

Artificial intelligence: Audi boosts production efficiency

- Audi expands AI applications and brings new AI tools to production
- AI enables major efficiency gains in production and logistics
- Member of the Board of Management for Production and Logistics Gerd Walker: “Artificial intelligence is the game changer in our industry. By using it in a targeted way, we are creating a production environment that is not only more efficient and cost-effective but that also meets the highest quality standards.”

Ingolstadt/Neckarsulm, May 28, 2025 – Efficiency, improving quality, inspiration: Audi is leveraging artificial intelligence (AI) in many areas of the company to achieve these goals. The aim is to fully exploit the potential of AI and data – both in company processes and in the customer experience with services and products. AI is currently making the biggest impact in the areas of production and logistics. There, it not only helps save time and money, as Member of the Board of Management for Production and Logistics Gerd Walker explains: “AI is the game changer in our industry. By using it in a targeted way, we are creating a production environment that is not only more efficient and cost-effective but that also meets the highest quality standards and supports people as ideally as possible. That is why we are focusing on integrating AI wherever it is possible and makes sense and systematically expanding applications.”

Audi currently uses more than 100 AI projects in various stages of development in its production facilities, which the company is gradually integrating into series production processes and expanding. At present, the focus is primarily on AI-supported quality monitoring and generative AI.

Production has the highest data volume in the company

Along with the introduction of new AI tools, Audi is pressing ahead with the systematic expansion of its data organization. Particularly in the area of production, the volume of data is higher than anywhere else in the company: hundreds of petabytes of data already exist, and thousands of gigabytes of new data are created every day. Gerd Walker explains the potential of this data density: “Artificial intelligence enables us to make more extensive use of our enormous wealth of data in production and accelerates the journey of our 360factory towards becoming a data-driven factory.” The 360factory is Audi’s production strategy for fully connected, innovative, and sustainable manufacturing.

Saving time with generative AI: the “Tender Toucan” project

Audi recently started utilizing artificial intelligence to analyze bids as part of its tendering process. The AI tool called “Tender Toucan” uses a set of specifications to create a list of requirements, searches for the relevant sections in the bids, and evaluates the degree to which they are fulfilled. Employees check and complete the tool’s work but enjoy time savings of up to 30 percent. “Tender Toucan” will be introduced for the series production planning of drivetrains and high-voltage batteries in the summer; a further rollout is planned at Audi and in the Volkswagen Group. The development of “Tender Toucan” also serves as a basis for many other AI applications at Audi.

Quality improvement through AI-supported quality monitoring: the “IRIS” and “WSD” projects

An AI application for image processing has recently been implemented at the Ingolstadt and Neckarsulm assembly plants. Called “IRIS”, the tool uses cameras to check whether labels with technical data are correctly attached to the vehicle. More specifically, the label with the right content in the right language must be attached to the right component in the right position. This ensures the conformity of the vehicles. Employees continue to perform spot checks. The “IRIS” label check saves roughly one minute of production time per vehicle.

Audi recently joined forces with Siemens to introduce another AI-supported quality check to series production in the body shop in Neckarsulm. Previously, employees manually inspected the underbody for weld splatter and then removed it. Now the so-called “Weld Splatter Detection” (WSD) application uses AI to detect possible weld splatter on vehicle underbodies. These metal deposits could lead to such things as cable breakages. In a further expansion stage starting in summer 2025, a robotic arm will automatically remove the weld splatter itself. In doing so, the “WSD” AI application not only saves time in production, but also improves occupational safety and ergonomics for employees.

Audi’s strong AI network: the IPAI in Heilbronn

To make the best possible use of artificial intelligence, Audi has built a strong network of experts in the field of artificial intelligence over the past several years. Audi cooperates closely with the IPAI (Innovation Park Artificial Intelligence) in Heilbronn, among others. The IPAI is set to become Europe’s largest AI network and will begin constructing a 23-hectare campus this year. As a member of the Heilbronn-based think tank, Audi will have its own office at the new campus, as it does on the current IPAI site. The Audi Böllinger Höfe site is also located in the immediate vicinity. This Audi location for small series production serves as a real-world laboratory for digital production technologies as part of AI25 (Automotive Initiative 2025), an innovation network for digital transformation in the automotive industry.

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In 2024, the Audi Group delivered 1.7 million Audi vehicles, 10,643 Bentley vehicles, 10,687 Lamborghini vehicles, and 54,495 Ducati motorcycles to customers. In the 2024 fiscal year, Audi Group achieved a total revenue of €64.5 billion and an operating profit of €3.9 billion. As of December 31, more than 88,000 people worked for the Audi Group, more than 55,000 of them at AUDI AG in Germany. With its attractive brands and numerous new models, the group is systematically pursuing its path toward becoming a provider of sustainable, fully networked premium mobility.
