



Bosch and CATL collaborate on battery cells Aim is a leading position in 48-volt batteries

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- ▶ Stefan Hartung: "The 48-volt hybridization is sure to be the minimum standard in tomorrow's automotive market."
- ▶ As early as 2025, nearly 20 percent of new cars will feature a 48-volt system.
- ▶ Production of the Bosch 48-volt battery started at Wuxi in late 2018.

Stuttgart, Germany: Bosch and Contemporary Amperex Technology Co. Limited (CATL) have concluded a long-term strategic cooperation agreement. The partners are going to jointly specify high-performance battery cells. CATL will then design, develop, and manufacture these cells in accordance with Bosch requirements. The cells are to be used in the 48-volt battery developed by Bosch. This battery is the core element of 48-volt hybrid powertrain systems, whose efficiency is making them globally ever more important. In joining this alliance, the supplier of technology and services is also securing its long-term sourcing for battery cells. "We have to understand battery cells, but we do not have to make them ourselves," says Dr. Stefan Hartung, member of the board of management and chairman of the Mobility Solutions business sector. "With CATL, we have brought an established cell specialist for lithium-ion batteries on board as a partner. In combination with our systems know-how and expertise in battery management, we will extend our strong position in the 48-volt battery market." CATL, one of the world's leading experts of lithium-ion battery is currently building a battery factory in Erfurt, Germany. For Bosch, this alliance is another step on the path to market leadership in electromobility. Numerous global automakers already use Bosch's 48-volt battery.

48-volt system destined to be the minimum standard in tomorrow's automotive market

Bosch's portfolio for 48-volt systems extends beyond the 48-volt battery to encompass other system components such as DC/DC converters and electrical machines. With this technology, Bosch aims to gear up all classes of vehicles for

future emissions requirements and offer affordable hybridization. Its 48-volt electrification augments the combustion engine with an electric motor. This motor is powered by the 48-volt battery, which in turn is charged by recovering energy expended during braking. This can cut fuel consumption by as much as 15 percent. If we want to improve efficiency, we can no longer afford to let brake energy dissipate unused,” Hartung says. “This 48-volt hybridization is sure to be the minimum standard in tomorrow’s automotive market.” The market for 48-volt solutions is growing worldwide. Bosch expects that by 2025, nearly 20 percent of new cars sold annually around the globe will have a 48-volt system and matching battery on board. Demand for 48-volt systems is rising, especially in Europe and China.

Cost-effective and easy to integrate – the Bosch 48-volt battery

The Bosch plant in Wuxi, China, started making the first generation of the 48-volt battery late last year. The USP of the latest version of this product is that the battery is compact and cooled passively. This means automakers can simply integrate it into their vehicle models, and do not require any additional cooling units. In addition, they can dispense with the long and costly effort of proprietary engineering work. “We are confident that our 48-volt battery will achieve a leading position in the market, and make the 48-volt hybrid affordable for the mass market,” Hartung says.

Expertise across the e-mobility ecosystem

Bosch is more broadly positioned in e-mobility than any other company. It aims to take the lead in the mass e-mobility market that will emerge in 2020 and beyond. The company is planning to increase its sales in this area more than tenfold by 2025, to five billion euros. Bosch electrical powertrain components already feature in more than a million vehicles around the world. The supplier of technology and services has carried out powertrain projects for 50 electric-vehicle platforms. It is the market leader in China, the world’s biggest and fastest-growing electric-vehicle market. Bosch technology can be found in practically every class of vehicle, from electric baby buggies, bicycles, and scooters to passenger cars and commercial vehicles. The company’s expertise thus extends across the entire e-mobility ecosystem. Bosch is partnering with various automakers to give e-vehicle drivers app-based access to some 40,000 charge spots in eight European countries.

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Mobility Solutions is the largest Bosch Group business sector. In 2018, its sales came to 47.6 billion euros, or 61 percent of total group sales. This makes the Bosch Group one of the leading automotive suppliers. The Mobility Solutions business sector pursues a vision of mobility that is accident-free, emissions-free, and fascinating, and combines the group's expertise in the domains of automation, electrification, and connectivity. 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 410,000 associates worldwide (as of December 31, 2018). The company generated sales of 78.5 billion euros in 2018. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. 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 deliver innovations for a connected life. 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 460 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. The basis for the company's future growth is its innovative strength. At nearly 130 locations across the globe, Bosch employs some 68,700 associates in research and development.

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