



# Co-ordinated Perfectly

## Loading & Logistics:

Transporting and loading rails and turnouts

Construction site logistics

We've got that covered

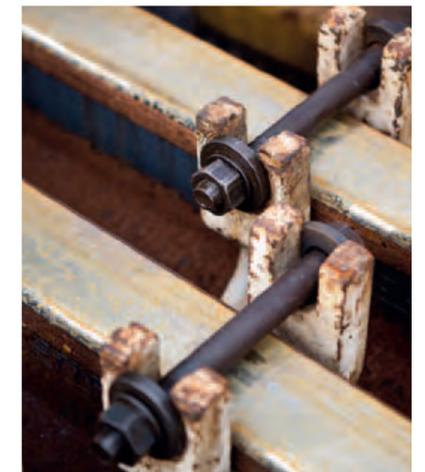
# Transporting rails and turnouts Smooth construction site logistics



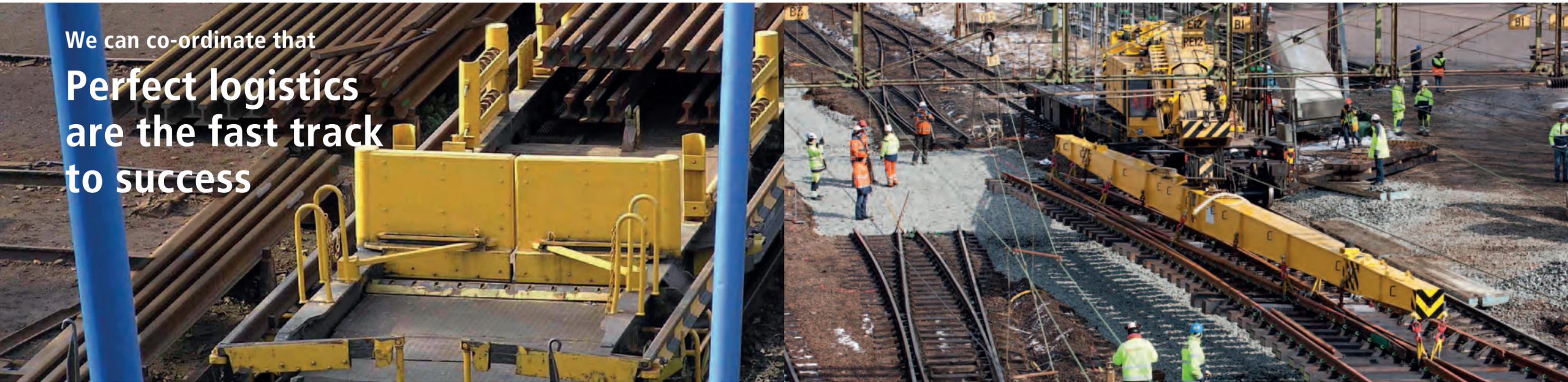
## Transporting rails and loading rails: Leave it to us

How are **rails in excess of 240 m in length** laid on their track bed? After being loaded onto special vehicles in the factory, the rails must be transported to the construction site just in time and without being damaged. They then have to be unloaded in accordance with regulations. We have experts for this purpose: **the Logistics Division of Vossloh**. Not only do we provide the suitable means of transportation, we also have the machinery to meet all the technical needs of a rail construction site.

Vossloh's logistic services are based on intelligent solutions that consider the needs of sensitive cargo – rails and turnouts – while taking into account the customer's requirements and the limitations of the infrastructure. Just-In-Time deliveries such as Vossloh provides are the only option for a heavily trafficked infrastructure, and it is vital to prevent cargo from being damaged before it is used. Customers and/or recipients can follow the progress of their deliveries via a web-based tracking system. Besides providing transport vehicles, Vossloh can also take care of the entire rail-bound logistics services.



We can co-ordinate that  
**Perfect logistics**  
 are the fast track  
 to success



In the railway sector, the following applies: shutdowns are extremely expensive. When construction measures are delayed and plans have to be changed, the best **logistics concept** comes into its own. Vossloh has the resources – manpower, hardware, and software – and also the flexibility to master these uncertainties.

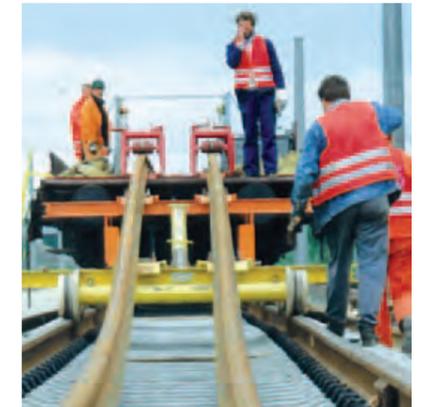
In close co-operation with the rail welding and processing factories, as well as the rolling mills and switch factories, the Vossloh logistics division assumes all co-ordination for construction site supply according to deadline.

The rearrangement of rails for direct reuse, or the loading and removal of old material for reuse or recycling, is also included in our Portfolio. Through co-operation with proven and flexible partners, we can implement

complex and comprehensive rail logistics concepts comprising work locomotives, foreman shunters, logistics experts, freight wagons, railroad vehicles and much more.

## In the right place at the right time

In addition to providing the infrastructure or the equipment, Vossloh will also **assume responsibility** for the rail logistics which includes the transport planning and/or vehicle scheduling, co-ordination of unloading times as well as the return of empty wagons. The corresponding organization and/or operational planning of work trains, shunters, the crane and its operator are also included in our range of services.



Unloading with SAS

### WE'RE THERE WHEN IT COUNTS

#### Large-scale projects

In addition to just-in-time deliveries of superstructure materials, we also organize the loading activity and use of work locomotives and site shunters. We order the necessary train schedules and routes, and monitor the internal logistical execution of projects. We can also rent track capacities for temporary parking or buffering of transportation units.

We also guarantee the expert accompaniment of the planning process and the implementation of the project at all times.

#### International Projects

We also organize and monitor cross-border just-in-time transports, ensure that the rails or switches are unloaded at the construction site, and remove scrap materials.



## Transport and Loading System 1

## Transport and Loading System 2

## Switch Transport

# We have them all



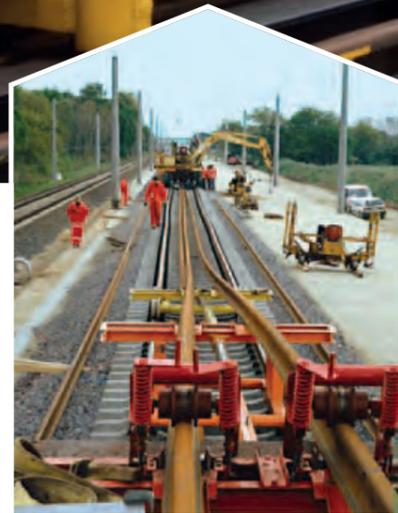
### STS Rail Transport System

Vossloh has equipped standard freight wagons with special attachments. These STS long rail transport units have cross-members and rail holders that make wooden loading equipment superfluous.



### AAW Loading and Unloading Vehicle

Combined with the STS rail transport system or the standard flat wagon, the AAW can be used to load and/or unload long rails with a length of up to 180 m. Rails can be unloaded onto sleeper heads or onto the middle of the track and/or loaded from there.



### The Rail Unloading System (SAS)

Using this flexible and cost-effective system, the SAS, or standard flat wagon, deposits long rails onto sleeper heads or the middle of the track. The SAS system is delivered by lorry, can be booked on short notice and quickly set up for work, and it is available outside of Germany as well.



### Robel Transport Units

The long rail transport units (LSE) are part of the Robel system, which consists of LSE and the SLW loader wagons.



### SLW Rail Loading Wagon

The SLW, a self-propelled crane gantry wagon, travels on rails that run the entire length of the Robel transport unit.

The details of the SLW are presented on the next page.



### Switch Transport Wagon

Because of their dimensions – in particular the width – pre-fabricated switch components can only be loaded onto standard flat wagons in exceptional cases. In order to be able to transport these products while allowing for the different international clearance envelopes, special transport wagons have been developed with a platform that tilts to enable switches to be transported safely.

We place our trust in SLW  
**Long rails delivered safely to their destination**



## SLW: Loading and unloading long rails has never been so easy!

The SLW rail loading wagon has a self-propelled crane gantry wagon that travels on rails that run the entire length of the Robel transport unit. Its hydraulic articulated crane mounted on the gantry wagon, and its system comprising locating channels, guide rolls and a slide make the SLW **the fastest and most efficient way** to load and unload long-welded rails. The rails can be loaded and/or unloaded either on the ends of the sleepers or in the middle of the track.

### RAIL LOADING WAGON SLW

- Area of application: loading and unloading rails of up to 360 m in length onto sleeper heads or onto the middle of the track
- The SLW can be used in combination with the long-welded rail transport units designed by Robel
- Loading or unloading of rails: approximately 2160 m per hour

Fully automatic: Long rails are gripped securely and placed directly on the sleeper heads or in the middle of the track





We've got what it takes  
**This is how**  
 we transport  
 switches

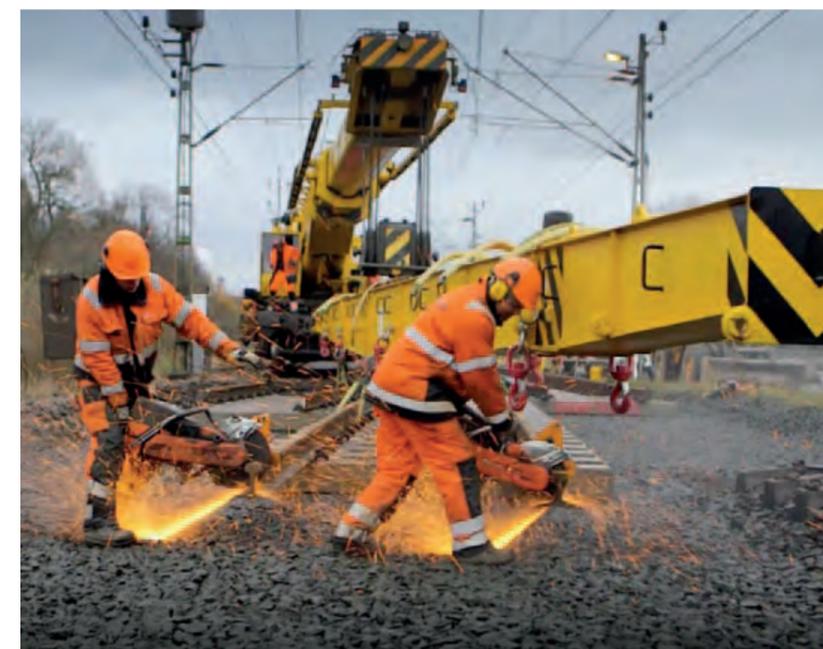
## All under one roof: Switches and Logistics

Vossloh focuses on customer-specific conditions and processes that must be adhered to.

**Buyers** want just in time deliveries with fewer parts, a turnkey solution with clarity in terms of cost and responsibility: explicit interfaces between material supply costs and track work.

Those **technically responsible** have different priorities. Factory-grade quality is to be delivered, and defects that may occur when handling the switches at the construction site must be minimized. Definitive answers have to be provided to any questions raised concerning warranties and guarantees, and the switch has to be delivered in a fully operational state.

**Infrastructure operators** naturally focus on operational matters: the rapid restoration of network access, for example, thanks to shorter shutdown periods. Using a crane to unload the pre-assembled switch components on the construction site is up to 5 times faster than the conventional assembly of individual switch components. Unlike the transport of materials by road, rail-bound vehicles can easily reach every location in the network, which negates the need for auxiliary tracks at construction sites. Vossloh specialists also organize the **subsequent dismantling work** at the site, including removal, disposal or recycling.



### ADVANTAGES

- Just-in-time delivery
- Delivery from the factory of pre-assembled switch segments of a consistently high quality
- Switch is immediately operational
- No storage or assembly areas necessary on site
- Quick loading times during brief track possessions without disrupting adjacent track.
- Residents subjected to less noise and fewer emissions



### TILTING WAGONS

Vossloh has a fleet of nine tilting wagons that can be deployed throughout Europe. Designed to travel at a maximum speed of 100 km/h fully loaded, these vehicles can also be incorporated into regular trains.

## A Success Story: Switch Logistics in Scandinavia

Vossloh organizes the transport and unloading of switches in Sweden and Norway. The starting point for these activities and location of the tilting wagons and the crane is at the switch plant in Örebro, Sweden.

The switches on tilting wagons, as well as flat wagons and the crane, are transported from here directly to construction sites throughout Sweden and Norway. Old switches can then be loaded onto the special wagons, if required.



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Rail Production Services**

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Rail transition points and insulated joints  
Profile processing  
Logistics



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on the move**

Welding on the route  
Mobile welding factory  
Rail replacement



**Rails perfectly  
maintained**

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High Performance Milling  
Flexis System



**Always ready for the track:  
Asset Management**

Rail Inspection  
Data Processing  
Availability Management  
Training and Consulting



**Rail System and Turnout Services**

Inspection and testing  
Diagnostics  
Maintenance  
Asset management  
Delivery of standard Vignol-rail turnout