

Live Inspection of Gearbox Assembly

Our intelligent AI solution revolutionizes quality control in gearbox assembly. Using deep learning-based optical inspection systems, we monitor every assembly step in real time. Reliably, seamlessly, and without disrupting the workflow.

Gearboxes consist of numerous precisely matched components that must be assembled in an exactly defined sequence. Even minor deviations can lead to malfunctions or costly rework. Our AI accompanies every step of the assembly process, ensuring that all components are installed correctly and completely.



How does it work?

Dozens of smart camera systems with integrated deep learning models are strategically positioned along the assembly line. The AI automatically recognizes components, positions, sequences, and assembly states. Every work step is analyzed live, documented, and immediately rated as OK or NOK.

The operator works as usual, quickly, ergonomically, and without any additional effort. Inspection takes place in parallel in real time, so the station is only released once the check has been successfully completed. The result: maximum process reliability, complete traceability, and sustainably higher assembly quality.

Rely on the intelligent solution for error-free gearbox assembly with AI that perfects every step.

Technical Highlights & Benefits

Intelligent AI Solution	■ AI-powered real-time inspection for every gearbox assembly
No Increase in Cycle Time	■ Inspection runs in parallel
Precise AI Analysis	■ Reduces assembly errors and rework
100% Inspection	■ 100% control of all assembly steps, no more missed errors
Automatic Documentation	■ Seamless traceability through documentation
Innovative Quality Assurance	■ Future-proof with deep learning

We show you how to increase quality while reducing costs: sales@ait.de