



Outlook on the future-FENIX

***- A European Federated Network of
Information exchange in Future
Logistics-***

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Outline

- Introduction
- AEOLIX goals
- Architecture overview
- Beyond AEOLIX
- AELIX benefits
- Achievements

Introduction

AN OPEN PROBLEM

- **Supply chain efficiency largely depends upon data and information** – how it is collected, processed, stored, updated, interpreted, understood, and exploited.
- **On operational level**, actors need real-time information, to be able to make effective decisions.
- **On tactical and strategic levels**, transportation systems need increased connectivity.
- **Existing systems are currently not linked to each other**, thus missing the opportunity to optimize the performance of their cooperation.
- There is the need of **new platforms for connecting logistics** information systems with different characteristics, intra- and cross-company, for immediate (real-time) exchange of information.

Introduction

“Information is power only if you can take action with it.

Then, and only then, does it represent knowledge and, consequently, power.”

Daniel Burrus, Disruptive Innovation-Leading Futurist.

Information should be:

- Easy to access
- Easy to share
- Easy to control
- Useful/Tailored
- ***Data format***



AEOLIX ambition

- AEOLIX aims to overcome today's fragmentation and lack of connectivity around ICT-based systems for logistics decision making
- Develop a cloud-based, multi-enterprise “many-to-many” network which captures and streams data in real-time, and automatically translates “data format” from different IT systems giving companies the ability to rapidly respond to issues through a customised dashboard.
- 20% reduction in greenhouse emissions compared to the current situation.

Identity Manager

IdM Management API

Authentication & authorization service

Accounts

Roles

Permissions

Applications

Groups

OAuth 2.0



Intelligent Dashboard

End User Interface



Stakeholder Systems

Data feed



3rd Party applications



User APPS

Logistics IT Services

Application services interplay
Services: eCMR, Planning, CO₂ footprint, ...



Toolkit

Governance

MyAEOLIX

- › User Management
- › Data Management
- › Toolkit Management
- › Subscriptions Management
- › Member Application Management



Interoperability Services

Data Transformation Service (DTS)

- › Data Transformation Models



Connectivity

- › AEON Cloud Messaging - Communication Platform



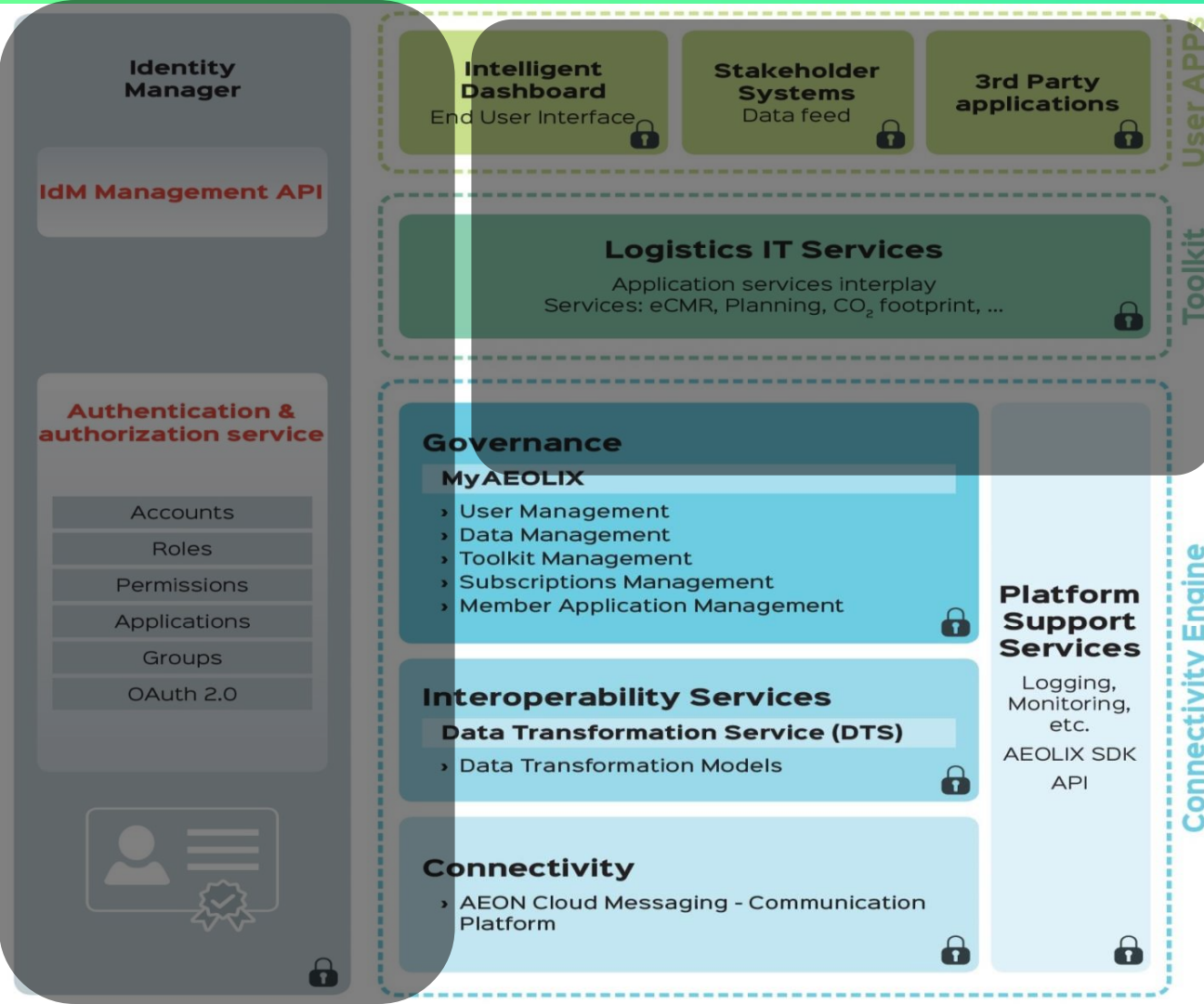
Platform Support Services

Logging,
Monitoring,
etc.
AEOLIX SDK
API



Connectivity Engine

- **AEOLIX network**
 - cloud-based
 - multi-enterprise
 - “many-to-many”
 - Decentralized approach
- Captures and streams data in real-time
- Members establish its own data sharing infrastructure
 - Data access control
 - Re-use/Link of current systems/platforms
 - Data Interoperability
- Security & Trust



- **Connectivity Engine**
 - Communication data network
 - Interoperability services
 - Governance services
- **MyAEOLIX application**
 - Allows members to establish its role, master data management and activity in the network
 - Supports the creation of its own data sharing infrastructure and data access control
 - Toolkit and application management
 - Provides activity log

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➤ AEOLIX Identity Manager

- Identification, authentication and authorization
- Improved trust and data security
- Central authentication point with a shared role definition system
- Effective access to resources > AEOLIX IDM uses an extension of OAuth2.0

MyAEOLIX

<https://connect.myaeolix.eu/>

AEOLIX

➔ Login

📄 Register



Join the data sharing network for logistics

118 MEMBERS

198 USERS

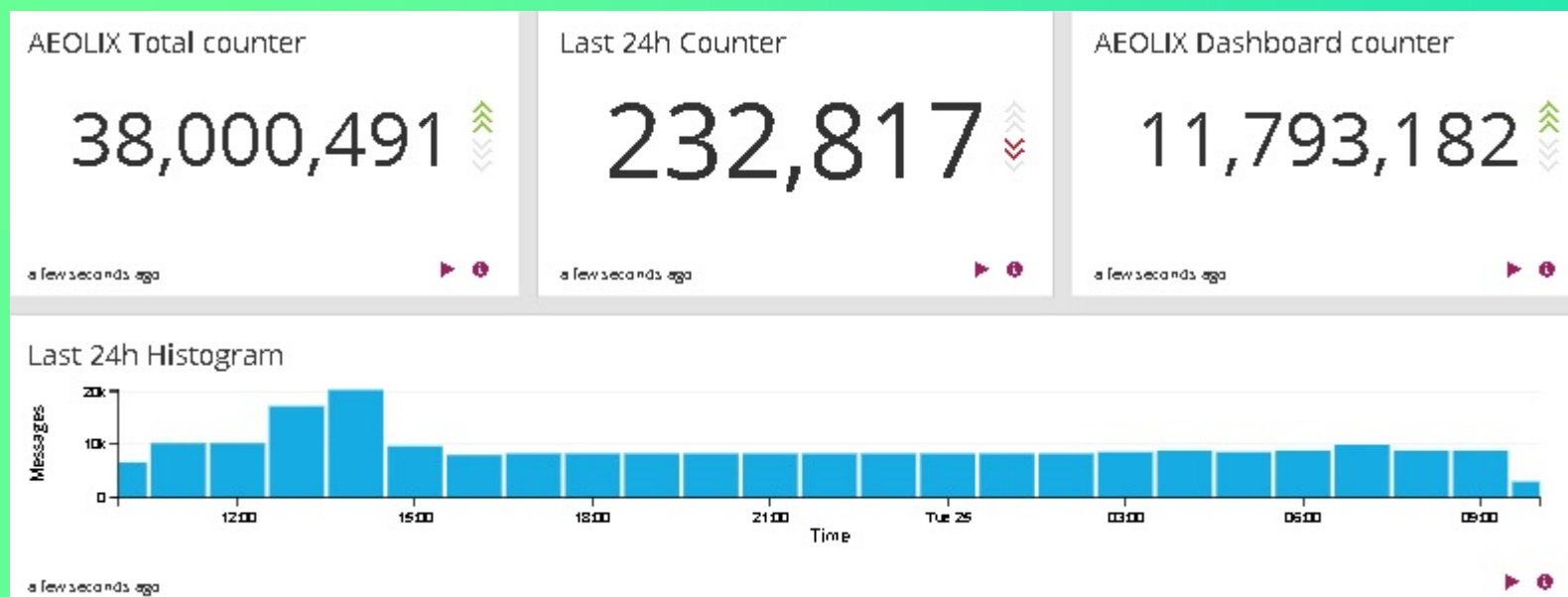
133 DATA SOURCES

25391886 MESSAGES SENT

11 SERVICES

32730 SERVICES REQUESTS
54630 SERVICES RESPONSES

Total counter



Developers Friendly



Simplicity

6 main SDK
operations



AEOLIX main services



Data exchange



Data posting



Risk prediction



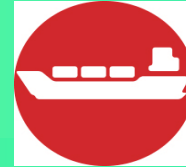
E-CMR



Visibility services



CO2 monitoring



Port services



Data sharing



Data collection



Marketplace



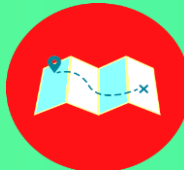
Custom services



Control Tower



Estimated Time of Arrival



Route planning



Data management

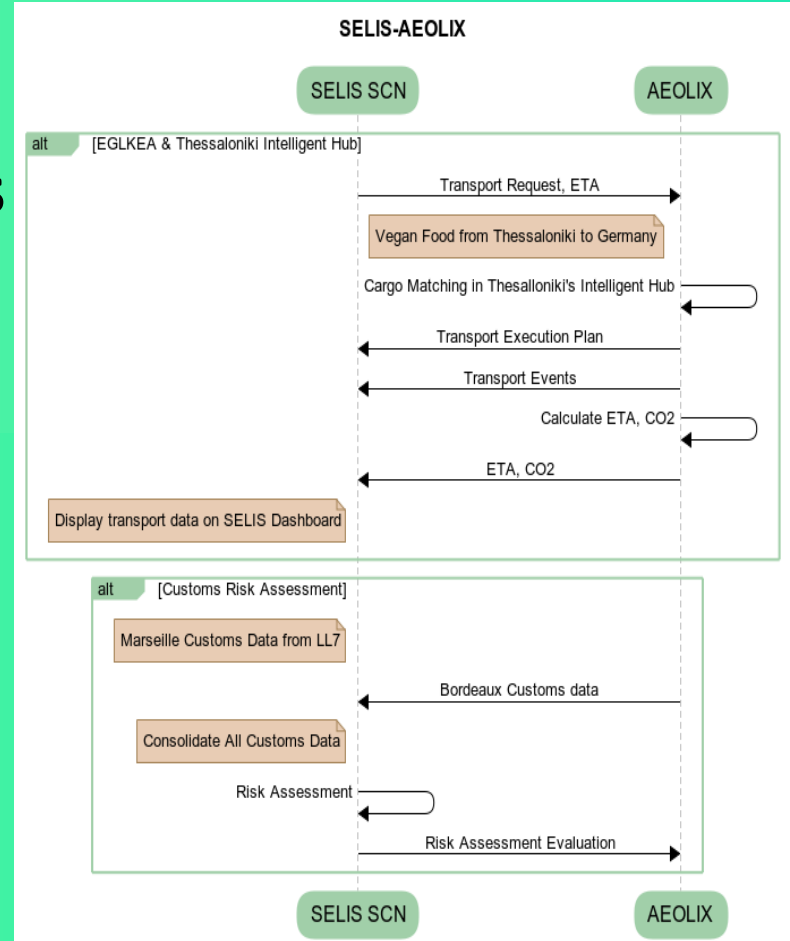


What else?

FENIX

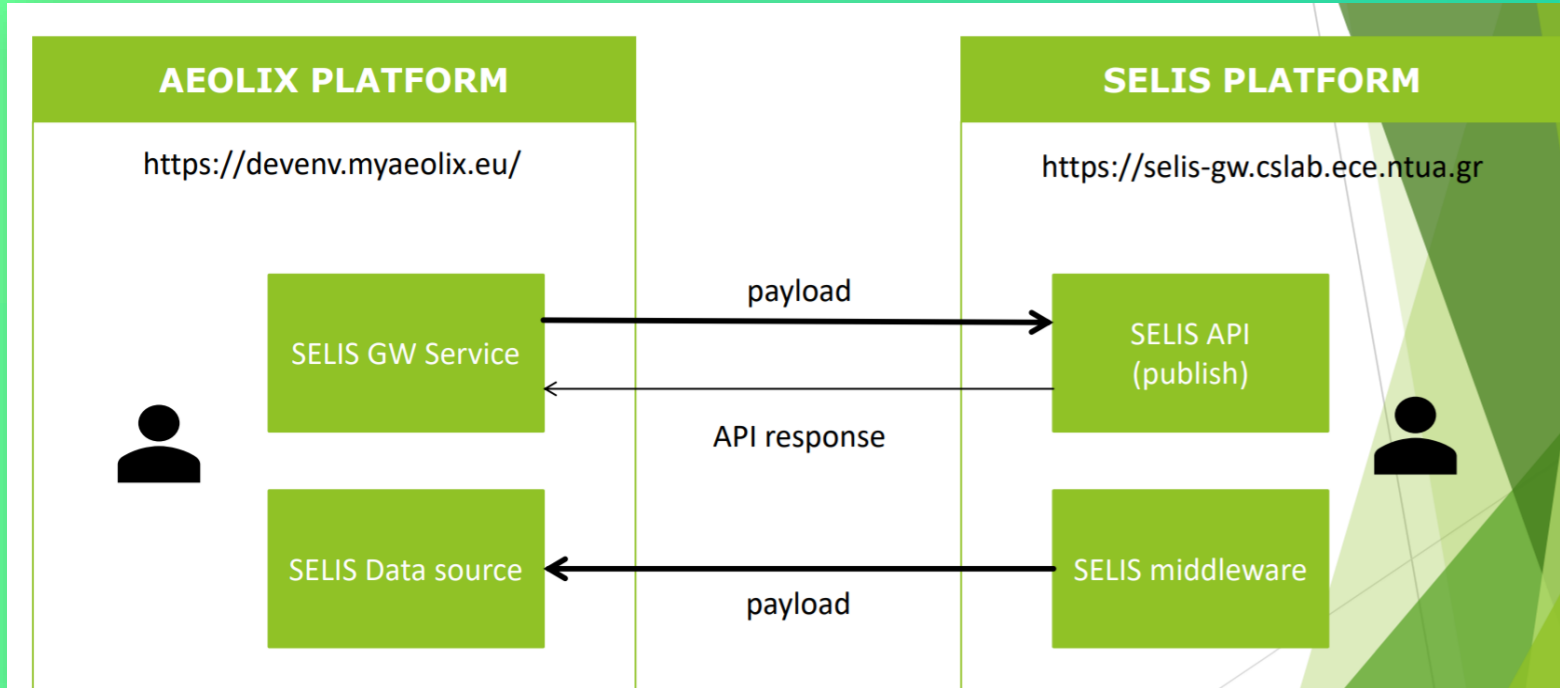
Beyond AEOLIX: federative network of platforms

- Connect AEOLIX-SELIS





AEOLIX- SELIS – Common Demonstration Communication schema





AEOLIX – SELIS Interoperability

Register SELIS as member in AEOLIX

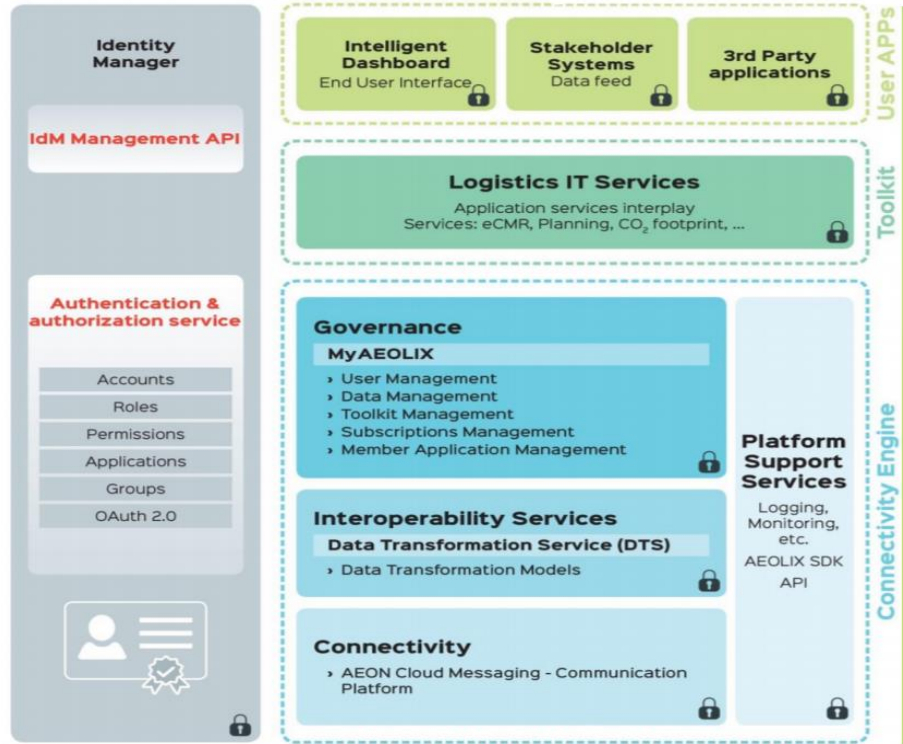
Create SELIS DS in AEOLIX

Create and Register SELIS GW Service in AEOLIX Toolkit

AEOLIX Member request access to SELIS GW Service

SELIS GW Services grant access to AEOLIX member requests

SELIS GW Service is deployed in AEOLIX Cloud Infrastructure





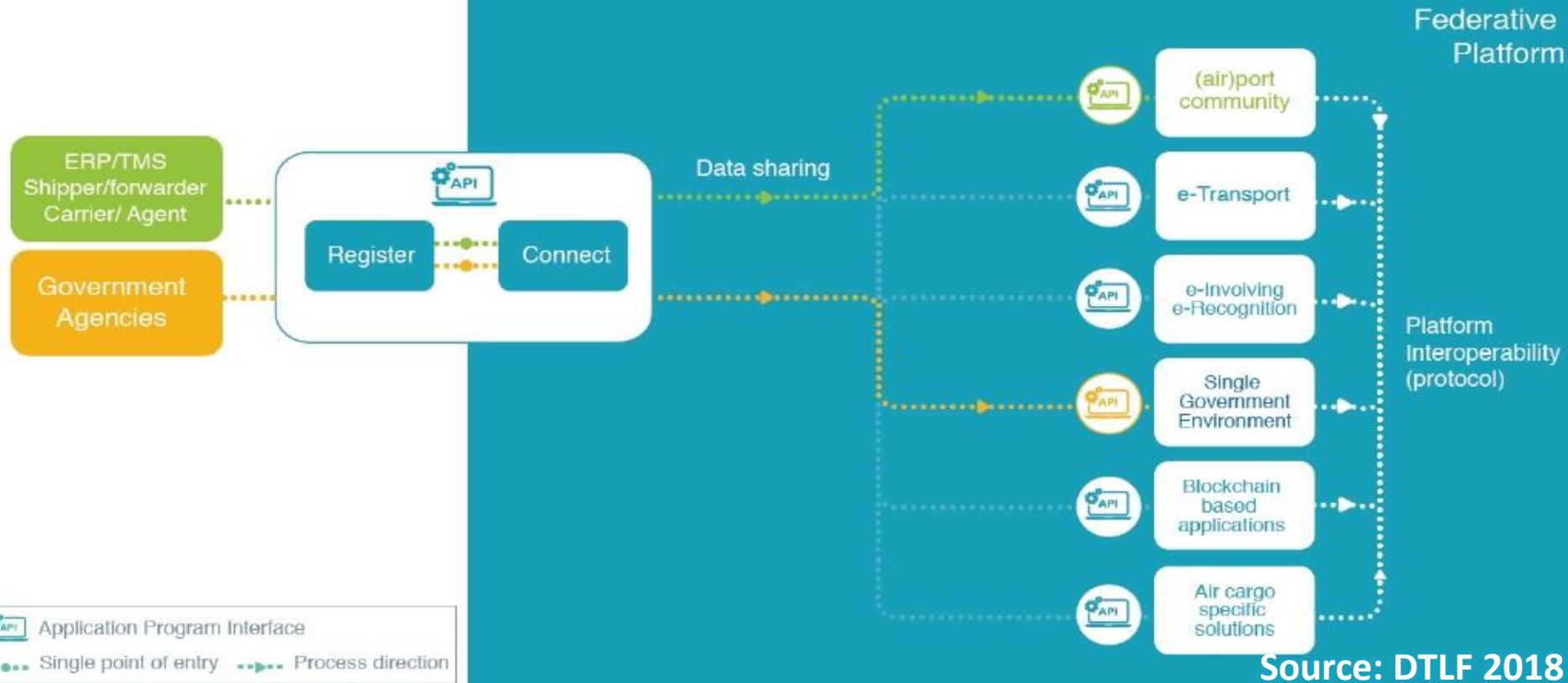
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- A European Federated Network of Information exchange in Future Logistics-

based on the work and recommendation of the Digital Transport and Logistic Forum (DTLF) sub-group 2 (corridor information systems) to create a viable and valid federative network of platforms as enabler for Business to Administration (B2A) and Business to Business (B2B) data exchange and sharing by transport and logistics operators.

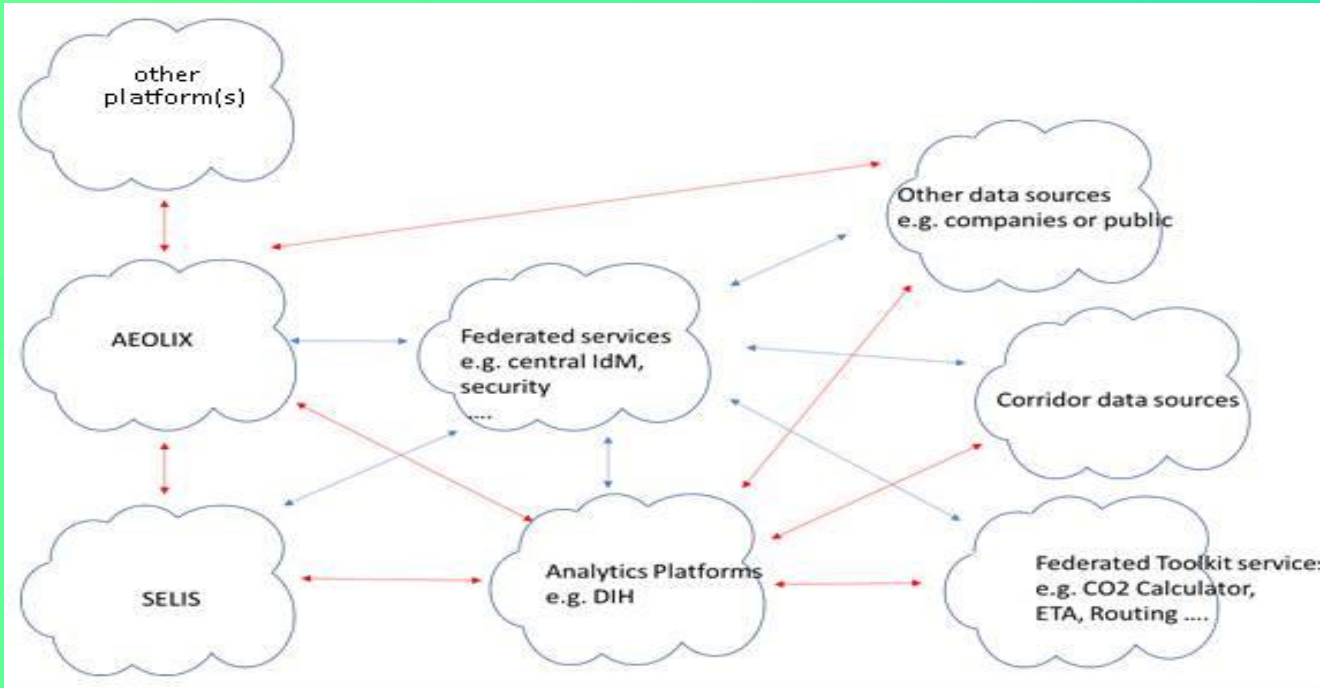
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How would Federated Platform look like?



FENIX

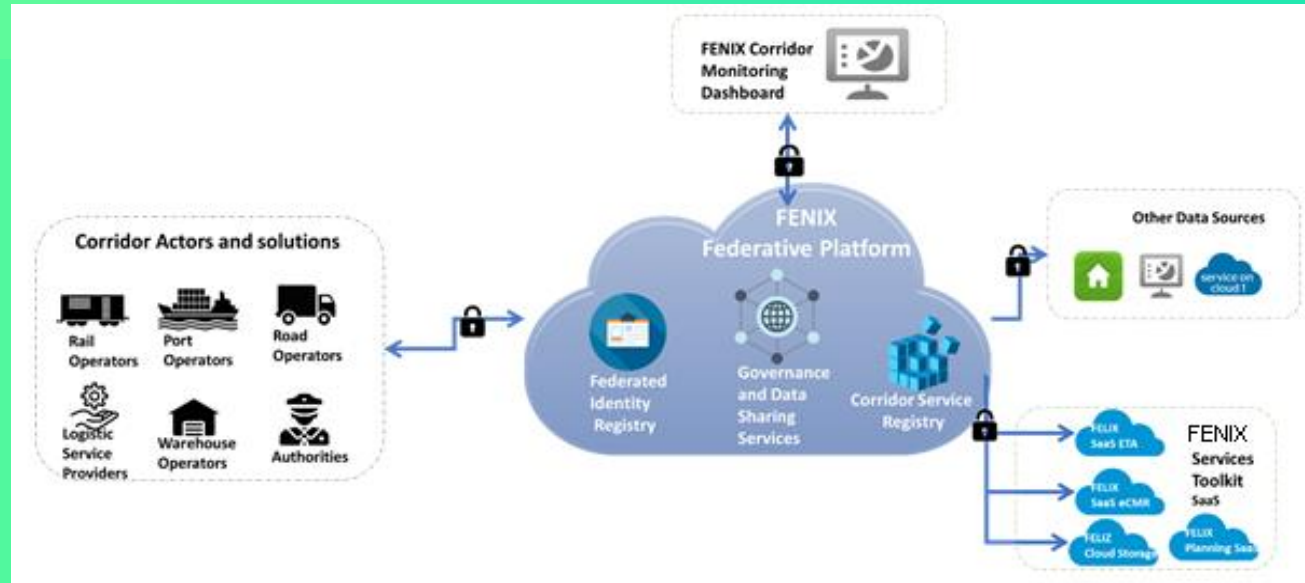
Beyond AEOLIX: FENIX-federative network of platforms



FENIX

FENIX- A European FEderated Network of Information eXchange in Logistics

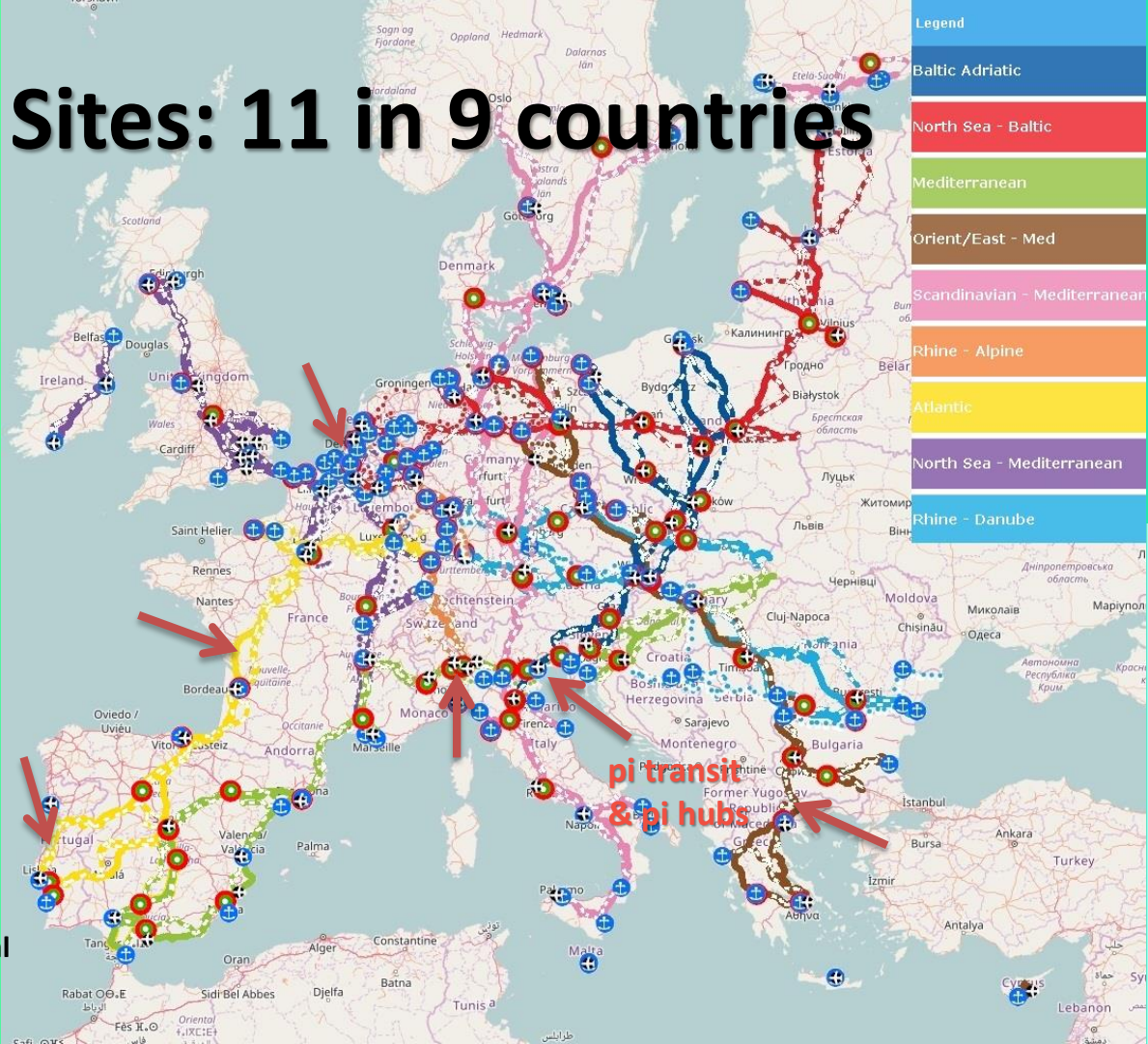
- Federated services will be implemented with 3 main pillars:
- ***Federated Identity Registry***
- ***Governance and Data Sharing Federated Services***
- ***Corridor Service Registry***



FENIX

Pilot Sites: 11 in 9 countries

- Test site Austria:** Customs corridor -Fürnitz (South Austria) on the Baltic-Adriatic corridor
- Test Site Belgium:** PS BE 1- AirCcargo (Be)& PS BE2- Multimodal inland Hub-Procter & Gamble-Mechelen-Willebroek (Be)
- Test site France:** French Mediteranean – North Sea
- Test Site Germany:** Multiple test sites across on Rhine-Alpine in Holland, Germany, Switzerland, Italy
- Test site Greece:** Greece Balkan-TEN-T network, Adriatic-Ionian corridor-Cyprus multimodal
- Test Site Holland (South Holland):** Smart multimodal
- Test Site Italy:** PS IT1- Mediterranean and Baltic-Adriatic and the Motorway of the Sea of South-east - Trieste
- PS IT2:** The Italian Rhine Alpine – Dynamic Synchronomodal Logistic
- Test Site Slovakia:** All TEN-T corridors and multimodal
- Test site Spain:** The Spanish-Atlantic Corridor





Future of Logistics

- **TRUST:** Trust is the basis of the FENIX. To use the data, the data consumer must fully accept the data owner's usage policy.
- **ECOSYSTEM OF DATA:** pursues the idea of decentralization of data storage, which means that data physically remains with the respective data owner until it is transferred to a trusted party.
- **STANDARDIZED INTEROPERABILITY:** is implemented in different variants and can be acquired from different vendors.
- **VALUE ADDING APPS:** includes also services for data processing, data format alignment, and data exchange protocols.
- **DATA MARKETS:** FENIX enables the creation of novel, data-driven services that make use of data apps.
- **PI:** FENIX enables the creation of new ICT infrastructure to support operations in future PI logistics networks



Thank you for your attention

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Thank you for your attention!



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