



Living-in.EU and CNECT Smart Communities initiatives

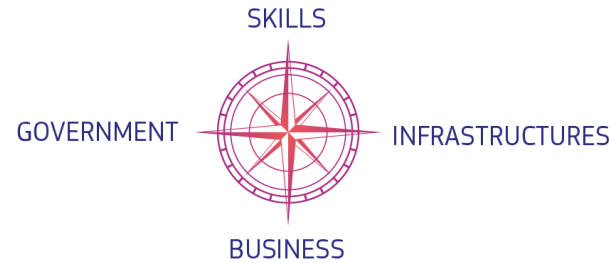
Presentation to Community of Practice – Cities

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28/04/2021*

Policy context



THE EUROPEAN DATA STRATEGY



Europe's Digital Decade

Green Deal Dataspace

Creation of a 'Data space for climate-neutral and smart communities'



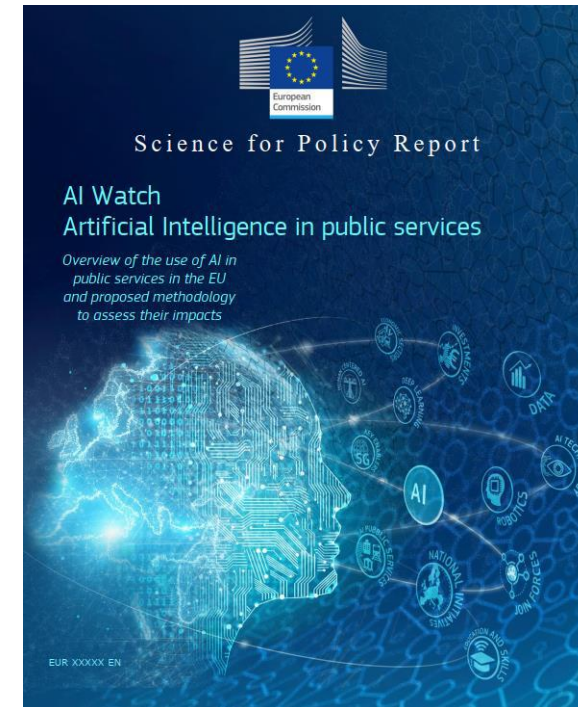
Source: Smartcitiesworld.net



LIVING-IN.EU

The European way of digital transformation in cities and communities

AI Package and Coordinated Plan on AI





- European political priorities : “**Green Deal**” and “Europe fit for the **Digital** age”
- At the same time, much of the impact of events and policies takes place at cities and communities level : Covid-19, environmental challenges, migration ...
- **EU technological and data sovereignty** apply at local level in deploying local data platforms and digital twins, while respecting citizen digital rights. **Interoperability** is a core enabler of Europe’s **digital autonomy**
- The new Leipzig charter and the Berlin declaration give clear indication on the need for Member States, regions and cities **to work on the digital transformation together**
- The **Living-in.EU declaration** brings together these aims.



LIVING-IN.EU

The European way of digital transformation in cities and communities

The European way of digital transformation in cities and communities

- Political Declaration: over 85 signatories, 60 supporters, 5 subgroups, several concrete iconic projects
- Principles:
 - **Citizen-centric approach**
 - **a city-led approach at EU level**
 - **the city as a citizen-driven and open innovation ecosystem**
 - **ethical and socially responsible access, use, sharing and management of data**
 - **technologies as key enablers**
 - **interoperable digital platforms based on open standards and technical specifications, Application Programming Interfaces (APIs) and shared data models**

e.g. the Minimal Interoperability Mechanisms MIMs Plus, CEF Building Blocks, ISA² solutions

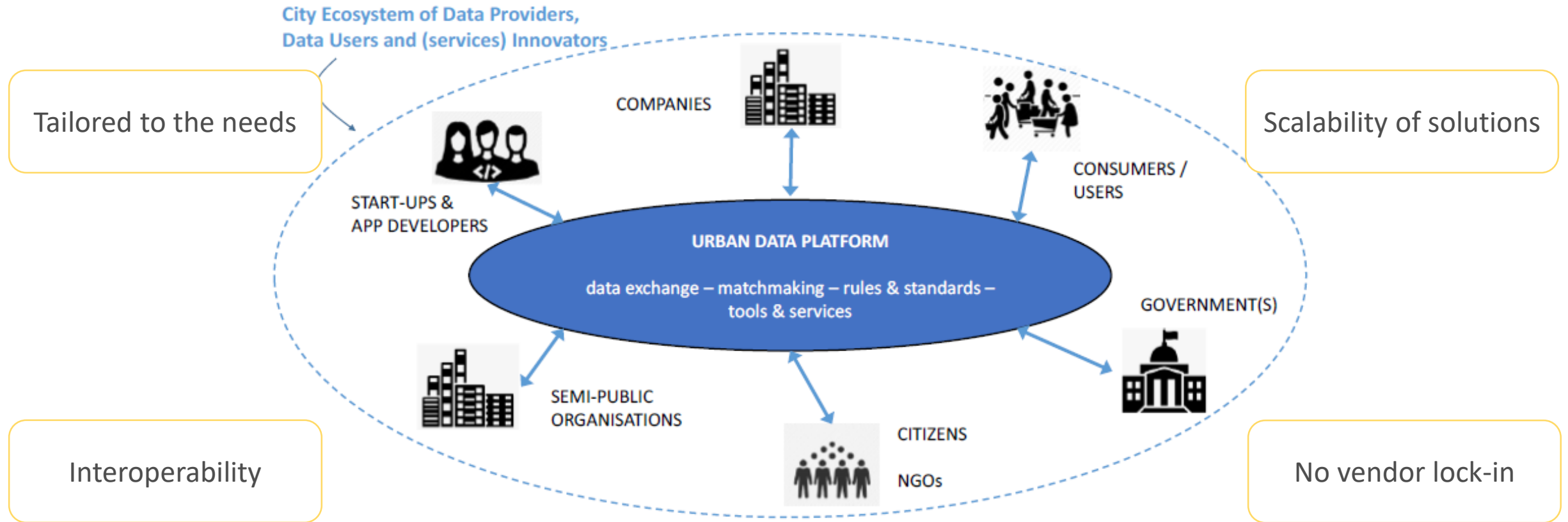


<https://www.living-in.eu/>

- Local Data Platforms
- Local Digital Twins
- Data space for climate neutral and smart communities
- EIF4SCC (European Interoperability Framework for SCC)

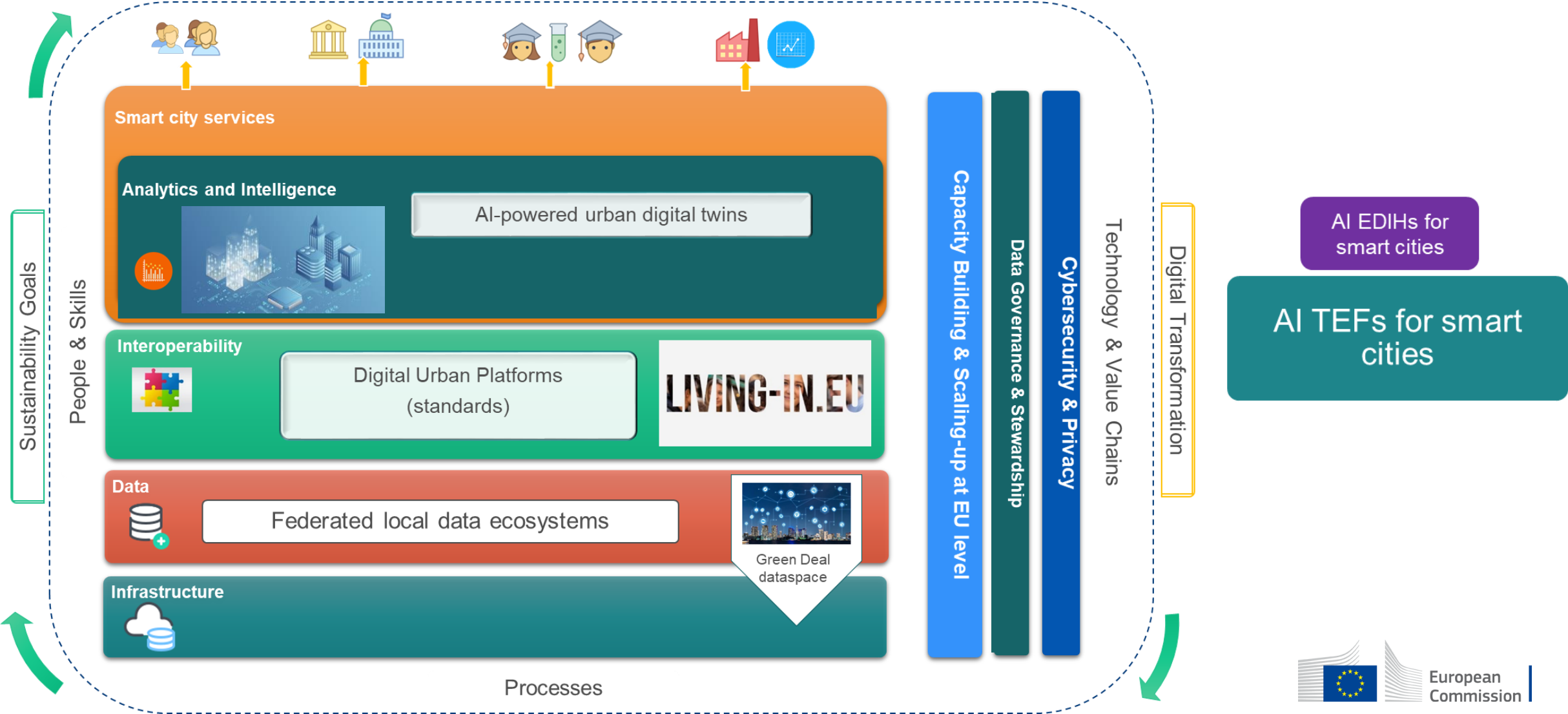
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*As a platform for sharing of
best-practice, co-creation of
policy and implementation*



An **Urban Digital Platform** is the “operating system” on which digital services can be provided to smart cities and communities, integrating data flows within and across city systems by exploiting modern technologies, such as sensors, cloud services, mobile devices, analytics, etc.

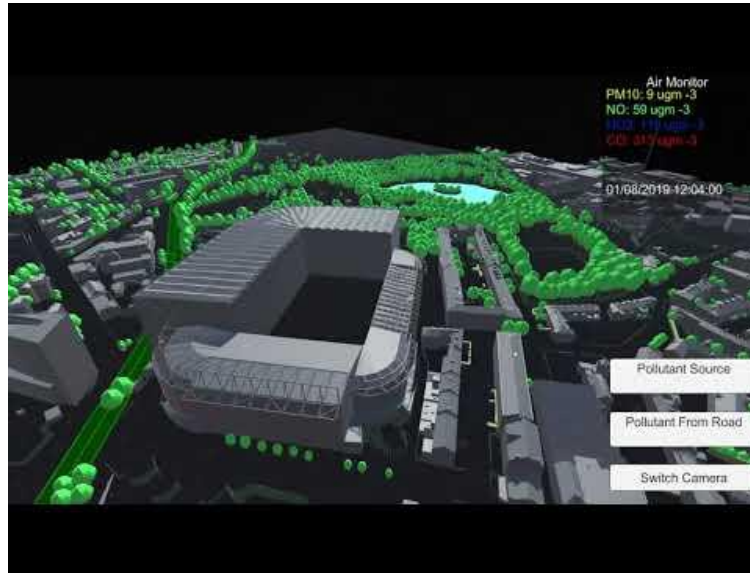
Elements of a smart community





- Local digital twins are the **virtual representation of a city's physical assets, processes and systems**
- Connected to **data** related to those assets facilitates AI algorithms, data analytics and machine learning
- Combining numerous technologies to create digital **simulation models** that can be updated and changed (**real-time**) as their physical equivalents change
- Providing a **risk-free testing environment** that increases the precision of long-term predictions, improves monitoring and impact assessment of certain decisions for the city's ecosystem
- **Possible benefits:** operational efficiencies, cost savings, more informed decisions, adaptation to climate change, increased resilience, effective urban planning and urban infrastructure management, crisis management, effective coordination of emergency services, participatory governance, improved services for citizens and increased safety and security

Local digital twins can change the way cities are planned, operated, monitored and managed (*'policy-ready-data-as-a-service'**)
'A playground for city planners' **



Newcastle



Port of Rotterdam



3D copy of Antwerp



Helsinki



Buildings in Finland,
Austria, Italy and
Netherlands



Madrid, The Hague, Budapest,
Lyon, Oslo and Porto



Flanders, Athens, Pilsen

+ Amsterdam, Angers, Cambridge, Gothenburg, Herrenberg,
Paris region, Rennes, Stockholm, Hamburg, Munich & Leipzig
and ...



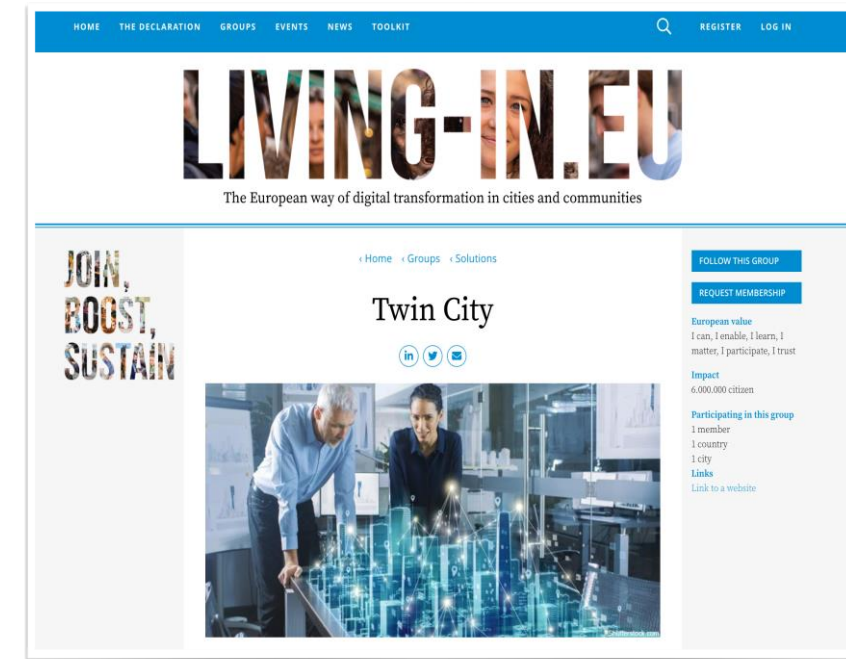
Components:

- Local data platform, which offers the basic digital twin functionality, that can be accessed by authorised stakeholders
- 2D or 3D model of the built environment, transport network or the area to be considered for the digital twin
- Connecting historical and/or real-time data collected from sensor networks / IoT, etc.
- Modelling, visualisation and simulation

Enablers:

- Interoperable local digital platforms to manage large amounts of cross-domain data (**Living-in.eu movement**)
- **Minimum Interoperability Mechanisms (MIM+)**
- Common European dataspaces - '**data space for climate-neutral and smart communities**'
- Interoperability Framework for smart cities and communities (**EIF4SCC**)

- Common European dataspace / Green Deal dataspace & **'Destination Earth'** (digital twin of the Earth)
- High-Level Expert Group to improve the **trustworthiness of artificial intelligence** applications (including safety, privacy, transparency, fairness and social and environmental well-being and full accountability of outcomes)
- **Living-in.eu iconic project** on Urban Digital Twins: <https://www.living-in.eu/groups/solutions/urban-digital-twin>
- Capacity building (**Living-in.eu movement**)
- **Awareness raising** through workshops:
 - [Artificial Intelligence for Smart Cities \(25/05/2020\)](#)
 - [Digital twins of cities \(15/10/2020\)](#)
 - Technology workshop (23/03/2021)
 - Stakeholder workshop (EWRC, October 2021)



- Highly heterogeneous data sources, of varied type/quality/value/dimensions
- Difficult to access public, but sensitive / not open data (for analytics/AI) – see Data Governance Act
- Open data paradigm helped to increase transparency, citizen engagement and create innovative services, but the data cities need is often not open data (e.g. telecom, citizens, mobility, etc.)
- European cities recognize citizen data as a public asset, while they need to ensure citizens' digital rights (personal data management)
- Difficulty to access and reuse of private data with public interest (B2G); current operational models do not scale up (Data Act, 2021)

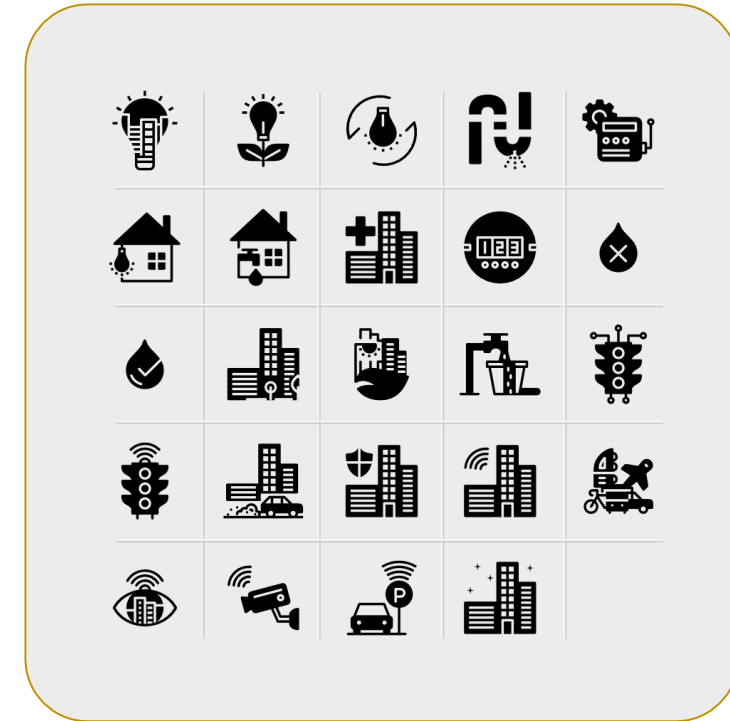
Smart cities strive for portable and affordable, innovative cross-sector services (city-to-city & cross-border)



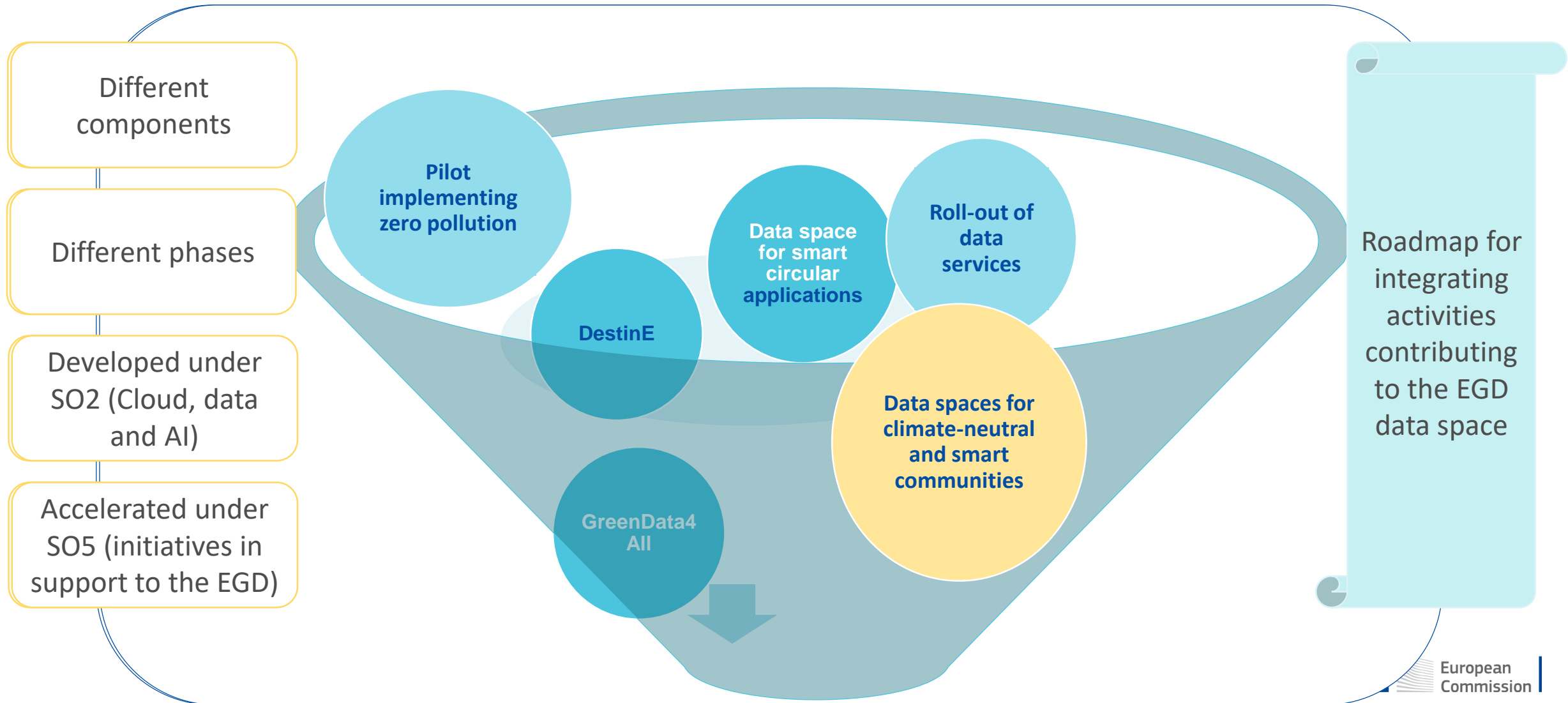
Some examples of SCC data spaces



- **Rennes Urban Data Interface (RUDI)** Catalogue of data by/for citizens
- **Borderless South Holland dataspace** - Data ecosystem
- **MyData** tools enable the decentralization of personal data
- **Carbon-neutral tourism** (Finland -6Aika) with a shared database for reducing emissions in tourism industry
- **Copenhagen's City Data Exchange (CDE)** public and private marketplace for data



Data Space for Climate Neutral Smart Communities



- Support the procurement of **Local Data Platforms**;
- Create a **dataspace for climate-neutral and smart communities** as part of the European Green Deal dataspace (governance, data blueprint, pilots) for cross-domain data;
- Build capacity for **Local Digital Twins** (addressing the supply and the demand sides), by creating and EU Urban Digital Twins Toolbox;
- Steering the **governance aspects** (cross-sector, cross-communities) – Living-in.EU

Thank you!

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