


Challenge and Innovation in Modal Freight Transport : FOR-FREIGHT

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Flexible, multi-mOdal and Robust FREIGHt Transport (FOR-FREIGHT)

Goal: Maximize the utilization of multimodal freight transport capacity and reduce the average cost of freight transport through the development of novel solutions and their integration with legacy logistics systems.



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Objectives:

- Facilitate greenhouse gas emissions reduction through.
- Provide automated decision support system functionalities
- Ensure the resilience of data and management systems
- Provide full visibility of the standard services offered by the multimodal freight transport.
- Ensure compatibility of deployed solutions with existing legacy systems.



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Approach: Case-study of FOR-FREIGHT involves 3 use-cases in Greece - Pireu -port, Romania- Galati-port and Spain- Valencia-port.

Implications: Researchers, T&L Operators, SME's, Service providers, Authorities, Vendors

Value: The FOR-FREIGHT solutions will target the end-to-end optimization of multimodal/multi-stakeholder logistics processes and improved access to transshipment services through the following Unique Value Propositions.

Concept and Methodology

The FOR-FREIGHT solutions must:

- target the end-to-end optimization of multimodal multi-stakeholder logistics processes
- improved access to transshipment services through Unique Value Propositions
- enfold a broad spectrum's requirements of the most Transport and Logistics stakeholders

The project's use cases (UCs) and real-life field trials will target three complementary intermodal transport scenarios:

- seaport-to-city (last mile) with the use of the subway network
- seaport-to-airport with the use of trucks
- inland (river) port-to-mainland via rail transport.

Research study: address all the objective related to mobility:

- Safety
- On demand, traffic efficiency
- User experience
- Impact
- Innovation

Practical use case definition and deployment:

- During/post project
- Scale up use case

Keywords: Transport & Logistics, 5G, Logistics 4.0, Multi-modality, Sustainability

Identified problems researching FOR-FREIGHT Romanian use-case

- Lack of investments in new technologies
- Intensive manual labour
- Aspects regarding data governance and data security
- Non- synchronizations between unloading/loading and handling activities
- Low digitalization and historical data available
- Transfer of goods from vessels to railways in not a continuous, logically integrated process, but a fragmented one.

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Business Scenarios: Foreseen Functionalities are envisioned to be developed until the end of the project:

- Automatic estimated **time of arrival** (ETA) update of the ship in the port, based on historical and real-time tracking data
- Full view of the end-to-end process to users, including real-time door-to-door tracking.
- Suggestions from the **decision support system** (DSS) to the port authorities, the logistics operator and the customs agencies, regarding the necessary resources to be reserved (staff, vehicles, etc.), depending on the size of the goods, the type and the exact ETA.
- Advice DSS to rail freight operators on the required storage space and resources to be available at the exact time of arrival of the goods.

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Mapping requirements * Business role** DevOps ***

* Reduce delays, accidents and errors through technology implemented

- Compatibility with existing and emerging EU logistics standards
- Automatic reservation to railway, using a unique cargo ID
- Real-time data regarding the storage space and resources available

** Telemetry systems

- Network management
- Monitoring systems

*** The combination of knowledge, practices, and tools that increases the project partners' ability to deliver orchestrated applications and services

- Speed & Scale
- Reliability
- Improved Collaboration Security

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Prior work & References

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