

RAIL SERVICES

For your Performance on Track®.



FULFILLING THE CHALLENGES OF TODAY AND TOMORROW

EFFICIENT PRODUCTS AND SYSTEMS GUARANTEE OPTIMIZED PERFORMANCE AND COSTS

The world's population is expanding, more and more people are moving to bigger and bigger cities – the mobility of tomorrow is presenting us with new challenges. Efficient ecological solutions are now in demand. The railways play a key role here, and the growing need for transportation has to be satisfied swiftly, safely and economically. This means the creation of optimum logistical solutions is the top priority for network operators. At the same time however, they also have to

continuously improve costs and efficiency for the train operations – and we make a key contribution here. voestalpine Railway Systems has played a significant role in the success of its customers for over 160 years. We respond to changing mobility needs with high-tech products, digital systems and integrated service solutions. In close coordination with asset owners we develop solutions to significantly improve railway infrastructure of tomorrow.



From the idea to implementation, from training to consulting, from logistics to maintenance, to a complete solution from a single source. With our Track Solutions we offer a comprehensive 4-phases in the life cycle concept. This helps to substantially optimize service life, economic efficiency, availability, reliability and ease of maintenance throughout the rail network. We stand for customer-optimized systems and are able to boost availability while minimizing life

cycle costs. We analyze the needs of our customers and recommend the best technical and most cost-effective solution for rails, turnouts and systems based on precise calculations.

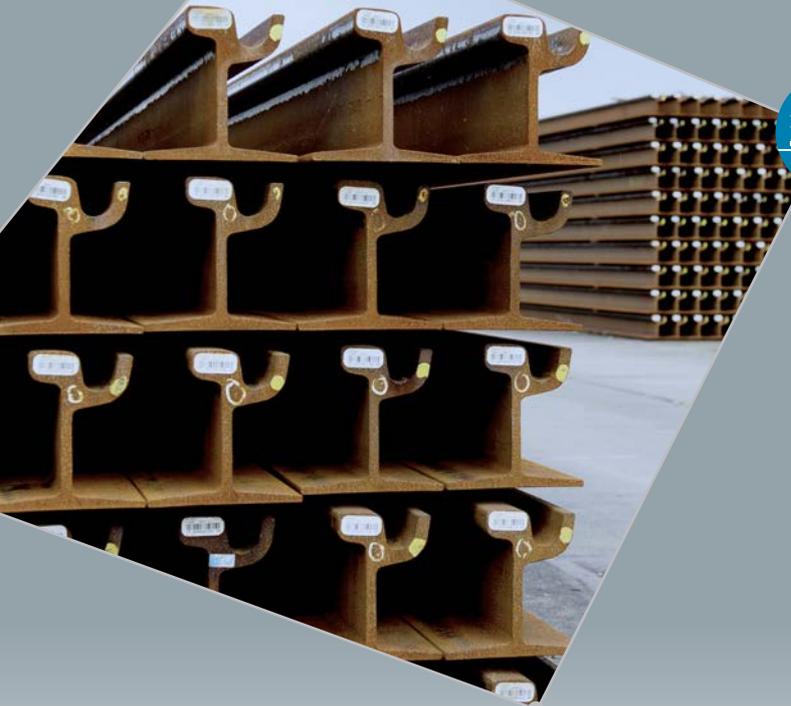
In this brochure we focus on the value added rail services we can offer for the highest performance.



PREPARE



START



IN ALL PHASES, AN OPTIMUM RESULT

Individual Solutions for Different Requirements

We are familiar with the challenges confronting our customers: maximizing track availability while optimizing overall costs. We are able to make an efficient contribution here thanks to the combination of our innovative products with comprehensive services. As a smart provider of digital system solutions such as real-time monitoring systems, we are able to assist infrastructure owners and general contractors in optimizing track performance and asset management.

The portfolio of voestalpine Railway Systems is wide-ranging and not only includes numerous out-of and in-track services, but also supply and logistics. Besides these services, our customers additionally benefit from the expertise of voestalpine, built up over many years. We are happy to pass it on and share it with customers in the framework of our engineering work and training programs.



RUN



PERFORM





PREPARE

CONSULTING, ENGINEERING & TRAINING

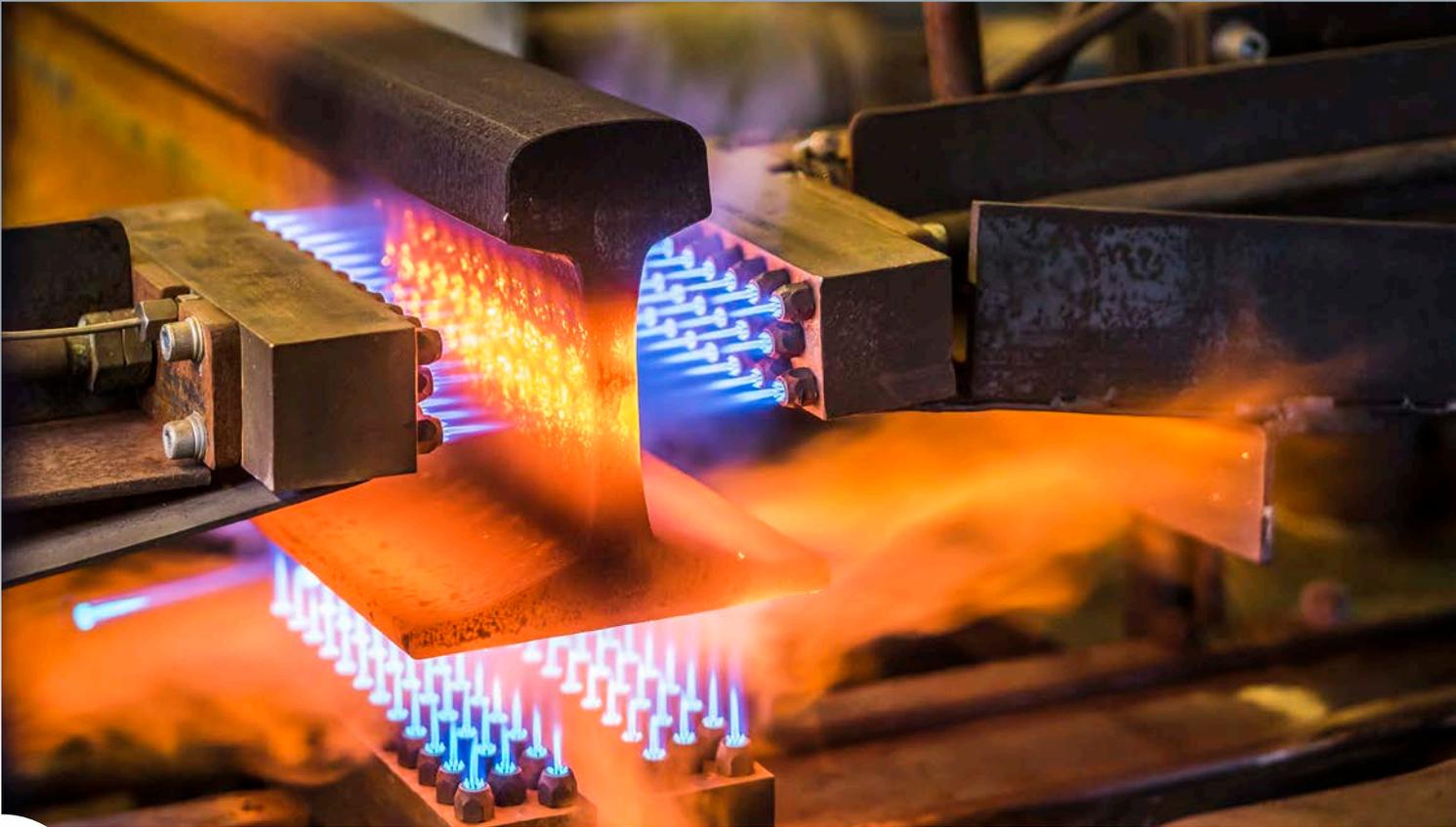
- » LCC analysis
- » Support in analysis of track routing
- » Rail-wheel contact and the entire track system
- » Grooved rail string planning
- » Development of maintenance strategies
- » Tunnel track technology

The realization of railway projects is becoming increasingly complex. Future availability and life cycle costs are decided by the overall track system, product technology in conjunction with signaling technology, track routing and cost-efficient maintenance planning.

More than 150 engineers are hard at work all over the world, developing specific solutions for our customers. As a global business we bring together expertise and operator experience from a wide range of projects. This is what characterizes our company.

From the planning, development and engineering phase through assisting with installation to perfecting maintenance strategies and recycling, we cover all major areas. In our engineering and design work we always take account of all relevant national standards and specifications.

We are also happy to pass on our extensive knowledge to customers. Our global presence means we are able to organize both theoretical and practical courses at our training centers in the local language, so contributing to staff development for our customers.



START

SUPPLY, LOGISTICS & INITIAL SERVICE

- » Stationary flash butt welding into ultra-long rail strings
- » Removal of decarbonized layer by milling and reprofiling
- » Welding of transition joints
- » Anti-corrosion coating
- » Pre-bending
- » Insulated Rail Joints
- » Jit-In-Time delivery by standard rail wagons and/or Robel train
- » Unloading by rail putler or Robel at the construction site

Initial product and installation quality are important factors that influence the life cycle costs of the overall track system from the outset.

Efficient operation partly depends on the subsequent transfer of high manufacturing quality to the rail track. The initial phase of the process is therefore of special importance.

In this decisive stage of the life cycle our range of services includes e.g. cutting, long-welded rail production, stationary removal of rolling scale, compression, drilling, quality control, and many more. All of these by using state-of-the-art welding, measuring, alignment and milling technology and in accordance with the highest operational standards.

Following our logistics services e.g. transportation of (ultra-long) rails and unloading at the construction site.

In combination with our diagnostic solutions, this forms the basis for efficient preventive or condition-based maintenance in the future.



RUN

MAINTENANCE & RECYCLING

Maximizing availability, minimizing operating costs – those are the strategic objectives of our customers. Our products and comprehensive services help them to achieve these goals during operational service life.

The maintenance of railway infrastructure calls for sophisticated concepts and sound strategies while giving consideration to safety, life cycle costs and availability. We carry out welding activities in track and regenerative maintenance by using mobile milling technology in urban areas.

To promote the sustainability of the rail network old rails are taken back for dismantling. After detailed quality evaluation, the good pieces are vertically and horizontally straightened and ultrasonically tested. The rails are then welded and milled according to the customer's wishes. The result is a recycled rail with a running surface in new rail quality.

- » Regular inspections using tools such as MRX or in partnership on vehicles
- » Preventive and corrective maintenance such as mobile milling with MG11
- » Recycling, disposal and refurbishment



PERFORM

TRACK MANAGEMENT

You want to concentrate on your business and ask capable partners to look after your railway infrastructure? We're the people for the job!

Whether rails, turnouts or signaling systems, we take charge of customized maintenance packages for your track infrastructure, supplementing this as needed with electronic diagnostic systems and so ensuring sustainable maintenance management. Condition-based maintenance guarantees

maximum availability and with it the smooth progression of your own value-added process.

Our Smart Supply Solutions safeguards your supply of spare parts while reducing capital tie-up.

Our track management guarantees high availability and simultaneously optimizes your maintenance costs.

- » **Track management: taking over track maintenance for a period of time**
- » **Optimization and/or establishing new maintenance strategies based on analyses**
- » **Digital asset management**
- » **Smart Supply Solutions such as forward stocking and monitoring spare part availability in web shop**

