

BESTFACT BEST PRACTICE CASE QUICK INFO GREEN LOGISTICS & CO-MODALITY

N° 2-055

NAME OF CASE

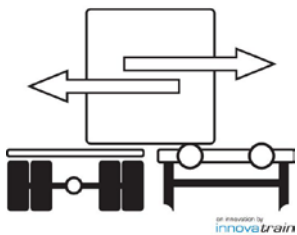
ContainerMover 3000
truck-mounted rail-road transshipment technology for ISO-containers and swap-bodies

KeyWords:

Access to transport networks, infrastructure and nodes; Freight consolidation and transshipment; Innovative vehicles, vessels and equipment; Innovative operational solutions; Transport management, fleet management; Access rules and restrictions of urban areas; Land use and spatial planning: assessment and productivity of transport facilities and infrastructure; Interoperability and standardization: vehicles, loading units, infrastructure

Case Logo or Picture:

ContainerMover - 3000



Description:

The ContainerMover 3000 is a device mounted onto a truck enabling independent road-rail transshipment at every freight station with load transfer point or at private sidings. The system can be used for the direct transshipment between road and rail vehicles of standard class C745 and C782 swap bodies or 20' and 40' containers. Thanks to the ContainerMover 3000 system, no dedicated fixed infrastructure is necessary for intermodal load transfer, nor is there a need for extra personnel since the truck driver can handle the transshipment completely himself. Removable adapter frames on the rail vehicle ensures that the ContainerMover 3000 can be operated with any intermodal flat wagon.

Benefits:

- **Financial benefits:** Less investment needed for intermodal terminals and handling equipment
- **Economic benefits:** Reduced transshipment costs, increased efficiency / productivity of logistics processes (door-to-door transport costs)
- **Benefits in the field of services:** Increased competitiveness and quality of services (no. intermodal services, door-to-door lead time, degree of punctuality for shipments)
- **Benefits for the society:** Ideal utilization of infrastructure (modal shift)
- **Environmental benefits:** Reduced emissions

Success Factors:

- fast transshipment between road and rail
- efficient transshipment due to no need for terminal fixed handling equipment, only one employee and very little space required
- flexibility regarding space accessibility for easy relocation of transfer points if required, higher density of transfer points due to low investment and fast installation resulting in shorter pre-/post-haulage
- flexibility regarding the equipment which can handle any ISO-container as well as any swap bodies build according to EN with no adaptations; any flat wagon can be used

Supported Strategic Targets:

- efficient public spending
- ideal utilisation of infrastructure
- competitive logistics/transport
- acceptance and influence
- highest safety and security
- modal shift policy
- increased efficiency
- increased company profitability
- increased competitiveness
- increased quality
- image
- increased safety and security
- limited climate change
- conservation of resources

Starting Point/Objectives/Motivation:

What was the main problem, idea or motivation that led to the development and introduction of the new practice?
The existing vehicle mounted horizontal transshipment technologies requires adapted loading units. Some are also said to be unreliable due to their technical complexity.

What was the common practice before the implementation?
Transshipment occurred mainly with portal cranes and reach stackers in larger terminals consisting of expensive infrastructure. Due to the restricted availability of these big terminals, the pre-/post-haulage can get rather long and therefore expensive, making the total price for combined transport solution unattractive.

What was the purpose and the sustainability objective of the case?
This best practice case is transferable to other regions and has a high impact of the competitiveness of rail freight transport in areas where there are few access points to the railway infrastructure for intermodal loading units.

Solution

The ContainerMover 3000 can handle standard containers and is therefore a significant improvement in comparison to existing horizontal transshipment techniques. The ContainerMover can transfer weights up to 22 tons. The system is operated remote-controlled, and a video camera and two distance lasers support the truck driver in positioning the road vehicle alongside the wagon.
InnovaTrain Ltd was founded in 2010 as a private competence-centre for intermodal liner trains and transshipment concepts. The Idea of the ContainerMover was inspired by the good rolling mechanism of a drawer. Testing began in June 2011.

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Case Description (Cont.):

The Swiss COOP Group, via its 100% daughter company railCare Ltd, was the first user of the system and has redesigned its Swiss national distribution road network into an intermodal transport network, based on the new horizontal transshipment technology by Innovatrain. At the end of 2013 railCare already operated 38 ContainerMovers on 8 fast company trains via 11 City-hubs on a daily basis. The new train system is used to distribute all daily products to the supermarkets, including the complete range of fresh and deep frozen products. A central national hub is created in Oensingen, where containers can switch-over (cross-docking) between the trains. In Geneva, 42 COOP supermarkets are directly supplied from the central Hub in Genève-La Praille (see right picture below).

Case Description (Cont.):

A conventional chassis of a heavy goods vehicle is fitted with a set of two mobile girders which lift a swap body or container across to the railway wagon and vice versa. The lifting movement is provided by four air cushions, fed by the truck's own air suspension system. An adapter frame is mounted on the normal 20' container pins of the container wagon. On the inside of the container pins, the frame has two locating channels to accommodate the girders. The adapter fits to all intermodal flat wagons. Depending on the truck dimensions, the ContainerMover can transfer weights up to 22 tons. The system is operated remote-controlled. A video camera and a monitor support the truck driver in positioning the road vehicle alongside the wagon. The transshipment can take place at every freight station or private railway siding on an asphalted surface of min. 3m width, parallel to the railway tracks.

More information:

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Transport mode or supply chain elements:

- road transport
 - rail transport
- Initial application is in the field of transport of consumer goods (retail), incl. fresh products with reefer containers.
- Main actors involved:
- MARLO research and marketing partner,
 - Innovatrain Ltd development & marketing of the ContainerMover 3000,
 - Neuweiler Ltd and Logocar development of the ContainerMover 3000,
 - railCare Ltd as launching and operating LSP partner

Pictures:



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