BMW GROUP

Corporate Communications

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BMW Group Plant Landshut focuses on digitalization in component production.

+++ Plant Manager Thomas Thym: "Behind every digital car there must also be a digital factory" +++ AI-driven data analysis, digital process control, and networked production +++ Computed tomography system for precise quality control +++ Automated quality control and logistics in cockpit production +++

Landshut. The BMW Group is consistently improving digitalization in the production of its components. From AI-driven production management and smart logistics processes to data-based quality controls – the Landshut plant, the company's largest component manufacturing site, utilizes state-of-the-art technologies and thus plays a central role as an innovation hub within the automotive and supplier industries.

At the BMW Group plant in Landshut, for example, the company uses AI-supported data analysis to detect anomalies in data traffic at an early stage and ward off cyberattacks. In addition, digital process control and networked production facilities are used to increase productivity and improve quality.

Thomas Thym, Head of the BMW Group Plant Landshut: "We not only implement technical progress, but also actively shape it in order to secure our competitiveness in the long term. Behind every digital car there must also be a digital factory."

Shopfloor Digital in Component Manufacturing: Connected Production for Greater Transparency

A key component of the BMW Group's digitalization strategy is the "Shopfloor.Digital" transformation program. The goal is to harmonize manufacturing processes and IT systems worldwide across all 30 production sites. To achieve this, the company is building a modern, cloud-based IT architecture and relying on process automation and AI solutions. As a component manufacturing site, the Landshut plant is a key component of this transformation program. "We view complexity as an opportunity and use the data we gain to continuously improve our processes," explains Franz Heigl, Head of Digitalization of Component Manufacturing.

Lean Management: Digital Tools for Lean Processes

At the same time, the BMW Group is driving forward the digitalization of its lean management approaches. This includes a digital process map in the production areas, a digital disruption process, and value stream management. To ensure the organization's common alignment, the goal development process serves as an effective leadership and steering tool, enabling goals to be broken down to their

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basics and translated into concrete challenges. "Our goal is to focus on the essentials in our day-to-day business and prioritize value-creating activities," says Heigl.

Smart production, smart logistics: Connected supply and production chains for greater flexibility and efficiency

The BMW Group is also consistently pursuing its digitalization initiative in logistics and manufacturing. With the help of sensors, real-time data, and AI-driven processes, the Landshut plant is optimizing its supply chains, material flows, and production processes. This will enable the production sites to be even more closely connected with suppliers to avoid bottlenecks and conserve resources.

One example of this is the production of the BMW Energy Master, the central control unit of the high-voltage battery for the Neue Klasse vehicles. Comprehensive inline monitoring, including AI-based camera systems, as well as 100% end-of-line system testing in a cleanroom environment meet the highest quality standards. The Landshut plant will supply all battery assembly plants worldwide with the BMW Energy Master in the future, where the control unit will then be mounted on the high-voltage battery in a final assembly step.

The Landshut plant also relies on automation and digitalization in the production of cockpits. During the final quality control, around 50 quality features are checked in just 30 seconds. This is followed by fully automated packaging and transport of the parts. This involves autonomous transport systems that move independently from the starting point to the destination without relying on an external control system.

In the Landshut plant's light metal foundry, the automaker is currently producing aluminum housings for the Neue Klasse electric engines in a pre-series production run. High quality standards are applied in the manufacture of our products. To ensure these standards are consistently met, modern technologies are used, such as inline computed tomography (CT). Every single electric motor housing manufactured at the Landshut plant undergoes a fully automated CT scan. Within just 42 seconds, 2,400 individual images are captured and reconstructed into a 3D model of the component. In contrast to the majority of applications in the medical field, quality control here is fully automated using artificial intelligence. This allows the powerful CT technology to be integrated extremely efficiently into the production process while simultaneously ensuring the quality of the parts.

Quality in the Supply Chain: Supplier Qualification

To ensure high quality standards in production, the BMW Group is also focusing on digitalization in its supply chain. At the ZDSC (**Z**ero **D**efect **S**upply **C**hain) Campus, suppliers receive interactive training on topics such as shop floor management, production systems, and digitalization. The goal is to work with partners to establish a stable production system with a "zero-defect mentality." In this way, the BMW Group actively involves its partners and suppliers in the digital transformation.

AI LAb

The AI LAb is a new innovation and collaboration space that enables all employees at the BMW Group Landshut Plant to try out and learn new AI-based technologies using application-oriented examples. The application examples cover a broad spectrum of AI applications: The Technology Trend Radar provides a structured overview of direct and indirect AI applications, sorted by technology and maturity level. With PowerApps, employees can create their own digital applications without programming knowledge, thus digitizing processes and automating tasks. The AIQX (Artificial Intelligence Quality Next) computer system enables the automation and optimization of quality assurance in production using AI.

On May 14 and 15, 2025, the Landshut plant presented its already implemented, networked and data-driven production of components at the "Smart Factory Day".

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BMW Group Plant Landshut

At BMW Group Plant Landshut, around 3,700 employees produce light metal cast engine, suspension and body structure components, electrical and electronic components, plastic components for the vehicle exterior, carbon body components, cockpit and equipment features, engines and propeller shafts. Plant Landshut is the BMW Group's largest component plant and supplies components to all BMW Group vehicle and engine plants worldwide – and therefore for virtually every BMW, MINI and Rolls-Royce vehicle, as well as for BMW Motorrad. Component production at BMW Group Plant Landshut is characterised by digitalisation, a focus on sustainability and a commitment to responsible use of resources.

With its forward-looking technologies, BMW Group Plant Landshut assumes the role of innovation driver in the technological transformation of the automotive sector and its supplier industry. At the Lightweight Construction and Technology Centre (LuTZ) adjacent to the plant, specialists from a wide range of disciplines are brought into development processes for new vehicles in the early stages and help to actively drive sustainable development of future vehicle models. BMW Group Plant Landshut is a socially responsible, innovative and attractive employer for the region of Landshut and Lower Bavaria.

https://www.bmwgroup-werke.com/landshut/en.html

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 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 over 2.45 million passenger vehicles and more than 210,000 motorcycles worldwide. The profit before tax in the financial year 2024 was € 11.0 billion on revenues amounting to € 142.4 billion. As of 31 December 2024, the BMW Group had a workforce of 159,104 employees.

The economic success of the BMW Group has always been based on long-term thinking and responsible action. Sustainability is a key element of the BMW Group's corporate strategy and covers all products from the supply chain and production to the end of their useful life.

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