



# **RORUNNER HYBRID SYSTEM**

**The most flexible machine for track maintenance.**

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# HYBRID VEHICLES FOR USE IN URBAN AREAS



The decision of SWM in favour of a new, low-emission drive solution is setting a trend for urban infrastructure work and is a milestone for ROBEL with regard to technological development.

With its new fleet, SWM standardises and modernises its fleet of vehicles, positioning itself for the increasing demand in renewal and maintenance requirements on their underground lines. A significant driving force for this large contract is also the planned reduction of air and noise emissions, resulting in a noticeable improvement of environmental and working conditions in the tunnel.

- ✓ Third rail compatibility for zero-emission driving
- ✓ Battery operation when there is no third rail
- ✓ Diesel-powered backup in case of insufficient battery capacity

**“Acting environmentally responsibly has always been a big driving force for us, both at our premises and on the track.”**

**Wolfgang R. Fally,**  
Managing Director ROBEL Bahnbaumaschinen GmbH



**Concept Overview**  
Stadtwerke München GmbH (SWM - Munich Municipal Services)

„Increased frequencies and new lines in the underground network are a prerequisite for a successful shift of transport policy in Munich. That’s why the requirements for maintenance and servicing of our infrastructure will rise in future. With the new vehicles from ROBEL, we will create the capacities required for this. We are particularly pleased that we can now also rely on lower emissions in the battery-powered drive technology for maintenance using track vehicles.“

**Ingo Wortmann,**  
CEO Munich Public Transport Company

„Acting environmentally responsibly has always been a big driving force for us, both at our premises and on the track. Therefore, I am very pleased that one of our long-standing partners, the Munich Municipal Services, has decided in favour of our urban hybrid special solutions and that our first electric track vehicles will be deployed not far from us.“

**Wolfgang R. Fally,**  
Managing Director ROBEL Bahnbaumaschinen GmbH



## RORUNNER Hybrid track vehicle

The vehicle travels to the worksite with zero emissions via the third rail on the side making use of the pantograph; a battery storage supplies the power for working mode and crane operation. For longer deployments, an additional diesel generator is available.

- Battery pack**
- Estimated capacity for 2-3 hours in working mode
  - LTO technology (lithium-titanate battery)
  - 5 battery strings with a capacity of 20 kWh each (353 kg)
  - Battery Thermal Management System (temperature control)
  - Integrated cooling system reduces risks from overheating
  - Battery capacity displayed on the remote control

- Power pack**
- In operation once the battery capacity has been used up
  - DEUTZ engine (105 kW)
  - Integrated generator, diesel and AdBlue tank
  - Can be swapped for an additional battery pack



## ROTRAILER Transport wagon

As multi-function vehicles, the new track vehicles will take on transport and traction tasks, taking into consideration ramps with maximum gradients. As the Munich underground network does not have any facilities for turning, all units are designed for bi-directional working, with a crane on both vehicle ends and loading platforms at station level on both sides.

- High-performance cranes for various tasks of maintenance and logistics
- Loading platforms for the transport of on-board material
- Optional wagons for additional material transport (ballast, cable drums, container platforms)
- Optional gantry system for switch parts or rail treatment/ replacement



## ROLIFT Mobile positioning system

**For quick replacement of rails as well as S&C parts in confined spaces**

The ROLIFT system offers an alternative to cranes and heavy machinery for the replacement of rails and S&C parts, especially in areas that are difficult to access, such as platforms, viaducts, and tunnels. The system consists of 6 pre-installed electrical gantry units that are mounted in a twist-lock frame on a ROTRAILER. A rotary drive provides for quick loading and unloading of the gantry units that are used for replacing rails as well as S&C parts.

- Automated deployment and pre-installed gantry units allow for a significantly quicker work process and thus shorter maintenance times
- Within the same shift, the parts are supplied, replaced, and collected
- Electric remote control of the gantry units enables gentle handling of rails and S&C parts



## FURTHER INFORMATION AT ROBEL.COM

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