slimPORT
Sicurezza, Logistica, InterModalità PORTuale
PORT Safety, Logistics, InterModality

softeco sismat information technology

Slim PORT

Programme: Industria 2015 - Mobilità sostenibile
Tema b1 "Gestione del trasferimento intermodale di persone e/o merci nei nodi di scambio tra l'ultimo miglio marino e il primo miglio terrestre, integrata con sistemi di sicurezza del porto, delle imbarcazioni, delle strutture e dei mezzi di movimentazione di persone e/o merci"

Start date: May 2009

Coordinator: Elsag Datamat (IT)

Partners:
ELSAG DATAMAT (IT), Vitrociset (IT), Eurotech (IT),
Consorzio per l'area di Ricerca Scientifica e Tecnologica di Trieste (IT),
C.I.E.L.I. – Centro Italiano di Eccellenza per la Logistica Integrata (IT),
Project Automation - Ingegneria dei sistemi (IT),
Telespazio (IT), Ansaldo Segnalamento Ferroviario (IT), Gioiatech (IT),
CNR (IT),Softeco Sismat (IT), Gilardoni (IT),
Ente per le Nuove tecnologie (IT), ENEA (IT),WASS (IT),
T&T (IT), Network Integration & Solution (IT),I.Log (IT),
C.A.E.N. (IT), Gruppo SIGLA. (IT),Teorema Engineering (IT),
Bombardier Transportation Italy (IT),FOS (IT),
Interporto di Bologna (IT), Consorzio Milano Ricerche (IT), Cap (IT),
Aitek (IT), INFN (IT), OTO Melara (IT), Exprivia (IT),
SELEX Communication (IT), NEKHEM (IT), INSIS (IT),
BLG Automobile Logistics Italia (IT), Sielco (IT), Orangee (IT),
Sincon (IT), TSF (IT)

www.research.softeco.it/slimport

Contacts

Marco Boero
Email: marco.boero@softeco.it
Phone: +39 10 6026 329
Fax: +39 10 6026 350

Marco Gorini
Email: marco.gorini@softeco.it
Phone: +39 10 6026 317
Fax: +39 10 6026 350

OVERVIEW

The slimPORT development programme implements an innovative port project integrating modular solutions, aimed at making last sea mile and first land mile operative processes more efficient, allowing:

- to reduce freight and passengers transit and waiting time in transport nodes;
- to speed up freight upload, download and transfer time;
- to cooperate with info-telematic process management systems operative in the area;
- to improve safety measures in port operations while preserving business logic;
- to implement logistics chain intermodality;
- to reduce transport congestion and support sustainable mobility.

The port is the main join point between sea transport (last sea mile) and land transport (first land mile) and is thus tightly connected with other logistics non-maritime nodes such as interports, logistics platforms, inland dry port areas etc.: the slimPORT project, in order to provide real benefits and positively impact on transport economical systems, includes the participation of port authorities and other transport node managers as validators.

slimPORT is a modular system providing a logistics operator or a transport node manager with a set of technological components which, integrating ICT solutions, infrastructures and sensors, allow to manage each freight and people transport phase, improving efficiency, supporting environmental preservation, developing intermodality and generally reducing waiting and transit time preserving original investments.

Softeco Sismat is active in following subprojects:
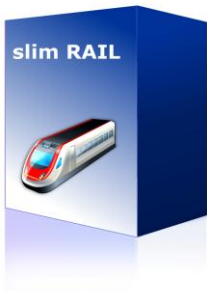
SlimRAIL is a subsystem to manage freight rail transport between port and dry port on existing railways, guaranteeing the optimization of the operations of download from ships and upload on trains (shuttles) and the monitoring of the shuttle customs integrity.

SlimRAIL includes a module for optimized shuttle planning and management, a module for optimized shuttle control (paths and stops) and a platform for the control of customs integrity. SlimRAIL integrates smart planning systems, automatic train operation (ATO) systems, and on-board security systems to gather customs integrity data from sensors (e.g. RFID) and send them to the centralized control system on wireless networks.

SlimRAIL aims at achieving the following objectives:

- to schedule rail shuttle upload/download in port/dry port
- to make port/dry port freight management automatic, introducing customs integrity
- to monitor customs integrity by means of on-board sensors (e.g. RFID)
- to implement a communication network for operative message management

Softeco Sismat is involved in the development of the **Shuttle Planning and Management System**.

The SlimCARGO subsystem focuses on port container movement from truck to train and viceversa and is based on the use of automatic terminal with horizontal translation (Metrocargo technology), allowing to carry out upload and download operations on a single rail and to avoid complex train entering and exiting shunting, thus drastically reducing time and costs and optimizing the management of the dry port area and infrastructures.

SlimCARGO will also include the following functionalities:

- Automatic container identification
- Automatic verification of container position
- Active security of container movement and automatic danger detection
- Automatic reconfiguration of container hinges
- Optimization of container upload/download
- Empowerment of train traction power, to support port/dry port productivity

Softeco Sismat is involved in the development of the **Security Verification System** – to support the remote automatic container shipment on rail – and of the Interface System between the rail terminal and the freight square.
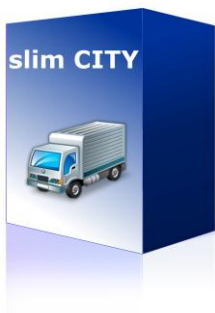
The development of port city is often limited by traffic volume, which heavily impact on transport infrastructures already characterized – in particular in Italy – by tight orographic contrainsts. This subsystem aims at minimizing the impact on the port city system, maximizing transport efficiency.

To this purpose several components have been established:

- To gather data from different actors/stakeholders managing their activities
- To manage resources to optimize availability minimizing impact on urban life quality
- To monitr air quality in relation to port traffic fluxes
- To support strategic decisions in the evaluation of new infrastructures
- To evaluate the environmental impact of freight movement
- To broadcast information to all multichannel actors

The implementation of such a subsystem is articulated and implies a sound integration of existing systems and of different complementary technologies.

Softeco Sismat is involved in the implementation of the **Infrastructure Modification Evaluation System.**