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# Bosch Company History

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## 1. The Workshop for Precision Mechanics and Electrical Engineering in Stuttgart

*The history of Bosch as a company can be broken down into a total of five phases. In the first phase, from 1886 to around 1900, Bosch was a small craft business in Stuttgart that survived at subsistence level for the first few years until the development of magneto ignition transformed it into a fast-growing automotive supplier.*

When the "Workshop for Precision Mechanics and Electrical Engineering" opened on November 15, 1886, the work initially performed by the first two associates of Robert Bosch involved constructing and installing electrical devices of all kinds, including telephone systems and remote electrical water-level indicators. The operating capital of 10,000 German marks that Robert Bosch had inherited from his father was soon used up. Only a bank loan, for which his relatives stood surety, kept the company afloat. Further loans were soon needed. Robert Bosch invested most of the company's small earnings in new machines. By 1895, after nine difficult years, all debts were finally repaid and the business with electrical installations and products slowly began to pay off.

By 1900, the workforce had risen to nearly 40. Installation, maintenance, and repair work on electrical devices and equipment secured the company's sales. The company benefited from the advent of electricity in Stuttgart brought about by the industrial age.

### **Magneto ignition – a product with a future**

As it happened, magneto ignition was to be a crucial milestone in the company's development. In 1887, just a few months after opening his workshop, Robert Bosch had produced a magneto ignition device at the request of a customer which was based on a product by the engine manufacturer Deutz in Cologne. Bosch made key improvements to the design



of the magneto and achieved his first economic success with this product.

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The purpose of magneto ignition was to generate the electric spark needed to cause the air-fuel mixture in a stationary internal-combustion engine to explode. In 1897, Bosch was the first to apply a magneto ignition device to a vehicle engine. In so doing, he solved one of the key technical problems faced by the nascent field of automotive engineering and secured an encouraging number of orders from the automotive industry.

By the end of the decade, Bosch had largely overcome his financial difficulties. The company's survival and growth were assured.

## **2. Bosch becomes a global supplier of automotive equipment**

*In the second phase of its history from around 1900 to 1925, the company moved solidly into the automotive technology sector. At the same time, it began to internationalize, with the founding of the first sales offices and manufacturing sites outside Germany. This period, however, was marked by a major disruption, with the loss of property and assets outside Germany after the First World War and the reconstruction of the company.*

As magneto ignition for automobiles underwent further development, the first orders came from the automotive industry in 1898. Bosch became an automotive supplier, and the company enjoyed undreamt-of growth thanks to the success of the automobile. From fewer than 40 associates in 1900, the workforce had risen to nearly 1,000 by 1907.

Together with the company's British partner Frederick Simms, the first sales offices outside Germany were set up in England and France (1898 and 1899). Soon, Bosch was represented in nearly all European countries and, as from 1906, on other continents as well. These included the U.S. and South Africa (1906), Australia (1907), Argentina (1908), China (1909), and Japan (1911).

### **The first factory**

In 1901, Robert Bosch started up the company's first factory in Stuttgart with a workforce of 45. The acquisition of this new building, which was state-of-the-art for its time, marked the company's transition from craft to industrial production. The second German factory was opened in nearby Feuerbach in 1910. Productivity was impressive: by 1915, a total of two million magneto ignition systems had been manufactured.

The company moved away from electrical installations to concentrate purely on automotive equipment. For a time, Bosch had a near-monopoly on the market for magneto ignition systems, with a world market share of over 90 percent in 1913.

### **Automotive equipment, war, and reconstruction**

Just before the First World War broke out, Bosch was represented on all key markets. With more than 88 percent of its sales being generated outside Germany, Bosch was already a global company in 1913. This was also the



year in which Bosch reached its second major automotive milestone: the market launch of the Bosch automotive lighting system. With a generator, battery, and headlights, this was the first complete system from Bosch and laid the foundation for today's automotive on-board electrical systems.

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During this phase of the company's development, Robert Bosch began to donate money to charitable causes, including all the profits from the company's First World War armaments contracts. During the early 1920's, and despite the severe inflation in Germany in 1923 with its crippling effects on the economy, the company rapidly overcame the consequences of the war, in particular the loss of many of its sales offices and factories outside Germany. By 1925, the network of sales offices outside Germany was larger than it had been before the outbreak of the First World War.

### **3. New products, modernization, drafting of today's corporate constitution**

*In the third phase of the company's history from around 1925 to 1960, new business units were founded covering areas outside the field of automotive technology, and the corporate constitution was redrafted. During this phase, Robert Bosch withdrew from the operational side of the business. In his last will and testament dated 1937, five years before his death in 1942, he laid the groundwork for the corporate constitution that is still valid today. This period, however, was also overshadowed by National Socialism and the Second World War. After the end of the war in 1945, the company again had to rebuild production and trading networks outside Germany and the production facilities that had been destroyed in Germany itself.*

In the mid-1920's, Robert Bosch restructured the company's board of management. This move was prompted by the dramatic effects of the 1926 crisis in the European automobile industry that caused the company's sales (from 1917 to 1937 incorporated as "Robert Bosch AG") to drop by around 35 percent between 1925 and 1926. Robert Bosch appointed a new management team comprising Hans Walz, Karl Martell Wild, and Hermann Fellmeth. He himself retired from the management of the company at the age of 65.

#### **Crisis and new products**

The new management felt it necessary to make radical cutbacks in personnel at all levels. Between 1926 and 1927, jobs were cut by over 25 percent. The crisis was quickly brought under control – to some extent thanks to the rationalization measures recently introduced, in particular the production-boosting assembly-line system launched in 1925. The company also started to diversify. Bosch began to concentrate on other product segments in order to reduce its unilateral dependence on the automotive industry.

New business units such as Power Tools, Junkers Gasgeräte (manufacturers of natural gas-fired water heaters), Blaupunkt (radios for the car and the household), Fernseh GmbH (television studio equipment), Kinobauer (cinema projectors), and Household Appliances soon put the company back on an even keel. Key milestones of the restructuring included the first power tool



(1928), the first series-produced car radio in Europe from Blaupunkt (1932), and the first Bosch refrigerator (1933).

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During this period, a new business unit was also created in automotive technology that had a lasting effect on strengthening this Bosch business sector. This new development was the diesel injection system for trucks (1927) that also became available for passenger cars from 1936 onwards and formed the technical basis for subsequent gasoline injection systems.

### **Adaptation and opposition**

The years 1933 to 1945 saw the company having to adapt to National Socialist rule on the one hand while senior members of the company management became involved in resistance to the regime on the other. From the mid-1930's onwards, Bosch succeeded in overcoming the last effects of the global economic crisis. To bolster the company's resistance to possible outside influences, Robert Bosch restructured the company, changing it from an AG (public limited company) to a GmbH (private limited company) in 1937, five years before his death.

When the war broke out and more and more skilled workers were called up to the front, Bosch, like other companies, used prisoners of war and forced labor. Bosch manufacturing sites became part of the armaments industry of the Third Reich, producing electrical components for military vehicles.

Despite the economic upturn, the hostility of Robert Bosch's successor in the company, Hans Walz, towards the National Socialists was manifest. Walz criticized the regime's economic policy and was particularly vehement in his opposition to state intervention. Only the company's importance as an armaments producer prevented Walz's imprisonment. A few months later, the Bosch CEO once again came under scrutiny by the authorities when investigations into the failed assassination attempt on Adolf Hitler on July 20, 1944, uncovered a trail that led to the Bosch headquarters in Stuttgart. Walz was granted the title of "Righteous Among the Nations" by the Yad Vashem Holocaust Martyrs' and Heroes' Remembrance Authority in 1970 because, under his leadership, the company had protected associates of Jewish descent from deportation to concentration camps.

### **New start after 1945**

Like many other German companies, Bosch was soon able to build on earlier successes after 1945. Although a considerable proportion of the Stuttgart and Feuerbach plants had been seriously damaged by air raids, the machines that were important for production had been moved to rural areas and as a result remained largely intact. From the summer of 1945 onwards, there were also already enough skilled workers available. The currency reform in 1948 was followed by rapid growth of the company. The workforce increased from just above 10,000 in 1948 to nearly 40,000 in 1958. Over the same period, sales rose from 85 million (1948) to 1,153 million German marks (1958), approximating a rise from 43 million to 580 million euros.

However, this growth was at first threatened by the decartelization program of the victorious Allied forces. The feared breakup of the entire company and



loss of its subsidiaries was nonetheless averted, although Bosch had to make all its own patents and industrial designs available to competitors.

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### **Future-oriented technologies emerge**

Technologically, the company explored a number of different angles in the 1950's. It had to make up for a shortfall in innovations in a number of product areas. At the same time, however, developers were working flat out on new, pioneering technologies in other fields such as automotive electronics. Initial success in this field came in 1958 with the development of electronic components for the regulator unit of generators.

Another important milestone was the mechanical gasoline injection system launched in 1951. This was followed by the rapid expansion of the power tools and household appliances product ranges, without doubt a result of the West German "economic miracle" that was starting to kick in at the time.

As a consequence of the general economic upturn in the Federal Republic of Germany as the country moved towards full employment, an increasing labor deficit became apparent in the greater Stuttgart area in the mid-1950's. The company countered this by founding numerous plants in other regions of Germany between 1955 and 1965 (e.g. Nuremberg, Ansbach, Giengen, Bühl, and Blaichach).

## **4. Bosch becomes a global technology group**

*In the fourth phase of its history from around 1960 to 1990, Bosch began by introducing far-reaching reforms to its corporate structure and constitution. The end of this phase was marked by the fall of the Iron Curtain.*

As early as 1959, director of manufacturing Eugen Hagmaier presented a paper on the future development of the Bosch Group analyzing the company's situation from a manufacturing point of view in particular, and formulating appropriate consequences. The same year saw the start of work to restructure the company into divisions. The first was the Power Tools division, founded in 1960.

The work of Hans Walz, honorary chairman of Robert Bosch GmbH and chairman of the executors' committee, in drafting a new constitution for the company led in 1964 to a milestone in the company's history. With the agreement of the heirs of Robert Bosch and in accordance with his will, the new corporate constitution was adopted and today's Robert Bosch Stiftung GmbH – a charitable foundation – was set up. Roughly 92 percent of the share capital of Robert Bosch GmbH is now held by this foundation. The Bosch family holds a strong seven percent of the share capital, while the remaining shares are held by Robert Bosch GmbH and Robert Bosch Industrietreuhand KG, an industrial trust. The foundation transferred its voting rights in the shareholders' meetings of Robert Bosch GmbH to the trust.



## **Second and third waves of diversification**

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A second wave of diversification also began in 1964. This included the Packaging Technology division, formed as a result of a series of acquisitions, and the pneumatics and hydraulics businesses – the beginnings of a later Automation Technology division.

Much in the spirit of his predecessors Robert Bosch and Hans Walz, Hans L. Merkle, chairman of the board of management from 1963 to 1984, placed particular emphasis on strengthening international business. A crucial breakthrough was achieved in 1973 with the founding of the first Bosch manufacturing site in the U.S. since the Second World War. Bosch was back on track to make the U.S. its strongest market outside Germany, as it had been before 1914.

In a third wave of diversification, the company tapped into the telecommunications market with the step-by-step acquisition of Telenorma and ANT as from 1982. Under the leadership of Merkle's successor Marcus Bierich, chairman of the board of management from 1984 to 1993, the company expanded and pooled its telecommunications activities as from 1987, though it was not until 1989 that these activities were ultimately integrated into a separate business sector – Communications Technology. This phase was also marked by a withdrawal from other areas of business. From 1986 onwards, after almost 60 years, Bosch gradually pulled out of the TV studio engineering sector, and in 1988 wound up its long-established projector and camera technology business, started when the company acquired Eugen Bauer GmbH in 1934.

## **Automotive innovations**

The period between the divisionalization of the company from 1960 onwards and the end of the East-West divide saw Bosch develop some major product innovations, particularly in the field of automotive technology. These included the D-Jetronic electronically controlled gasoline injection system (1967), the ABS antilock braking system (1978), the EDC electronic diesel control (1986), the Blaupunkt TravelPilot navigation system (1989), and the ESP<sup>®</sup> electronic stability program.

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 the name of its "Safe, clean, economical" campaign launched in 1974.

The growth of the company over these three decades can be clearly seen from the key data. Sales rose from around 2.2 billion German marks (around 1.1 billion euros) in 1963 to almost 32 billion German marks (around 16 billion euros) in 1990. The share of sales generated outside Germany also increased in this period from 35 to over 50 percent, with the workforce growing from 73,000 to over 180,000.





## **5. New challenges of globalization**

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*The fifth phase in the history of Bosch spans the period from 1990 to the present day. It includes the opening up of the eastern European markets, the rapid growth of Asian economies, and global networking of development, production, and sales.*

In 1993, Marcus Bierich handed over chairmanship of the board of management to Hermann Scholl. The Cold War was over and the states of the former Warsaw Pact were undergoing a process of democratization which for Bosch also meant new opportunities and new markets. At this point, however, the global economy was in the midst of a major recession. This recession was keenly felt by Bosch from the summer of 1992 onwards, and resulted in rationalization measures and job cuts at German locations between 1992 and 1994.

### **Growing markets in eastern Europe and Asia**

At the same time, however, efforts were intensified to tap into foreign markets opening up in Asia and eastern Europe. The share of sales generated outside Germany, still 49 percent in 1993, increased to 72 percent by 2000.

Alongside the conclusion of key joint ventures in China and Korea, Bosch succeeded in pooling its activities in Japan thanks primarily to the acquisition of a majority share in Zexel Corporation from 1997 to 1999. In India too, where Bosch has been represented since 1919 and Bosch products have been manufactured under the brand name MICO since 1951, steps were introduced in 1997 to restructure the company's activities on this growth market with the founding of the regional company Robert Bosch India Ltd. A sales network and manufacturing sites were also set up in numerous markets in eastern and central Europe.

### **New acquisitions and expansion**

The acquisition of AlliedSignal's brakes business in 1996 represented a key investment in the automotive technology sector. In 1999, a joint venture was founded with ZF Friedrichshafen for the production of steering systems for cars and commercial vehicles. However, the company's further development was also secured by divestments. Firstly, the automotive lighting activities of Bosch were integrated into a joint venture with Magneti Marelli called Automotive Lighting Holding, from which Bosch gradually withdrew. The second withdrawal took place in the Communications Technology business sector in 2000, with the sale of the Public Networks, Private Networks, and Terminals business units.

The takeover of the hydraulics specialist Mannesmann Rexroth AG (2001) and the heating technology manufacturer Buderus (2003) had a major effect on the Consumer Goods and Building Technology and the Industrial Technology business sectors. These acquisitions not only reinforced Bosch's market position in these sectors, but also helped counterbalance the predominance of automotive technology within the company's portfolio.

Franz Fehrenbach, who took over the chair of the board of management from Hermann Scholl in 2003, is systematically continuing this policy. His



leadership is also characterized by a focus on the issues “renewable energies,” “energy efficiency,” and “emissions reduction.”

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At the end of 2000, Bosch had a workforce of more than 200,000 worldwide. By 2006, it had climbed to some 260,000. In 2004, sales topped the 40 billion euro mark. The share of sales generated outside Germany, still 49 percent in 1993, amounted to 74 percent in 2006, a percentage only previously achieved by Bosch before the First World War.