

Wheel-Rail Testing

Reducing wear and improving availability

Wear, material defects and recurring maintenance issues on wheels, rails and turnouts can significantly impact the performance and **cost-efficiency of railway operations**. In many cases, the underlying causes are complex and result from **the interaction of materials, vehicle characteristics, operating conditions and infrastructure**. Without a thorough investigation, corrective actions often address only the symptoms rather than the root causes.

We help operators, infrastructure managers and maintainers understand **wheel-rail interaction**, identify **damage mechanisms** and develop **effective improvement measures**. By combining materials expertise, advanced testing capabilities and comprehensive railway system knowledge, we deliver sustainable solutions that **improve reliability, availability and asset life**.



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Our services

- Root cause analysis of wear, damage and cracking issues affecting wheels, rails and turnouts
- Vehicle-track interaction investigations
- Material investigations and damage assessments
- Testing on wheel-rail and linear test rigs
- Condition assessment of rail, turnout and track components
- Service life and remaining life evaluations
- Development and assessment of mitigation measures
- Consulting on material selection and maintenance strategies
- Technical reports and expert assessments

Your advantages

- Identify root causes instead of treating symptoms
- Reduced wear and secondary damage
- Increased availability of rolling stock and infrastructure, thus minimizing unplanned failures and service disruptions
- Extended service life of wheels, rails and turnouts
- Lower maintenance and life-cycle costs
- Reliable decision-making support for operations, maintenance and asset management
- Holistic assessment of the wheel-rail system through interdisciplinary collaboration
- Unique combination of materials expertise, railway system knowledge, and advanced testing, diagnostic and measurement capabilities

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