

MODALOHR 100% road 100% rail



Road-rail transport system for standard semi-trailers A market 20 times larger 20% greater efficiency by rail

RAILWAY SYSTEM



MODALOHR,

a leading technology for the efficient and sustainable transport of standard semi-trailers on the European rail network.

THE MODALOHR SYSTEM

THE MODALOHR SYSTEM is specially designed for the horizontal loading of all 4 m high standard semitrailers on the European rail network without any restrictions on their road performance. In Europe, about 95% of the semi-trailers are not compatible with vertical transhipment and cannot be loaded directly onto a conventional wagon.

THE MODALOHR WAGON

- Equipped with pivoting pockets for the direct **horizontal loading** of semi-trailers.
- Innovative height-adjustment system for transporting 4 m high semi-trailers on even the smallest railway gauges.
- Optimised architecture for loading a maximum number of semi-trailers on the same length of train. 5% to 20% more capacity than other combined transport tecchnologies.
- **Control of maintenance costs** via to the use of standard rail components and no on-board loading motors or cylinders.

THE MODALOHR TERMINAL

- With built-in **wagon loading systems** on the ground (for pivoting the pockets).
- Use a road-loading approach: direct and simultaneous access to semi-trailers, and diagonal parking.
- Optimised of driving time and truck driver availability: drivers are not required to be present during wagon loading and unloading operations.
- **Optimised use of site space** for semi-trailer flows, loading and parking.
- Terminal allowing **loading/unloading operations beneath catenary** and therefore providing access to electrically-powered trains.





BENEFITS

Compatible with all semitrailers, MODALOHR has helped all road hauliers benefit from the ecological and societal advantages of rail transport since 2003.



* Compared to other combined transport technologies.

** Reduced external transport costs generated by a truck travelling 1,000 km on road: noise, greenhouse gases, accidents, congestion. Complies with the European requirements relative to CO2 emissions and Corporate Social Responsibility (CSR).





MODALOHR System providing an efficient and sustainable solution for optimising the transfer of rail to road transport

TERMINALS

A MODALOHR terminal is made up of stations equipped with devices for loading and unloading wagon pockets (pocket opening and pivoting). The size of the terminal and number of stations depend on the number of wagons to be processed per day.

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DIFFERENT TYPES OF TERMINALS

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- **Small terminal:** a small-sized terminal (about 4 to 10 stations) that can be installed on an existing site with a minimum amount of civil engineering work.
- **Medium terminal:** a medium-sized terminal (about 20 stations) offering a good cost/performance ratio in terms of investment, as well as a good processing capacity.
- **Full terminal:** a large-sized terminal (about 30 to 40 stations) offering the highest level of performance and the best processing capacity.

MODALOHR TERMINALS 📀

Quick loading and unloading

- Proven reliability of on-the-ground devices in all weather conditions (snow, ice, extreme heat)
- Diagonal parking of semi-trailers (for greater storage capacity) Direct and simultaneous access to each semi-trailers
- It takes 15 minutes on average from the time a driver enters and exits the terminal





TECHNOLOGY

HORIZONTAL LOADING

- Articulated, low-floor wagon for fast, safe and horizontal transhipment of standard semi-trailers.
- No power systems on-board the wagon.
- Wagon pockets are rotated using MODALOHR systems in the terminal.



PERFORMANCE

- The MODALOHR wagon is used to transport **standard road semi-trailers 4 m high** on main European lines with a minimum UIC GB1 gauge, without having to adapt the rail infrastructure.
- 5% to 20% more transport semi-trailers capacity per train compared to other systems.
- Since they were commissioned in 2003, MODALOHR wagons have already travelled over **430 million kilometres** and transported more than 1,350,000 semi-trailers.

COMPATIBILITY

• The MODALOHR wagon is compatible with the vertical loading of cranable semi-trailers in a conventional combined terminal.

RELIABILITY

- Excellent and proven reliability in real and intense duty operating conditions.
- On-the-ground device redundancy due to the modularity of the stations.
- Standard rail components.



WAGONS

The MODALOHR wagon can run along all freight corridors of the European network.

MODALOHR WAGON They are compatible with existing rail infrastructures and standard
conductedTransport of 4 m high semi-trailers on the smallest rail gauges
Compatible with conventional combined transport terminals
Proven reliability under severe weather conditions
Control of maintenance costsTotor of maintenance costs





100W MODALOHR WAGON TECHNICAL DATA

	100W-1	100W-2	100W-4
Wagon type	End wagon	Intermediate wagon	Intermediate wagon with handbrake
Coupling type end 1	Standard coupling with buffers	Coupling bar	Coupling bar
Coupling type end 2	Coupling bar	Coupling bar	Coupling bar
Total length	33,87 m	32,94 m	32,94 m
Unloaded weight	41,7 t	40,1 t	40,2 t
Payload	75,9 t	76,9 t	76,8 t
Maximum load per semitrailer	38 t		
Minimum turning radius	135 m		
Low gauge	UIC 505-1 - GIC2 (EN 15273-1)		
Loading floor height	213 mm		
Min-max height of the semitrailer kingpin	870 – 1170 mm		

REFERENCES



THE MODALOHR SYSTEM has been operating commercially on a daily basis on several lines for almost 20 years.

- 2 million semi-trailers transported Up to 250,000 km/year per wagon
- Over 4 million opening and closing cycles
- Almost 2.8 million tonnes of CO2 saved
- Average train occupancy rate of 80% 90%



