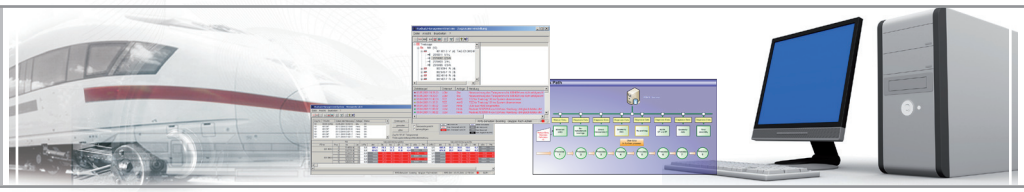
arXES-tolina
Engineering IT Software Consulting



Railroad Technology, Testing Equipment, Engineering and Software Solutions

Perspectives. Standards. IT. Engineering.

zertifiziert ISO 9001 ICG-GZBB

DGZfP

International Benchmarking
arxes-tolina GmbH ranked among the 20 most innovative companies in Northeast Brandenburg and among the Top 100 on the European scale.

CENTRAL EUROPE COOPERATING FOR SUCCESS.

iSME introducing innovation inside SMEs

The Motivation

flexible action and efficient reaction

Railroad owners, electric power utilities, chemical and petrochemical plants, the aviation and aerospace industry and many others have to arrange for reliable and reproducible non-destructive inspections of safety-related components, to document and justify continued operations within and beyond the designed lifetime of the components at required quality levels. This effort demands inspection systems capable of performing automated examinations at reasonable costs.

We support you in the realization of your testing challenges and development of customized solutions.

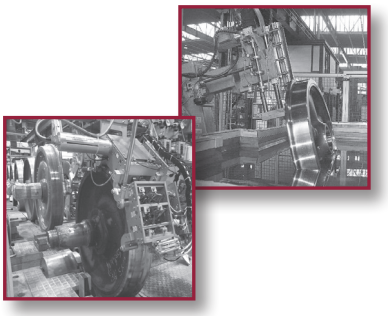
- Engineering Services
- PLC and Control Development
- System Control and System Operating
- Non-Destructive Testing Services
- Automated Test Benches
- Design of NDT Systems

- IT Process Planning
- Project Management and IT Services
- IT Equipment & Network Design
- Software Engineering Solutions
- Building Design
- Application Development

Customer

- NDT Process Development
- Sensors and Micro-Electronics
- Testing Applications and Devices
- Certified Testing Laboratory
- Research and Development
- Assembly of NDT Equipment

- Engineering Services
- Assembly Technology
- Railroad-Wheelset Technology
- Section Measurement Systems
- Warehousing
- Construction Engineering



Global Competition

Individually designed and intelligently implemented

Global competition in the areas of mechanical engineering, plant design and construction compel engineering and construction companies to modernize production processes. To improve the economics of design and manufacturing, it is essential to reduce the costs for Quality Control, decrease production times, and reduce the amount of items kept in stock.

Product development, manufacturing and distribution time (time-to-market) are the most significant factors to consider if one wants to stay ahead of the competition.

AURA - Automated Ultrasonic Testing

For more than 6 years the AURA Automated Ultrasonic System for the inspection of railroad wheel sets has been field-hardened through daily inspections at the German Rail (Deutsche Bahn AG) maintenance facilities.

Advantages of the AURA inspection at a glance:

- Very short inspection time
- Automated conveying of the wheel sets to/from the test bench
- Elimination of magnetic particle detection
- Ease of maintenance and repair through integrated self-testing procedures
- Remote diagnosis capabilities
- Post-processing of the inspection result while storing A-, B- and C-scans
- Provision of quality assessment for the reporting services
- Quick access to inspection results by utilizing the IRMS-Software database system

RWI - Rail Wheel Inspection

Ever growing requirements for inspection systems for the production testing of railroad wheels require shorter inspection cycles for new generation RWI - Rail Wheel Inspection systems, e.g. less than one minute for testing rim and hub.

Various options and system configurations depending on the customer‘s needs can be provided by the system, e.g. wheel disc and hub inspections from one or two sides and supplementary testing of wheel flange and angle beam UT from the inside face of rim.

UFPE - Underfloor Testing Device for Wheel Sets

Ensuring the safety of operations is the most important task of any railway company.

Safe operations call inter alia for regular checking of wheel sets for faults, especially for high-speed rolling stock.

The UFPE - Underfloor Testing Device has been developed for the checking of ICE wheelsets without the need of disassembling the wheelset from the train.

This leads to cost reduction while dramatically limiting down-time of the trains under inspection after every 240 000 kilometers in operation.

The UFPE light can be equipped with a lower degree of automation, thus leading to a lower cost. The general UT-electronic are identical to the fully automated option.

HAT - Hollow Axle Testing

The hollow axle testing unit is designed for the mechanised ultrasonic testing of in-service wheel sets. The object of the test is to locate transverse cracks in the wheel set axle.

The cross sectional transitional zones and, especially, the zone where the wheel seat runs into the body of the axle are regarded as particularly susceptible to cracking.

On axles with a bore diameter of 30 mm ultrasonic testing is carried out at inspection angles of 45° in both axial directions.

For larger bore diameters, tests are carried out at inspection angles of 0°, 45° and 70° with the 45° and 70° beam angles applied in both axial directions. The test unit is based on specifications issued by German Rail.

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