

Continuous Infrastructure Monitoring (CIM)

For reliable railway infrastructure

The demands on railway infrastructure are steadily increasing: growing traffic volumes, limited maintenance windows, and a shortage of skilled personnel are creating significant challenges for infrastructure managers. At the same time, infrastructure availability, safety, and system reliability must remain at the highest level.

Continuous Infrastructure Monitoring (CIM) provides the data-driven foundation to address these challenges. By equipping regular in-service trains with advanced sensor technology, condition data from multiple infrastructure assets is continuously captured and analyzed during normal operations. This enables the early detection of degradation and emerging defects in assets such as track and overhead line systems, allowing maintenance activities to be planned proactively and operators to effectively fulfill their responsibilities. CIM paves the way for a data-driven, condition-based, and ultimately predictive approach to railway infrastructure maintenance.



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Our services

- Design and implementation of customized CIM solutions in accordance with customer-specific requirements, standards, and regulatory frameworks
- Development, engineering, and integration of railway-approved measurement systems for various infrastructure assets (e.g. track and overhead line systems)
- Vehicle engineering, system approval, and installation
- Support for approval and certification processes (e.g. EMC, fire protection, structural integrity), including all required documentation
- Continuous operation of the monitoring systems
- Data analysis, condition assessment, and predictive models
- Provision and visualization of monitoring results
- End-to-end implementation of the complete CIM process chain

Your advantages

- Higher infrastructure reliability and availability
- Improved operational performance across the railway network
- More efficient and cost-effective maintenance planning
- Enabled condition-based and predictive maintenance strategies
- Increased network capacity through fewer unplanned restrictions and higher asset availability
- Enhanced support for infrastructure managers through continuous condition monitoring and comprehensive documentation
- Reduced pressure on limited personnel and maintenance resources through automated data collection and analysis

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