FOR FREIGHT

Beïa ®

Resilient Communities Empowered by Collective Intelligence

Smart Cities International Conference (SCIC), 12th Edition, 2024 - December 4-6

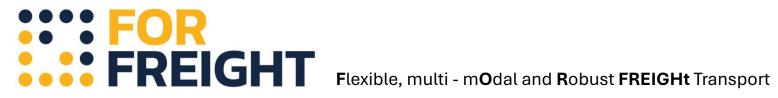# Romanian's Innovation project: Modal Freight Transport

BEIA - Business Description

Research &Development Innovation

- M2M/IoT Sensor networks for real-time monitoring (transport traffic, infrastructure, seismic activity, radioactivity, tsunamis, marine/maritime activities, floods, air quality, etc.

  - Opensource mobile applications. 4G/5G/6G LTE/WiMax& Satellite offloading

    - Big data (AI, Earth observation, WSN, social
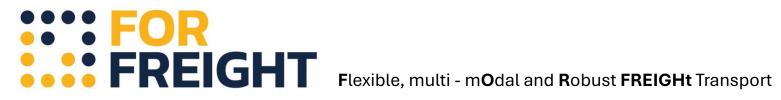
      - Cloud computing & HPC

Flexible, multi - m**O**dal and **R**obust **FREIGH**t Transport

Romanian's Innovation project: Modal Freight Transport

Research study: address all the objective related to mobility:

- Safety

- On demand, traffic efficiency

- User experience

- Impact

- Innovation

Flexible, multi - m**O**dal and **R**obust **FREIGH**t Transport

Romanian's Innovation project: Modal Freight Transport

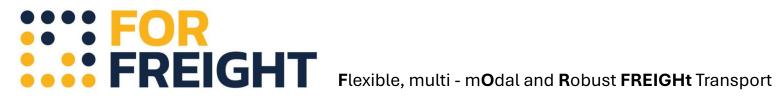Practical use case definition and deployment:

During/post project

Scale up use case

Identified problems researching FOR-FREIGHT Romanian use-case

- Lack of investments in new technologies

- Intensive manual labour

- Aspects regarding data governance and data security

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Romanian's Innovation project: Modal Freight Transport

- Reduce delays, accidents and errors throught technology implemented

- Compatibility with existing and emerging EU logistics standards

- Automatic rezervation to railway, using a unique cargo ID

- Real- time data regarding the storage space and resources available

Romanian's Innovation project: Modal Freight Transport

Maximise the utilisation of multimodal freight transport capacity, achieve competitive sustainability with higher levels of efficiency, and reduce the average cost of freight transport

- **Decision Support** System for the optimization of resource utilization (AI/ML, Digital Twins).
- **Real-time door-to-door tracking**, status monitoring & control of cargo along the supply chain.
- Increased **resilience** against large scale disruptive events based on proactive planning and increased security of information (e.g., Blockchain).
- Increased **sustainability** through the adoption of a carbon footprint assessment framework and use of alternative modes of transportation (subway).

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Solutions:

- FOR-FREIGHT platform – end-to-end view of the multimodal transport planning, monitoring and operations assessment.

- A support system for real-time, automated decision-making.

- Decentralized data management / Integration with existing legacy systems in the supply chains.

- Services at pilot site level

Key Ideas in collective intelligence:

1.Resilience:
1. Refers to the ability of a community to withstand and recover from challenges like natural disasters, economic crises, or social issues.
2. Implies a proactive approach to building sustainable systems.

2.Empowerment:
1. Focuses on enabling individuals and groups within the community to take action, make decisions, and drive change.
2. Suggests the use of tools, knowledge, or systems that promote active participation.

3.Collective Intelligence:
1. Refers to the shared knowledge, problem-solving abilities, and collaboration of individuals in a group.
2. Emphasizes the idea that communities can achieve better outcomes by working together and leveraging diverse perspectives.

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