



European Data Strategy

**“From data spaces
to platforms with
decentralised intelligence”**

Rolf Riemenschneider, Head of Sector IoT
DG CONNECT/E4
European Commission

The future of European Competitiveness – Report by Mario Draghi

Context



On September 9, 2024, Mario Draghi, former ECB president, presented a 400-page report - after being tasked by the European Commission - on the **future of European competitiveness**.

The findings of the report contribute to the Commission's work on a **new plan for Europe's sustainable prosperity and competitiveness**.

→ In particular, the report will contribute to **the development of the new Clean Industrial Deal for competitive industries and quality jobs**, which will be presented in the first 100 days of the new Commission mandate.

Key conclusions



Part A (Strategy)



Part B (In-depth analysis)

3 main areas for action to reignite sustainable growth are identified



1

Closing the innovation gap
with the US and China



2

Joint plan for **decarbonisation**
and **competitiveness**



3

Increasing **security**,
reducing **dependencies**

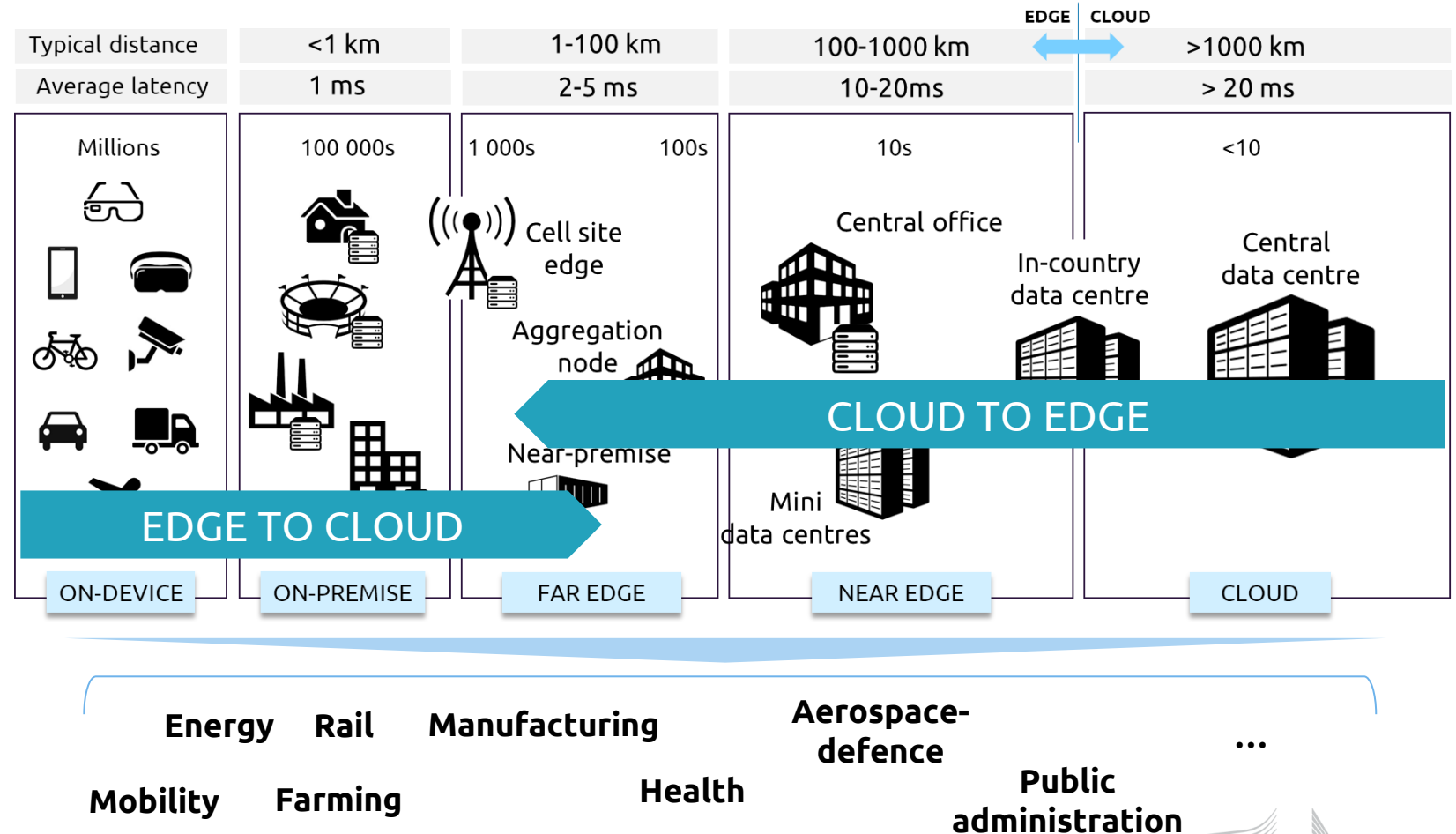
10 sectoral policies and **5 horizontal policies** are identified,
including for Automotive

Detailed next

Digital Decade objectives for the cloud & edge computing continuum by 2030



- ✓ >10.000 edge nodes by 2030
- ✓ 75% of cloud uptake by EU enterprises in 2030

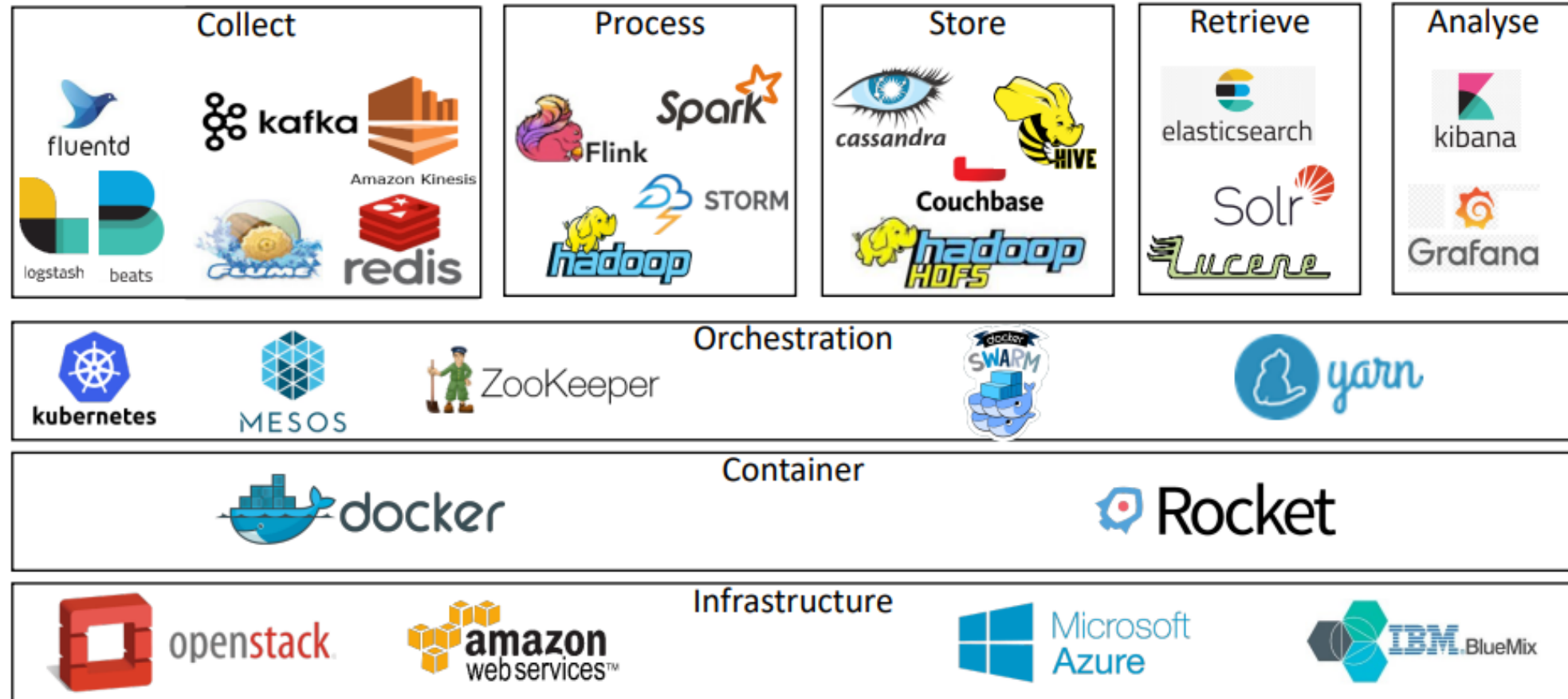


Platforms for the Edge

- **Challenges of System Integration**
- Embedded Systems & Control
- Internet of Things – Connected Objects
- Cloud – Digital Twins - Orchestration
- **A Platform Economy @theEdge**
 - **taking a system-level approach**
 - * from hardware of smart devices
 - * to operating systems at device and at system level,
 - * to middleware and to application software
 - *Functions/Apps over the Air up-dates*
 - *Avoid Vendor Lock-in - Open, vibrant ecosystem*



Momentum of Open Source Initiatives



Industrial Uptake of IoT Platforms

Support Action
CEI-SPHERE

Strategy:
**A Platform
Approach to
share
hardware and
foster an Open
Ecosystem**

Carbon
Footprint



Privacy

Safety

Security



Orchestration of resources:
storage – network – computing centres



**Cross-domain
Pilots
45 Mill. EUR**

Environmental
Footprint

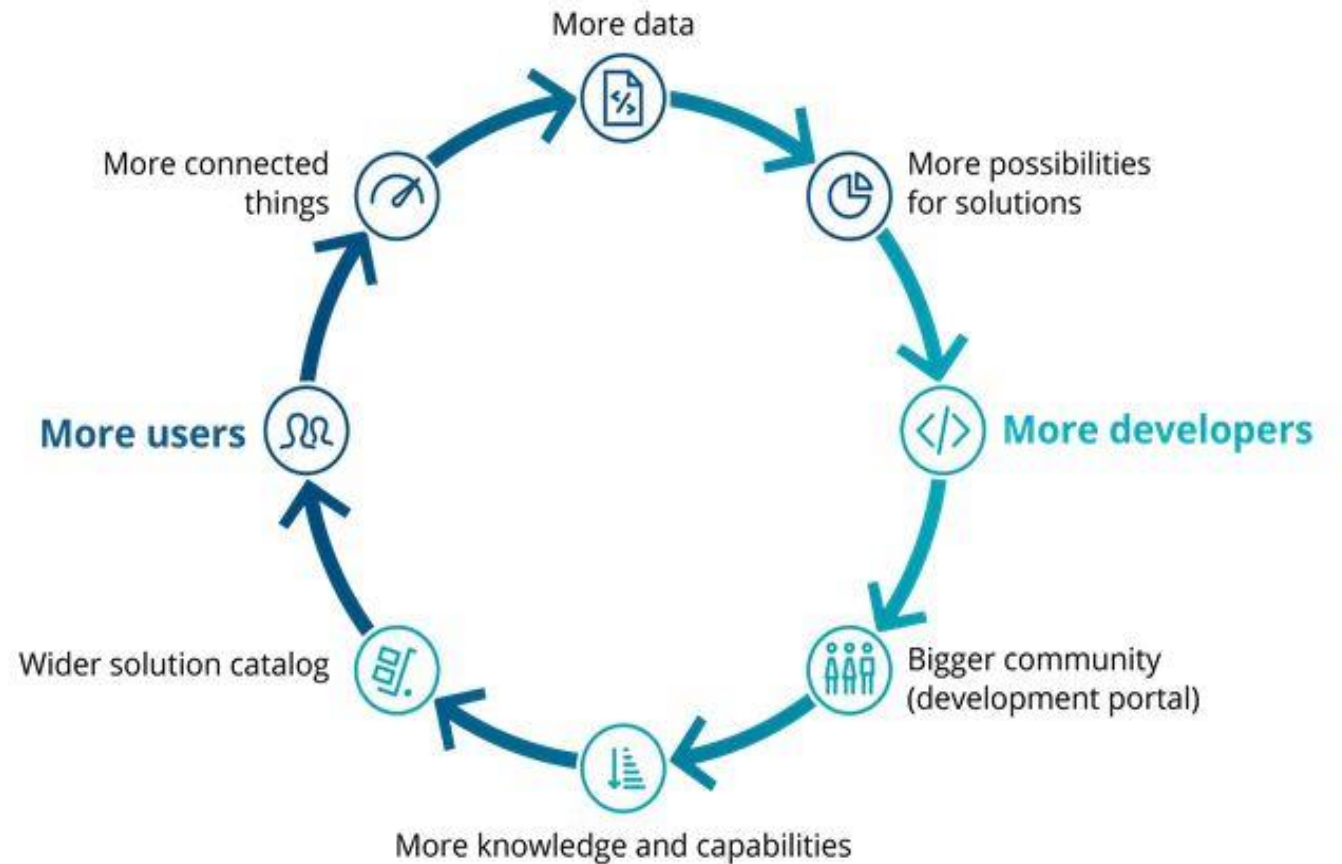


Energy
Consumption



Open Calls to spur a vibrant IoT ecosystem

- Manage Complexity through *an open platform approach*
- *The value of an IoT-Edge Platform corresponds to the size of its ecosystem* behind the platform
- Require consensus on interoperability and standards as well as ecosystem building in and across verticals
- *Edge platforms could leverage the momentum of Open Source Communities*

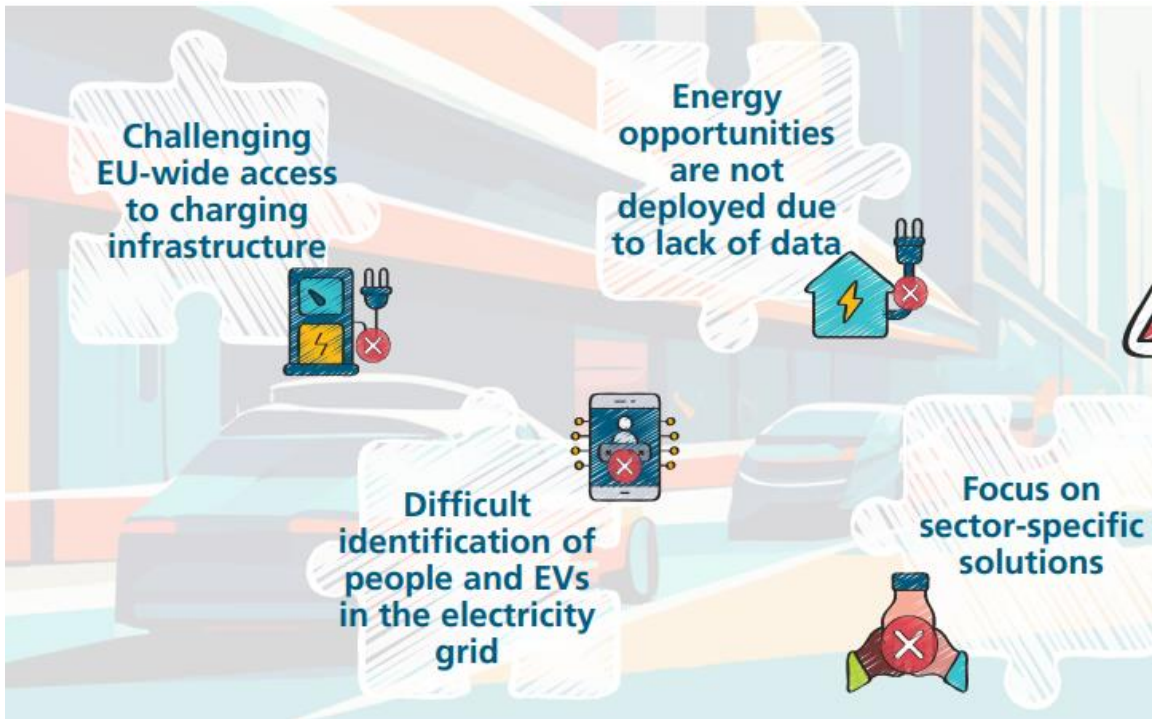


Source: Deloitte analysis.

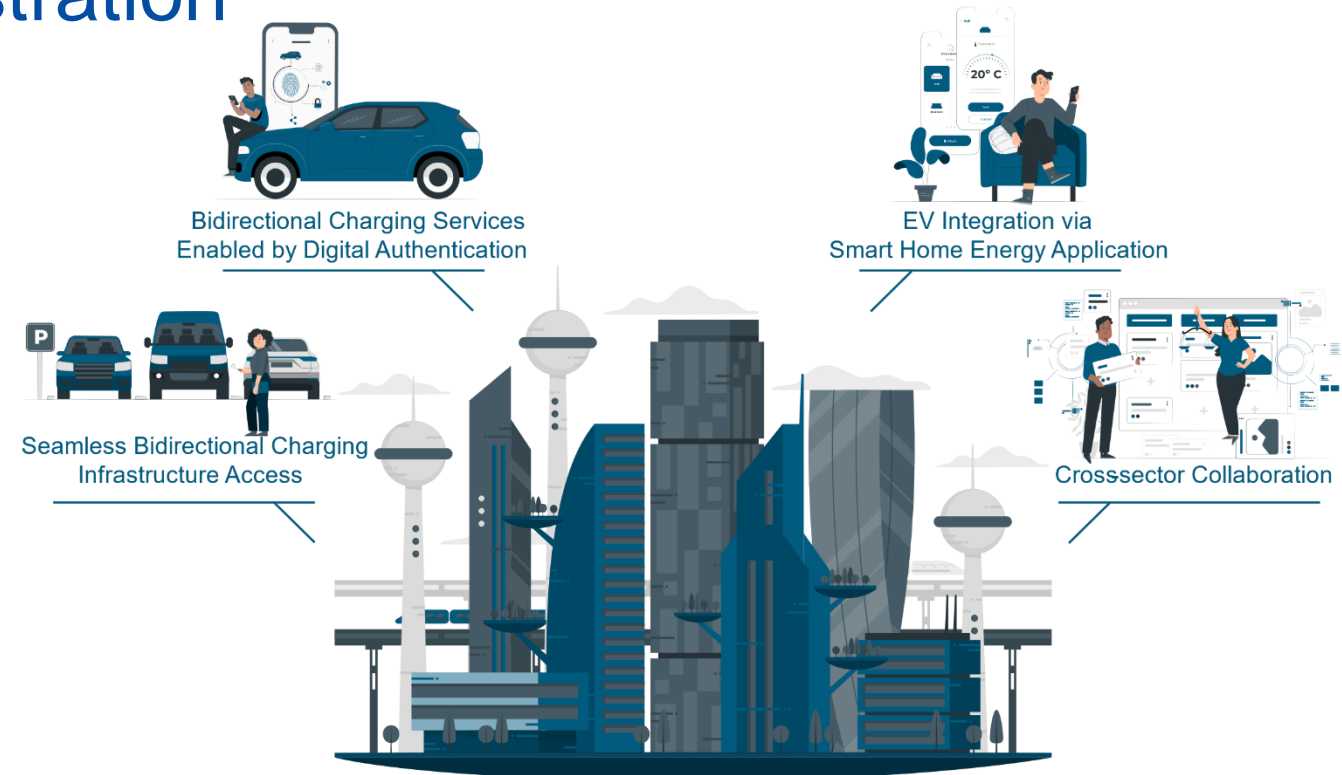
Deloitte Insights | deloitte.com/insights

Lack of cross-sector orchestration

Challenges



Study Report by Fraunhofer FIT, May 2024 <<LEVERAGING TWIN TRANSFORMATION DIGITAL INFRASTRUCTURES TO ADVANCE DECARBONISATION AT THE NEXUS OF ENERGY AND MOBILITY >>



Opportunities



A digital platform model necessary beyond interoperability

Standardise

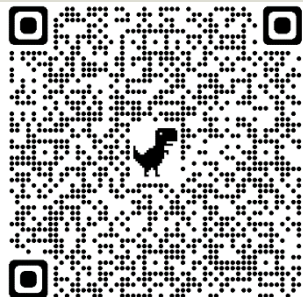
Open APIs

OSS Building
blocks

Use cases

Aggregation Data

Apps



Smart charging ranks among the main use cases in fast rising cross-industry IoT use cases



Landscape Report (2023):
Energy and flexibility data models and interoperability across the sectors energy, mobility and buildings





Common European energy data space (INSIEME)

A clear political basis

- **Draghi report:** Energy sector indicated as '*one of the sectors with the greatest potential to benefit from the capacity of AI to boost efficiency and accelerate innovation*'
- **Digitalisation of Energy Action plan and the European Data Strategy**

Important milestones achieved in the sector

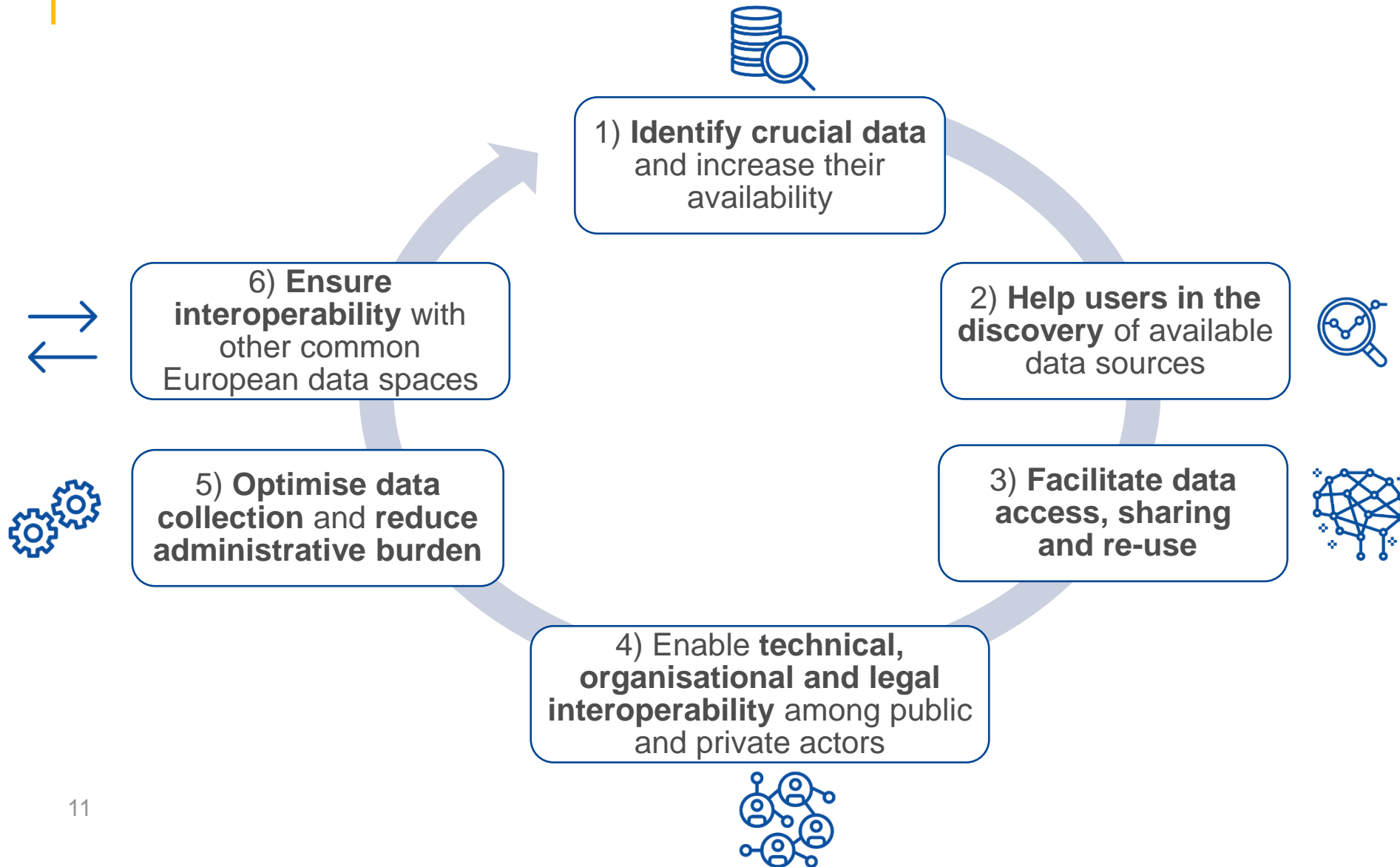
- **Common European Energy Data Space (CEEDS) blueprint:** Common ground established through preparatory actions (€45M: 5 IAs + 1 CSA under Horizon Europe).
- **Standardized formats & frameworks:** Harmonized data formats, security protocols, and governance standards.
- **Pilots in 16 EU countries:** Focus on grid services, renewable integration, and improving energy efficiency.
- **Consumer empowerment:** Supports new energy services and drives Europe's clean energy transition through interoperability and innovation.

Growing interest from key players

- **Coordinator:** INSIEME (AT)
- **Deployment (€8M):** Launching in Q1 2025 with 60 partners



Common European data space - Objectives



EU initiatives supporting the creation of data spaces

Procuring an open source smart cloud-to-edge middleware platform, providing basic building blocks for data spaces
Launched in January

- EU project to
- coordinate data space initiatives
 - Identify common requirements
 - Support the work of the EDIB
 - Support data space initiatives and knowledge exchange

Blueprint 1.0 published

EU financial contribution (notably DIGITAL) to deploy common European data spaces in strategic sectors/domains

Offer a technical solution (smart middleware Simpl)

Data Spaces Support Centre

Funding for sectoral data spaces

Funding

Data Governance Act

European Data Innovation Board (EDIB)

Data Act

Legislation

Increase trust in data sharing (neutral data intermediaries, i.e., the orchestrators of the data spaces)
Entered in application on 24/09/23

Support the Commission in:

- Issuing guidelines to facilitate the development of the common European data spaces
- Identifying the standards and interoperability requirements for cross-sector data sharing

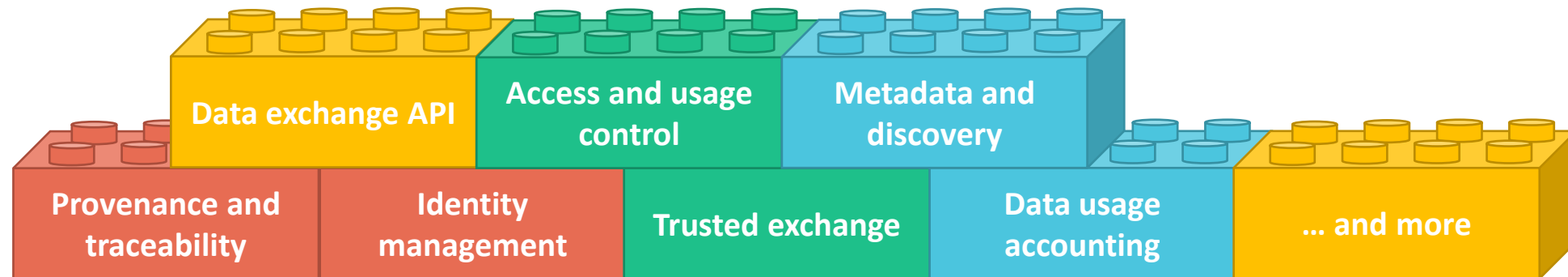
3rd meeting on 14/05/2023

Unlock the potential of the EU's industrial data (IoT data), ensure fairness in the allocation of data value among the actors of the data economy

Adoption by the Council on 27/11/23

Data Spaces technical infrastructure

Smart middleware for European cloud federation and the European data spaces



Providing a framework that makes it easier and more efficient to build, customize, and deploy data spaces

Data Spaces Support Centre

*Launched in October 2022
Running until March 2026*

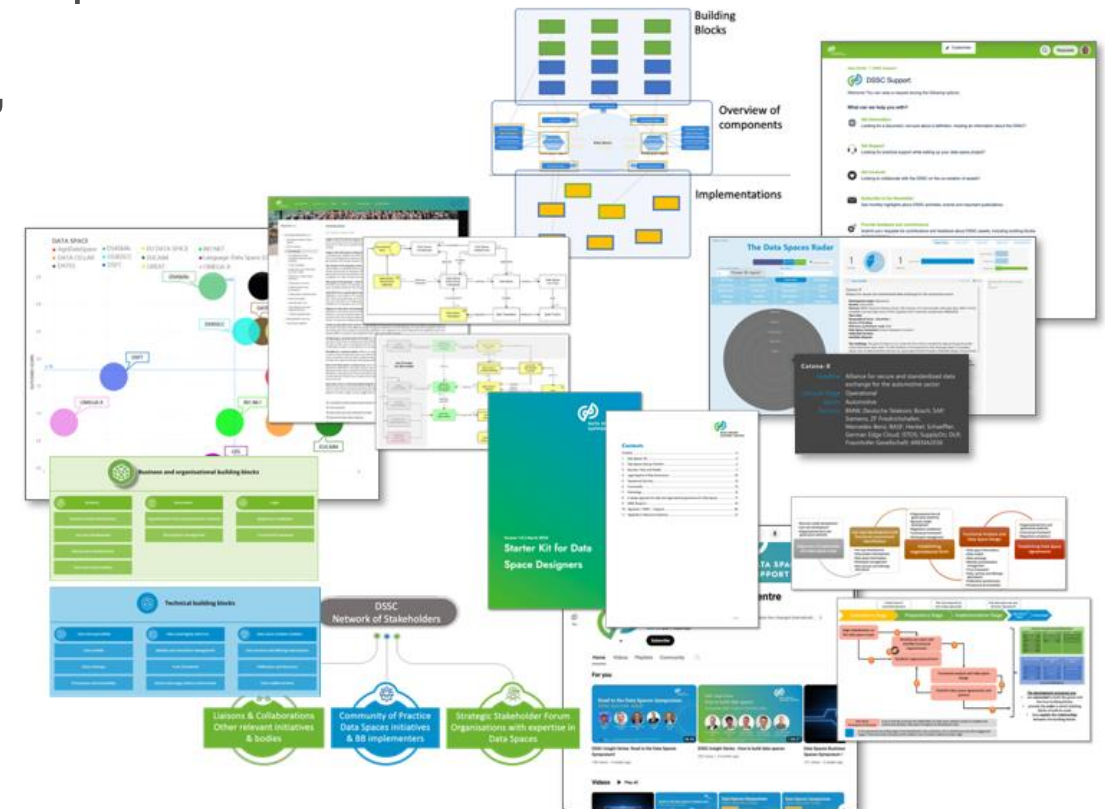


Coordinate data space initiatives: closely work with CSAs and projects funded under Digital Europe Programme and other European and National Initiatives



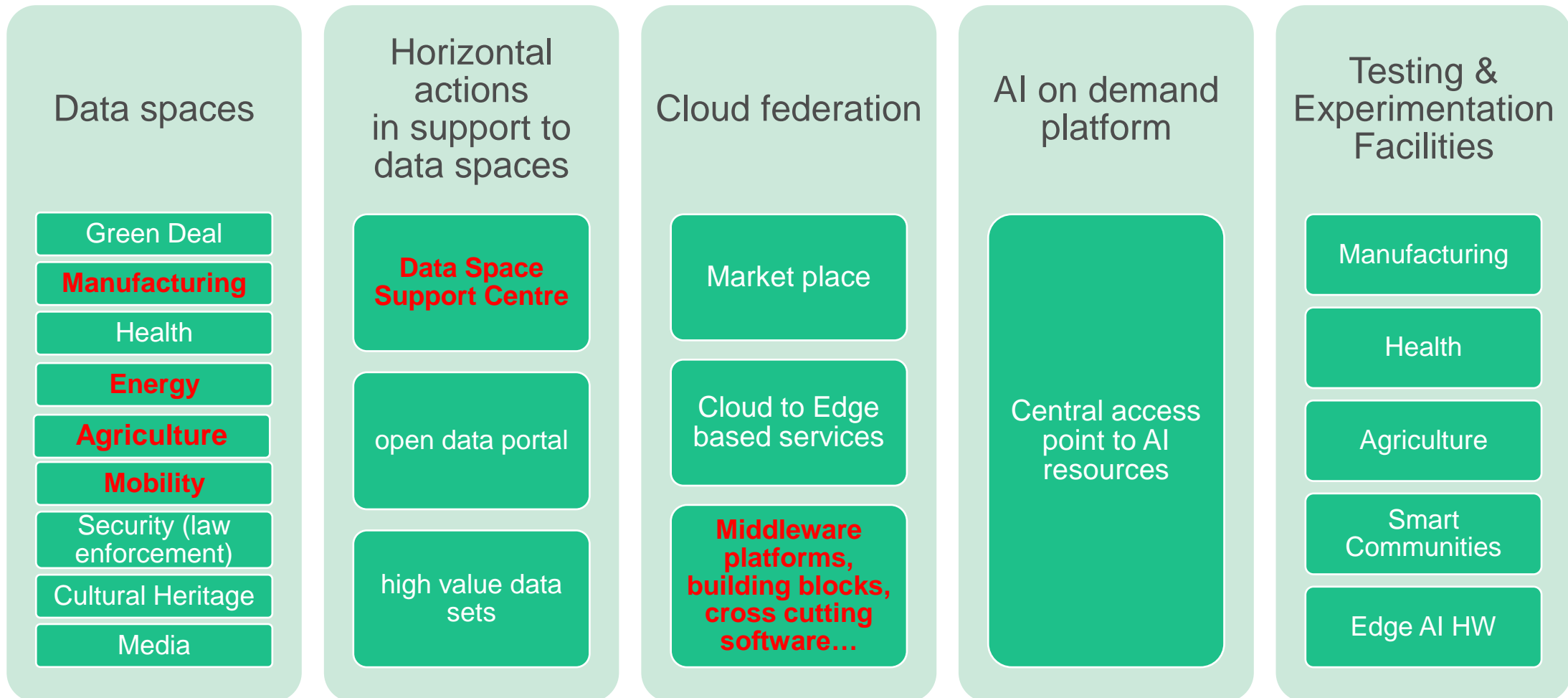
Create a **platform for data space 'offerings'**

- The Network of Stakeholders
- The Glossary and the Conceptual Model
- The Starter Kit
- **The Blueprint**
- The Co-Creation Method
- The Toolbox
- The Radar



Support under DIGITAL EUROPE Program

- Artificial intelligence, data and cloud



Actions will be managed directly by CNECT

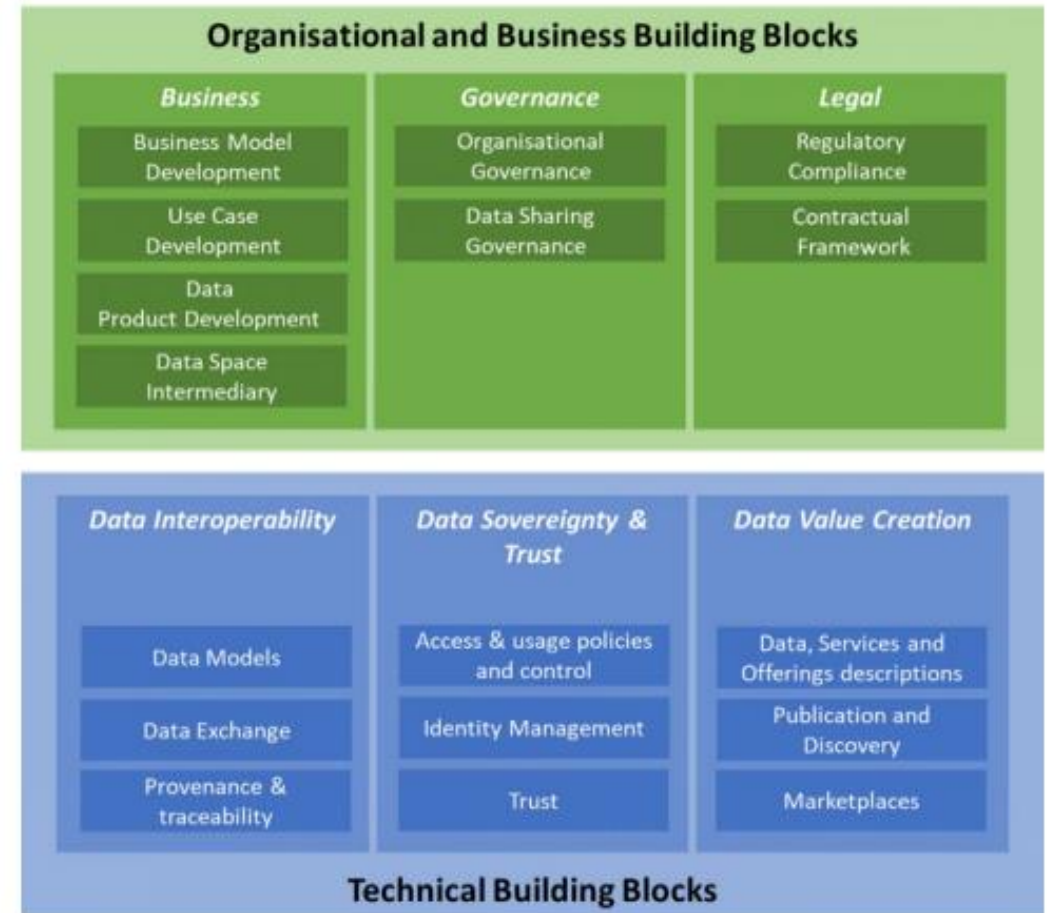
Mobility Data Space Deployment Action

insights from PrepDSpace4Mobility

Inventory: Identified **272 mobility data ecosystems** in Europe

Building blocks recommendations:

- Support **multiple types of data-sharing**
- Create a **multi-level governance**
- Facilitate and accelerate **use cases**
- Follow the **generic common European data spaces approach** e.g. for trust and discoverability
- Embrace the **diversity** of sector-specific **data interoperability standards** (e.g. data models)
- Support **mobility-specific building blocks** e.g. event-driven smart contracting, ticketing



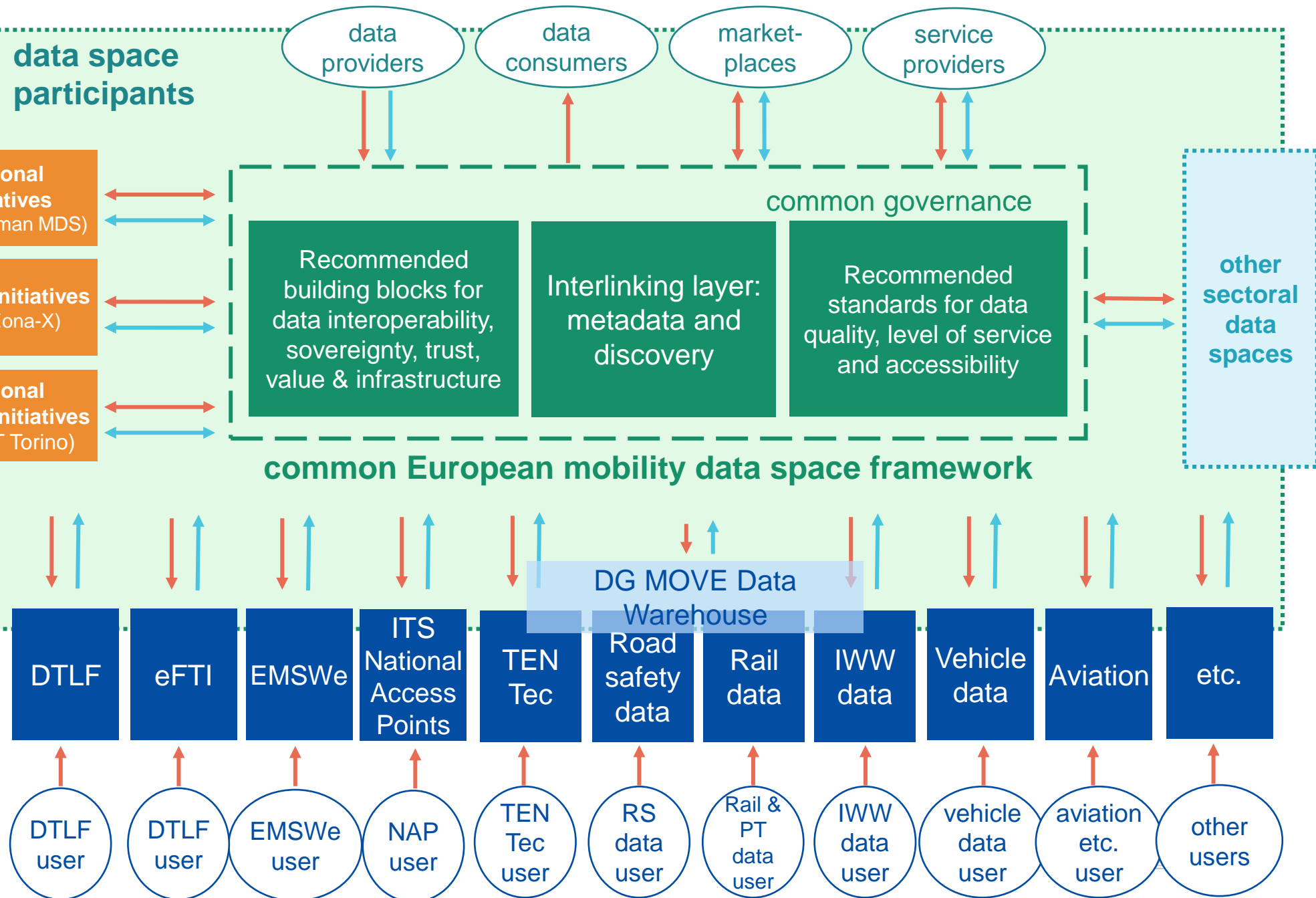
More information on <https://mobilitydataspace-csa.eu/>

Initial vision,
open to
changes

mobility data
ecosystems,
initiatives
and platforms

EU mobility
data domains
and initiatives

→ data access/sharing
→ metadata flows

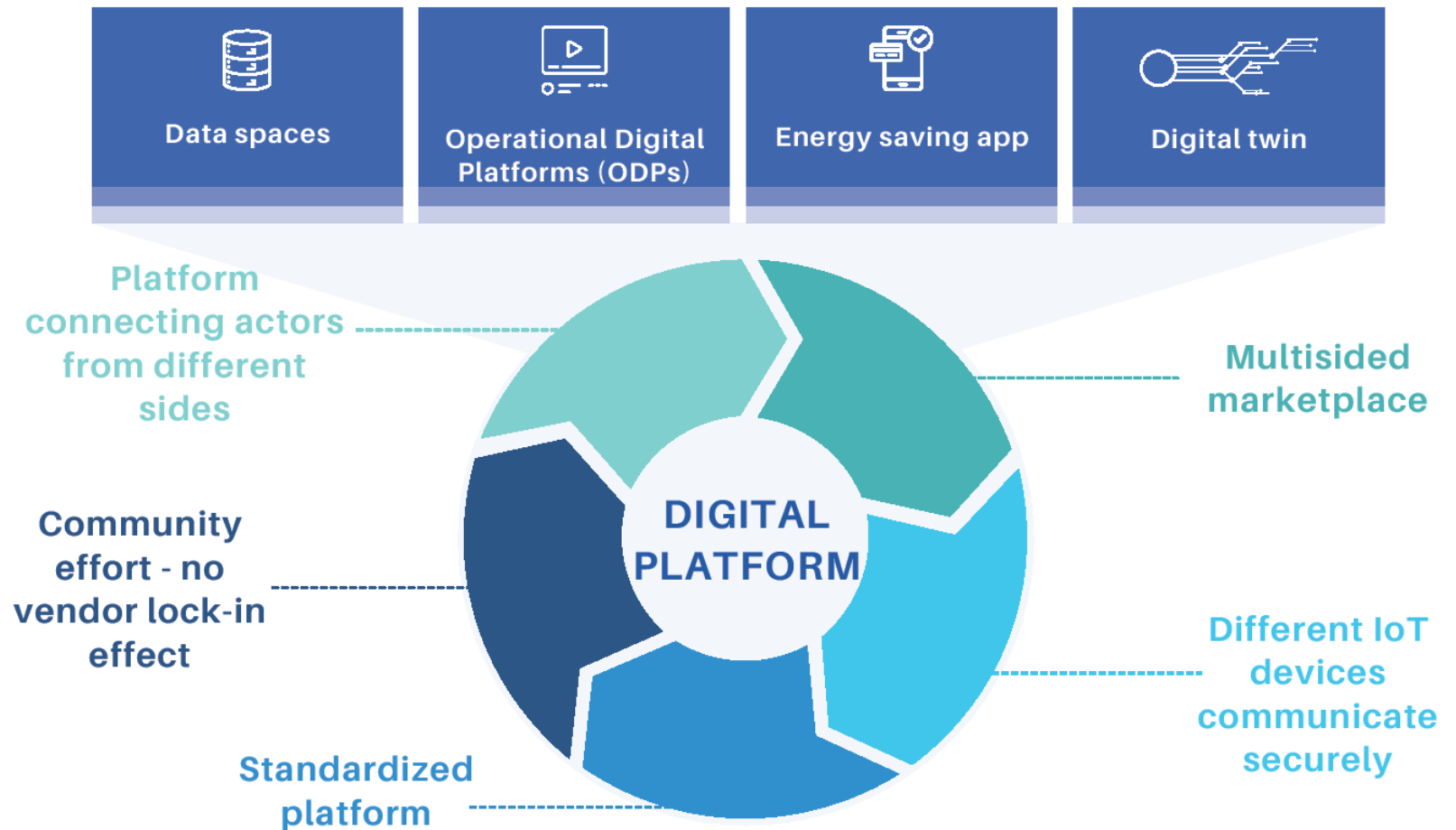


Digital platform to optimize infrastructures at the confluence of the mobility and energy sector

Data flowing from existing tools (data spaces, ODPs, energy saving app, digital twin) to a digital platform.

Key elements of a digital platform :

- Be a multisided *marketplace*,
- Enable IoT devices to speak to each other securely
- Bring all actors from different sides,
- *Agreement on open Interfaces and Standards,*
- Supported by a vibrant Ecosystem in order to avoid any vendor lock-in effect



THANK YOU

Useful links:

- **Cloud-Edge-IoT Portal** – see www.EUCloudEdgeIoT.eu
- **Digital Europe Programme:**
<https://digital-strategy.ec.europa.eu/en/activities/work-programmes-digital>
- **CEF Digital: Operational Digital Platforms:**
<https://digital-strategy.ec.europa.eu/en/news/cef-digital-operational-digital-platforms>
- **OpenDEI: Design Principles Data Spaces**
→ <https://design-principles-for-data-spaces.org/>
- **Data Space Support Center** - <https://dssc.eu>
 - Mobility Data Space <https://mobilitydataspace-csa.eu>
 - Energy Data Space – [Background information](#)
- **Cross-domain standardisation 26 Nov. 2024** .. → [Infos & Registration](#)

