

ContainerMover

Low cost transshipment in multimodal transport

An InnovaTrain product



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Transshipment within a few minutes

The ContainerMover is a transshipment device mounted on a truck chassis.

Two beams slightly lift the container* and move it from the truck to the train or in the opposite direction.

The truck driver completes the transshipment within a few minutes, using a remote-control device.

With the «Mover Truck», he or she may also carry out the pre- or post-carriage, for example picking up the container from the train and bringing it to the factory.

A cost level of EUR 15-20 per container transshipment is achievable even without state subsidies.

* ISO-Container and Swap Bodies



Situation assessment with three scenarios

When does the ContainerMover come into consideration as a solution? Three scenarios possible:

- I. Transshipment is only possible with the ContainerMover, for example due to limited space, the presence of an overhead line or noise emission requirements.
- II. Transshipment is possible with the ContainerMover as well as with a crane or reach stacker.
- III. The requirements are not suitable for the ContainerMover, for example because the containers have to be stacked or different container lengths (20/30/40 feet) are used at the same time.



Lean infrastructure, attractive for shippers

The ContainerMover transshipment is characterized by crane-independent handling and a lean infrastructure.

- Logistics are completely managed in-house, avoiding dependencies, for example, on the terminal.
- The required infrastructure is manageable. For example, trains 500 m long require approximately 3,000 m² of standard paved road surface.
- A normal road-homologated mover truck can combine the transshipment with pre- and post-transport.
- The mover transshipment can be combined with other handling techniques (crane, reach stacker) on the other side of the transport (see images below).



Advantages over a Reachstacker



- Much less space required by the Mover-Truck.
- A standard asphalt road surface is sufficient.
- Less expenditure on tyres and maintenance.
- Much lower fuel usage.
- A very low sound emission level.
- Transhipment under the life catenary possible.

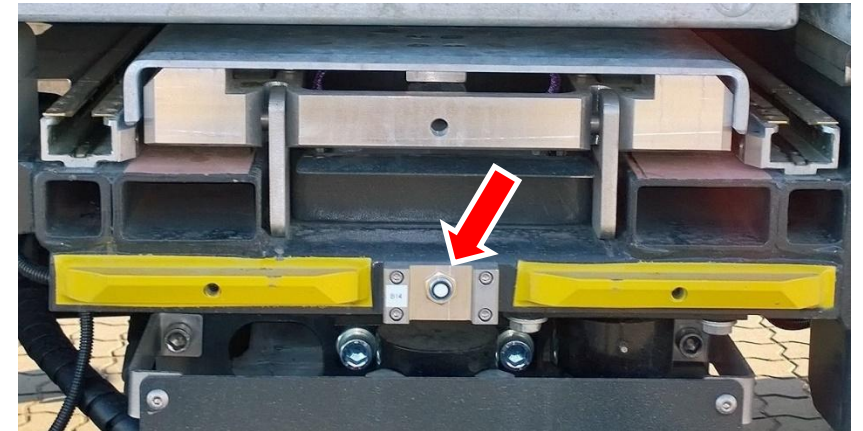


Automation and data storage

Handling is partly automated with the support of state-of-the-art IT. Important data such as number of "moves" (and direction), container weight or driver identification + driver hours are stored in the board computer.



Positioning using crosshairs



Distance measurement between Container Mover and rail car using ultrasonic sensors

Shift to Rail



The ContainerMover has been in use in Switzerland for ten years - meanwhile with around 350,000 transhipments a year.

The technology is patented in Switzerland.

ContainerMover trucks support the successful transfer of transport to rail.

We would be happy to advise you on the product options – starting with an assessment of the situation: Scenario I, II or III?

Thank you for your attention!



Appendix 1 – ContainerMover

CM-3020

- Transshipment weight up to 18 t
- Patented technology
- For 20-ft-Container (incl. Swap bodies C-745/782)
- other sizes (30-, 40-ft) possible

Truck-Chassis

- Customer selection directly with the truck manufacturer
- Installation on chassis at vehicle conversion company

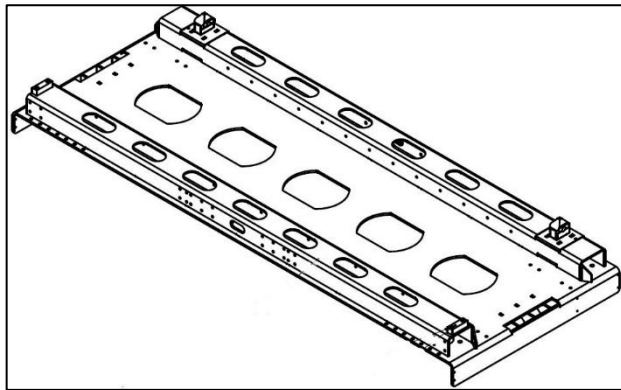


Transshipment under the life catenary

Appendix 2 - Wagon Adapter Units

For ContainerMover transshipment, the train needs to be equipped with Wagon Adapter Units.

- Certified product (UIC), securing by pins
- No structural changes to wagon underneath
- Units removable if necessary, for example for maintenance



Appendix 3 - Container Docking Station

For additional efficiency at the transshipment site, InnovaTrain offers the Container Docking Station.

- Four supports legs for the container; parking and picking up by the truck driver
- Proven product, e.g. in use throughout Switzerland in the logistics of hydrogen containers (left image)
- Possibility of use as an intermediate buffer during handling with the container mover (picture on the right)
- Certified product for ISO containers, also available in a version for swap bodies

