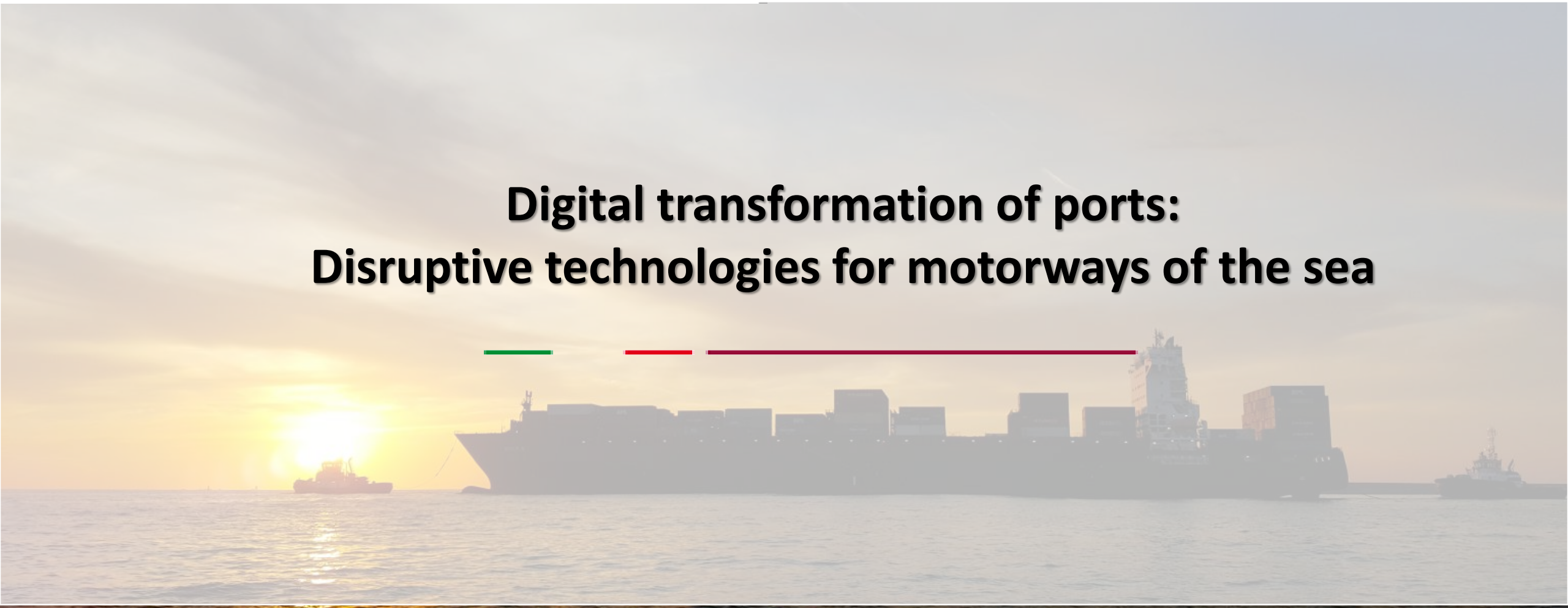
Autorità di Sistema Portuale del Mar Tirreno Settentrionale

Porti di Livorno, Piombino, Capraia Isola, Portoferraio, Rio Marina, Cavo

Digital transformation of ports: Disruptive technologies for motorways of the sea



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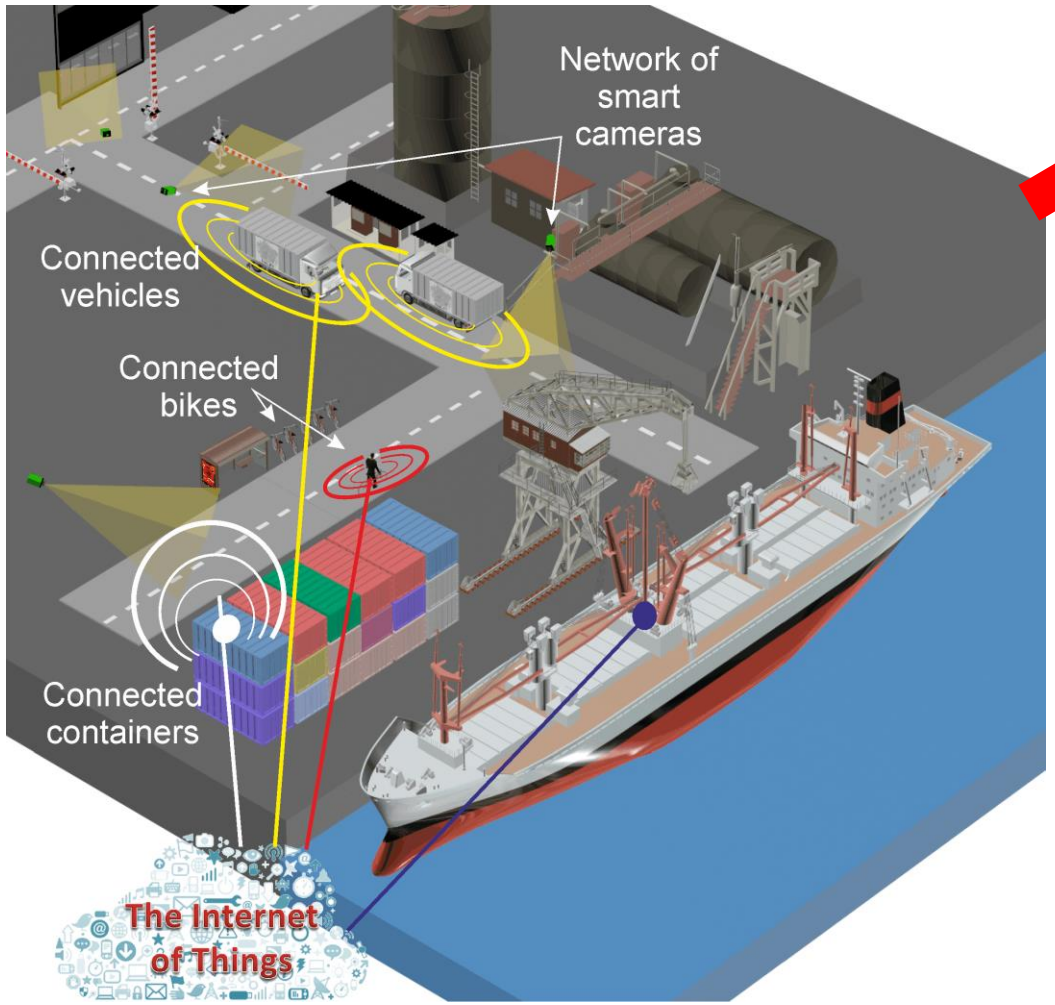
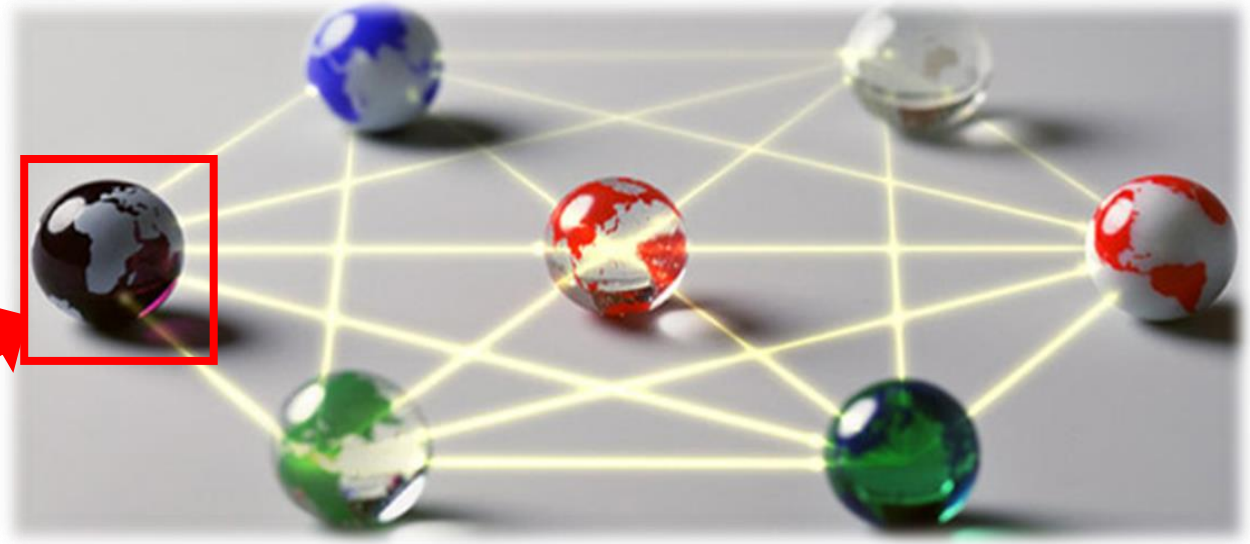
North Tyrrhenian Sea Ports System Authority

What is the GOAL?





«Digital Environments», «Intermodality», «e-freight», «Digitalizatione», «Digital Single Market», «Smart Logistics Chains», «Internet of Things», «Big Data», «Smart Devices», «Business Intelligence»

What's already been done until 2016?

MOROCCO

Long Corridors – B2MoS

- ✓ Related to RO-RO & Container traffic
- ✓ MOS Tangeri-Barcellona-Livorno
- ✓ Experimentation (November 2015): Tangeri Port – Livorno Port
- ✓ RFID Active Technology
- ✓ Creation of a specific procedural guideline
- ✓ Web-based MILOS platform

EGYPT

General Organization For Export and Import Control

- ✓ Realization of Phytosanitary model in TPCS
- ✓ Arab Republic Egypt Implication
- ✓ Based on the creation of a standardized phytosanitary data model by some required information as:

Certificate-No, Date of Issue, Place of issue, Date of Inspection, To Plant Protection Organization of, Exporter Name, Exporter Address, Exporter Address2, Importer Name , Importer Address, Importer Address2, Product Name, Botanical Name and of Plant, Declared Quantity, Packages Number & Description, Type Of Packages, Distinguishing Marks, Place of Origin , Declared Means of Conveyance, Declared Point of Entry, Treatment Date, Treatment Duration and Temperature, Chemicals (active ingredient) Concentration, Additional Information

TUNISIA

Pre-Clearing

- ✓ Related to RO-RO traffic
- ✓ Ongoing Experimentation: Tunisi Port – Livorno Port
- ✓ Future Experimentation: With each Partner Port
- ✓ Customs Clearance Anticipation: from 24 h/48 h up
- ✓ Creation of a specific procedural guideline
- ✓ Standardization of Administrative Documents

LEBANON - JORDAN

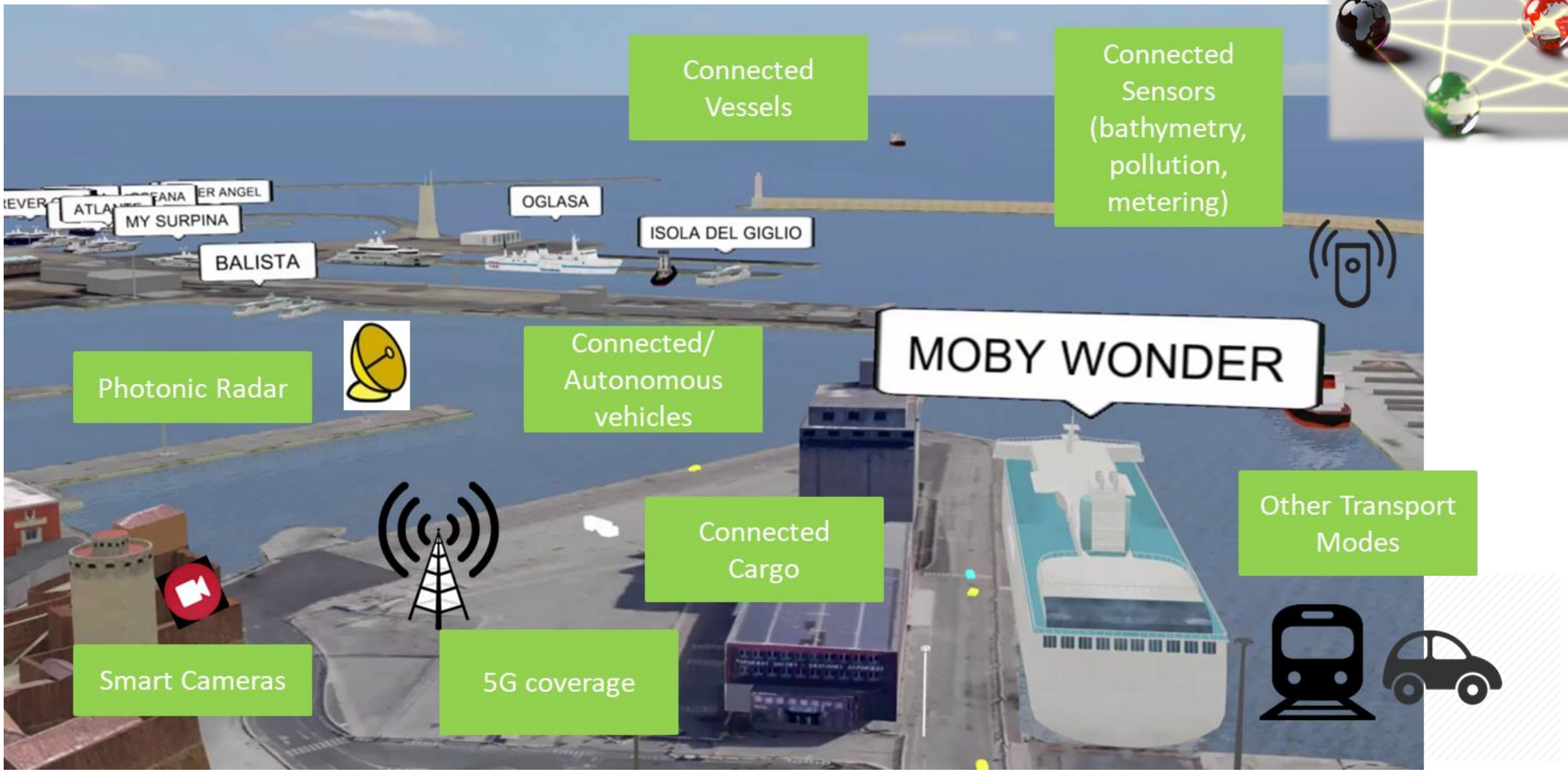
E.H.P.P.C-Med Project

- ✓ Enhancing Hoticultural Perishable Products Circulation among Mediterranean territories (Italy, Lebanon, Jordan)
- ✓ Creation of an automated system for transferring trade documents in real-time (Bill of lading, Phytosanitary Certificate, other certificates required)
- ✓ Creation of harmonized and standardized data model when Departure Manifest contains same information of Arrival Manifest

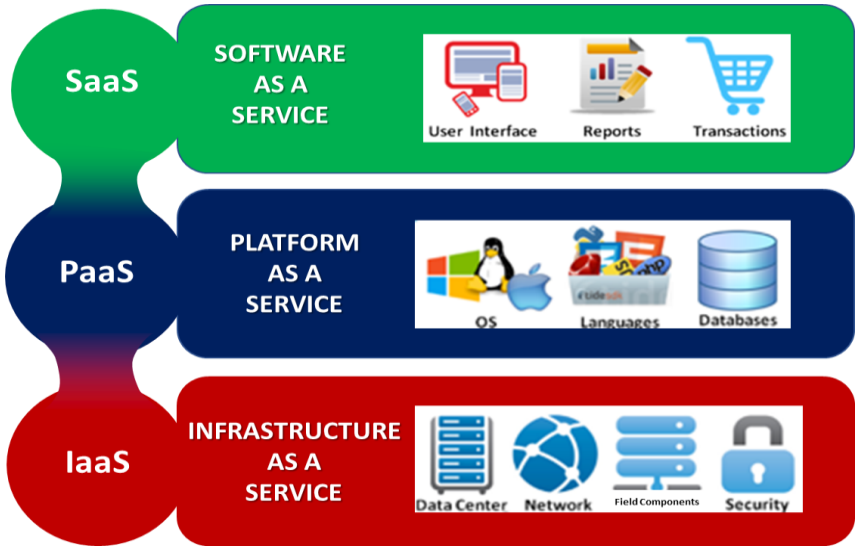
ACTIVE

PASSIVE

Towards the PORT OF THE FUTURE



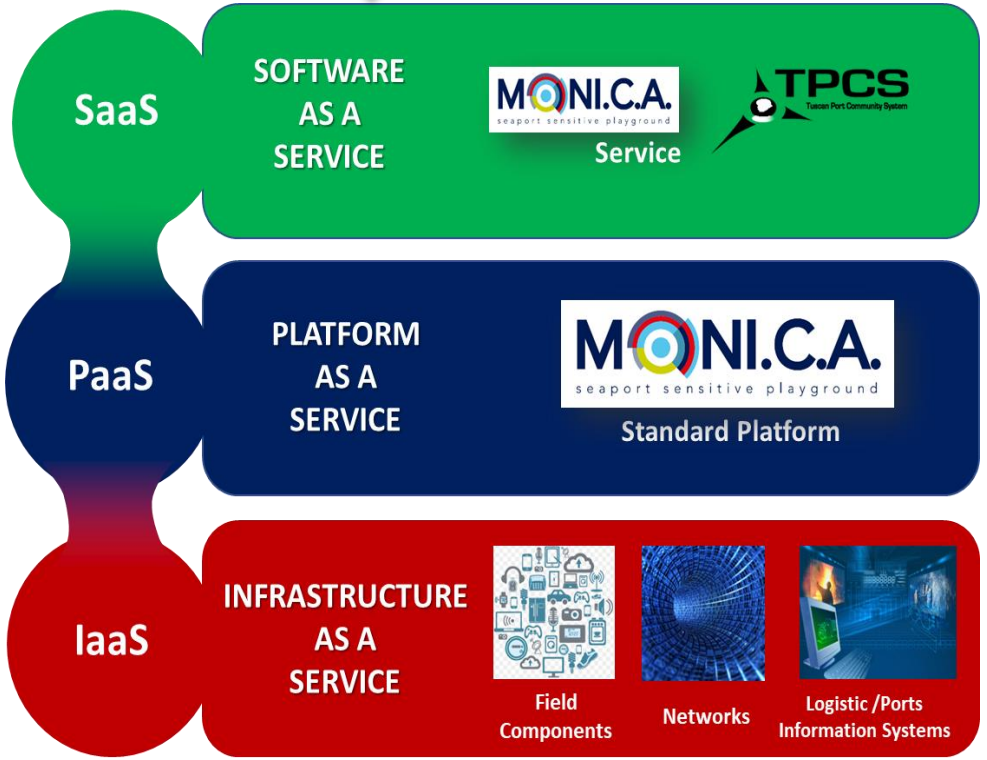
ICT Infrastructure



from architectural view

Development process

… to real deployment



SaaS

- Re-designing and encompassing all applications;
- All digital apps are expected to run at SaaS layer.

PaaS

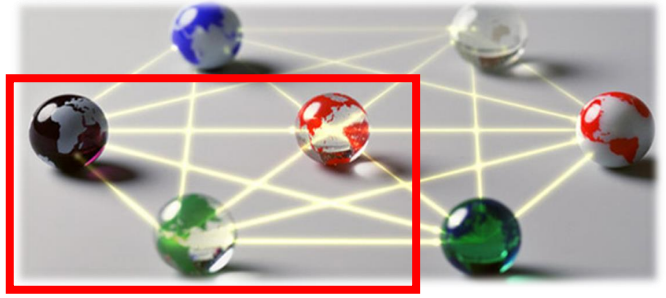
- A middleware of services oriented to M2M:
  - custodial, access, and information retrieval;
  - I/O from the Internet of Port Communities;
  - external repositories.

IaaS

- Connecting the port in itself, LAN of the communities;
- Connecting the port with other nodes along the transport and logistics chains;
- Pervasive monitor and control port activities gathering data from humans and machines.

TOWARDS SMART LOGISTICS CHAINS

HOW?



BY CREATING INTEROPERABILITY LAYERS

BY USING STANDARDS

INTEGRATING SMART DEVICES

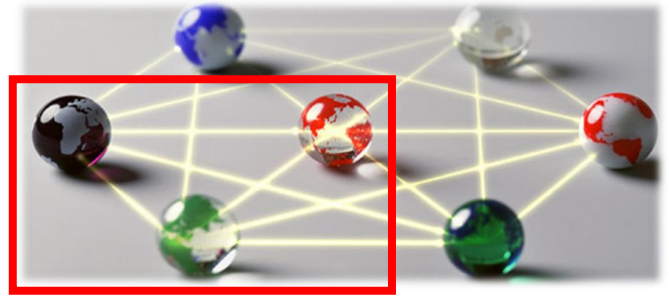
BY ADOPTING CYBER SECURITY BEST PRACTICES

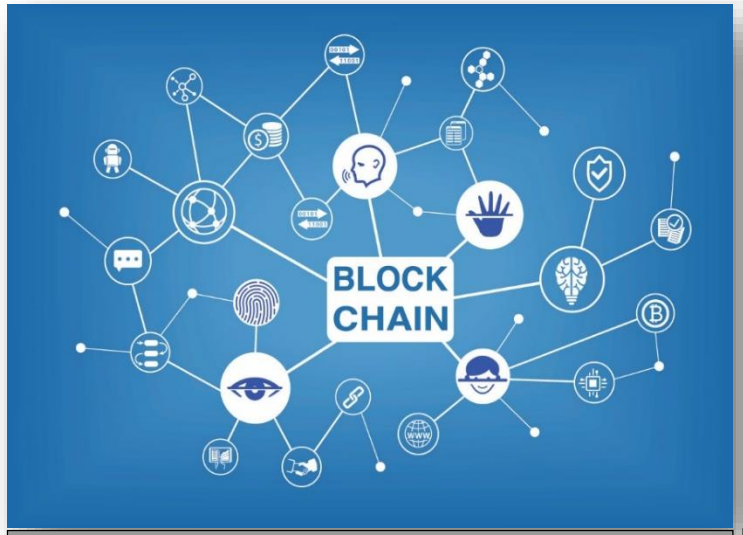
BY DESIGNING NEW ADDED-VALUE SERVICES

And now?

..BUT NOT ONLY

BY INVESTING IN R&D



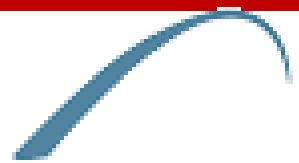


TOPIC – Blockchain

TOPIC – 5G Communication

TOPIC - Autonomous Ship

Contact



THANK YOU
FOR
YOUR ATTENTION

North Tyrrhenian Sea Ports System Authority

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