Metrocargo is a concept of intermodal shipment based on horizontal loading and unloading containers and swap bodies on standard flatbed wagons under the overhead electric feeding line. The system being fully automated and very efficient, it is time and cost effective for the distributed intermodal transport over a territory and for processing full trains in port to dry port shuttling.

Operating under the catenary, Metrocargo eliminates the cost and time of shunting (coupling and decoupling wagons, transfer to marshalling yards by diesel locos, train breakdown and composition) that take place in traditional terminals, where trains need to be re-moved from the electrified line for unloading.

**Case logo or picture**

![Image of Metrocargo system](image)

**Benefits**

- Financial and Economic Benefits
- Reduced emissions
- Quality of services
- Reduced congestions

**Starting point/objectives/motivation:**

Metrocargo is a fully automated technology developed for (un)loading containers horizontally from wagons to track-side stocking areas and vice versa operating under the catenary.

Before the implementation, containers were usually moved vertically, with gantry crains or stackers.

What was the purpose and the sustainability objective of the case?

Operating under the catenary, elimination of the cost and time associated with shunting (coupling and decoupling wagons, transfer to marshalling yards by diesel locos, train breakdown and composition)

**Solution**

The basic unit of Metrocargo comprises the operations described hereunder:

- the container is moved from the wagon to the transfer car
- the transfer car discharges the container moves on the appropriate buffer bay
- From the buffer bay the container is moved to a position farther from the track, to make room for new unit being unloaded

The same sequence in reverse order is effected for loading, with the side slots being replaced by the retaining pins on the wagon.

**Success factors**

- Operating under the catenary, though disconnected during the operation for safety reasons, Metrocargo eliminates the cost and time associated with shunting that take place in traditional terminals, where trains need to be removed from the electrified line for unloading.
- Reduced atmospheric and acoustic pollution by the electrically-powered automation system

**Supported strategic targets**

- Increased efficiency/productivity of logistics processes
- Increased company profitability
- Increased competitiveness of rail transport
- Increased quality of services
- Reduced emissions
Financial/economic benefit include a reduction of time of handling (projections show a 40 wagon train can be unloaded and reloaded in less than one hour). Metrocargo is perfectly consistent with the goal of minimizing environmental impact, because both atmospheric and acoustic pollution are almost totally eliminated by the electrically-powered automation system. There are no local GHG emissions other than by trucks servicing the terminal, and noise level is very low.

More information:
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Transport mode or supply chain elements
• List the relevant transport modes or supply chain elements
• Sea
• Sea Ports
• Railway
• Inland terminal

Main actors involved:
- Metrocargo
- Terminal Managers
- RU

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