Press release
Bosch Compact

The world of AI at Bosch: These smart solutions make life safer and easier
Tour of the Bosch Tech Day exhibition

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- Bosch uses artificial intelligence in all its business areas.
- All Bosch products either contain AI or are manufactured with its help.
- Bosch showcases AI solutions – from Range Control for e-bikes to wildfire detection.

Stuttgart, Germany – Artificial intelligence is everywhere nowadays. Bosch recognized the opportunities that this technology offers at an early stage and systematically introduced it into all areas of its business. And this is paying off: at present, all Bosch products either contain AI or are manufactured with its help. The company achieved this goal in 2023, two years earlier than originally planned. At the Bosch Tech Day 2025, Bosch will be showcasing smart AI solutions from across the company – from Range Control for e-bikes to wildfire detection.

Oven: The intelligent Bosch Series 8 oven is equipped with sensors, cameras, and AI. With their help, the oven can recognize around 80 dishes and automatically set the optimum cooking method and temperature. And for many dishes, even the degree of browning can be individually selected.

Range Control: On e-bikes, AI helps dispel range anxiety. With the AI-based Range Control feature, e-bike riders who are about to set out on a journey can use the eBike Flow app to set the battery charge level with which they would like to arrive at their destination. The support is then adjusted automatically by the smart system, taking into account factors like system weight, route elevation, and individual riding behavior.

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Smart AI fitness sensor: Thanks to the new smart BHI385 sensor from Bosch Sensortec, fitness trackers and smartwatches can reliably detect highly dynamic exercise routines and provide detailed feedback on their execution. The Bosch sensor is a powerful, fully programmable smart inertial measurement unit (IMU) with self-learning AI software, which allows the sensor to learn new movements.

AI-based battery production: Bosch Manufacturing Solutions offers intelligent, optically guided "on the fly" laser welding that enables the seamless and highly efficient connection of battery cell terminals, supported by state-of-the-art automation and real-time data processing. Integrating optical guidance with continuous laser welding leads to faster production cycles, immediate quality feedback (thanks to real-time evaluation), and reduced maintenance. The solution combines AI-assisted anomaly detection and root-cause analysis to optimize process monitoring in manufacturing. Deep learning models monitor several signals in real time, and potential errors, inefficiencies, or deviations are detected immediately.

Revol: The intelligent Bosch Revol crib can be used to monitor a child's vital signs, such as heart and respiratory rate. Its software also signals in good time if a stuffed animal or blanket is covering the child's airway or if the child is crying. And if the newborn is having trouble falling asleep, the crib can automatically rock it to sleep. Users can decide for themselves whether the data the crib records is ultimately stored in encrypted form on Bosch servers or remains offline within their own four walls.

Prefabricated AI agents: With the Agentic AI Framework from Bosch Connected Industry, customers can easily combine AI agents into multi-agent systems and customize them. The agents are specially tailored to the needs of manufacturing operations. For example, scalable applications can be developed that help manufacturing employees use voice control to, for example, remedy machine faults, create reports, or make entries in the shift log. Multi-agent systems can also support personnel planning or software configuration. Many other applications are possible as well.

Wildfire detection: A service from Bosch Building Technologies detects initial smoldering in forests, for example, before a large-scale fire breaks out. The sensors are able to "smell" smoke gases and report the danger and other relevant information via a cloud-based portal to a control center, which can quickly initiate countermeasures. In addition, Bosch can fly drones from its own control centers to the scene of the fire and provide aerial images as live video. Artificial intelligence trains the sensors and continuously evaluates information – for example, on the composition of gas combinations.

Wall scanner: Bosch is working on applying AI in the field of measurement technology, too. One example is the Bosch wall scanner, which uses several sensor technologies to detect different materials in walls, such as electrical cables, metal beams, and empty spaces. In the future, radar signals will be processed with AI support in the form of improved AI algorithms and neural networks. This will enable objects in the wall to be detected, located, and classified even more precisely.

Press photos and infographics are available on the Bosch Media Service at www.bosch-press.com.

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The Bosch Group is a leading global supplier of technology and services. It employs roughly 418,000 associates worldwide (as of December 31, 2024). The company generated sales of 90.3 billion euros in 2024. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, electrification, digitalization, connectivity, and an orientation to sustainability. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in sensor technology, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture user-friendly, sustainable products. With technology that is "Invented for life," Bosch wants to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 490 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. Bosch's innovative strength is key to the company's further development. At 136 locations across the globe, Bosch employs some 87,000 associates in research and development.

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 upfront investments in the safeguarding of its future. Ninety-four percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a limited liability company with a charitable purpose. The remaining shares are held by Robert Bosch GmbH and by a company owned by the Bosch family. The majority of voting rights are held by Robert Bosch Industrietreuhand KG. It is entrusted with the task of safeguarding the company's long-term existence and in particular its financial independence – in line with the mission handed down in the will of the company's founder, Robert Bosch.

Additional information is available online at www.bosch.com, www.bosch-press.com.