

# LL #20 eGovernment Logistics

## FACTSHEET

10 MARCH 2022

### A. GENERAL (business case)

#### 1. Objectives

- Transport, container and transport tracking
- Multimodal platform interoperability - to develop a federated public private data sharing infrastructure provision
- Seamless exchange of data from a B2A, A2B and A2B perspective with the aim:
  - to optimize asset and capacity management.
  - to enhance supply chain visibility, i.e. to enable an optimal data information position for public authorities and business with the objective to improve their business processes and contribute to seamless goods flows;
  - supply chain resilience
  - to generate innovative eGovernment services, i.e. shared public sector risk assessment and law enforcement, data analytics and coordinated corridor management information services

#### 2. Main emphasis

To develop and establish the Basic Data sharing Infrastructure (BDI) facilities and connecting nodes for authorized data users to secure access to reliable data holders (IT Platforms or companies) based on a pull approach which the aim to improve supply chain visibility for public authorities, enhance digital service levels and law enforcement. The use cases might relate to:

- Common access point for the implementation of the eFTI Regulation, leading onto federated data sharing practices. the implementation of the eFTI.
- Data sharing practices facilitating the execution of public authorities tasks, i.e.:
  - the implementation of the European Maritime Single Window environment (EMSWe) Regulation
  - air cargo data corridor management between Schiphol and various international airports, e.g. Singapore.

- Data interoperability with i.e. Tradelens – PCS and Customs
- Cargo Monitor System – basic administration and dashboard for maritime, aviation, surface transport
- Tracking&Tracing mechanism for EU cross bordering Inland Navigation transport operations

### **3. Challenges**

- Collaborative approach. To create a sustainable public private BDI that enables seamless multimodal data interoperability with existing platforms and solutions and incorporating the implementation processes relating EMSWe, eFTI and ICS2.0.
- The development and application of a BDI toolkit (including a semantic model for multimodal data interoperability) for realising a public data sharing infrastructure provision for B2A, A2A and A2B and setting the stage for a genuine B2B data sharing infrastructure. This demands real change management, for driving the transition from a traditional, document or message structure driven approach towards a full data driven approach: the shock of the new.
- The development of a set of arrangements on the procedures and technical components of the BDI.
- Easy to use tools and comprehensibility to a multi stakeholder communality

### **4. Transport mode**

Sea, Air, Road, Barge, and Customs im- and export chain.

### **5. EU Map Focus**

- North Sea-Baltic Corridor (Finland–Estonia–Latvia–Lithuania–Poland–Germany–Netherlands/Belgium)
- Rhine-Alpine Corridor (Netherlands/Belgium–Germany–Switzerland–Italy)

### **6. Geographical coverage**

The Netherlands, Belgium, Luxemburg. Expansion towards Germany, Spain and Finland under investigation.

### **7. Actors/SMs**

- Port of Rotterdam,

- Port of Amsterdam,
- Schiphol Airport, inc Cargonaut (PCS)
- Portbase (PCS)
- Dutch Customs Authority,
- Dutch Inspectorates,
- Rijkswaterstaat,
- Topsector Logistiek,
- Connekt,
- TNO,
- iSHARE,
- Danser,
- Rheinports,
- Interstream
- Cargoledger
- Hessing
- Vermeer
- Transfollow,
- Collect and Go
- Transporters (tbi) Meer Groep

## 8. Forecast scaling outside LL

The living lab focusses on A2A and B2A data sharing in the mainport domain with customs, mainports and their PCS as launching customers. Due the fact that it follows a fully federated approach, the BDI and its node is easily scalable to authorities and companies active on the hinterland corridors. The first use cases are conceptually under development. Also, the connection between this living lab and other living labs is currently under investigation

## B. TECHNICAL SETTING

### 9. ICT vs physical

The functional components are:

- Service Register – it stores the data holders and the type of data they can provide. This one is under development.
- Index – the set of events shared between a data holder and data users.
- Identity Provider – a temporary Identity Provider has been set up to demonstrate the functioning of a 'BDI node'.

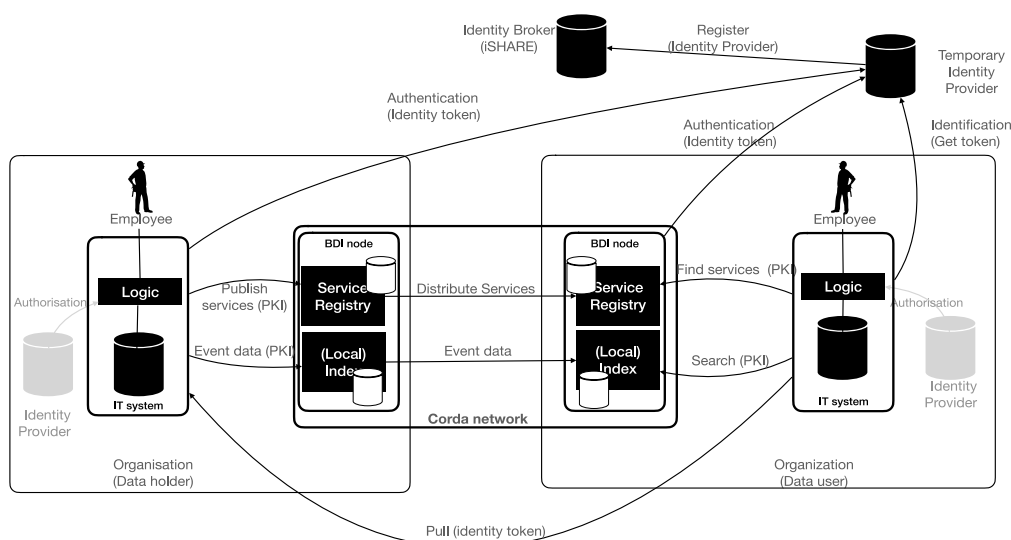
All interfaces need to be configured per use case and transformed into the semantic model via a so-called semantic adapter. The following interfaces are available:

- Publish services – the registration of a data holder with its services. This will be supported by a user event – and data editor.
- Find services – the ability to access services of all data holders

- Event data – the set of events that is shared based on Publish Services
- Pull – authorized users can retrieve the data based on a URI, as registered with the Publish Services.

Each data holder and data user has to comply with the architectural setting, unless there are particular reasons that such an organization is not able to. This refers to the following components and interfaces:

- BDI node – each data holder and data user can have its own BDI node. Some organizations don't want to implement a BDI node in their domain, due to whatever reasons. In case an organization is not able to implement a BDI node, it needs to integrate with the (identical) APIs of all relevant nodes. In case data users share one BDI node, they will be able to see the same data set (i.e. there is no access control implemented on a node, a node supports a single organization).
- Data transformation – each data holder or -user is responsible for transforming data into the semantics and structure prescribed by BDI (RDF data). A semantic adapter is under development to ease data transformation and to support user specific events.
- API transformation – a data holder and -user must comply with the structure and APIs as specified by the semantic model. For this purpose a 'semantic wrapper' needs to be developed.
- GUI (Graphical User Interface) – potentially, only data users will have a GUI. This makes it possible for them to experiment, without integrating a solution in their internal IT systems and processes. This is in line with a Living Lab approach.
- Data quality – a data holder is responsible for the data quality according to the data set that they are able to provide.



This Living Lab deals with the following FEDeRATED global features:

- Semantics
- Access
- Findability
- Identity

## 10. DTLF implementation option

### D. P2P and platforms -

The BDI will interconnect existing (data sharing) platforms (such as the Port Community Systems) and enable peer-2-peer-data sharing between different parties involved.

## C. ORGANISATIONAL ISSUES

### 11. Success factors

- Alignment existing ID and semantics instruments, resp iSHARE and Open Trip Model, with BDI/FEDeRATED operational and conceptual architecture.
- Convergence operational BDI framework with FEDeRATED reference architecture.
- Engagement of public sector bodies, i.e. Customs, inspectorates, police
- Enhanced supply chain visibility for businesses, clear business case prospect for more effective planning in ports and more efficient traffic flows
- Less interruptions in the logistic processes and better insight in goods and traffic flows of Dutch Customs.
- Dashboard facilities for various operators to enable optimization of asset utilization and infrastructure use

### 12. Risks

- Restraint various stakeholders to engage in interoperable data sharing practices based on a data at source approach, due to insufficient tangible prospects for developing future proof new business services,
- Non compliance proposed technical solution with operational capabilities connecting private platforms
- Lack of tangible progress to commit major stakeholders to participate and invest
- Lack of knowledge and resources at participating companies and suppliers – digital readiness - , also in relation to EU developments.
- Possible legal restraints to enable private platforms dealing with data related to B2A compliance.

### 13. Timing

LL#20	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

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