

Data Spaces Symposium

12-14 March 2024

Darmstadtium | Frankfurt region



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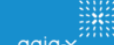
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DSBA



DATA SPACES
SUPPORT CENTRE

Towards Data Spaces for Mobility

Modern cities have become agglomerations of ad hoc sensor networks

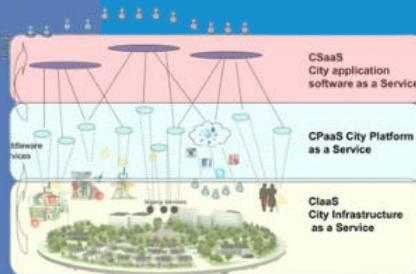


This has resulted in silos of intelligence, but a disconnected city knowledge system

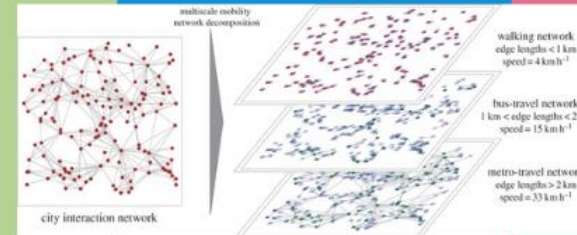


Managing the flow of city services in an integrated and optimal manner is not possible when individual silos control fundamental data

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

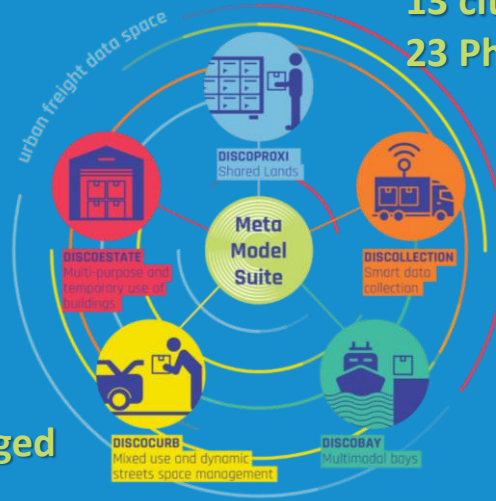


Digital representation of every physical entity reduces barriers among diverse networks



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

DISCO



13 cities and regions committed in demonstrating and adopting
23 Physical Internet-like-zero-emission urban logistics solutions

Showcase replicability of >15 implementation cases

Enable >50 cities and business players

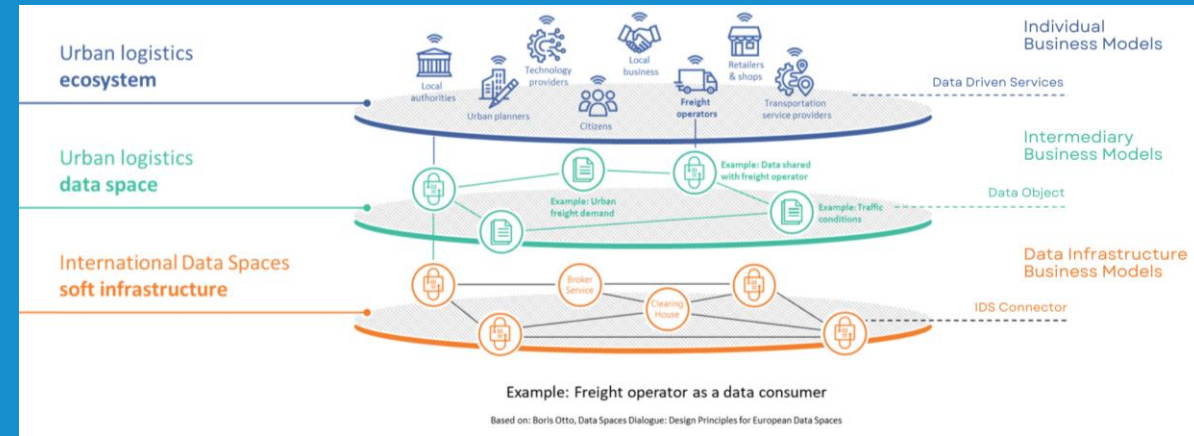
Engage >50 collaborating urban logistics communities

Citizens' participation >1000 people actively involved

DISCO-X: a super-hero supporting cities in going fast and innovate in optimal and strategic use of space

- Pooling resources making urban space well managed and equally accessible
- New urban warehouses concepts and «proximity logistics»
- Dynamic decision-making

THE DISCO BLUEPRINT FOR PI-LIKE URBAN LOGISTICS AND PLANNING



EUROPEAN LIVING LABS AND EARLY ADOPTERS



Starring Living Labs



Twinning Living Labs



Follower Cities and Regions



DISCOCURB

DISCOCURB - Mixed use and dynamic streets space management - Smart and flexible use of curb side, for parking slots, pick up points and network management



DISCOPROXI

DISCOPROXI - Shared Lands - Urban corners or lockers for nearby deliveries and omnichannel shipments, to optimise multiple collection and delivery solutions



DISCOESTATE

DISCOESTATE - Multi-purpose, flexible and temporary use of building space - Retrofitting building space for multi-tenant and temporary logistics use and enhance the reliability of last mile deliveries.



DISCOBAY

DISCOBAY - Multimodal bays - Mutualised and multimodal (e.g., rail/waterborne) distribution centres pooling green last mile delivery



DISCOLLECTION

DISCOLLECTION - Smart data collection methods - Advanced access control and real time routing for optimised and prioritized, incentivised and dynamic access permission enabling smart network management upon priorities and functional areas.

**DISCOCURB**

DISCOCURB - HELSINKI

Goal: (i) provide real-time data about the availability of loading/unloading zones and parking spots; (ii) explores the implementation of a dynamic low emission zone, this 'before and after' study will focus on how emission restrictions affect delivery routes and vehicle usage

Steps:

- Assessment of climate-resilient sensor technologies
- Careful selection of strategic areas for sensor installation, ensuring alignment with low emission zones and dynamic curb management needs
- Real-time insights into loading zone and parking spot availability for logistics operators and drivers will be provided
- Operational testing of curb spaces for multiple functions



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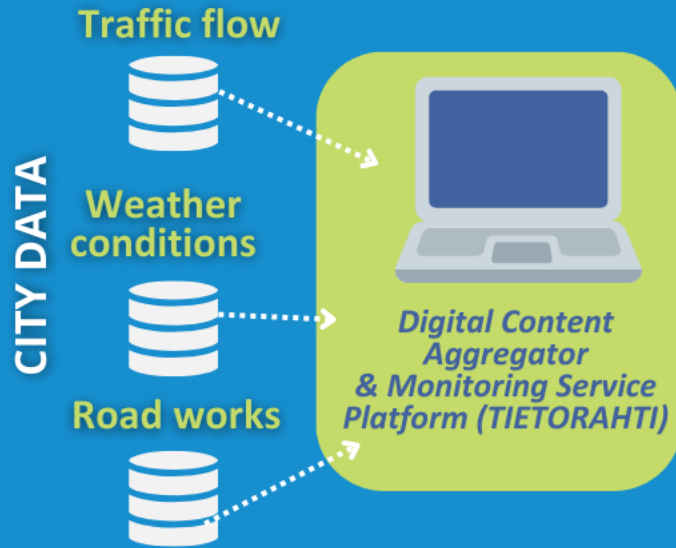
DISCOPROXI - GHENT

Goal: ensure smooth delivery paths, avoiding surprises like restricted zones, while also promoting green/sustainable last-mile operations with data-driven arguments

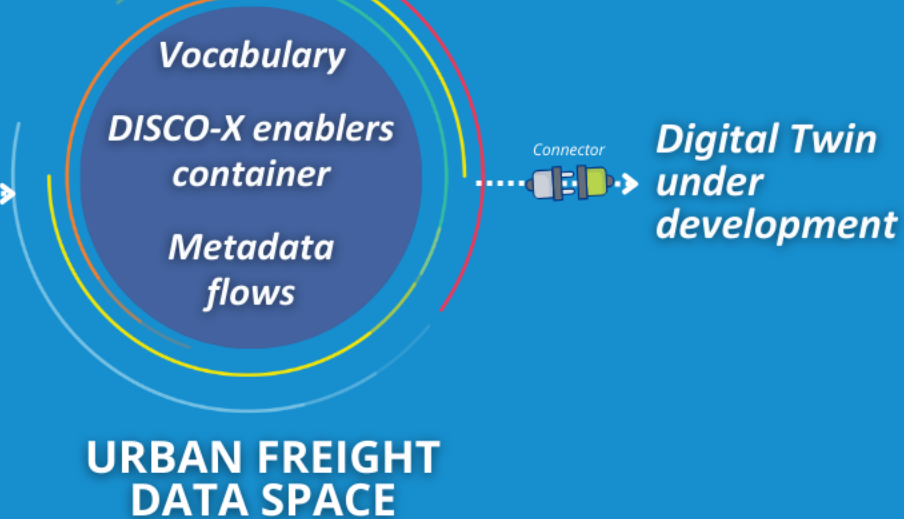
Steps:

- Define the supply of green last-mile operators and ensure the availability of their data, whether it's real or simulated
- The Urban access control (UAC) system will utilize this information to offer pre-routing advice and on-route adjustments to delivery operators, aligning with the city's goal of reducing traffic and emissions in the city center
- UAC will calculate the most efficient delivery routes and propose sustainable alternatives

DISCO



PRIVATE DATA SOURCES



Algorithm for selecting the optimum curb location (minimize customers pick-up "cost")

Algorithms for selecting of parking slots (minimizing CO2 of routing of trucks and no of stops to fulfill demand)

Mobility Digital Twin to estimating the impact/efficiency of DISCO CURB management to fulfill dynamic LEZ

DISCO

GHENT
DISCOPROXI

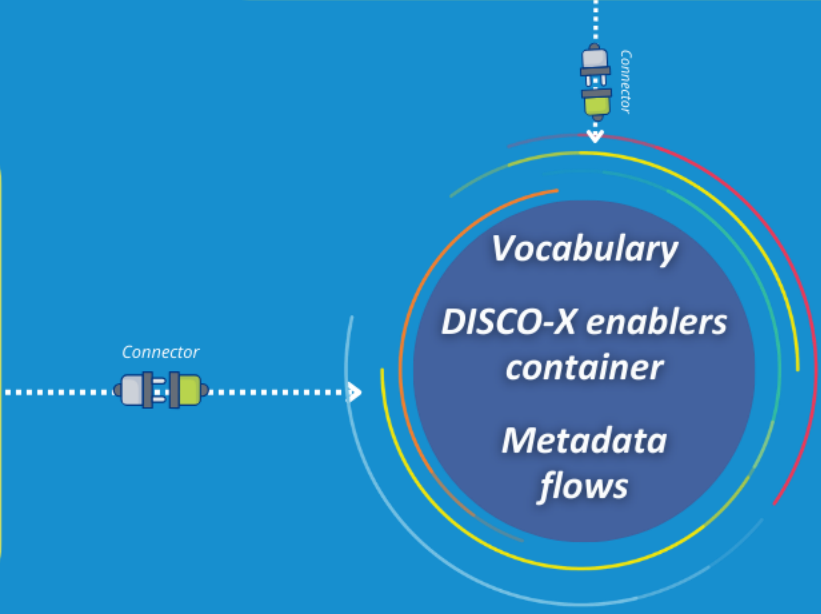
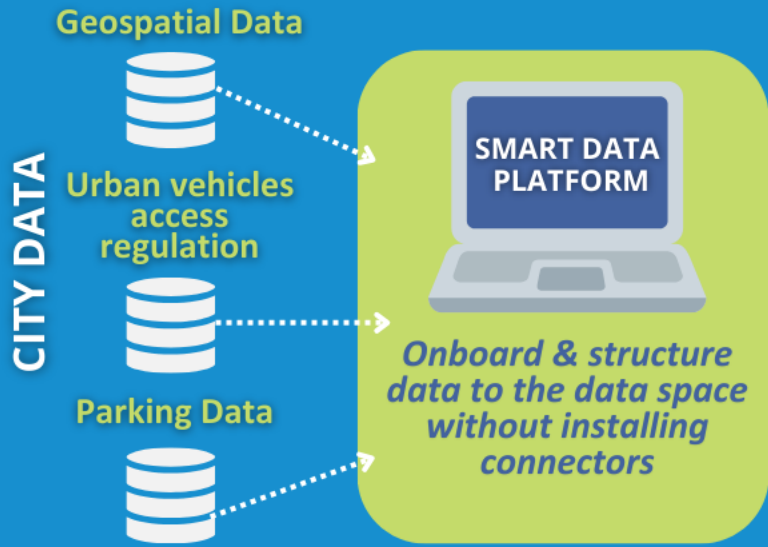
PRIVATE DATA SOURCES

LSP O/D Data LSP Demand Data



Algorithm of Route Planning for generating a new BoL including environmental considerations

Algorithms for matching Demand and Available Capacity



- STAKEHOLDERS:**
- CITY AUTHORITY AND REGIONS
 - LSP, COURIERS, POSTAL
 - RETAILERS
 - REAL ESTATE/ INFRASTRUCTURE OWNERS & OPERATORS
 - CITIZENS

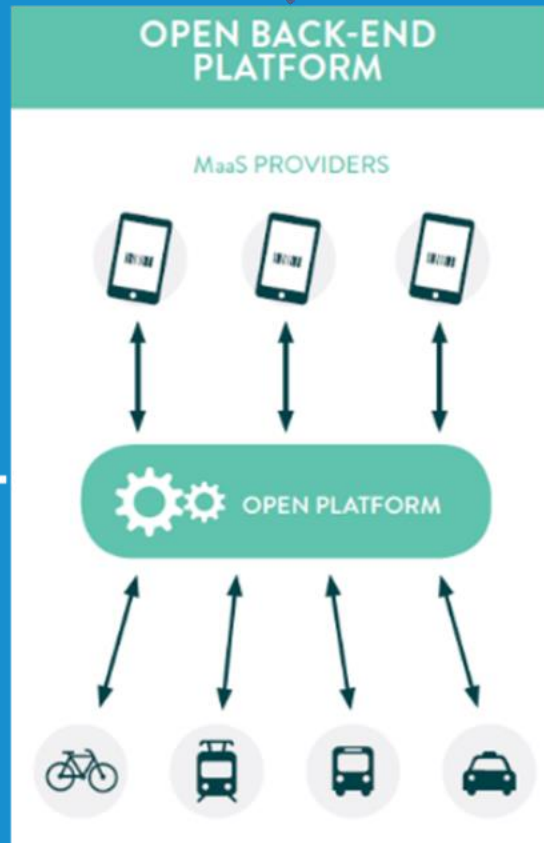
The Data Space as natural environment for MaaS governance and PP cooperation

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



Source UITP

Enforcing rules in the ecosystem:

- Data exchange
- Service dispatch
- Conflict resolution
- Policies

Building principles for a peer community:

- Transparent
- Contestable
- Shared



Data Spaces Symposium thanks for your attention!



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