CUSTOMER SINCE 2015

Stadler Rail

Stadler Rail has been developing and manufacturing rail vehicles since 1942 – from regional trains and trams to custom-built one-offs. The company employs around 7,000 people at eleven locations worldwide.

Challenge

In bogie assembly, Stadler Rail had to ensure consistently traceable and error-free screw documentation despite a high degree of variant diversity—without additional training costs for workers. What was needed was a manufacturer-independent, easily integrable solution.

Solved by PG

- Manufacturer-independent
- Quick introduction in just a few days
- High product quality
- Compliance with liability requirements
- Step-by-step instructions

18,829	6,960	487	1,004
work processes	images used	workplaces	active users

★★★★★

The introduction of PG was modular and straightforward. Within a very short time, our workers were able to work step by step directly on the bogie – with clear instructions and without additional training.

RONNY BÖHLER
Head of Bogie Assembly

Do you have any questions?
Feel free to contact us!
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Mobile quality assurance for rail vehicle production

Worker guidance PG secures assembly processes at Stadler Winterthur AG

Stadler Rail AG is an internationally active rail vehicle manufacturer based in Switzerland that delivers high-quality trains with maximum precision to its customers. By using cutting-edge technology, the company creates the most economical solution for each customer. Reliability, quality, adherence to deadlines, and partnership are the values that guide the company. The PG software is an important component of quality assurance in Stadler's production. The solution guides workers through individual work sequences during assembly, thus ensuring a consistent quality standard.

“For product liability reasons, precise checks and complete documentation are required for screwdriving processes in production. This ensures that individual screw connections can still be traced years later,” says Ronny Böhler, Head of Bogie Assembly and Surface Treatment at Stadler Winterthur AG.

Manufacturer neutrality trumps manufacturer-specific application

At the start of the project, it was particularly important for the company to find a practical solution within a very short time frame. It had to be manufacturer-neutral and work with the systems and tools of different manufacturers. One goal was to ensure that the processes met the highest safety standards and to document this quality.

The assembly team uses 13 modern test keys with integrated Wi-Fi technology in the reassembly of bogies to manage and evaluate measurement data, such as torques from bolting processes. Two smaller test keys and one large test key are connected to a tablet.

The previous software from the manufacturer of the Wi-Fi-supported torque wrenches had simply reached its limits with the prevailing complex processes: a test wrench stores up to 1,000 data records, which have to be read out and evaluated daily. Based on this information, the previous software created huge tables of data, most of which was neither understood nor really needed by the users. Thus, the goal of ensuring quality and documenting the processes in an understandable way was not achieved. However, a new solution was quickly found thanks to the recommendation of a project partner.

Modular introduction was a good option

When the project team at Stadler Winterthur AG became aware of CSP through Intool, the supplier of the WLAN-supported torque wrenches, they were immediately convinced: The PG software presented was manufacturer-neutral, opening up a wide range of possibilities for feeding in any data.

The potential for other areas of the company beyond production and the opportunity to make information available electronically rather than on paper was obvious to those responsible. Another advantage was that the software could be introduced on a modular basis. The decision to collaborate was made in August 2015. From then on, the project was implemented step by step. Based on the existing infrastructure, CSP consultants were able to put the system into live operation within four days. “The ‘keep it simple’ principle is key at PG. The corresponding instructions for the workers, based on images, could be created very easily and quickly from within our own ranks,” emphasizes Ronny Böhler.

Anyone who makes travelers mobile also needs mobility in production: The PG worker guidance system is used on tablets at Stadler Winterthur AG. When manufacturing new train bogies, Stadler Winterthur AG relies on flexible spatial utilization of the production hall depending on the space available and required. In rail vehicle production, customers usually order individual variants and customized one-off rail vehicles. Mobile worker guidance has proven particularly useful for projects that do not have a typical workflow from A to Z. The simultaneous programming of worker guidance and the initial assembly of three new bogie types were successfully applied and implemented in the new EC 250 Giruno project.

Work through the steps one by one with instructions on a tablet

Using the tablet, the worker can see the necessary steps right at the bogie and work through them with specific instructions from PG. Just like at fixed workstations, the software shows the employee which steps to do and in what order using photos or graphics on the tablet screen. PG also communicates wirelessly with the respective tools to be used. Once a process has been completed, the employee acknowledges it. The use of PG thus also reduces the occurrence of errors, even though no separate training is required for employees when new variants are introduced.

The Stadler team is particularly pleased with the fact that the worker guidance runs almost without interruption – contrary to other typical experiences with new software. Occasionally, minor challenges arose, but these were quickly resolved together with CSP support. Overall, Ronny Böhler praises the CSP team: “High flexibility and smooth processes: the consulting and implementation of this project within Stadler Winterthur AG worked flawlessly. This collaboration will be further intensified in the future.”

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