LL #2 CaaS Technology North Sea – Baltic corridor

FACTSHEET

28 SEPTEMBER 2022

A. GENERAL (BUSINESS CASE)

1.Objectives

- Proof of concept of IoT device for cargo tracking (incl. eSeal, ETD/ETA capabilities) and transport tracking (shipments)
- Optimise production scheduling based on supply chain visibility
- Integrate IATA One Record capabilities
- Enhanced supply chain transparency for business and authorities
- Carbon footprint monitoring
- eFTI Common Access Point benchmark

2.Main emphasis

The main emphasis is the use of Internet of Things devices for tracking vehicles and goods in multimodal cross-border logistics between Finland and Estonia. There are various R&D actions and collaboration initiatives ongoing between Finland and Estonia. This corridor enables good facilities to test new technologies, connectivity and IoT devices, which can be used to enhance supply chain transparency and traceability. In addition, the R&D collaboration between Finland and the Baltic countries enables extension towards data sharing practices and hence utilize fast development and high level of digital solutions that Baltic countries including public private partnership (PPP). On of these collaboration areas is eFTI preparations. The historical development in North Sea – Baltic corridor and current digital operation environment provide good foundation for technology-based development.

3.Challenges

- End-to-end supply chain reliability by allowing involved parties to manage operations based on real time data

- Transport status information is available on main check points, where cargo is transferred from an actor to another. This causes uncertainty and opacity.
- To test how IoT devices and smart infrastructure can enhance supply chain transparency and controllability, with respect of data sharing requirements.
- To adapt IATA One Record data sharing model and iSHARE trust network solution to tests and link that way other hub operator and Estonian.
- Intensified PPP

4. Transport mode

Road, Sea

5. EU Map Focus

North-Sea Baltic corridor

6. Geographical coverage

Finland, Estonia, Latvia, Lithuania. Russia was involved until Winter 2021)

7. Actors

- Vediafi,
- Finnair Cargo,
- Kouvola Innovations
- GoSwift,
- Eckerö line,
- Port of Tallin,
- Ericsson,
- Telia,
- Kouvola Innovation/RailGate Finland
- DBE Core
- Waybiller.

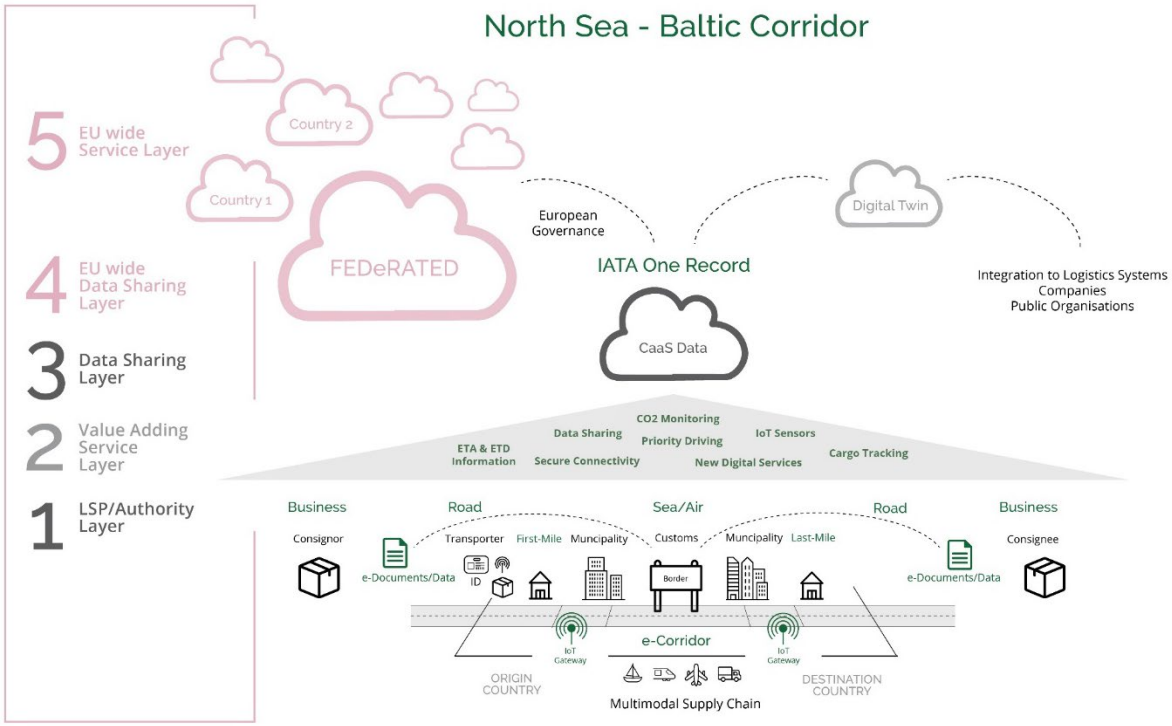
8. Forecast scaling outside LL

Sensor and IoT devices could increase real time monitoring of cargo and transportation, this will also support carbon footprint monitoring. This will be relevant for all transportations, which want to monitor deliveries and enable process automation based on data. Forecast is that in future most of the transport data will be provided by on-board sensors/IoT devices.

B TECHNICAL SETTING9.

9. ICT vs physical

On site Vedia RMU (Roadside Management Unit) is used to connect cargo information from the site to the FEDeRATED infrastructure via Vedia CaaS cloud solution. Vedia CaaS solution is used to share data among stakeholders.



The CaaS North Sea - Baltic living lab is built on top of IATA's One Record architecture. The CaaS server is run in DigitalOcean hosted cloud setup that uses Docker containers that are orchestrated using Kubernetes.

Event data is generated using various IoT devices. These devices communicate using their own APIs to Vedia's data platform. IoT devices and other devices are either used in conjunction with the Vedia RMU, which handles communication with the server, or communicate independently to the server.

The data generated in the living lab can be shared among contributors, authorities and customers in the living lab using the One Record model of sharing data.

This Living Lab deals with the following FEDeRATED global features:

- Language
- Access
- Findability
- Identity

10. DTLF implementation option:

B Single Platform

C ORGANISATIONAL ASPECTS

11. Success factors

- Number of private companies engaged to living lab
- Number of public organisations engaged to living lab
- Number of pilots executed in living lab
- Estimated time saving achieved with new digital queueing, eSeal and traffic information solution
- Meaningfulness of IoT based cargo tracking for business in scale of 0-4
- Meaningfulness of IoT based cargo tracking for authorities in scale of 0-4

12. Risks

- COVID 19 liming international travelling
- Reluctance of stakeholders to participate on pilots.
- Business case and potential financial unprofitability.
- Transition from pilot to operational phase

13. Timing

LL#02	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
Preparations																				
Planning and scoping																				
Stakeholder engagement																				
LL infrastructure development																				
Testing & piloting																				
Iteration & process analysis																				
Operational trials																				
Feedback & scaling																				

14. Contact

Lasse Nykänen, Vediafi Ltd, +358 50 303 1268, lasse.nykanen@vedia.fi