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Bosch company history

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1. 1886 – 1900: The Workshop for Precision Mechanics and Electrical Engineering

On November 15, 1886, Robert Bosch opened the “Workshop for Precision Mechanics and Electrical Engineering” in Stuttgart. At the outset, Bosch worked with two associates to construct and install all kinds of electrical equipment, such as telephone systems and electric bells. However, the company’s startup capital of 10,000 German marks was soon used up and they had to rely on loans. Robert Bosch invested most of the company's small earnings in modern machines. He later described his first years as a self-employed businessman as a “shambles”. The construction of the electric power station in Stuttgart in 1895 was one factor that helped the young company on the road to economic recovery by creating new jobs for its installation business. The second factor was the magneto ignition device, which had already become a linchpin in the company’s economic success.



Bosch and the magneto ignition device

In 1887, Robert Bosch had been approached by a customer and asked to produce a magneto ignition device based on a model made by the engine manufacturer Deutz in Cologne. Rather than just copy the original device, Bosch improved on it – displaying a mindset that would later be reflected in his guiding principle of continuous improvement. The magneto ignition device generated an electric spark that ignited the air-fuel mixture in the cylinder of a stationary internal-combustion engine. In 1897, Bosch was the first to adapt a magneto ignition device to a vehicle engine. In doing so, he solved one of the greatest technical problems faced by the nascent automotive industry.

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2. 1901 – 1923: Becoming a global automotive supplier

In the early years, Robert Bosch ran his business from several different locations, all of them leased, in the west of Stuttgart. He started construction of a company-owned factory building in Stuttgart in 1900. On April 1, 1901, 45 associates moved into the new “Elektrotechnische Fabrik Robert Bosch” (Robert Bosch Electrical Engineering Factory). That same day, his former apprentice Gottlob Honold also rejoined the company. In less than a year, Honold went on to develop a high-voltage magnetic ignition system with spark plugs. When he unveiled the first prototype in December 1901, Robert Bosch was very impressed, declaring: “You have hit the bull’s eye!” This sentence marked the start of the history of innovations at Bosch.

Worldwide growth

The further development of the magneto ignition device opened up a whole new customer base for Bosch in the form of automakers and drivers across the globe. Many of these now wanted to switch from their old failure-prone technology to the new Bosch electrical ignition system. To provide customers around the world with the necessary support, Bosch began to establish sales offices outside Germany – first in the U.K. in 1898, followed by France a year later, and then Austria-Hungary. Bosch was soon represented in nearly all European countries. The first steps on other continents were taken in 1906 in the U.S. and South Africa, followed by Australia in 1907, Argentina in 1908, and China in 1909. But it was not just the sales structures that were being organized on an international scale – production was going global, too, with Bosch opening a second production location in Paris as early as 1905. Production kicked off in the U.S. in 1912 at a new factory in Springfield, Massachusetts.



Bosch automotive lighting

Bosch launched another automotive breakthrough in 1913 – the Bosch automotive lighting system. Comprising a generator, battery, voltage regulator, and headlights, this was the first complete system from Bosch and it created the basis for today's automotive electrical systems.

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The electrical installation business increasingly played second fiddle to automotive technology, before it was eventually discontinued and the company focused on its goal of becoming an international automotive supplier. Shortly before the outbreak of the first world war in 1913, Bosch generated more than 88 percent of its sales outside Germany.

The first world war

When the first world war broke out in 1914, Bosch was forced to convert its entire production facilities to meet the needs of the military. However, as Robert Bosch did not wish to profit from the war and the suffering it brought, he donated the profit generated from armaments contracts – some 20 million German marks – to charitable causes. Despite the extremely difficult conditions, the company recovered from the consequences of the war, particularly the expropriation of large parts of its interests outside Germany, surprisingly quickly. By around 1925, the network of international sales offices was already larger than it had been in 1914.

3. 1924 – 1945: From automotive supplier to diversified group

The workforce and production figures continued to rise steadily until the fall of 1925, when sales in the European automotive market suddenly collapsed. The massive slump hit Bosch hard, with the number of associates falling from 13,000 to 8,000 in just a few months. And it was not just workers in the workshops that lost their jobs during the crisis – the rationalization measures also affected the company's senior executives. The company's board of management was stripped back from eleven members to just three members and three deputies. As part of the reshuffle, Robert Bosch also handed over the management of the company to a small committee: Hans Walz was given responsibility for commercial affairs, Hermann Fellmeth for engineering, and Karl Martell Wild was put in charge of sales and human resources.

New areas of business

The crisis was quickly brought under control – thanks in part to the rationalization measures introduced just before the crisis broke, in particular the continued changeover to assembly-line production. One lesson learned from the crisis was the risk of focusing on just one sector. As a result, the new



management started to look around for other promising areas of business. Bosch first branched out into the power tools sector with the launch of a hair trimmer in 1928, before moving into the household appliances sector by bringing out the first Bosch refrigerator in 1933. In 1932, Bosch acquired the heating systems business of Junkers and, the same year, Blaupunkt marketed the first series-produced car radio in Europe. Bosch also expanded its automotive technology portfolio during the 1920s, adding products such as bicycle lamps, batteries, the Bosch horn, indicators, and windshield wipers. A major breakthrough came in 1927 with the launch of the diesel injection pump, first only for trucks and then for passenger cars in 1936.

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Bosch under National Socialism

Under National Socialist rule in Germany from 1933 to 1945, senior executives at Bosch found themselves in a predicament. On the one hand, the company was integrated into the economic system of the National Socialist regime. When the second world war broke out in 1939, Bosch had to convert all its manufacturing facilities to produce military commodities. Like all other companies involved in the manufacture of armaments, Bosch was assigned prisoners of war and later also forced labor to boost production.

On the other hand, Robert Bosch and senior Bosch executives supported resistance against Hitler and provided those facing persecution with money or help with emigration. In 1969, Hans Walz accepted the title of “Righteous Among the Nations” bestowed by the Yad Vashem Shrine of Remembrance in Israel in recognition of these efforts.

To ensure that the company remained in family ownership, Robert Bosch changed the company from an AG (public limited company) to a GmbH (private limited company) in 1937. The following year, four years before his death, he wrote his will.

By the end of the war in 1945, large areas of the Bosch plants had been razed to the ground as a result of Allied air raids. Robert Bosch did not live to see the destruction, dying on March 12, 1942.

4. 1946 – 1959: Rebuilding and the economic miracle

After 1945, despite the extremely difficult conditions, Bosch was able to build on its earlier successes surprisingly quickly. After the currency reform in Germany in 1948, the company enjoyed a period of rapid growth.

**Return to global markets**

This growth was at first very fragile as a result of the decartelization program pursued by the victorious Allied forces. The feared dismantling of the whole company and loss of most of its subsidiaries was nonetheless averted in 1952, although Bosch had to make its patents and industrial designs available to competitors. All the sales offices and production facilities outside Germany, however, remained expropriated. As after the first world war, the company had to start again from scratch on the international stage. Nonetheless, the network of sales offices and customer service centers covered over 130 countries again as early as 1956. At this time, Bosch focused increasingly on setting up local production facilities. During the 1950s, for example, production started in India (1953), Australia (1954), and Brazil (1957).

Innovations

Although Bosch focused primarily on automotive technology in the first years after the war, the company soon broadened its product range again to include refrigerators, radios, heaters, and power tools. Blaupunkt introduced the first VHF car radio in Europe in 1952. The launch of the “Bosch Combi” that same year marked a turning point for the company’s power tools business as it reached out to the new target group of DIY enthusiasts.

In the area of automotive technology, Bosch initially reestablished the technology at pre-war levels, while engineers worked flat-out to develop new, pioneering technology. The mechanical gasoline injection system for passenger cars was taken into series production in 1951. The first semiconductors to be installed in a car (variodes) represented a further milestone in company history. They were first used in 1958 in regulators for generators.

5. 1960 – 1989: Founding of the divisions and breakthrough in electronics

As a result of rapid growth worldwide and full employment in Germany, a labor shortage developed in the Stuttgart area, then the focus of worldwide production and the hub for international exports. Bosch therefore recruited guest workers from southern Europe and opened numerous new locations, including today’s plants in Homburg, Ansbach, Nuremberg, Reutlingen, and Blaichach.

Founding the divisions

This enormous growth made it necessary to reorganize the company’s centralized structure. The first step in this direction was taken on July 1, 1959, when the power tools engineering operations were brought together to form



an 'independent division'. This was the pilot project for the establishment of a divisional structure throughout the company and the creation of a network of relatively independent divisions with responsibility for achieving their own individual sales and profit targets. This phase of profound change is closely linked with Hans L. Merkle, who joined the board of management on October 1, 1958, before being appointed chairman on April 1, 1963.

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Corporate constitution

In 1964, the executors of Robert Bosch's will laid the foundation for today's corporate constitution. Vermögensverwaltung Bosch GmbH acquired the majority of the capital stock of Robert Bosch GmbH from the heirs of the estate in 1964, transferring the voting rights to today's Robert Bosch Industrietreuhand KG (Robert Bosch Industrial Trust), the body responsible for carrying out the company's entrepreneurial ownership functions since then.

In 1969, Vermögensverwaltung Bosch changed its name to Robert Bosch Stiftung GmbH (Robert Bosch Foundation) to underline the social focus of its activities. To this day, the foundation supports projects in the areas of education, health, international relations, society, culture, and science. Robert Bosch Stiftung currently holds 92 percent of the share capital of Robert Bosch GmbH. Most of the remaining shares are held by the Bosch family.

This corporate constitution continues to play a key role in securing the entrepreneurial freedom and financial independence of the Bosch Group. Most of the earnings generated remain within the company, where they are used to secure its future. This allows the company to plan over the long term and to invest heavily in the future without borrowing from the capital markets. Robert Bosch Stiftung is paid a dividend, allowing the body to sustain its commitment to charitable causes.

New divisions

In 1963, Bosch formed the Packaging Technology division through a series of acquisitions. The pneumatics and hydraulics operations were merged to form the later Automation Technology division, a precursor of today's Drive and Control Technology division.

The board of management was particularly keen to expand the company's international business, laying the foundation for a second location in India, in Nashik, in 1969. The same year, Bosch reached an important milestone in the U.S. by opening its first production facility there since the second world war – in Charleston, South Carolina. In 1974, Bosch generated more than half of its sales outside Germany again for the first time since 1932.

Under the leadership of Marcus Bierich, chairman of the board of management from 1984 to 1993, Bosch expanded and pooled its



telecommunications activities in the 1980s to form a new business sector. Key areas in this merger included the radio technology business, which was founded in 1954, the cell phone business, ANT Nachrichtentechnik, which was acquired in 1982, and Telefonbau und Normalzeit Lehner & Co.

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Safe, clean, economical

The period between 1960 and 1989 at Bosch is shaped by significant product innovations, particularly in automotive technology. At a time when discussion was starting to focus on road safety and environmental protection, these product innovations demonstrated Bosch's commitment to low-emission, economical, and safe cars. Bosch summed up this commitment in its "safe, clean, economical" campaign launched in 1974. The innovations included the D-Jetronic electronic gasoline injection system (1967), the ABS antilock braking system (1978), the EDC electronic diesel control (1986), and the Blaupunkt TravelPilot navigation system (1989).

6. 1990 – 2020: Solutions to the challenges of globalization

A wall falls, a curtain opens

The end of the Iron Curtain marked the beginning of a new era for Bosch. As of January 1, 1990, over 174,000 associates worked for Bosch worldwide, 50 percent more than a decade before. One important reason for this growth was the extension of numerous manufacturing sites outside Germany, for instance in Brazil, Malaysia, and the United States. During this favorable economic phase, the Bosch set its sights on the new markets of eastern Europe in particular. East Germany, too, became a new market in this period. Speaking at the Bosch annual press conference in 1990, Bosch CEO then, Marcus Bierich, said: "The changes afoot in eastern Europe are opening up new opportunities, also for us. We are currently involved in joint projects with 14 companies in East Germany."

European integration – tackling global competition

This phase coincided with a global economic slowdown starting in 1991. At first, the rapid rise in sales in Germany after reunification helped balance out the impact. But in 1993, sales dropped for the second time since the second world war, this time by nearly 6 percent. In this difficult environment, Bosch was able to make the most of the new opportunities in eastern Europe. The key decisions to expand business there were made in quick succession: in 1991, Bosch set up regional companies in Poland and Hungary, and between 1992 and



1994 these were followed by regional companies in Russia, Belarus, the Czech Republic, Slovakia, Bulgaria, and Romania. By 1994, Bosch already had companies of its own in 13 former Soviet bloc countries. Research was another area in which Bosch took steps to strengthen its international network.

In 1992, for instance, an engineering center was opened in Yokohama, Japan in 1983. Bosch expanded its international manufacturing network over the same period, deliberately recruiting regional specialists and executives.

During this period of rapid change and growth, Bosch still kept up its efforts to maintain and improve the quality of its products. In 1989 and 1990 40 international projects were launched with the ambitious goal of achieving “zero defects” in production.

“I knew there were opportunities” – a new focus on Asia

On July 1, 1993, Hermann Scholl took over as chairman of the board of management Scholl was an engineering graduate who had joined Bosch in 1962. From the outset, he had worked on electronic components for automotive applications and was involved in developing systems such as the Jetronic gasoline-injection system (1967) and the ABS antilock braking system (1978). In his new role as chairman, Scholl now focused most on developing the company’s presence in the emerging economies outside Europe and on maintaining Bosch’s capacity to innovate. Although the economic climate in 1993 was difficult, it also offered some good prospects. While declining sales in western and central Europe and a recession in Japan posed difficulties for Bosch, there were signs of good business opportunities in other key Asian markets – notably India, South Korea, and China – as a result of political reforms. Expanding its operations in Asia was thus of major importance to Bosch for the long term. In Japan, hitherto the company’s “key market” in Asia, Bosch gradually increased its stake in Zexel Corporation, its largest Japanese affiliate, gaining majority control in 1999. Zexel was later merged with other Bosch companies in Japan, resulting in 2005 in the creation of Bosch Corporation, headquartered in Tokyo.

Bosch opened its fourth production plant in India in 1999, and the positive economic growth enjoyed by South Korea in the early 1990s proved that the decision to establish Bosch Korea Ltd. in 1989 had been well timed.

Bosch had had a representative office in China since 1989. Until 1994, its operations there had been limited to license agreements. Once the Chinese government recognized in the early 1990s how important non-



Chinese suppliers were to the development of the domestic automotive industry, this market, too, opened up to Bosch. After lengthy negotiations a breakthrough was made in 1995: the Chinese government awarded Bosch a strategically important contract to equip Chinese-made vehicles with electronic gasoline-injection systems. Bosch began manufacturing these systems at its Shanghai-based joint venture United Automotive Electronic Systems Co., Ltd. (UAES) in 1996. The same year, production of diesel technology began at the joint venture Europe-Asia Diesel Fuel Injection Co., Ltd in Wuxi, while production facilities in Hangzhou and Nanjing started manufacturing power tools, household appliances and spark plugs respectively.

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From CAN to common rail – an unwavering focus on innovation

Throughout the 1990s, innovative electronic components formed the backbone of the company's success. A good example was the CAN controller area network, a system launched by Bosch in 1991 for the digital transfer of data in motor vehicles. This system allowed automotive electronic systems to be interconnected. ESP, introduced in 1995, was another technological milestone and commercial success. This electronic stability program can help to save lives by preventing cars from skidding – mainly by applying the brakes to individual wheels in finely adjusted increments. Bosch also set new standards with its innovative diesel and gasoline injection systems, making it possible to substantially reduce CO₂ and other pollutant emissions. In other product areas where fundamental market changes virtually ruled out any hope of future success, Bosch decided to withdraw. One of these areas was telecommunications. The long-established Car Radio business unit and the vehicle navigation business – today combined in the Car Multimedia division – remained, as did Building Technology, which became a division in its own right in 2002.

“Bringing about change” – a global enterprise with a global culture

At the annual press conference held in April 2001, the Bosch board of management

Announced structural changes in the company. Large parts of the business sector Telecommunications had been sold off. The takeover of Mannesmann AG's industrial technology operations, including some 20,000 new associates, was also announced as being imminent. Following the subsequent merger of Bosch Rexroth AG and Bosch Automation Technology, the Industrial Technology business sector



went on to generate nearly 10 percent of total sales revenue in 2002. That was up from barely 4 percent in the previous year.

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At the same annual press conference the chairman of the board of management Hermann Scholl said “we are bringing about change”. These words alluded to a far-reaching shift in corporate culture. The objective was to give greater importance to openness, speed, flexibility, and customer focus, and to cement this fundamental attitude in the consciousness of each and every associate.

Another milestone in the restructuring of the company was the acquisition in 2003 of Buderus, a long-established manufacturer of heating systems. This “focused diversification” was a prescient move to further reduce the company’s dependence on the automotive industry. The idea behind it was to achieve a more balanced sales structure and a broader spread of opportunities and risks.

Acquisitions also played a role in building up the new Building Technology division that was created in 2002, and included Philips communication Security Imaging, Telex Communications, and CCTV Extreme. But some business areas were also spun off to form independent entities. Bosch Sensortec GmbH, set up in 2005, markets microelectromechanical sensors – originally developed for the automotive market – for applications in smartphones. Despite the period of economic volatility that began in 2001, Bosch continued to invest in the expansion of significant international manufacturing sites operated by its largest business sector.

At the same time, Bosch started building a new engineering center for brake control systems in Abstatt.

On July 1, 2003, Franz Fehrenbach became chairman of the board of management, and he continued to promote the Bosch Group’s strategy of fostering above-average growth in non-automotive business sectors in order to further reduce the group’s dependence on the automotive business. His primary focus was on issues such as globalization, environmental protection, resource conservation, and energy efficiency.

Climate change and far-reaching decisions

By mid-2004, the number of Bosch associates worldwide had risen to some 242,000, with part of the growth attributable to the reviving global economy. The company’s sales figures for South America, which grew by almost 30 percent in 2004, were a clear indicator of the upswing. The good numbers were also due in part to the successful integration of Buderus and Rexroth, and to unflagging innovation in all product fields, particularly in automotive technology, Bosch’s greatest sales driver. Both before and after 2004, Bosch was able to present a large number



of innovations in this field, including driver assistance systems that employ sophisticated sensors to prevent accidents and make driving simpler.

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The positive business performance at Bosch during this period provided a sound basis for new strategic approaches. The noticeable onset of climate change presented a twofold challenge for Bosch, requiring the company to continue reducing the fuel consumption and CO₂ emissions of conventional gasoline and diesel engines, while at the same time fostering development of alternative powertrain designs. The challenge motivated Bosch to develop components for hybrid drive systems, which went into series production in 2010. In the years that followed, production of fully electric drives also began.

The other business sectors, too, placed resource conservation at the forefront of their development activities. Examples of products that help to conserve resources include household appliances that consume less water and energy, and economical space-heating systems. In order to reduce dependence on fossil fuels, Bosch did not rely on energy efficiency alone. The company also drove forward its business with systems that generate power from renewable sources such as the sun, water, wind, and geothermal energy. As early as 1983, Bosch was selling solar collectors for water heating systems.

Since 2007, Bosch has stepped up its commitment to renewable energy even further, building a new production plant for solar collectors in Portugal, and becoming the world market leader in geothermal pumps through its acquisition of the Swedish company IVT. Bosch acquired the German solar-cell manufacturer ersol in the spring of 2008, creating the Bosch Solar Energy subsidiary. It also acquired a majority holding in aleo solar AG, a producer of solar modules, in the fall of 2009, thus gaining access to an international sales network for photovoltaic products. With the rapid decline in prices on the global market destroying its competitive prospects, Bosch withdrew from the business in 2013.

Responsibility in the spirit of the founder

Bosch's long-term strategy involves a broader understanding of corporate social responsibility – a further refinement of the principles of the company founder Robert Bosch. For him, corporate social responsibility essentially implied striking a balance between economic and social needs. In our times, it has become necessary to extend this concept to include environmental protection. “The overriding objective for us is [...] securing the company's long-term future. But we also aim to achieve this long-term objective by finding a balance between



business interests on the one hand and social and environmental concerns on the other.” That is how Franz Fehrenbach formulated the principle in 2007.

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The global economic crisis in 2008/2009 caused Bosch sales to fall by around 15 percent and meant that the company recorded an operating loss for the first time since the second world war. But by 2010, Bosch had left the crisis behind – with the highest turnover of the company’s history. The crisis did not affect the company’s long-term strategy. On the contrary: finding a balance between business success and social concerns is an integral part of the company to this day.

The internet of things and artificial intelligence age

On July 1, 2012, Volkmar Denner was named chairman of the board of management. He believes one of his key tasks is to put the company in a technologically strong competitive position for the business areas of the future.

Achieving that goal entailed changes. In its established fields of business, Bosch developed new areas and sold other ones. For example, Bosch stopped producing generators and starters in 2014, but became the sole owner of the steering systems joint venture with ZF AG in 2015. In 2017, it also acquired all of the remaining shares in Bosch-Siemens Hausgeräte GmbH, a joint venture with Siemens AG. The internet of things (IoT) and its new business models increasingly moved the forefront of interest, particularly in the areas of mobility and industry, as well as energy and facility management. An infrastructural basis already exists, as hundreds of millions of devices around the world are already web-enabled and connected today, from smartphones and household appliances to power tools, manufacturing facilities, and vehicles.

In recent years, Bosch has presented a number of projects that underscore how important this subject is for the future. Connected mobility – ranging from automated parking to pilot programs involving robotaxis in California – is one example. Other areas of application in which IoT is turning out to be a competitive factor can be found in the manufacturing sector. They include connected factories, in which machines are capable of initiating logistics or maintenance processes, and sensor-supported IoT in agriculture.

Hardware and software company for connected solutions

To seize the future opportunities associated with IoT, Bosch has initiated a wide range of research activities, putting an emphasis on the research and development of artificial intelligence. With this goal in mind, Bosch established the Bosch Center for Artificial Intelligence and



has broadened its horizons beyond AI solutions to include other areas of focus, such as the first AI ethics guidelines ever at a business enterprise. Further examples of activities aimed at developing and launching IoT-supported solutions include the subsidiaries Robert Bosch Smart Home GmbH and Bosch Connected Devices and Solutions GmbH – which provides electronic products and software expertise to make devices and objects intelligent and web-enabled in a wide range of different areas of application – as well as the new Connected Solutions division for connected mobility solutions and services in the Mobility Solutions business sector. A key to success is leading competence in manufacturing “hardware” as well as in the new “3S”: sensors, software, services. Bosch is increasingly transitioning from being a pure manufacturer of physical products to being a hardware and software company. In order to be able to develop promising products and business models using fast and agile methods in spite of the size of the company, Bosch has set up its own start-up platform.

Throughout the company, Bosch’s future focus for the decades ahead lies squarely on meaningful technical solutions that connect the physical and digital world in mobility, industry, and homes. Sustainability is a constant in everything Bosch does, both for economic reasons and because climate action is essential for survival as well as a good quality of life for future generations.

CO2 neutrality as a company goal

Manufacturing, administration, and research at over 400 Bosch locations worldwide have been carbon neutral since late 2020. “Mitigating climate change is a task for all of society,” says Bosch CEO Denner. “We want to make climate action technically feasible and commercially viable.” To achieve this, the company is using four major levers, from improving the energy efficiency of its plants and generating power in-house to solutions for resources-conserving production. Denner is sure: “Companies that want to be successful in business must act sustainably.”

CO2 neutrality is also a goal that Bosch aims to achieve through its products. Today, Bosch shares the knowledge it has gained so far with other companies that have also set ambitious goals for their carbon footprint. With this aim in mind, Bosch established the subsidiary Bosch Climate Solutions in 2020.