Forum on the Integrated Transportation System in the Mediterranean Area

Facilitating smooth intermodal terminal operations: next generation rail and waterbone platforms

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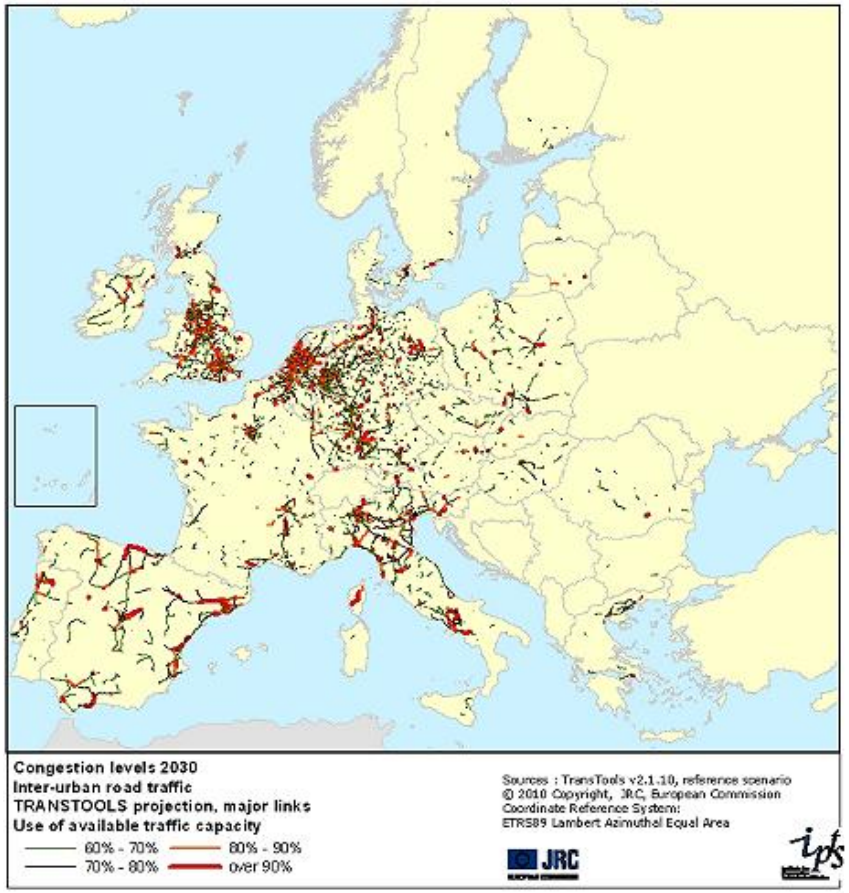
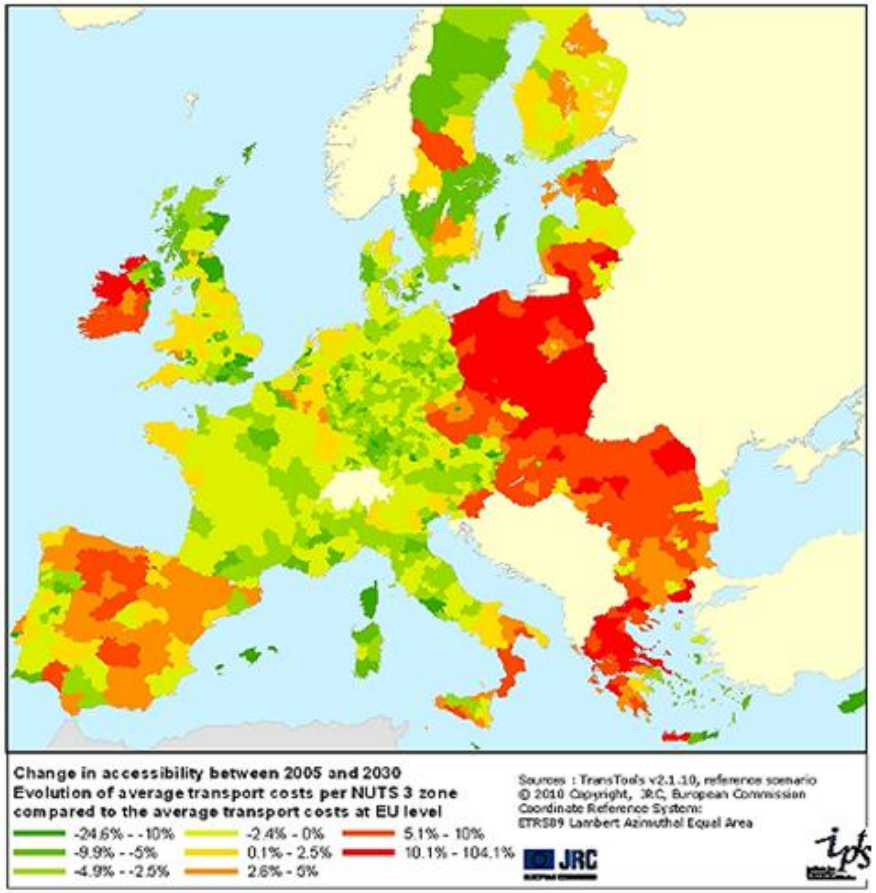
The transport sector still faces its old challenges but also new that have come

- Increasing competitive pressure in the global economy
- Increasing oil price and persistent oil dependency
- A deteriorating climate and local environment
- Growing congestion
- Poorer accessibility
- An infrastructure imbalance in the enlarged EU
- Growing demand in East Europe without the necessary infrastructure in place

Accessibility will be a major concern in the next few years





White Paper 2011 set ambitious goals for competitive and resource efficient transport

- New and sustainable fuels and propulsion systems
- Optimising the **performance** of multimodal logistic chains, including by making greater use of more energy-efficient modes
- Increasing the **efficiency** of transport and infrastructure through information systems and market-based incentives
- Establish the framework for a **European multimodal transport** information, management and payment system

The 2011 White Paper focus (among 40 initiatives) on the e-Freight and e-Initiatives

"Create the appropriate framework to allow tracing goods in real time, ensure intermodal liability and promote clean freight transport " :

- A standard framework for freight information exchange covering all transport modes and all stakeholders
- A single window (single access point) and one stop shopping for administrative procedures in all modes.
- A single European transport document for all carriage of goods, irrespective of mode should be developed along with all the necessary legislative support
- Simple, harmonised border crossings procedures for all modes of transport for all EU member states.
- Simple procedures and the necessary infrastructure for establishing secure and efficient transport corridors between Europe, USA, and Asia

The e-Freight vision is to remove paper from all processes and procedures

White Paper 2011 e-Visions

- Interoperability between paperless freight information systems
- Zero paper documents needed for planning, executing and completing any transport operation within the EU
- Reduced waiting time at hubs related to administrative procedures
- Standard framework for intermodal information exchange
- Harmonised border crossings

Challenges

- Technology is available but implementations on a large scale are slow to appear
- Ensure market uptake
- Co-operation between stakeholders requires interoperability
- Standardisation
- It is not only about technologies, but about change in organisation and behaviour
- Sharing of information requires trust, a legal framework, data security and data protection
- The fragmented structure of the business sector, major players and thousands of SMEs and micro companies …

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The hot topic in the port industry are Port Community Systems (PCS) which aim to create new value for the ports

E-Freight

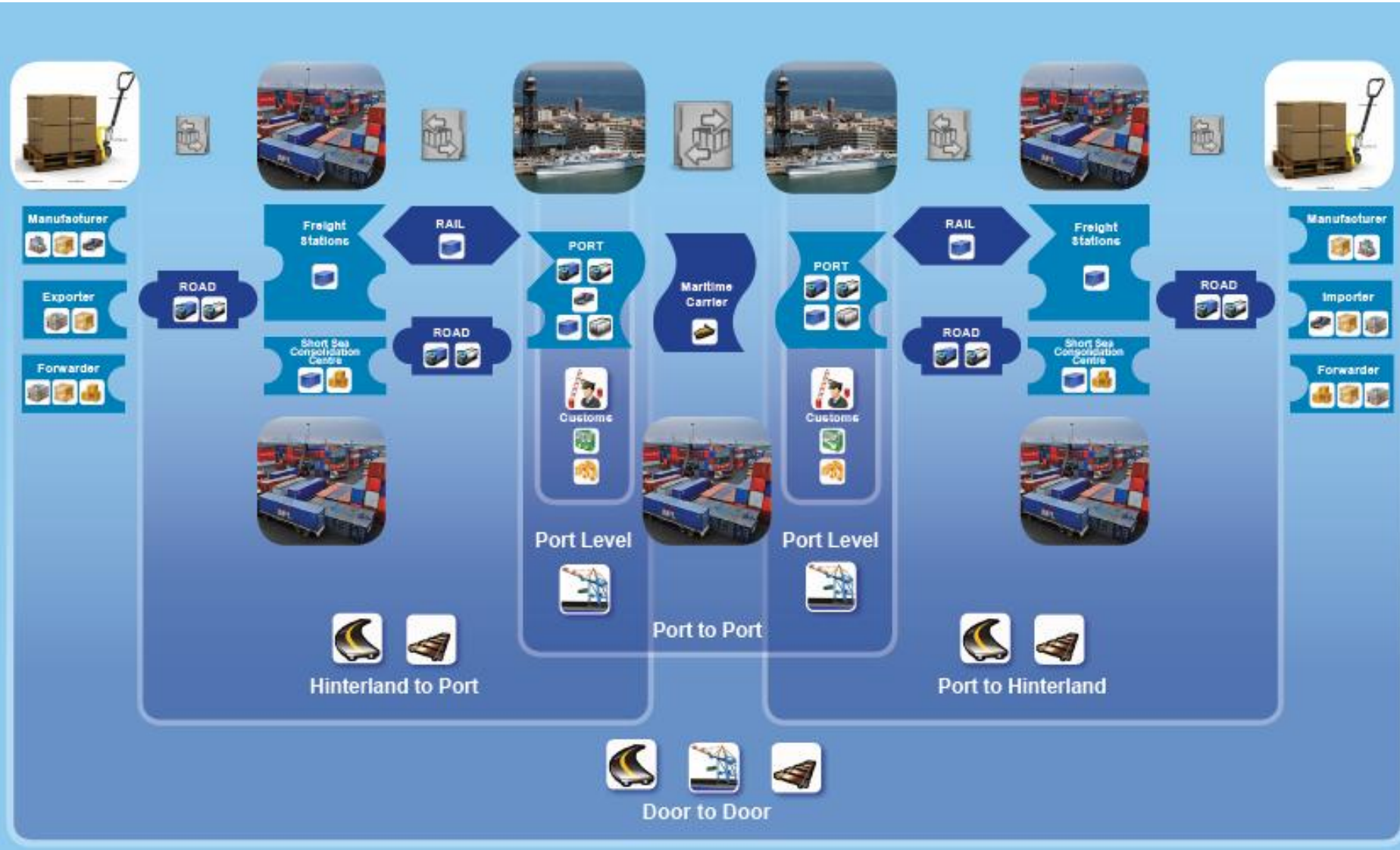
- Common reference framework
- 'single window' and links between single windows at European level and across modes
- single digital transport document (electronic waybill) across modes, allowing operators to provide information only once in electronic form for booking, execution and monitoring
- framework to track and trace freight along its journey

Specific objectives from introducing a PCS: what seamless information aims for

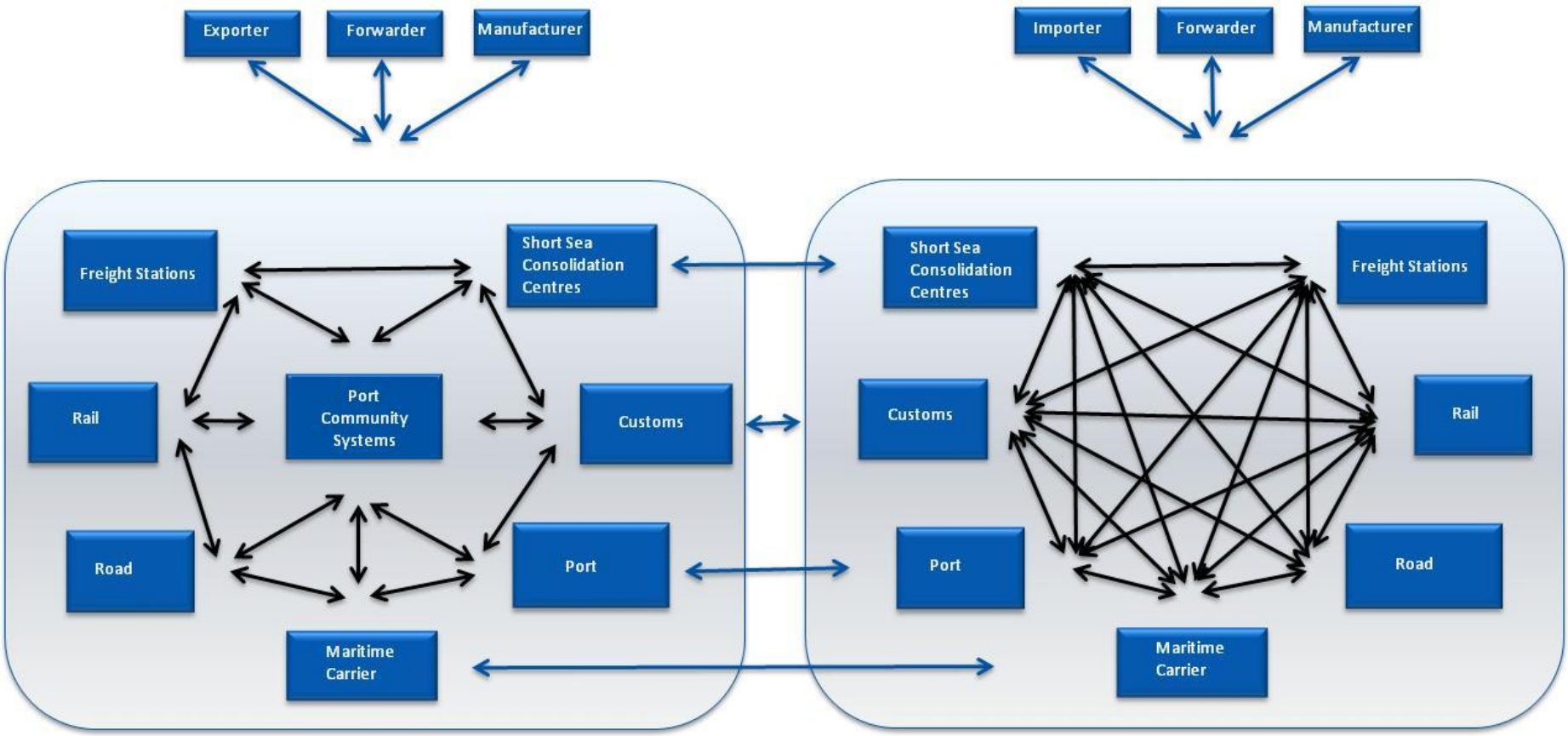
- Improving the operational **coordination of the different transport modes** integrating a MoS, especially from/through ports
- Promoting and **supporting sustainable intermodal transport solutions** that reinforce the TEN-T MoS network
- Improving the **coordination of public and private organisations** to increase the efficiency of ports as MoS gateways
- **Developing new methods for simplifying Customs controls of intra-Community trade at ports**
- Facilitating and simplifying the **compliance** of companies integrating a door-to-door MoS supply chain **with regulations**.
- Providing a set of **monitoring services for MoS**. Tracking and tracing of MoS freight will be demonstrated as a result of this Action.

MOS4MOS, e-Freight, e-MAR, SUPPORT and CONTAIN (funded by FP7 and/or TEN-T) designed and demonstrated a set of prototypes that provide interoperable monitoring and operation services to companies integrating different door-to-door motorways of the sea (MoS) corridors.

PCS should address an extended supply chain



A typical layout of two ports' inter-relations



Directive 2010/65/EU on reporting formalities

Regulation 177/2010 on new definition of Authorised Regular Shipping Services

Blue Belt Concept

European Monitoring and operation services

Security Ammend. of EU Customs Code

EMSA

eCustoms

....

For example, the Port Level initiatives of a PCS should aim at simplifying admin procedures…

Port Level Initiatives

- Intra-community Customs Paperless Controls
- Electronic Ship Formalities
- Port Community Collaborative Solutions
- Automatic Gate System

Port Level Initiatives

Objectives:

- to simplify reporting formalities and procedures required for ship movements in ports by improving Single Window functionalities.
- to maximise physical infrastructure performance and manage the efficiencies of port operations.
- to achieve the appropriate level of common understanding, capacity building and harmonisation among ports involved in the Motorways of the Sea.
- to improve the level of the required security and protection in ports.
- to facilitate access to accurate information about vessels' positions.

Results:

- The basic structure and two prototypes for the creation of a port community system in the Port of Piraeus.
- Prototyping and piloting export paperless controls for FCL ro-ro and container intra-Community traffic at the ports of Livorno, Barcelona and Valencia.
- Piloting of an automatic gate system for intra-Community ro-ro traffic at the Port of Valencia.

Source: MOS4MOS project

…and also aim for improving visibility between ports…

Port to Port Initiatives

- Vessel Georeferenced Alerts
- Port Traceability
- RFID Traceability of Ro-ro Units
- Electronic T2L

Port to Port Initiatives

Objectives:

- to facilitate and simplify the compliance with Customs regulations through electronic means.
- to identify appropriate RFID solutions for an automatic and unattended identification of Ro-Ro units and semitrailers on selected corridors.
- to introduce interoperable interfaces between transport management systems, terminal operation systems, port community systems and single windows.

Results:

- A prototype of system providing real-time automatically-generated information about the status of a vessel to inland transport operators using MoS services.
- Testing of a system optimising the tracing of containers and the documentation associated to the container operation at the ports of Livorno, Koper and Valencia.
- The traceability of ro-ro units through a RFID system.
- Testing new procedures, the electronic T2L, to make intra-Community sea transport simpler and less cumbersome for its users.

…as well as increasing capacity!

Port to Hinterland Initiatives

- Corridor Strategic Planning
- Rail Transport Management System
- Rail-Port Interfaces
- Rail e-Ways

Port to Hinterland Initiatives

Objectives:

- to introduce an innovative approach that ensures the collaboration of multimodal transport stakeholders of a corridor.
- to analyse the requirements for the proper management of the railway operations and interfaces with the rest of the stakeholders.
- to standardise and simplify the relation of port terminals for railway transport with different railway actors.
- to develop an integrated platform for rail-sea multimodal transport to exchange transport-related data in door-to-door services.

Results:

- Prototyping and piloting of a railway transport management system to better manage the supply chain by the combination of rail and sea modes of transport.
- Defining and testing new common procedures and electronic messages to improve communication flows and create paperless documentation flows.

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Based on MOS4MOS research, the PCS initiatives, had tangible results in daily operations, indicatively:

SANITIZED

ELECTRONIC SHIP FORMALITIES

CONCEPT	Average time measured in hours
INITIAL VALUE AND PILOT TARGET	7.43 hours
RESULTS FROM TESTS AND PILOTS	
FINAL IMPLEMENTATION EXPECTED TARGET	2.89 hours

PORT COMMUNITY COLLABORATIVE SOLUTIONS

CONCEPT	Average time measured in hours
INITIAL VALUE AND PILOT TARGET	11.87 hours
RESULTS FROM TESTS AND PILOTS	
FINAL IMPLEMENTATION EXPECTED TARGET	4.47 hours

ΟΛΠ PIRAEUS PORT AUTHORITY S.A.

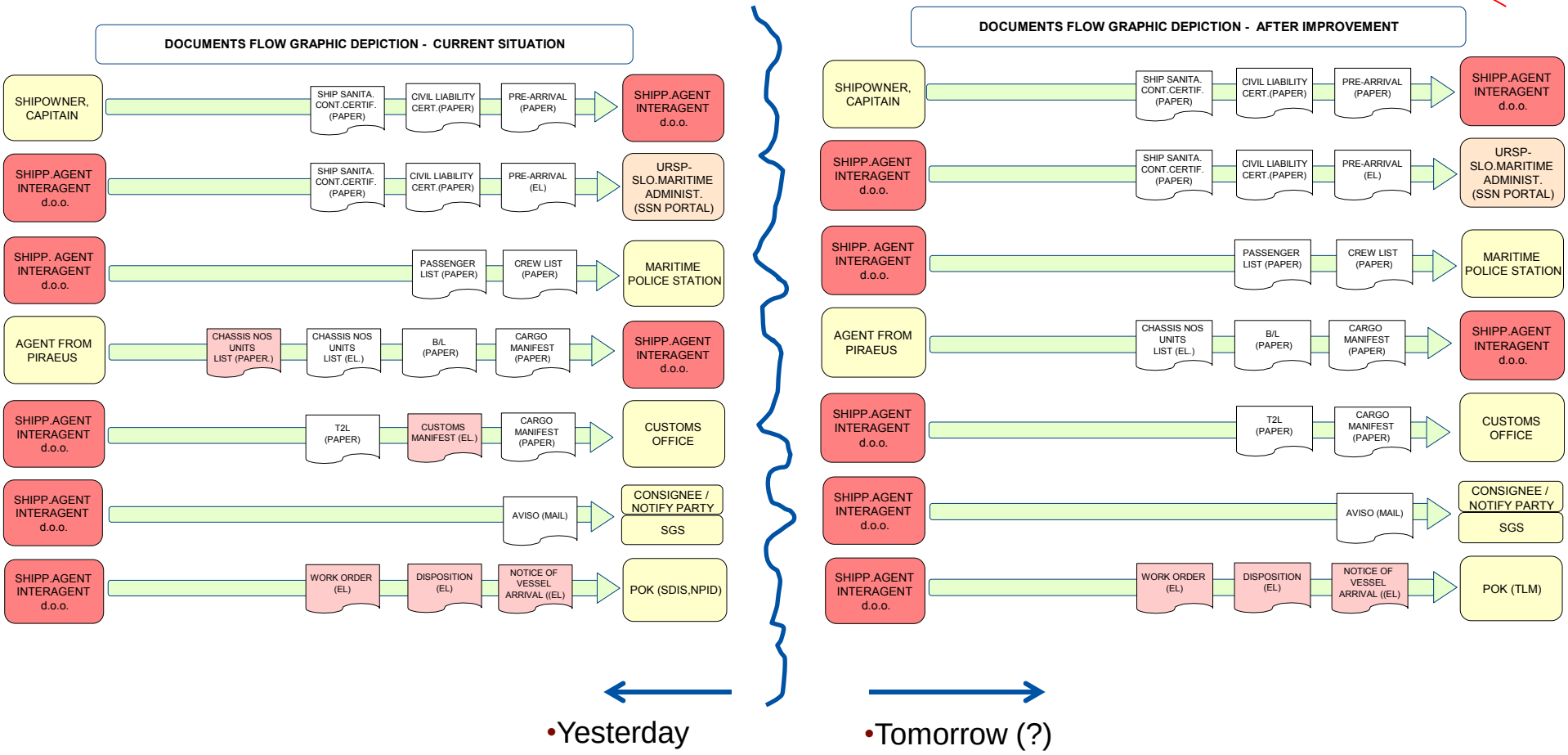
Global MARITIME AGENCY S.A.

LUKA KOPER Port of Koper

Intereuropa® Global Logistics Service

…which benefits also come from re-engineering the processes!

SANITIZED



•Yesterday

•Tomorrow (?)

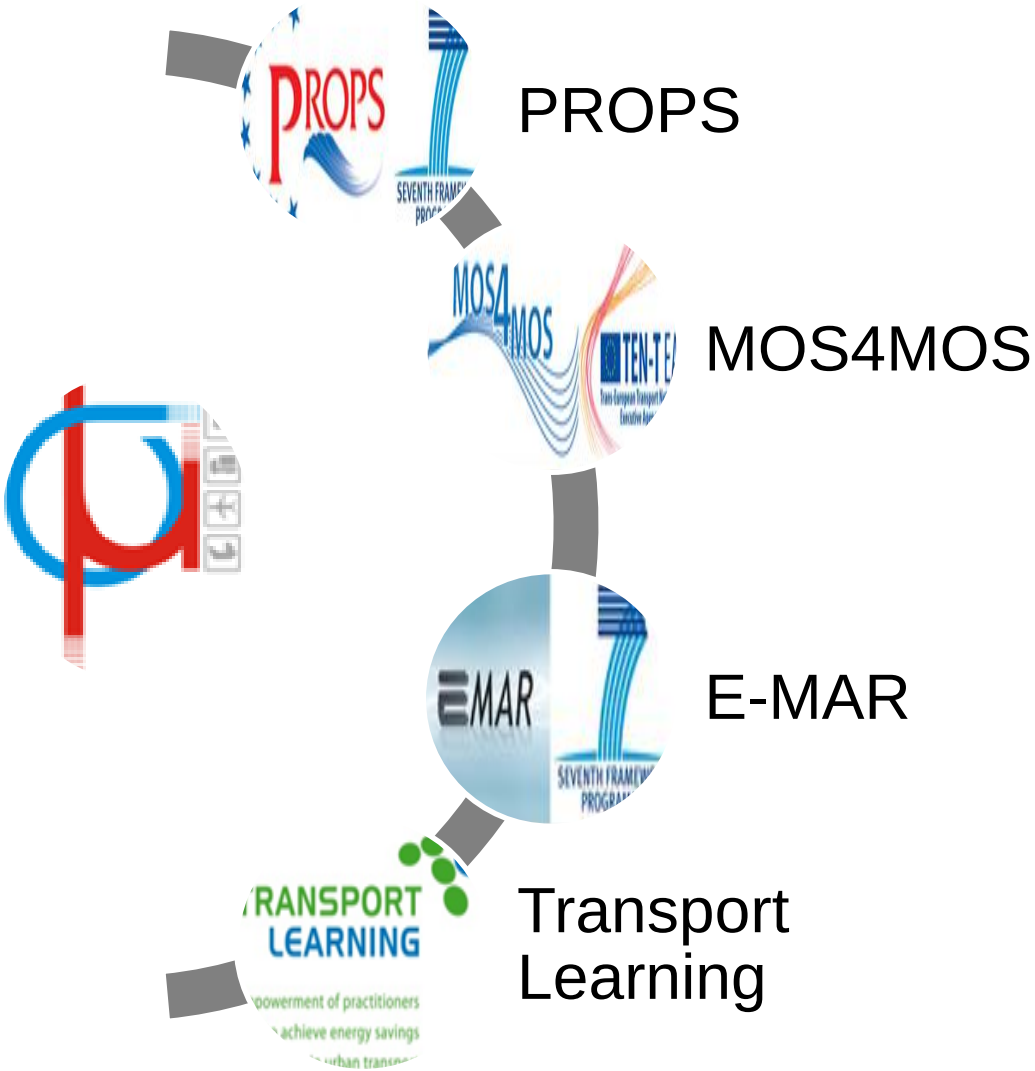
A few words about the Transport Systems Laboratory: Introduction

- Established in 1997 as ***Transport Economics Laboratory***
- Repositioned in 2009 to capture market needs as ***Transport Systems Laboratory***
- Human Resources include
  - 3 Professors (Full Time)
  - 4 Professors (Part Time)
  - 5 PhDs, PhD Candidates and Post-Docs
  - 7 Graduates and Undergrads
  - 2 Administrators
- Successfully implemented over 20 Projects in the past 5 years (2007-2012)
- Laboratory members are regularly being invited to give speeches on cutting edge research topics

A few words about the Transport Systems Laboratory: core competencies

	Planning	Operations	Strategy	IS & ICT
Freight & Logistics	• Ports and Terminals Planning • Inland Terminals Planning • Warehouse Planning • Master Plans • Economic / Financial Studies • Pre-Feasibility and Feasibility Studies • Demand Forecasting	• Operations Strategy • Tactical Support • Regulations' Drafting • ISO and Quality Assurance Norms / Compliance • Workforce Scheduling • Service Planning • Vehicle Routing & Dispatch • Network Analysis • MRPs and Modeling	• Strategic Analysis • Concessions • Strategic Agility to new regulations • Sourcing and Procurement • Feasibility studies for individual assets and groups of assets • Business Unit Strategy and Group Strategy • M&As Analysis • Fuel selection • Emissions trading	• ERP Implementation • ERP Fine tuning and module development • Process / ERP Calibration • Single Windows • Customs Single Windows
Public Transport				
Air Transport				
Shipping & SSS				
Ports & Terminals				
Postal Services & Courier				
Rail				

A few words about the Transport Systems Laboratory: indicative EU Funded research



Thank you very much for your attention!

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