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Towards efficient, safe and secure and sustainable multimodal logistics by digitalization

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Seamless, cost-efficient and environmental-friendly logistics services as a part of human-centric data economy

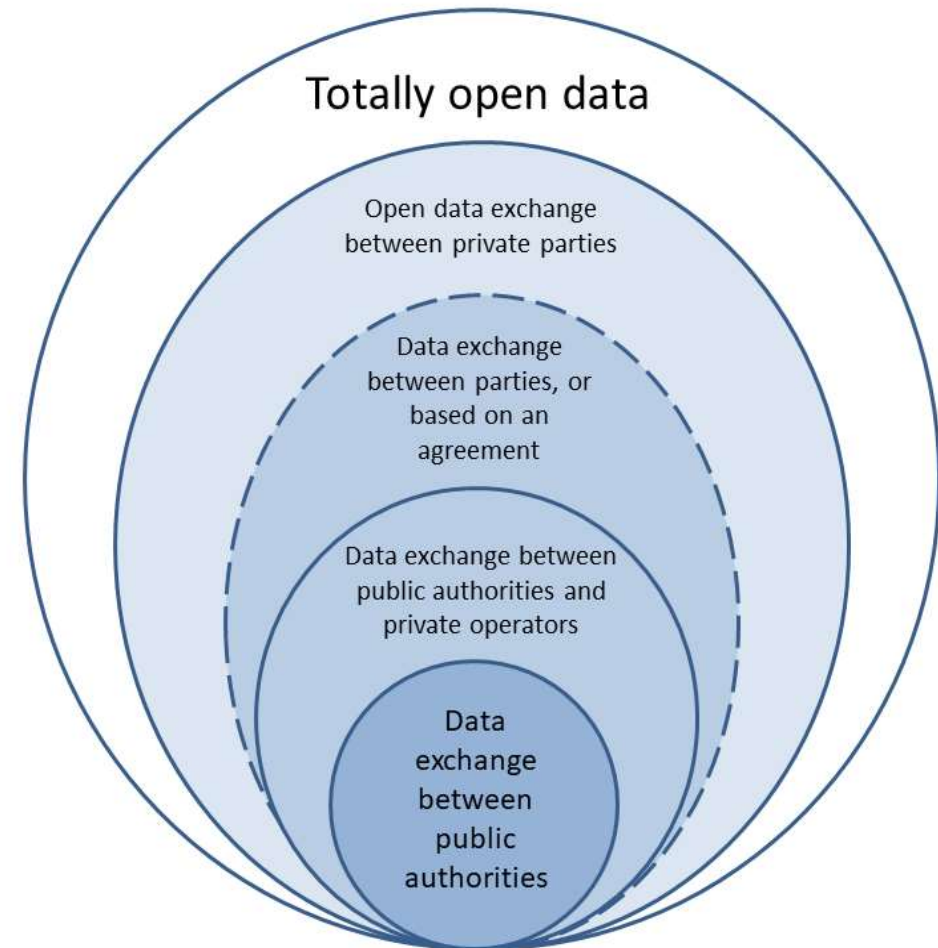
- Digital transport services as well as connected and automated mobility and logistics provide major opportunities for sustainable growth in the EU.
- Significant and rapid emission reductions in the transport sector are required to reach the EU-level climate targets – digitalization of logistics enables these targets by increasing effectiveness of operations
- Data and good connections are key enablers for seamless, cost-efficient and environment-friendly logistics services.
- Data should be reused and shared across borders and between sectors in ways that respect the rights to data and that builds trust-based relationships in data exchange and value networks (see [and comment Dataprinciples2019.fi](#))



Access by default: “Data sharing onion”

Data: What we exchange

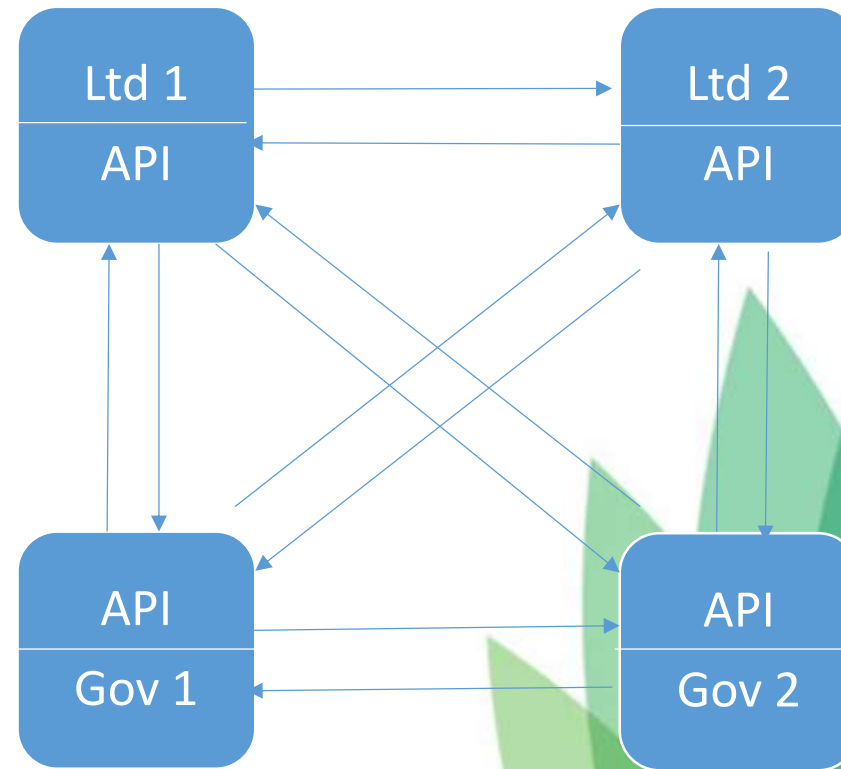
- We share data, not documents
- Data should be in machine readable format, of good quality, real-time if possible
- Not all data needs to be shared to all parties but necessary data should be shared according to various roles and access rights (e.g. B2B, B2A, A2A)
- Focus not on the ownership of data, but on the rights to use it
- “FAIR” principles – data should be findable, accessible, interoperable and reusable



Decentralised data sharing infrastructure based on APIs (open and interoperable programming interfaces)

APIs: How we exchange

- Private and public entities share their data through their own APIs
 - Possibility to control who has the right to use the data
 - No need to build new common IT systems
 - Open source
 - Is cost-efficient, enables once-only principle and automated processes as well as reduces errors



Two examples on requirements for obtaining and disclosure of information and reuse traffic control and management data: Act on Transport Services

- Disclosure of information to authorities and other parties performing a public duty
 - A traffic control and management service provider shall, notwithstanding business and professional secrecy, disclose information to authorities or other parties responsible for statutory duties that is necessary for the performance of their statutory duties. The information shall be disclosed **free of charge via an interface or otherwise by electronic means**. Provisions on the disclosure of information with regard to air traffic are laid down in the Commission
- Multimodal Traffic Management Finland supports the transport ecosystem by **opening** data used and collected in traffic management activities **for free use via an open interface**.

An example on legislation exchange of information between authorities

- Act (687/2009) on **Cooperation** between the Police, Customs and the Border Guard in combating crime
 - Carrying out of measures relating to the combating crime, control and investigation of crimes, control and monitoring and related international cooperation are carried out in an appropriate, efficient and cost-effective manner
 - An authority may act on behalf or assist another PCB authority in its area of responsibility and in cooperation in the PCB authorities' common area of responsibility
- 3 acts (2019) on disclosure of personal data **via technical connection, data sets between authorities** related to these tasks, eg. data on sea traffic and position of ships



Reusable by default

- Data sets need to be interoperable and harmonised in a structured format to enable flow of data in automated processes.
- Importance of Global interoperability (eg. IMO, UNECE, IATA, OTIF)) to be taken into consideration in EU – legislation and data models
- Interoperability and openness of programming interfaces is important – interoperability libraries must be shared to stakeholders that build information systems
- This doesn't mean that all data is openly shared.



Act

Human-centric by default.

- Individuals are guaranteed access to their personal data and means to manage the reuse of their data without lock-ins or impediments that inhibit access or portability (e.g. timeliness).
- Includes also authorities' registers

MyData pilot in logistics



#Liikennelabra

Consent



Validation



Data source - Traficom

Data utiliser and MyData operator - Tilaajavastuu

Application



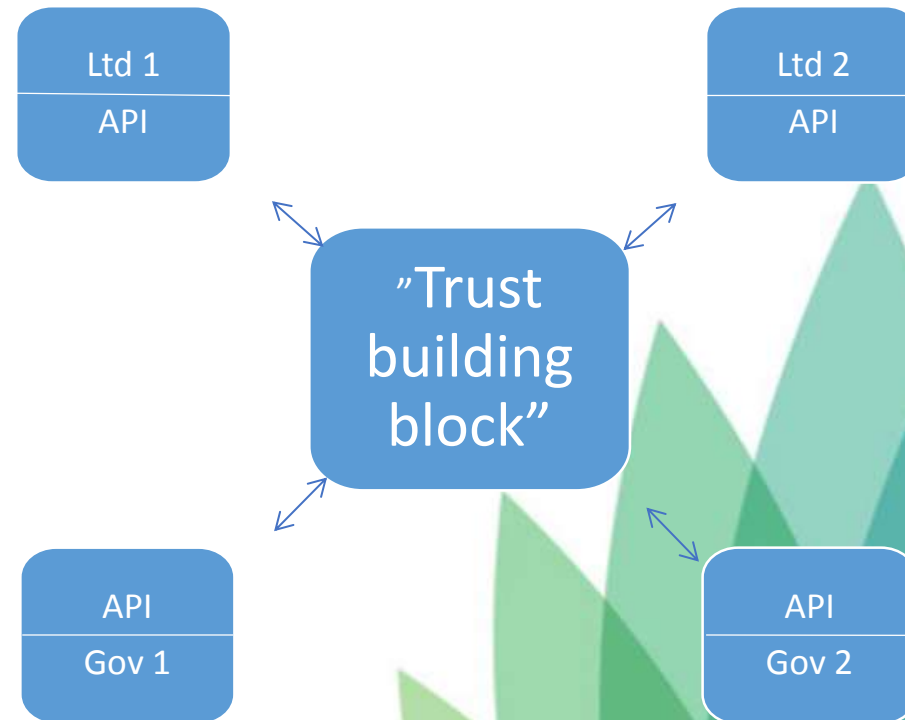
MyData API for 3rd party applications



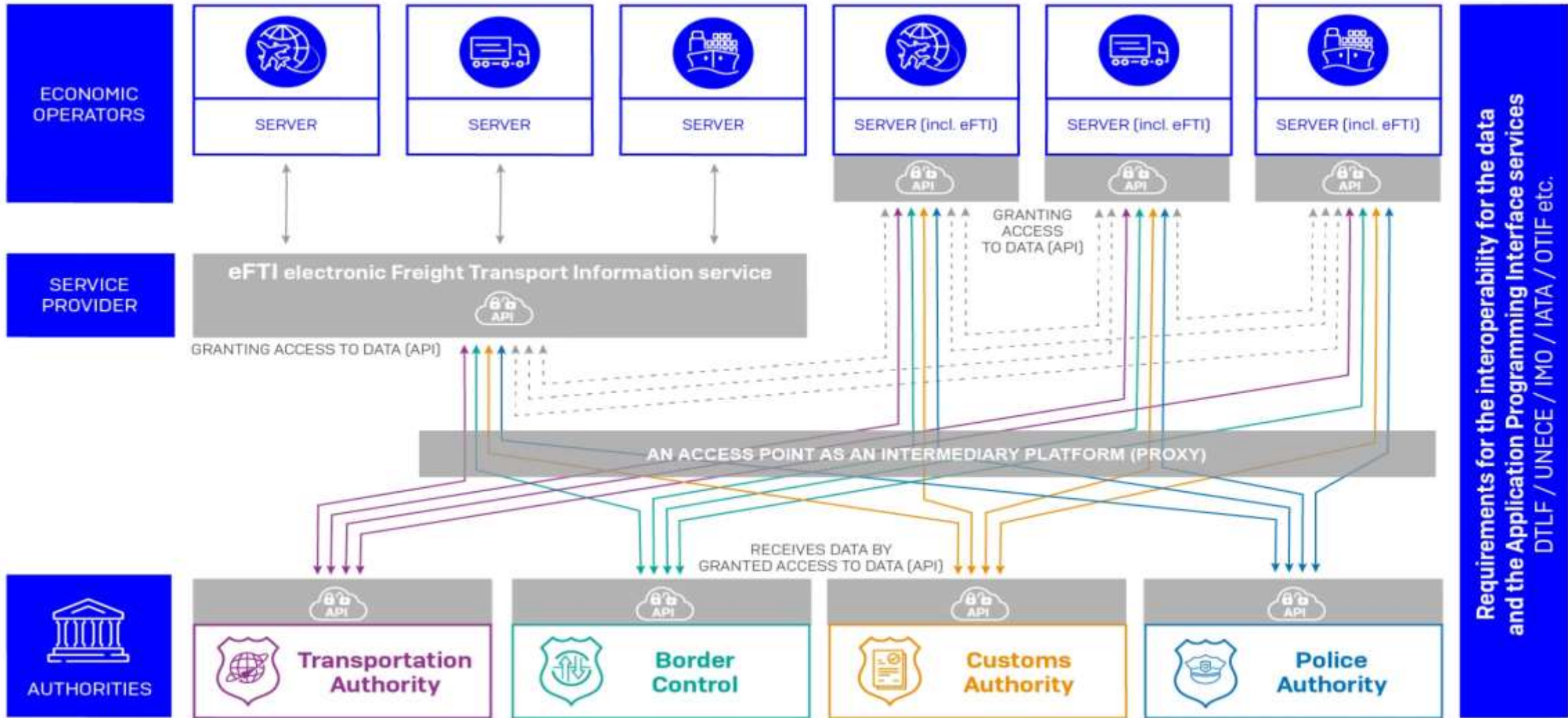
Ethically sustainable by default: respect human rights, transparency, reliability and the inclusion of all stakeholders

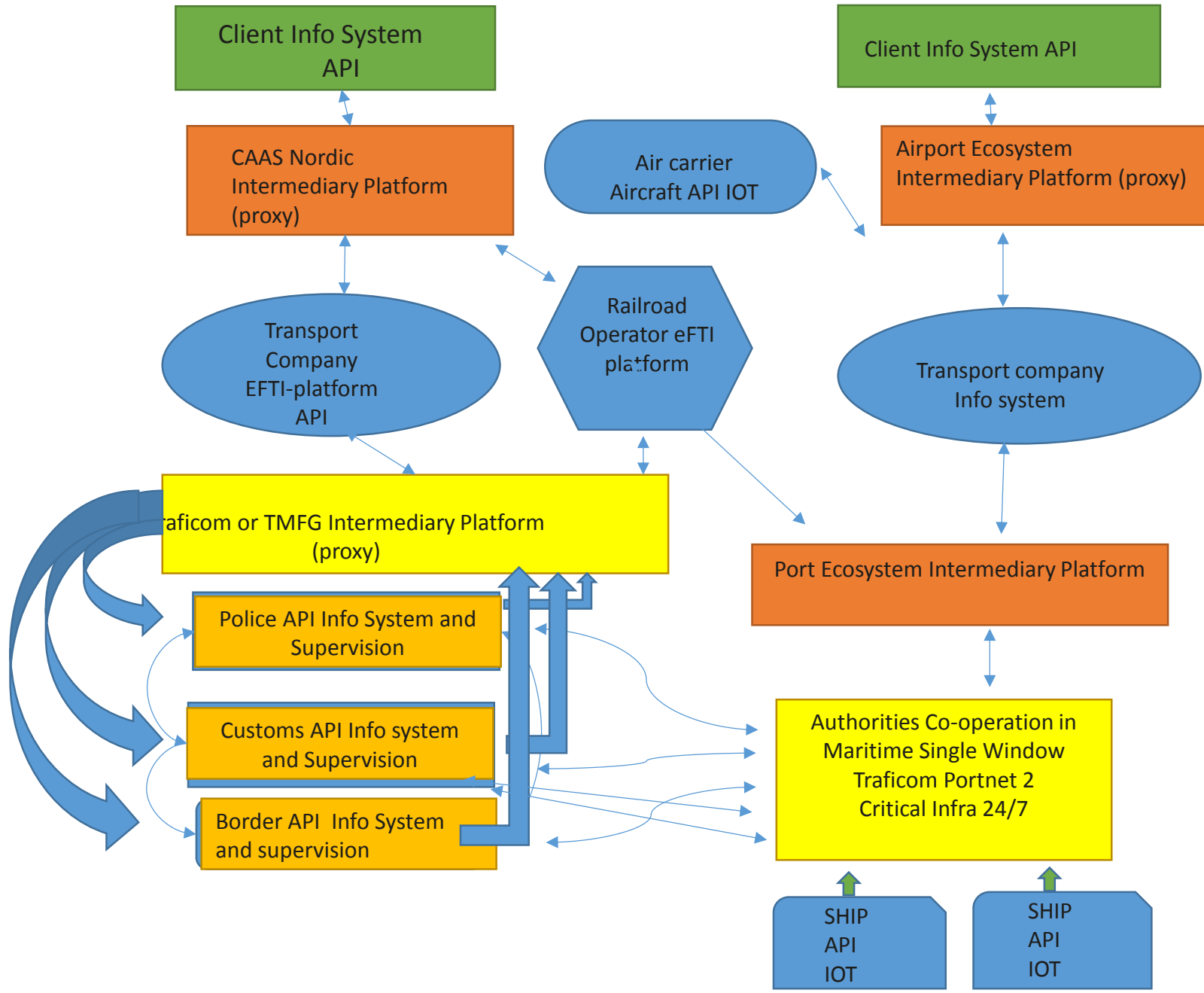
Trust: Governance

- Access to the data will be managed through distributed trust networks that will be managed by governance entities (ecosystems)
 - Using block chain technology?
 - Model contracts
 - Data security and privacy by design as part of all processes and technology



Recommendation of Finland: eFTI infrastructure





Ideas how to do it

Towards enabling operational environment: recommendations

- Human centricity: logistics serving people, control of one's own data
- Necessary data (both administrative and iot) should be accessed by default in machine-readable format, of good quality and as real-time as possible according to user rights
- Decentralized data exchange system based on open and interoperable programming interfaces and open source should be used for various purposes and user needs.
- Data security and privacy by design and continuous control
- Data sets need to be interoperable and harmonised in a structured format and programming interfaces interoperable to enable flow of data in automated processes. Target: Global interoperability, not only EU
- Pan-European full harmonisation impossible because one solution doesn't fit to all stakeholders and may hinder use of new technologies.
- Trust networks: governance, intermediary platforms as a proxy and sharing interoperability elements
- Enabling and guiding, technology-neutral legislation: eg. roles and cooperation, sharing and reuse of data
- Role of authorities: Registers, proxy for critical infrastructure 24/7

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