BMW Group expands e-drive production network: Start of battery component production in Leipzig and Regensburg

- BMW Group now producing high-voltage batteries and battery components at three locations in Germany alone: Dingolfing, Leipzig and Regensburg
- Less than a year from decision to start of production in Leipzig and Regensburg
- Production of battery components for BMW Group’s fifth generation of fully-electric vehicles

Munich/Leipzig/Regensburg. The BMW Group is launching production of battery components at its plants in Leipzig and Regensburg and expanding its e-drive production network. It has been less than a year since the decision was made to expand production capacity for e-drives in Germany. BMW Group Plant Leipzig will launch series production of battery modules on Monday, 3 May 2021, while BMW Group Plant Regensburg began coating battery cells for high-voltage batteries in April 2021. High-voltage batteries will also be produced in Regensburg from 2022. “We expect at least 50 percent of the vehicles we deliver to our customers worldwide to be fully electric by 2030,” said Michael Nikolaides, Senior Vice President Production Engines and E-Drives. “And we are systematically expanding our production network for electric drive trains in response to this.”

The company is investing more than 250 million euros in its Regensburg and Leipzig locations alone to supply the BMW Group’s growing number of electrified vehicles with high-voltage batteries. High-voltage battery components will be used in production of the BMW iX* and BMW i4, both of which will be released onto the market shortly. The production systems are highly flexible and will also supply battery components for other BMW Group electrified vehicles in the future.

“We are increasing capacity at existing locations and developing capabilities at others. In this way, we can make the most of our associates’ expertise and experience and offer them long-term, secure jobs,” Nikolaides added. The BMW Group is investing a total of around 790 million euros in expanding production capacity for
BMW Group launches battery component production at Plants Leipzig and Regensburg

BMW Group launches battery component production at Plants Leipzig and Regensburg and Steyr locations between 2020 and 2022.

Production of battery modules at BMW Group Plant Leipzig

Leipzig is the BMW Group’s pioneer plant for electromobility and has been building the BMW Group’s first fully-electric vehicle, the BMW i3*, since 2013. Now, the location will also produce electric drivetrain components.

“We are continuing on this track with the launch of battery module production and further enhancing the plant’s future viability for electromobility,” confirmed Hans-Peter Kemser, Plant Director of BMW Group Plant Leipzig. “Plant Leipzig will play an important role in supplying the growing number of BMW Group electrified vehicles with battery components.” The successor to the MINI Countryman, scheduled to come off the production line in Leipzig from 2023, will be released onto the market with an electric drive train. “The expertise and experience gained by staff at our location over the years can be put to good use. Construction of the battery module lines will make a major contribution to long-term job security,” emphasised Hans-Peter Kemser.

From May 2021, the 10,000 sq. m. production area previously reserved for the BMW i8 will be used for manufacturing battery modules. Production will get underway with 80 employees working in battery module production; by the end of the year, there will be a staff of around 150. The company will invest more than 100 million euros in the initial phase of battery module production at the Leipzig location between 2020 and 2022.

However, the production line for battery modules that just ramped up is only the beginning: The company has already decided to further increase capacity for battery module production at its Leipzig location. A second production line will come on stream in 2022. This will ensure the company has sufficient volumes to meet growing demand for drivetrains.
Production of battery components and high-voltage batteries at BMW Group Plant Regensburg

BMW Group Plant Regensburg already produces two electrified models – plug-in hybrid variants of the BMW X1* and BMW X2* – and will start building the fully-electric BMW X1 in 2022. The site’s e-mobility expertise and experience will now also be used in production of battery components and high-voltage batteries.

The first of four coating lines for fifth-generation battery cells went on stream in April 2021, occupying a production and logistics area of more than 40,000 sq. m. “Regensburg has made a successful start to production of electric drivetrain components – this is an important milestone in our transformation,” according to Frank Bachmann, Plant Director of BMW Group Plant Regensburg. The three other systems will ramp up in stages between now and the end of 2021 to supply the growing volumes needed for the BMW Group’s fully electric vehicles. Up until now, battery cells have been coated at BMW Group Plant Dingolfing and the BMW Brilliance Automotive Plant Powertrain in Shenyang, China.

Coating increases the battery cell’s mechanical robustness and thermal conductivity. This helps improve insulation and cooling of the fifth-generation e-drive’s even more powerful battery cells. From 2022, the plant in Regensburg will produce high-voltage batteries from battery modules. A total of 100 employees already work in battery component production at the Regensburg site; by the end of 2022, there will be more than 300. The company will invest more than 150 million euros in ramping up production of battery components and high-voltage batteries between 2020 and 2022.

Holistic approach to sustainability

The BMW Group has a clear mission to ensure the “greenest electric vehicle comes from the BMW Group”, starting in production. The BMW Group already sources only green power for its manufacturing locations worldwide. The BMW Group’s energy goals are geared towards the long term. The company reduced its emissions per vehicle produced by more than 70 percent between 2019 and 2006. The aim is to lower these CO2 emissions by another 80 percent.
by 2030. This means the BMW Group will have reduced its CO2 emissions from production to less than ten percent of what they were in 2006.

A further corporate objective is to reduce CO2 emissions in the supplier network by 20 percent by 2030. At the same time, the BMW Group has reached an agreement with its suppliers that they will only use renewable green power for producing fifth-generation battery cells.

**From battery cell to high-voltage battery**

Production of high-voltage batteries can be broken down into two stages: Battery modules are produced in a highly automated process. The lithium-ion cells first undergo a plasma cleaning, before a specially developed system coats the cells to ensure optimal insulation. Next, the battery cells are assembled into a larger unit, the so-called battery module. The BMW Group obtains its battery cells from partners who produce them to the company’s exact specifications. The BMW Group uses different battery cells, depending on which provides the best properties for each vehicle concept.

The battery modules are then installed in an aluminium housing, together with the connections to the vehicle, and the control and cooling units. The size and shape of the aluminium housing and the number of battery modules used differ according to the vehicle variant. This ensures the high-voltage battery is optimally adjusted to the vehicle.

**Global e-drive production network focused in Germany**

The high-voltage batteries and battery components needed for all BMW and MINI electrified vehicles come from the company’s own battery factories in Dingolfing, Leipzig and Regensburg in Germany, as well as from Spartanburg (USA) and Shenyang (China). The BMW Group has also localised production of high-voltage batteries in Thailand, at its Rayong plant, and is working with the Dräxlmaier Group for this. Munich is home to the e-drive pilot plant and the Battery Cell Competence Centre, where the BMW Group is conducting a full analysis of battery cell value creation processes and refining technology for its production processes.
The company produces electric motors at the Competence Centre for E-Drive Production in Dingolfing and at BMW Group Plant Landshut. BMW Group Plant Steyr builds the housing for the highly integrated fifth-generation eDrive.

With the BMW Group’s electro-offensive now in full swing, increased production capacity is needed for electric drivetrain components. Thanks to intelligent vehicle architectures and a highly flexible production network, the BMW Group will have about a dozen fully-electric models on the roads from 2023. The BMW i3*, MINI Cooper SE* and BMW iX3* already on the market will be joined later this year by the BMW iX* and BMW i4. Between now and 2025, the BMW Group will increase its sales of fully-electric models by an average of well over 50 percent per year – more than ten times the number of units sold in 2020. By the end of 2025, the company will have delivered a total of around two million fully-electric vehicles to customers. Based on current market forecasts, the BMW Group expects at least 50 percent of its global sales to come from fully-electric vehicles in 2030. In total, over the next ten years or so, the company will release about ten million fully-electric vehicles onto the roads.

This means the BMW Group is strategically on track to reach the European Union’s ambitious CO2 reduction targets for 2025 and 2030 as well.

*Fuel consumption/emissions data:
BMW i3: Fuel consumption combined: 0.0 l/100 km; power consumption combined: 16.3-15.3 kWh/100 km WLTP; CO2 emissions combined: 0 g/km.
BMW i3s: Fuel consumption combined: 0.0 l/100 km; power consumption combined: 16.6-16.3 kWh/100 km WLTP; CO2 emissions combined: 0 g/km.
MINI Cooper SE: Fuel consumption combined: 0.0 l/100 km; power consumption combined: 17.6-15.2 kWh/100 km WLTP; CO2 emissions combined: 0 g/km.
BMW iX3: Fuel consumption combined: 0.0 l/100 km; power consumption combined: 17.8-17.5 kWh/100 km WLTP; CO2 emissions combined: 0 g/km.
BMW iX xDrive50: Power consumption combined: < 21 kWh/100 km in the WLTP test cycle; CO2 emissions combined: 0 g/km (data is provisional and based on forecasts)
BMW iX xDrive40: Power consumption combined: < 20 kWh/100 km in the WLTP test cycle; CO2 emissions combined: 0 g/km (data is provisional and based on forecasts)
BMW X1 xDrive25e: Fuel consumption combined: 1.9-1.7 l/100 km WLTP, power consumption combined: 15.4-15.0 kWh/100 km WLTP; CO2 emissions combined: 43 g/km.
BMW X2 xDrive25e: Fuel consumption combined: 1.9 l/100 km WLTP; power consumption combined: 13.7 kWh/100 km WLTP; CO2 emissions combined: 43 g/km.
The BMW Group production network

In 2019, strong customer demand and new models kept capacity utilisation high across the BMW Group production network. Production volumes for the BMW, MINI and Rolls-Royce brands reached record levels, with output totalling 2,564,025 units. Of those, 2,205,841 were BMW vehicles, 325,729 MINI, and 5,455 Rolls-Royce Motor Cars. Approximately 1 million vehicles were manufactured by the German plants.

Uniquely flexible and highly efficient, the BMW Group production network is able to respond quickly to changing markets and regional sales fluctuations. Expertise in manufacturing is a key contributor to the BMW Group’s profitability.

The BMW Group production network uses a range of innovative digital and Industry 4.0 (IoT) technologies, including virtual reality, artificial intelligence and 3D printing applications. Standardised processes and structures across the production system ensure consistent premium quality and allow a high degree of customisation.

The BMW Group

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 and mobility services. The BMW Group production network comprises 31 production and assembly facilities in 15 countries; the company has a global sales network in more than 140 countries.

In 2020, the BMW Group sold over 2.3 million passenger vehicles and more than 169,000 motorcycles worldwide. The profit before tax in the financial year 2020 was € 5.222 billion on revenues amounting to € 98.990 billion. As of 31 December 2020, the BMW Group had a workforce of 120,726 employees.
The success of the BMW Group has always been based on long-term thinking and responsible action. The company set its course for the future early on and is making sustainability and resource efficiency the focus of the company’s strategic direction – from the supply chain, through production, to the end of the use phase, for all its products.

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