

Media Information

9 July 2025

Bavarian expertise in demand worldwide: How the BMW Group is gearing up for series production of its new high-voltage batteries

+++ Pilot plants in Parsdorf, Hallbergmoos and Munich pave the way for global series launch +++ Board Member Nedeljković: "Strengthening Germany's capacity for innovation" +++ Consistent zero-defect approach to production +++

Munich/Parsdorf. With the Neue Klasse, the BMW Group is ushering in a new era of pure electric driving, starting series production end of 2025. The high-voltage battery is a key component in any electric vehicle. Before large-scale series production can begin, manufacturing processes must be developed and pre-series batteries put through their paces. This takes place at the BMW Group's pilot plants for high-voltage batteries in Parsdorf and Hallbergmoos and at the Research and Innovation Centre (FIZ) in Munich. "Our pilot plants for high-voltage batteries are strengthening Germany's capacity for innovation," says Milan Nedeljković, Member of the Board of Management of BMW AG responsible for Production. "They are laying the groundwork for the new series plants worldwide, ensuring a smooth ramp-up of high-voltage battery production." To produce high-voltage batteries for the sixth generation of BMW eDrive (Gen6), the company is establishing five assembly sites across three continents: in Irlbach-Straßkirchen (Lower Bavaria), Debrecen (Hungary), Shenyang (China), San Luis Potosí (Mexico) and Woodruff (USA).

Quality is key: Consistent zero-defect approach

For the in-house developed Gen6 high-voltage battery, the BMW Group is implementing intelligent, state-of-the-art production processes using the latest technologies. "For production of our high-voltage batteries, we are pursuing a consistent zero-defect approach," explains Markus Fallböhrer, head of Battery Production at BMW AG. "Highly intelligent, AI-supported quality checks are integrated into the production process to help us achieve this." Because quality is key: In bodies for

the Neue Klasse, the high-voltage battery serves as a structural component ("pack to open body"). The new cylindrical round cells are integrated directly into the high-voltage battery ("cell to pack"). With its innovative production processes, BMW Group's pilot and series plants are setting new industry standards for battery production. Examples include, among the consistent zero-defect approach, the use of digital production twins for tasks such as employee training, as well as leveraging expanded AI databases to optimise supply and production logistics. All production steps undergo seamless in-line monitoring with comprehensive data storage, enabling maximum process stability and continuous data-based optimisation.

Pilot plants up close: Parsdorf, Hallbergmoos and Munich (FIZ)

The largest pilot plant for Gen6 high-voltage batteries is located in Parsdorf, where over 350 employees have been building initial prototypes since 2023. Since mid-2024, some of the high-voltage batteries produced there have already been delivered to the vehicle plant in Debrecen, Hungary, where they are installed in test vehicles for the Neue Klasse. A pre-series plant for high-voltage batteries is also located near Munich Airport. Since summer 2024, the site in Hallbergmoos has been developing manufacturing technologies for high-voltage battery assembly. Around 200 employees are working at this small-scale battery factory. The Hallbergmoos site serves as a model for the series production at Plant Woodruff near Spartanburg, South Carolina, US. At the Munich Research and Innovation Centre (FIZ), another 200 employees are manufacturing and testing prototypes and smaller module variants of the high-voltage battery. Several floors of the recently opened Aeroacoustics and E-drive Centre (AEZ) are dedicated to this work.

Series launch of five battery plants in under two years

The systems and processes developed at the Bavarian pilot plants will be rolled out to the series plants worldwide. Within less than two years, series production will ramp up at five locations across three continents. In line with its "local-for-lo-

cal" principle, the BMW Group has positioned its Gen6 high-voltage battery assembly sites as close as possible to its vehicle plants. This approach safeguards production, even in the event of unforeseen political and economic developments. It will also strengthen existing production sites, while preserving and creating jobs. Series production of the BMW iX3, the first model of the Neue Klasse, will get underway at Plant Debrecen late this year, alongside high-voltage battery manufacturing at the same site. The launch in Debrecen will be followed by the battery assembly plants in Shenyang, Irlbach-Straßkirchen, Woodruff and San Luis Potosí.

How the BMW Group builds Gen6 high-voltage batteries

The BMW Group sources battery cells for its high-voltage batteries from leading cell manufacturers, who produce the cells to the company's specifications. The highest technical standards apply. Upon receipt of goods, additional measurements – such as voltage checks – are carried out. Next comes cell clustering, where the battery cells are connected to coolants. This step ensures optimal insulation and cooling of the cells. The cell clusters and cell contact system are then laser-cleaned and welded with pinpoint precision. The in-line inspection continuously monitors each weld seam in real time. An innovative foaming process follows, ensuring that all elements are protected as a mechanical unit. The foam thus guarantees the safety, stability and durability of the high-voltage battery. The housing is then closed, sealed and riveted. In the final assembly step, the Energy Master – the central control unit – is installed onto the high-voltage battery. A permanently elastic sealing adhesive is applied to ensure a reliable seal. Finally, each high-voltage battery undergoes a 100% end-of-line inspection to ensure quality, safety and function.

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With its four brands, BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial services. The BMW Group production network comprises over 30 production sites worldwide; the company has a global sales network in more than 140 countries.

In 2024, the BMW Group sold 2.45 million passenger vehicles and more than 210,000 motorcycles worldwide. The profit before tax in the financial year 2023 was € 17.1 billion on revenues amounting to € 155.5 billion. As of 31 December 2023, the BMW Group had a workforce of 154,950 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. Sustainability is a key component of the BMW Group's corporate strategy – from the supply chain through production to the end of the use phase of all products.

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