



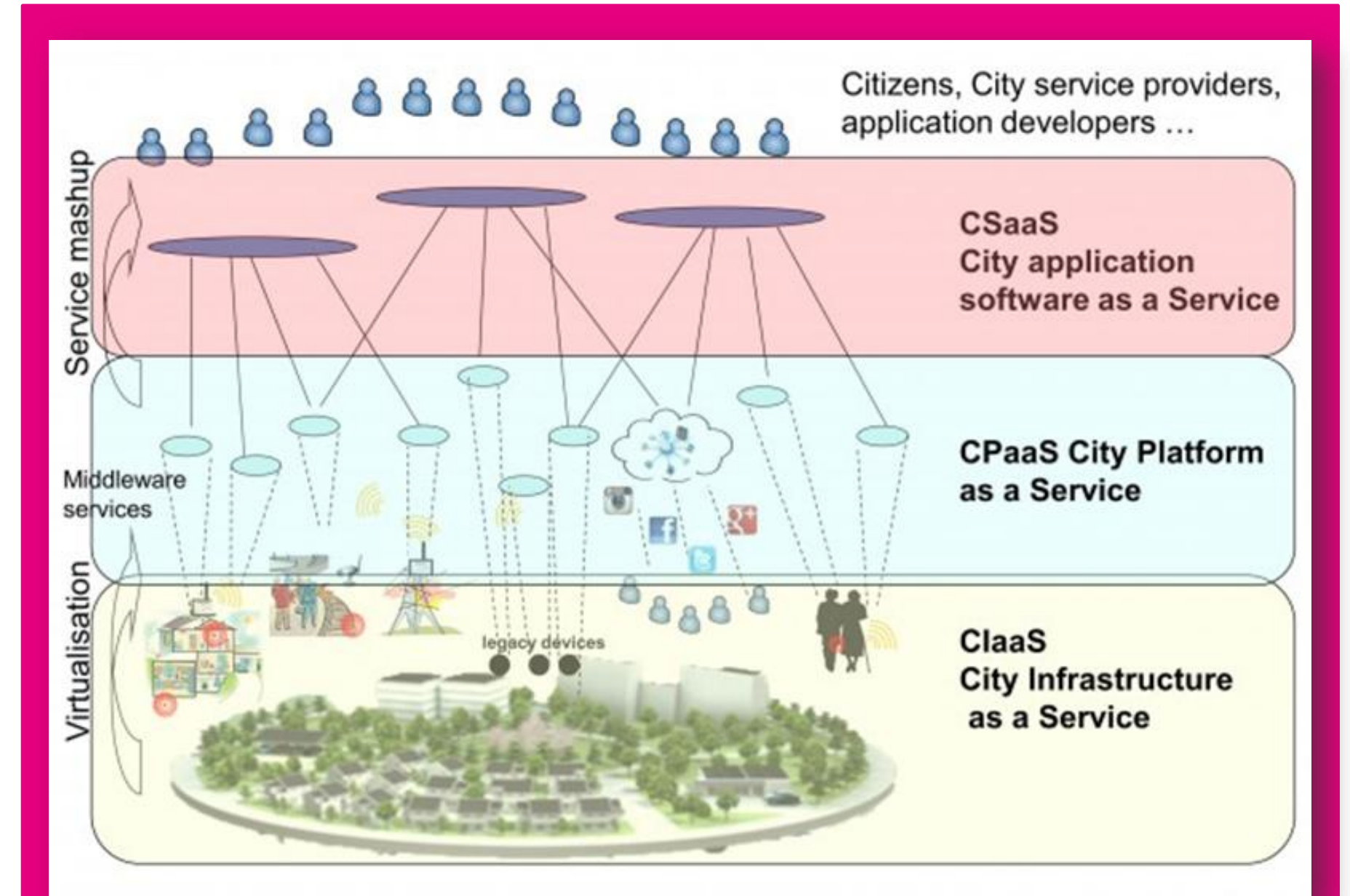
## Special session 2.3

# Innovation in Urban Logistics: Public and Private Sectors Thriving Together

**Paola Cossu,**  
**CEO FIT Consulting**

# INEFFICIENT USE OF CITY INFRASTRUCTURES

- **Cities provide infrastructure** (roads, rail, waterways, pipes, etc.) in a manner analogous to the way cloud service providers provide compute resources
- Cities provide **platforms of services** (public transport schedules, routes, etc.) to infrastructure users that enable them **to create service and management applications**
- Cities provide certain **software applications “as services”** to citizens and infrastructure users
- However, users of city services provide only limited information to the city for planning and load balancing leading to **inefficient use of city infrastructures with negative social and environmental impacts**
- Furthermore, many infrastructure users prefer not to collaborate, which results in **further sub-optimization of city resource use**



Source: ClouT FP7 project

# THE “AS A SERVICE” EVOLUTION

## Empowering citizens and logistics industry on the same path to digital transition in Europe

### European New Urban Mobility Framework recommendations (2021)

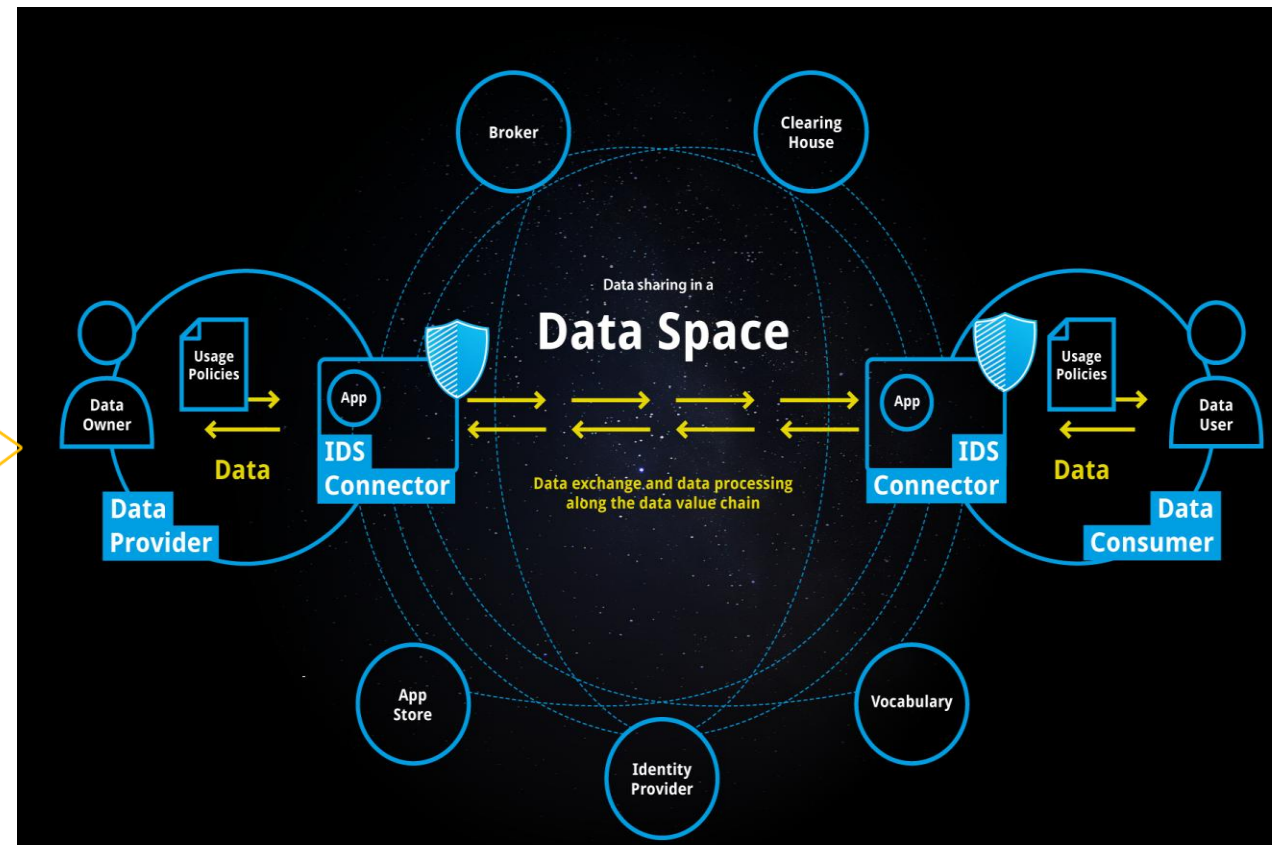
- **Voluntary data sharing** for optimal and strategic use of space for logistics to generate new value propositions and sustainable decision making.
- **Digital solutions** in urban logistics to support Europe to become trustworthy, data-empowered and decarbonized continent.
- **New generation of sustainable urban logistics plans (SULPs)** integrated in urban planning (SUMP), upon Functional Urban Areas



The challenge is to accompany the Physical Internet - like digital transition process in urban logistics and land use planning.

This transition can be analogue to the **discography industry evolution: from vinyl to streaming**, with music supplied as commodity and mass adoption (uberization) by digital devices - Spotify

# HARMONIZED DATA AND ITS SHARED USE MAKES THE DIFFERENCE!





47 Partner

Topic: **HORIZON-CL5-2022-D6-02-02**

Type of action: **HORIZON Innovation Actions**

Maximum grant amount: **7 999 972.13 euro**

Project starting date: **1st of May 2023**

Project duration: **42 months**

Person Months: **929,20**

Granting authority



**4 Starring LLs:** Thessaloniki, Ghent, Helsinki, Copenhagen

**4 Twinning LLs:** Barcelona, Valencia, Zaragoza, Padua

**4 Early Adopters:** Prague, Piacenza, Aarhus, North Hesse

**24 Key Results**

**40 Key Achievement Indicators**



# GHENT LIVING LAB – URBAN ACCESS CONTROL



DISCOPROXI

## Challenges logistics service providers

- Hire dedicated planners who know all rules
- Keep inventory of digital permits, physical cards to lower bollards
- Often pay fines as certain rules are breached, or cargo cannot be delivered in time

## Needs

- Share rules with logistics service providers
- Offer route planner/fleet platform
- Optimize deliveries, adapted to access rules and via hubs if applicable

Be-Mobile technology



### Zone management



Drawing zones with geo-based rules

### Rule management



Configuring business rules to steer traffic

### Route management



Offering route planning, guidance & cost calculation

**Stationary in the city center:** determine where vehicles stop (and load/unload) in the city center.

**Arriving at the city center:** steer mobility by e.g., giving priority to low-emission transport, keeping heavy goods vehicles out of the city center or school zones.

**Moving in the city center:** give route advice in the city to reduce congestion and increase safety.

**Pre-trip Route Planning:** offer logistics providers the best routes in advance + suggestions for green last-mile delivery via city hubs

**On-trip Route Guidance:** real-time route adjustments based on urban dynamics



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101103954



# THESSALONIKI LL- FLEXIBLE LOGISTIC HUB



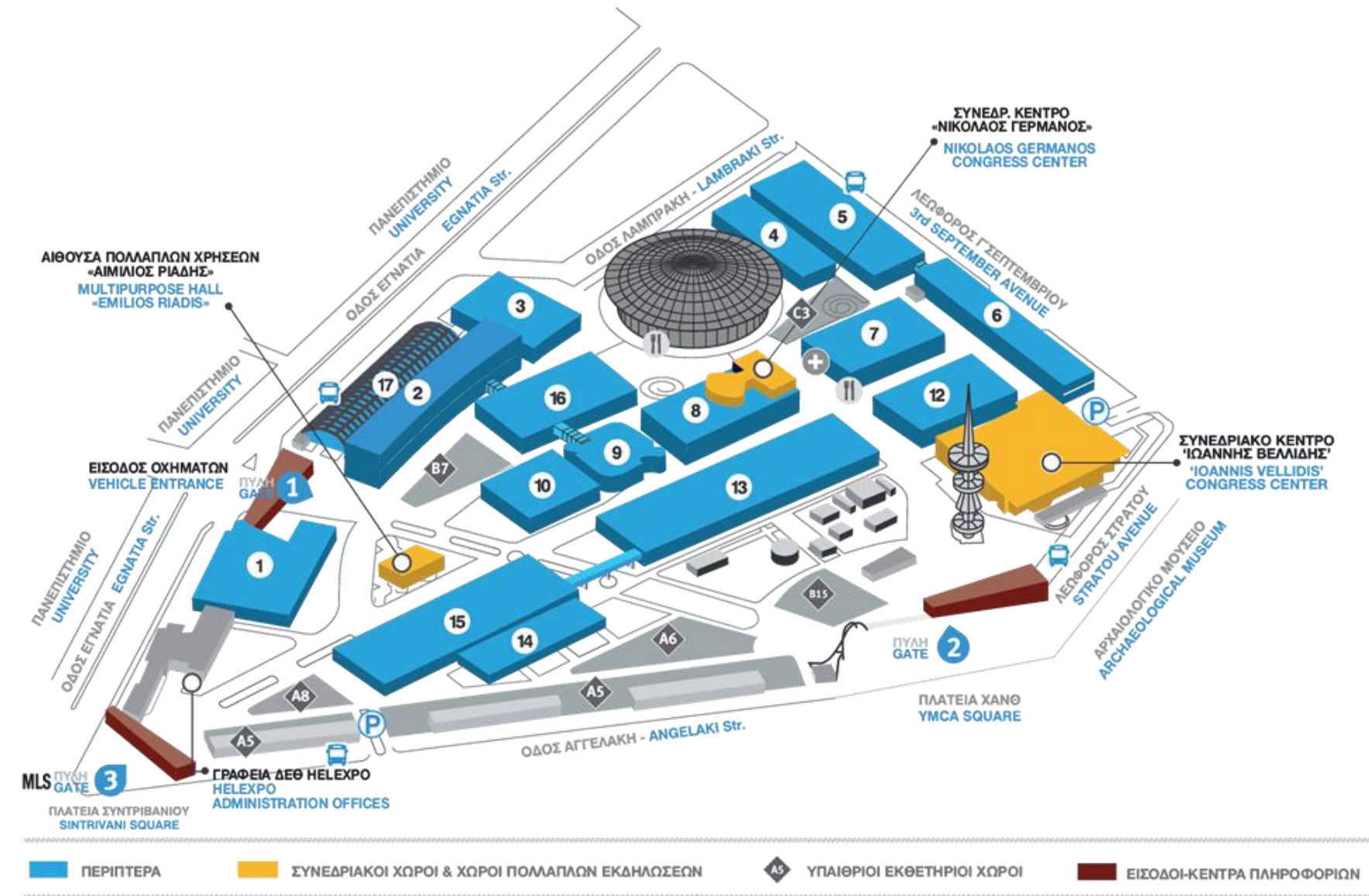
DISCOESTATE

## Objectives:

- Check the feasibility of using multi-tenant and multi-purpose hubs in the city
- Assess the use of the multi-tenant and multi-purpose hubs from multiple logistics service providers

## Multi-tenant Hub Infrastructure Preparation and Verification

- Integrate the building system with WareM&O matching demand platform
- Install sensors for building accessibility and capacity availability
- Develop a framework for warehouse sharing, including certification, liabilities transfer, and rules.
- Establish operational and legislative models for non-logistics infrastructure use.
- Implement time window and pricing regulations for warehouse and service use.
- The logistic service provider chooses the building among the ones available on the platform
- Assess the operational readiness and use of multi-tenant hubs.



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# CITY OF ROME ADOPTING PI-LED APPROACH IN LOGISTICS PLANNING



## Rome Sustainable Logistics Metropolitan Plan

### ✓ Adopted

The document has been published on the Metropolitan City website, as consultation process. The final plan for adoption will be formalised with stakeholders' agreement in September 2023



### Monitoring/Tracking and data Sharing

- Purpose oriented data acquisition and sharing
  - Definition of minimum data set
  - Data sharing ecosystem
  - Agreement among logistics operators
- Permanent multi-actor working group oriented to Freight Quality Partnership
- Neutral Urban Distribution Platform
- Multi-brand Micro-hubs network
- Pick Up-Drop Off points network design



### Collaboration

## Matchmaking between supply and demand for seamless intermodality

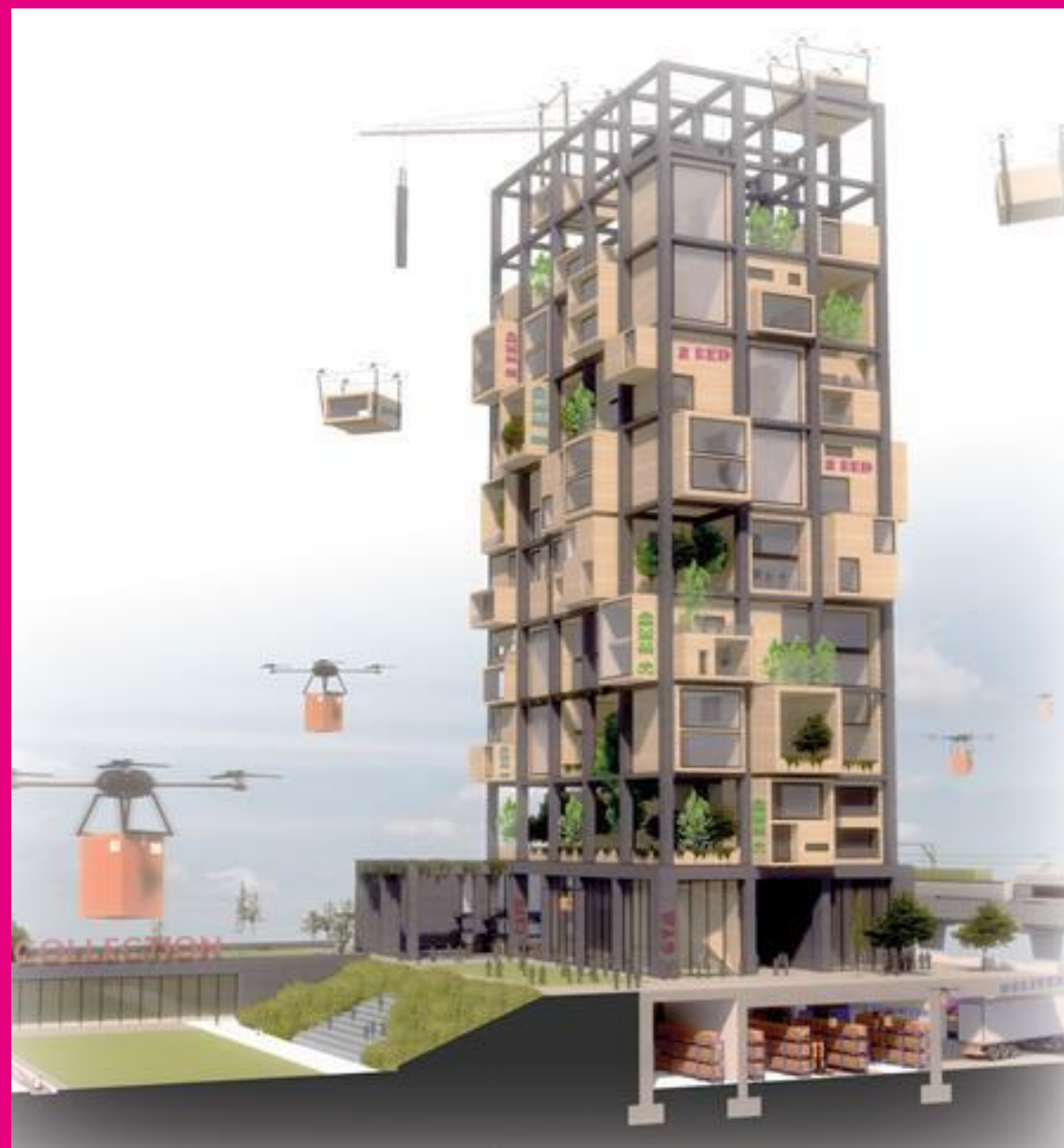
- Harmonization and digitalization of intermodal services:
  - Development of a harmonized Service Charter among the main intermodal logistics operators and hubs
  - Development of **Easyrailfreight** platform, led by RFI – Multimodal Logistics Services Digitalisation
- Harmonized recognition scheme for accessing urban areas
- Development of Digital Twin for decisions making



### Smart DSS and efficient modes utilization



# PI-LED DIGITAL REVOLUTION IN URBAN LOGISTICS



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

By **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

# THANK YOU!

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