

Metrocargo System

By [Nick](#) on Oct 09, 2012 in [Press Release](#)

I.LOG Iniziative Logistiche and Metrocargo Automazioni

After being installed in the harbour of Vado Ligure/Savona, Metrocargo continues successfully its development plan, conceived to simplify the intermodal transport and bring it to the same level of performance as passenger transport.

I.LOG Iniziative Logistiche s.r.l. and Metrocargo Automazioni s.r.l. co-exhibit the Metrocargo system at InnoTrans, one of the world's major exhibitions in the transport and logistics industry in Berlin this year.



The Metrocargo system development commenced during 2004, being conceived by I.LOG (with the recent contribution of European project MIT – Metrocargo Intermodal Transport) with the technical processing of Metrocargo Automazioni, a company specialized in design and manufacture of automated handling systems.

Metrocargo is an innovative concept, based on a horizontal shift technology, that can be constructed parallel to the Rail Tracks under the catenary. This unique solution allows the loading and unloading process of a whole train (to another train or to a truck) in one single automated operation without the need for any shunting activities. This concept guarantees low environmental impact, high security and efficiency.

Guido Porta, CEO of both firms and President of rail company InRail, stated that “We are pleased to be exhibiting in such a significant international environment the Metrocargo system. We are inspired by the belief that a deep regeneration of intermodal transport, capable of moving the intermodal transport to the same standard of passenger transport, is a priority. Currently a loaded block train departs and travels to its ultimate destination to be unloaded. We strongly believe that significant efficiency improvements in the use of rail transport will only be achieved by moving from the existing ‘point to point’ operations to a ‘stop and go’ approach. This basically was the reason why we started thinking of Metrocargo and how to develop it”.



Then Guido Porta summed up as follows the most relevant news about the project: “Since being awarded with the contract for the installation of Metrocargo in Vado Ligure/Savona (Italy) we have achieved significant progress in the engineering development of the equipment efficiency and reliability. The Metrocargo system has the capability to operate under the catenary without the need for any shunting activities, with a loading and unloading time of a freight train of less than 40 minutes. With complete automation of the entire process, Metrocargo is a unique solution. Moreover, it is capable of adapting to any train and container size”.

Metrocargo equipment has been selected by the Savona Port Authority for the new multimodal APM – Maersk terminal being constructed in the harbour of Vado Ligure in Savona (Italy). The Terminal will cover more than 200.000 square meters and be capable of handling container ships of Post – Panamax generation (up to 14.000 TEU). The Metrocargo system will handle 40% of all unit loads arriving and departing from the Maersk Terminal.

The current objective of Metrocargo Automazioni is the marketing of the Metrocargo system. During the second half of 2012 the Metrocargo Automazioni management team is scheduled to meet with major logistics companies, ports and interport operators. Some of these meetings took place during InnoTrans in Berlin.

Genova.

TECHNICAL ASPECTS

Metrocargo: the unique solution for intermodal transport.

Metrocargo system is modular with each module consisting of:

- Four lifting towers
- One shuttle
- Platforms

Equipment: lifting tower

Lifting system consists of four independent units that identify and lift a unit load placed on the wagon train. This lifting system operates on the outside of the corner block.

The synchronous movement of the towers allows precise positioning through the acquisition of the locations of the 4 corner blocks for all types of cargo units (containers and swap bodies).

Each tower is equipped with independent electric panel completed of PLC, wireless communication system, drives for engine, motors for lifting and shifting, control systems and security.

Equipment: shuttle

The shuttle has two semi-shuttles moving parallel to the rail-road track.

Each semi-shuttle has a mobile device transfer that moves perpendicular to the rail track. Each semi-shuttle is equipped with electrical power, distribution and full PLC control of coordination and with communication system dedicated.

The semi-shuttle adapts its position automatically according to the size of the unit load to be moved.

Equipment: platforms

The staking platforms are structures made of steel shaped to accommodate all types of unit load devices and equipped with fixed center and position sensors.

The number of bays is a function of operations requested by the customer.

Auxiliary systems: control room

The plant is monitored in a unique place where all systems of management, control and supervision are collected together.

The system has an intuitive graphical interface that properly provides information to the operating staff.

Auxiliary systems: scheduling

The scheduling system (second level control) controls dispatching and scheduling of missions.

The optimization system, user configurable, deals scheduling tasks' sequences to be assigned to each component (dispatching missions) with the objective to minimize handling time.

Auxiliary systems: automation

Single components are managed by the "PLC coordination" that, through a dedicated data transmission network, sends different commands to the system.

The PLC coordinating represents an interface between the "scheduling systems" and forms of (un)loading freight train.

Auxiliary systems: train identification portal

This equipment identifies the unit load and recognizes the ISO code through a dedicated OCR system.

Train's composition is sent to the control room where all data are processed.

Auxiliary systems: active safety system

Making use of customized softwares and advanced technologies, this system allows to control the operational area of the plant, in total security of the staff.

Through a constant and accurate monitoring, the system intervenes in case of danger by stopping the operation.

I.LOG Iniziative Logistiche s.r.l. is an engineering company specialized in the development and the promotion of innovative activities in the logistics field. Founded in 2004, the company employs engineers and corporate managers with a deep experience in logistics, company and project management. The company proposes its solutions to small and medium-sized firms and to public administration, with the aim to offer them complete, reliable and flexible services. I.LOG avails itself of the collaboration of many international firms as partners and leads the European project MIT – Metrocarga Intermodal Transport.

Metrocarga Automazioni s.r.l. is a company specialized in design and manufacture of equipments and automated handling systems. Headquartered in Genoa, the company is committed to the commercialization of Metrocarga system, an innovative concept for the development of intermodal transport designed to improve the efficiency of unit loads loading and unloading process thanks to its horizontal shift technology. Complete automation, quickness, adaptability to

any kind of train and container size, low environmental impact, high security and the capacity to be installed under the catenary (without the need for any shunting activities) are the most valuable assets of Metrocargo technology, a unique solution for ports, interports, and logistics operators.