



VIRTUAL ASSISTANCE

MAINTENANCE

XR FOR MAINTENANCE, SERVICING AND REPAIR PURPOSES

Extended Reality (XR)-Maintenance is an innovative solution that uses augmented reality (AR) and mixed reality (MR) technologies to streamline maintenance processes and increase technician efficiency. Combining virtual information with the real environment enables accurate troubleshooting, enhanced training capabilities and seamless remote maintenance. XR technology enables maintenance teams to immerse themselves in virtual environments and display faithful replicas of physical assets. In these virtual environments, technicians can simulate realistic maintenance scenarios and gain hands-on experience without affecting the plant or using costly equipment.

FUNCTIONS AND ADVANTAGES

- **Enhanced visual representation:** Overlay digital information on real objects to increase maintenance efficiency and accuracy.
- **Remote maintenance:** Real-time involvement of remote experts in maintenance processes through XR technologies to save travel time and costs.
- **Training and onboarding:** Virtual training in secure environments to quickly learn new equipment and procedures.
- **Digital documentation:** Capture photos, videos and notes in augmented reality to document maintenance activities.
- **Data visualization and analysis:** Display real-time data and analysis in XR environments to identify and resolve issues faster.
- **Safety enhancements:** Providing virtual alerts, hazardous location notices, and instructions for a safer work environment.
- **Cost savings:** Reduce maintenance costs by reducing downtime and improving productivity.

TECHNICAL REQUIREMENTS

- Compatibility with AR glasses and mobile devices.
- Integration of sensors and data sources for real-time acquisition.
- Support for 3D models and digital content.
- Network connection for remote maintenance functions.



APPLICATION AREAS

- **Industrial maintenance:** Support for the maintenance of machinery, plant and industrial equipment.
- **Plant maintenance:** Efficient execution of inspections, maintenance work and repairs on complex plants.
- **Facility management:** Support in the maintenance and monitoring of building services and infrastructure.
- **Vehicle maintenance:** Support in the diagnosis, maintenance and repair of vehicles and fleet.

