# RAIL REPAIR & WELDING PLANT

INNOVATION, TECHNOLOGY AND HIGHEST PRODUCTIVITY

LINSINGER

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**LINSINGER** Milling, Sawing and Rail Technology divisions have advanced to become world leaders in their fields. **LINSINGER** exports worldwide from Austria in Europe, where over 400 staff are based at the head office and factory.

**LINSINGER's** world leading role is founded on more than 8 decades of technical expertise, and based on research and development partnerships with a wide range of leading customers. These partnerships have enabled **LINSINGER** to further assert a leading position in the face of global challenges.

# „TRUST THE INVENTOR“

## LINSINGER'S COMPANY MOTTO

### THE COMPLETE SOLUTION FOR NEW AND USED RAILS

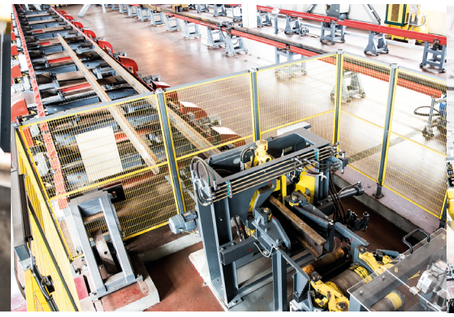
The **LINSINGER** complete solution for new and used rails is the rail welding and repair mill. Here **LINSINGER** presents itself as the partner for turnkey solutions, from the basic concept, right up to completion of the work.

**TURNKEY COMPLETE PACKAGE**

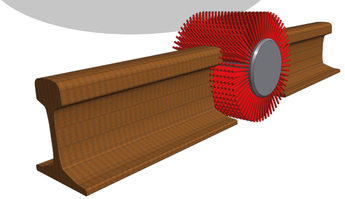
Gentle on raw material resources and the environment

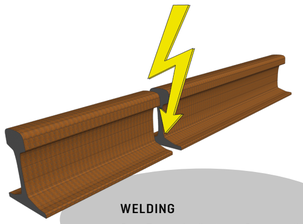
### YOUR BENEFITS:

- **LINSINGER** rail welding and reprofiling plant for a turnkey solution
- Protect resources and save our environment and money rene wing and bringing the reprofiled rails back on track
- Economical production by flexible processing within the plant, up to 3 shifts per day
- Modular configuration according to customer requirements



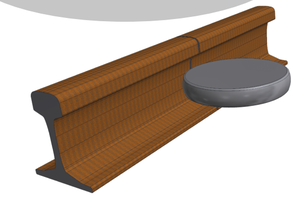
**PREPARATION FOR WELDING**
Step 6 - used rails / step 1 - new rails

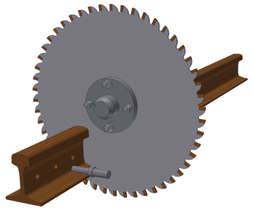




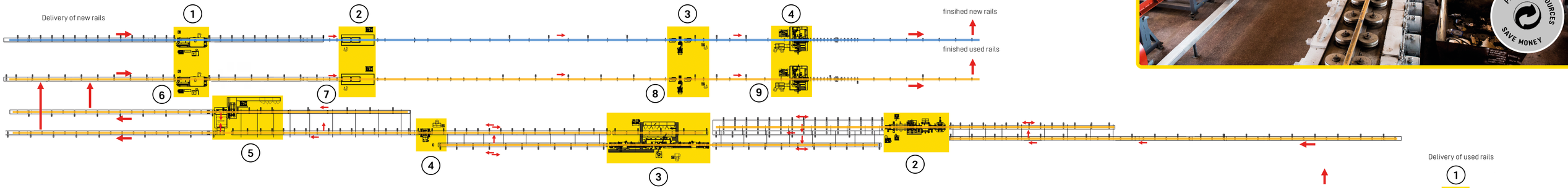
**WELDING**
Step 7 - used rails / step 2 - new rails

**REMOVAL OF WELD SEAM**
Step 8 - used rails / step 3 new rails

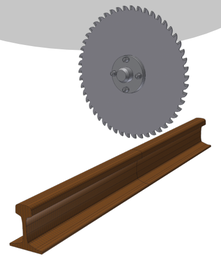


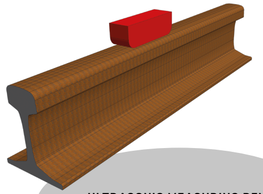


**RAIL SAWING- AND DRILLING MACHINE**
Step 9 - used rails / step 4 - new rails

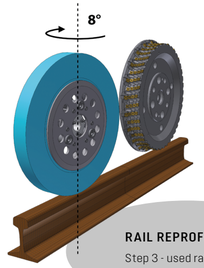




**SAWING MACHINE TO CUT OUT RAIL DEFECTS**
Step 5 - used rails

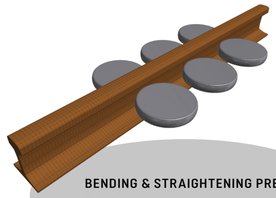




**ULTRASONIC MEASURING DEVICE**
Step 4 - used rails




**RAIL REPROFILING**
Step 3 - used rails



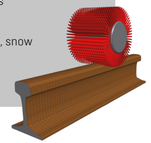
**BENDING & STRAIGHTENING PRESS**
Step 2 - used rails

**PRIMARY CLEANING**
Step 1 - used rails

1 used rails


## PRIMARY CLEANING OF THE RAIL

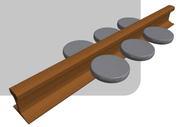
- Cleaning of dirt, snow and ice
- Brushing the running surface and the rail base
- Fully automated process
- Including input-output driving systems
- Machine hood with dust extraction
- Mechanical scraper to remove the dirt, snow and ice



2 used rails

## BENDING & STRAIGHTENING PRESS

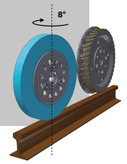
- For vertical and horizontal straightening of used rails
- Optical measuring device to determine the achieved straightness(optional with production log)
- Including rail turn-over device
- Semiautomatic mode



3 used rails

## STATIONARY RAIL MILLING AND GRINDING MACHINE SKF02-FS

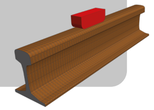
- Fully automated reprofiling of the railhead
- Combined rail milling and rail grinding
- Gauge corner left, right or both selectable
- Tool cover with dust extraction




4 used rails


## ULTRASONIC MEASURING DEVICE

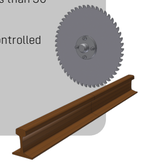
- To detect material defects in the rail head and rail web
- Prop device to inspect the rail in 5 different angles
- Visual failure indication on the display
- Manual defect marking



5 used rails

## RAIL SAWING MACHINE KSA 500S

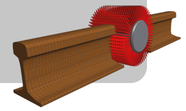
- To cut out rail defects
- Fully automated cutting process in less than 30 sec. (UIC 60)
- Fully automated scrap part disposal controlled by operator
- Including chip disposal



6 new rails 1 used rails


## RAIL END BRUSHING MACHINE

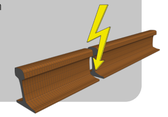
- Fully automated preparation of the contact surface for the flash butt welding process
- Machine hood with dust extraction



7 new rails 2 used rails

## RAIL WELDING SYSTEM

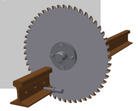
- For automatic flash-butt-welding of endless new and used rails
- Including clamping and alignment device
- Including automatic removal of welding overlap
- Including water-cooling system



8 new rails 3 used rails


## WELD SEAM REMOVAL MACHINE

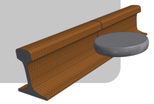
- Fully automated process
- Weld seam removal
- Automatic rail adjustment
- Automatic rail profile measuring device
- Tool magazine for automated tool change
- Magazine hood with dust extraction



9 new rails 4 used rails

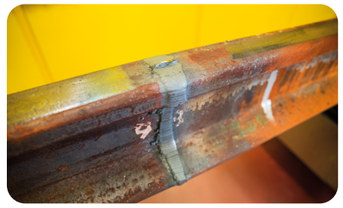
## RAIL SAWING- AND DRILLING MACHINE LSB 800S1 OPTIONALLY LSB 800S2S

- Drilling of the holes for fishplates, cutting the rails to the final length
- Measuring wheel and driver wheels
- Fully automated process
- Including chip disposal
- Optical drill hole cold expansion





Fully automated weld seam removal


Weld seam prior removal


Weld seam after removal

**POSSIBLE WORKFLOW FOR USED RAILS:**

- Primary cleaning of the rail, presorted by the customer
- Semi-automatic straightening of the rails
- Reprofiling by miling and grinding
- Ultrasonic defect detection with manual labeling by the operator
- Removal of previously identified rail defects by sawing
- Brushing of rail ends and contact surface for welding preparation
- Welding
- Fully automated removal of the weld seam on the whole rail profile possible
- Cutting and drilling (for fishplates) to the final length

**POSSIBLE WORKFLOW FOR NEW RAILS:**

- Brushing of the rail ends and contact surface for welding preparation
- Welding
- Fully automated removal of welding joint overlap on the whole rail profile possible
- Cutting and drilling (for fishplates) to the final length



## RAIL TECHNOLOGY

### CUTTER HEADS

- In-house development and design
- Tool production with special miling machines in a single clamping process for highest precision

### GRINDING WHEELS

- Developed and optimized for high removal rates and surface quality

### SAWING AND DRILLING

- Proven saw blade technology and special drillers for application in rail rolling mills, new rail welding and reprofiling plants

## SAWING TECHNOLOGY

### CARBIDE TIP SAW BLADES

- Carbide tip saw blade manufactured by LINSINGER and optimized for LINSINGER saw blades

**ADVANTAGES:**

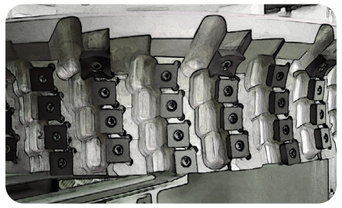
- Tailor-made solution for every application
- Combined machine & tooling competence from one single source
- State-of-the-art in-house saw blade production, facility gurantees highest quality precision

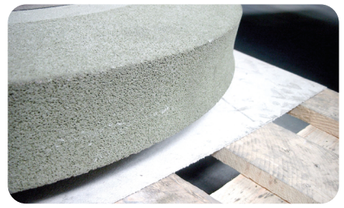
**ADVANTAGES:**

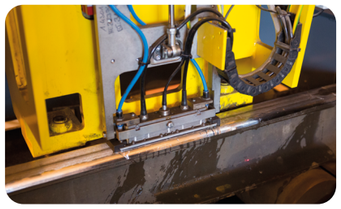
- Any profile geometry is available as required
- High cross profile accuracy through precise manufacturing of milling head
- Ongoing tool developments enable regular customers to benefit from increased production potential

**LINSINGER** manufactures and optimizes tooling exclusively for **LINSINGER** machines

Saw blade


Rail cutter head


Rail grinding disc


Ultrasonic measuring


Sorting of used rails


Bending process

## LINSINGER‘S RAIL TECHNOLOGY

### THE BEST SOLUTION FOR ALL FIELDS OF APPLICATION

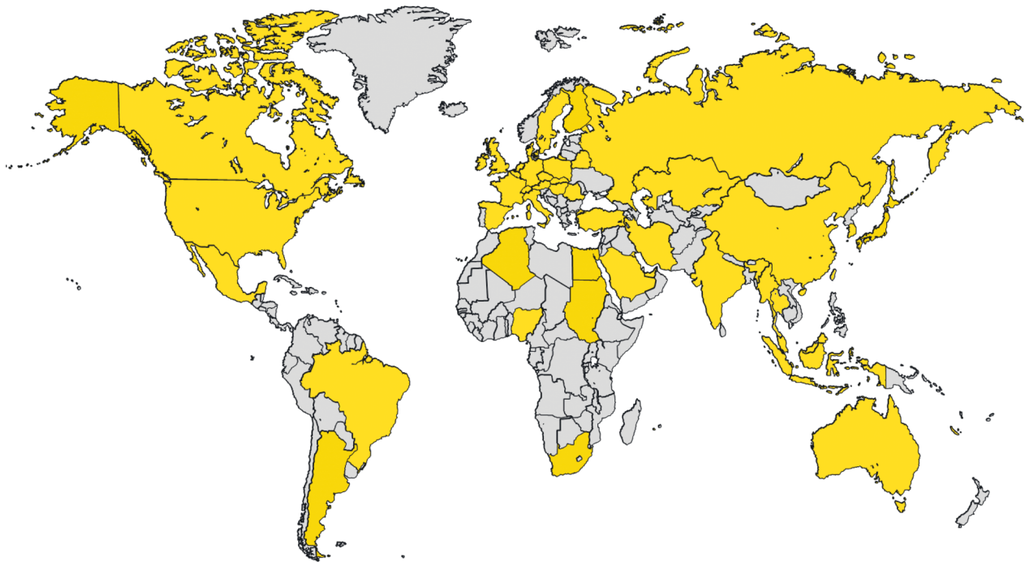
**LINSINGER** has nearly 8 decades experience in milling technology. Since 25 years this competence is successfully in use for track maintenance.

### TRACK MAINTENANCE

**LINSINGER** reprofiles the complete rail head of new and used rails in single pass processing by using the sophisticated **LINSINGER** Milling and Grinding Technology.

### RAIL REPAIR AND WELDING PLANT

Hereby **LINSINGER** presents itself as a partner for turnkey solutions from enignee-ring until start up for your success. More than 80 years experience is the benefit for the clients now also for turnkey rail welding and reprofiling plants.

Countries that make use of **LINSINGER’s** Rail Technology

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