



Radio-controlled Unimog shunting vehicle from Zwiehoff

IMAGE SOURCE: Zwiehoff; Daimler Truck AG

## On steel or asphalt: Four multi-functional Unimog for two-way use at InnoTrans

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- Mercedes-Benz Special Trucks will showcase four multi-functional Unimog vehicles for road and rail applications at InnoTrans 2024.
- The Unimog U 530, equipped by Müller Technologie AG, features a 6-cylinder diesel engine and is designed for versatile track work.
- The Unimog U 423, built by G. Zwiehoff GmbH, serves as a radio-controlled shunting vehicle capable of handling trailer loads up to 1,000 metric tons.

- Another Unimog U 423, equipped by ZAGRO, is designed for year-round railway infrastructure maintenance and features VarioPilot® dual-mode steering.
  - CMAR has equipped the Unimog U 423 for rail and groove cleaning, featuring a high-pressure water pump and a 2,100-liter water tank.
  - New for 2024, the Unimog implement carrier will include GSR safety features and the UNI-TOUCH® on-board computer for enhanced control and ergonomics.
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- Unimog U 530 equipped as a multi-functional working machine with hydrostat drive for maintenance and servicing work
  - Unimog U 423 equipped as a radio-controlled shunting vehicle for trailer loads of up to 1,000 metric tons
  - Unimog U 423 with VarioPilot® dual-mode steering and continuously variable drive
  - Unimog U 423 used for rail and groove cleaning with a water treatment system
  - New for 2024: the Unimog implement carrier with GSR features and UNI-TOUCH® on-board computer

**Mercedes-Benz** Special Trucks will be unveiling the Unimog as a versatile two-way vehicle for road and rail applications at InnoTrans 2024 in Berlin, the international trade fair for transport technology. Four different Unimog vehicles from the implement carrier model series will be on display at the Mercedes-Benz Special Trucks stand located in the open-air area at stand numbers O/270, O270a and O/270b from September 24 to 27, 2024. These vehicles have a wide range of applications, including track work, maneuvering/shunting, cleaning tasks, and green space maintenance.



CMAR equips the Unimog for rail and groove cleaning on the urban rail network

IMAGE SOURCE: CMAR; Daimler Truck AG

## Unimog for track work: a cooperation with Müller Technologie AG

The Unimog U 530 with 220 kW (299 hp) has been equipped for use on rails by Müller Technologie AG, a specialist in two-way vehicles. Müller Technologie AG works closely with **Daimler** Truck AG and officially received the status of “UnimogPartner” in May 2024.

The Unimog U 530 is a versatile multifunction vehicle equipped with a 6-cylinder diesel engine (OM 936 LA) and meets the EURO VIe emissions standard. It has automated manual transmission (EAS) and a permissible gross vehicle weight of 16.5 metric tons.



CMAR equips the Unimog for rail and groove cleaning on the urban rail network

IMAGE SOURCE: CMAR; Daimler Truck AG

The Unimog U 530 is used by the transport companies of the city of Zurich (VBZ). The entire vehicle is lifted completely and can cover track widths of between 1,000 mm and 1,435 mm. By replacing the track wheels, the Unimog is suitable for both normal and meter-gauge tracks.

The hydraulically driven track axles in accordance with EN 15746 class 9A can be used for minimum track radii of 18.5 m. With the track chassis, the Unimog can reach up to 40 km/h on rails in hydrostatic operation. On roads, the Unimog travels at up to 89 km/h (legal limit).



Unimog U 530 equipped as a multi-functional working machine with hydrostat drive for maintenance and servicing work at Verkehrsbetriebe Zürich (VBZ)

IMAGE SOURCE: Verkehrsbetriebe Zürich (VBZ); Daimler Truck AG

The Unimog can be equipped with various modules and attachments, including snow blowers, snowplows, high-pressure street washing bars, and mowers. The vehicle on display is suitable for mounting standardized 10-ft modules, such as a platform for front or rear cranes, cable reels for overhead line construction, elevating work platforms, and tool modules, as well as modules for chemical-free weed control using hot water and steam.

Also in the pipeline for the Unimog is a two-way tandem trailer with a swap body system that can be used to transport 10 or 20-ft modules. Examples of such trailer modules are tipper bodies, sewer suction bodies, probing or anchor drilling rigs, contact wire laying units, collection containers for mowing material, large elevating work platforms, and cranes. The Unimog's hydraulic power output is used to operate these

modules.



Unimog U 530 equipped as a multi-functional working machine with hydrostat drive for maintenance and servicing work at Verkehrsbetriebe Zürich (VBZ)

IMAGE SOURCE: Verkehrsbetriebe Zürich (VBZ); Daimler Truck AG

To make work even more efficient, the Unimog U 530 comes equipped with a pre-installation for radio remote controls.

## **Remote controlled and efficient: Unimog radio-controlled shunting vehicle from Zwiehoff**

The U 423 radio-controlled shunting vehicle was built by Unimog ExpertPartner G. Zwiehoff GmbH. Equipped with a Knorr wagon braking system, it enables maneuvering/shunting with trailer loads of up to 1,000 metric

tons. The Unimog torque converter clutch unit enables the necessary high tractive forces and ensures smooth starting without clutch wear. The permanent all-wheel drive provides traction on the rails.



CMAR equips the Unimog for rail and groove cleaning on the urban rail network

IMAGE SOURCE: CMAR; Daimler Truck AG

The Unimog U 423 is equipped with a fully synchronized manual transmission with eight forward and eight reverse gears and reaches a maximum speed of 50 km/h on the rails. For a quick journey to the working site, the Unimog drives at its usual speed of up to 89 km/h on the road. Regardless of the surface, a 4-cylinder OM 934 LA diesel engine ensures low fuel consumption within the Euro VIe emissions class frame. In addition to maneuvering and shunting, its attachment points and mounting areas, as well as its mechanical, electrical and hydraulic interfaces, make it ideal for a wide range of tasks in the maintenance and repair of railway infrastructure. The vehicle is also set up for radio remote control.

## ZAGRO equips the Unimog for maneuvering/shunting tasks and track maintenance

This multi-functional two-way Unimog U 423 was specially designed for year-round use in the upkeep and maintenance of railway infrastructure. The vehicle is equipped with a torque converter clutch and EasyDrive hydrostatic drive for stepless driving ex works, and can be upgraded with appropriate equipment for various tasks on rails and roads in addition to maneuvering/shunting operations.



ZAGRO equips the Unimog for maneuvering/shunting tasks and track maintenance

IMAGE SOURCE: ZAGRO; Daimler Truck AG

The mechanical power take-off shaft, an engine PTO, and the factory-installed dual-circuit working hydraulics supply power to the working equipment. This means the implement carrier can carry out a wide range of tasks, including maintenance work on infrastructure and, depending on the season, track and verge

maintenance as well as winter service. The vehicle on display at the trade fair will be equipped with the Dammann GSA 3003 track sprayer for vegetation control. A Dücker UNA 500 front mower and a Dücker FKM 2200 front sweeper are also planned for track and green space maintenance at customers' premises.

With VarioPilot® dual-mode steering, the steering wheel and pedals can be moved. The driver's seat position is therefore variable; they can sit on either the left or right side of the driver's cab and operate the attachments. The panoramic windscreen, mowing door, and rotating mowing seat provide an optimum view of the working area.



Radio-controlled Unimog shunting vehicle from Zwiehoff

IMAGE SOURCE: Zwiehoff; Daimler Truck AG

## CMAR equips the Unimog for rail and groove cleaning on the urban rail network

This Unimog U 423, built by CMAR (Construction Mécanique Automatisé Rivard), is designed as a maneuvering/shunting and cleaning vehicle that is used on the urban rail network for rail and groove cleaning. Similar to the other Unimog models at the Mercedes-Benz Special Trucks stand, this U 423 also has permanent all-wheel drive with three differential locks. It comes equipped with a 4-cylinder diesel engine (OM 934 LA), including BlueTec 6 technology, that meets the Euro VIe emissions standard.

The body, installed by UnimogPartner CMAR, uses both circuits of the work hydraulics and circuits III and IV of the VarioPower® power hydraulics. The combination of the four circuits is needed to operate several power-intensive consumers simultaneously. These include the high-pressure water pump, whose 500 bar can remove even stubborn deposits, brushes for cleaning the rail head, and the filter system for treating the dirty water that is sucked up. The CMAR water tank has a capacity of 2,100 liters, and the stainless steel waste receptacle holds 4 m<sup>3</sup>, a volume that ensures long operating periods without the need for intermediate emptying.



ZAGRO equips the Unimog for maneuvering/shunting tasks and track maintenance

IMAGE SOURCE: ZAGRO; Daimler Truck AG

Depending on the degree of soiling, the required working speed is achieved by the Unimog's working and crawl speed mode: The fully synchronized reversing transmission offers 16 forward and 16 reverse gears. The efficiency of CMAR's rail cleaning system has already been proven in France and other countries.



ZAGRO equips the Unimog for maneuvering/shunting tasks and track maintenance

IMAGE SOURCE: ZAGRO; Daimler Truck AG

## Greater safety with GSR and UNI-TOUCH – coming soon for the two-way Unimog

Under the new GSR (EU Regulation 2019/2144 General Safety Regulation II), the Unimog implement carrier will be equipped as standard with a host of features including Sideguard Assist, Frontguard Assist, Traffic Sign Assist, a reversing camera, and a tire pressure loss warning system.



Unimog U 530 equipped as a multi-functional working machine with hydrostat drive for maintenance and servicing work at Verkehrsbetriebe Zürich (VBZ)

IMAGE SOURCE: Verkehrsbetriebe Zürich (VBZ); Daimler Truck AG

Almost all of the attachments available for the Unimog can now be controlled from the new UNI-TOUCH® operating system. It can replace the device's own control panels and make operations more ergonomic and intuitive. The new center console has been extensively redesigned for this purpose: The number of control elements has been reduced, buttons can be assigned individually, and application profiles and recurring sequences can be saved. A pivoting and tilting touchscreen allows users to quickly and easily adjust settings for the job at hand.



ZAGRO equips the Unimog for maneuvering/shunting tasks and track maintenance

IMAGE SOURCE: ZAGRO; Daimler Truck AG

Other elements of the new operating system are the start/stop button, which replaces the classic ignition key of the implement carrier, and the new control panels on the driver's door, front passenger door, and optional mowing door.

Source: Daimler Truck AG