



# ROBEL

## The Benefits and Future of Mobile Maintenance

From Network Rail and Deutsche Bahn to BaneNor and JR East, leading railway infrastructure maintainers from across the globe are increasingly turning to Robel's Mobile Maintenance System (ROMIS System) to improve work safety and efficiency in track maintenance. So what is this system and what benefits can it bring?

As railways continue to grow and networks become increasingly busy, the opportunity to deliver safety-critical maintenance becomes ever more difficult. There is a greater need to gain rapid access to track with labour, plant and materials in a secure environment and to use cutting

edge technology to optimise production. This is at the heart of what ROMIS delivers.

### How the system works

ROMIS is a self-sufficient 'workshop on wheels'. It is an engineering train that transports all your work requirements directly to the site.

Its design allows staff direct access to track from within the train, offering a well-lit, safely enclosed work environment, protected from the effects of weather and trains running on other lines. Safeguarded directly by the signalling system, and

without the need for overhead isolation, staff are ready to work within minutes of arrival on site. In this way, ROMIS allows maintenance to be delivered in the most difficult of track locations, such as tunnels, stations and complex busy networks. On urban railways, where reduction of noise and light pollution is critical for our lineside neighbours, ROMIS, with its enclosed worksite, again provides the ideal solution.

The ROMIS system normally consists of three elements: ROMIS Supply, Store and Work. ROMIS Supply is the powerhouse of the train, supplying traction for transport and energy for all on-board equipment. The supply unit



The ROMIS standard three-unit system



ROMIS Work with the two internal cranes carrying a rail in tandem mode



Rail storage in ROMIS Store

also has on-board welfare facilities for up to eleven staff and a workshop for repairs. ROMIS Store contains all the plant and materials for work. This unit features under-floor storage for rails, as well as lifting platforms and retracting sidewalls to aid loading. ROMIS Work is at the core of the system, allowing workers direct access to the track. With moveable sidewalls to increase the working area and integrated lighting and power the system forms the perfect platform to deliver track maintenance. The system can also be operated in creep mode, allowing mobile work sites. All of these functions

are supervised from a single control desk within ROMIS Work.

To minimise manual handling and set up time, two internal cranes are used to move all plant & materials between the store and work units. To further maximise production and safety, Robel have designed a number of specialised handheld equipment for all maintenance tasks. So whether it be re-padding or sleeper changing, re-railing or wet bay removal, Robel strive to develop not just the ideal working platform, but the complete solution to optimise the working process.



**ROMIS Compact, length 23 m**



**Unit ROMIS, length Europe 49.8 m, length UK 45.7 m**



**Unit ROMIS, length Europe 70.5 m, length UK 69.5 m**



**ROMIS Modular Concept, length approx. 92 m**



**ROMIS Modular Concept, length approx. 112 m**

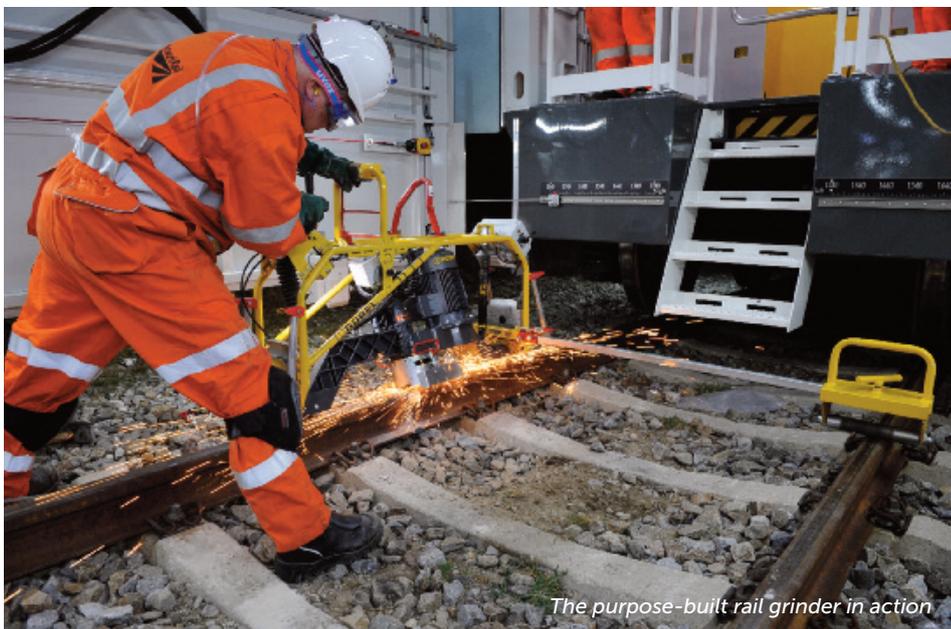
*ROMIS concepts available from one unit compact to the multi-purpose ROMIS Modular*

## The future of mobile maintenance

In the coming years, the challenges for network operators are decreasing time slots and steadily rising health, safety and environmental awareness. In order to meet these requirements and at the same time set new standards, Robel are seeking to advance ROMIS in a number of ways. The first goal is to increase the functionality of the system to expand the number of working tasks. A vacuum system is being developed to improve the efficiency of clearing ballast from the track aid tasks such as wet bay removal, re-sleeping and clearing debris around switches. Another new design is a sliding door on the ROMIS Work sidewall to permit access to the trackside. This expands the functionality of the workspace allowing access to

lineside assets such as point machines, drainage and rail lubricators. To gain access to high-lever assets there is now an option for a working platform to be incorporated into the roof of ROMIS Store complete with

internal access steps and automatically deployed safety handrails. To streamline the rail replacement process, new rail storage and automatic stressing equipment is mounted to the ROMIS Work sidewall.



*The purpose-built rail grinder in action*

· ROMIS Work and ROMIS Store (linked with gantry)



· RORUNNER Power cars and Transport Wagon

*Illustration of the combination ROMIS Work (with no cab), ROMIS Store, RORUNNER with welfare, flat wagon, RORUNNER with crane.*

## ROMIS Work Basic: the economical solution

ROMIS has evolved – in response to customer needs – into a highly sophisticated automated system. For many private or smaller railway maintenance companies, however, this degree of automation is not required and adds unnecessary costs. Robel

have therefore responded to this need and developed a modular, off-the-shelf ROMIS Basic solution reducing costs whilst still delivering the fundamental benefits.

The standard ROMIS solution consists of three units. Now, with ROMIS Basic, the customer can select whether to have the power unit, or use their own locomotion,

whether they want a store and work unit or just the work unit. Optional features and automation, such as the internal crane, creep mode and sidewall control, can be individually selected, similar to selecting options on a new car. ROMIS Basic still delivers the fundamental benefits, but can now be bought for a quarter of the cost of a full system with its own traction power.

## ROMIS Modular: the flexible solution

Robel are also developing options to combine ROMIS with a system called RORUNNER, a multi-purpose maintenance system with power cars, flat wagons and work modules. The power cars come in three designs: as a flatbed, with a welfare unit or with a large crane. In the combined configuration ROMIS Work (with or without drivers cab) and ROMIS Store could be joined with the multi-purpose maintenance train to bring together the best of both systems. Auto-couplers mean that Robel can move away from the fixed ROMIS three-unit system. Transport flat wagons with standard container twist lock fixing can be included, allowing the introduction of work modules such as a drainage system or scissors lift. This ROMIS/RORUNNER combined system would therefore retain all the benefits of ROMIS but have a stronger multi-purpose functionality. Whatever the task, there's a vehicle combination to solve it. **www.robel.com**



*Internal shots of the welfare unit and workshop in ROMIS Supply*