

## Brussels Capital Region Mobility Data and AI Regulatory Sandboxing

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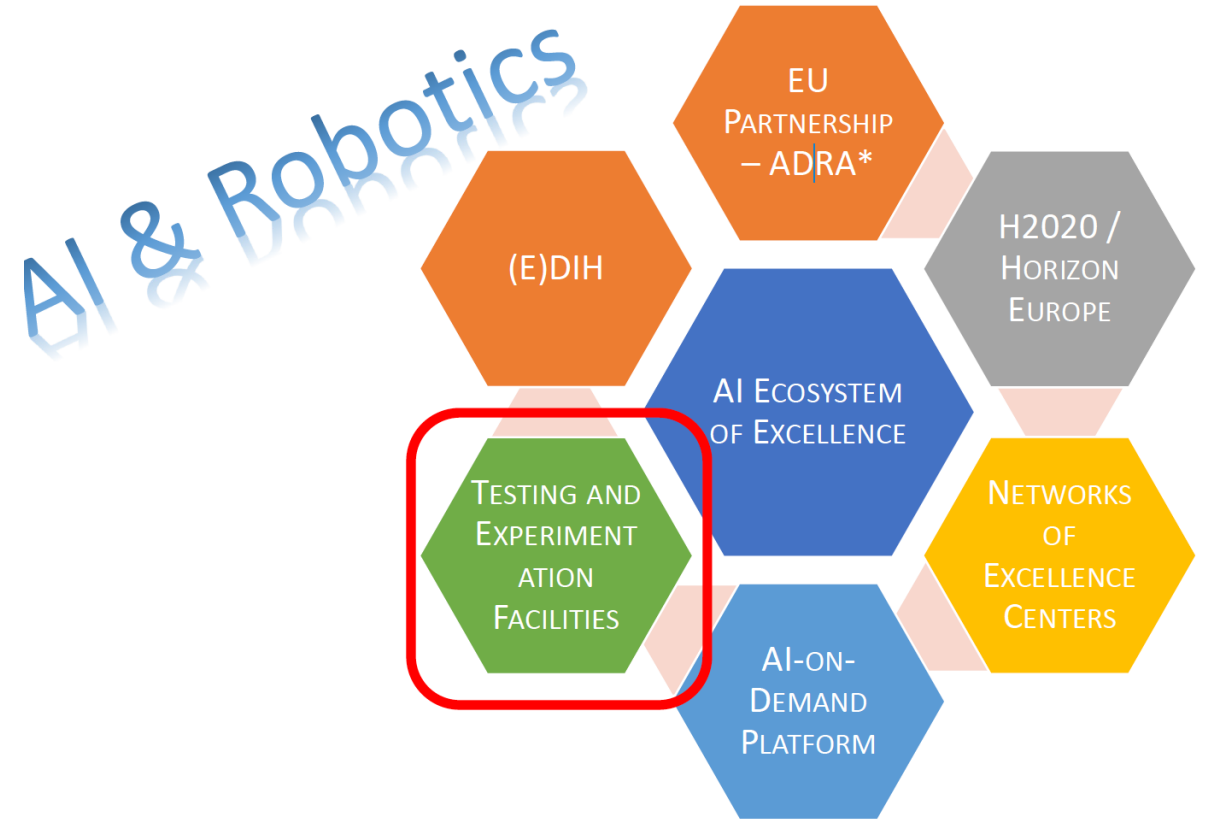
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# What are TEFs?

TEFs are specialised large-scale reference sites open to all technology providers across Europe to test and experiment with state-of-the-art AI solutions at scale.

This includes both soft- and hardware products and services, e.g. robots, in real-world environments.

They will offer a combination of physical and virtual facilities, in which technology providers can get primarily technical support to test their latest technologies.



# Why TEFs are funded by the EU?

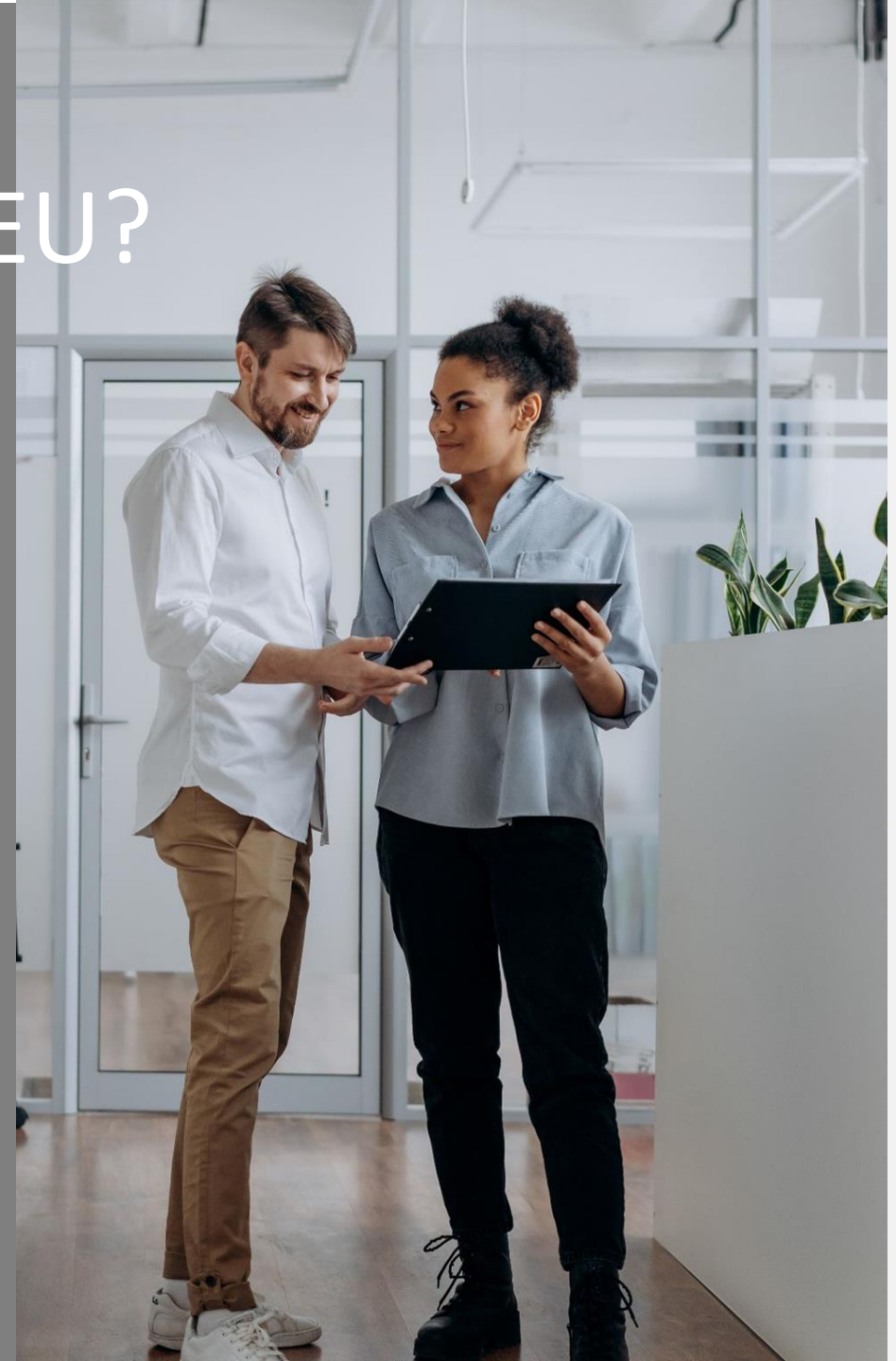
To bring technology to the market

To optimise investment and avoid duplication or competing efforts in testing

To support world-class reference technology infrastructures at EU level

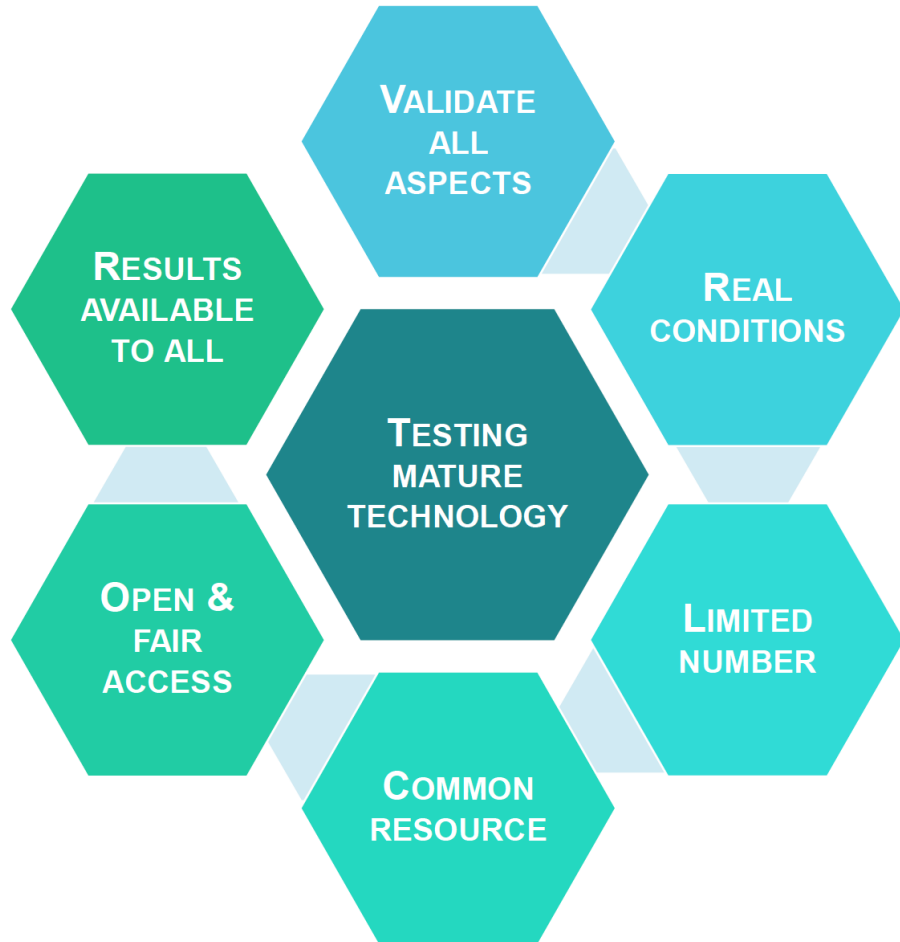
To improve the uptake of Trustworthy AI

To support European technology providers of AI solutions: Digital Sovereignty



## Four Sectorial TEFs





# TEF AI & Robotics for Smart Cities & Communities

Objectives and scope:

Provide a TEF for AI and robotics in smart cities and communities and make their resources accessible to EU cities, communities and innovative industry stakeholders (including SMEs) to validate AI-driven services in real-life context.

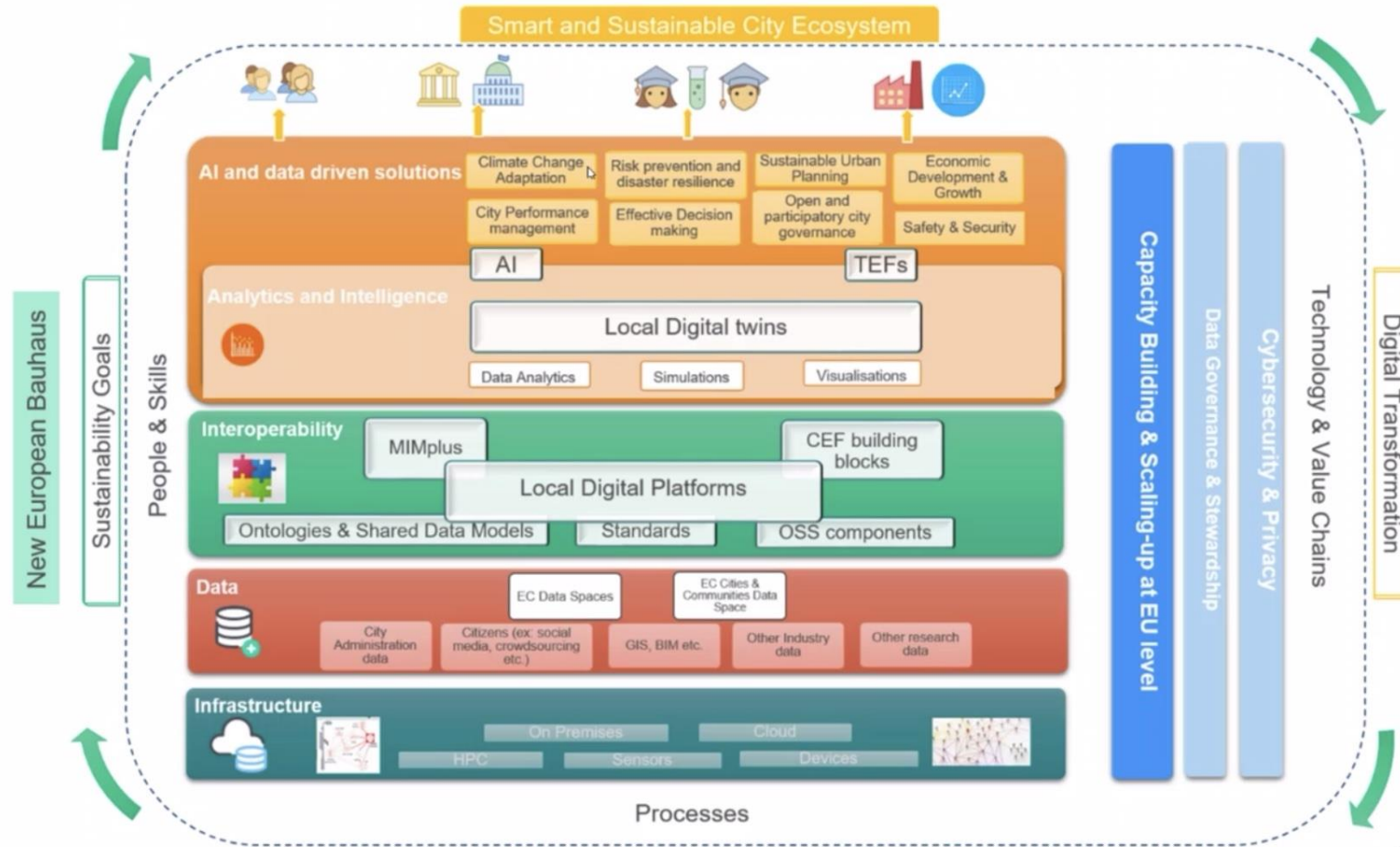
Focus on impactful use-cases in transport and mobility, energy, construction and environmental protection, linked to the action areas of the Green Deal, and support cross-sector services and applications.

Offer Digital Twins of some of the use-case environments.

# CitCom.ai

CitCom.ai delivers a European Artificial Intelligence Testing and Experimentation Facility (AI TEF) for Smart and Sustainable Cities and Communities (SSCC). The CitCom.ai consortium brings together world-leading TEF capabilities around the **three themes** POWER, MOVE and CONNECT, as **three “super nodes”** Nordic, Central and South with satellites and sub-nodes located across **11 countries** the European Union. Building on established initiatives such as the **Living-in.EU** efforts and the **Minimal Interoperability Mechanisms**, and projects such as OrganiCity (testing and Experimentation Facility for Smart Cities and Communities) and SynchroniCity (Large-scale pilot for AI and IoT in Smart Cities and Communities), CitCom.ai leverages the best available experience and expertise in Europe, and in the world. The solid and broad **co-funding is secured from public and private sources**, with tight linking to EU and Member State initiatives. And after the project **period of five years**, a clear **business plan** will be developed from strategic and technical perspectives, aligned with the **needs of cities and communities** in Europe.

# The working model



TEF

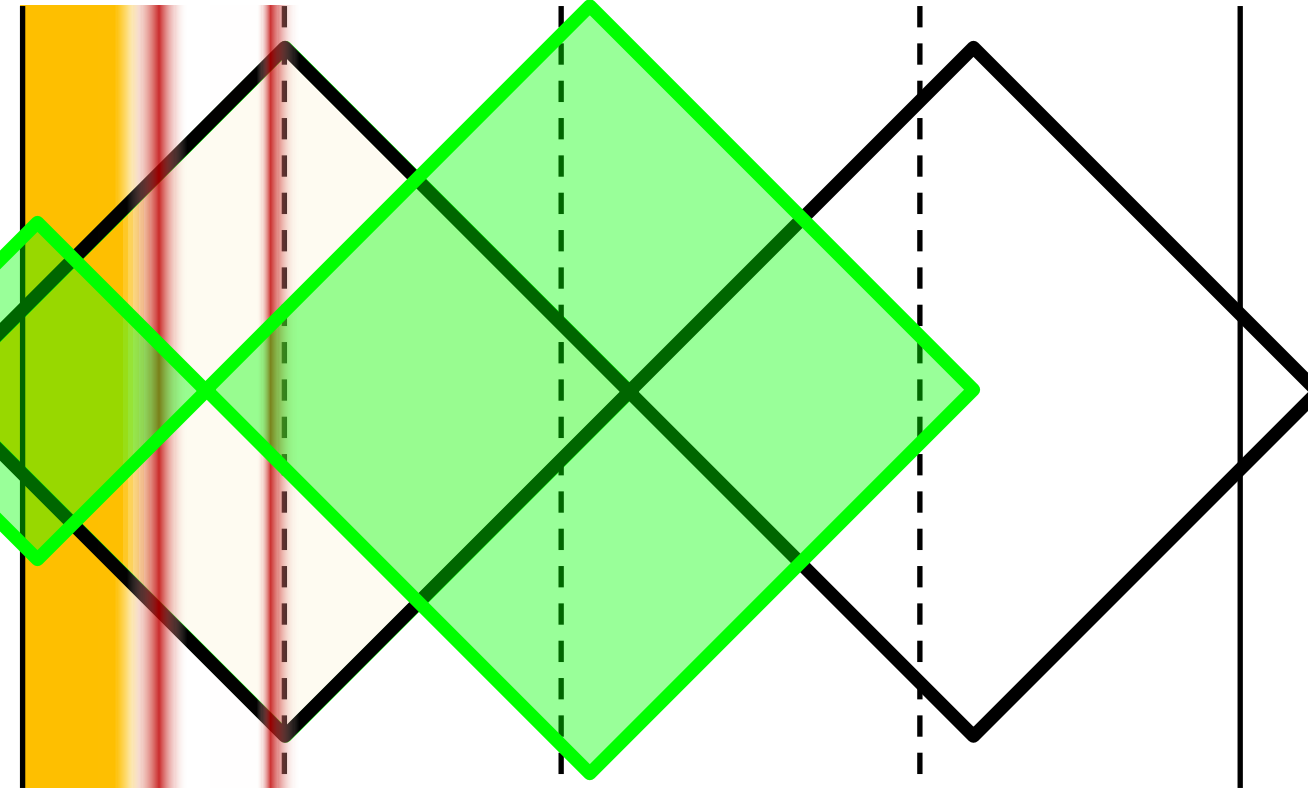
BLUEPRINT

DEPLOYMENT

CO-FINANCING  
(SUBSIDY)

INCOME  
(COMMERCIAL)

Data Space  
+  
Local Digital Twins  
+  
CitiVerse



0

12

24

42

60

BUILD-UP

VALIDATE

SCALE

TRANSITION



# Digital Europe – Data Economy & Smart Communities



SMART & SUSTAINABLE COMMUNITIES

Phase 1 (22 Feb 2022)

Phase 2 (Q2 2022)

Phase 3 (Q1 2023)

Phase 4 (Q2 2023)

**Go Li.EU**  
Living-in.EU Governance  
CSA (2m€)

**DS4SSCC – Data Space for Smart Communities (prep)**  
CSA (1m€)

**EDIH**  
European Digital Innovation Hubs  
CSA

**CommuniCity – 100 AI and tech pilots > XR (Citiverse)**  
Horizon CSA (5m€)

#1 LDT Toolbox Tech  
Specs (2m€/3 mo)

#2 LDT Advancing  
Initial Stages (7,5m€)

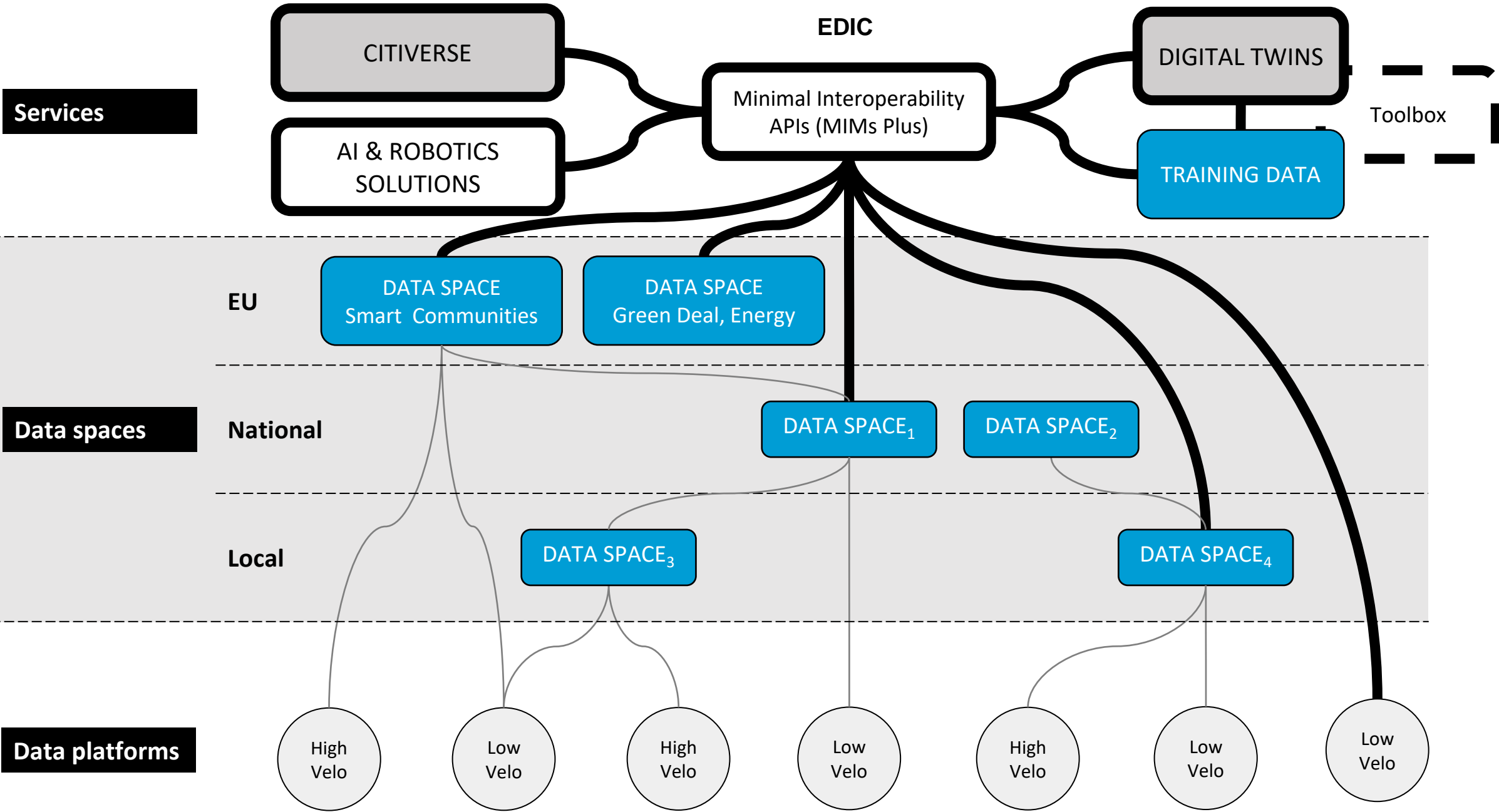
Citiverse (15 + 15m€)  
#3 Advancing Digital  
Transformation in SCC (24m€)

**DS4SSCC DEP – Data Space for Smart Communities**  
Deployment action (3 + 15 + 15m€)

**CitCom.ai**  
AI Testing & Experimentation Facility for SCC  
Deployment action (20m€ + 20m€)

AI Act  
European Digital Infrastructure Consortium (EDIC)

**NET ZERO CITIES**  
EU MISSION PLATFORM  
CLIMATE NEUTRAL AND SMART CITIES



# Common European data spaces

Rich pool of data  
(varying degree of  
accessibility)

Free flow of data  
across sectors and  
countries

Full respect of GDPR

Horizontal  
framework for data  
governance and data  
access



Health



Industrial &  
Manufacturing



Agriculture



Finance



Mobility



Green Deal



Energy



Public  
Administration

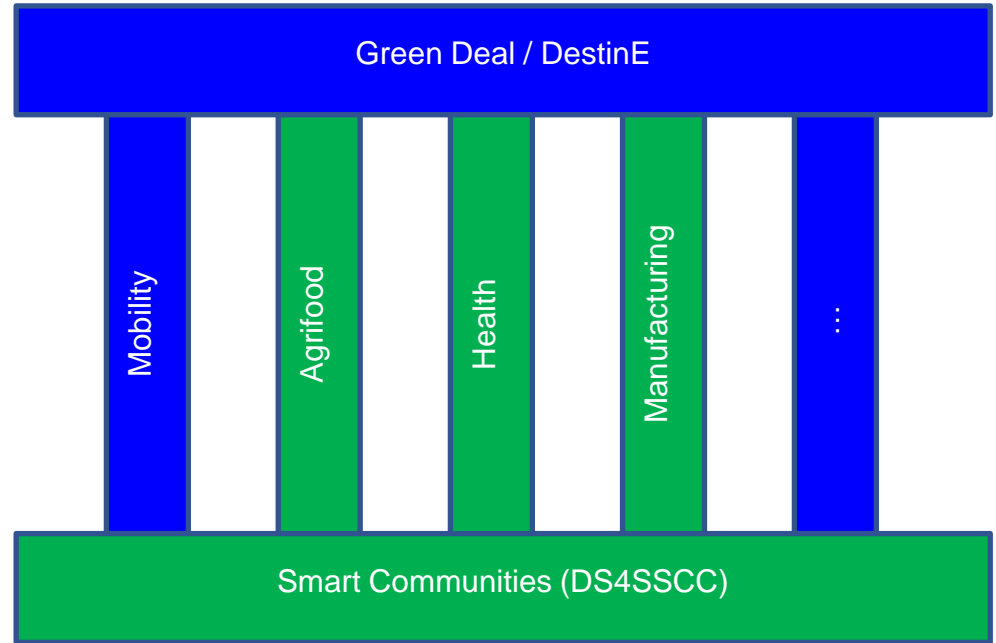


Skills

- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)

- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services

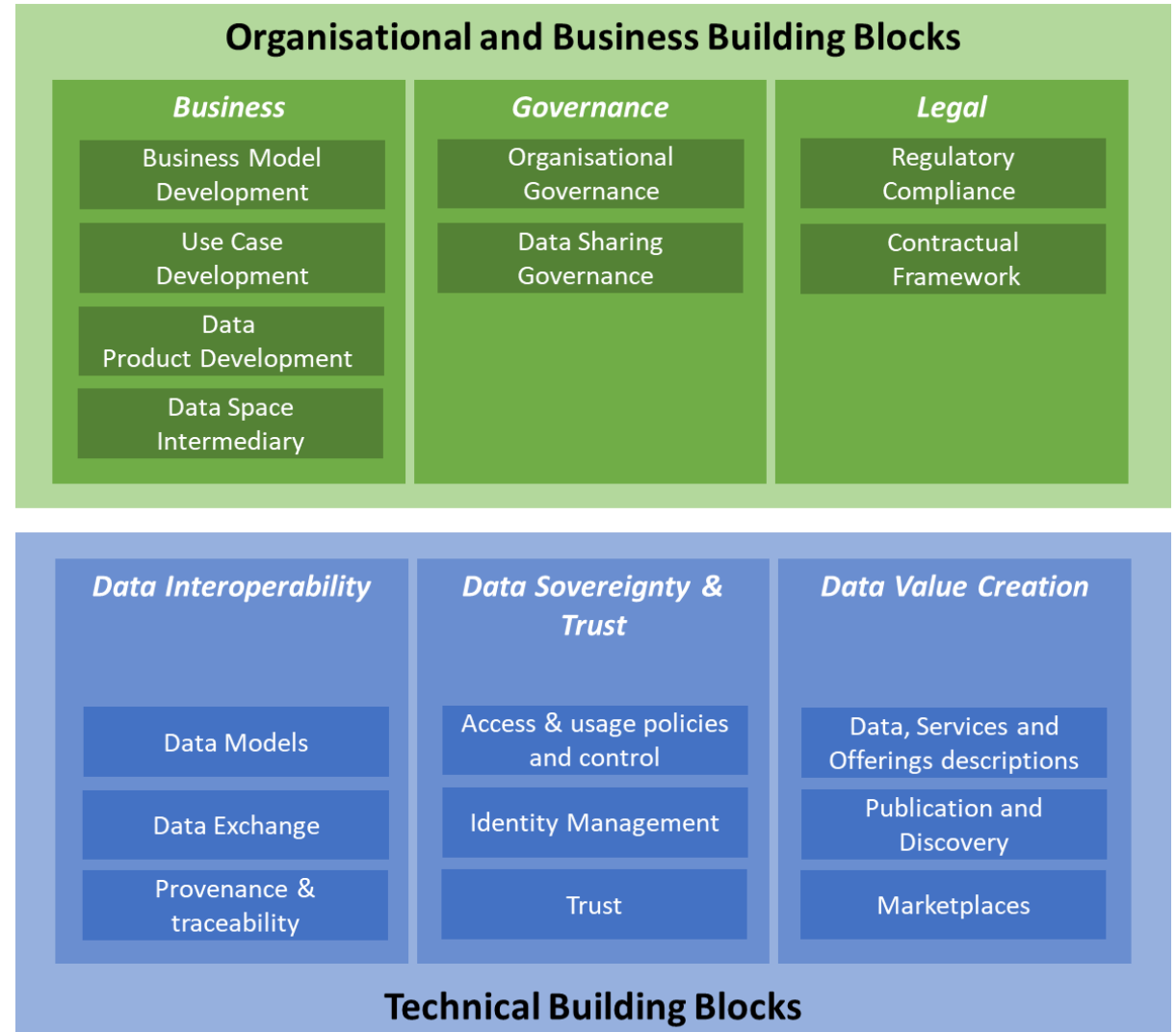
# Two kinds of data spaces: Sector vs Cross-sector



TEFs

interoperable  
europe

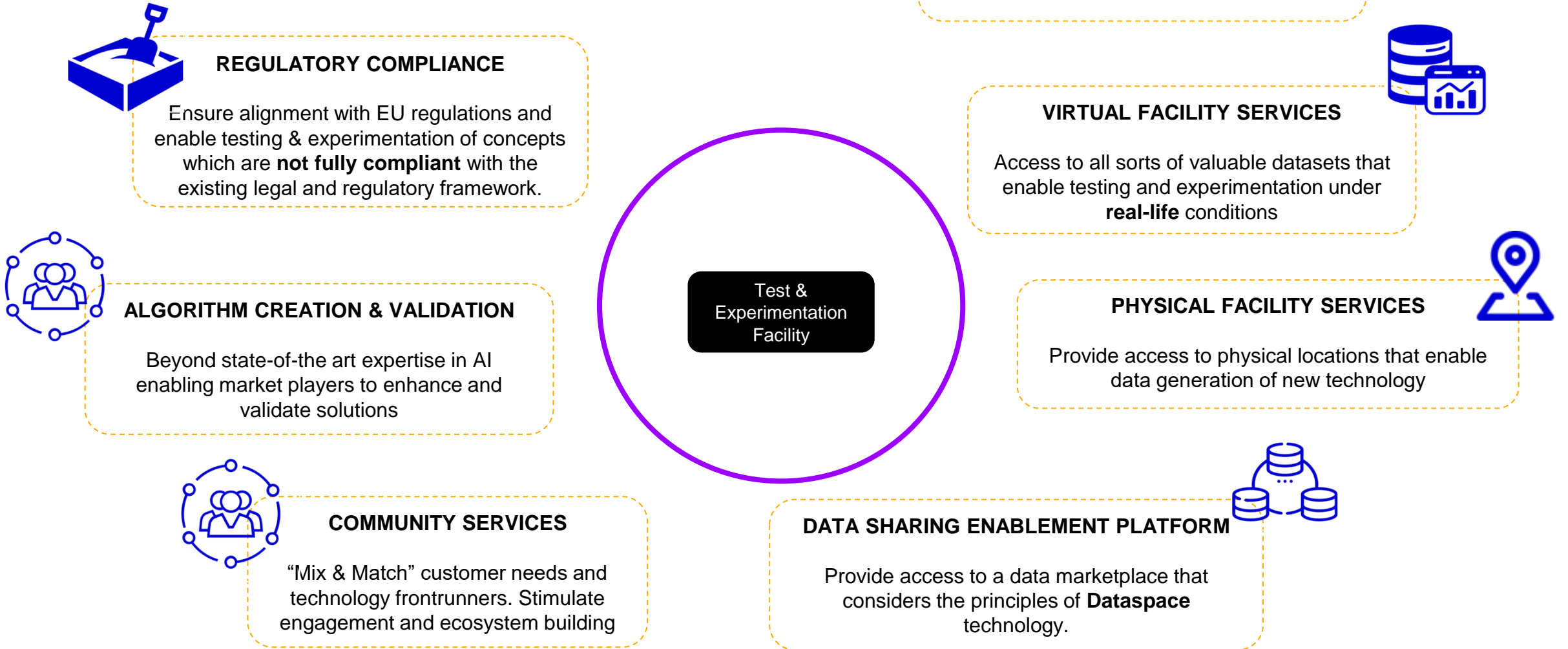
# DSSC - EU Data Spaces Blueprint - Building Blocks





<< Under Development >>

# Service Catalog | overview



# STATUS


3 SUPERNODES


11 NODES

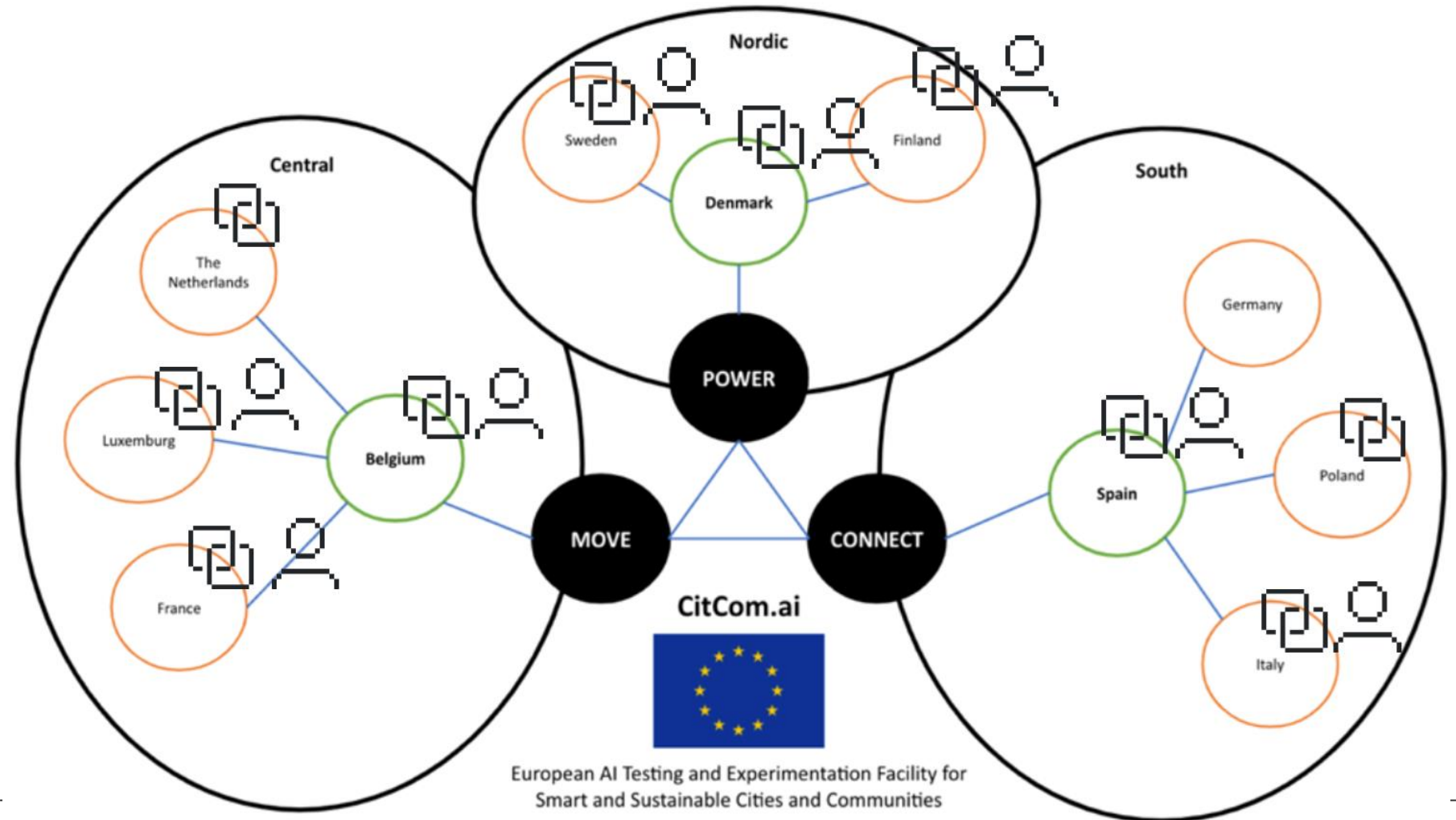
16 TEF SITES

29 TESTING ZONES

132 INITIAL SERVICES

Customer interest 

Service ready 





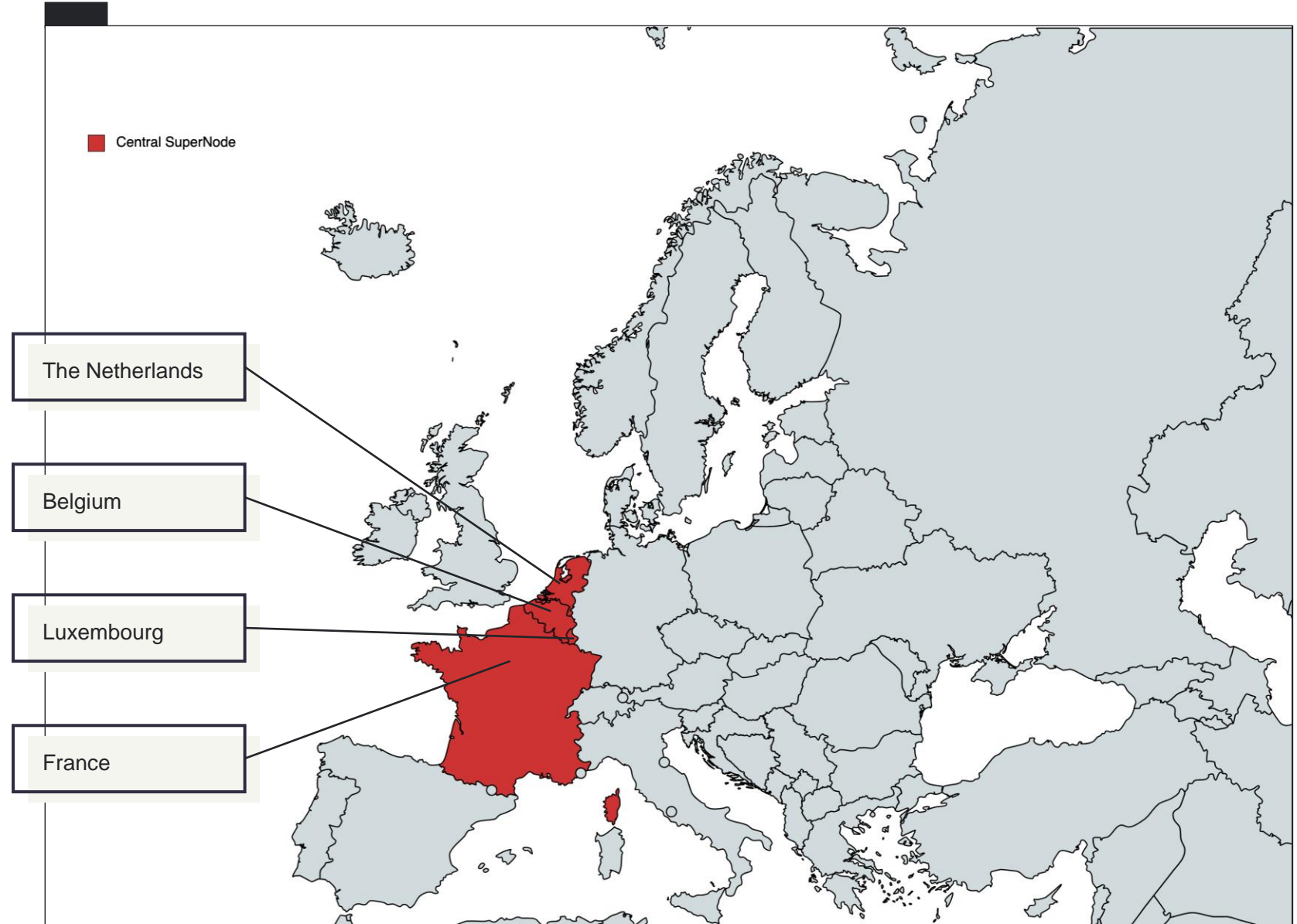
# Central supernode

## Theme: Move

- NL - Smart intersection
- BE - Urban mobility & logistics
- LU - Electromobility
- FR - Autonomous driving

## Partners:

- Eindhoven
- Imec
- VUB
- Digitaal Vlaanderen
- City of Mechelen
- Paradigm
- STIB
- Bruxelles Mobilité
- Fari
- LIST
- LNE
- UTAC
- IRT - System X
- Université Gustave Eiffel



# Facilities in Belgium

2 testing facilities: **Brussels & Mechelen**

Provide a leading EU Testing and Experimentation Facilities (TEF) relevant to AI & Robotics solutions in the domain **urban mobility & logistics**,

-> focus: **multimodality, pedestrians, bikes, traffic flow, mobility points, public transport**

Bootstrap data spaces in mobility/smart communities in Europe

Get access to best-of-breed AI algorithms in EU

Use AI algorithms in a regulatory sandbox

Help Belgium startups develop their solutions faster



# TEF Brussels

## Potential use cases:

UC1 – Evaluation of dynamic traffic management

UC2 – Detection of traffic incidents

UC3 – Speed optimisation of Emergency Services

UC4 – Predictive traffic management tool

UC5 – Optimisation strategy of traffic management sensors



# TEF Brussels

## Potential use cases:

UC 1 - Digital signage real-time communication about the status of the current mobility modes offered in the MobiHub

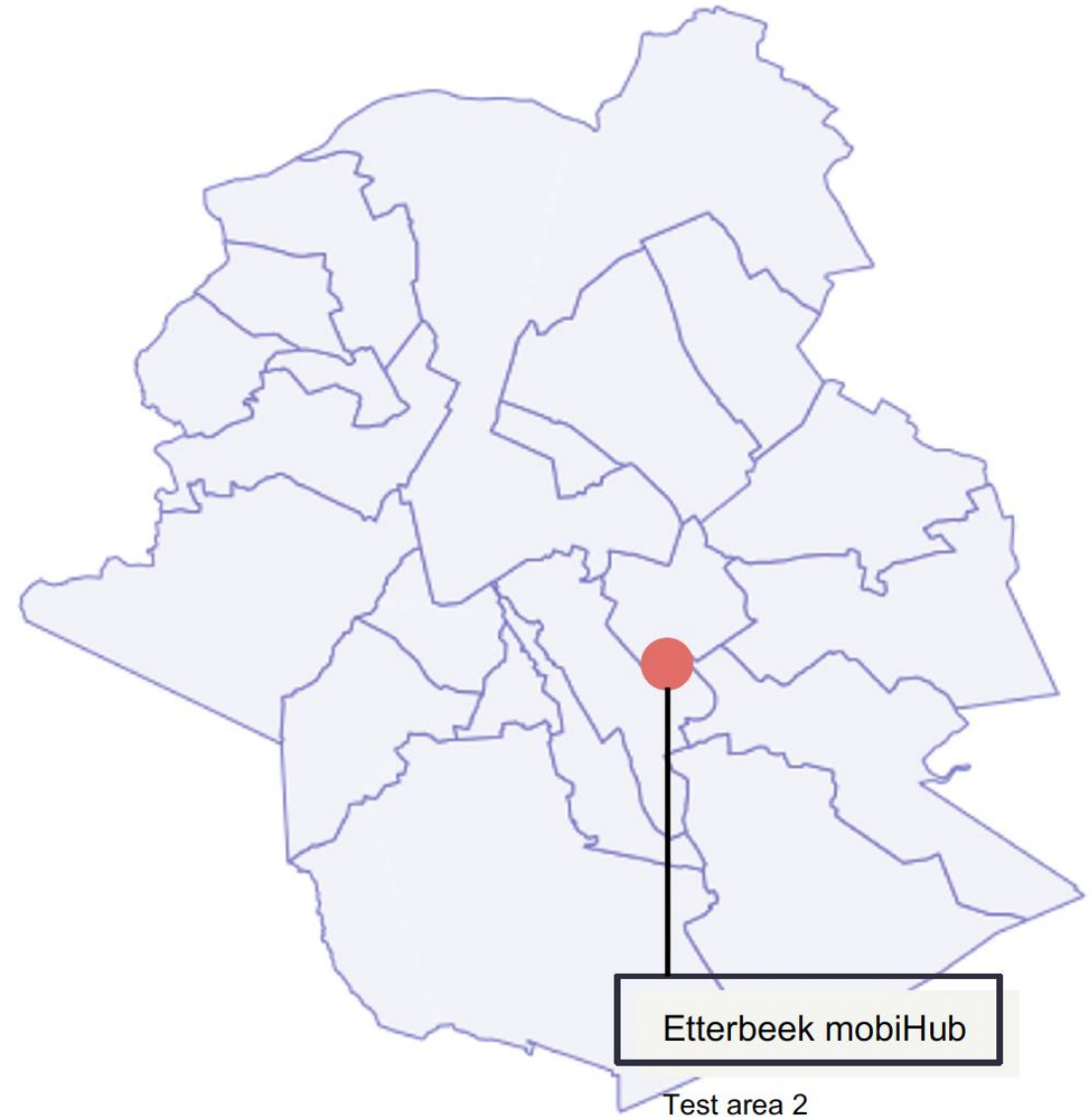
UC 2 - Estimating the usage of public transport in order to improve user experience and the availability of shared vehicles

UC 3 - Analysis of historical data to capture usage and optimise mobility offerings at night

UC 4 – Testing the usage of sensors/cameras in the public domain around Mobility Hub Etterbeek

UC 5 – Counting the number and type of users of the different zones (pedestrian zone, tram zone, bus zone, bicycle parking zone, train zone..) of Mobility Hub Etterbeek

UC 6 - Analysis of intermodal behaviour in Mobility Hub Etterbeek



# AI Regulatory Sandboxing

## EU AI Act: Article 53, 1:

- **Requires** explicitly that member states establish operational AI Reg SB within **24 months** after entry into force of the AI Act (mid 2024?).
- The EC **may provide** technical support, advice and tools.
- Currently, information is lacking, left to **self-organised local initiatives**.

## Objectives: Article 53, 1.g:

- **Improve legal certainty** to achieve regulatory compliance with applicable regulations.
- Support the **sharing of best practices** through cooperation with the authorities.
- **Foster innovation** and competitiveness and facilitate the development of an AI ecosystem;
- Contribute to **evidence-based** regulatory learning;
- **Facilitate and accelerate** access to the Union market for AI systems, in particular when provided by small and medium-sized enterprises (SMEs), including start-ups.

# Use-cases

## Example:

- **ANPR** cameras to detect mobile phone usage while driving, with built-in privacy preserving features.
- POC is developed and **works well**.
- In Belgium, **only the police** can process images. Cameras can't be autonomous for detection of potential infractions.
- AI Reg SB: **Feedback** on inadequate **legislation** to be updated.

## Example:

- Using **real population data** for socio-economic simulation does not respect **privacy**.
- **Advice** from the AI Reg SB towards the AI solution developer: Create **artificial dataset** that represents the same population distribution.
- This makes the use-case **compliant**, while keeping its potential for **usefulness**.
- AI Reg SB: **Sharing of best practices**, and foster innovation.

# Bottom-up approach

Domain Specific  
Sandbox: Mobility

Practical  
conditions

Use-cases from  
multiple projects

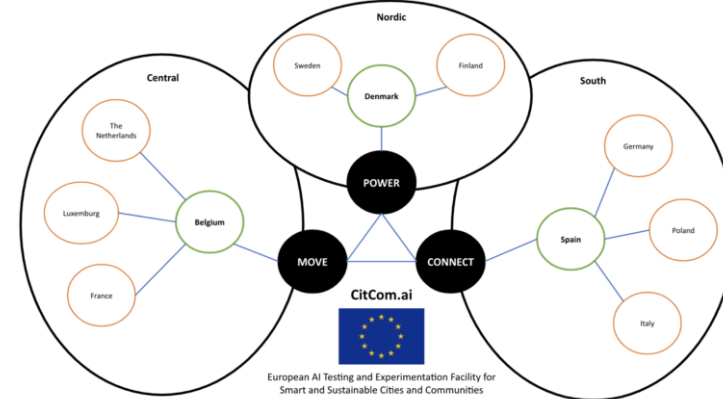
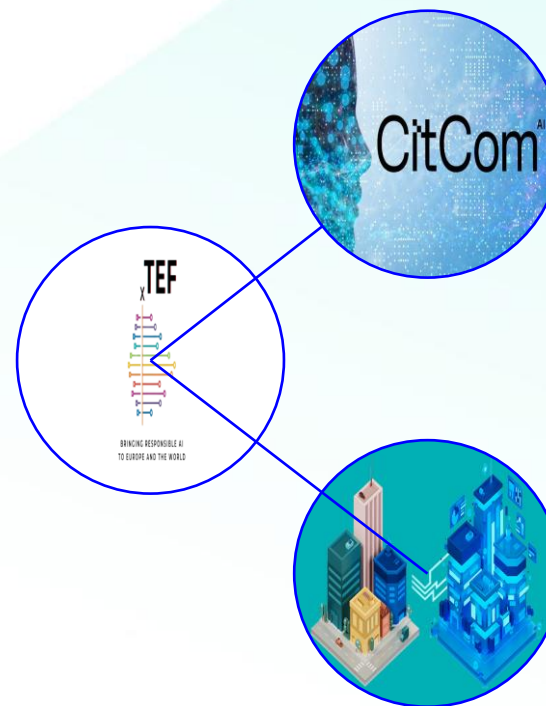
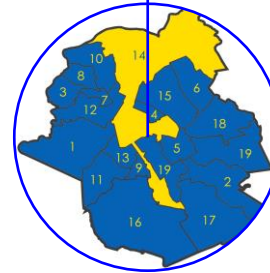


Figure 2: Structure of the CitCom.ai consortium



# Deliverables 2024



Brussels  
Capital Region  
Strategy

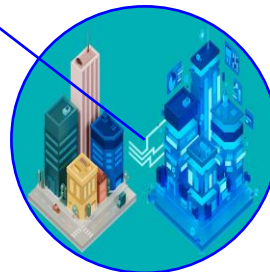
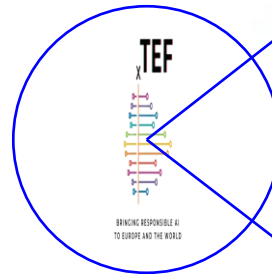
Legal Aspect  
Research project



CitCom.ai  
Sandbox on  
Mobility



Technical Aspect  
Research project



Projects and  
use cases for  
testing