

eRVM

RAILWAY VIBRATION MONITORING

Your partner in **SAFE** and **EFFICIENT** railway transportation

ABOUT EVOPRO

evopro group is an international engineering company that provides comprehensive engineering services and develops innovative products in various industries worldwide, with a focus on transportation technologies, energy and industrial automation.



MISSION & SOLUTION

evopro has created state-of-the-art and cost-effective solutions to help the stakeholders of the railway transportation ecosystem overcome the challenges of providing safe and efficient transportation.

Integrating the most advanced measurement and telecommunication technologies, evopro offers its **Railway Diagnostic** product line, including the **eRVM – Railway Vibration Monitoring System**.

INCREASED SAFETY

Detection and alarm on derailment-hazardous (dangerous) dynamic impact conditions of the passing trains.

OPERATING COST REDUCTION

Detection, trend-monitoring and alarm on railcar-, and infrastructure-damaging conditions of the passing train that results in:

- **The preservation and lifetime extension of both the infrastructure and the rolling stocks** by reduced and controlled wear and tear.
- **Decreased maintenance costs by predictive maintenance** based on the provided trend-data.

BUSINESS EFFICIENCY AND PROFITABILITY

■ **Effective traffic management** due to adaptive speed limitations, based on the detected dynamic impact conditions.

■ **Increased utilization by predictive maintenance** based on the provided trend-monitored data.

■ **Increased income by selling trend-monitored data** for predictive maintenance purposes to other parties of interest.

■ **Quality-based tolls and payments** based on the provided trend-monitored data.

ENVIRONMENTAL PROTECTION

Controlled noise-, and vibration-emission using defective wheel detection and trend-monitoring.

FUNCTIONS AND ADVANTAGES

The **eRVM** is a railway vibration diagnostic system measuring the three-dimensional acceleration with high resolution and accuracy.

The **wayside** eRVM system detects the wheel defects and other irregular condition of the passing trains.

The **onboard** eRVM monitors the dynamic behavior of the vehicle components and the impact forces applied on the vehicle and goods.

Benefits

- measurement of the dynamic forces in direction of the wheel, bogie or other components of the vehicle
- dynamic modeling of the vehicle by instrumentation of wheel, bogie, and car body
- quality control for transporting special goods
- axle counting
- detection of wheel defects and bogie problems
- measurement and monitoring the deflection of the track



sensor module



edge gateway

PARAMETERS

Measurement axes	X, Y, Z
Acceleration range	± 200G
Resolution	7.32×10^{-3} g
Frequency bandwidth	2Hz – 2500Hz
Sensor communication	RS 485, CAN, GPS (onboard)
Data communication	Ethernet, Wi-Fi, 4G
Power	12V
Operation temperature range	-40°C ... +85°C
Environmental protection	IP67
Operating humidity range	20 – 95%



it's possible!

www.eilabs.com
sales@eilabs.com
+36 1 279 3970