

Media Information
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Breakthrough in paint technologies: BMW Group Plant Leipzig will soon be able to replace natural gas with green hydrogen

+++ BMW Group Plant Leipzig to use fuel-flexible hydrogen-capable burners in paintshop +++ Nedeljković, Board Member for Production: "Technological breakthrough underscores our innovativeness" +++ Hydrogen power also in plant and transport logistics +++

Leipzig. BMW Group Plant Leipzig is the first car plant in the world to pilot a newly developed burner technology that allows paint dryers to run on green hydrogen. The new technology paves the way to reduce CO₂ emissions from the intensive use of natural gas, a fossil fuel. BMW AG Board Member Milan Nedeljković: "This is a technological milestone in painting technology. It underscores our innovativeness and our determination to make production ever more sustainable."

Today, at BMW Group Plant Leipzig, Nedeljković and Plant Director Petra Peterhänsel jointly launched the first fuel-flexible hydrogen-capable burner for paint dryers. The special feature of the system is that it can run on hydrogen (H₂), methane (CH₄) or a mixture of the two. It can also switch between fuels while in operation. Initially, it will run in trial operations, with a complete drying line in the paintshop being converted as early as next year. Over the next few years, the remaining burner systems will gradually be converted as well, until all 68 in the Leipzig paintshop deploy the new technology.

The innovative fuel-flexible burner systems were developed in collaboration with the Bremen-based company Saacke, with the Fraunhofer Institute IFF in Magdeburg supporting the integration of the safety concept.

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Switching to fuel-flexible burners lays the foundation for BMW Group Plant Leipzig to be powered by CO₂-free energy.

Sustainability as a key element in the BMW iFACTORY

Reducing CO₂ emissions is one of the central aims of the BMW iFACTORY with its LEAN. GREEN. DIGITAL approach. While sustainability, optimum use of resources and circularity are the focus of GREEN, the LEAN strand of the strategy works for efficient, precise and highly flexible production. DIGITAL makes effective use of digitalisation in data science, artificial intelligence and virtualisation.

To become even more sustainable, the BMW Group is devising site-specific solutions to reduce CO₂ emissions. The aim is to cut CO₂ output from production by 80 percent by the year 2030 compared with 2019 – not only with hydrogen but also with energy from a number of other regenerative energy sources that are currently under consideration, such as geothermal and photovoltaics. The various solutions will be deployed in whatever way best suits the site in question.

Plans to connect to hydrogen pipeline

To run the new burner systems on hydrogen throughout, a pipeline will be needed to ensure sufficient quantities of green hydrogen are available at all times. Here, Plant Leipzig intends to use every opportunity offered by the region's emerging hydrogen industry. Plans are underway to connect the plant to the first pure-hydrogen grid by mid-2024. A pipeline about two kilometres long will link it to a long-distance pipeline to the south of the site. The plant will then be connected, along with its partners in the region, to a regional hydrogen network that links in to the nationwide and the European hydrogen infrastructure.

Hydrogen power in plant and transport logistics

Hydrogen has long been a staple fuel in plant logistics. The first indoor hydrogen filling station in Germany was installed on the plant premises in 2013, to fuel forklifts and tug trains in intralogistics. Today, almost ten years later, Plant Leipzig has the largest fleet in Germany with over 130 fuel-cell powered forklifts. There are also five intralogistics hydrogen stations on the premises. The latest, which is currently going on stream, offers fully automated refuelling.

The BMW Group is also working with its partners to trial hydrogen-powered solutions to support the decarbonisation of transport logistics beyond the factory gates as well and is currently involved in the H2HAUL and HyCET research projects. Hydrogen is a promising fuel for transport logistics because it allows fast refuelling, high payloads and flexible usability. It also offers extensive range. And green hydrogen – produced with energy from renewable sources – will pave the way for lower-carbon, long-distance logistics in the future.

The **H2HAUL** project in Belgium, Germany, France and Switzerland is working to develop and pilot 16 hydrogen fuel cell-powered trucks and install new, high-capacity filling stations for reliable fuel supplies. Launched in 2019, H2HAUL will run for five years, with Germany contributing by trialling two fuel-cell trucks for transportation between Plant Leipzig and Nuremberg.

On the **HyCET** project, the BMW Group is leading a consortium to advance the development and testing of trucks with hydrogen combustion engines in transport logistics. With project funding of 11.3 million euros approved by the Federal Ministry for Digital and Transport in September of this year, HyCET aims to demonstrate the potential of hydrogen combustion-engine

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trucks in transport logistics and establish two hydrogen filling stations for public use.

Plant Leipzig – Geared for sustainability from the outset

“Sustainability is in Plant Leipzig's DNA, as it were,” said Plant Director Petra Peterhänsel. “Efficient and sustainable processes were already very important to us when we were planning the facility, and one highly visible result of that is the four wind turbines that supply electricity to the plant.” Erected in 2013, they deliver 10 MW of power (generating approx. 26 GWh/year). In 2017 a further milestone followed when the Battery Farm comprising up to 700 second-life high-voltage batteries from BMW i3 vehicles was opened. The batteries are used to store energy, such as that generated by the wind turbines. By storing the energy on the premises, local energy management can be optimised and the electrical grid kept stable.

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The BMW Group production network

The BMW Group has long seen itself as the benchmark in production technology and operative excellence in vehicle manufacturing. The strategic vision of its global production network – BMW iFACTORY. LEAN. GREEN. DIGITAL. – sets out the company's responses to the challenges of the transformation to e-mobility and pursues a global approach.

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 over 30 production sites all over the world; the company has a global sales network in more than 140 countries.

In 2021, the BMW Group sold over 2.5 million passenger vehicles and more than 194,000 motorcycles worldwide. The profit before tax in the financial year 2021 was € 16.1 billion on revenues amounting to € 111.2 billion. As of 31 December 2021, the BMW Group had a workforce of 118,909 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company set the course for the future at an early stage and consistently makes sustainability and efficient resource management central to its strategic direction, from the supply chain through production to the end of the use phase of all products.

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