

DARⁱ

**DATA ACQUISITION
FOR RAIL INFRASTRUCTURE**





SMART SOLUTIONS TO OPTIMISE YOUR PROCESSES

The railway is changing – resources are becoming scarcer, higher loads and increasing regulations demand not only precision, durability and the highest quality, but also transparent and efficient processes on the track. With our digital Dari® solutions, rail infrastructure operators can easily record and analyse their track-related data digitally and access it at any time. We support you in the following areas with our digital solutions, enabling you to operate your rail network safely, flexibly and efficiently and to make it future-proof.



SOLUTIONS FOR THE INSPECTION OF YOUR RAIL INFRASTRUCTURE

Acquisition, analysis and provision of measurement and inspection data from:



VIDEO INSPECTION



ULTRASONIC SENSOR TECHNOLOGY



LASER MEASUREMENT



EDDY CURRENT SENSOR TECHNOLOGY



SOLUTIONS FOR OPTIMISED WELDING PROCESSES

Documentation, analysis and identification of Thermit® welds
(welding and grinding process, straightness measurement and ultrasonic testing)



CUSTOMISED SOLUTIONS

Whether optimising your welding and inspection processes or implementing a custom-tailored solution, you can rely on our expertise to guide you effectively through every stage of your project: from the initial consultation, planning and implementation through to the connection of your systems and interfaces. Our solutions can be customised according to your individual requirements and needs.

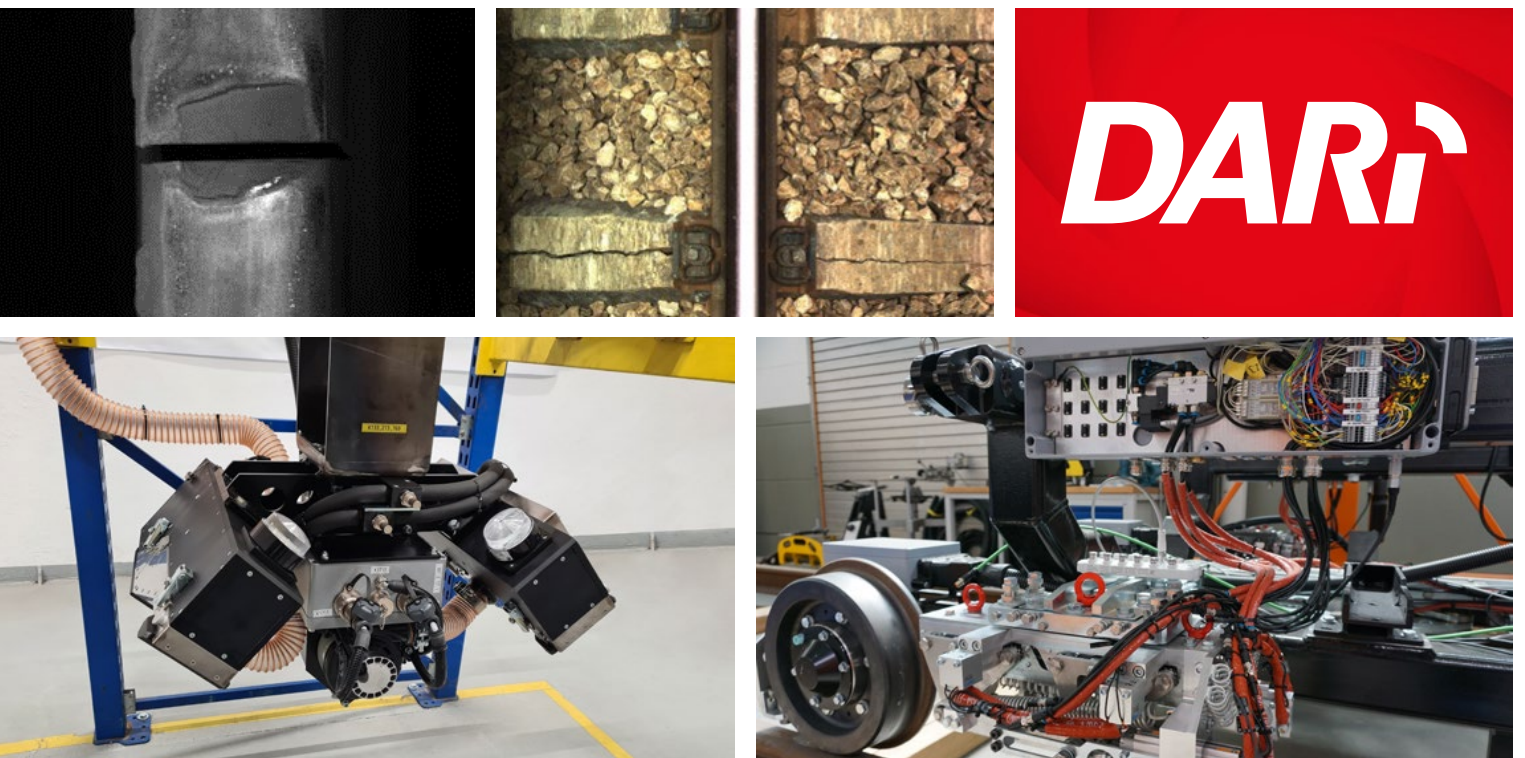
SOLUTIONS FOR THE INSPECTION OF YOUR RAIL INFRASTRUCTURE

Would you like to enhance the quality of your tracks or network operations while ensuring maximum transparency and efficiency? Our inspection solutions cover all use cases for seamlessly measuring and analysing your rail tracks. Using convenient and AI-supported expert systems, you can document, visualise and evaluate measurement and inspection results quickly and easily and implement optimisation strategies based on them.

INSPECTION OF SLEEPERS AND RAIL FASTENINGS

Sleepers and rail fastenings are important elements for supporting and fixing tracks that need to be checked regularly. The train-based video inspection systems from Goldschmidt do this automatically, highly precisely and efficiently. The high level of reliability is further increased thanks to the integrated AI support of the Dari® analysis software.

While the train is travelling, the video inspection systems film the sleepers it passes over. The recordings are then analysed by pattern recognition algorithms in the Dari® software. As a result, damage to sleepers and rail fastenings is detected with a high degree of accuracy, enabling you to take appropriate actions.





DETECTION OF RAIL DEFECTS

Both surface and deeper rail defects can affect the safety and durability of the rail and the ride comfort. The eddy current and ultrasonic testing systems from Goldschmidt detect these early and reliably.

Train-based systems that record data using complex sensor technology are used to analyse long sections of track. For smaller sections, the same technology is also available in an adapted form for trolleys. Dari® big data analysis tools analyse the large amount of data recorded quickly and precisely. We can work with you to analyse and export data as needed.



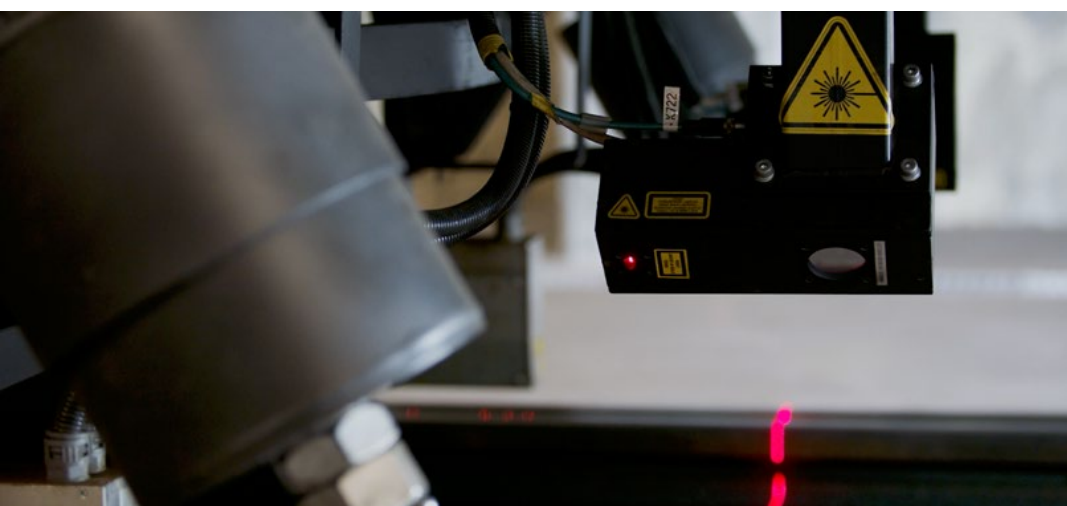
DETERMINING THE GEOMETRY OF TRACKS, RAIL AND SWITCHES

Geometry is particularly important in the construction and maintenance of rail networks. This is especially relevant for switches, a most critical part of the track. It is often necessary to comply with a large number of requirements and standards in order to ensure their safety and reliability.

Goldschmidt offers highly innovative solutions across different devices, e.g. with modern laser systems. The self-propelled Trackscan Cadd-e, for example, is used to measure different track geometry parameters at speeds of up to 16 km/h. High-performance train control systems offer specialized switch geometry measurement, enabling detailed evaluation of all switch elements with a step of 2 cm at a speed of 90 km/h.

With the Dari® software you can visualise and analyse the recorded measurement data, create reports from templates and display the GPS-located measurement results on a map. Track defects and tolerance exceedances are displayed concisely. The software is compatible with Microsoft Office, and data and reports can be exported in many common formats. It is available as a desktop or cloud version.





SOLUTIONS FOR OPTIMAL WELDING PROCESSES

Our web and app-based solutions for Thermo[®] welding provide you with comprehensive transparency of your welding and weld inspection processes. This takes the pressure off your teams and increases quality and efficiency in the long term.

YOUR ADVANTAGES

- Recognise discrepancies and anomalies immediately
- Document welds and weld inspections in a legally compliant manner
- Relieve welding and service teams: quick and convenient documentation via mobile app without tedious paperwork
- Quickly identify relevant data in the event of damage, especially when using G-Tag rail clips
- Accelerate invoicing and incoming payments
- Locate welds and weld inspections on an overview map
- Modular structure: use all solutions independently

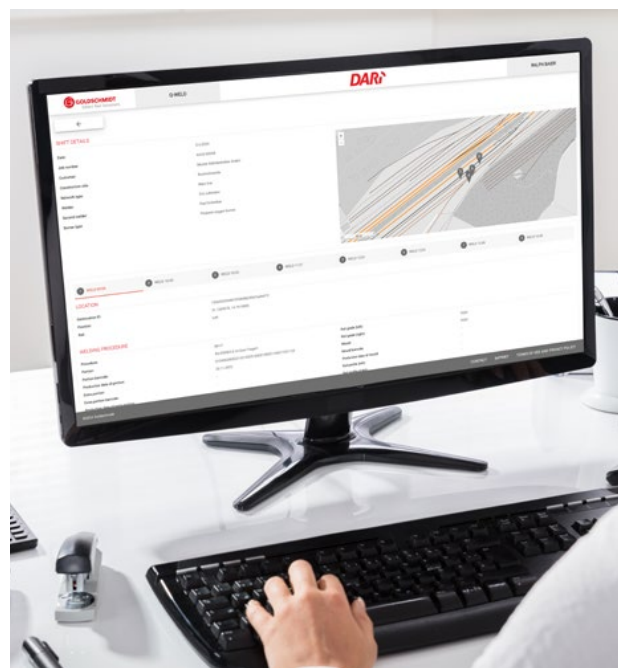
Q-WELD



With the Q-Weld app and the Dari[®] platform, Thermo[®] welds can be quickly and easily documented, analysed and, if necessary, optimised.

The Thermo[®] welding portion is scanned using a mobile app in order to automatically transfer all important quality data, e.g. welding process and rail grade, to the Dari[®] platform. Additional data such as the preheating time is documented directly in the app. In the Dari[®] platform, you can quickly and conveniently analyse all the collected data as well as the quality and progress of the welds and, if necessary, take appropriate actions.

When using the G-Tag rail clip, you can link the welding data of your rail joint to additional measurement data from the Railstraight and Ultrasonic Testing solutions by scanning the code.





RAILSTRAIGHT



For the safety and service life of the rail infrastructure, it is crucial that the welded rail joints are geometrically flawless, precisely aligned and that their surface quality meets the requirements.

The measurements for assessing the welding and grinding quality are carried out quickly and with high precision using the Railstraight measuring devices. The measurement results are recorded and visualised directly within the Railstraight app and can be subsequently evaluated in the Dari® platform.

When using the G-Tag rail clip, you can easily link the Railstraight measurement data of your rail length profile to other welding and measurement data from Q-Weld and Ultrasonic Testing by scanning the code.



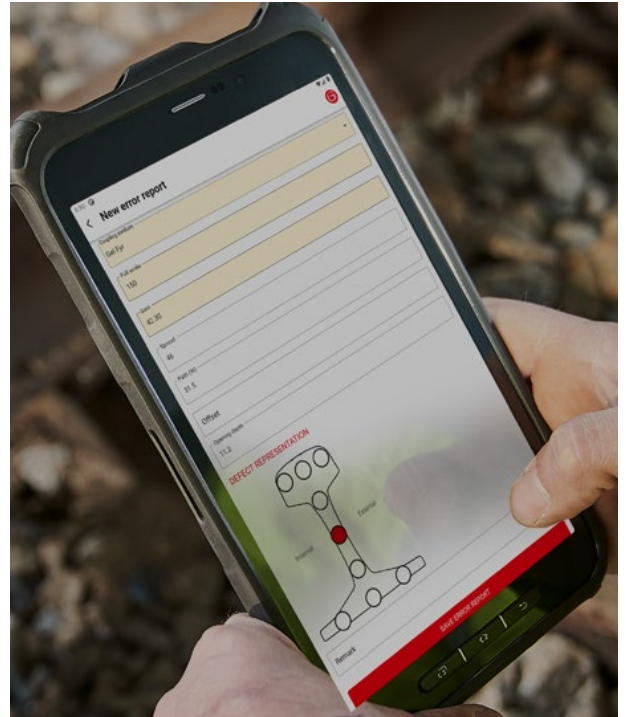
ULTRASONIC TESTING



Ultrasonic methods are used to non-destructively inspect and examine welded joints in the track for internal volume defects. In many countries, ultrasonic testing is mandatory due to relevant standards and regulations.

With the Ultrasonic Testing app, you can reduce your administrative workload, as the documentation of the test on the track is carried out quickly and conveniently using a mobile phone. All test data and photos are transferred directly to the Dari® platform via the app. You can generate and send professional PDF reports, e.g. for invoicing, with just a few clicks. All measurement results can be conveniently visualised and evaluated in the Dari® platform.

When using the G-Tag rail clip, you can link the ultrasonic inspection data of your rail joints to your welding and measurement data from Q-Weld and Railstraight by scanning the code.



G-TAG

If you combine multiple solutions, you can use our G-Tag rail clips for even more transparency: a clip with a QR code is attached to each weld joint and the code is simply scanned using an app during each examination.

For each weld joint, a digital profile is created, which can be successively completed with your data from welding, length profile measurement and ultrasonic testing. This allows you to check the development of the weld over time, ensuring process transparency and rail quality in the long term.

CUSTOMISED SOLUTIONS

Our in-house team of experts will also develop a customised software solution for your use case and integrate it flexibly into your systems and interfaces.



THE GOLDSCHMIDT RAIL LUBRICATION SYSTEM

Rail lubrication systems reduce wheel and rail wear in intensively used track sections, extend idle times and significantly reduce maintenance costs and noise emissions.

The smart rail lubrication system from Goldschmidt can do even more: the Dari® platform, which can be connected to devices and existing software systems via an interface, allows maintenance work to be planned from your desk. Your technical teams are automatically informed if the fill level drops or if there are errors in the system. An overview map allows you to keep track of your systems, and images and technical details can also be easily stored.



OUR REFERENCES

We supply the German local transport company Leipziger Verkehrsbetriebe (LVB) GmbH with Goldschmidt rail lubrication systems. In addition to the usual advantages of these reliable systems, our customer benefit significantly from the digital connection to the Dari® platform:



- Configuration from the desk
- High efficiency and material savings thanks to automatic notifications when the grease reservoir is empty
- Reliable and worry-free operation thanks to automatic error notifications
- Maintenance workers only need to be deployed when notified, which saves time and valuable resources

