



**GOLDSCHMIDT**

Smart Rail Solutions

# MOBILITY WITH VISION



# RAIL SOLUTIONS – ADDED VALUE THROUGH EXPERIENCE

In 1895, Hans Goldschmidt invented the Thermit® process providing the basis for safe, comfortable and efficient railway mobility, which continues to define the international standard for the welding of rails. For the past 125 years, Goldschmidt has been defined by the innovative spirit of the inventor and a tireless pursuit to develop new technology and improve existing solutions.



## EVERYTHING FOR YOUR TRACK – WITH A VIEW TO THE FUTURE.

Building on this important invention and passion for innovation, a global group was established, which, together with you, will shape the mobility of tomorrow with numerous products and services for railway track. This ranges from the Original Thermit® portion to the digital solution for railway infrastructure projects. Customers all around the world depend on the quality and reliability of Goldschmidt, with the trams of the European transport companies running on the same know-how as the high-speed trains in China.



## FIND NEW SOLUTIONS. SET STANDARDS.

Goldschmidt continuously invests in research and development. In the company's Technology Innovation Center and International Center of Competences, work is carried out on forward-looking solutions which are adapted to meet your special requirements. This results in numerous new developments, such as the digital networking of devices, machines, road-rail vehicles and track construction sites. Goldschmidt, with its sustainable, first class products and customer-focused services, is driving the development of your rail infrastructure to enable a long service life for modern transportation infrastructure.



## ONE NAME. ONE PROMISE. WORLDWIDE.

Goldschmidt, as a successful family-owned company, remains committed to traditional ethical and sustainable values and has developed its core expertise in the field of Thermit® to become a pioneering full-service provider. All around the world, customers benefit from this combined railway infrastructure expertise. With its internationally proven know-how and visionary thinking, Goldschmidt is a trusted partner and intelligent problem solver. The focus of our daily work is the success of our customers.



# PROVEN PROCESSES WITH KNOW-HOW

Passengers want to reach their destination safely and in comfort.  
Companies want to transport freight economically and on time.  
And network operators require a railway network with a long service life which can be run profitably without operational restrictions.



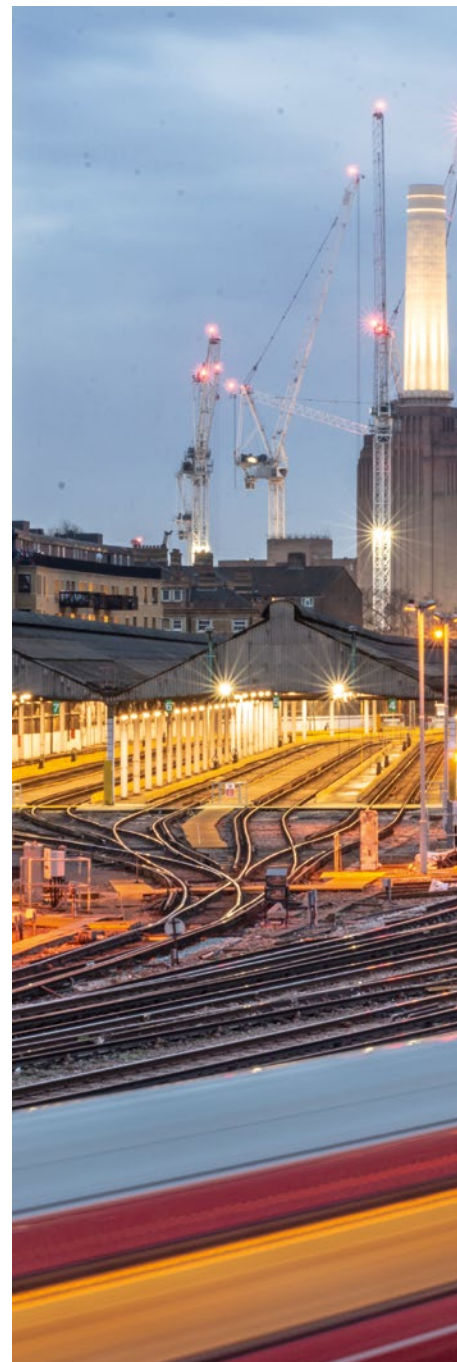
## RAIL JOINING

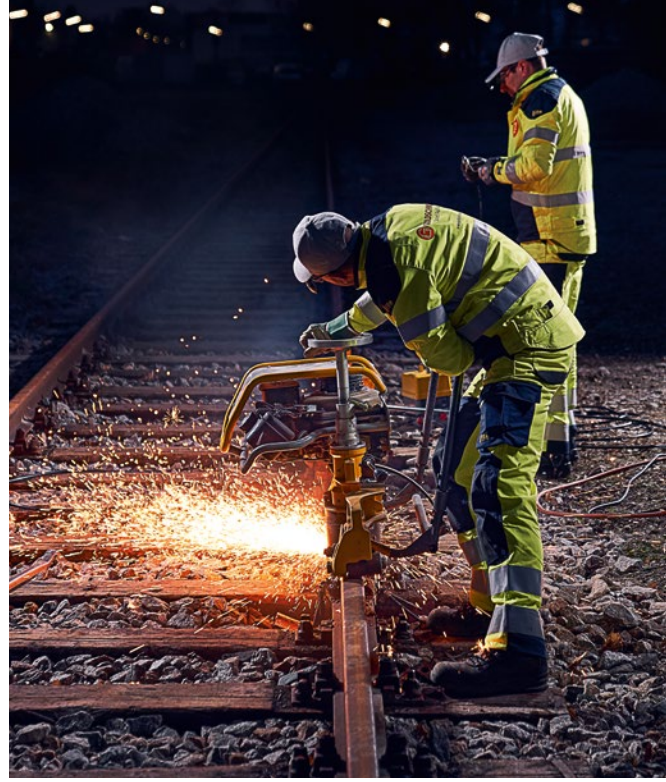
The railways are the most reliable, comfortable, economic and ecological way to transport people and goods. They are therefore an integral part of all viable and sustainable mobility concepts. But this requires reliable railway tracks with a long service life. Many railway organizations such as Amtrak in the US, the Chinese National Railway and the light rail networks in Europe operate their trains and trams on Goldschmidt expertise. Around the world, high-speed trains, freight trains, heavy haul trains, trams und underground railways glide over continuously welded track. This is made possible by the Thermit® welding process which enables Goldschmidt to make an excellent connection between almost all types of rail.



## TRACK MODERNISATION

Holistic concepts for sustainability and achievement of environmental targets are big challenges for today and the future. This ties in directly with the increasing interest in modern railway mobility and infrastructure, which will remain viable in the future. Goldschmidt offers innovative products and services worldwide, which are tailor-made for the renovation and modernization of railway tracks. The focus is always on the future of your railway network for greater load-bearing capacity, superior passenger comfort and a longer service life according to the local requirements.





# SMART SOLUTIONS WITH ADDED VALUE

The high investment necessary for modern railway networks has to ensure good long-term condition of the track and continuous availability. This is the only way to fully exploit the potential offered by rail as an alternative form of transport for people and goods.



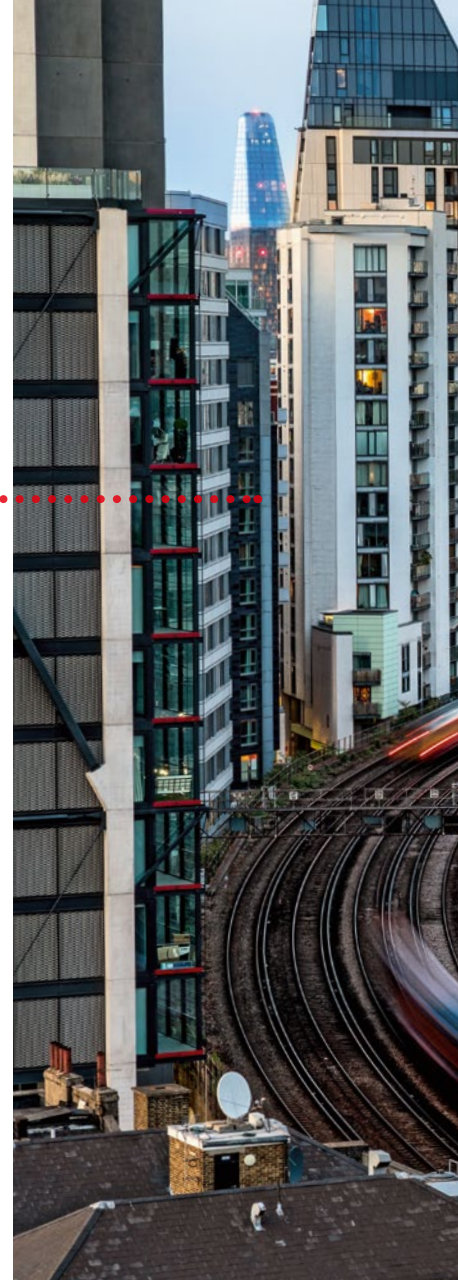
## SMART INSPECTION

Companies and passengers require reliability and safety. Rails are only able to fulfil their role with regard to the future of mobility if they remain durable. Therefore, Goldschmidt, with all its expertise, actively promotes intelligent inspection of track conditions. This is the most important preventive measure against heavy wear due to continuous loads and possible rail defects and the best measure to ensure a long and successful service life of each and every rail.



## PREDICTIVE MAINTENANCE

Predictive maintenance sustainably extends the service life of rails and switches for underground networks, tram networks, light and mainline rail networks and reduces long-term operating costs. Goldschmidt takes these tasks particularly seriously, with the application of modern technology in a constantly updated global network. The invaluable experience gained from a wide range of projects around the world helps to maintain all types of rail networks in good condition and therefore safeguard your valuable investment.





# PRODUCTS AND SERVICES – EVERYTHING FOR YOUR TRACK

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. Using the products and services combined with our intelligent digital solutions, we give life to the vision of the digital track construction site.

## ORIGINAL THERMIT®

As the inventor and global market and technological leader in the field of Thermit® welding, for over 125 years, Goldschmidt has set standards for continuously welded track. We develop, produce and supply all of the associated equipment, machines and materials.

## GRINDING SOLUTIONS

Using grinding, reprofiling and deburring machines, semi automatic grinding machines and road-rail grinding vehicles, Goldschmidt maintains the quality of your railway tracks – quickly, efficiently and with precision. Well-trained, experienced grinding teams offer you flexibility in managing your grinding maintenance program.

## WELDING SOLUTIONS

All over the world, rails are welded using Goldschmidt expertise and new rails are weld tempered for a longer service life and to ensure that all types of trains and trams run quietly and safely and environmentally friendly.

## INSULATED RAIL JOINTS

Goldschmidt offers a wide range of insulated rail joints that meet the requirements of regional railways in all countries. These high quality products contribute towards the safety and reliability of railway networks worldwide.

## DIGITAL SOLUTIONS

As a pioneer in the field of digitalization, Goldschmidt works on the comprehensive networking of devices, machines, road-rail vehicles and track construction sites. These solutions enable greater quality, safety, transparency and efficiency with the construction and maintenance of modern railway networks.

## MEASURING & TESTING SOLUTIONS

Goldschmidt offers a comprehensive range of inspection products to identify and assess rail defects, track geometry, rail profiles and wheel profiles. These cutting-edge technologies provide precise measurement and testing results in a standard format. Whether as a hand-held inspection device or integrated in trolleys, road-rail vehicles or inspection trains, Goldschmidt enables the safety of your tracks.





## TOOLS & MACHINES

Goldschmidt offers first class tools and machines for the professional execution of work on railway tracks with all available drive technologies, such as gasoline and diesel engines, battery-powered motors and hydraulically driven motors. The products are user-friendly, work efficiently and offer high performance.

## EQUIPMENT

Goldschmidt offers you products and solutions to improve safety, track availability and comfort such as rail lubrication devices to reduce rail wear and rail noise emissions, switch heating devices, and track safety systems such as rail buffers or quickly fitted magnetic track barriers.

## ROAD-RAIL VEHICLES

Depending on the application, Goldschmidt offers road-rail vehicles up to a weight of 32 tons, such as overhead line installation vehicles, inspection and track cleaning vehicles for public transport companies, measurement and welding vehicles, heavy recovery vehicles and bridge inspection vehicles for main lines.

# THE DIGITAL FUTURE – NETWORKED THINKING

Since the invention of the Thermit® welding process and continuously welded track, Goldschmidt has driven the development of railbound traffic. Today, this means there is no alternative to digitalization and networking. Naturally, Goldschmidt is actively involved.

## GOLDSCHMIDT GOES DIGITAL



The digitalization strategy of Goldschmidt has created completely new standards for quality, reliability, transparency and efficiency in the construction and maintenance of modern railways. Tool and process data of welds, measurements, tools and machines is saved by the Goldschmidt Digital App to enable continuous monitoring and improvement. The next logical step is to create a global digital network including intelligent machines, tools and rail vehicles where the collected data flows together in real-time for the purpose of documentation and analysis and is then archived.



## ALL THINK TOGETHER

This was how the vision of Dari® was created. This new transparency enables completely new possibilities to improve work efficiency. The system allows the automated preparation of all tools, machines, personnel or operating process data allowing immediate predictions and automatic processes to be triggered. You can improve your controlling while increasing efficiency and safety and decide on the implementation level of Dari® based on your requirements. With Goldschmidt, the pioneer of the digital track construction site, you always have the right partner at your side.

# DARi<sup>®</sup>

VISIONARY IDEAS NEED POWERFUL SOLUTIONS:

## DARi<sup>®</sup> BY GOLDSCHMIDT.

Our database solution **Dari<sup>®</sup>** – Data acquisition for rail infrastructure – enables us to make our products smarter, more effective and sustainable. Goldschmidt has therefore taken the next logical step and combined a collection of **modern, high performance stand-alone solutions** into a **digital network of intelligent products**.

This innovative edge, based on the forward-looking technology of **Dari<sup>®</sup>**, is the special and unique added value offered by our Goldschmidt products. Experience new dimensions at the track construction site.

**With Dari<sup>®</sup> by Goldschmidt.**

# GOLDSCHMIDT

## FACTS AND FIGURES

The Goldschmidt success story began in 1895. Since then the evolution of the company has been characterized by a commitment to quality, a pioneering spirit and innovative strength. The development of forward-looking technologies, holistic expertise and tailor-made products and services enable Goldschmidt to make rails fit for the future.

**8,000** customers

Numerous customers around the world trust the technical expertise of our network of experts, the first-class products and services and the global presence of Goldschmidt.

**80** countries

Our welding processes are approved in more than 80 countries and homologated with all large rail networks.

**Number**

Our full service offering for all your track requirements, combined with innovative, forward-looking products and ideas for modern technologies with digital interfaces for all important processes, make Goldschmidt your number 1 supplier.



**11,000** = 6,835 mi  
km

The length of track welded annually with Original Thermit® corresponds to roughly the distance from the North Cape to the Cape of Good Hope.

**125** years

Since the introduction of the Thermit® process for continuously welded track in 1895, our innovative spirit and courage to take the initiative has been part of our company DNA.

**1,300** employees

The international Goldschmidt brand combines a large number of railway track experts whose common aim is to successfully guide your rail infrastructure into the future.

**6** continents

The tailor-made, innovative Goldschmidt portfolio is available on all continents with proven quality.

**90 million** portions

Continuously welded track is the key to efficient mobility and the guarantor of sustainable, safe and comfortable rail transport. With more than 90 million Original Thermit® portions sold since 1895, Goldschmidt has established itself as the global market leader.



**DARi** Digitally connected

Our digitally networked tools, machines, vehicles and processes make our range of products and services more intelligent, more efficient and forward-looking, ensuring that your track is safer and more comfortable. A leading innovation that pays off for you!

**PROVEN WORLDWIDE –**

**AVAILABLE IN YOUR REGION**

All around the world Goldschmidt develops mobility solutions for the future together with its customers. The unique global network of experts gives you access to the international range of products and services of Goldschmidt – at your location, with your local contact person, backed by the power of the whole group.



### **QUALITY. INTERNATIONAL CONSTANT.**

Goldschmidt combines the expertise of all of its companies that you need for the construction, maintenance, inspection and monitoring of your railway network. This unique network of highly qualified experts is the answer to the many varied requirements of rail infrastructure projects. Special expertise, excellent technical equipment and highly qualified personnel allow Goldschmidt to comprehensively implement each task with a high level of quality worldwide.



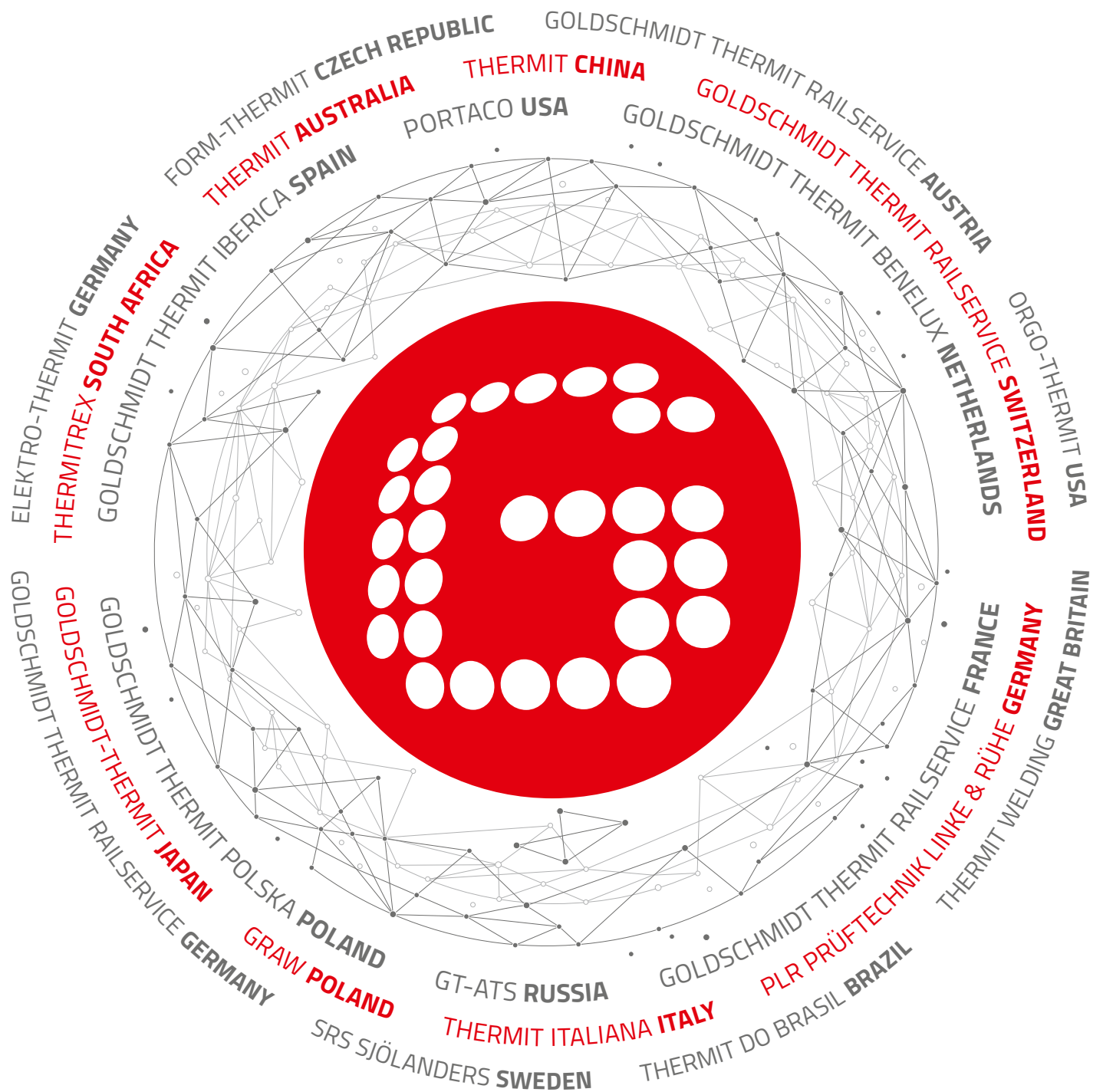
### **SYNCHRONIZED WORLDWIDE FOR YOU.**

The networked knowledge, global presence, wide range of expertise and vision enables Goldschmidt to plan ahead for you, to adapt solutions to national requirements and provide local support. Goldschmidt stands for excellent quality, first class engineering, visionary decision making and a focus on high standards for durability, safety and efficiency on the railways.



### **YOUR PARTNER WITH LOCAL EXPERTISE.**

Goldschmidt always offers you a personal, competent contact person in your own country. This contact person enables you to benefit from global synergies, local knowledge and from the fact that Goldschmidt is a global company, holding all the necessary national certifications to comply with all country-specific laws and regulations. Goldschmidt therefore ensures the best, tailor-made solution for your smart and sustainable railway infrastructure.



## SMART RAIL SOLUTIONS

Together with you, Goldschmidt masters all 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 railways. Goldschmidt combines its extensive railway expertise and benefits from its global expertise and cross-disciplinary thinking to create tailor-made local solutions for you. The global presence of Goldschmidt gives access to its whole portfolio – with one goal: to lead your railway infrastructure into the future.