

Media Information
23 June 2022

BMW Brilliance Plant Lydia inaugurated: Digitalization empowered vehicle plant sets new standards for future-oriented vehicle production

+++ Annual production capacity at BMW Shenyang Plants increases to 830,000 vehicles. +++ Implementation of the BMW iFACTORY strategy. LEAN. GREEN. DIGITAL. +++ “Industrial Metaverse” – the first BMW Group plant fully planned and simulated in the virtual world from the start. +++ Geared towards e-mobility, Plant Lydia produces the All New BMW i3 +++

Shenyang. The BMW Group has expanded its production footprint in China with the opening of Plant Lydia in Shenyang, China. This major expansion of the BMW Brilliance Automotive (BBA) production base is a latest example of the BMW iFACTORY strategy, and sets new standards in future oriented vehicle manufacturing in the era of intelligent and electric auto industry. In particular, Plant Lydia breaks new ground with its pioneering digitalization applications, reaffirming the BMW Group's leadership in the global automotive manufacturing.

“The BMW iFACTORY makes us a role model for the automotive industry. Plant Lydia is born digitally and geared towards e-mobility”, said BMW AG Board Member for Production Milan Nedeljković. He emphasised: “Responding to our customer's demands, the flexibility of our production sets the benchmark in competition. Plant Lydia is a great example of this. It is fully capable of producing up to 100% electric vehicles. Together with its neighboring plants in Tiexi and Dadong, Lydia will play an important role in accelerating production of BMW electrified vehicles in China.”

With an overall investment of RMB 15 billion, Plant Lydia is the biggest single investment project in the history of the BMW Group in China. Located in the Tiexi District of Shenyang, the plant has all the four major production processes (press and body shop, paint shop, and assembly) and increases

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annual production capacity at the Shenyang production base to 830,000 units. In order to meet the growing customer demand for e-mobility, Plant Lydia is fully flexible to produce up to 100% electric vehicles. The production of the all new BMW i3 – BMW's first all-electric mid-size sports sedan for the Chinese market – started at Plant Lydia in May.

Jochen Goller, President & CEO of the BMW Group Region China said: "The expansion of our production footprint in China shows we are preparing for further growth in the world's largest electric car market and are confident in China's long-term perspectives. We are stepping up our e-mobility efforts, aiming for more than a quarter of our sales in China to be all electric by 2025. With BMW's expanded and upgraded production base in Shenyang, we are now fully prepared to serve the growing market demand for e-mobility in China."

"Today is a proud day for BMW Brilliance and the BMW Group. It marks an important milestone in our successful development in the city of Shenyang over the past nearly 20 years", said Franz Decker, President & CEO of BMW Brilliance Automotive. "Despite many challenges over the last three years, our new Plant Lydia was completed on schedule. It is a testament to our strong team in China and an excellent global collaboration. Plant Lydia sets the standard for production that is LEAN. GREEN. and DIGITAL."

Bringing the "Industrial Metaverse" to life

While Plant Lydia follows the BMW iFACTORY strategy of LEAN. GREEN. and DIGITAL, it is in the area of digital that the new plant is truly pioneering. With the powerful Epic Games Unreal Engine 3D creation platform as the backbone, Plant Lydia was the first BMW Group plant fully planned and simulated in a virtual environment from the start, with every detail of the entire production process designed virtually. In this way, it can be considered a Metaverse plant. The integration of the virtual world with the real world shortened the planning time, enabled cross-regional and

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cross-timezone collaboration, and effectively overcame the adverse effects of epidemics, which alone shortened the construction time of the plant by six months.

Plant Lydia is "data-driven": cloud-based digital platforms and the Industrial Internet of Things connect every product, process and person through transparent, always-available and integrated data. This extensive use of data science enhances quality control, boosts efficiency and enables predictive maintenance. The widespread use of artificial intelligence, data analytics and algorithms has shifted decision-making from "experience-driven" to "data-driven". Around 100 artificial intelligence applications are currently used at the BMW Shenyang production base.

A powerful network environment and data processing capabilities are essential to "data-driven". For example, the 1,600 multi-functional cameras used in the area of quality assurance generate more than 10 petabytes of data every year. The entire plant is covered with a gigabit 5G network to meet the bandwidth requirements for technologies such as augmented reality (AR) and real-time video transmission. To cope with the huge amount of data, BMW Brilliance also built a new Data Center for Plant Lydia that contains more than 1,200 servers.

Producing cars in the most sustainable way

The BMW Group has set a goal of reducing carbon emissions through the entire lifecycle per vehicle by 40 percent by 2030 compared to 2019, which includes an 80 percent carbon reduction at the production level. Therefore, the concept of sustainability is also reflected in Plant Lydia.

The new production site uses first-class building materials, including advanced insulation, to keep the rooms warm in winter and cool in summer while reducing energy consumption. The plant's workshops are equipped with state-of-the-art production equipment, such as electric-powered

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welding guns and ovens in the Body Shop that utilize renewable electricity supply to reduce emissions. Plant Lydia also has a dedicated Intelligent Operation Center with an intelligent energy management system that monitors energy and resource consumption in real time, and uses artificial intelligence to deeply analyze how to optimize energy use.

Currently, the entire BMW Shenyang production base uses 100% renewable electricity. It has 290,000 square meters of solar panels, ranking first in Liaoning Province. These solar panels can generate 44,000 MWh of electricity per year - enough to power 9,000 houses for an entire year. The solar panel expansion will continue in the coming years, with an area of 120,000sqm under construction at Plant Lydia.

The new vehicle plant in Shenyang also places emphasis on biodiversity. Its green areas consist of gardens, artificial lakes, a variety of plants and 11,000 trees, a sustainable landscaping and a sponge city system collects rainwater to nourish plants and replenish underground water.

High flexibility geared towards e-mobility

Flexibility is one of the BMW Group's greatest strengths in manufacturing, especially the ability to deploy resources and adapt production to demand at short notice. Plant Lydia is geared towards e-mobility production, but it can also produce other models flexibly and efficiently.

By the end of 2025, the BMW Group expects to have delivered more than two million pure electric vehicles worldwide, with one in every four new vehicles sold in China being a pure electric model. By that time, BMW's "Neue Klasse" models, which represent the next technological leap forward in car development, will also be brought to market. The new plant Lydia and its neighboring plants in Tiexi and Dadong will play an important role in accelerating production of BMW electrified vehicles in China.

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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.

LEAN stands for efficiency, precision, absolute flexibility and outstanding integrational capabilities. GREEN represents the use of cutting-edge technologies to realise production with minimal resources and cut CO2 emissions per car in production by 80% compared with 2019. With DIGITAL the focus is on data science, artificial intelligence, planning and development. Together, these things make the BMW Group Production Network a key contributor to the profitability of the company.

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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