

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

N° 2-060

## NAME OF CASE

Kockums Megaswing  
pocket wagon with horizontal transhipment for semi-trailer

## Key Words:

Access to transport networks, infrastructure and nodes; Freight consolidation and transhipment; Innovative vehicles, vessels and equipment; Innovative operational solutions; Land use and spatial planning: assessment and siting of transport facilities and infrastructure;

## Case logo or picture



## Description

The Megaswing is a pocket wagon for the transport of any semi-trailers and containers by rail. It can swing out the pocket section - a platform on which the semi-trailer rests during transport - for unloading and loading purposes. Transhipment occurs horizontally by (terminal) truck in the roll-on-roll-off (Ro/Ro) mode. Apart from the terminal truck, no terminal equipment is needed. For the loading and unloading process, one employee is needed to operate the hydraulics and to monitor the transhipment process. There is a control box at each corner. There are two models available: Single (4-axled) and DUO (6-axled) wagon (see picture).

## Benefits

- Financially: Less investment needed for intermodal terminals and handling equipment
- Economically: increased efficiency/productivity of logistics processes
- in the field of services: Increased competitiveness and quality of services
- for the society: Ideal utilisation of infrastructure
- Environmentally: Reduced emissions

## Starting point/objectives/motivation:

What was the main problem, idea or motivation that led to the development and introduction of the new practice?  
In the mass of overland transport using articulated trucks, these non-cranable semi-trailers represent 95% of the market. Existing Lo/Lo transhipment technologies (portal crane, reach stacker) can only handle semi-trailer equipped with grapple cants for vertical lifting.

What was the common practice before the implementation?  
Before the implementation of the Kockums Megaswing, the common practice was to either use semi-trailers for purely road-based transport, or to vertically transfer craneable semi-trailers onto and from pocket wagons. Aside from this, there has been the opportunity to carry semi-trailers by rail using rolling motorway transport services which are competitive only with subsidy.

What was the purpose and the sustainability objective of the case?  
The purpose of the Megaswing is to carry non-cranable semi-trailers by rail. The market potential for intermodal transport using rail is increased to a large extent, and rail can increase its market share in the modal split of overland transport.

## Success factors

- Megaswing can carry all kinds of semi-trailers
- Existing intermodal terminals can increase their volumes
- No terminal superstructure (e.g. cranes) is necessary
- No special terminal infrastructure is required
- Space accessibility of railway transport is improved
- Individual wagon unloading in coupled trains
- Fewer delays in case of damaged vehicles (wagons, semi-trailers)
- efficiently link rail and Ro/Ro shipping by terminal tractors

## Solution

The overall development of the Kockums Megaswing is already considered to be advanced. The first prototype of its predecessor was presented at IVA exhibition in 1988 in Hamburg by the Finnish Transtech, which is now part of Kockums. The 6-axled Megaswing DUO has already been put into commercial service between Malmö and Eskilstuna in Sweden.

## Supported strategic targets

- efficient public spending
- ideal utilisation of infrastructure
- competitive logistics/transport
- 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
- increased overall modal choice



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## Case description (cont.):

*Sdgnss Swingable 4 axled Megatrailer pocket wagon:*  
Tare weight: 23,8 tonnes  
Max axle load: 22,5 tonnes  
Load limit: 66,2 tonnes  
Max speed: 120 km/h

*Sdggmrss Swingable 6-axle Megatrailer pocket wagon:*  
Tare weight: 38 tonnes  
Max axle load: 22,5 tonnes  
Load limit: 97 tonnes  
Max speed: 120 km/h

## Case description (cont.):

*The transshipment is as follows: The locking device of the wagon pocket is dismantled. For this purpose, the locking device is detached from the wagon frame floor, the wagon is stabilized using hydraulic legs, and the loading platform is revolved (either to the left or to the right). The legs (that are only used in the revolving process) are brought in again, to allow the tractor vehicle to push the semi-trailer backwards onto the wagon platform without any hindrance. To accommodate the semi-trailer, the revolving loading platform is lifted and pivoted to its initial position. Then, the semi-trailer is lowered and connected to the wagon. Hydraulic power is generated by an electric pump. At any of its four corners, a wagon can be connected to a power source at 400 V, 3 phase, 50 Hz.*

## More information:

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## Transport mode or supply chain elements

- rail transport
- road transport

*Main actors involved*  
• Kockums Industrier AB

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