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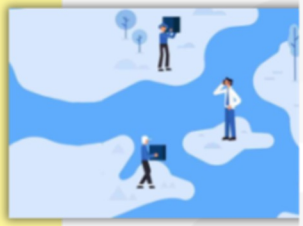
Mobility data space per la digitalizzazione delle città

Massimo Marciani, presidente FLC

Towards Data Spaces for Mobility

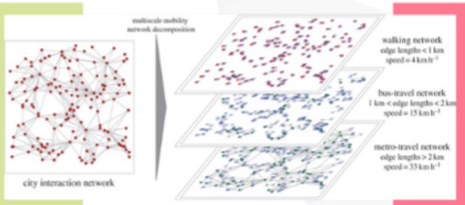
Modern cities have become agglomerations of ad hoc sensor networks

This has resulted in silos of intelligence, but a disconnected city knowledge system



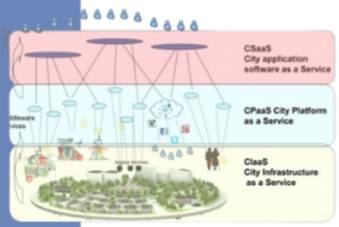
Managing the flow of city services in an integrated and optimal manner is not possible when individual silos control fundamental data

Cities are composed of multiple networks that interact with one another in complex ways



Digital representation of every physical entity reduces barriers among diverse networks

The Data Space for Mobility is the natural environment for Multi-Sided platforms enabling collaborative innovation and creating new markets



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Why we believe in Data Spaces for Mobility

- **RELUCTANCE TO SHARE DATA:** privacy and security issues, market competition, limited trust in the supply chain.
- **DATA FRAGMENTATION:** lack of interoperability.
- **DATA HETEROGENEITY:** multiple and diverse data sources, e.g. GPS, telematics tools, sensors, etc., leading to not harmonised data in terms of formats, standards, and semantics.
- **DATA QUALITY** concerns such as inaccuracies, incompleteness, and inconsistency are common due to “analogic” data entry, lack of standardization, etc.
- **DATA SILOS:** diverse and fragmented market, in which each stakeholder maintains its data silos and ownership.
- **DATA GOVERNANCE:** Having clear and fair governance for data sharing, setting clear roles, responsibilities, and decision-making mechanisms, is fundamental but complex.
- **INFRASTRUCTURE REQUIREMENTS:** Building the necessary infrastructure, e.g. hardware, software, and network capacity, for data driven solutions requires huge investments and high technical expertise.

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The importance of data sharing, trust and fair governance in urban logistics

- **Space uses needs to be deconflicted: data sharing and trust** can facilitate proper understanding on how space and assets are used, and how cities should regulate guaranteeing sustainability, safety and supply chain efficiency.
- **Local authorities and urban planners should map, design and dynamically manage urban space**, in collaboration with service providers, technology and business models innovators, for and with local players and communities.
- **Logistics providers should drive competitive advantage** and generate/share **new value with data-driven and smarter services** for customers and communities
- **Balanced and fair governance has more potentials to set foundation for a data economy** in which people and businesses can trust **while considering demand priorities**.

New data economy, horizontal collaboration and neutral, protective and fair governance empower business, individuals and communities and promotes trusts and accountability, to responsibly address the challenges that we face today as a society.

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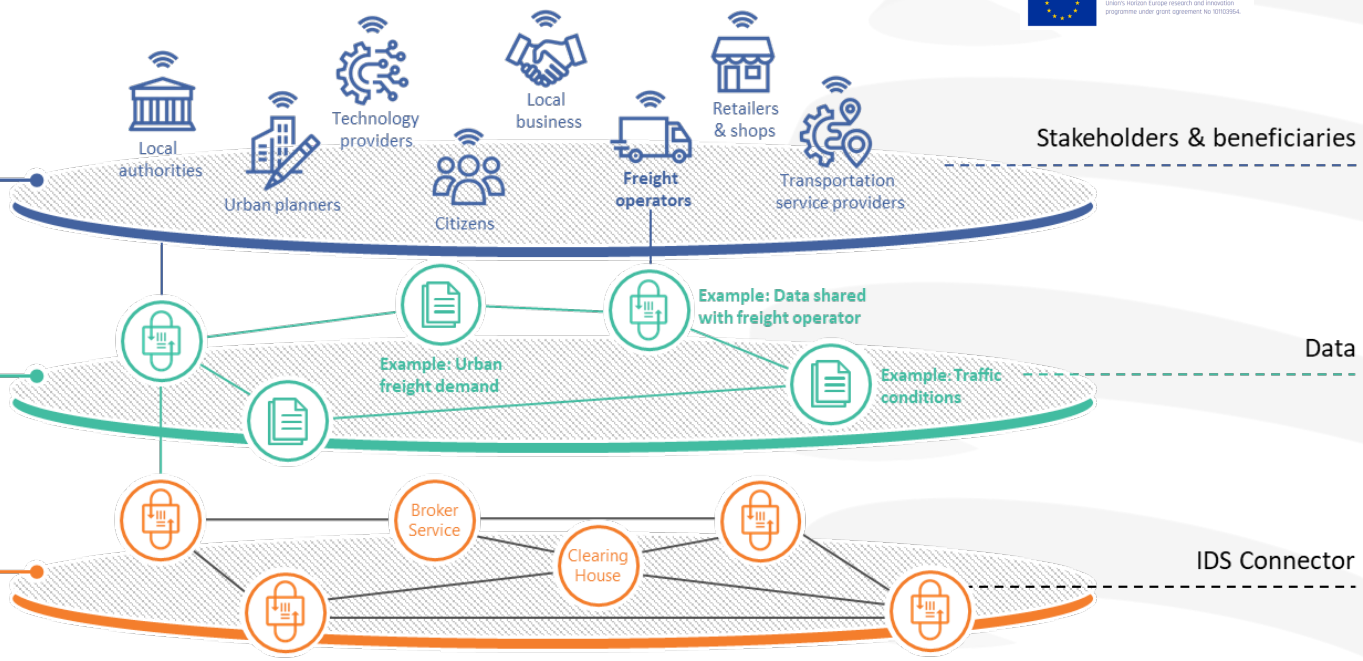
3 Levels of DISCO Urban Freight Data Space

Urban logistics
ecosystem

Urban logistics
data space

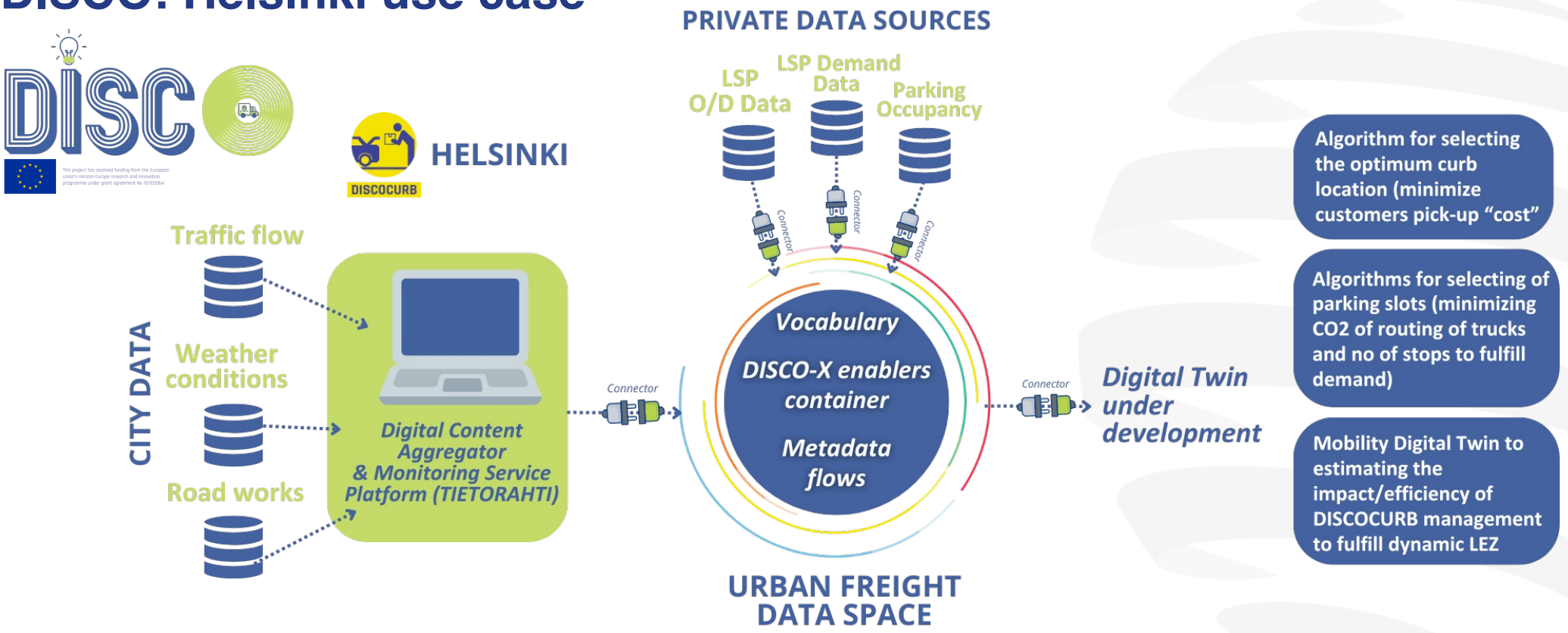
International Data Spaces
soft infrastructure



Example: Freight operator as a data consumer

Based on: Boris Otto, Data Spaces Dialogue: Design Principles for European Data Spaces

DISCO: Helsinki use case



STAKEHOLDERS: CITY AUTHORITY AND REGIONS · LSP, COURIERS, POSTAL · RETAILERS · TECHNOLOGY PROVIDERS · PARKING MANAGER

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unchain – Florence use case

Urban logistics and planning: *Anti**C**ipating urban freig**H**t gener**A**tion and demand including d**I**gitalisation of urba**N** freight* → *D*igitalization and sharing of information between city logistics actors to create win-win solutions for the urban context.

2 visions that need to be matched

- **Florence.** City characterized by important challenges for a logistics operator
- Historic building heritage and urban structure (reduced spaces)
- National binding procedures
- Significant presence of tourists and commuters which affects traffic congestion and energy consumption

- For operators like UPS: lack of space for loading and unloading activities
- Inefficiency in final delivery, unpredictability of day by day management vis a-vis - just in time delivery system (UPS)
- **Increasing costs: the last mile becomes a cost!**

Possibility of solution in

- Sharing specific data sets and information between the two actors in order to reduce negative externalities (traffic, pollution, safety, better use of public space also through the definition of a mini-hub solution)
- Study and pre-determination of spaces for public use for loading/unloading parcels, guaranteeing the competitiveness of the sector (no platforms)
- Adaptation of technological solutions based on load management and consequent load failure.

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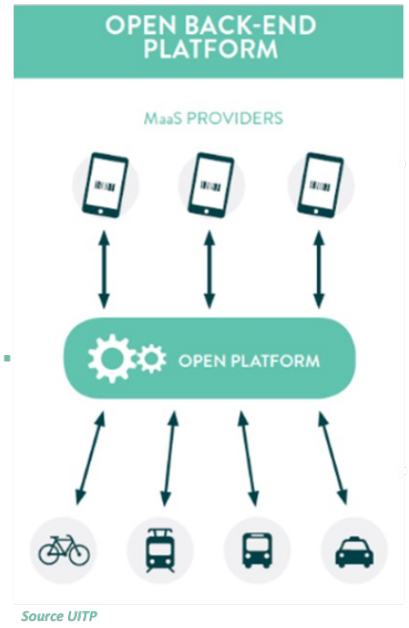
The Data Space as natural environment for MaaS governance and PP cooperation

ENABLER FOR:

PA, willing to adopt MaaS level 4, integrating societal goals

Users, able to access to profiled information and services

Operators, profiting from a competitive while fair environment



Enforcing rules in the ecosystem:

- Data exchange
- Service dispatch
- Conflict resolution
- Policies

Building principles for a peer community:

- Transparent
- Contestable
- Shared

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PI-like digital revolution in urban logistics

Pooling resources of the logistics industry, city planners and decision makers have potentials to accelerate a vibrant economy by generating new value streams in **urban space use and deconflicting multimodal and multiservices interactions.**

New urban warehouses concepts and «proximity logistics» can upgrade the traditional trend of locating logistics warehouses on the outskirts of cities.

Dynamic decision-making, by real-time data, can effectively perform with less resources and negative impacts, enabling different users and uses, 24/7, and by priorities, thinking to **«urban corridors of value».**

Urban logistics smart solutions deployment needs for a paradigm change in the use of space, as commodities.

Sustainable and efficient logistics operations requires a strategic fully-fladged planning

Happy Drivers, Happy Citizens!

Source: Coding the Curbs

***Flexicity**: Modular structure comprising changing 'loose-fit' infill that can be adapted as required (Ackroyd Lowrie)*

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