Project Name: MOSES (AutoMated Vessels and Supply Chain Optimisation for Sustainable Short SEa Shipping)

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MOSES project aims to significantly enhance the SSS component of the European container supply chain through the optimization of logistics operations. A dedicated digital collaboration and matchmaking platform is developed (MOSES Platform), aiming to match demand and supply of cargo volumes by logistics stakeholders (shippers, forwarders, shipping lines, ports) using Machine Learning (ML) and data-driven analysis to maximize SSS traffic (availability of mode, cargo volumes, delivery times).

This is achieved by increasing the visibility of the available SSS routes and also highlighting the advantages of using SSS routes instead of land-based transportation. In general, the MOSES Platform allows the horizontal collaboration among logistics stakeholders, while, further to the capabilities that are already supported by current horizontal collaboration platforms, the MOSES Platform also considers water-based transport modes and SSS specificities.

The MOSES Platform can enhance the logistics process through:

1. Maximizing demand and enhancing SSS route usage
2. Clear mapping of B2B processes within the entire supply chain
3. Consolidating cargo flow (at container level) through appropriate ML techniques
4. Changing freight flows handling and increasing the cost effectiveness of partial cargo loads
5. Boosting last mile/just in time connections among transport modes and backhaul traffic

MOSES Platform supports:

- Route visualization through web based, georeferenced interface
- Selection of preferred user interactions according to the stakeholders’ needs
- Scenario building capabilities for users that wish to evaluate - as is and to be - the costs, the energy efficiency & the environmental footprint
- Specific module for sharing information on empty containers and cost effective solutions for empty container return or relocation

MOSES Matchmaking Platform

Typical interactions among logistics stakeholders

- Shipper
  - Receiving invoice
  - Forwarding invoice to the shipper
- Freight Forwarder
  - Receiving order from shipper
  - Request of available services from different carriers
  - Receiving transportation services
  - Evaluation of provided options based on initial order
- Cargo Owners
  - Receiving order details from freight forwarder
  - Provision of available routes and time schedule
- Ship Owners
  - Receiving order from freight forwarder
  - Undertaking to transport the cargo
- MOSES Matchmaking Platform
  - Receiving request from freight forwarder
  - Sending them to the shipper
  - Sorting provided options by suitability
  - Sending them to the shipper

Interactions using the MOSES platform

- Shipper
  - New order definition
  - Assignment of freight forwarder to perform the order
- Freight Forwarder
  - Receiving transportation option informing freight forwarder about selection
  - Receiving selected option from shipper
  - Informing and assignment of selected carrier to transport the cargo
- Cargo Owners
  - Invoice issue
  - Sending invoice to the forwarder
- Ship Owners
  - Receiving invoice
  - Forwarding invoice to the shipper