ZEDAS GmbH

Optimise maintenance with digital assistance systems

The maintenance of equipment in the railway industry represents a high cost factor. However, it is also critical for the company, as long-term failures and downtimes lead to lower production figures and a loss of revenue. The digitalisation of maintenance shortens downtimes, reduces the risk of failures and lowers costs. With intelligent assistance systems and mobile apps from ZEDAS for maintenance, the processing of maintenance measures is made much easier.

Mobile fault recording via app

With zedas®asset Smart, mobile service teams, train attendants and drivers can also record and document defects and faults on the vehicle directly on site using the stored fault catalogue. For additional information, photos of the damage can be stored for later maintenance. Repairs that can be carried out directly on site can be processed and documented without an additional maintenance order. The data is available in real time for condition evaluations. The system automatically synchronises with the zedas®asset asset management system.

Paperless maintenance in the railway workshop

If the rail vehicle has to go to the workshop, zedas®asset Touch, the assistant for the railway workshop, helps to completely digitalise the paper-based maintenance documentation. But mobile apps for maintenance are more than just a substitute for paper. They offer comprehensive functions that provide maintenance staff with all the information they need, such as system history, documents and reports on the job. Orders are processed directly on the tablet, material costs, working hours and resources used can be easily documented, meter readings and subsequent faults can be recorded and the vehicle can be returned to the ECM after maintenance release. An intuitive user interface, assistance-based workflows and checklists enable even inexperienced workshop employees to enter all the necessary data easily and without errors. Digital checklists offer broader application possibilities and advantages than their paper-based predecessors. For example, digital checklists, which expand the fields depending on the input or dependency, or additional documentation with photos.

When developing the digital assistance systems, the prevailing working conditions in the workshop were taken into account, so that keyboard input for the workshop employee is avoided as far as possible. Instead, ZEDAS relies on alternative functionalities, such as scanning a QR code to document material consumption or voice input for longer feedback messages or to describe technical problems.

Intelligent maintenance with artificial intelligence

Artificial intelligence (AI) and data glasses are also growing in importance and are already in use in many other areas. In order to guide maintenance staff even better through the maintenance process in the future, ZEDAS GmbH is working together with BLG RailTec GmbH and the Brandenburg University of Technology Cottbus-Senftenberg in a research project on an augmented reality (AR) application for data glasses and tablets specifically for the railway maintenance plant. A first app prototype was already presented by ZEDAS at InnoTrans 2022.

The aim of the zedas® AR applications is to display information to the user where it is needed, depending on the situation: directly in the field of vision and on the object in question. The step-by-step instructions with checklists, technical videos and images provide structured knowledge and build know-how.

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