

150th anniversary of Robert Bosch's birth

**Bosch Group: 125 years of "knowing how, thinking beyond"**

Drivers of innovation

**Bosch today**

Innovations

Power of innovation

Culture of innovation

**125**  
Years  **Bosch**  
1886-2011



**BOSCH**  
Invented for life

# 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 the values we live by – day for 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.

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# The Bosch Group at a Glance

## Shareholders of Robert Bosch GmbH

- ▶ Robert Bosch Stiftung GmbH | 92% share of equity | no voting rights
- ▶ Bosch family | 7% share of equity | 7% voting rights
- ▶ Robert Bosch Industrietreuhand KG | 93% voting rights
- ▶ Robert Bosch GmbH | 1% share of equity | no voting rights

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 285,000 associates generated sales of 47.3 billion euros in fiscal 2010. The Bosch Group comprises Robert Bosch GmbH and its more than 350 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. Bosch spent 3.8 billion euros for research and development in 2010, and applied for over 3,800 patents worldwide. With all its products and services, Bosch enhances the quality of life by providing solutions which are both innovative and beneficial.

Bosch is celebrating its 125th anniversary in 2011. 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. Ninety-two 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.

Bosch Group	2009	2010
<b>Sales revenue</b>	38,174	<b>47,259</b>
percentage change from previous year	-15	<b>+24</b>
percentage share of sales revenue generated outside Germany	76	<b>77</b>
<b>Associates<sup>1</sup></b>	270,687	<b>283,507</b>
located in Germany	111,710	<b>113,557</b>
located outside Germany	158,977	<b>169,950</b>
<b>Capital expenditure</b>	1,892	<b>2,379</b>
as a percentage of sales revenue	5.0	<b>5.0</b>
<b>Research and development cost</b>	3,603	<b>3,810</b>
as a percentage of sales revenue	9.4	<b>8.1</b>
<b>Profit before tax</b>	-1,197	<b>3,485</b>
<b>Profit after tax</b>	-1,214	<b>2,489</b>

Currency figures in millions of euros

<sup>1</sup>As per January 1, 2010|2011

**Additional information is available online at:  
[www.bosch.com](http://www.bosch.com)**

# The Business Year 2010

The year 2010 brought a strong recovery for the Bosch Group, with sales surpassing the pre-crisis level of 2007 far earlier than anticipated. Having sustained the greatest losses during the economic crisis, the Automotive Technology and Industrial Technology business sectors came back particularly strongly. The Consumer Goods and Building Technology business sector continued to record steady growth. Result was also significantly better than originally forecast. The rapid recovery was driven primarily by the greatly improved global economic conditions.



Bosch Engineering GmbH (BEG) combines custom solutions with the advantages of proven large-scale series production. It runs a state-of-the-art performance test bench at the Bosch location in Abstatt, Germany.

### **Business in Asia drives growth**

Despite the economic crisis, we continued to expand our presence in the rapidly growing emerging markets of Asia, and this worked to our benefit. We were able to improve Bosch Group sales in Asia Pacific by 43 percent to 11 billion euros. Even after adjusting for currency effects, the sales increase was still 31 percent. For the first time, sales in this region climbed to 23 percent of total Bosch Group sales (previous year: 20 percent).

### **Clear growth in all business sectors**

The Automotive Technology business sector increased its sales by 29 percent, to 28.1 billion euros (24 percent increase after adjusting for currency effects). Despite the sale of its foundation brakes business in North America, therefore, its sales nearly regained their pre-crisis level of 2007. From mid-2010, a strong recovery also began to gather pace in the capital goods industry. In 2010, sales of the Industrial Technology business sector rose by 30 percent (26 percent after adjusting for currency effects) to 6.7 billion euros. All the divisions of the Consumer Goods and Building Technology business sector improved their sales, particularly in consumer-related areas. All in all, sales of consumer goods and building technology rose by 10 percent to 12.5 billion euros. After adjusting for currency effects, the increase was 6.4 percent.

### **Result once again within target corridor**

The strong growth in sales was one of the main reasons figures were significantly better than originally expected. We disclose a pre-tax profit of 3.5 billion euros, compared

with a loss of 1.2 billion euros in the previous year. Apart from cutbacks and growth in sales, important factors in this marked improvement included improvements in a number of areas requiring restructuring measures. These operational improvements more than offset the effects of the significantly higher raw materials prices that accompanied the upturn.

### **Renewed upward trend in headcount**

In the course of the year, the number of associates worldwide rose by 12,800 - or nearly 5 percent - to 283,500. This growth was centered primarily on Asia Pacific, where more than 63,000 associates now work for the Bosch Group. Headcount in China increased by some 5,000 to 26,200, while in India it rose by 2,200 to its current total of 20,800. However, headcount also grew in other regions. In Germany, it rose to 113,600, compared with 111,700 one year previously.

### **Enhancing capacity to innovate**

In 2010, having also maintained a high level of spending on research and development throughout the economic crisis, we increased R&D expenditure by some 6 percent, to 3.8 billion euros. At the end of the year, approximately 34,000 associates were working in this area worldwide. We further strengthened our global research network by opening an additional research center in Singapore, with operations in Shanghai and Tokyo. And in order to pool our research, advance engineering, and process engineering activities, we also acquired a substantial area of land close to Stuttgart.

The Bosch Group operates in the following fields:

- ▶ Automotive technology
- ▶ Automation technology
- ▶ Packaging technology
- ▶ Solar energy
- ▶ Power tools
- ▶ Heating technology
- ▶ Household appliances
- ▶ Security systems

### **No changes to strategic framework**

The business policy principles and measures that we applied to help us through the crisis paid off. These included comprehensive cutbacks, a strategy of safeguarding liquidity by putting in place systematic inventory management, and deliberate limits on capital expenditure and acquisitions. However, our long-term business strategy meant that it was also extremely important for us to keep our core team on board and preserve our innovative strength. Even during the crisis, we further expanded our presence in the Asia Pacific growth region. In this way, we ensured that we will be able to take full advantage of our future opportunities.

Having come through the recession quickly and returned to the positive trend of the pre-crisis period, we can now refocus on our company's long-term development.

# Innovation

The innovative strength of the Bosch Group will continue to be a decisive asset in the future. At Bosch, the main drivers of innovation are resourceful and highly committed engineers, a high-performance yet efficient research organization, and a historical background that is both an inspiration and an obligation, driving us on to further outstanding achievements. Again and again, the culture of innovation that has developed over the years has given rise to groundbreaking and beneficial technology that is “Invented for life.”



In Arnstadt, Germany, Bosch Solar Energy AG operates arrays known as “movers” that adjust to the position of the sun. Each individual element is 5.8 meters high and 10.6 meters wide. Thanks to a newly developed mechanism, the arrays’ yield can be improved by up to 40 percent.

### **Solar cell development**

A solar module manufactured by Bosch Solar Energy AG contains up to 60 cells. Their efficiency determines the output of the modules – and hence the competitiveness of photovoltaic technology. The people who develop our crystalline solar cells are systematically working on new cell generations. The next solar cell generation is due to enter pilot fabrication in early 2011.

CalLab, the independent photovoltaic calibration laboratory at the Fraunhofer Institute for Solar Energy Systems (ISE), has confirmed efficiency values of 18.9 percent for our new cells. This equates to a one percentage-point increase compared with today's standard cells. Latest results in the laboratory have already reached values of 19.5 percent.

### **Telehealth**

Bosch has developed an innovative solution for the remote monitoring of patients who suffer from chronic conditions. In addition to involving the routine recording of medical data such as blood pressure, weight, blood sugar, and oxygen saturation, the Bosch Telehealth Plus concept also asks patients a series of questions on a daily basis, and collates their answers.

This comprehensive Bosch package has already demonstrated its practical worth. For instance, Bosch cooperates with the Veterans Health Administration in the United States. In Germany, it has been responsible for the technical side of the “Partnership for the Heart” consortium since 2006.

## **Electromobility**

For the next 20 years, the internal-combustion engine will remain the powertrain of choice. Per kilogram of energy storage, and as technological developments stand at present, a car equipped with such an engine can drive roughly 40 times farther than an electric vehicle. And there is still potential to further reduce the consumption and emissions of internal-combustion engines. In the long term, however, electric motors will play an important role. Bosch has based its strategy on these considerations, fine-tuning diesel and gasoline engines while at the same time investing major effort in the electrification of the powertrain. Bosch already has a full product portfolio for hybrid and electric powertrains. With all these products, plus the lithium-ion batteries from the SB LiMotive joint venture set up with the Korean company Samsung SDI, Bosch is in a position to supply the entire electrical powertrain - from the energy-storage medium to the electric motor.

## **Pilot project in Singapore**

Bosch has successfully bid for a pilot project in Singapore. It involves a software-based service platform for electromobility as well as the requisite charging and communication infrastructure. The Bosch eMobility Solution platform enables drivers of electric vehicles to quickly find a vacant charge spot, and if necessary to reserve it in advance. The eMobility Solution is designed to be open and flexible, so that additional business models and value-added services can be integrated, such as the option for drivers to reserve power from renewable sources at the corresponding “eco-rates” or plan routes including alternative forms of transportation.



Bosch has set up a new manufacturing facility for electric motors in Hildesheim, Germany.

### **Engineers in close-up**

Franz Lärmer and Andrea Urban have known and respected each other for a long time. Working in the Research and Advance Engineering corporate sector in the early nineties, Lärmer's task seemed to be an insurmountable one. When his work nonetheless started to show initial signs of progress, Bosch allowed him to take on another associate. Together with his new colleague Andrea Urban, Lärmer cut the Gordian knot: the two managed to develop a process for the mass production of microsensors, including highly sensitive yaw-rate sensors. Yaw-rate sensors are at the heart of the ESP® electronic stability program, the highly

successful safety system Bosch supplies to the automotive industry.

Throughout their scientific (ad)venture, the associates knew that they could always count on support from Bosch. Research is regarded as one of the pillars underpinning the company's future success. Even in times of crisis, it remains virtually non-negotiable. In 2007, the solution to microsensor manufacturing also earned the duo the title "Inventor of the Year" from the European Patent Office. Today, both are still diligently adding to their extensive patent collections.



The European Patent Office named Dr. Franz Lärmer (50) and Andrea Urban (43) the "Inventors of the Year" in 2007.

“Research is like running a marathon,” says Franz Lärmer. “Only those at the top of their game reach the finish line.”

### **Electronic sensory organs**

Since production started in 1995, Bosch has manufactured well over 1.5 billion microelectromechanical (MEMS) sensors. This makes Bosch the uncontested world market leader. Sensors are electronic sensory organs that enable machines to detect their environment. MEMS sensors feature mechanical components such as springs, beams, weights, and membranes, all in the form of delicate silicon structures only thousandths of a millimeter thick. They accurately and reliably measure physical parameters such as pressure, acceleration, yaw rate, and flow rate. For the consumer sector, it is not sufficient simply to deliver reliability and robustness. While this is enough for automotive engineering applications, the consumer sector needs sensors to be economical, as well as ever smaller in size. Bosch makes the world’s smallest MEMS acceleration sensors. Measuring just 2 x 2 x 0.95 millimeters, their power consumption in stand-by mode is lower than the battery’s self-discharge rate.

### **Motorcycle ABS can save lives**

It was an achievement worthy of special recognition: in 2010, the new Bosch motorcycle ABS garnered the coveted “Gelber Engel” (yellow angel) innovation prize from the ADAC, Europe’s largest automobile association. The previously available systems had all been derived from passenger-car technology and were appropriate mainly for large motorcycles with 250 cc displacement or more. But they were simply too heavy for smaller classes. That was the

challenge the engineers at the Bosch motorcycle ABS competence center in Yokohama, Japan, decided to tackle. They created the new-generation “ABS 9 base” – at 0.7 kilograms, much lighter and just half the size of its predecessor. Experts regard the motorcycle ABS as a huge boost to safety.

### **Drives for e-bikes**

Bosch has entered the expanding market for electric drives for pedelecs. At the heart of the e-bike drive is the drive unit, an electric motor with a control unit and sensors. The first bikes featuring Bosch drives premiered at the Eurobike trade show in Friedrichshafen, Germany, in September 2010.

### **Saving fuel with start-stop systems**

Too much fuel is wasted when engines are left running at red lights or in traffic jams. This is where the Bosch start-stop system comes in. It automatically stops the engine at a red light or when the vehicle comes to a standstill in traffic, and it restarts the engine as soon as the clutch is engaged and the car is shifted into first gear. The system makes it possible to reduce fuel consumption by up to 8 percent in urban driving. Since series production started in 2007, Bosch has equipped some 2.5 million vehicles with economical start-stop systems.

### **Tapping into stored energy**

Bosch Rexroth’s HRB hydrostatic regenerative braking system saves fuel, protects the environment, and reduces the operating costs of heavy-duty trucks that frequently have to stop and move off again. Instead of the kinetic energy that is generated during braking being wasted as unused heat, it is converted into hydraulic energy and stored in special pressure accumulators.

During the next acceleration cycle, the stored energy is fed back into the propulsion system to reduce the load on the internal-combustion engine. It lowers fuel consumption and hence CO<sub>2</sub> emissions by up to 25 percent, and brake wear by as much as 50 percent. Following a successful test phase, the HRB system went into series production in October 2010.

### **Drill/driver with cult status**

The Ixo, the world's most successful cordless drill/driver, has now achieved cult status. Today, some ten million of the small, versatile drill/drivers are being used by do-it-yourselfers around the world. No other power tool has ever set such a record. As the world's first tool to feature lithium-ion battery technology, the Ixo created a new market in 2003.

### **Smart washing machines**

Brand new on the market: a Bosch washing machine that can figure out by itself how much detergent to use. Depending on how much laundry you have, how soiled it is, and how hard your water is, the machine automatically releases the right amount of liquid detergent and softener, which flow from its reserve tank into the water. This precise dispensing system reduces the amount of detergent used in the washer by up to 30 percent compared with conventional appliances. The new Logixx 8 washers are equipped with special sensors that can recognize fabric types and how dirty the laundry is, and adjust the amount of water pumped in, the number of rinse cycles, and the spin speed accordingly.

**Additional information about Corporate Research is available online at: [www.research.bosch.com](http://www.research.bosch.com)**

# Automotive Technology

The year 2010 saw the automotive market recover far more quickly than expected. At 76 million vehicles, global vehicle production was 23 percent up on 2009, and even exceeded its 2007 level. Our Automotive Technology business sector benefited significantly from the positive market developments, in particular due to our substantial presence in major growth economies such as China and India. Sales grew strongly to over 28 billion euros, 29 percent up on the previous year.



Our new motorcycle ABS was developed entirely in Japan. It was awarded the “Gelber Engel” (yellow angel) in early 2010 by the ADAC, the German automobile association. The picture shows Bosch engineers carrying out application work after a field test.

Key data	2010
Associates	167,040
Sales revenue	28,097
Capital expenditure	1,556
R&D cost	3,004

Currency figures in millions of euros

Automotive Technology is the largest Bosch business sector. It generates some 59 percent of total group sales. The seven largest business areas are: fuel-injection systems for internal-combustion engines, peripheral devices for powertrain control, alternative drive concepts, active and passive vehicle safety systems, driver-assistance and other guidance functions, in-car information and communication systems, and a range of after-sales, engineering-support, and service concepts for the automotive aftermarket.

### **The future belongs to alternative powertrain concepts**

Technical and environmental issues returned to dominate discussion in the automotive sector during the upturn in 2010. Focal points included energy efficiency, resource conservation, future powertrain concepts, and systems and functions designed to improve safety and comfort. We offer automakers across the globe a wide range of solutions in all these areas. And despite the difficult economic climate of the past two years, we have fully maintained our R&D expenditure for areas with a promising future. This strategy has paid off, enabling us to gain an edge over our competitors in many areas.

In Bosch's view, electromobility has a promising future for individual transportation over the long term. That is why we invest some 400 million euros annually in this business field, working on powertrain electrification and developing systems solutions for hybrid and electric vehicles. In 2010, we started series production of a parallel full hybrid in two premium models. Starting in 2011, a further auto-maker will be marketing diesel vehicles that incorporate Bosch hybrid technology.

The biggest technical challenge in electromobility is energy storage - the battery, in other words. It needs to be powerful, durable, robust, and cost-effective. In a joint venture with Samsung SDI, Bosch has been developing such batteries since 2008. This joint venture, SB LiMotive Ltd., supplies battery cells and systems, and gained new major customers in 2010. In November 2010, series production started at the joint venture's manufacturing facility in Ulsan, Korea.

Bosch manufactures automotive technology at 122 locations in 29 countries.

#### **Divisions**

- ▶ Gasoline Systems
- ▶ Diesel Systems
- ▶ Chassis Systems Brakes
- ▶ Chassis Systems Control
- ▶ Electrical Drives
- ▶ Starter Motors and Generators
- ▶ Car Multimedia
- ▶ Automotive Electronics
- ▶ Automotive Aftermarket
- ▶ Steering Systems<sup>1</sup>

<sup>1</sup> ZF Lenksysteme GmbH (50% Bosch-owned)



Associates at our Bosch Software Innovations systems unit with the prototype of a charge spot for electric cars. In Singapore, Bosch has won a bid to create a software-based service platform for electromobility.

Also in the electromobility field, our subsidiary Bosch Software Innovations GmbH has successfully bid for a pilot project in Singapore that comprises a software-based service platform for e-mobility, as well as the necessary charging and communication infrastructure to go with it.

### **Internal-combustion engines – still plenty of potential**

Internal-combustion engines will remain the dominant drive system in passenger cars for at least another 20 years, and in commercial vehicles for much longer.

That is why we are working closely with automakers to enhance the efficiency of such engines. We believe that the potential exists to further reduce fuel consumption in diesel and gasoline engines by some 30 percent over the next few years. Such a reduction will also allow them to comply with the CO<sub>2</sub> fleet limits that will come into force in the future. Moreover, we have developed injection systems that will make it possible to use natural gas or fuels produced either synthetically or from renewable raw materials.



The Electrical Drives division develops and manufactures low-power electrical motors for use in the automotive industry. More than 72 million motors are manufactured at the Bosch plant in Bülh, Germany, each year.

Engines with direct injection and turbocharging are the key to lower consumption. Both systems are already standard for diesel engines, and a growing number of gasoline engines are also being fitted with them. Efficiency can be improved still further by reducing displacement while keeping performance constant - a process known as downsizing. More and more engines, particularly in Europe, are being downsized. We offer injection systems for each type of engine - for gasoline engines we have second-generation direct injection systems, and for diesel engines we have systems that use solenoid and piezo valves and generate injection pressures of over 2,000 bar. Bosch Mahle Turbo Systems GmbH & Co. KG, a joint venture founded in 2008, supplies turbochargers for both gasoline and diesel engines. Series production will start in late 2011.

When equipped with exhaust-gas treatment systems, diesel engines can satisfy the most stringent environmental standards. We supply the Denoxtronic urea-metering system for use in passenger cars and commercial vehicles. In conjunction with an SCR catalytic converter, this system helps lower nitrogen-oxide emissions considerably and also offers additional potential for cutting consumption. For use in commercial vehicles, we supply Departronic, a system that injects diesel fuel into the exhaust-gas flow and thus helps to regenerate the particulate filter.

**Additional information about Automotive Technology is available online at: [www.bosch-kraftfahrzeugtechnik.de](http://www.bosch-kraftfahrzeugtechnik.de)**

# Industrial Technology

It was not until the second half of 2010 that business in the Industrial Technology business sector picked up, ultimately generating sales of 6.7 billion euros for the year as a whole, an improvement of 30 percent on the previous year. Operations at Bosch Rexroth AG and in our Packaging Technology division were boosted by strong growth in markets such as Asia Pacific and South America. Our subsidiaries Bosch Solar Energy AG and also solar AG benefited from a boom in the German photovoltaics market.



We have developed a completely new conveyor system for packaging delicate foodstuffs and confectionery. The compact system ensures that the items to be packaged are moved quickly and spaced evenly as they move toward the point of packaging.

Key data	2010
Associates	43,415
Sales revenue	6,660
Capital expenditure	386
R&D cost	334

Currency figures in millions of euros

Bosch's activities in the Industrial Technology business sector comprise automation technology, packaging technology, and photovoltaics. The Bosch subsidiary Bosch Rexroth offers a complete range of drive, control, and actuation solutions based on hydraulic, electric, mechanical, and pneumatic technologies. In packaging technology, Bosch has become a specialist supplier of processing and packaging lines for the pharmaceuticals, foodstuffs, and confectionery industries.

### Market environment has changed

The crisis has rapidly and lastingly changed the market environment for our drive and control products. Asia Pacific now offers by far the greatest growth potential for us, and there is now growing demand for solutions that combine multiple technologies. Accordingly, Bosch Rexroth has repositioned itself in the market. The Mobile Applications unit offers components, modules, and systems solutions for mobile machinery, primarily for use in construction and agriculture. The new Industrial Applications unit supplies the general mechanical and industrial engineering sector with our comprehensive portfolio of drive and control technologies. The Renewable Energies

unit combines the gearbox and drive solutions we have developed for plants that harness wind power and other renewable energy sources.

### **Packaging technology grows in Asia**

Over the course of the year, the core business of our Packaging Technology division benefited from growth in the global economy, with orders from the pharmaceuticals sector playing a crucial role. This was particularly true in China, where we succeeded in expanding our strong market position. At our Hangzhou location, we doubled production capacity. In India, we took the first steps toward the construction of a new plant in Verna.

### **Photovoltaics boom**

Global demand for photovoltaics increased again in 2010. The cause for the demand increase in Germany was the

Bosch manufactures industrial technology at 97 locations in 25 countries.

#### **Divisions**

- ▶ Drive and Control Technology<sup>1</sup>
  - Mobile applications
  - Industrial applications
  - Renewable energies
- ▶ Packaging Technology
  - Process technology
  - Packaging technology
  - Systems solutions
- ▶ Solar Energy
  - Ingots
  - Wafers
  - Solar cells
  - Crystalline solar modules
  - Thin-film solar modules
  - Solar power stations

<sup>1</sup> Bosch Rexroth AG (100% Bosch-owned)



Research laboratory for the production of organic photovoltaic cells at our southeast Asian headquarters in Singapore

announcement of further cuts to the electricity feed-in tariff. This news triggered a boom for photovoltaic systems, although it also brought increased price pressure. Our subsidiaries Bosch Solar Energy AG and also solar AG benefited from the rise in demand and achieved impressive growth. By 2012, we will have tripled our manufacturing capacity for crystalline solar cells.

**Additional information is available online as follows:**

Drive and Control Technology [www.boschrexroth.com](http://www.boschrexroth.com)

Packaging Technology [www.boschpackaging.com](http://www.boschpackaging.com)

Solar Energy [www.bosch-solarenergy.de](http://www.bosch-solarenergy.de)

# Consumer Goods and Building Technology

The demand for consumer goods across the globe rose again in 2010. Recovery in the construction industry was much slower to set in. Nonetheless, sales of power tools, heating technology, security systems, and household appliances increased by 10 percent to 12.5 billion euros. The stimuli for this growth came from Asia, while development was stable in Europe and weak in North America. We see considerable growth opportunities in the emerging markets.



We have greatly expanded our production facilities in Wetztingen, Germany, where we manufacture solar collectors that are used to heat water and support heating systems. We also have production facilities in Aveiro, Portugal.

Key data	2010
Associates	63,792
Sales revenue	12,480
Capital expenditure	395
R&D cost	468

Currency figures in millions of euros

Bosch's activities in the Consumer Goods and Building Technology business sector include power tools, heating technology, and security systems. They also include the household appliances made by the fifty-fifty joint venture BSH Bosch und Siemens Hausgeräte GmbH.

### Power tools

Following the major downturns of the previous year, 2010 saw a recovery in the global market for power tools. We succeeded in outperforming market growth in all our core business segments. Innovative tools and accessories have brought us great success among do-it-yourselfers and professionals alike. The Asia Pacific growth region was a focal point for our strategy in 2010. In the past, our operations in this region have focused primarily on tools for professional end users. In addition to measuring technology and accessories, we also want to grow in the garden tools segment. We entered the Indian market with our power tools in 2010.

### Heating technology

During 2010, our heating technology business recovered well, primarily outside Germany. Some 70 percent of sales in our heating technology operations were generated

Bosch manufactures consumer goods and building technology at 81 locations in 28 countries.

### Divisions

- ▶ Power Tools
  - Power tools for the building trade, industry, and the DIY sector
  - Accessories
  - Garden tools
- ▶ Thermotechnology
  - Heating units and boilers
  - Open-loop and closed-loop control systems
- ▶ Household Appliances<sup>1</sup>
  - Cooking, dishwashing
  - Washing, drying
  - Cooling, freezing
  - Cleaning of floor surfaces
  - Consumer products
- ▶ Security Systems
  - Product business
  - Building security
  - Communication centers

<sup>1</sup>BSH Bosch und Siemens Hausgeräte GmbH  
(50% Bosch-owned)

outside Germany. Our acquisition of the German company Köhler & Ziegler Anlagentechnik GmbH in March 2010 enabled us to expand our portfolio in the combined heat and power market. In November 2010, we agreed to increase our shareholding in RBS Thermotechnology Co. Ltd. - based in Jiading in Shanghai - from 70 to 100 percent. Acquiring this company strengthens our presence in China.

### Security systems

There was a distinct recovery in the global market for security technology during the latter half of 2010. The European and North American markets showed initial signs of improvement, while growth in South America and Asia continued unabated. The recovery was especially

beneficial for our product business, which had been particularly badly hit by the economic crisis. The situation for our building technology business was also much improved. Furthermore, we are expanding our comprehensive service-provider business internationally by setting up communication centers. For example, we opened new communications centers in Manila, Lisbon, and Vienna, as well as in Joinville in Brazil and in Châlons-en-Champagne in France.

### **Household appliances**

In 2010, BSH Bosch und Siemens Hausgeräte GmbH significantly increased its sales. The backlog in demand generated by the economic crisis had a positive impact on business in Europe. BSH also further expanded its presence in China. The positive development in business also resulted from the attractiveness of products that focus on economy and energy efficiency. At BSH, resource efficiency is more than just a sales pitch. It is a strategic objective. Like the entire Bosch Group, BSH regards a business policy that reconciles environmental and economic interests as the basis for a corporate strategy that is geared to sustainability. These products secure major advantages for BSH in a competitive international market.

### **Additional information is available online as follows:**

Power Tools [www.bosch-pt.com](http://www.bosch-pt.com)

Thermotechnology [www.bosch-thermotechnology.com](http://www.bosch-thermotechnology.com)

Security Systems [www.boschsecurity.com](http://www.boschsecurity.com)

Household Appliances [www.bosch-home.com](http://www.bosch-home.com)

# Our Responsibility

We are convinced that the sustainable development of our company is indispensable to our long-term success. Within this context, corporate social responsibility means keeping business, technological, social, and environmental interests in balance. Accordingly, the standards we set are particularly high: in terms of how we define leadership, how we deal with associates, how we treat the environment, and how we engage with society.



To boost the number of women in engineering, we offer female university graduates a twice-yearly special junior managers program.

## Leadership

For us, securing the successful, sustained development of our company is the mission Robert Bosch handed down in his will. He considered it absolutely vital to remain financially independent, autonomous, and “able to take appropriate action” at all times. And the high standards he set applied not only to his company’s products but also to social responsibility.

The key to maintaining our independence is our distinctive corporate constitution - with a charitable foundation and the Bosch family as shareholders, and with an industrial trust that carries out the entrepreneurial ownership functions. During the difficult times of the economic crisis in 2008 and 2009, our independence enabled us to maintain a balance between making the savings that were necessary on the one hand and keeping our options for the future open on the other. It was also important for us to distribute the burden of these measures as evenly as possible. As we emerge from the crisis, we now face the challenge of accelerated change. Globalization is a major driver of this change. Added to this, there are the fundamental market shifts triggered by an ever greater networking of people, things, and services through the internet.

In the face of such challenges, an international company like the Bosch Group needs to be guided by a set of basic ideals that are shared. In order to provide our associates with a road map, we published a brochure known as the House of Orientation, which is based on our corporate culture. The Bosch values are a central element of the House

of Orientation: in addition to a clear future and result focus, we also commit to responsibility, initiative and determination, openness and trust, fairness, and cultural diversity, as well as to reliability, credibility, and legality.

### **Associates**

Our innovative strength plays a pivotal role in our efforts to meet our long-term growth targets. That is why we have continued to invest in expanding research and development in particular, hiring highly qualified new associates in this area. By the end of 2010, Bosch had 26,000 associates working in research and development in automotive technology alone, some 1,000 more than at the beginning of the year. Our R&D workforce showed the strongest growth in Asia, where the number of engineers rose from some 7,000 to over 8,000. Some of them work in Singapore, where in September we opened our Research and Technology Center Asia Pacific, which also has operations in Shanghai and Tokyo.

We are boosting our innovative strength in Germany as well. The year 2011 will see the start of construction work on a new center for research, advance engineering, and process engineering near Stuttgart, which will initially employ some 1,200 associates.

Diversity and equal opportunity are drivers of innovation. We therefore plan to expand the number of women in executive positions from currently just under 10 percent to 15 percent by 2012.



Bosch CEO Franz Fehrenbach at members' day for the "Knowledge Factory," a network initiative organized by German companies to promote young talent in technology and science. Fehrenbach learned about a school project devoted to "hands-on economics." Schoolchildren from Ditzingen, near Stuttgart, presented their business ideas.

## **Environment**

Bosch provides technical solutions to environmental challenges. We spend some 45 percent of our research and development budget on resource-conserving and energy-saving technologies, and generate nearly 40 percent of our sales with them. In our production processes, too, we work hard to minimize environmental impact. Our climate protection goal for 2020 is to reduce carbon dioxide emissions at all our manufacturing plants by at least 20 percent

compared with 2007 levels. In 2010 we reduced relative CO<sub>2</sub> emissions by 4.4 percent compared with 2007.

Our subsidiary Bosch Rexroth has developed a systematic approach for unlocking energy efficiency potential at every stage of a machine's life cycle. The "Rexroth for Energy Efficiency" (Rexroth 4EE) program looks at all drive and control systems and the way they interact.

The Bosch and Siemens fifty-fifty joint venture BSH Bosch und Siemens Hausgeräte GmbH won the German Federal Environment Ministry's 2010 "Innovation Prize for



Our subsidiary Bosch Rexroth is taking part in the new "Model Factory for Energy Productivity" initiative established by the Technical University of Munich and the management consultants McKinsey & Company.

Climate and Environment” for its zeolite® drying system for dishwashers. This system achieves a 20 percent power saving compared with the most efficient dishwashers available to date.

### **Society**

In 2008, our regional subsidiaries in India established the Bosch India Foundation, whose initial capital is supplemented by annual donations from the companies involved. The Bosch India Foundation focuses on helping to provide education for teenagers in rural areas and health care for underprivileged children.

Last year, for the 25th time in a row, we sponsored and organized the Baden-Württemberg heat of the German competition for young researchers (“Jugend forscht”). Apprentices from our workshops have been among the contestants for years, and with resounding success.

In 2005, we were among the companies that founded the “Wissensfabrik” (Knowledge Factory) initiative. Working in tandem with day care centers and schools, we set up projects that make business and technology accessible to children and adolescents. We now maintain nearly one hundred such partnerships throughout Germany and, in 2011, our anniversary year, that number will grow to 125.

### **Additional information is available online as follows:**

Jobs and careers [www.bosch-career.com](http://www.bosch-career.com)

Corporate social responsibility <http://csr.bosch.com>

# Robert Bosch Stiftung

Since 1964, the company's majority shareholder has been Robert Bosch Stiftung GmbH, a charitable foundation. This institution carries on the charitable and social endeavors of the company founder in contemporary form. It sees itself as a foundation that pursues its objectives both with programs and institutions of its own, as well as by supporting suitable projects and initiatives proposed by others for tackling the issues faced by society.



Tradition and modernity – the Robert Bosch House, the former residence of the company founder, today is the seat of the Robert Bosch Stiftung. The neighboring Bosch Haus Heidehof serves as a training and conference center for the Bosch Group.

In many of the foundation's projects, solutions for social and societal challenges are developed and tested. These include the integration of minorities, the shaping of demographic change, education, health, the promotion of civic initiatives, and the sustainable use of our natural resources.

### **Making encounters possible**

On an international level, foundations can also play a part in maintaining constructive dialogue even in difficult situations. One way of doing this is by making encounters possible, especially among young people. The following are just some of the programs established with these goals in mind - a summit meeting for European citizens, an exchange program for young executives in Europe's government administrations, and meetings between young German and Russian entrepreneurs.

### **Accelerating the pace of reform**

The "Deutscher Schulpreis" (German school award) and a large number of other educational programs run by the Stiftung are designed to help accelerate the pace of reform in Germany's education system. The Stiftung is focusing increasingly on the transition from school to training and the workplace, as well as on the future of the working world. With regard to aging and demographic change, the central issue is how preconceptions of age must be changed so that there is greater awareness of the potential of older people.

**Additional information about the Robert Bosch Stiftung is available online at: [www.bosch-stiftung.de](http://www.bosch-stiftung.de)**

# The Bosch Group in Germany

## **Corporate Headquarters**

Gerlingen near Stuttgart

## **Research and Development**

### **Locations**

Abstatt, Bühl/Bühlertal, Crailsheim, Elchingen, Erbach, Gerlingen, Grasbrunn, Hannover, Hildesheim, Horb, Leinfelden, Leonberg, Lohr, Lollar, Plochingen, Reutlingen, Schwieberdingen, Stuttgart, Waiblingen, Wernau, Witten

## **Manufacturing Locations –**

### **Automotive Technology**

Ansbach, Bamberg, Berlin, Bietigheim, Blaichach/Immenstadt, Breidenbach, Bremen, Bühl/Bühlertal, Eisenach, Göttingen, Herne, Hildesheim, Homburg, Munich, Nuremberg, Plochingen, Reutlingen, Rutesheim, Salzgitter, Schwäbisch Gmünd, Stuttgart, Tamm, Waiblingen

## **Technical Sales Offices for**

### **Automotive Original Equipment**

Berlin, Braunschweig, Cologne, Frankfurt am Main, Munich, Waiblingen

## **Manufacturing Locations –**

### **Industrial Technology**

Arnstadt, Augsburg, Brandenburg a. d. Havel, Chemnitz, Crailsheim, Elchingen, Erbach, Erfurt, Fellbach, Hannover, Homburg, Horb, Ketsch, Lohr, Nuremberg, Oberramstadt, Prenzlau, Remshalden, Schweinfurt, Stuttgart, Viersen, Volkach, Waiblingen, Witten

## **Manufacturing Locations –**

### **Consumer Goods and Building**

### **Technology**

Bad Neustadt, Berlin, Bretten, Dillingen, Eibelshausen, Giengen, Gunzenhausen, Leinfelden, Lollar, Murrhardt, Nauen, Neukirchen, Ravensburg, Regensburg, Sebnitz, Straubing, Traunreut, Wernau, Wetztingen

## **Sales and Service Centers**

Berlin, Bochum, Cologne, Ditzingen, Düsseldorf, Essen, Fellbach, Frankfurt am Main, Fürth, Hamburg, Hannover, Ichttershausen, Karlsruhe, Leipzig, Magdeburg, Mörfelden-Walldorf, Munich, Nuremberg, Oldenburg, Ratingen, Rodgau, Stuttgart, Wetzlar, Willershausen

## **Other**

Immenstaad

This list includes locations with 100 or more associates, as well as locations of non-consolidated subsidiaries.



# The Bosch Group in Europe outside Germany

## **Austria** 2,500 associates

Manufacture of automotive technology and industrial technology; development; sales; locations: Hallein, Linz, Pasching, Ternitz, Vienna

## **Belgium** 1,720 associates

Manufacture of automotive technology; sales; locations: Aartselaar, Brussels, Tienen

## **Czech Republic** 8,000 associates

Manufacture of automotive technology and heating technology; development; sales; locations: Albrechtice, Brno, České Budějovice, Jihlava, Krnov, Prague

## **Denmark** 780 associates

Manufacture of automotive and industrial technology; sales; locations: Ballerup, Esbjerg, Sandved

## **Finland** 210 associates

Sales; location: Vantaa

## **France** 8,390 associates

Manufacture of automotive technology, industrial technology, thermotechnology, and household appliances; development; sales; locations: Angers, Bonneville, Drancy, Lipsheim, Mondeville, Moulins, Rodez, Saint-Ouen, St.-Thégonnec, Tremblay, Vendôme, Vénissieux

## **Greece** 500 associates

Manufacture of household appliances; sales; location: Athens

## **Hungary** 6,280 associates

Manufacture of automotive technology, industrial technology, and power tools; development; sales; locations: Budapest, Eger, Hatvan, Miskolc

## **Italy** 5,410 associates

Manufacture of automotive technology, industrial technology, and power tools; development; sales; locations: Bari, Brembate, Cernusco, Correggio, Milan, Modena, Modugno, Nonantolo, Offanengo, Pavullo, Reggio Emilia, Turin, Udine

## **Netherlands** 3,660 associates

Manufacture of automotive technology, industrial technology, power tools, heating systems, and security systems; development; sales; locations: Amsterdam, Boxtel, Breda, Deventer, Eindhoven, Hoevelaken, Nimwegen, Schiedam, Tilburg, Weert

## **Norway** 210 associates

Sales; location: Ski

## **Poland** 2,200 associates

Manufacture of automotive technology and household appliances; sales; locations: Lodz, Warsaw, Wrocław

## **Portugal** 3,500 associates

Manufacture of automotive technology, heating systems, and security systems; sales; locations: Abrantes, Aveiro, Braga, Lisbon, Ovar

**Romania** 1,150 associates  
 Manufacture of industrial technology; sales; locations: Blaj, Bucharest, Timișoara

**Russian Federation** 2,430 associates  
 Manufacture of automotive technology, power tools, and household appliances; sales; locations: Engels, Moscow, St. Petersburg

**Slovakia** 740 associates  
 Manufacture of automotive technology and household appliances; sales; locations: Bernolakova, Michalovce

**Slovenia** 850 associates  
 Manufacture of industrial technology and household appliances; sales; locations: Nazarje, Skofja Loka

**Spain** 6,790 associates  
 Manufacture of automotive technology, industrial technology, and household appliances; sales; locations: Aranjuez, Barcelona, Buelna, Castellet, Esquiroz, La Cartuja, Lliça, Madrid, Montañana, San Sebastian, Santander, Treto, Vigo, Vitoria, Zaragoza

**Sweden** 1,710 associates  
 Manufacture of industrial technology and heating systems; sales; locations: Mellansel, Stockholm, Tranås, Vagnhäräd

**Switzerland** 3,290 associates  
 Manufacture of industrial technology and power tools; development; sales; locations: Beringen, Buttikon, Ecublens, Frauenfeld, Geroldswil, Solothurn, St. Niklaus

**Turkey** 9,000 associates  
 Manufacture of automotive technology, heating technology, and household appliances; development; sales; locations: Bursa, Cerkezköy, Istanbul, Manisa

**Ukraine** 330 associates  
 Manufacture of automotive technology; sales; locations: Kiev, Krakovets

**United Kingdom** 4,560 associates  
 Manufacture of automotive technology, industrial technology, power tools, and heating systems; sales; locations: Alfreton, Cardiff, Cirencester, Clay Cross, Denham, Glenrothes, Greetland, Milton Keynes, St. Neots, Stowmarket, Worcester

As per January 1, 2011

This list includes countries and locations with 100 or more associates, as well as locations of non-consolidated subsidiaries.

Further companies operate in Belarus, Bulgaria, Croatia, Estonia, Ireland, Latvia, Lithuania, Luxembourg, Malta, and Serbia.

# The Bosch Group outside Europe

**Argentina** 790 associates  
Sales; location: Buenos Aires

**Australia** 1,870 associates  
Manufacture of automotive technology, industrial technology, and power tools; development; sales; locations: Clayton, Melbourne, Rowville, Sydney

**Brazil** 11,400 associates  
Manufacture of automotive technology, industrial technology, power tools, and household appliances; development; sales; locations: Alphaville, Aratú, Atibaia, Belo Horizonte, Campinas, Curitiba, Joinville, Pomerode, São Paulo

**Canada** 560 associates  
Manufacture of industrial technology and security systems; sales; locations: Mississauga, Welland

**China** 29,330 associates  
Manufacture of automotive technology, industrial technology, power tools, heating systems, security systems, and household appliances; development; sales; locations: Beijing, Changsha, Chuzhou, Dalian, Dongguan City, Gaomi City, Guangzhou, Hangzhou, Hong Kong, Jinan, Nanjing, Ningbo, Shanghai, Shenzhen, Suzhou, Wu Jin, Wuxi, Xian, Zhuhai

**India** 21,970 associates  
Manufacture of automotive technology, industrial technology, and power tools; development; sales; creation of software; locations: Ahmedabad, Bangalore, Bommanahalli, Chakan, Chennai, Coimbatore, Jaipur, Jalgaon, Koramangala, Manesar, Mumbai, Naganathapura, Nalagarh, Nashik, Tumkur

**Japan** 7,510 associates  
Manufacture of automotive technology and industrial technology; development; sales; locations: Funabashi, Higashi-Matsuyama, Misato, Musashi, Odawara City, Ota-City, Takasaki, Tochigi, Tokyo, Tomioka, Tsuchiura, Yokohama, Yorii

**Korea** 2,050 associates  
Manufacture of automotive technology and industrial technology; development; sales; locations: Buyong, Daejeon, Gunpo-Si, Yongin

**Malaysia** 2,290 associates

Manufacture of automotive technology and power tools; development; sales; locations: Penang, Petaling Jaya, Shah Alam

**Mexico** 7,860 associates

Manufacture of automotive technology and power tools; development; sales; locations: Aguascalientes, Hermosillo, Juarez, Mexicali, México DF, Saltillo, San Luis Potosí, Toluca

**Peru** 130 associates

Manufacture of household appliances; sales; location: Callao

**Philippines** 110 associates

Sales; location: Manila

**Singapore** 600 associates

Sales; location: Singapore

**South Africa** 700 associates

Manufacture of automotive technology; sales; locations: Brits, Midrand

**Taiwan** 190 associates

Manufacture of industrial technology; sales; location: Taipei Hsien

**Thailand** 770 associates

Manufacture of automotive technology; sales; locations: Amata City, Bangkok, Rayong

**USA** 13,740 associates

Manufacture of automotive technology, industrial technology, power tools, heating technology, security systems, and household appliances; development; sales; around 90 locations, including Anderson/SC, Bethlehem/PA, Broadview/IL, Burnsville/MN, Charleston/SC, Farmington Hills/MI, Fayetteville/NC, Fort Lauderdale/FL, Fountain Inn/SC, Hebron/KY, Huntington Beach/CA, Kentwood/MI, Lancaster/PA, Lexington/KY, Lincoln/NE, Lincoln/NC, Mount Prospect/IL, New Bern/NC, New Richmond/WI, Plymouth/MI, South Bend/IN, St. Joseph/MI

**Vietnam** 340 associates

Manufacture of automotive technology; sales; locations: Hai Duong City, Ho Chi Minh City

As per January 1, 2011

This list includes countries and locations with 100 or more associates, as well as locations of non-consolidated subsidiaries.

Further companies operate in Chile, Columbia, Indonesia, Israel, Kazakhstan, New Zealand, Panama, Saudi Arabia, the United Arab Emirates, and Venezuela.

# Milestones in Product History

**1887**

Construction of the first Bosch low-voltage magneto for stationary internal-combustion engines

**1897**

First installation of an ignition device in a motor vehicle

**1902**

Delivery of the first spark plugs and the first high-voltage magneto ignition system

**1927**

Series production of Bosch fuel injection pumps for diesel engines

**1928**

First Bosch power tool

**1932**

First car radio

**1933**

Bosch refrigerator marks the start of household-appliance manufacture

**1951**

Rollout of gasoline injection pumps for vehicle engines

**1958**

The first Bosch washing machines are manufactured

**1964**

The Bosch dishwasher is launched

**1967**

Bosch Jetronic electronic gasoline-injection system goes into series production

**1974**

Introduction of the ARI traffic information system

**1976**

Production of lambda sensors

Development of the world's first swivel-arm industrial robot

**1978**

Market launch of ABS, the world's first digital antilock braking system for all four wheels

**1979**

Series production of Bosch Motronic (digital system to control gasoline injection and ignition)

**1986**

Series production of traction control system (TCS)

Market launch of electronic diesel control (EDC)

**1989**

Market launch of the TravelPilot navigation system (from 1995 with satellite-assisted navigation, route planning, and speech output)

**1995**

Launch of electronic stability program (ESP®)

**1997**

Series production of the common-rail high-pressure diesel direct injection system

**2000**

Series production of adaptive cruise control (ACC)

Series production of the DI Motronic gasoline direct injection system

**2002**

First series application of electronic battery management (EBM)

Introduction of the Wallscanner (instrument to locate invisible installations in walls)

**2003**

Series production of the third-generation common rail system, with piezo inline injectors

Series production of the Ixo, the first power tool with lithium-ion rechargeable battery

**2004**

Series production of the Denoxtronic fuel-metering system for exhaust-gas treatment in commercial vehicles

**2005**

Deutscher Zukunftspreis 2005 (together with Siemens) for the development of piezo-injection technology

Series production of an active system for night-vision enhancement in cars

**2006**

Series production of a gasoline direct injection system with piezo elements

**2007**

Launch of the start-stop system

**2008**

Series production of the parking assistant

First diesel passenger car to feature Denoxtronic, the Bosch exhaust-gas treatment system

**2010**

Rollout of the predictive emergency braking system

Series production of the parallel full hybrid drive for passenger cars

**2011**

Series production of the e-bike drive

# Milestones in Company History

**1861**

Robert Bosch born in Albeck near Ulm

**1886**

At the age of 25, Robert Bosch opens his "Workshop for Precision Mechanics and Electrical Engineering" in Stuttgart

**1898**

First sales office outside Germany opens in the U.K.

**1905**

First manufacturing site outside Germany, in France

**1912**

First manufacturing site in the U.S. opens

**1913**

Foundation of an independent apprentice training department, with an industrial apprentices' workshop

**1919**

Establishment of the in-house newspaper "Bosch-Zünder"

**1921**

Establishment of an after-sales organization: the first Bosch Service agents start work

**1932**

Acquisition of the natural gas-fired appliance manufacturer Junkers & Co GmbH

**1933**

Acquisition of Ideal-Werke für drahtlose Telephonie AG (subsequently Blaupunkt GmbH, now Robert Bosch Car Multimedia GmbH)

**1942**

Robert Bosch dies, aged 80

**1967**

Bosch-Siemens Hausgeräte GmbH joint venture set up (known since 1998 as BSH Bosch und Siemens Hausgeräte GmbH)

**1995**

Five joint ventures set up in China

**1996**

Acquisition of the brake operations of AlliedSignal Inc. in the U.S. and Europe

**1998**

Opening of a test center and test track in Boxberg, Germany

**1999**

Steering systems joint venture set up with ZF Friedrichshafen AG

Acquisition of a majority stake in the Japanese Zexel Corporation (known since 2000 as Bosch Automotive Systems Corporation)

**2001**

Acquisition of Detection Systems Inc, Fairport, NY (USA)

Industrial leadership of Mannesmann Rexroth AG, and its merger with the Automation Technology division to form Bosch Rexroth AG

**2002**

Acquisition of the subsidiary Communication, Security, & Imaging from Philips BV, Eindhoven (Bosch Security Systems BV since 2003)

Establishment of a company pension scheme for Bosch associates

**2003**

Acquisition of Buderus AG, Wetzlar, Germany

**2004**

Opening of the engineering center in Abstatt

Acquisition of Sigpack Systems AG, the Swiss packaging machinery manufacturer

**2005**

Acquisition of the Swedish company IVT Industrier AB, Tranås

Bosch-Zünder published worldwide in eight languages

**2006**

Acquisition of Telex Communications Holdings Inc., Minneapolis, MN, (USA)

**2007**

Acquisition of U.S. electric heat-pump manufacturer FHP Manufacturing Company in Fort Lauderdale, FL

Assumption of industrial leadership of Pacifica Group Ltd., Melbourne, Australia

Acquisition of Pharmatec GmbH in Dresden, Germany

Acquisition of telehealth solutions provider Health Hero Network in Palo Alto, CA (USA)

**2008**

Acquisition of majority shareholding in the photovoltaics manufacturer ersol Solar Energy AG, Erfurt, Germany (now Bosch Solar Energy AG)

Acquisition of majority shareholding in the abrasives manufacturer sia Abrasives in Frauenfeld, Switzerland

Exhaust-gas turbocharger joint venture with Mahle GmbH, Stuttgart

Acquisition of Innovations Software Technology GmbH in Immenstaad, Germany (now Bosch Software Innovations GmbH)

SB LiMotive joint venture set up with Samsung SDI to develop and manufacture lithium-ion batteries for vehicles

Acquisition of the industrial technology specialist Hägglunds Drives AB, Mellansel, Sweden

**2009**

Acquisition of majority shareholdings in the German companies aleo solar AG (Prenzlau and Oldenburg) and Johanna Solar Technology GmbH, Brandenburg

Acquisition of Freud SpA, Milan, Italy

**2010**

New manufacturing facility for eight-inch wafers goes into operation in Reutlingen, Germany

Start of production of lithium-ion rechargeable batteries for automobiles at SB LiMotive in Ulsan, Korea

**2011**

Official opening of the first manufacturing site in Vietnam

# Management

## Board of management

**Franz Fehrenbach**

Chairman

**Dr. Siegfried Dais**

Deputy Chairman

**Dr. Bernd Bohr**

**Dr. Rudolf Colm**

**Dr. Stefan Asenkerschbaumer**

(from July 1, 2010)

**Gerhard Kümmel**

(until June 30, 2010)

**Dr. Volkmar Denner**

**Dr. Wolfgang Malchow**

**Peter Marks**

**Uwe Raschke**

**Wolf-Henning Scheider**

(from July 1, 2010)

**Peter Tyroller**

## Supervisory council

**Prof. Dr.-Ing. Hermann Scholl**

Chairman

**Alfred Löckle**

Deputy Chairman

**Dr. forest. Christof Bosch**

**Christian Brunkhorst**

**Klaus Friedrich**

(from July 1, 2010)

**Hartwig Geisel**

**Hans-Peter Gräther**

**Dr.-Ing. Rainer Hahn**

**Jörg Hofmann**

**Prof. Lars G. Josefsson**

**Dieter Klein**

**Prof. Dr. Hermut Kormann**

**Prof. Dr. Olaf Kübler**

**Matthias Georg Madelung**

**Daniel Müller**

**Dr. Hans-Friedrich von Ploetz**

**Wolfgang Ries**

(until June 30, 2010)

**Urs B. Rinderknecht**

**Wolf Jürgen Röder**

**Tilman Todenhöfer**

**Hans Wolff**

For articles and lectures by Bosch Group associates, contact the **Information Center (C/CTI1)**.

For answers to journalists' questions, contact **Corporate Communications (C/CC)** or go to [www.bosch-presse.de](http://www.bosch-presse.de).

For information on career opportunities in the Bosch Group, contact **Human Resources Management (C/HM)** or go to [www.bosch-career.com](http://www.bosch-career.com).

For information on educational policy and change management, contact **Human Resources and Organizational Development with CIP coordination (C/HD)**.

Companies wishing to become suppliers to Bosch should contact **Corporate Sector Purchasing and Logistics (CP)** or go to <http://purchasing.bosch.com>.

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[www.bosch.com](http://www.bosch.com)



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