



Press Release

BMW Group to pilot humanoid robots in production

Deploy in Germany, continued exploration in China

- **BMW Group bringing Physical AI to European production network**
- **Pilot project launched at Leipzig plant in collaboration with Hexagon Robotics**
- **Expansion of humanoid robot applications across global production network, including China**

BMW Group is consistently driving forward the digitalization of its production operations and the integration of artificial intelligence. The company has now launched a pilot project for humanoid robots at its Leipzig plant, marking the first deployment of such systems in a European production environment. The initiative represents a further step in integrating “Physical AI” into series production and exploring its potential in automotive manufacturing.

In this context, BMW Group is advancing its Physical AI approach, combining digital intelligence with real-world robotic systems. This enables machines to operate autonomously in complex production environments while continuously learning and improving. Initial applications of this technology have already been tested within the global production network, including at the Spartanburg plant in the United States.

Driving innovation through Physical AI in production

Artificial intelligence and digitalization are key elements of BMW Group's production system. Technologies such as digital twins in virtual factories, intelligent quality control systems and automated logistics solutions are already enhancing efficiency, quality and flexibility across operations.

To further accelerate the development and deployment of these technologies, BMW Group has established a “Center of Competence for Physical AI in Production.” By testing solutions under real production conditions and continuously optimizing performance, the company is advancing the scalable integration of AI and robotics across its global production network.



Pilot projects validate applications across global production network

BMW Group has been conducting pilot projects for humanoid robot applications worldwide. At its Spartanburg plant in South Carolina, humanoid robots have been deployed for repetitive production tasks, such as handling and positioning sheet metal components. Over a trial period of approximately ten months, the robots supported the production of more than 30,000 BMW X3 vehicles and handled over 90,000 components.

Building on these insights, BMW Group is now bringing Physical AI to Europe. The pilot project at the Leipzig plant is being implemented in collaboration with technology partner Hexagon Robotics. Its humanoid robot, AEON, features a human-like design and can be equipped with various tools and grippers depending on specific production tasks. This enables flexible deployment and continuous performance optimization in real manufacturing environments.

China accelerates development of AI-driven manufacturing

With the rapid advancement of artificial intelligence, AI is becoming a key driver of industrial transformation worldwide. In China, AI and robotics technologies are playing an increasingly important role in enabling high-quality development in manufacturing

During this year's "Two Sessions," "AI+" was highlighted as a key direction for industrial development. Policy guidance emphasizes the deep integration of AI with the real economy and the accelerated development of intelligent manufacturing and robotics industries. At the same time, multiple regions across China are advancing the humanoid robotics sector, driving both technological innovation and industrial application.

Shenyang production base expands exploration

As a key pillar of BMW Group's global production network, the Shenyang production base is actively exploring the integration of artificial intelligence and robotics within its manufacturing system.

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