

Annual financial results 2022 **Bosch records 15 percent sales increase in Japan over the previous year**

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- ▶ Bosch Japan achieved sales of 340 billion yen (2.46 billion euros) in 2022
- ▶ Bosch's cutting-edge technologies drive future developments in mobility
- ▶ Reorganizing the Mobility Solutions business to flexibly respond to market changes
- ▶ Sustainable working styles ensure Bosch to become the employer of choice

Tokyo – Bosch, a leading global supplier of technology and services, ended its 2022 fiscal year with 340 billion yen (2.46 billion euros) in consolidated sales to third parties in Japan. Sales increased by 15 percent in local currency compared to the previous year, despite facing multiple challenges such as the COVID-19 pandemic, the war in Ukraine, rising energy costs, inflation, and the weak yen. Expressed in euros, the increase is 8.4 percent.

Bosch has increased its sales in Japan for the first quarter of 2023, exceeding those of the previous year. The company expects double-digit growth in sales this year, compared to 2022 for the year overall.

“Bosch has always focused on development of the latest technologies to respond to ever-changing and diversifying market environment and customer needs,” said Klaus Meder, president and representative director of Bosch Corporation, Japan, at the annual press conference in Tokyo. “Furthermore, the group-wide reorganizing of the Mobility Solutions business and the opening of a new headquarters and R&D facility in Tsuzuki Ward, Yokohama, to be completed in 2024, will further strengthen Bosch's R&D operations in Japan and help respond to the needs of customers in the country more swiftly and accurately than ever before,” Meder added.

The number of associates employed at Bosch in Japan stood at approximately 6,250 as of December 31, 2022.

Bosch's cutting-edge technologies drive future developments in mobility

The automotive industry market is undergoing a rapid change in recent years as technology and society evolve. This includes solutions toward realizing a decarbonized society through development of electrification and related technologies, for not only passenger but also commercial vehicles. Furthermore, the trend toward software-based automotive engineering is accelerating. The importance of vehicle software is growing rapidly, with the vehicle software market expected to exceed 250 billion euros by 2030. Bosch develops software to support a more pleasant riding experience and is a leader in promoting development of software-defined vehicles. Bosch develops products and software for the electrification of all vehicles, from passenger to commercial and off-highway, and offers a variety of solutions to meet the needs of automakers.

As one example of software development, Bosch is currently working on vehicle dynamics control 2.0, the core control system for the latest generations of the electronic stability program (ESP®). The company started the first series production of ESP® in 1995 and has since made significant improvements. Next-generation ESP® is scheduled to enter series production in the latter half of 2023. While other applications merely react, the new vehicle dynamics control acts in advance, based on the signals of vehicle dynamics sensors such as acceleration, yaw rate, steering angle, and wheel speed. Using the principle of feedforward control, the desired behavior of the vehicle is predicted according to the inputs of the driver, and the respective actuators such as braking, chassis, steering, and powertrain systems are actuated in a targeted manner. The driver perceives the behavior of the vehicle as natural and in accordance with their intentions. This increases the driver's sense of safety in the vehicle, in everything from everyday handling of the vehicle through to critical driving situations. Bosch collaborates with multiple Japanese customers on development of next-generation ESP® equipped with vehicle dynamic control 2.0.

Currently, the automotive industry is developing software-defined vehicles (SDVs) that determine the functions and features of vehicles using software. SDVs require separation of software and hardware and seamless integration with the cloud. However, currently OEMs, suppliers, software manufacturers, etc. are developing application software according to their own standards and rules, which incurs enormous development costs and low re-usability. Therefore, Bosch is proposing an extension of the classic E/E architecture to the cloud: the Mobility System Architecture (MSA). As various application software is being developed for SDVs, Bosch uses MSA to define a system layer structure which includes the cloud, and a data flow model for the SDV. This will promote initiatives for open standardization of design and implementation methods, making it easier for OEMs, suppliers, and mobility service providers to develop portable software

applications, that will enable SDVs in the future at a lower cost and customer driven feature-up-dates during lifetime. By promoting these advanced initiatives, Bosch is helping to accelerate the development of future mobility.

In regard to electrification, Bosch has a broad portfolio of products available to customers, ranging from individual sensors, electric motors, power electronics and electronic control units to integrated solutions such as eAxle, right through to pre-integrated modules. In 2022, Bosch began production of the new drive unit for electric light commercial vehicles, the Electric Drive Module (eDM), consisting of an electric motor and inverter. The integrated units help reduce weight and save space for commercial vehicles. The flexible construction also allows for easier integration of the drive module, which enables quicker introduction into the light commercial vehicles market. Bosch has contributed to development of diesel engine technology, an important element of powertrains for commercial vehicles, for many years. In response to customer needs, Bosch now offers the most suitable powertrain solutions for not only diesel, but also natural gas, battery EV and fuel cell vehicles. With its deep understanding of commercial vehicles gained over many years and the wide range of solutions, Bosch drives the electrification of commercial vehicles. As of 2022, the Bosch eDM has already been equipped in a commercial vehicle model from a Japanese customer.

Bosch also contributes to the electrification of off-highway vehicles, such as excavators used at construction sites. Bosch Rexroth, which provides industrial hydraulic and electric drive products and solutions, will start sale of eLION motors in Japan to support the electrification of off-highway vehicles. As an electrification product for construction machinery, eLION motor is a solution which also contributes to the “zero emission” that the construction industry is aiming for. Moreover, when an eLION motor is combined with electro-controllable hydraulic equipment which drives an excavator, for example, the fine movements of the excavator’s arms and other parts can be set by software. This means that even operations that require advanced human skill levels, such as excavating and levelling, can be automated through the power of electrification. The construction industry has been facing a variety of problems for many years, including long working hours, labour shortages, and succession problems due to the aging of the workforce and decline in the number of young workers. In addition to these problems there is what is known as the “2024 Issue”, as revisions to the labour standards act that limits maximum working hours will be also implemented in the construction industry in April 2024. Electrified and electrically controlled products such as eLION can provide solutions for construction industry to deal with problems such as long working hours and succession problems.

Reorganizing the Mobility Solutions business to meet market needs

The approach to automotive development is evolving rapidly. The automotive industry is facing a once-in-a-century period of transformation and change in market and customer demand continues to accelerate. “Bosch is realigning its mobility business to respond to the changes. By doing so, we will be able to serve customer needs even better and faster with customized solutions from a single source,” said Christian Mecker, executive vice president and member of the board of directors of Bosch Corporation. What has up to now been the Mobility Solutions business sector, with some 230,000 associates at more than 300 locations in 66 countries worldwide, will now be known as the “Bosch Mobility” business sector. As a leading supplier of technology and the preferred partner for our customers in the mobility industry, Bosch's Mobility Solutions business sector is pursuing organizational changes to meet the evolving needs of our customers.

In Japan, in addition to realignment of the Mobility Solutions business, the opening of the new R&D facility, scheduled for completion in 2024, will further strengthen the development structure in Japan by increasing collaboration and cooperation among business units. Associates from offices scattered throughout the Tokyo-Yokohama area will be consolidated in two locations: the new building and the existing R&D facility already located in Ushikubo, Tsuzuki Ward, Yokohama. Experts who were previously scattered across multiple locations will gather at the new building to conduct R&D while maintaining close communication with other business units in shared laboratories located on each work floor. Through the opening of the new R&D facility and organizational transformation, Bosch will be able to respond even more quickly to the requirements of our Japanese customers.

Construction of the new R&D facility and the Tsuzuki Ward Cultural Center is currently proceeding according to plan. The entire structure of the new Bosch building has already been completed, and part of the exterior façade and interior work is underway. Furthermore, Bosch has been selected as the preferred bidder for naming rights for the Tsuzuki Ward Cultural Center. Bosch has proposed the nickname “Bosch Hall” and is currently finalizing the contract. Through close collaboration with the designated management contractor, which will be determined in the future through public solicitation by the City of Yokohama, Bosch hopes to hold events in conjunction with the all-weather plaza and Bosch's new R&D facility, as well as to plan and implement cultural events and programs. Together with the new building and the Tsuzuki Ward Cultural Center, Bosch will contribute to fostering a lively community in the Tsuzuki Ward.

Promoting sustainable working styles to become the employer of choice

Bosch has implemented initiatives to promote more flexible and diverse working styles for associates. The company in 2022 set a new standard by introducing “Smart Work”, a hybrid working style that allows individual teams to flexibly determine the ratio between on-site and remote work with no upper limits. In April 2023, Bosch also introduced “Coreless Flexible Workstyle” that eliminates core hours for associates currently working under flexible work arrangements. This allows associates to flexibly set their working hours on their workdays, balancing work and private life, as long as required working hours for the month are met. For example, employees can choose to work two hours longer each day than their scheduled work hours for four days per week and to not work one day in the week, making it possible to have a three-day weekend (four-day work week) while working fulltime. In addition, the company also revised guidelines on side jobs in November 2022, allowing associates to run their own business or work freelance for up to 30 hours per month if the company gives permission beforehand. Bosch will continue to promote flexible and diverse working styles and comfortable working environment to enable the associates to achieve sustainable work styles.

Bosch Group: outlook for 2023 and strategic course

In 2022, Bosch exceeded its business targets in what was a challenging year. The supplier of technology and services increased its total sales to 88.2 billion euros, the EBIT margin from operations rose from 4.0 to 4.3 percent. “We rose well to the challenges of 2022 – both our sales and our margin were higher than expected,” said [Dr. Stefan Hartung](#), the chairman of the board of management of Robert Bosch GmbH. Despite the after-effects of the Covid-19 pandemic, Bosch was able to increase its sales by 3.5 percent in the first quarter of 2023. Despite the modest economic outlook, the company is aiming for sales growth of between 6 and 9 percent for the whole year 2023. Its target for EBIT margin from operations in 2023 is in the region of 5 percent. Even if the economic and social environment remains demanding, Bosch wants to grow significantly faster in the coming years. “Our aim is to grow in every region of the world and to be among the leading three suppliers in our relevant markets,” Hartung said.

The fight against climate change is causing considerable upheaval in business and society, and also accelerating technological change. “This technological transformation is opening up growth opportunities that we want to seize. In this context, our ‘Invented for life’ ethos is ideal – not only when it comes to the major trends of electrification, automation, and digitalization, but more than ever also with respect to software and artificial intelligence,” Hartung said. Bosch is responding to the trend toward software-based automotive engineering by realigning its automotive-supply business: within Robert Bosch GmbH, Bosch

Mobility will in the future be managed as a business sector with responsibility for its own business and its own leadership team. The aim is to be able to serve existing and new customer needs even better and faster with customized solutions from a single source. The Bosch chairman announced that the newly restructured mobility business is set to grow annually by an average of roughly 6 percent up to 2029, when it will achieve annual sales of more than 80 billion euros.

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Bosch in Japan is currently represented in the country by Bosch Corporation, Bosch Rexroth Corporation and other affiliates. Bosch Corporation is responsible for the development, manufacturing, sales and services of automotive original equipment, automotive aftermarket products and power tools. Bosch Engineering K.K. provides engineering services, such as development and application for automotive systems. ETAS K.K. develops and provides engineering of development support tools of electrical control units. Bosch Rexroth Corporation develops and manufactures hydraulics, FA module components and other systems which contribute to industrial technologies. Bosch Security Systems Ltd. provides security and communication products and solutions to help secure the safety of lives, buildings and properties, and is also a supplier of professional sound systems. In 2022, Bosch Japan achieved sales to third parties of some 340 billion yen and employed approximately 6,250 associates.

Additional information is available online at

<http://www.bosch.co.jp> Bosch Japan Website (Japanese)

<https://twitter.com/BoschJapan> Bosch Japan Twitter (Japanese)

<https://www.facebook.com/bosch.co.jp> Bosch Japan Facebook (Japanese and English)

<https://www.youtube.com/boschjp> Bosch Japan YouTube (Japanese)

The Bosch Group is a leading global supplier of technology and services. It employs roughly 421,000 associates worldwide (as of December 31, 2022). The company generated sales of 88.2 billion euros in 2022. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 136 locations across the globe, Bosch employs some 85,500 associates in research and development, of which nearly 44,000 are software engineers.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPress.

Note: one Euro = 137.9900 JPY (Calculated using the average rate in 2022)