, **Yasser Jadidi** (27) researched how batteries for hybrid and electric vehicles can be made more economical and longer-lasting. Today, he is project coordinator in the Starter Motors and Generators division.

Mr. Jadidi, you remained at Bosch even after you'd finished your PhD. Why did you want to stay on at the company, and what do you like about the work? Studying for my PhD allowed me to take a close critical look at a technical topic and test my own capabilities. In my new job, I wanted to take on business responsibility without losing touch with the technical side of things.

What support did Bosch provide during your PhD? Which aspect of the program did you value the most? Bosch grants its PhD students a great deal of freedom, for example in choosing topics and organizing a timeframe. What's more, I was given responsibility for other students and was able to gain initial leadership experience. I also made a lot of valuable contacts through the network of PhD students at Bosch.

Bosch products demonstrate how technology plays an important role in helping to solve ecological problems. Can you give me an example of this type of technology in your area?

Even when I was working on my PhD, the development of ecologically sustainable technical solutions was at the forefront of my work. In my current division, I play a part in the development of high-efficiency alternators that help conserve resources. Populations in emerging markets are looking to increase their mobility through motorization. Is it possible to meet these demands while ensuring that road traffic is safer and more environmentally friendly?

We want our innovations to help meet people's justified demands for a higher standard of living, but without compromising on environmental issues and safety. At the same time, however, fully-developed technological products must remain affordable. We can only achieve this goal by gearing our company and products to the cultural peculiarities of these markets.

Besides innovation, customer focus plays an important role at Bosch. How do you keep your own work customer-oriented? Above all, customer focus for me means working together with customers to develop solutions. This kind of cooperation is based on an open communication culture, both with customers and suppliers. In my working environment, this is the only way to do business successfully.



# Responsibility for **associates and young talent** means

- ► asking over **200,000** associates for their views every 2 years,
- investing more than 225 million euros in associate training worldwide,
- providing occupational training for more than 6,000 young people worldwide,
- offering more than 100 different models for part-time and flexitime work,
- increasing the share of women in managerial positions from three to seven percent within ten years.

We need qualified and motivated associates for the development of innovative technologies, such as those produced here by Bosch Diesel Systems. That is why lifelong learning is an integral part of the Bosch training program. We are investing more and more in education and training.



### Megatrend: Demographic change

Global demographic developments are one of the greatest challenges of our age. In the twentieth century, the earth's population grew more quickly than ever before. This development is also leading to a steep rise in the proportion of older people in the global population.

The rise in the number of the elderly (aged 60 and above) goes hand in hand with a decline in the number of young people (younger than 15). In 2050, for the first time in history, there will be more older than younger people worldwide. However, these demographic developments show strong regional variations. For example, the population of countries in southern Africa and the Middle East will double by 2050. It will also grow in India, Indonesia, the U.S., Mexico, Great Britain, and France. In contrast,

Germany, Japan, and many countries in central and eastern Europe will experience a population decline. As a result of this imbalance in population development, the "demographic weight" of the emerging and developing countries will increase considerably compared to industrialized nations.

The tangible change in global demographics will have serious consequences for the working world and the HR policies of industrial companies. The declining birth rate will heighten competition in industrialized countries for specialists and young talent. On the other hand, the demand for training and education will rise considerably within the emerging growth markets. Both developments will lead to a lack of skilled staff and of highly trained executives. Opportunities for women will increase as they become more numerous in the workforce. The same applies to the employment of foreign workers.



### Provide opportunities and shape change

These demographic developments place great demands on our strategic HR planning. At the start of 2008, Bosch employed a global workforce of around 271,000.

Last year, the number of associates in Germany alone rose by more than 1,800, with figures for the global workforce up 10,000. Since the start of the 1990's, our workforce has grown by around 100,000 associates. This growth has taken place almost exclusively outside Germany. For many years, we received large numbers of outstanding applications in reply to advertised positions. However, for some time now we, too, have noticed that the labor market seems to be slowly drying up. That is why we have intensified and internationalized our HR work. Our international HR strategy focuses on the following issues:

- Recruiting young talent we have developed international standards and expanded our junior executive programs worldwide.
- Education and lifelong learning we operate a systematic competence management scheme and are increasing the number of associate training programs.
- Associate loyalty we integrate our associates around the world into the corporate culture described in our House of Orientation and create new international development programs.
- Equal opportunities for women we consistently promote employment and development opportunities for women.
- Harmonizing career and family we are offering more options for harmonizing career and family life - for both mothers and fathers.
- Generation 50plus we are helping to boost the health and performance of older associates and are supporting them in career changes.

#### Worldwide personnel marketing

As part of the Bosch Human Resources System (see page 18), we have developed a scheme to be used for personnel marketing on a worldwide basis. It takes in all aspects - from publishing standardized personnel adverts and fostering close contacts with universities to honing our image as an employer. We use the results as the basis of our personnel marketing strategy.

We initially introduced the new scheme in selected countries such as China, the Czech Republic, Hungary, Germany, and North America, where there is strong demand for junior specialists and executives. We then measured the success of the scheme in each of these countries using a standardized approach. We also conducted surveys at selected universities in the Czech Republic and China to determine how highly students rate Bosch as a potential employer. Since our standardized personnel marketing scheme has been a success across the board, we are now rolling it out on a wider scale. The standards we have formulated provide enough scope for adapting them to country-specific requirements.

### More development programs for young talent

We offer a number of programs to help skilled young people make initial contact and get started at our company. For example, we have continually increased the number of internships, degree theses, and doctorate grants in the last few years. We intend to further expand these activities in the future and to make contact with suitable candidates at an earlier stage.

Each year, 4,500 students in Germany take up internships at Bosch to link academic theory with business practice. A successful internship is the best recommendation for going on to complete a final-year project or for starting a career at Bosch. That's why we stay in contact with promising interns during their later studies via our students@ bosch program. We use this program to provide support for students who have excelled during internships at Bosch.

#### **Excellent training programs for graduates**

Many of the new patents that we register come from our PhD student program. In 2007, a total of 215 PhD students worked for us in Germany, around 80 percent of them in technical fields. They mostly applied directly for advertised PhD positions based on topics that are of key importance to us. Program participants create a close-knit network through regular events and seminars. Each year, we take on around 70 new PhD students, who normally complete their research project within three years.

Our trainee program is another way for young people to kick-start their future careers. It was put in place 30 years ago and – judging by the number and qualifications of applicants – continues to appeal. The program, which runs for between 18 and 24 months, is designed individually for junior executives in cooperation with their mentor. In addition to four or five stages incorporating different functions, divisions, and locations, a stay in a different country is obligatory. Our trainees also have the opportunity to select training courses for themselves within their personal budget. Annual meetings create an intensive network among trainees, specialists, and managers. We have standardized this program within the framework of the BHS and introduced it as the global "Junior Managers Program" (see page 49).

#### Scoring points as an attractive employer

Both as an automotive supplier and as a manufacturer of capital goods, we have enjoyed a reputation as a good employer for many years now. Our subsidiary Bosch Rexroth received an award as "Top employer" in Germany for the first time in 2007. This helps in the race to attract the best people at a time when they are becoming ever harder to find, particularly qualified engineers. However, it is encouraging to see that graduates are increasingly interested in taking up positions at a company that has a keen sense of social responsibility. Bosch has the edge here thanks to its good reputation and a tradition of social and societal responsibility that reaches back for many years. In a survey conducted last year among junior associates at different companies, we scored higher than our competitors in the "value orientation" and "social commitment" categories.

### **Training junior executives**

Who doesn't dream of taking on an overseas assignment for a while? International experience is crucial for management personnel today and the earlier they get started, the better.

At Bosch, overseas assignments have become the rule for associates and prospective managers. In 2007, the dream of going to China came true for 250 German managers. In total, over 300 expatriates from Germany went to the Middle Kingdom last year to experience working life there. Apart from Germany and the United States, this makes China one of the top three target countries in the Bosch world. As there are still too few local managers in China, the share of expatriates there is still almost 30 percent.

However, that is set to change. In the long term, the aim is to increase the share of local managers in China to 80 percent – on a par with the level in industrialized countries. For this purpose, Bosch launched its new Junior Managers Program in 2007. Providing uniform criteria for the selection and promotion of junior managers, it forms the worldwide umbrella for our executive training programs. During the program, which lasts between one and a half and two years, all participants must work in a minimum of three different jobs, each in different areas of activity. A special highlight is a six-month overseas assignment. The program is thus geared towards fostering an international mindset, which is complemented by intercultural training courses.

China also offers this kind of program for its junior executives, adapted to local requirements. To find suitable candidates, our regional company stages an annual "Campus Tour," taking in eleven target universities in China. This will ensure that China will also have more local managers in the long term.



Many German junior executives choose to go to China for their overseas assignment. In the same way, growing numbers of Chinese specialists and executives are coming to Germany. In 2007, 34 young men and women came to work at German locations in order to gain useful experience for a career in China.

#### Associate communication

Communication is a central element of corporate management and makes a major contribution to our value added. The "Bosch-Zünder" in-house newspaper is a key pillar of our worldwide internal communication. The Bosch Group's newspaper for associates, which was founded in 1919, is published in a print-run of 180,000, in nine languages: English, German, French, Spanish, Portuguese, Czech, Japanese, Chinese, and – since the start of 2008 – Turkish. In 2008, the Bosch-Zünder was singled out by the German Public Relations Society for the fourth year running as Germany's best in-house newspaper.

At the same time, we are driving forward the expansion of rapid electronic communication. Our intranet has been developed further. Now known as the "Bosch Global Net," it has a standardized navigation structure worldwide, and responsibility for ensuring that the information it contains is correct and up to date has been clearly defined. All this allows information to be retrieved rapidly.



Identification with Bosch

Our executives play a key role in communication. We want to keep them especially well furnished with information specifically for their needs, as well as to support them in their own communication tasks. For our senior executives, therefore, we have set up a closed user group in our intranet, where this target group can access all the latest information that is relevant for their work. In addition, in order to intensify dialogue with our executives, we regularly organize telephone conferences.

#### Soliciting associates' views

Bosch launched its international associate survey in 2005. It is conducted every two years. In 2007, some 223,000 associates were asked to give their opinion on a range of topics, including the quality of management, conditions at the workplace, opportunities for career development, and the company's image. The response rate of 83 percent, slightly higher than the figure for 2005, is an indicator of how well accepted the associate survey is.

#### Acting on the results

As in 2005, 70 percent of associates believe that Bosch has a good public reputation, and 69 percent are proud to work for the company. However, overall associate satisfaction dropped by 0.2 points as compared to 2005. It may not be much, but it is a valuable pointer for us. Associates were more critical in their assessment of our training programs, and when it came to whether decision-making was "quick and unbureaucratic." However, feedback from managers to their associates was rated much more positively. The survey revealed that our associates around the world rate this type of feedback, as well as team spirit and fun at work, as the most important aspects for job satisfaction. Our executives will analyze the highlighted areas for action and initiate the necessary improvements before the next associate survey in 2009.

#### Diversity and equal opportunities

Diversity is not just an integral part of the Bosch values, it is also a key condition for worldwide success. We strengthened our commitment to diversity in 2007.

We joined the "Charter of Diversity" in December 2007. This impassioned appeal for fairness and respect was initiated by German companies and enjoys the patronage of the German Chancellor Angela Merkel. Also in our Basic Principles of Social Responsibility, as a signatory of the United Nations Global Compact, and in our Code of Business Conduct, equal opportunity for all associates at all locations is one of our fundamental creeds. As our business is increasingly shaped by work in international teams, we continue to develop the intercultural skills of our associates. New associates attend training courses and information events to learn about our value code and accepted ways of dealing with business partners. Special seminars are held for associates who take on longer assignments outside their native country, to prepare them for life abroad. The families of these associates are also expressly welcome to attend these intercultural seminars.

### Encouraging women to take up engineering

One of the central objectives of the Bosch Group is to hire women and advance their careers. As young women are often reluctant to choose technical and scientific courses of study, we seek to interest them from an early age. The "Girls Campus" academy is staged in cooperation with the Robert Bosch Stiftung, with the aim of getting young women aged between 13 and 15 interested in technical and scientific issues. After its successful debut last year, we are continuing the initiative in 2008. Trial internships are also available to encourage young women at school to opt for a technical profession.

#### Hiring and promoting more women

As a member of femtec (a higher education career center for women), we conduct projects with young female engineers and deliberately target young women at our events for university graduates. In fact, we have already met our first target for new hires, which is that the proportion of women appointed should be in line with the proportion of female graduates in the respective disciplines. Now, 50 percent of newly appointed economics graduates at Bosch are women, while the figure for engineering graduates is 17 percent.

However, it's not enough just to hire women. We also want to increase the share of women in management positions. Initiatives at Bosch designed specifically to support the professional development of women include a twelve-month mentoring program and women's networks in which female associates provide one another with advice and support. Contact partners have been appointed at all German locations, and Bosch in India has had its own women's network since 2006. Thanks to these measures, the share of women in management positions at Bosch has more than doubled in the last ten years. However, at seven percent, this figure is still much too low in our view. Therefore, we intend to step up our activities to get women into management positions over the next few years.

#### ► 20 Charter of Diversity

#### Lifelong learning

As working lives become longer, it is becoming increasingly important to make sure that the skills of associates are always up-to-date.

That's why Bosch invests heavily in associate development. In 2007, we spent more than 225 million euros on training our associates worldwide. The attendance figures for training programs have risen significantly in recent years, reaching more than 384,000 in 2007. That is 40 percent higher than four years ago – and we shall continue to encourage this development.

#### Identifying and developing skills

For a company to be successful, it must have the right number of associates with the right skills at the right time and in the right place. For this reason, we employ competence management throughout all our divisions, a program we started in 2006. This program focuses on developing the specialist skills required now, and especially in the future, to achieve our business goals. What is characteristic of the program is the systematic way in which it identifies and develops skills. This intensive process, which will be performed annually, comprises six steps. In the preparation phase, meetings are held between the associate development departments and the managers of individual units to clarify what strategy and what objectives each unit is pursuing, and what this means in terms of the skills available in the unit. In the next phase, the units' managers work with the associate development managers to derive the specialist skills that they will need in the future, given their unit's strategy. These requirements are documented in detail, and standards are defined. In the third step, we meet with associates individually to analyze their skills. Then, their existing skills are compared with future requirements, allowing us to decide on the activities necessary to build up the associates' capabilities. For this purpose, conventional training options are available alongside methods of learning such as coaching and job rotation. Where necessary, we also define new activities and redefine old ones.



#### **Education and Training initiative prize**

Robert Bosch GmbH and the daycare center for children in Stuttgart-Bergheim, Germany, were presented with the Education and Training 2007 initiative prize for their joint project "Early childhood education and care – new departures in education" by the Otto Wolff Foundation and the German Chamber of Commerce and Industry (DIHK). The project, which was set up as part of the "Wissensfabrik – Unternehmen für Deutschland" (Knowledge Factory – Companies for Germany) initiative at the beginning of 2006, aims to bring technology to life for children and young people from an early age. Bosch apprentices plan, organize, and support their own projects at the daycare center. In one project, for example, the little inventors built wind turbines and generated electricity under the guidance of the Bosch apprentices. Both sides benefit from working as part of a team. The children are introduced to the practical side of science and technology at an early age, while the apprentices develop their social and creative skills. Finally, we use indicators to measure the success of the training activities. In this way, we systematically build up the skills that are decisive for our business success.

#### Providing training in excess of demand

High-quality training is essential for getting a career off to a good start. We regard the occupational training of young people as an integral part of our social responsibility, which is why for years we have been training more apprentices than we actually need. Worldwide, the company provides occupational training to some 6,000 young people. Some 1,400 young people began apprenticeships at German locations in fall 2007, up by more than 5 percent on the already high figure of the previous year. We are particularly pleased with the share of female apprentices, which currently stands at 20 percent. Training is available for more than 40 different occupations. For a number of years now, for example, we have been offering young people the chance to work in junior companies, where they have the chance to prove themselves as entrepreneurs.

#### Employee rights and employment

Associates at all Bosch Group locations are free to form representative bodies. Our good relationship with the employee representatives is an important part of Bosch culture, and is expressed through different forms of participation. The annual meeting of works council representatives and the regular meetings of the European committee (EC) of the works councils provide the employee representatives with a platform to discuss current issues with the Bosch board of management. At the 11th meeting of the European committee, the 40 works council representatives from 21 countries signed a resolution on climate protection supporting the automotive industry's commitment to reducing carbon dioxide emissions.

Key topics in the report of the central works council included compliance with employee rights, job creation, and securing jobs. Thanks to major investments in the construction of a plant for wind turbine gear units in Nuremberg and a new semiconductor factory in Reutlingen, Bosch is able to secure jobs and employment at these German locations in exemplary fashion. Some 600 jobs at the Rommelsbach location were in danger as a result of changes in market requirements. However, training programs give these associates the opportunity to switch to the new semiconductor factory in neighboring Reutlingen.

#### Career and family

Associates are keen to harmonize the demands of career and family, and it is the company's responsibility to provide the framework that allows them to do so. Offering the relevant programs is a key advantage in the race to hire skilled staff.

To allow its associates to plan their working hours flexibly, Bosch offers its associates over 100 part-time working models, telecommuting options, and help with childcare. In future, we aim to provide more support for associates to help them harmonize their working and private lives. ► 21 Developing training standards

#### **Part-time contracts**

Individual part-time contracts - often in combination with telecommuting - allow associates to return to work earlier after parental leave. During parental leave, many associates take advantage of our part-time solutions, ranging from a one- to a four-day working week. In 2007, 200 men in Germany took paternity leave. Overall, around 26 percent of women associates and some 22 percent of women managers choose to take advantage of our part-time programs.

#### **Organizing childcare**

In Germany, all Bosch locations work with the Familienservice, an independent, external service provider that helps locate child minders, nannies, or au-pairs for associates. We have also set up an internal childcare exchange on the intranet. Activities such as holiday camps for the children of associates or childcare facilities run with neighboring companies round off the many options available to our associates. However, the dependents of our associates often need help, too. Therefore, we have started a pilot project which, in addition to providing childcare, also helps our associates care for sick or elderly family members.

► 22 Healthcare programs

#### Generation 50plus

As a result of demographic changes, the average age of the Bosch workforce in Germany will rise from 42 today to 48 by 2020. This will be manifested most clearly in the proportion of associates over 50, which will rise from 23 percent today to almost 50 percent. Consequently, meeting the needs of this age group will take on even greater significance for our HR policy. To enable us to adapt to these changes in age structure, the board of management and central works council have set up a project called "Utilizing potential, offering perspectives - throughout our working life." It is dedicated to lifelong learning (see page 52), coping with change processes, and healthcare. We are currently working with the University of Heidelberg to examine how preventive healthcare and cognitive training impact the flexibility and performance of our associates.

#### **Expanding healthcare**

Bosch already offers a wide range of healthcare packages in different countries. A central steering group was put in place in 2005 to promote closer cooperation between the HR department, company medical officers, the central works council, representatives for the disabled, and the Bosch company health insurance fund. Moreover, healthcare working groups were set up at all locations. In view of demographic changes, we now want to expand the existing measures and intensify communication among the locations. The location activities matrix provides a basis for the locations to rate their prevention and healthcare activities and exchange information.

#### **Retirement provisions**

The Bosch benefit plan is an attractive company pension scheme for our associates in Germany. It is one of our answers to demographic changes and helps recruit associates and ensure their lasting loyalty to the company. The benefit plan is mainly funded by contributions from the company, but associates themselves can also make payments and profit from the intelligent investment policy of our pension fund. The company pension scheme was restructured in 1998 and has been continually expanded since then to reduce the risk of a pension shortfall in old age. **Michael Wellmann** (20) was involved in the project "Early childhood education and care – new departures in education." He is training to be an electronics technician for instruments and systems at the Stuttgart-Feuerbach location.

Your training department started an initiative with a daycare center for children in Stuttgart, in which trainees carry out various projects with the children. Which project were you involved in? I ran a series of little experiments to show the children what electricity is and how dangerous it can be. I also explained where electricity comes from. Most of the children thought it came from the socket.

How did you manage to get the children interested in technology?

Children are fascinated by anything that flashes and smokes, so I took that as the basis for my experiments. Children also like playing an active part in the experiments. This awakens their natural interest and is fun for them. What did this project teach you personally? I learned that it's easy to awaken a child's interest, but that you really have to work at it to keep their attention for any length of time. Children also learn very differently, which means you have to adapt your teaching methods to suit each child's needs.

Do you think other companies should promote this type of initiative with daycare centers for children?

Definitely! Children are our future. Investing in education is investing in Germany's future as a high-tech location.

Bosch has further developed its training standards and is now even more committed to sharing its values and missions. Which values are important to you?

Openness, clarity, fairness, quality, and job satisfaction.



#### **Twilight careers**

Whenever associates retire, the company loses valuable expertise. Bosch wants to utilize the experience of executives even after they have retired, and now offers them the option of a "second career." Bosch Management Support GmbH (BMS), which was founded in 1999, makes use of the skills of retired associates aged between 60 and 70. On average, each of the some 680 retired associates in the BMS contributes 30 years of experience - around 20,000 years of expertise in total. These senior experts take part in global projects in return for a consulting fee. As a result of the success with this model in Germany, additional BMS locations have been established in the United States and Great Britain.

## Responsibility for **society** means

- setting up 25 partnerships with educational institutions as part of the "Knowledge Factory for Germany" initiative to give children and young people a better understanding of the relationships between business and technology,
- helping to organize several benefit events at various locations worldwide, and helping schools and charitable organizations with donations of more than 1.1 million euros,
- giving financial aid totaling more than 1.5 million euros to the areas affected by earthquakes in the Sichuan Province of China,
- financing endowed chairs in the U.S., China, and Germany to the tune of more than 2.5 million euros in 2007,
- supporting for the 23rd time in succession "Jugend forscht," the German competition to discover young researchers.

Primavera, an association founded by Bosch associates, was set up in order to help young people. In Curitiba, the association helps children living in poverty and improves their prospects for the future through healthcare, education, and by showing them that they are not alone.



### Megatrend: Polarization of society

Globalization has improved the standard of living in nearly every part of the world. However, serious structural differences still exist and new conflicts are emerging.

One of the major entrepreneurial challenges of our age is how to establish a workable relationship between the global economy and local structures. Such a relationship must be equipped to overcome the polarization emerging ever more clearly between global markets and globally available know-how and capital on the one hand and local interests, resources, and socio-political structures on the other. This polarization has to do with the differences that exist worldwide between the dynamic regions and the still very poor developing countries, where the gap in income between the poor fifth and the rich fifth of the world's population is widening. In Europe, there is also such an obvious and widening gap between booming regions and structurally weak areas. Even on the individual level, the winners of the knowledge society stand in stark contrast to the losers, i.e. those who are incapable of dealing with change.

Providing better access to general and professional education is one of the ways of defusing this polarization of society. Investing in education is the best way to prevent unemployment. If glaring differences in income and the risk of poverty are to be limited, a special effort is required in areas where educational opportunities are unequal due to social backgrounds. Where people are unable to participate in the global knowledge society because they do not have the requisite level of skills, social responsibility calls for measures designed to encourage such people to take the initiative in acquiring requisite skills, as well as to provide a social safety net.



Source: Le Monde diplomatique, 2007

### Invest in the future of others

The social commitment of the Bosch Group has developed over time and is based on the convictions of our company founder Robert Bosch. The company supports a number of charitable institutions and projects that focus on promoting young academic talent and sponsoring charitable initiatives in the catchment areas of our locations worldwide.

#### Responsibility as an employer

At many locations, we are among the largest employers and contractors, and therefore also one of the highest taxpayers. With a workforce of over 271,000 associates worldwide, the Bosch Group bears a huge responsibility for employment and occupational training. This applies not only to our own associates, but also to their families, our suppliers, and local communities.

#### Supporting school and university students

Bosch-Jugendhilfe (youth welfare) is responsible for awarding around 100 grants. The company has been sponsoring talented school and university students for 70 years, ever since Robert Bosch kicked off the project to mark the 25th anniversary of the company's occupational training department. The important thing for scholarship holders is that people should show an interest in their chosen educational career. Children of associates or associates who, for example, are looking to further their qualifications after an apprenticeship receive support for stays abroad in the form of grants or book money. Grant applicants must show talent and be in need of financial support. The training or course of study selected plays no role in the selection process.

#### **Expanding educational partnerships**

As a founding member of the "Wissensfabrik – Unternehmen für Deutschland" (Knowledge Factory – Companies for Germany) initiative, Bosch works to promote the education of children and young people. For this purpose, we have set up a total of 25 partnerships with educational establishments in several German federal states. In joint projects with kindergartens and schools, we want to give children and young people a better understanding of business and technology. The curriculum is developed in cooperation with all those involved in the project, including the children. Their input ensures that the projects are interesting and fun. In Bavaria, for example, 13 educational institutions and six Bosch locations are involved in partnerships of this kind. In the medium term, Bosch hopes to establish as many as 50 educational partnerships across Germany. We also hope to awaken interest in technology, science, and business with our "Schüler-Uni" lecture series for schoolchildren and our commitment to the "Schüler-Ingenieur-Akademie" (Student Engineering Academy), a collaboration among business, universities, and schools.

#### Support for young researchers

Bosch apprentices number among Germany's most creative up-and-coming young researchers, a fact that they regularly prove in the youth science competition "Jugend forscht." The competition gives young people the opportunity to develop their ideas at an early age and present them to experts. In 2007, two apprentices from Waiblingen, Germany, came first in the "working world" category of the national "Jugend forscht" competition with their computer-based



#### A World in Motion

Bosch is involved in the "A World in Motion" initiative in the United States. Similar to the Knowledge Factory projects, this initiative is designed to give children and young people an understanding of technology through educational games and experiments. For six weeks, Bosch volunteers work together with teachers and schoolchildren on different projects that help explain how products are developed and prototypes built. Last year, Bosch donated an extra 100,000 dollars to "A World in Motion." The initiative is active in all 50 U.S. states, and we hope to extend our cooperation to other locations in the U.S. in the future.

Additional inforamtion at www.awim.org

flight simulator. Bosch itself is a patron of the "Jugend forscht" regional heat in Baden-Württemberg, organizing it for the 23rd time in March 2008.

#### **Endowing university chairs**

Bosch has established an endowed chair at Stanford University (California, USA). The "Robert Bosch Chair" we created in the Department of Mechanical Engineering fosters research programs and innovative teaching methods. The chair also encourages young people to use the research results to found company startups. Since 1999, we have also provided financial support for an endowed professorship for automotive systems at Tongji University in Shanghai, China. In Germany, we currently sponsor six professorships. We are one of the co-founders of the Interdisciplinary Center of Advanced Materials Simulation at the University of Bochum, and have financed the Chair for Vehicle Mechatronics at the University of Stuttgart since 2001.

#### Regional commitment

Our associates are involved in a whole range of voluntary activities in their local communities. In doing so, they help their region to become fit for future challenges, as well as promoting Bosch's good name at all its locations.

#### **Organizing benefit events**

More than 1,000 runners took part in the Bursa Run in 2007 in Turkey, and more than 16,000 participated in the Nashik Run in India. The participants in these city runs, which are co-organized by Bosch, are keen to use their shared enthusiasm for sport to support a good cause. The second Bursa Run brought in donations of more than 500,000 euros, which the Turkish regional company put toward a project dedicated to the renovation of schools. The Nashik Run, which took place for the fifth time, collected donations amounting to 600,000 euros. The money will be put toward schools for disadvantaged children, medical help for children with impaired hearing, and rain collection containers for remote villages. The charity runs are held to promote the respective projects and raise awareness for social commitment.

▶ 23

Giving disadvantaged people a chance

► 24 Investing in startup funds

### The "Peça por Peça" project

With our help, life for the children in Curitiba, Brazil, should improve "Peça por Peça" (step by step). In the Vila Verde district of Curitiba, 14,000 people live in abject poverty, including 4,000 children up to the age of 14. Since 2000, Bosch associates have been working in tandem with the local authorities on the "Peça por Peça" project to improve the living conditions and future prospects of the children living there.

There are many areas in which the project can help. Childhood in Vila Verde is shaped by a great many problems, including bad eating habits, poor hygiene, a lack of discipline, and a lack of respect toward classmates and teachers. That's why the program devised by the HR department of the local Bosch plant and the children's teachers is committed to providing education in the widest sense, ranging from healthcare and classroom activities to sports and cultural activities. In total, 1,500 Bosch associates are involved in this program, where they work alongside other volunteers.

Anyone visiting Vila Verde today will see what it means to give children hope for the future. For example, the children put on their own show focusing on oral hygiene, demonstrating the difference between healthy and decayed teeth. What's more, the primary school – from which the children often played hooky in the past – is now open all day and offers a whole range of leisure activities, which is also having a positive impact on the crime statistics. In 2006, the program was extended to Vila Barigui, another district of Curitiba. The association "Primavera Hilfe für Kinder in Not e.V.," founded by Bosch associates, funds parts of the program through donations and has enabled the construction of a cultural center and various workshops in Vila Verde.

Primavera's donations and voluntary work do not just benefit children in need. The work of the association, which was founded in 1990, also helps secure the future of one of the biggest Bosch sites, because the children of today are <u>the associates of tomorrow</u>.



#### Using free time to help others

People who help others and give their time voluntarily to do so create a benefit for society and strengthen their social skills at the same time. That's why Bosch supports the voluntary activities of its associates - from apprentices to managers. For example, apprentices at Bosch Rexroth in Lohr, Germany, spend a week in institutions for disabled people. For the second time, the initiative "Time for People" organized by the in-house social services department at Bosch in Stuttgart, Germany, staged an activities day in old people's and nursing homes. Bosch associates used the opportunity, for example, to take residents on excursions or to help them set up an internet cafe. Many of our associates also help out at educational institutions, such as the occupational training center in Jihlava, Czech Republic, and others support environmental projects, such as the project to protect reservoirs in Goner, India.

#### Helping people in need

► 25 Improving medical aid Our Chinese associates in particular donated very generously when several earthquakes hit the Sichuan Province in May, killing tens of thousands of people and destroying vast areas. The Chinese regional and joint venture companies boosted the donations of some 175,000 euros to a grand total of 690,000 euros. Robert Bosch GmbH donated an additional 750,000 euros. Primavera Hilfe für Kinder in Not e. V. (Primavera Help for Destitute Children), an association of present and past Bosch associates, will use this money to help finance the construction of two schools. Associates at our Chinese regional company will help Primavera supervise the project.

Primavera was founded in 1990 to support aid projects at Bosch Group sites worldwide. Associates or their family members inspect and support local aid projects. Thanks to the voluntary help of everyone involved, every single euro directly benefits children and young people in need.

In India, the first Primavera aid project started in 1991, in the Thangamalai slum district of Bangalore. Since then, 57 shacks have been replaced with small houses, thus creating better living conditions for families. The district kindergarten, which was established in 1995 and cares for 30 children, was also given a new home. The money donated by Primavera also helps 125 children attend school each year by bearing two-thirds of the costs for school fees, books, and school uniforms. Parents pay the remainder themselves.

#### **Raising ecological awareness**

It is a special concern of our regional company in India to promote environmental awareness among teachers and pupils. One of the most urgent environmental problems in the country is the shortage of water, compounded by the falling groundwater level and pollution. In cooperation with the Center for Environmental Education in Bangalore, Bosch spent six months in 2007 training 40 teachers and principals as well as 1,000 schoolchildren in matters relating to efficient water usage, energy saving, and biodiversity. On World Environment Day, additional environmental activities were organized in the schools. As the program was such a resounding success, it is to be extended to 50 schools and 2,500 schoolchildren in 2008.

### **Robert Bosch Stiftung**

Since 1964, the majority shareholder of Robert Bosch GmbH has been Robert Bosch Stiftung GmbH, a charitable foundation. The Stiftung carries on the charitable and social endeavors of the company's founder in contemporary form. The Robert Bosch Stiftung sees itself both as an "operative foundation" that pursues its objectives with programs of its own, and as a supportive foundation that enables others to develop and implement suitable projects or initiatives for tackling the tasks faced by society.

With political far-sightedness, the courage of his convictions, and his own charitable initiatives, Robert Bosch set the standards for the work carried out by the Robert Bosch Stiftung. This foundation currently supports projects in science, health, international relations, education, society, and culture. Each year, some 800 new "internal" and "external" projects are selected, and are supervised by a total of 100 associates. Sixty percent of these projects have an international bearing. The support offered by the Stiftung includes grants, competitions, awards, and programs for journalists.

#### Main areas supported by the Stiftung

In 2008, the work of the Stiftung is again focusing on the challenges facing society, such as improving our education system, integrating the migrant population, the process of European unification, and the effects of demographic change.

The Stiftung has a long-term commitment to international understanding, concentrating its support in this area on junior executives in public office, the media, business, and administration. Encounters are made possible on many levels. The objectives of these events are to foster dialogue, to discuss issues of bilateral cooperation, and to dispel prejudice. The Stiftung supports activities to establish a sustainable health system in Germany. Support is above all given to projects that lead to tangible improvements and changes in everyday life. The Stiftung provides answers to demographic change by initiating studies and projects that aim to provide lasting improvement in the situation of families and to replace outdated notions of age.

Total 2007 project grants by Robert Bosch Stiftung (in millions of euros)	
Science and research	5.5
Health and humanitarian aid	5.7
International relations: western Europe, USA	10.9
International relations: central and eastern Europe	10.3
Education and society	7.9
Society and culture	6.1
Research at hospital and institutes <sup>1</sup>	5.6
Investments in the Robert Bosch Hospital	5.2
Endowments within the Stiftung	
Total	58.9

<sup>1</sup>Dr. Margarete Fischer-Bosch Institute for Clinical Pharmacology, Institute for Medical History of Robert Bosch Stiftung

It strengthens Germany's position as a scientific center, promotes young academic talent, and helps shape international scientific dialogue. Support is also given to projects aimed at improving, at a local level, the co-existence of people with and without a migrant background. The Stiftung also provides stimuli for the further development of the German education system.

The following dependent foundations exist within the Robert Bosch Stiftung: the Otto und Edith Mühlschlegel Stiftung, the Hans-Walz-Stiftung, the DVA-Stiftung, and the Rochus und Beatrice Mummert-Stiftung.

 Additional information can be accessed at: www.bosch-stiftung.de

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Additional information about the company can be found in the Annual Report 2007, in the brochure "Bosch today," or in the internet at www.bosch.com csr.bosch.com

The above brochures are also available in German. They can be ordered by email from: bosch@infoscan-sinsheim.de

#### **Cover picture**



In Feuerbach near Stuttgart, Germany, Bosch apprentices show children how technology works. The project "Early childhood education and care – new departures in education" was awarded the Education and Training 2007 initiative prize by the Otto Wolff Foundation and the German Chamber of Commerce and Industry (DIHK).

### **Data and targets**



The supplement "Corporate Social Responsibility – Data and Targets" should be included here.

### Basic Principles of Social Responsibility at Bosch

#### 1. Human rights

We respect and support compliance with internationally recognized human rights, in particular as regards those of our associates and business partners.

#### 2. Equal opportunities

We uphold and affirm equal opportunity among our associates, regardless of the color of their skin, race, gender, age, nationality, social origin, handicap, or sexual preference. We respect the political and religious convictions of our associates as long as they are based on democratic principles and tolerate those of different persuasions.

#### 3. Integration of handicapped people

In our view, handicapped people possess equal rights as members of society and business life. Encouraging them, integrating them into the enterprise, and working with them in an atmosphere of cooperation are pivotal elements of our corporate culture.

#### 4. Free choice of jobs

We reject forced labor of any kind and respect the principle of freely chosen employment.

#### 5. Rights of children

We condemn child labor and respect the rights of children. All enterprises in the Bosch Group will adhere to the stipulations of ILO Convention no. 138 and no. 182.

### 6. Relations with associate representatives and their institutions

We recognize the fundamental right of all associates to form trade unions and to join these trade unions of their own free will. Associates will neither receive undue advantage nor suffer any disadvantage as a result of their membership in trade unions.

Within the framework of respective legal regulations – insofar as these are in harmony with the ILO Convention no. 98 – we respect the right to collective bargaining for the settlement of disputes pertaining to working conditions, and endeavor together with our partners to work together in a constructive manner marked by mutual confidence and respect.

#### 7. Fair working conditions

Our remuneration and social benefits conform at the very least to national or local statutory standards, provisions, or respective agreements. We observe the provisions of ILO Convention no. 100 with respect to the principle of "equal remuneration for work of equal value."

We comply with national provisions regarding working hours and vacation. Any associate may complain to their respective line manager or senior management if they believe they have been subject to unfair treatment or have suffered disadvantages with respect to working conditions. Associates will not suffer any disadvantage as a result of lodging such complaints.

#### 8. Occupational health and safety

Safety at the workplace and the physical wellbeing of our associates has top priority. Bosch adheres at the very least to the relevant national standards for a safe, hygienic working environment and takes appropriate action within this framework to ensure its associates. health and safety at their workplace in order to guarantee working conditions which are not harmful to health.

#### 9. Qualification

We encourage our associates to train to acquire skills and knowledge and to expand and enhance their professional and specialist know-how.

#### **10. Environment**

We can look back on a very long tradition of commitment to preserving and protecting the environment. In addition, we contribute to the further improvement of living conditions at our locations. Our basic principles of environmental protection reflect our duty toward the environment and are the basis for many initiatives which are implemented throughout the company.

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AR = Annual Report 2007

D = Data section

Every single core indicator is presented. Gaps in numeration need to be attributed to the fact that additional indicators are not presented in the index. GRI application level: Self declaration Level C.

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