LL #8 Multi Modal Information Sharing III (MMIS III)

FACTSHEET

30 SEPTEMBER 2022

A. GENERAL (BUSINESS CASE)

1.Objectives

- The development of process descriptions that identify physical/administrative events and coordination points as well as the information need by the actors involved, to create consensus.
- The use of digital data sharing platform Deplide to demonstrate the concept of Collaborative Decision Making (CDM) – deleting the concept of siloed data, i.e. introducing new ways to share and retrieve important logistics data from supply chains.
- Increased supply chain visibility and optimized asset management – reliable situational awareness of what is planned, what is happening as well as what has happened.
- Further extend the scope of earlier demonstrations to include more actors in the supply chain as well as more data sources.
- To lower the implementation costs for connecting parties to a digital infrastructure.

2. Main emphasis

This Living Lab aims to extend the scope of earlier demonstrations to include more actors and more types of data sources to develop a scalable and "accessible to all" digital infrastructure to connect all types of organizations, public or private, global or local, involved in transport and logistics chains. The reference and demonstration pilot is Alleima's (formerly Sandvik Material Technology) export supply chain of advanced steel products. Specifically, the transport from their production site outside Gävle to the end customer in Scranton, Pennsylvania (US), by way of Gävle port, Bremerhaven and the Port of New York and New Jersey. The supply chain includes road haulage (first and last mile) as well as shipping (feeder and deep-sea container vessels). Several alterations are needed for the semantics and ontologies used in the

data model for the Deplide platform to suit all transport means. Steps have been taken in the previous phases of the MMIS initiative (I and II) and the aim of this Living Lab is to further include vital stakeholders in the supply chain, including terminal operators, shipping lines and customs, amongst others.

In MMIS phase III the geographical coverage will be scaled up to include transshipment at deep-sea container ports in Western Europe. By having access to a larger set of data, the Living Lab will also elaborate on aspects of governance, financing models and the potential of empowering 3rd party IT service providers.

The Living Lab should:

- Bring forth knowledge and insights from build-up and running of demonstrator
- Transfer knowledge and integrate to platform Deplide
- Extend actor engagement and geographical coverage, to include other parties of the supply chain (shippers, terminal operators, transport companies, authorities such as ports, customs, and infrastructure managers)
- The platform should enable actors to share information with each other without need of integration, using semantics and linked data
- Once connected to the platform, sharing of data should need no further integration
- Further elaborate on governance, financing models and potential of introducing microservices through platform

3. Challenges

- Dependence on one technical partner who has left the project has caused delays in the Living Lab.
- The project is identifying more partners to join and is also making sure that the identified partners understand the value of sharing data in each specific case to mitigate this risk.

4. Transport modes

Road, Sea (feeder and deep-sea container traffic).

5. EU Map Focus

Scan-Med and the Motorways of the Sea.

6. Geographical coverage

Sweden, Germany (other continents: US).

7. Actors/SMs

- CLOSER
- RISE
- Alleima (formerly Sandvik Material Technology)
- Geodis – freight forwarder
- Swedish Transport Administration
- Swedish Maritime Administration
- Swedish/US customs
- Road Cargo (lorry operator, Sweden)
- Last mile lorry operator (US) (potentially)
- Shipping companies (feeder/deep-sea)
- Port of Gävle
- Yilport – Terminal operator at port of Gävle
- Port terminal operator at Bremerhaven (currently unknown)

8. Forecast scaling outside LL

The Collaborative Decision Making (CDM) concept has been implemented in different areas, such as for airports, seaports and passenger railway stations. The results from completed port CDM projects have for instance proven a more efficient overall port call performance, e.g. improved processes by enabling operators, terminals and the other parties involved in the intermodal transportation chain to keep each other informed of progress and take appropriate actions as soon as any delays or changes to the existing plan become known. The Living Lab becomes a basis of understanding for the CDM concept at intermodal terminals, thus enlarging the previous CDM concept. The expected outcome of the Living Lab is to increase the coordination capacity of various transport hubs as part of an efficient multimodal transport system.

The main objective on the third phase of the MMIS project is to upscale the number of actors and events sharing information via the Deplide platform. By nature, as more users are connected via the platform, the potential and enabling of scaling outside the scope of the Living Lab is increased.

B. TECHNICAL SETTING

9. ICT vs physical

The living lab will develop a shared platform for one point integration using linked data to enable data sharing between actors in the supply chain. The platform should offer its users:

- Ability to publish data and subscribe to data – relevant actors should be alerted when relevant data is accessible
- Secure and robust environment with flexibility and control regarding data access – actors should only get access to relevant data (decided by the data owner)
- The platform should bridge the gap of sharing data between different systems by using semantic models based on ontology and data links, where ontologies enable standardized descriptions of objects
- Real time data – continuous data updates during transit is a necessity in order to get needed insights
- One point of integration (once integrated to the Deplide platform, no other integrations between actors' IT-systems is needed.)
- API based

The Living Lab deals with the following FEDeRATED global features:

- Language
- Access
- Findability
- Identity

10. DTLF implementation option:

B. Single Platform
C. Multiple platforms (Possibilities to connect to multiple platforms)

C. ORGANISATIONAL ASPECTS

11. Success factors

- Operational efficiency
  - Customer order cycle time
  - Deviation booked vs. shipped units
  - Net working capital deployed
  - On-time shipping rate
- Administrative efficiency
  - Number of correct freight bills
  - Velocity in issuing booking confirmations
  - Velocity in issuing shipment documentation
- Environmental performance

  - Emissions equivalents per unit
- System related
  - System response time
  - Potential to modify dashboard/interface
  - System down-time

12. Risks

- Identify and make relevant actors in the transport flow join the initiative and share data.
- Integration to new platform (due to change of platform)
- The main actor is changing its owner structure, leading to less resources available for the initiative during 2022
- Get in contact with the right individuals through main actors' contacts, to get attention.

13. Timing

	2019				2020				2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Preperations																				
Planning and scoping																				
Stakeholder engagement																				
Metro map																				
Identification of data sets																				
LL infrastructure development																				
Preliminary testing																				
Feedback & scaling																				
Operational testing																				
Result report																				

14. Contact

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