

IMA Dresden

Number One in Testing and Analysing Rail Vehicles



IMA Dresden is an independent and DAkKS-accredited test centre for the rail vehicle industry and for all other branches too.

We support manufacturers and suppliers in the development process and assist transport companies with damage analysis and product optimisation. We see ourselves as a competent partner by your side for testing, monitoring and certification of materials, components and structures.

Testing Is Our Vocation: From Test Planning to Test Report

We handle carrying or motor bogies for locomotives, freight or passenger trains on our 13 test



benches on a test area of over 3,000 square metres.

For testing railcar bodies, we operate three separate test tracks that guarantee a high test capacity. On average, we test between ten and twelve car bodies on our premises every year.

We carry out measurement runs all over the world and evaluate the measurement data. We define individual measurement programmes for you.

We perform FE simulations, assess the strength of products and areas of stress, and carry out strength and lifespan assessments.

We Measure the World: Test Drives and Stress Measurements

Irrespective of whether it is Helsinki or Melbourne, Düsseldorf or Dresden – utilising appropriate measurements, measuring runs and continuous monitoring

enables us to record loads in actual applications – whether for approval trials and tests, calculation and simulation or for structure optimisation in problem cases.

We execute measurements of mechanical and electrical variables with static and dynamic loads under operating conditions and install complete measurement chains including the process adaptation.

Long-Term Measurements

We carry out long-term measurements for data acquisition in real operation, for example for the assessment of the impact and effects on the service life or the operating strength verification.

We develop systems for monitoring structures, components and plants, which we tailor directly to specific requirements; they issue alerts immediately in case of load or damage events. In numerous applications in different fields, we measure analogue signals such as

strain gauges, accelerations and displacements in conjunction with GPS and bus data. This enables us to perform extensive analysis – including location-based evaluation – of measurement data with runtimes of several years.

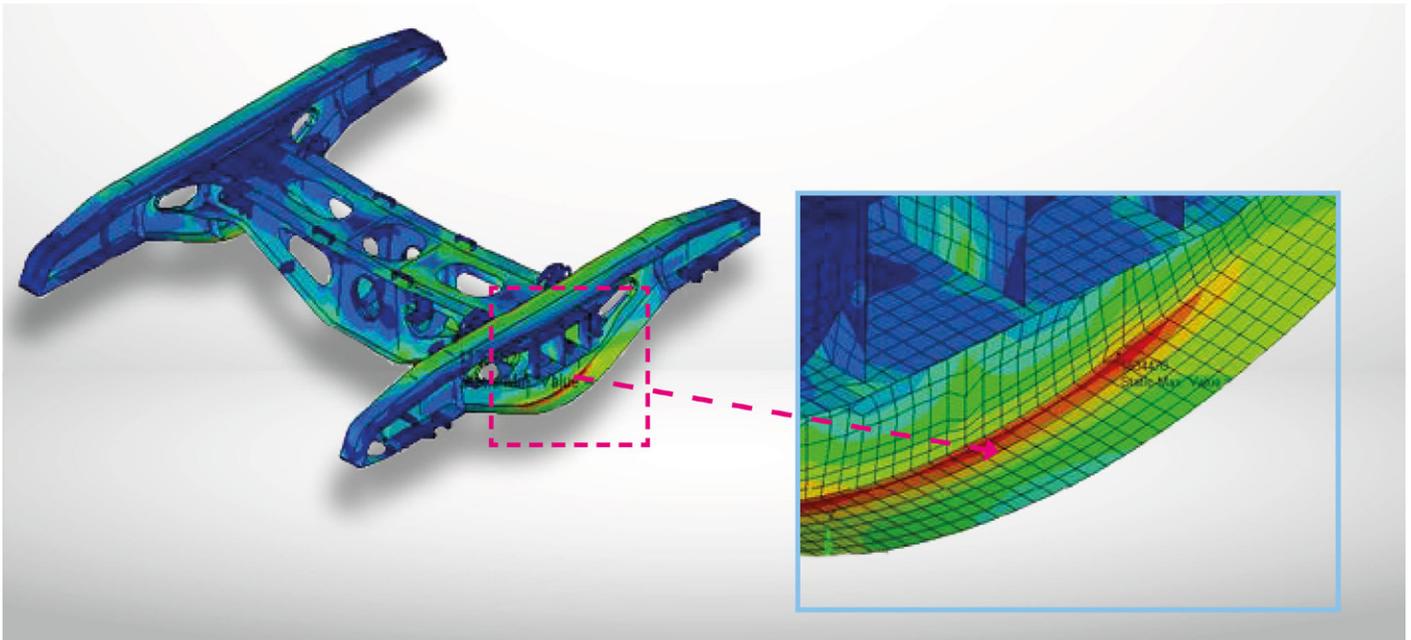
In Focus: Simulation and Strength Assessment

We provide support from the evaluation of measurement data, via FE analysis through to analytical and experimental strength assessment.

Our employees' 40 years of experience across all industries in the field of FE analysis, measurement data evaluation and strength assessment combined with young, innovative minds from science form the foundation for this and open up new possibilities in product development.

Range of Services in FE Analysis:

- Large structures as well as components and assemblies



- Contact simulation with/ without friction
- Material properties
- Stresses and deformations
- Transmission behaviour in contact resp. in the connection
- Investigation of bearing ring creep and further slippage symptoms
- Buckling and stability
- Eigenfrequencies and eigenforms
- Simulation of transient processes
- Harmonic analyses

Strength Assessment

We make statements about the safety of constructions on the basis of calculated and measured stresses:

- Static strength assessment
- Fatigue strength assessment via cumulative damage approach
- Fatigue strength assessment against endurance limit

According to:

- FKM-Guideline
- DVS 1612, DVS 1608
- Eurocode 3, Eurocode 9
- DIN EN 12663, DIN EN 13749, VDV152
- DIN 743

Certified for Guaranteed Quality

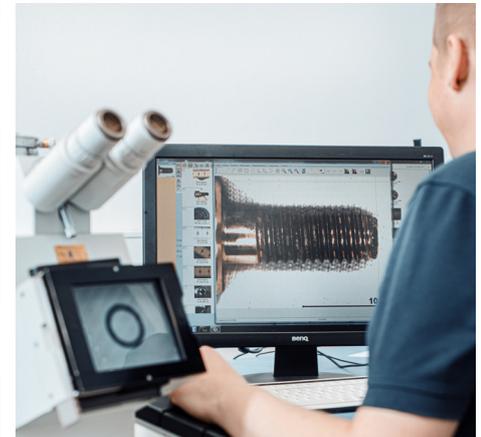
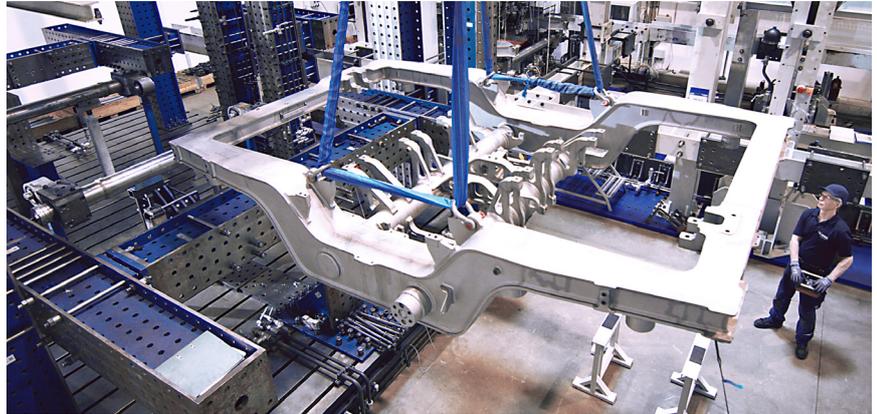
We are accredited by the Deutsche Akkreditierungsstelle (DAkkS), the national accreditation body of the Federal Republic of Germany.

We are also an officially recognised monitoring and certification body of the Federal Railway Authority (EBA) and Deutsche Bahn (DB) for GRP construction products.

IMA Dresden – And It Works:

- Structure and component testing
- Material testing
- Measurements and measurement runs
- Damage analysis and materialography
- Non-destructive testing
- Electrical testing
- Simulation and strength assessment
- Software systems for test and laboratory data

Meet us at TRAKO at the Saxony joint booth, E 24!



FIRST STOP FOR THE TEST ON RAIL VEHICLES

FROM RUBBER BEARING VIA BOGIE THROUGH CAR BODY. IMA Dresden offers the full service test programm:

- Structural and component testing
- Strength analyses
- Environmental simulations
- Electrical tests
- Material testin
- Mobile measurements
- Simulation and strength assessments
- Damage analysis

We are the accredited, certified and independent test center for the rail vehicle industry.

IMA Materialforschung und Anwendungstechnik GmbH



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visit us:  