



LINSINGER
Austria

RAIL TECHNOLOGY

Rail repair and welding plant
for new and used rails

www.linsinger.com

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 380 staff are based at the head office and factory. Deliveries to the American continent are growing, alongside the well established markets in Asia and Europe.

LINSINGER's world leading role is founded on more than 6 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.



Hans Knoll
CEO

„Always on Top...“. **LINSINGER's** company motto provides a vision to channel the company's 3 aspirations:

1. LINSINGER focuses on its customers.

Total satisfaction of customer requirements is the winning formula. **LINSINGER** specialists offer long term cooperation with customers to develop leading edge technologies for significant improvements and a competitive advantage. **LINSINGER** service engineers and tooling specialists are available for on-site application consultation throughout the life of a machine.

2. LINSINGER employees are the power of the company.

LINSINGER offer their dedicated employees a rich framework for personal growth and fulfillment to master today's ever more demanding challenges. The company supports long term development of both professional and personal skills for creative freedom to discover innovative solutions.

3. LINSINGER relies on local sourcing.

Thanks to consistent "in-sourcing" in local and in-house manufacturing, **LINSINGER** is able to pass on the benefits of local quality, reliability and flexibility at competitive prices to customers.

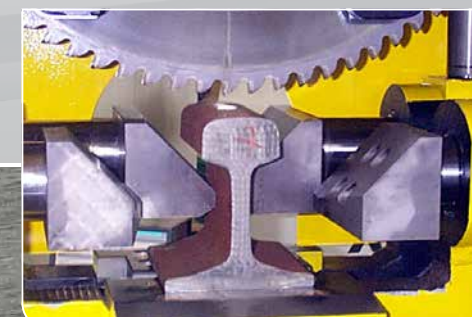


Your benefits:

- Linsinger rail welding and reprofiling plant, one partner for a turnkey solution
- Protect resources and save our environment and money by renewing 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



Milling and grinding units SKF02-FS



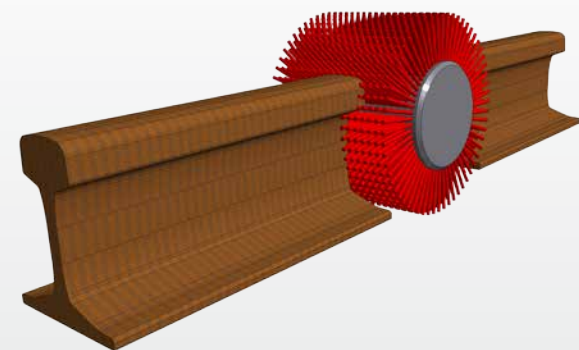
Rail sawing machine KSA 500S



Rails ready to use up to 800 m length

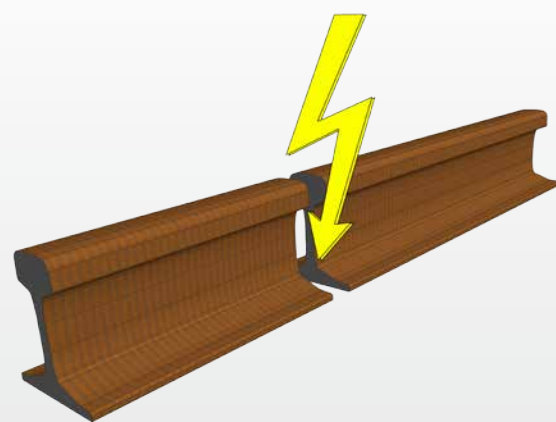
Preparation for welding

Step 6 - used rails / step 1 - new rails



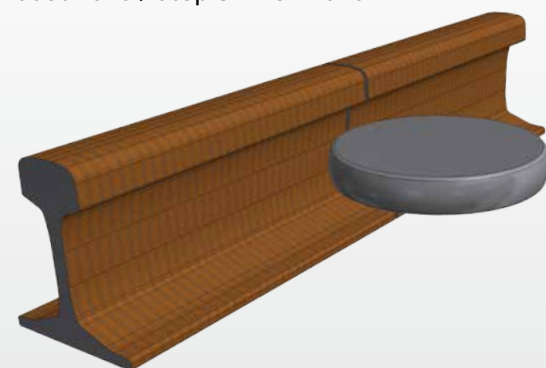
Welding

Step 7 - used rails / step 2 - new rails



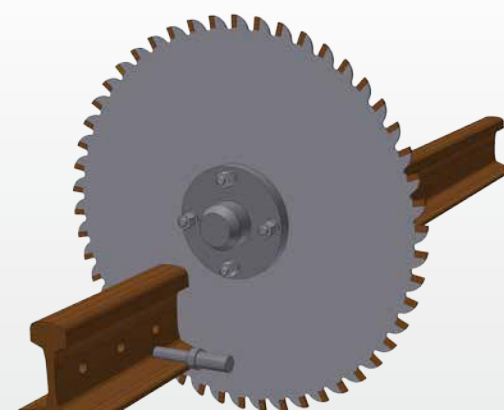
Removement of welding joint overlap

Step 8 - used rails / step 3 - new rails



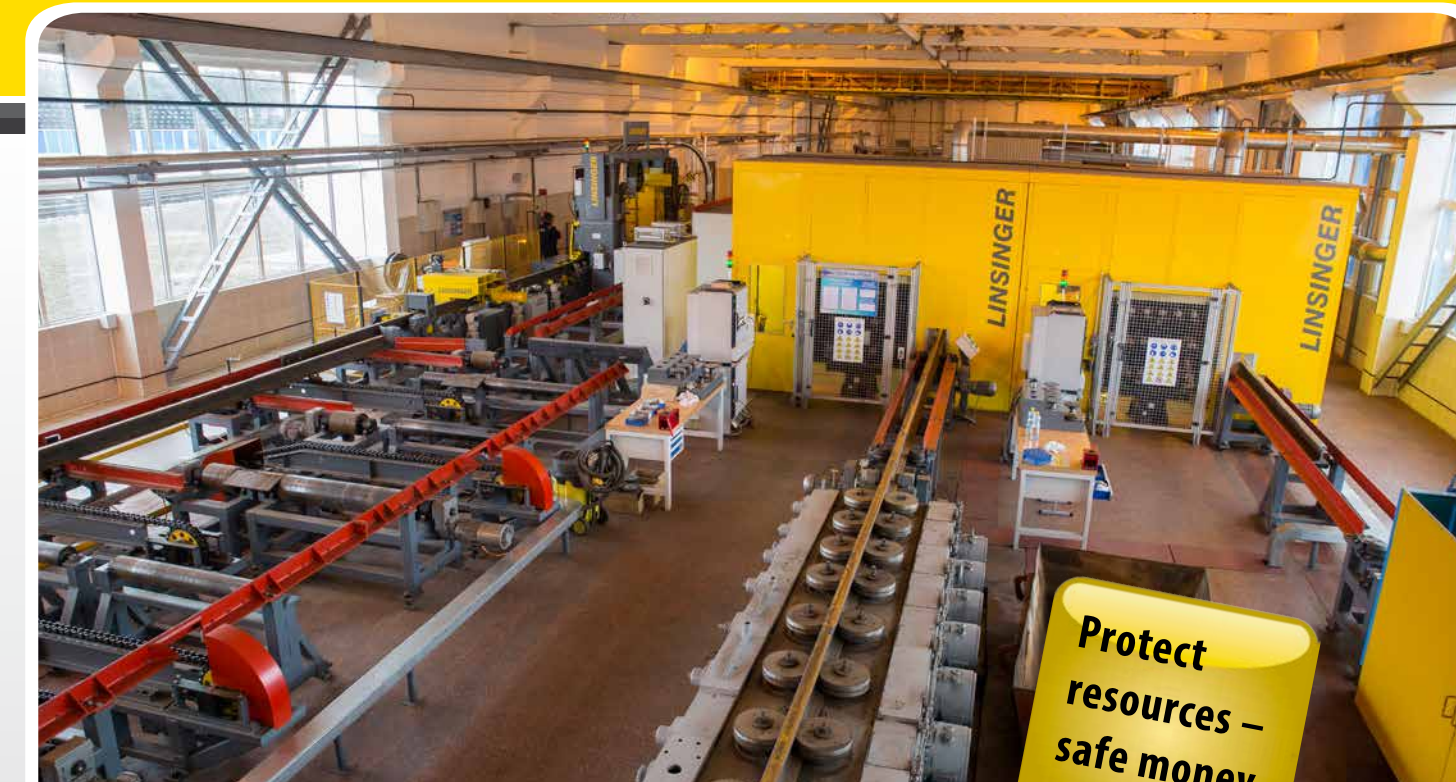
Rail sawing- and drilling machine

Step 9 - used rails / step 4 - new rails

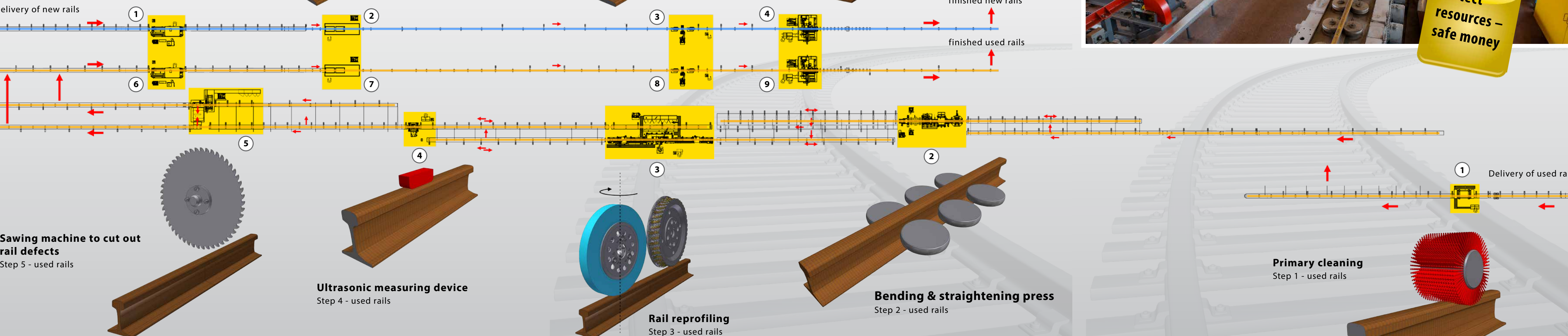


finished new rails

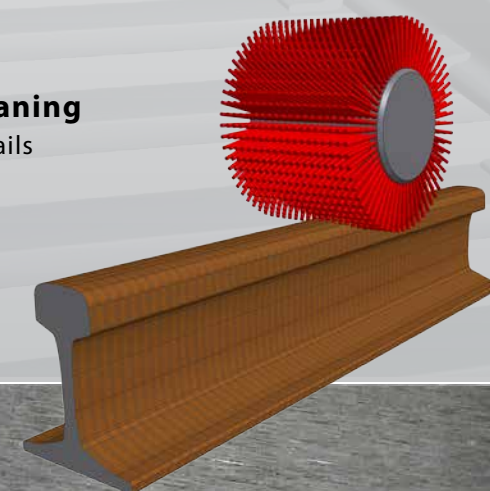
finished used rails



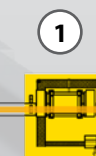
**Protect
resources –
safe money**



Primary cleaning
Step 1 - used rails



Delivery of used rails

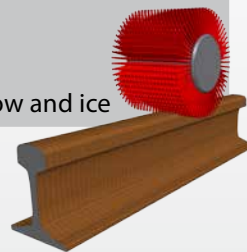




Step 1 - used rails

Primary cleaning of the rail

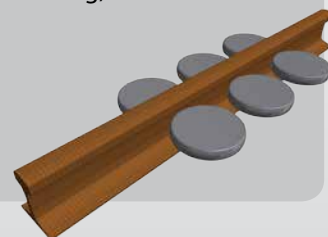
- Cleaning of dirt, snow and ice
- Brushing the running surface and the rail base
- Fully automated process
- Including input- output driving systems
- Machine hood with dust extraction
- Mechanical scraper to remove the dirt, snow and ice



Step 2 - used rails

Bending & straightening press

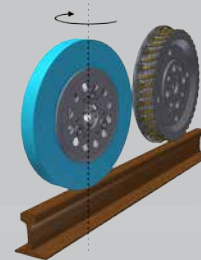
- For vertical and horizontal straightening of used rails
- Visual measuring device to determine the achieved straightness (optional with production log)
- Including rail turn-over device
- Semiautomatic mode



Step 3 - used rails

Stationary rail milling and grinding machine SKF02-FS

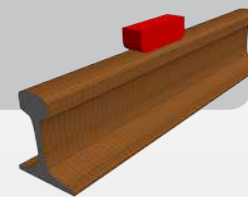
- Fully automated reprofiling of the railhead
- Combined rail milling and rail grinding
- Gauge corner left, right or both selectable
- Machine hood with dust extraction



Step 4 - used rails

Ultrasonic measuring device

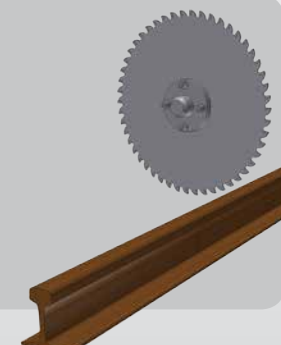
- To detect material defects in the railhead and railweb
- Prop device to inspect the rail in 5 different angles
- Visual failure indication on the display
- Manual defect marking



Step 5 - used rails

Rail sawing machine KSA 500S

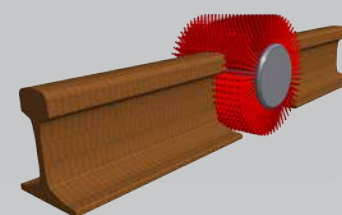
- To cut out rail defects
- Fully automated cutting process in less than 30 sec. (UIC 60)
- Fully automated scrap part disposal controlled by operator
- Including chip disposal



Step 6 - used rails / step 1 new rails

Rail end brushing machine

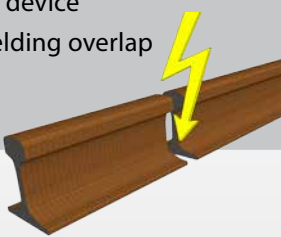
- Fully automated preparation of the contact surface for the flash butt welding process
- Machine hood with dust extraction



Step 7 - used rails / step 2 new rails

Rail welding system

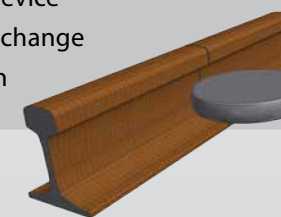
- For automatic flash-butt-welding of endless new and used rails
- Including clamping and alignment device
- Including automatic removal of welding overlap
- Including water-cooling system



Step 8 - used rails / step 3 new rails

Weld removal machine

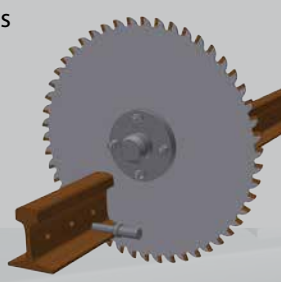
- Fully automated process
- Removal of the welding joint overlap after welding, if necessary on the whole profile
- Automatic rail adjustment
- Automatic rail profile measuring device
- Tool magazine for automated tool change
- Machine hood with dust extraction

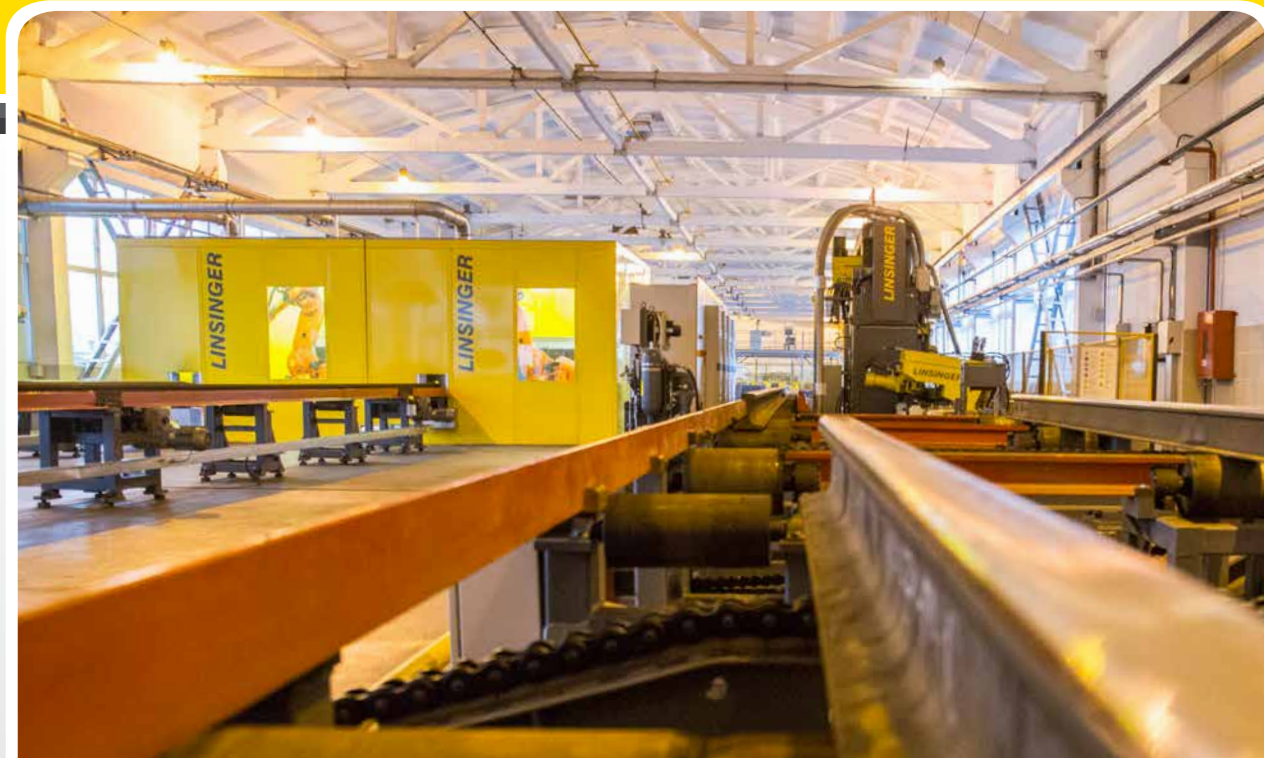


Step 9 - used rails / step 4 new rails

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





Possible workflow for used rails:

- Primary cleaning of the rail, presorted by the customer
- Semi-automatic straightening of the rails
- Reproiling by milling 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 welding joint overlap 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 the welding joint overlap on the whole rail profile possible
- Cutting and drilling (for fishplates) to the final length

Tool technology centre

LINSINGER manufactures and optimizes tooling exclusively for *LINSINGER* machines

Sawing technology

Carbide tip saw blades

- Carbide tip saw blades manufactured by *LINSINGER* and optimized for *LINSINGER* saws
- Resharpener centre for *LINSINGER* saw blades

Rail technology

Cutter heads

- In-house development and design
- Tool production with special milling 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

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 guarantees 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



Saw blade



Rail cutter head



Rail grinding disc



Fully automated welding joint overlap removal



Welding joint overlap before removal



Welding joint overlap removed



Ultrasonic measuring



Sorting of used rails



Bending process



Rail milling train HSM...



Rail milling train MG31



Rail milling train SF06-FFS Plus



Rail milling train SF03-FFS



Rail milling train SF02T-FS



Rail-Road-Truck SF02-FS Truck



Stationary rail head milling machine SKF02-FS



Rail repair and welding plant

LINSINGER's Rail Technology - the best solution for all fields of application

LINSINGER has nearly 7 decades experience in milling technology. Since 20 years this competence is successfully in use for track maintenance.

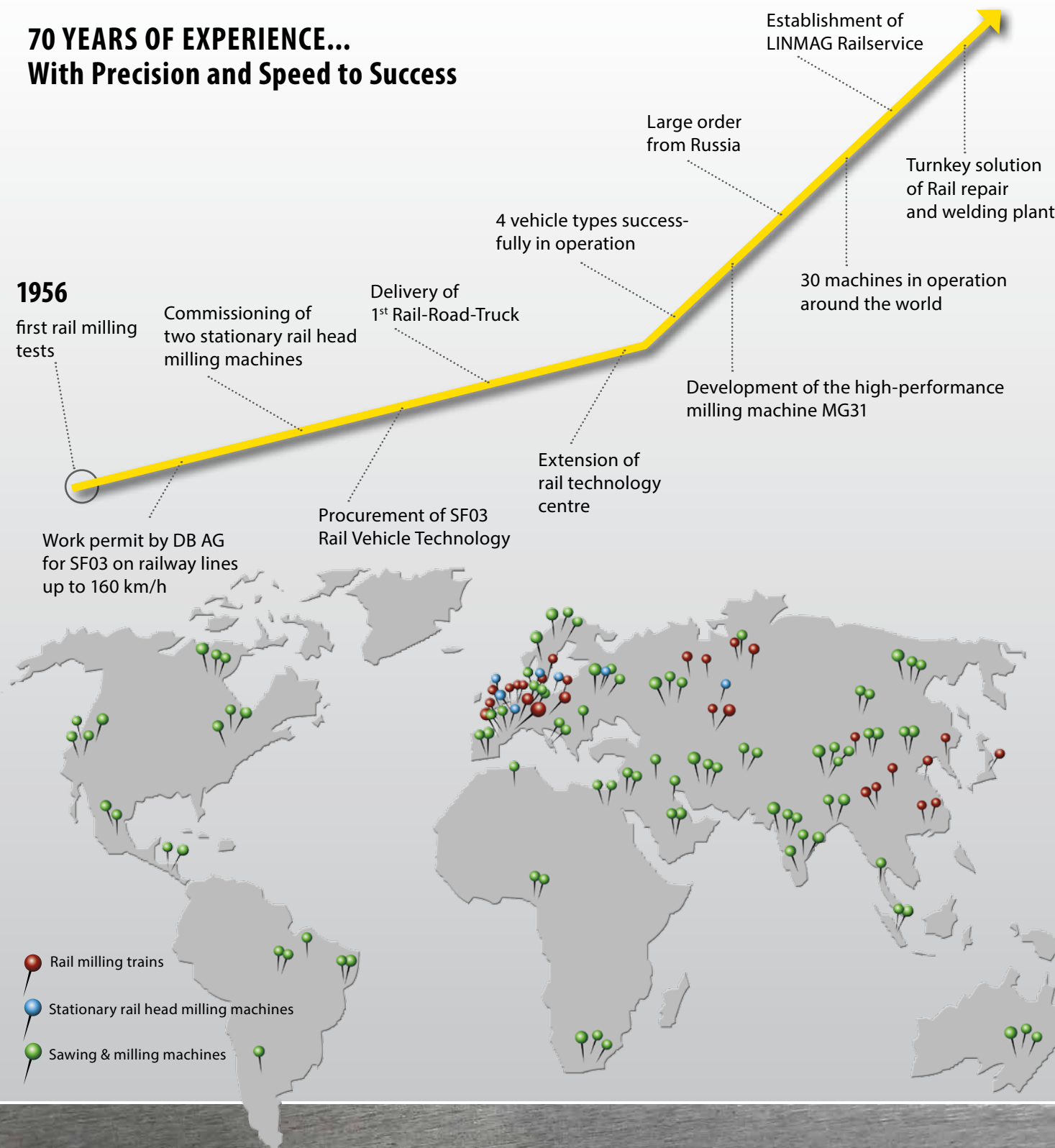
Track Maintenance

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

The latest innovation of **LINSINGER** is the rail repair and welding plant for new and used rails. Hereby **LINSINGER** presents itself as a partner for turnkey solutions from engineering until start up for your success. More than 70 years experience is the benefit for the clients now also for turnkey rail welding and reprofiling plants.

**70 YEARS OF EXPERIENCE...
With Precision and Speed to Success**



LINSINGER

Austria



ALWAYS ON TOP...

LINSINGER Austria – located closely at the motorway between Linz and Salzburg, in the beautiful Salzkammergut!

