



Internet of things, blockchain and digitalization among international logistic chain: Industry 4.0 projects and fast trade lane experiences

**Aqaba, October 25th 2018**

**15° TransMiddle East**

# Agenda

1. The impact of digitalization and the automation on the new 4.0 supply chain models;
2. Our vision of International Fast Trade Lanes and some successful cases;
3. Additional opportunity provided by Blockchain;
4. Circle International Ongoing Projects

# 1. The impact of digitalization and the automation on the new 4.0 supply chain models



## Main topics:

- *Internet of Things in logistics field;*
- *Blockchain, IoT and smart contract;*
- *Smart contract integration.*

# 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**.

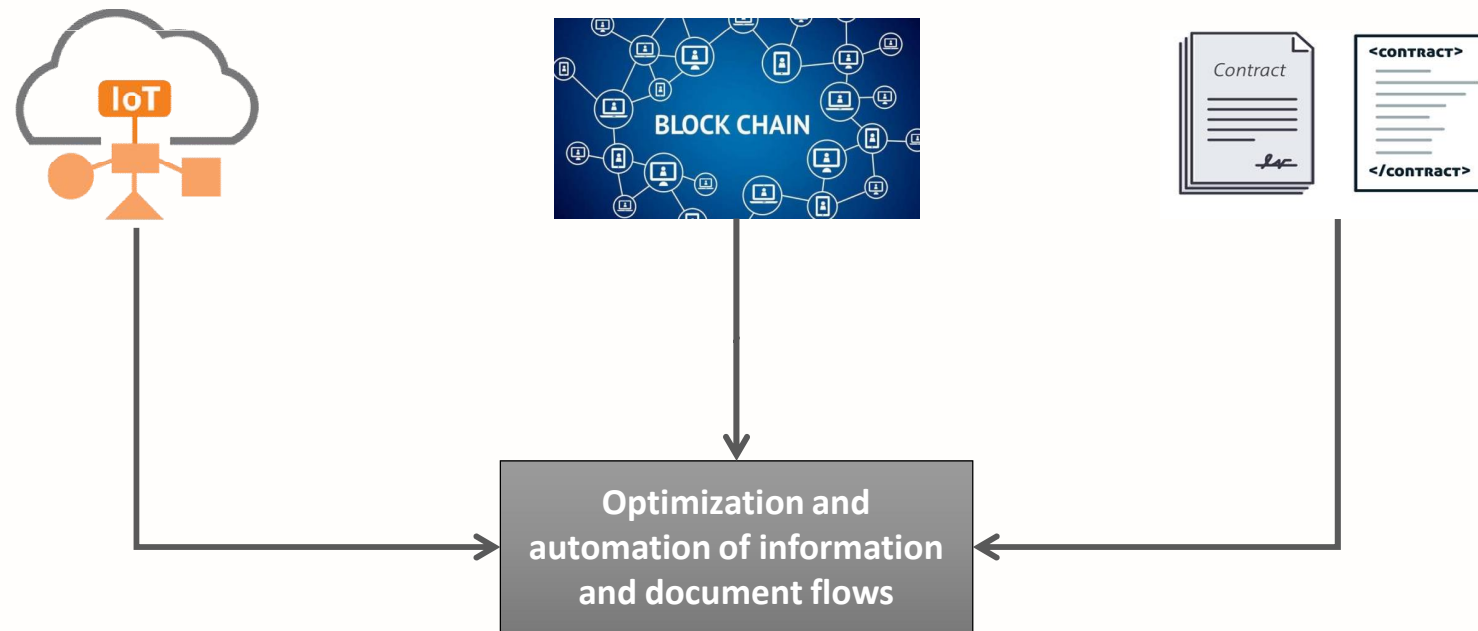
## The Benefits

- 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.



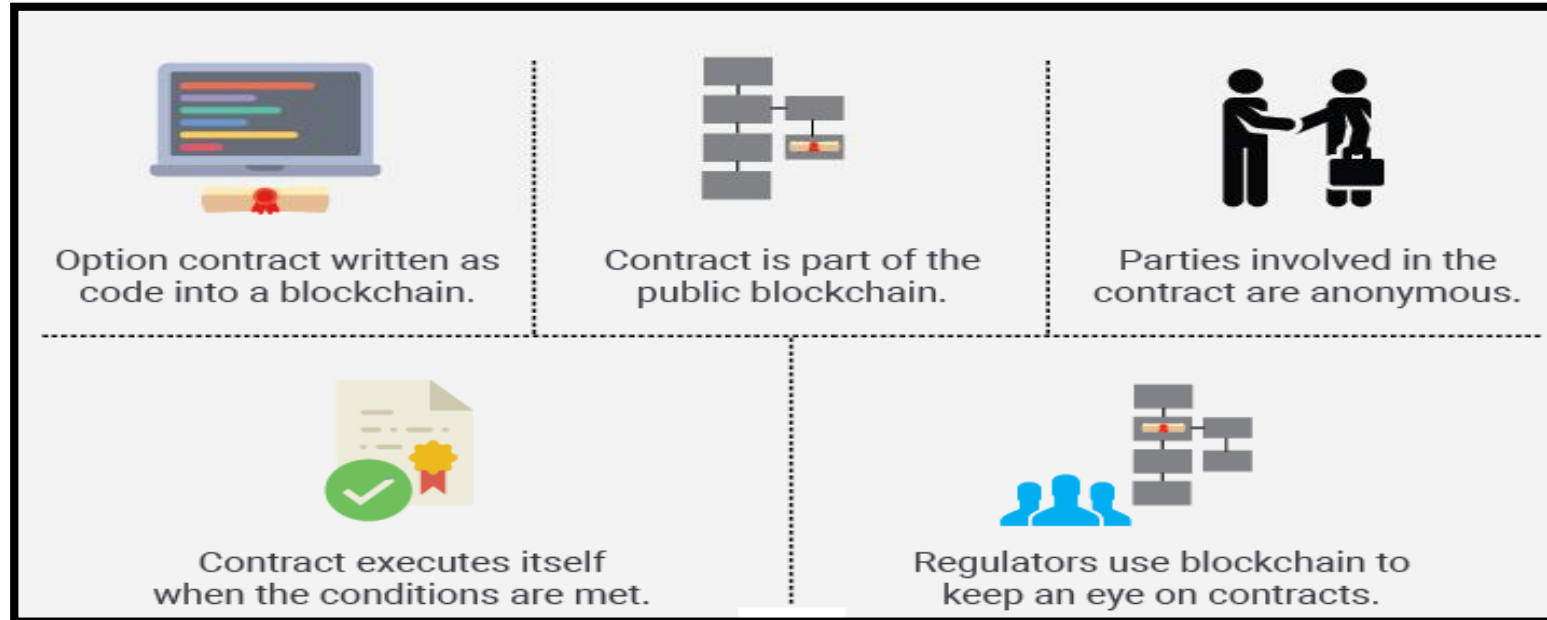
# Integration of Blockchain, IoT and Smart Contract

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.



MILOS IOT & Blockchain is a solution designed to integrate these innovative solutions

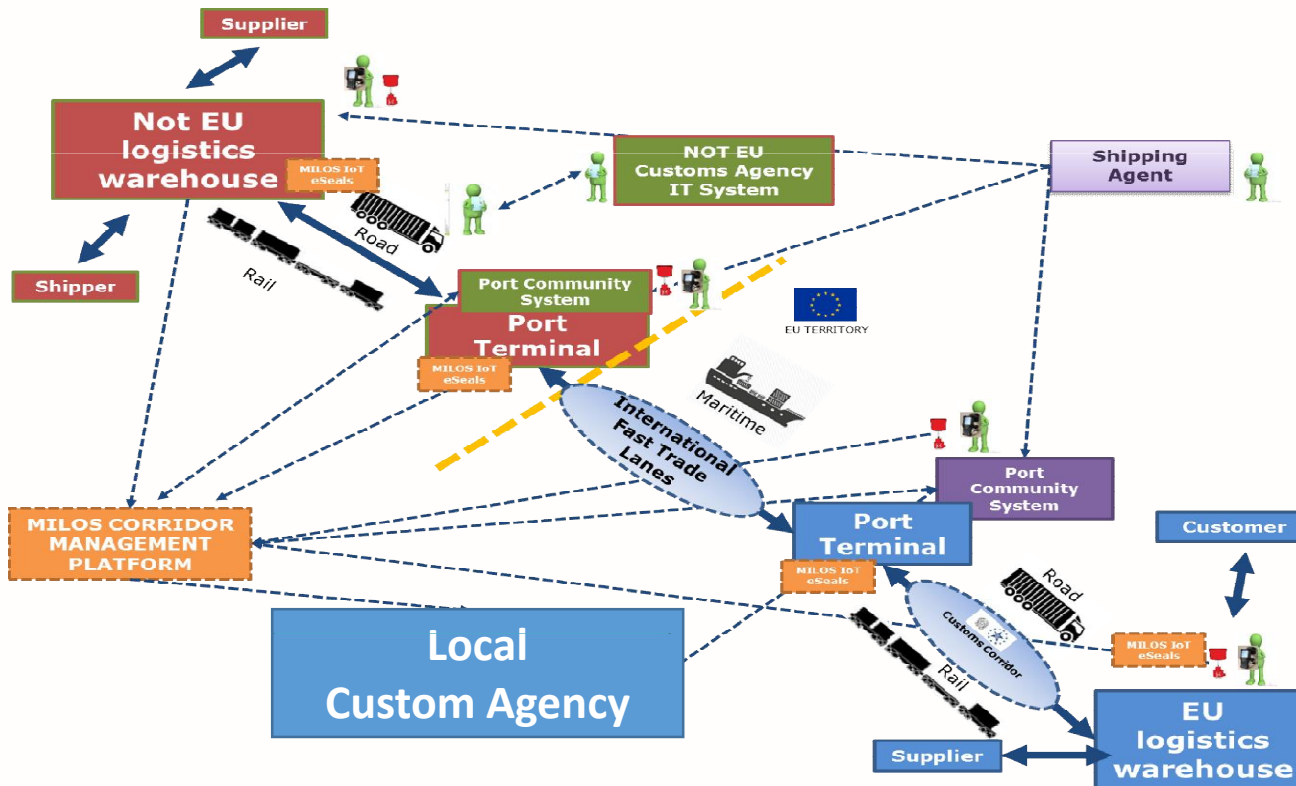
# Smart contract integration



**The smart contracts** are computer codes embodied in the **Blockchain**, which are formulated in “**if this then that**” structures. Their application is importance in **the field of logistics** contracting, that because the *Smart contracts enable the automation of transactions, reducing the human error or cases of fraud, but they also increase the privacy, the cost and time efficiency as well as the trustworthiness.*

In the business environment, there are already companies selling smart contract solutions, such as **Ethereum**.

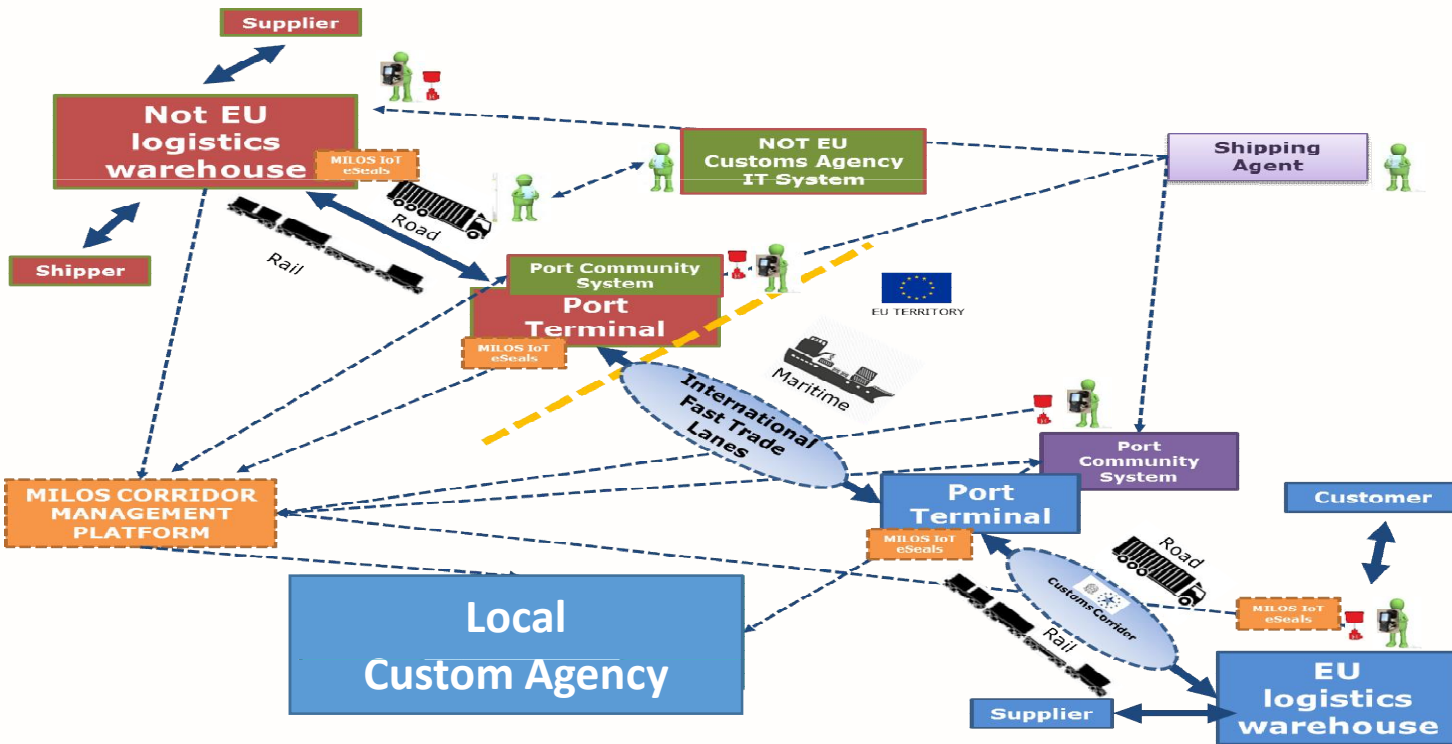
## 2. Our vision of International Fast Trade Lanes and some successful cases



### Main topics:

- Introduction about the “Fast Trade Lanes” Concept;
- The add-value provided by the IoT devices;
- Benefits for logistics actors;

# Middle East: International Fast Trade Lanes - Corridor Perspective



## 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



# IoT devices and tags used along International Fast Trade Lane models

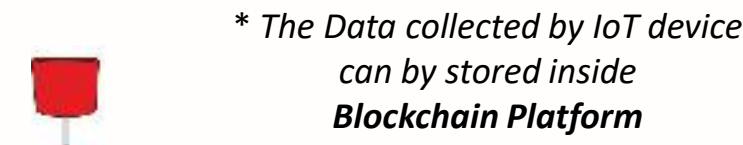


# Example of cycle using IoT devices and tags used along International Fast Trade Lane models

## 1) Shipper/Stuffing area



Baptism in compliance with the most common passive RFID eSeals



Passive RFID eSeals for container

## 2) Gate Terminal



Automatic Gate-in at the terminal thanks to RFID antennas



## 3) Port Terminal of departure

## 4) eManifest sent to Port of destination



Digital check of loading operation with handheld + eManifest data integration

## 5) Port Terminal of Destination

Digital check of discharging operation with handheld



Automatic Gate-out at the terminal thanks to RFID antennas

## 6) Final destination

Proof of delivery



# 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 .

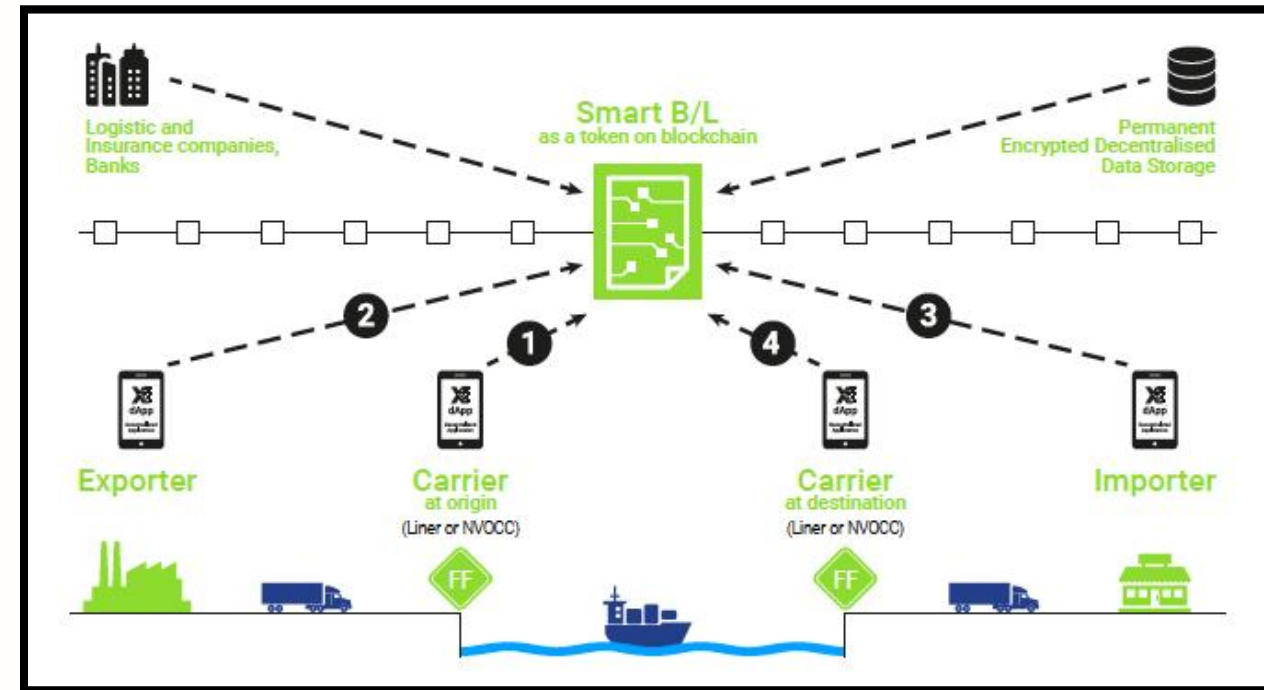


# 3. Additional opportunity provided by Blockchain

The digitalization of data and documents along International Fast Trade Lanes, can be expanded thanks the use of Blockchain platform. The nature of Blockchain based by the common trust among each actors involved allow:

- *Digitalization of Bill of Landing;*
- *Digitalization of transport documents;*
- *Digitalization of road haulage documents.*

The digitalization of Bill of Landing and transport documents is hugely beneficial in supporting the supply chain in general, through **reduced costs, error-free documentation and fast transfer of original documents.**



## 4. International Ongoing Projects



- *B2MOS project – trailers*
- *Mersin-Trieste corridor – trailers*
- *Fresh Food Corridors (FFC): Israel vs Central Europe – reefer containers*

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

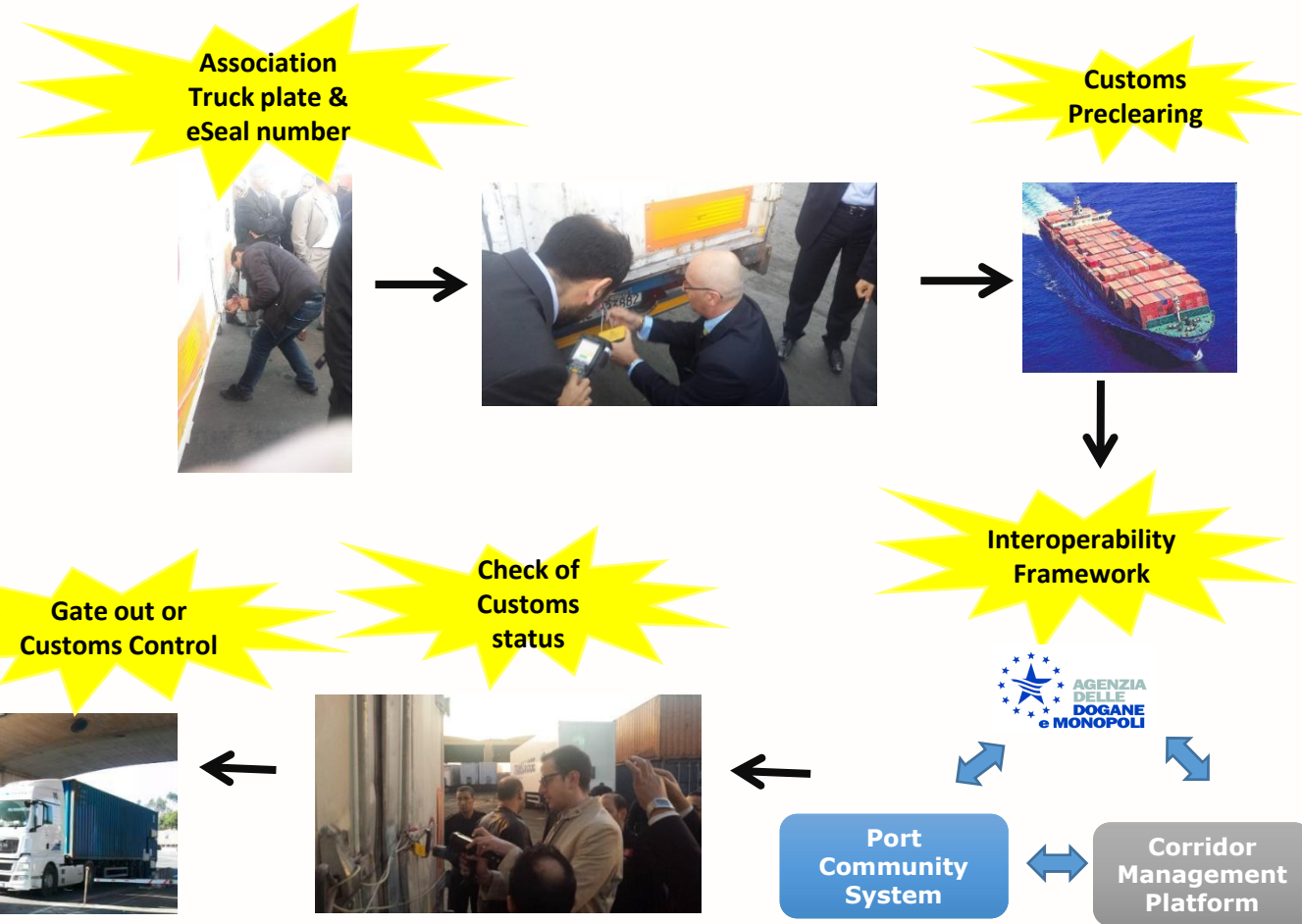
The pilot involved an international **RoRo transport** of trailers between the ports of **Rades** and **Leghorn**. A **preclearing procedure** using passive **eSeals** and a **Corridor Management Platform** were tested for the first time, integrating logistics and Customs aspects.

## 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.



# Turkish Project



The project regards an international **RoRo transport** of trailers between the ports of **Mersin and Trieste** and the relate **Dry Ports**.

## Private actors involved:

- *Mersin International Port;*
- *Samer Seaport & Terminal;*
- *Fernetti Inland Terminal;*
- *UN.RO.RO;*
- *Catoni.*

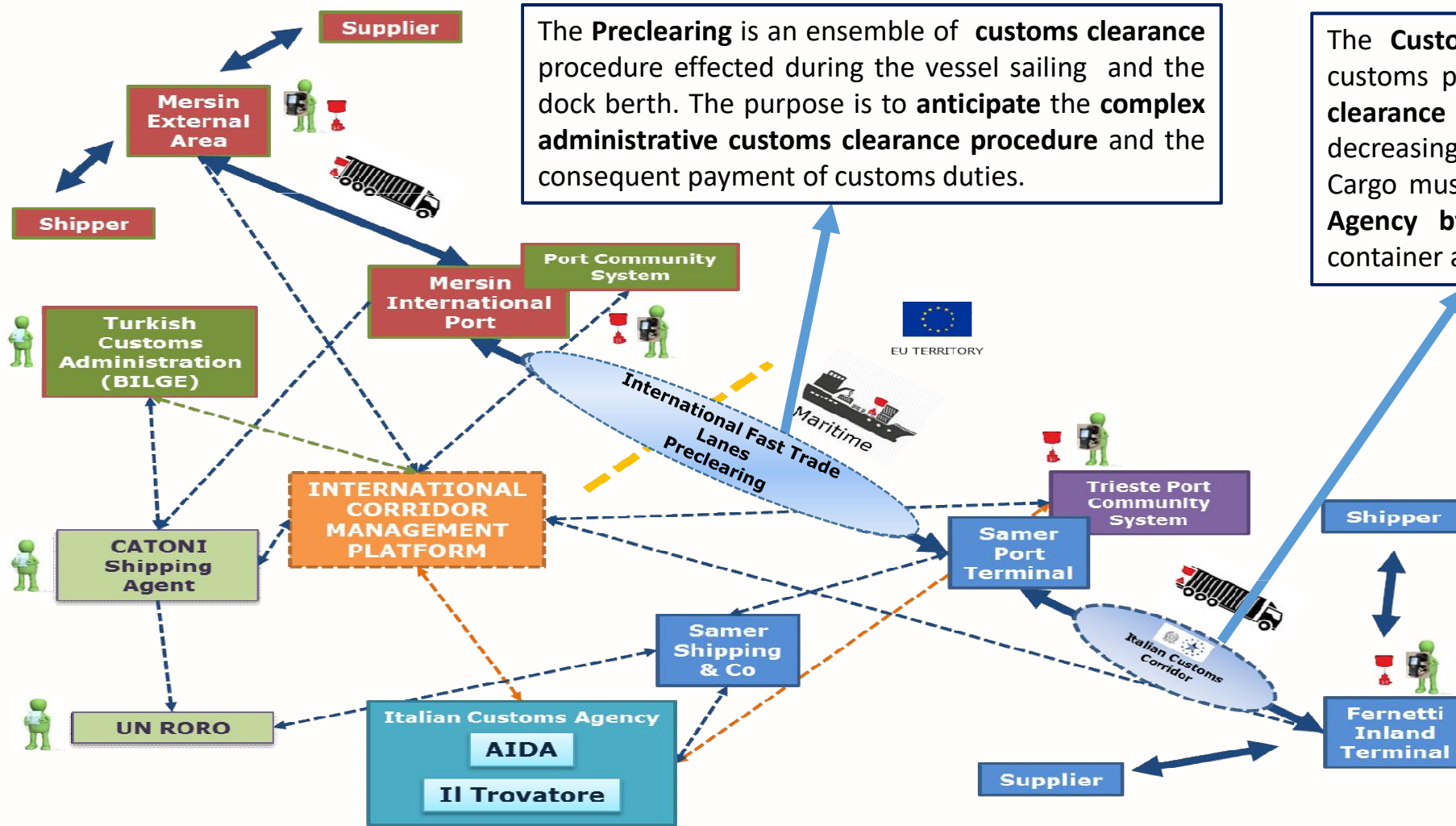
## Public Institution involved:

- *Trieste Port Authority;*
- *Italian Port Captaincy;*
- *Italian Customs Agency;*
- *Turkish Customs Agency.*



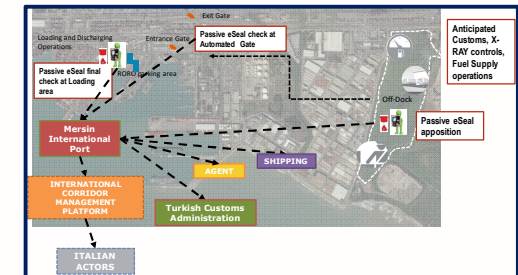
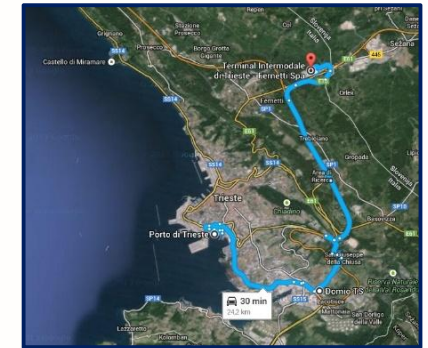
*Trailers Shipped  
IoT Tags*

# International Fast Trade Lane: Trieste - Mersin Corridor



The **Preclearing** is an ensemble of **customs clearance** procedure effected during the vessel sailing and the dock berth. The purpose is to **anticipate the complex administrative customs clearance procedure** and the consequent payment of customs duties.

The **Customs Corridors** is an innovative Italian customs procedure. 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 by using RFID eSeals tag** applied to container and trailers.



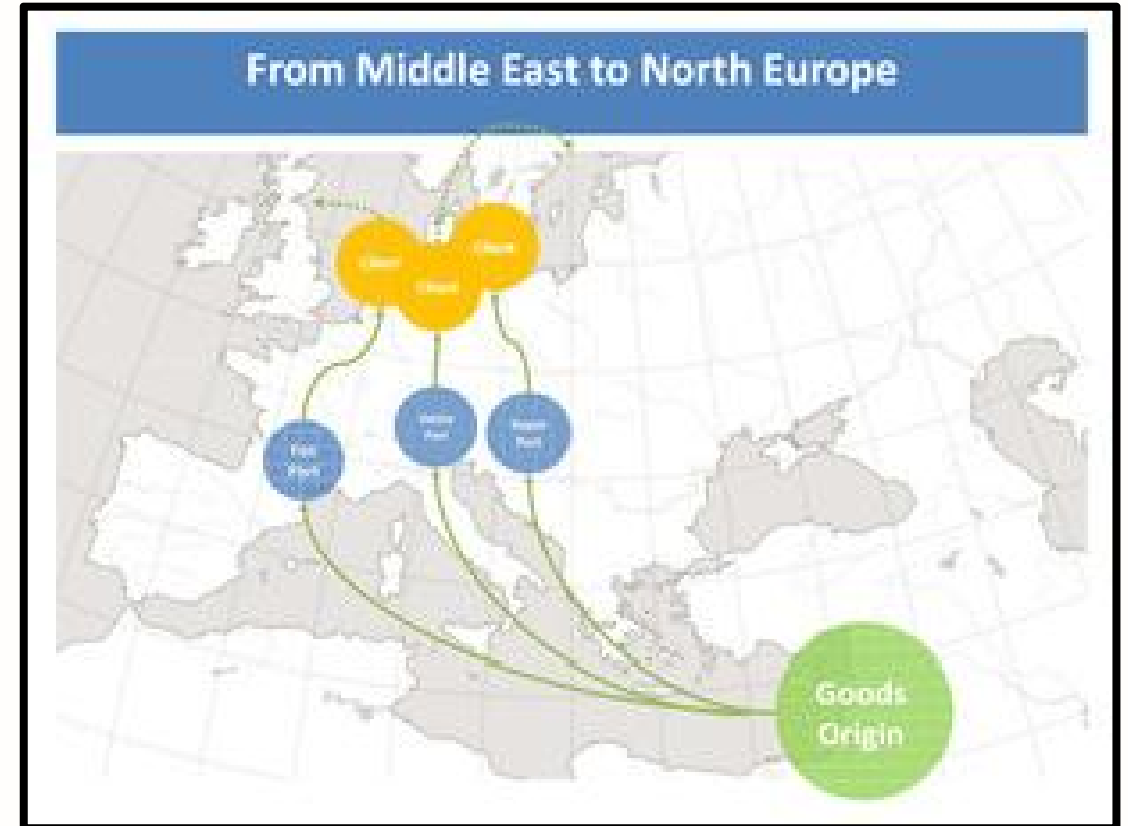


# Fresh Food Corridors: Israel - Central Europe

The project has the aim to create an efficient **fresh food transport system** thanks the use of **container reefer** connecting **Israel market** to the **Central Europe** through the port of:

- Koper;
- Venice;
- Marseille.

This Information flows among the actors involved are managed using the **Corridors Management Platform (CMP)** able to share **in real-time information and data**.



# Concrete proposal

Within the next few months the ***international fast trade lane model and the usage of IOT*** are further used and tested in ongoing EU projects and also in new CEF proposals

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

There are concrete opportunities for ***Middle East Region ports and logistic actors.***

**Deadline for joining as stakeholder 30.11.2018**

**Contact us at**

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Or

**You can find  
us at booth  
10**



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