Press release
Bosch Compact

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Bosch Tech Day 2022 in Dresden: powerful semiconductors are setting the pace for the world of modern technology

Hands-on exhibits of Bosch technology “Invented for life”

- Bosch automotive sensors register their surroundings in detail and make automated driving safe, relaxed, and convenient.
- A hovering, AI-assisted planar robot provides contactless transport for components and objects.
- New charging cable for electric vehicles enables fast and simple charging, with no need for a control box.
- Self-learning motion sensors in fitness trackers give a better picture of workout benefits.

Stuttgart and Dresden, Germany – Highly miniaturized components are the glue that holds our modern technological world together. Powerful semiconductors are at the heart of all electronic systems. The hands-on exhibits at the Bosch Tech Day 2022 will include a wide range of current and future products, so that visitors can touch, try out, and experience for themselves the role that chips, including those manufactured by Bosch, play in making technology that is “Invented for life.” Bosch Tech Day will take place on July 13, 2022, at the Bosch wafer fab in Dresden, the most advanced of its kind in Europe.

An overview of the exhibits at Bosch Tech Day

Automotive sensors – surround sensing for all traffic situations: In assisted and automated driving, the vehicle must know what is going on around it at all times. It must be able to reliably detect and react to objects and people. Reliable surround sensing is essential for this. For this, Bosch employs a combination of multipurpose camera and front and corner radar sensors installed at the front and sides of the vehicle. The front radar sensor detects objects at the front of the vehicle and determines their speed as well as their position relative to the vehicle. If there is a risk of collision, the system warns the driver. If the driver fails to react, the system automatically triggers an emergency braking maneuver. The

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Bosch multipurpose device is a front video camera that combines traditional image-processing algorithms with artificial intelligence (AI) methods. Using AI, the camera understands and interprets what it sees, ensuring reliable object recognition and good surround sensing. In addition to camera, radar, and ultrasonic solutions, Bosch is also developing a long-range lidar, for which it employs various sensor principles. The more complex the driving task, the more important it is that these solutions interact correctly.

Planar robots – high-performance contactless transport and positioning: Bosch makes Industry 4.0 hover with special planar robots that use permanent magnetic levitation, a new technology developed by Bosch researchers. The robots are much more versatile and adaptable than a conveyor belt and enable the flexible and contactless transport, positioning, and maneuvering of components or objects of any kind. They offer potential for a wide range of industries and applications, such as the semiconductor and pharmaceuticals industries as well as the food industry, for which special standards of hygiene and cleanliness apply. But they are also a boon in assembly and manufacturing environments, where they speed up operations and can combine flexible materials flow with precise positioning. The Bosch planar robot consists of two main components, each of which is equipped with permanent magnets: a mover, which is the transport platform; and a stator, which is the surface over which the mover can glide. The magnets in the stator generate a strong magnetic levitation field for the mover, which silently hovers about two centimeters above it. Due to the precise alignment of the magnets, it is possible to control the position of the mover in all directions.

GSR and GSB 18V-150 C Professional – cordless screwdrivers with electronic angle detection: The GSR and GSB 18V-150 C Professional Biturbo screwdrivers are the world's most powerful 18-volt cordless and impact screwdrivers. They are particularly suitable for conventional timber-frame construction as well as for building roof trusses or facades. In short, for any kind of work that requires large-diameter screws or drills. They offer a modern user interface as well as connectivity functions that allow individual settings to be made by smartphone. Their unique selling point is their electronic angle detection (EAD) function, a world first for commercial 18-volt screwdrivers. The GSR and GSB 18V-150 C Professional tools also feature a high level of user protection thanks to KickBack Control: in the event of sudden and unpredictable rotation of the screwdriver around the drilling axis – if the drill gets stuck in a knothole, for example – the integrated sensor switches off the motor within a fraction of a second. This prevents unexpected recoil and can reduce the risk of injury.

The Quigo Green cross-line laser for DIY users – green in more ways than one: The Quigo Green projects an accurate laser cross onto the wall. It uses green laser diodes, which generate a beam that is up to four times more visible to the human eye than a red one. It is the first Bosch measurement device to feature housing and accessories made of 90 percent recycled plastic. Its packaging is also eco-friendly, made of 70 percent recycled paper, featuring an environmentally friendly water-based coating, and no longer containing any plastic film inside. Bosch also optimized the size of the packaging, making it as small as possible to maximize the number of devices that can be transported at the same time. In addition, thanks to its optimized electronics, the new Quigo Green consumes just half the energy its predecessor model did. All these features help conserve resources.

Rolling Chassis – from pre-integrated modules to complete solutions: With its pre-integrated systems solutions, Bosch helps startups as well as traditional automakers bring electric vehicles to the market faster than before. By reducing complexity in the development and design of electric vehicles, the company helps automakers operate more efficiently.

At the heart of Bosch's pre-integrated systems solutions is the advanced driving module (ADM). It integrates individual systems for propulsion, steering, and brakes into a harmonized and flexible whole. Simplified interfaces and a consistent software architecture reduce complexity and ensure optimized communication among components. This modular approach combining hardware, software, and services allows automakers to integrate the ADM in line with their needs. The rolling chassis prototype, which was built as part of an engineering alliance with the chassis and body expert Benteler, demonstrates the maximum possible level of pre-integration and serves as a development platform for battery-electric vehicles.

Bosch Cookit – all-around culinary talent: Cookit offers a whole new dimension of flexibility in the kitchen. Whether guided cooking, automatic programs, or manual cooking, the multifunctional food processor with cooking function has the right level of support for everyone. And now it has become even more flexible: the new "My Recipe" function allows Cookit to save personal recipes. The recipe, with all ingredients, quantities, temperatures, and special tips, is entered in the Home Connect app, which then relays it to the Cookit. The food processor with cooking function will then guide the user through the preparation steps as often as required. Since the beginning of May, it has been possible to use the Home Connect app to share these personal Cookit recipes. This gives users access to countless recipes from the Cookit community. For extra inspiration, they can add a food photo to their own creations.

SmartGrow Life – the first bite is with the eye: SmartGrow Life is the innovative, all-in-one indoor gardening system for growing herbs, greens, and even tomatoes at home. Thanks to its patented lighting and irrigation technology, users can grow healthy and aromatic plants all year round. In addition to providing fresh greens, SmartGrow Life is an eye-catching complement to any kitchen counter or table and can even be mounted on the wall. Following the sustainability principle, all materials used for the device, accessories, and packaging can be reused, reprocessed, or recycled.

Electromobility ecosystem – charging cable and wallbox: With its integrated control and safety technology, Bosch's new flexible smart charging cable for electric vehicles also does without the usual in-cable control box when charging at a 230-volt power socket. This means the Bosch cable weighs less than three kilograms. On average, this is a good 40 percent less than conventional charging cables with a control box. Because it comes with adapters for type 2 and household plugs, drivers who want to be free to choose whether to recharge from a power socket at home or from a charging station on the road no longer need a second cable. The three-phase cable enables mode 2 and mode 3 AC charging at up to 22 kilowatts, and the technology integrated into each of the plugs makes the recharging process safe and reliable. The type 2 connector at the vehicle end of the cable contains the components for controlling and monitoring the charging power. At the other end, the household plug with adapter houses the temperature control and a residual current device. And for charging electric cars at home, Bosch also offers wallboxes.

BHI260AP – revolutionizing fitness tracking: Squats, sit-ups, kettlebell workouts: the list of fitness exercises goes on and on. However, many fitness trackers and smart watches can track only a limited number of activities, and the variety of apparatus types as well as users' different movement styles, physiques, and fitness levels mean that they cannot always reliably recognize the exercises being done. To solve this problem, Bosch Sensortec has developed the BHI260AP – a programmable motion sensor that enables self-learning functions in wearables and hearables. The sensor automatically detects and counts different types of movements, seamlessly adapts to the user's style in the background, and can independently learn any new recurring fitness activity within seconds. In addition to the self-learning function, the sensor also has advanced integrated functions such as swimming analysis and position and orientation tracking.

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About Bosch

Having established a regional presence in 1906 in North America, the Bosch Group employs nearly 35,500 associates in more than 100 locations, as of December 31, 2021. In 2021, Bosch generated consolidated sales of $13.5 billion in the U.S., Canada and Mexico. For more information, visit www.bosch.us, www.bosch.ca and www.bosch.mx.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of $93.1 billion in 2021. Its operations are divided into four business sectors: Mobility Solutions, 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 440 subsidiary and regional companies in some 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 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

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