GOLDSCHMIDT
Smart Rail Solutions

SAFETY IS MEASURABLE

MOVING FORWARD WITH RELIABILITY AND SAFETY

Higher speeds, more intensive loads and increasing demands on travel comfort – the demands on modern track construction and a sustainable railway infrastructure are diverse. Our measuring and testing solutions ensure the highest degree of safety and reliability.

A detailed inspection of the track condition is essential to enable predictive maintenance, which will assure the long-term efficiency and reliability of your railway network and rolling stock. Goldschmidt's measurement and inspection technology provides the assurance your operation requires. In addition, our extensive catalog of measuring and testing devices is capable of detecting and analyzing the contributing factors to rail defects. Our precision equipment can be deployed in all rail environments, which empowers you to complete inspections with the assurance of accurate defect analysis.

Goldschmidt offers you measuring and testing solutions together with documentation for the geometry and failure analysis of railway tracks. These solutions enable you to identify deviations and derive preventative maintenance measures to ensure a longer service life for rails, switches and wheels. In the long term, this ensures an optimal condition, lower maintenance costs, higher safety and punctuality.

DETECT AND EVALUATE – GEOMETRY AND DEFECT ANALYSIS

There are numerous types of geometry and rail defects with a need to detect, monitor and evaluate them as early as possible. With its digital and smart solutions, application-specific devices and services, Goldschmidt is well positioned for managing diverse railway track conditions. These solutions enable the precise documentation of signs of wear and defects while taking into consideration the measures necessary for defect removal.

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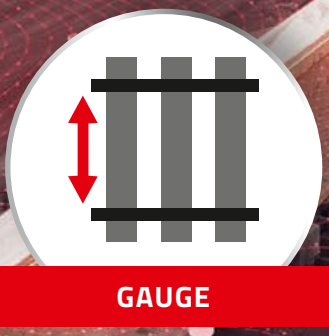
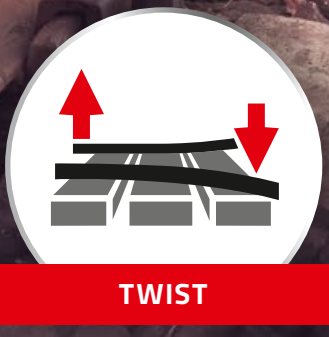


GAUGE

CLEARANCE

CORRUGATION



TWIST

CROSS SECTION

TRACK GEOMETRY

TRACK AND RAIL DEFECTS

ONE STOP SHOP

Goldschmidt offers you an extensive range of cutting-edge measuring and testing solutions in the form of innovative products and services. Our platforms are the foundation which enables the implementation of individual solutions using our proven technology.

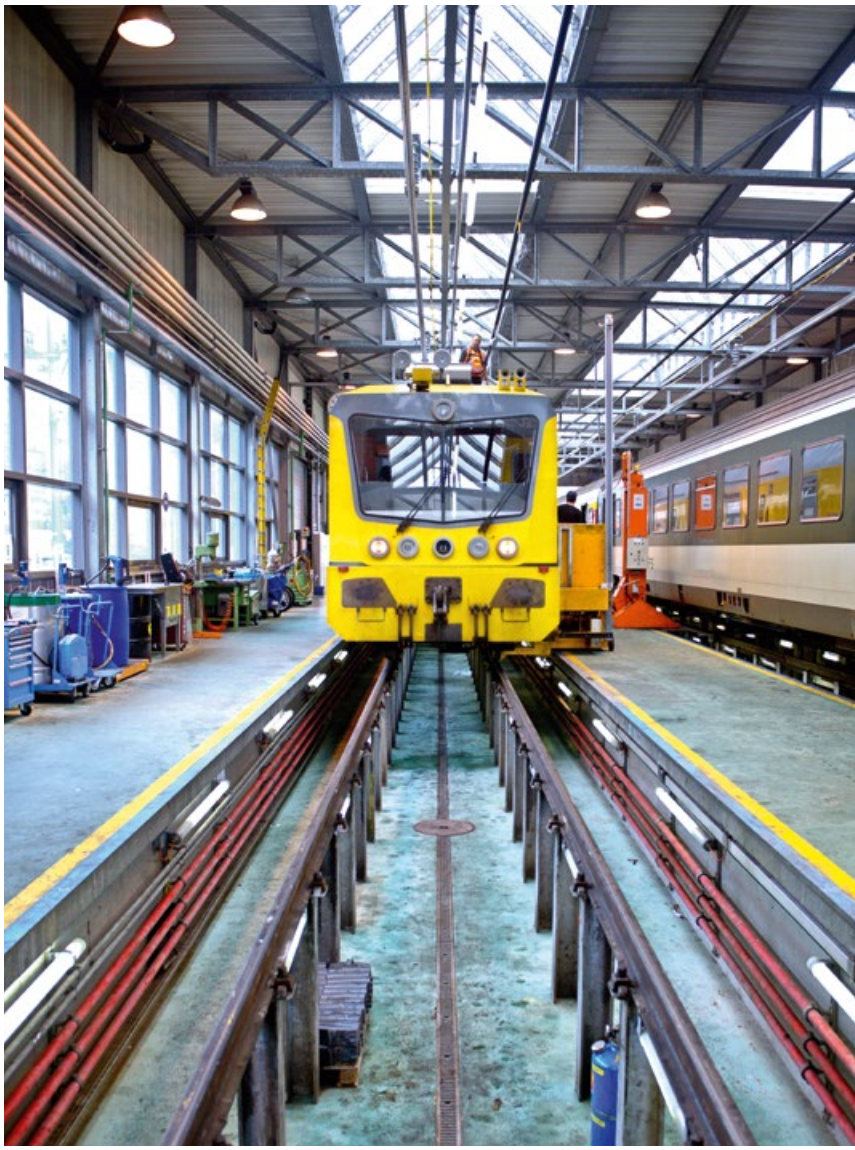
THE RIGHT SOLUTION FOR EVERY REQUEST

The Goldschmidt product range includes measuring and testing devices for each application area. Whether as a hand-held device or integrated in trolleys, track carts, road-rail vehicles or inspection trains, state-of-the-art technologies provide precise measuring and testing results in a uniform format, making safety and quality tangible.

This basis allows you to develop maintenance strategies and use suitable Goldschmidt products and services to derive specific measures. The combination of our modular technologies enables us to flexibly equip platforms and therefore to offer application-specific solutions for many different requirements.

THE GOLDSCHMIDT 360° PRODUCT RANGE

Hand-held devices • Trolleys • Track carts Road-rail vehicles • Integrated solutions for measurement and inspection trains




TRACKGAUGE DIGITAL

PRECISE DIAGNOSIS OF TRACK AND RAIL GEOMETRY

Geometric parameters are key to be able to analyse the track condition. The measuring and testing results have to be within the permitted technical tolerance range.

RELIABLE PLANNING THROUGH CONDITION MONITORING

Regular measurement of track and switches guarantees your operation will be running safely. The continuous collection and evaluation of data will enable you to implement a preventive maintenance program for future inspection and repairs.

Based on this data you can maintain sections of track where there is increased wear by performing grinding and welding work at an early stage to improve wheel-to-rail contact. The measurement of the track and longitudinal rail geometry can detect an opportunity to reduce noise and wear. In order to achieve the best results, we also provide a measurement of the straightness of the track at your welded joint. The acceptance and review of work performed on the track is also recorded with the respective applications.


GOLDSCHMIDT

PRECISE ANALYSIS OF TRACK AND RAIL DEFECTS

Increasing axle loads, higher speeds and consequently greater forces being applied to tracks are the leading causes of fatigue and damage to a rail network. Through early detection and preventative maintenance, rail wear, safety and the life of assets can be optimized.

MAKING THE INVISIBLE VISIBLE

In the course of a visual inspection, surface defects, breaks in the material or missing parts are detected and documented. Inspection procedures are also important for the track safety where internal material defects and hidden damage is detected which cannot be seen by the naked eye and would otherwise go unnoticed.

Eddy current and ultrasonic testing enable you to carry out a complete rail evaluation as well as the classification of surface and internal defects. This allows you to identify, locate and monitor areas highly susceptible to flaws.

THE DIGITAL FUTURE – DATA OPTIMIZING OPERATIONAL PROCESSES

Since the invention of the Thermit® welding process and continuously welded track, Goldschmidt has driven the development of railbound traffic. Today, this means that track related data is collected, stored, processed and analysed to continuously improve the operation of railways. With its digitalization initiative Dari®, Goldschmidt is pushing for the digital future of track.

A DIGITAL PRODUCT PORTFOLIO

Goldschmidt was the first company to provide digital tools and software solutions to support the execution of the Thermit® welding process, thereby setting new standards in process quality and transparency. Its track inspection tools and systems portfolio is the broadest in the industry not only in terms of technical functionality. Our capability extends from simple manual rail geometry measurement to fully automated high speed rail flaw detection. For the best measurement results, Goldschmidt uses a wide variety of technologies including video inspection, laser-based detection as well as ultrasonic or eddy current measurement systems. These technologies are made available in hand-held devices, as trolleys, or as complex onboard systems in trains.

CONNECTED AS NEEDED

Data collected from digital tools or measurement systems only realises its optimisation potential when analysed and used to improve track quality or track operation. For this, Goldschmidt has developed a variety of tailored software solutions. These include easy to use mobile apps that allow collected data to be quickly visualised and checked against requirements, but also expert systems for big data analysis of captured video using machine learning algorithms. In addition, there are cloud databases for special applications and of course, data collected by Goldschmidt tools or measurement systems can be made available through interfaces for any kind of customer specific IT solution.

VISIONARY IDEAS NEED POWERFUL SOLUTIONS:

DARI® BY GOLDSCHMIDT.

With the diverse elements of our global digitalisation initiative Dari® – Data acquisition for rail infrastructure – railway infrastructure operators can manage their tracks in a **smarter, more effective and sustainable** way. Based on a thorough understanding of track construction and maintenance processes, Goldschmidt's **digital tools, measurement systems, software solutions, cloud databases, services and interfaces** are designed to provide optimal support for the relevant technical applications.

Experience new dimensions in track operations. **With Dari® by Goldschmidt.**

WE ARE GOLDSCHMIDT

The Goldschmidt success story begins with the invention of the Thermit® welding process which today still defines the worldwide standard for the welding of rails. A global company group was established based on this expertise and passion for innovation which together with you will shape the rail-bound mobility of tomorrow.

FINDING SOLUTIONS TO BRING YOU FORWARD

Goldschmidt is a unique global network of experts for your railway track requirements and develops smart applications for the railway industry which are exactly matched to your requirements, ranging from the Original Thermit® portion to our digital Dari® products and systems.

Customers on all continents trust in the excellent quality, first-class engineering expertise and proven reliability of Goldschmidt, with the trams of the European transport companies running on the same know-how as the high-speed trains in China. Goldschmidt is your strong partner when it comes to the future-oriented planning and practical development of solutions for railway infrastructure projects according to your respective national requirements with local implementation.

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SMART RAIL SOLUTIONS

Goldschmidt offers a comprehensive range of products and services worldwide for the joining of rails, modern construction of railway track, and inspection and maintenance of your track infrastructure:

Original Thermit® • Insulated Rail Joints • Welding
Grinding • Inspection • Tools & Equipment
Road-Rail Vehicles • Digital Solutions

SMART RAIL SOLUTIONS

Together with you, Goldschmidt masters the challenges of modern, railbound mobility – for safe, sustainable and long-lasting railways of premium quality. As with Thermit®, Goldschmidt is also a pioneer in maintenance, inspection and digitalization and continues to improve processes and extend the lifecycle of railway infrastructure. Goldschmidt benefits from its global expertise and cross-disciplinary thinking to create tailor-made local solutions for you. The global presence of Goldschmidt gives you access to its whole portfolio – with one goal: to lead your railway infrastructure into the future.