

AUGMENTED REALITY FOR THE SMART RAILWAY WORKSHOP

This is how augmented reality could support maintenance staff

Mobile applications have become indispensable in maintenance, because they make the maintenance of complex systems such as a rail vehicle much easier. ZEDAS GmbH is working with partners on a research project to develop an augmented reality (AR) application for the data glasses and tablet specifically for the railway workshop in order to better guide maintenance staff in the workshop through the maintenance process.

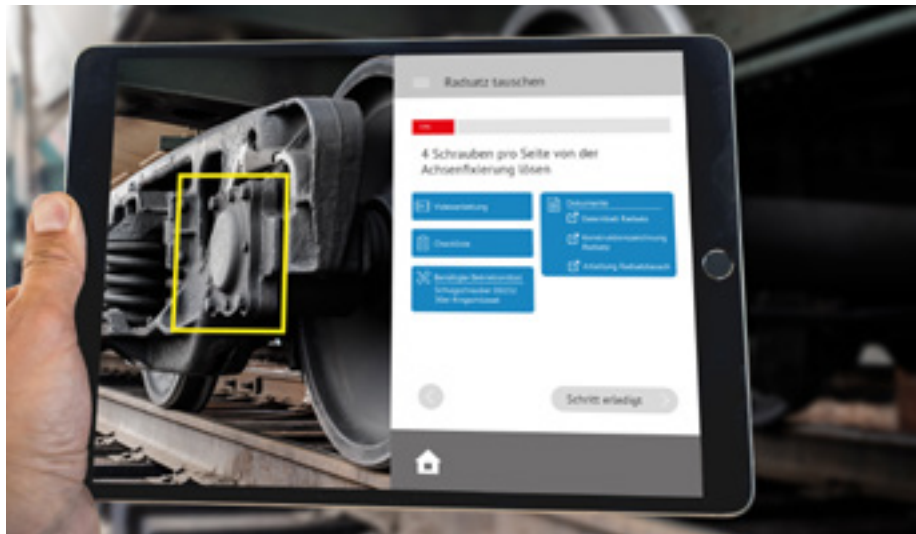
With the AR application, it is possible to relate a wagon in the workshop and an order from the maintenance management system in three dimensions. This means that the corresponding work area on the wagon is displayed for the maintenance task, arrows show the correct position of the next component to be worked on and drawings, documents, photos and videos are displayed in context.

Safety first

There are high safety standards in the railway sector. Through guided maintenance, the digital assistance system guarantees that the workshop employee is specifically informed about safety-relevant components. Only when he has read the instructions for the work step is the next work step enabled. In addition, the instructions can be updated easily and centrally - the workshop employee is always up to date.

High process reliability

Stored work steps give the maintenance staff exactly the sequence and the positions in which they have to



carry out the work steps. The AR application also displays the installation positions, measured values, limit values or circuit diagrams of the components to be processed. In this way, augmented reality helps to increase the reliability of service and maintenance processes and reduce the risk of errors.

Immediate ECM-compliant documentation

Which orders have been processed? Which ones were started? Which operating resources were used and which in-house materials were consumed. Work steps, measured values or similar are documented by the workshop employee simply by voice command or tablet in parallel during maintenance. Simple, digital and ECM-compliant documentation.

Tool especially for the railway workshop

Important: the assistance system is specially designed for employees in the railway workshop. An intuitive, simple user interface with few buttons and short instructions is essential for acceptance in the company.

CONCLUSION

The aim of the zedas® AR applications is to improve the quality of work and also safety with the help of AR technology. Depending on the situation, information is displayed to the user where it is needed: Directly in the field of vision and on the object in question.



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