Press release

IAA Mobility 2023: Bosch is growing with solutions and technology for the software-defined vehicle

Sales of vehicle computers expected to amount to billions of euros

September 4, 2023
PI11712 BBM ak/af

- Dr. Stefan Hartung: “Bosch knows its way around software and hardware and is using new technology to make the software-defined vehicle a reality.”
- Vehicle computers: Bosch expects sales to run into the billions by the middle of the decade.
- Development of business: sales in the Mobility business sector expected to grow by a solid 10 percent in 2023.
- Markus Heyn: “Software is the key to further enhancing convenience and sustainability.”
- Electromobility: Bosch is well on track to achieve its sales target of 6 billion euros in 2026.

Stuttgart and Munich, Germany – Software is the linchpin for the future of mobility. No other company can match the solutions and technology Bosch offers for the software-defined vehicle across all domains – from central vehicle computers to cloud solutions to semiconductors. Here, Bosch benefits from its strength not only in automotive software but also in the hardware required for it, and is already posting robust growth in vehicle computers. The company expects sales of 3 billion euros in 2026 from computers for driver assistance and infotainment alone. Overall, business developments for Bosch are positive, even though the environment remains volatile and challenging.

In the Mobility business sector, sales are expected to grow by a solid 10 percent in 2023, after adjusting for exchange-rate effects. This growth includes price effects, but also marked volume increases. “Bosch knows its way around software and is using it to shape the future of mobility. Our technology will make the software-defined vehicle a reality and help get it onto the road,” said Dr. Stefan Hartung, chairman of the Bosch board of management, at IAA Mobility 2023 in Munich.

Robert Bosch GmbH
Postfach 10 60 50
70049 Stuttgart
Germany

E-mail Athanassios.Kaliudis@bosch.com
Phone +49 711 811-7497
Twitter @Sakis_JD

Corporate Department
Communications & Governmental Affairs
Executive Vice President: Prof. Christof Ehrhart
www.bosch-press.com

“In the software-defined future of mobility, it’s not only hardware that will be vital, but the interaction of software from various sources as well,” Hartung continued. More than ever, Bosch is also positioning itself as a software company for mobility, while at the same time further developing its hardware expertise. As part of this effort, the company is reorganizing its Mobility business sector effective January 1, 2024. This will strengthen cross-divisional collaboration. Bosch employs 38,000 software developers in its mobility operations alone – more than any other company in the automotive industry.

Bosch software makes mobility safer and more sustainable

Software-defined vehicles call for a new, centralized IT and electronic architecture. Bosch is one of the few companies that is developing this architecture – and that knows how to control the interaction between automotive electronics and the cloud. The company offers hardware-agnostic software that runs on chips made by different manufacturers. One result of this is special middleware for driver assistance and automated driving systems, which also helps decouple software and hardware. Vehicles in which software is the starting point of design and development can give drivers a personalized, digital driving experience. New functions in areas such as driver assistance can be added to the car over the air via software updates. “We’ve gotten used to constant updates on our smart devices. Cars, too, should be able to receive new functions at any time, regardless of any facelifts or model changes. With Bosch solutions for automotive software, cars will be capable of more,” said Dr. Markus Heyn, member of the board of management and chairman of the Mobility business sector. “That’s because software is the key to further enhancing convenience and sustainability,” he continued. In electric cars, for example, software facilitates connected energy and thermal management, thus reducing battery charging time by up to 20 percent.

The electromobility business is developing well for Bosch. The company is on track to achieve sales of 6 billion euros in 2026. Even last year, Bosch was able to increase its output of components for electric cars by some 50 percent. In 2023, production of electric motors alone will double. Bosch software plays a key role in the wider electromobility industry as well; for example, in automated battery recycling systems. Not only is software able to identify the origin and condition of batteries, but by guiding users through process steps, it also enables quick and safe disassembly of battery packs.

New control concept independent of any hardware

Although hardware and software engineering are becoming separated, they are also mutually beneficial. This is particularly evident in modern accident protection systems such as the new ESP generation. The key innovation here is a new control concept: Vehicle Dynamics Control 2.0. This software can intervene not only in the braking system, but also in the electric powertrain and electric steering system. This means less countersteering and shorter braking distances, and thus greater safety for drivers. The major benefit for automakers is that the new control system can be integrated into either a central vehicle computer or the ESP control unit, and will be available in the future as a discrete software package. It will be part of vehicle motion management, a software solution that coordinates all aspects of vehicle motion by centrally controlling the brakes, steering, powertrain, and chassis.

Bosch industrial technology along the entire value chain

However, it is not only driving that Bosch software will change, but also the way vehicles are manufactured. For example, the company secures automotive supply chains with the help of a track and trace solution. By recording the position and condition of transport crates in real time, this solution provides for transparent and secure tracking. The Industry 4.0 software Nexeed helps significantly reduce scrap rates in battery-cell factories from their current level of 10 to 15 percent. In addition, Bosch can use artificial intelligence (AI) to detect anomalies and errors in automotive production at an early stage, thereby reducing manufacturing costs. Bosch is already using such AI software at 50 of its own plants. At the company's location in Bursa, Turkey, the software has already helped reduce manufacturing costs significantly.

Press photos: #bc607744, #da481142, #9558b295, #cd974457, #96a83dcb, #45545e59, #24e9a6e9

BOSCH PRESS CONFERENCE: Monday, September 4, 2023, 11:20–11:40 CEST: with Dr. Stefan Hartung, chairman of the board of management of Robert Bosch GmbH, and Dr. Markus Heyn, member of the Bosch board of management and chairman of Bosch Mobility, at the Bosch booth D10 in Hall B3 and via livestream on the Bosch Media Service.

Panels with Bosch experts at the IAA Conference:

- **Wednesday, September 6, 10:00–10:15 CEST on the Main Stage:** Keynote: "Life in motion – Why sustainable mobility is about more than just technology," with Dr. Stefan Hartung, chairman of the board of management of Robert Bosch GmbH.
- **Thursday, September 7, 11:15–11:30 CEST on the Main Stage:** Keynote: "Paving the way to centralized architectures & software-defined vehicles," with Dr. Mathias Pillin, Bosch Mobility CTO.
- **Thursday, September 7, 15:00–15:45 CEST on the Yellow Stage:** Session on data & next-level user experience: "Software-defined mobility enabling a completely new vehicle motion experience" with Mariella Minutolo, member of the board of management, ETAS GmbH, and Stephan Stass, member of the divisional board of management, Chassis Systems Control, Robert Bosch GmbH.

Bosch at the IAA Experience:

The IAA Experience at the IAA Open Space in downtown Munich will be open **from September 5 to 9, 2023, from 10:00 to 20:00 CEST**. On **Sunday, September 10, 2023,** the IAA Experience is open **until 17:00 CEST**.

- During the IAA, the new Performance Line SX and other products from Bosch eBike Systems can be taken for a test ride on the cycling test track in Munich's Englischer Garten park. In addition, Bosch e-bike product experts will be on hand to answer questions in the Open Space at Odeonsplatz.
- moveID, a project led by Bosch within the "Gaia-X 4 Future Mobility" project family, will be holding a live demo with two electric vehicles. moveID will give its first insight into the MOBIX app, which allows users to park and charge anonymously at any location in compliance with the general data protection regulation. It will also showcase novel mobility services and business opportunities created by the use of decentralized technologies.

FOLLOW the Bosch IAA 2023 highlights at www.bosch-iaa.com and on Twitter: @BoschPress, #BoschIAA

Contact person for press inquiries:
Athanassios Kaliudis
Phone: +49 711 811-7497
Twitter: @Sakis_JD

Mobility is the largest Bosch Group business sector. It generated sales of 52.6 billion euros in 2022, and thus contributed almost 60 percent of total sales. This makes the Bosch Group one of the leading automotive suppliers. The Mobility business sector pursues a vision of mobility that is safe, sustainable, and exciting. For its customers, the outcome is integrated mobility solutions. The business sector's main areas of activity are injection technology and powertrain peripherals for internal-combustion engines, diverse solutions for powertrain electrification, vehicle safety systems, driver-assistance and automated functions, technology for user-friendly infotainment as well as vehicle-to-vehicle and vehicle-to-infrastructure communication, repair-shop concepts, and technology and services for the automotive aftermarket. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

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