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Touch your ideas

Global Supply Chain visibility

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Assuring data sharing and interoperability through the International
Fast & Secure Trade Lane approach

Casablanca, June 26th 2019

7° Mediterranean Ports & Shipping

Agenda

1. The impact of digitalization and the automation on the Global Supply Chain models;

2. Our vision of International Fast & Secure Trade Lanes;

3. Circle International Projects.

Main topics:

- *Global Supply chain models*

- *Internet of Things in logistics field*

- *Blockchain, IoT and smart contract*

Global Supply Chain Visibility

Global Supply chain visibility is the capacity to **track and trace** parts, components or products in transit from the manufacturer to their final destination. This includes logistics activities and transport as well as the state of events and milestones that take place before and during transit.
Global logistics leaders are using a variety of mechanisms, such as

- **Electronic Data Interchange** integration with ocean carriers

- **Web portals** for other service providers
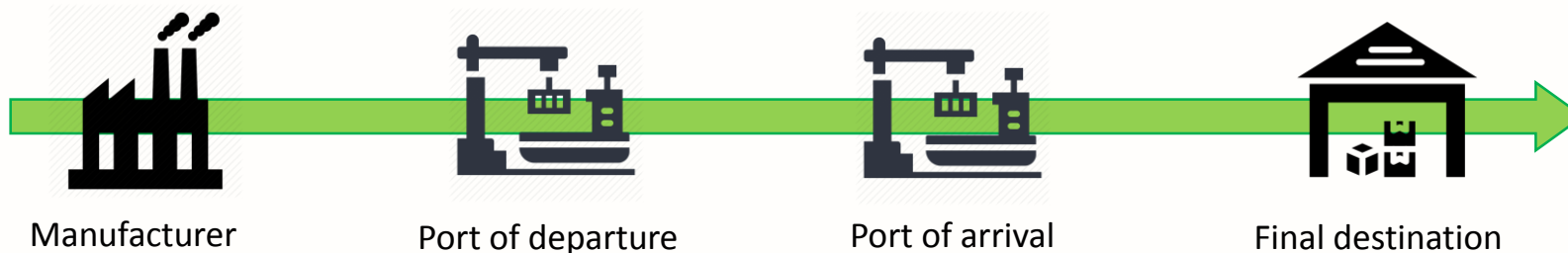
Improve

*Example of supply chain

Real-time visibility

Data timeliness

Accuracy

Full visibility

Manufacturer

Port of departure

Port of arrival

Final destination

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The impact of "Internet of Things" in logistics field

The **IoT** promises far-reaching payoffs for **logistics operators**, **public authorities** and their **stakeholders**. These benefits extend across the entire logistics chain including: yard, gate-in, gate-out operations and last-mile delivery.

A report by IDC and SAP predicts that **IoT will lead to a 15% productivity increase in delivery and supply chain performance**, many logistics experts are using these new resources to improve systems and supply networks, **reduce costs** and the **transit-time**.
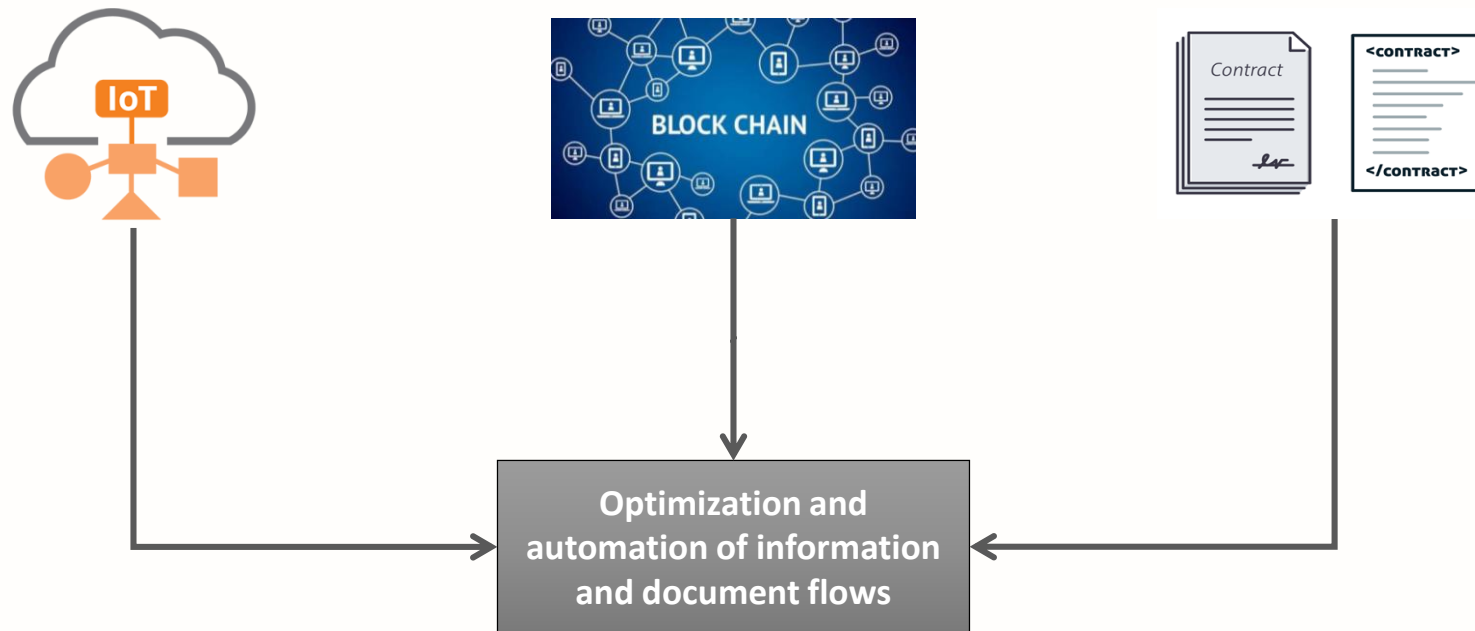
The Benefits

- An **increased Security and Safety** level of logistics operations;

- **Optimization of operations**, thanks the data obtained by IoT devices, it is possible analyze the overall performance improving the level of safety, security and productivity;

- **Tracking and Tracing,** RFID tags can connect to the cloud and share data regarding the location and the status of goods shipped . According to Auburn University 96% of retailers are planning on adopting RFID technology.
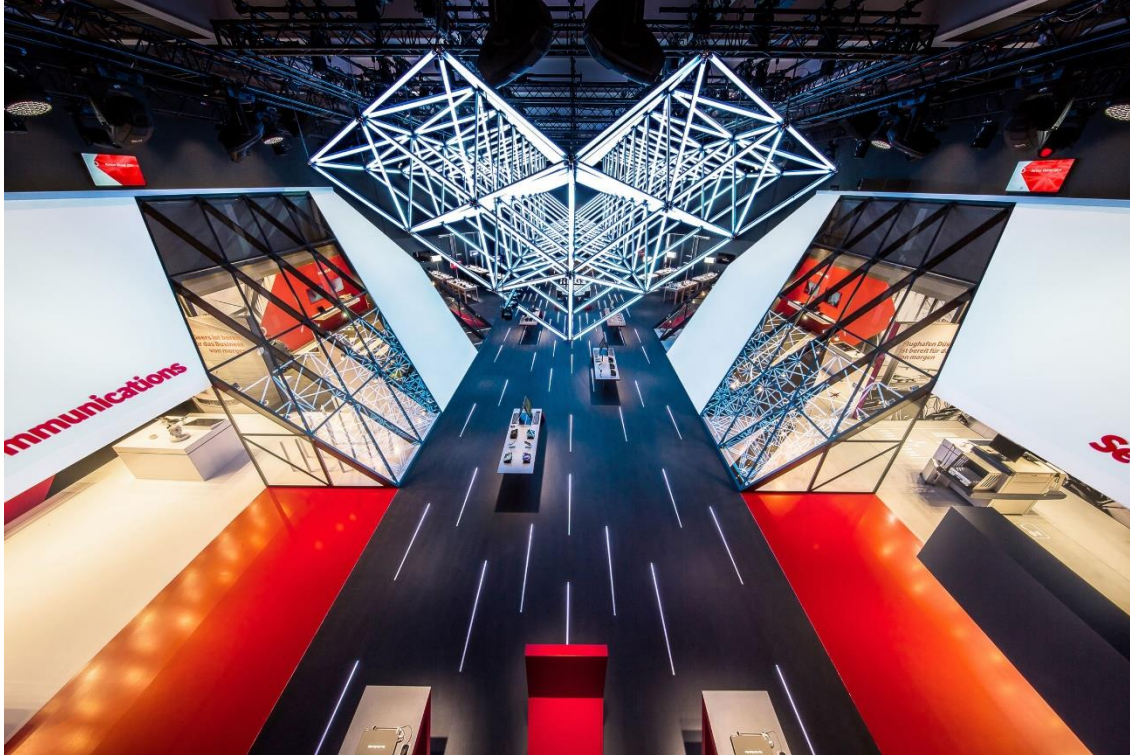
Integration of Blockchain, IoT and Smart Contract

The combined use of smart devices **IoT** and digital tools such as **Blockchain Platforms** and **Smart Contracts** has the purpose to dematerialize the transport procedures and relative contracts leaving traces of all operations and events occurring within the Logistics Chain.

Optimization and automation of information and document flows

MILOS IOT & Blockchain is a solution designed to integrate these innovative solutions
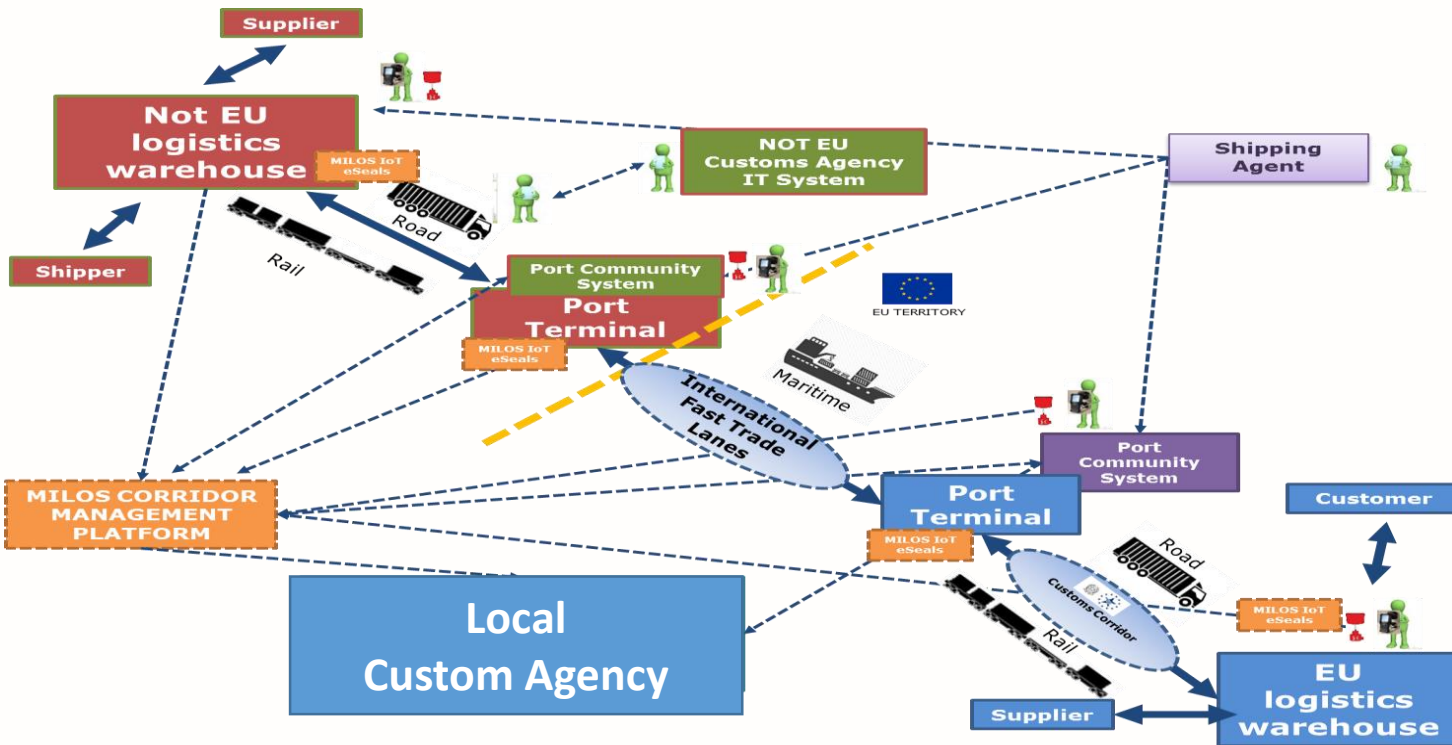
2. International Fast & Secure Trade Lanes Concept

Main topics:

- **Introduction about the ''International Fast & Secure Trade Lanes'' Concept**

- **IoT devices used along an international corridor**

- **Example of an automated port gate**

- **Benefits for logistics actors**

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Main component:

1. **Digitalization of the information and documents flows (Bill of Landing, transport documents, road haulage documents, etc.)**

2. **Use of the CMP interchange platform**

3. **Exploitation of simplified customs procedures**

4. **IoT exploitation**

RFID tags and e-seals used along International Fast Trade Lane models

Active RFID seal

Passive RFID seal

Passive RFID seal

Passive RFID tag

Passive RFID label

Wearable RFID reader with RFID antenna

Handheld with RFID reader and RFID antenna

Wearable RFID reader with RFID antenna

Example of an automated port gate by RFID technology

RFID infrastructure near a port gate. The yellow dots represent the fixed readers / antenna system. The rectangles in red represent the means that transport the containers. The green arrows indicate the gate-in lanes, while the blue arrow represents the gate-out lane.
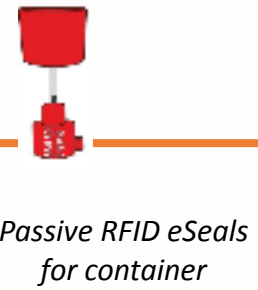

Example of automated port entry using RFID technology. The system consists of two readers and two antennas per reader. When the container crosses the gate, the reader reads the tag / e-seal rfid

IoT devices and tags used along International Fast & Secure Trade Lane models

1) Shipper/Stuffing area

*Passive RFID eSeals
for container*

*Baptism in compliance with the most
common passive RFID eSeals*

** The Data collected by IoT device
can by stored inside*
Blockchain Platform

2) Gate Terminal

*Automatic Gate-in at the terminal
thanks to RFID antennas*

**International
Fast Trade Lane
CMP + IOT**

**3) Port Terminal
of departure**

**5) Port Terminal of
Destination**

*Digital check of
discharging
operation with
handheld*

**4) eManifest sent to
Port of destination**

6) Final destination
Proof of delivery

*Automatic Gate-out at the terminal
thanks to RFID antennas*

*Digital check of loading
operation with handheld
+ eManifest data integration*

The Benefits for Logistics actors

Ports and Terminals: pre-built connections to the shipping lines and other actors, an end-to-end visibility across shipping corridors;

Ocean Carriers: pre-built connections to customers and ports/terminals around the world;

Customs Authorities: more informed risk assessments, better information about the export and import clearance and information shared;

Shipper: an increased visibility of the entire supply chain, paperless process and a reduction of transit time and transport costs .
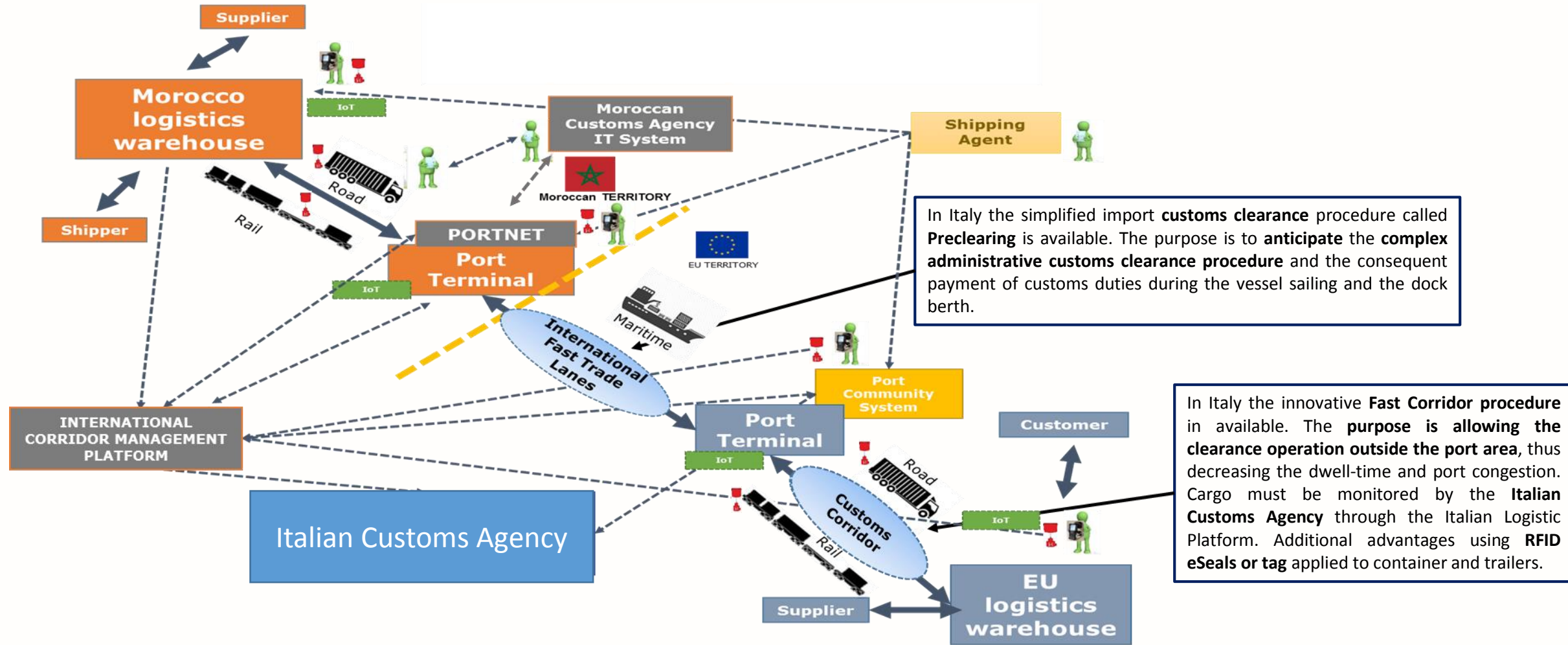
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3.Circle International Projects.

- *La spezia - Casablanca corridor*

- *B2MOS project – trailers*

In Italy the simplified import **customs clearance** procedure called **Preclearing** is available. The purpose is to **anticipate** the **complex administrative customs clearance procedure** and the consequent payment of customs duties during the vessel sailing and the dock berth.

In Italy the innovative **Fast Corridor procedure** in available. The **purpose is allowing the clearance operation outside the port area**, thus decreasing the dwell-time and port congestion. Cargo must be monitored by the **Italian Customs Agency** through the Italian Logistic Platform. Additional advantages using **RFID eSeals or tag** applied to container and trailers.

Successful cases: B2MOS Project in collaboration with Leghorn Port Authority.

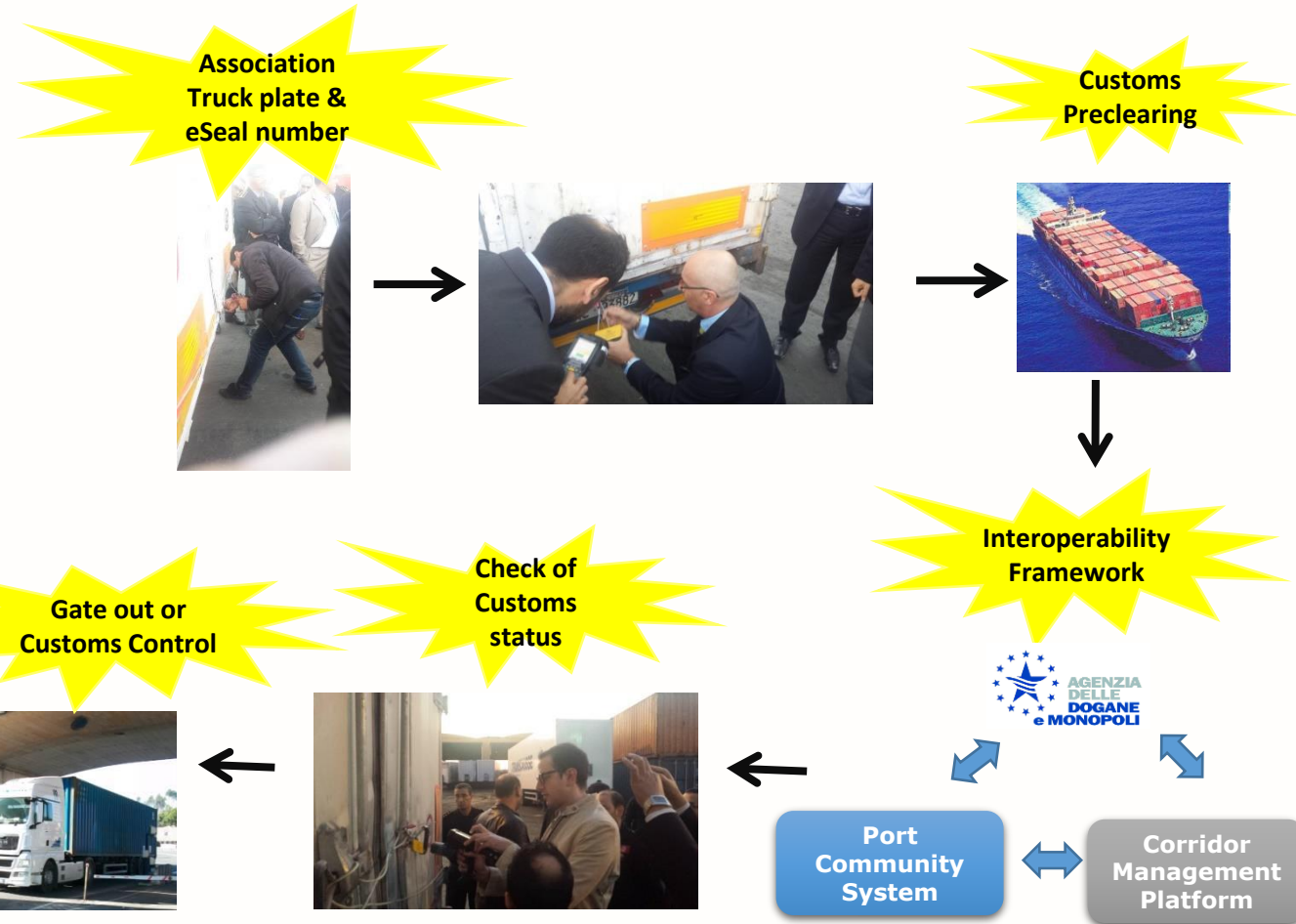The pilot involved an international *RoRo trasport* of trailers between the ports of **Rades** and **Leghorn**. A *preclearing procedure* using passive *eSeals* and a *Corridor Management Platform* were tested for the first time, integrating logistics and Customs aspects.

Private actors involved:

- *Port Terminals of Leghorn and Rades;*
- *Importers;*
- *Exporters;*
- *Shipping Company;*
- *Shipping Agency;*
- *Freight Forwarders.*

Public Institution involved:

- *Leghorn and Rades Port Authorities;*
- *Italian Port Captaincy;*
- *Italian Customs Agency.*

Association Truck plate & eSeal number

Customs Preclearing

Interoperability Framework

Check of Customs status

Gate out or Customs Control

Port Community System

Corridor Management Platform

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

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Concrete proposal

Within the next few months the

International Fast & Secure Trade Lane model and the usage of IOT

are further used and tested in ongoing La Spezia - Casablanca projects

More than 28 international actors of the Door-to-Door logistics Chain have already signed an Expression of Interest

There are concrete opportunities for ***Moroccoan ports and logistic actors***.

Deadline for joining as stakeholder *30.09.2019*

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