

# EU policy and funding opportunities for Smart cities & Communities

Smart Communities Conference

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Technologies for Smart Communities



- EU Green Deal & Europe Fit for the Digital Age: *'Twin green and digital transitions'* ; need to tackle the twin challenge in a holistic and systemic way
- Smart cities and communities use digital technologies to reduce resource input and improve the quality of life for their citizens (- > *'twin digital and green' transition*)
- European Digital Strategy:
  - Shaping Europe's Digital Strategy
  - Excellence and Trust in Artificial Intelligence
  - European Data Strategy
- **2030 Digital Compass: the European way for the Digital Decade**
- EU Recovery Plan:
  - At least 20% of the funds under the Recovery and Resilience Facility will be made available for the digital transition (and 30% for green)





## The European way ...

- Political Declaration & movement: over 85 signatories, 40 supporters, 5 subgroups, several concrete iconic projects (including on Urban Digital Twins)
- 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
- Measures:
  - Financial
  - Technical
  - Legal
  - Education and capacity building
  - Measuring and monitoring
  - +
  - Steering Board



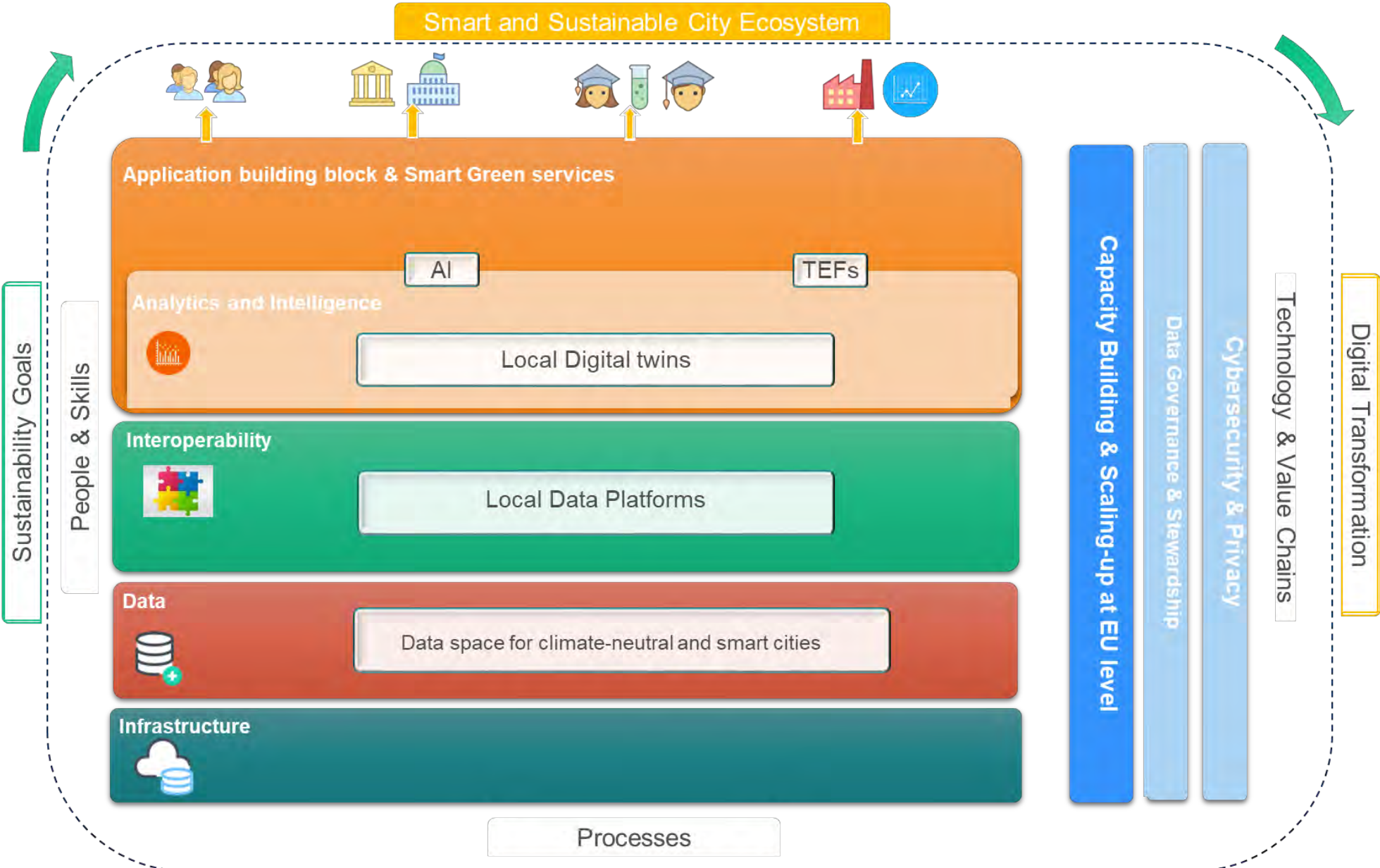
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The European way of digital transformation in cities and communities



# Digital capacity building for cities and communities





## Rationale

- Data cities need is often not open data; difficult to access public, but sensitive (for analytics/AI) – see Data Governance Act
- Difficulty to access and reuse of private data with public interest (B2G data sharing); current operational models do not scale up – see High-Level Expert Group on B2G Data Sharing & upcoming Data Act
- European cities recognise citizen data as a public asset, while they need to ensure citizens' digital rights (personal data management)
- Smart cities strive for portable and affordable, innovative cross-sector services (city-to-city & cross-border)

Data space: interoperable and secure environment, where currently fragmented and dispersed data can be shared among those, who become part of this data space based upon voluntary agreements and under certain conditions

# Cloud Federation, common European data spaces and AI

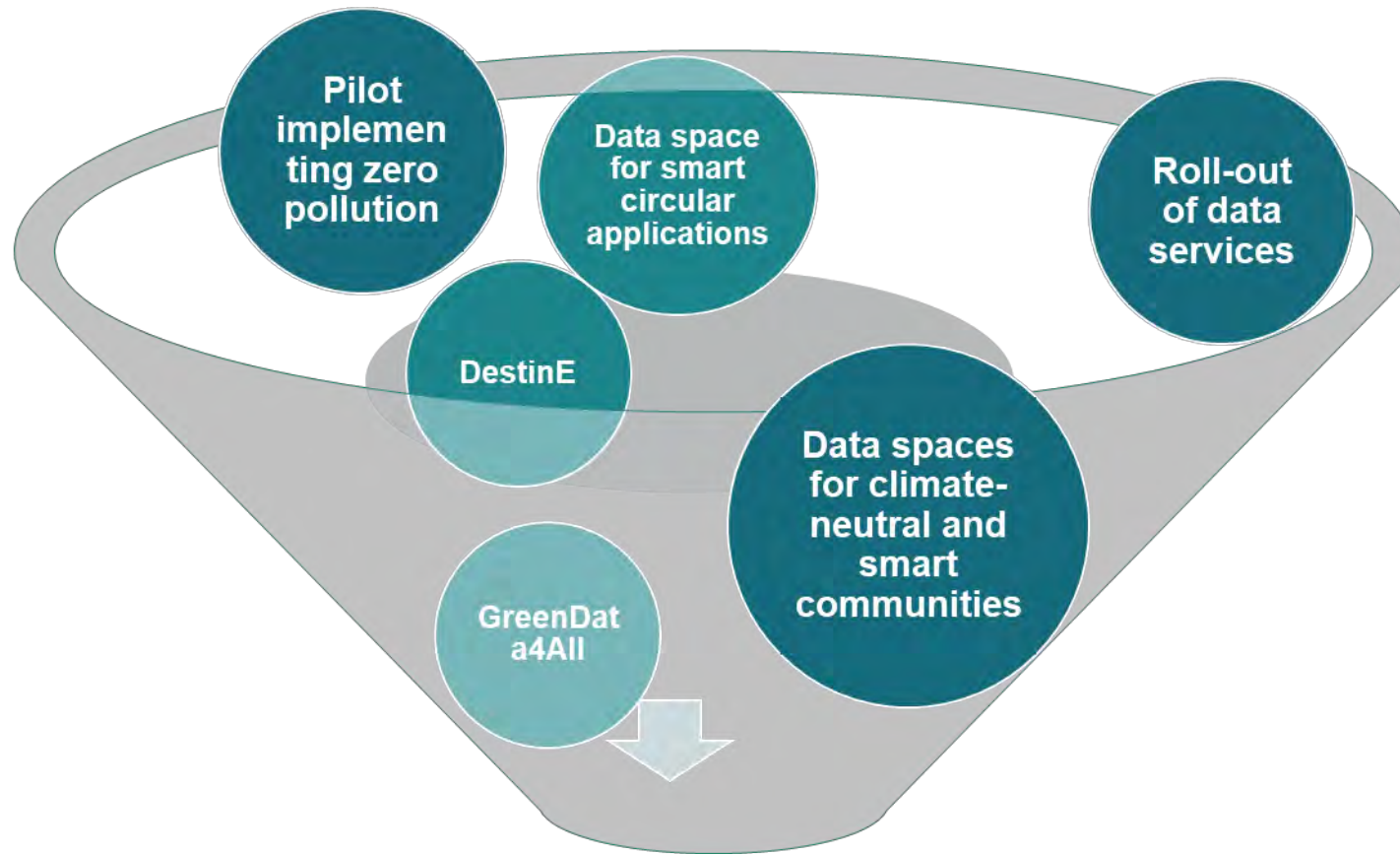


- Driven by stakeholders
- Rich pool of data of varying degree of openness
- Sectoral data governance (contracts, licenses, access rights, usage rights)
- Technical tools for data pooling and sharing

## **Federation of Cloud & HPC Infrastructure & Services**

*Cloud stack management and multi-cloud / hybrid cloud, cloud governance*

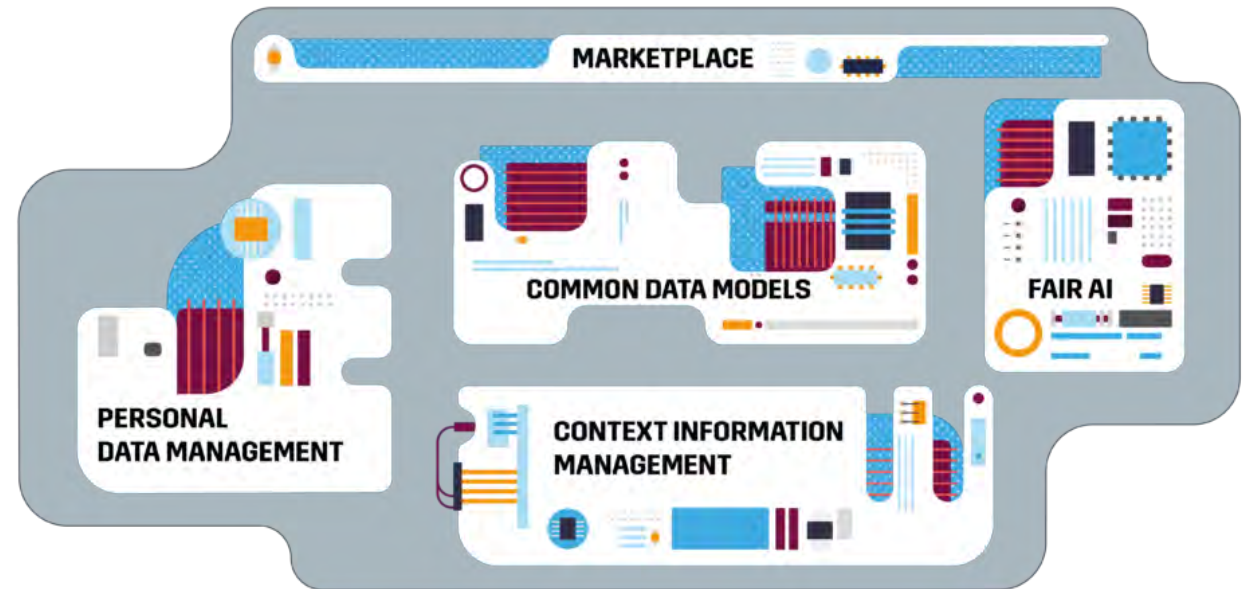
# Towards a Common European Green Deal data space





## The operating systems of smart cities & communities

- Local Data Platforms (LDP): Enabling digital technologies to integrate data flows via open standards within and across city systems used by both the public and private sector
- LDP can handle open and shared data (with access restrictions) for the dataspace
- LDPs will deliver the big data for AI (smart objects, sensors, mobile data, social media data etc.) & LDP digital infrastructure components will enable the use of artificial intelligence and analytics







- Urban 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

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

\* DUET project

\*\* OASC



Vision:

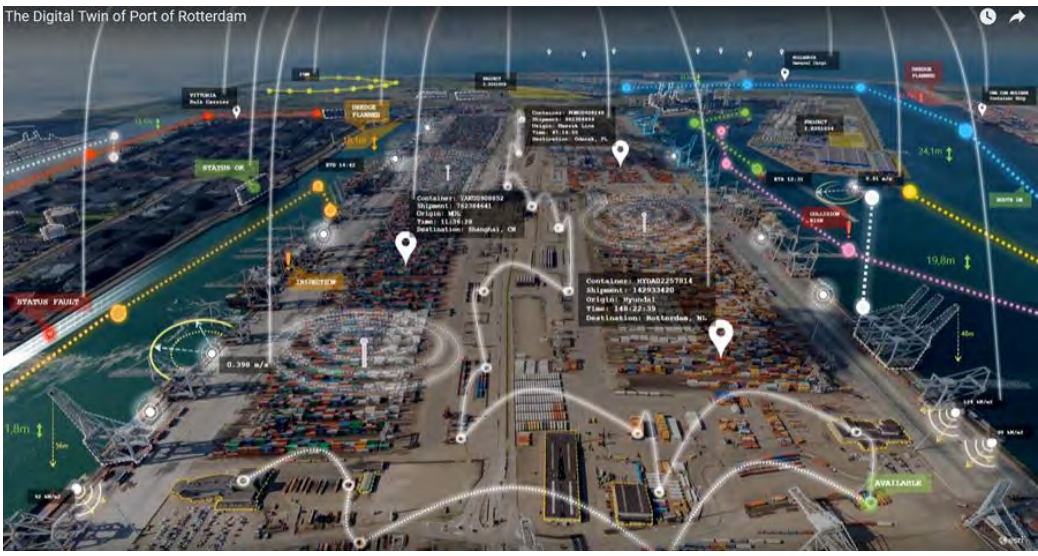
*By 2030, a large number of EU cities and communities should benefit from **(AI-enabled) Local Digital Twins**, at the convergence of connectivity, data and cloud infrastructures and by harnessing the power of High Performance Computing and AI, for providing high quality services, **improved - smart, sustainable and resilient - city management and planning as well as enhanced citizen engagement.***

*Gradually, the network of Local Digital Twins could pave the way for their future integration in the Digital Twin of the Earth (DestinE)*

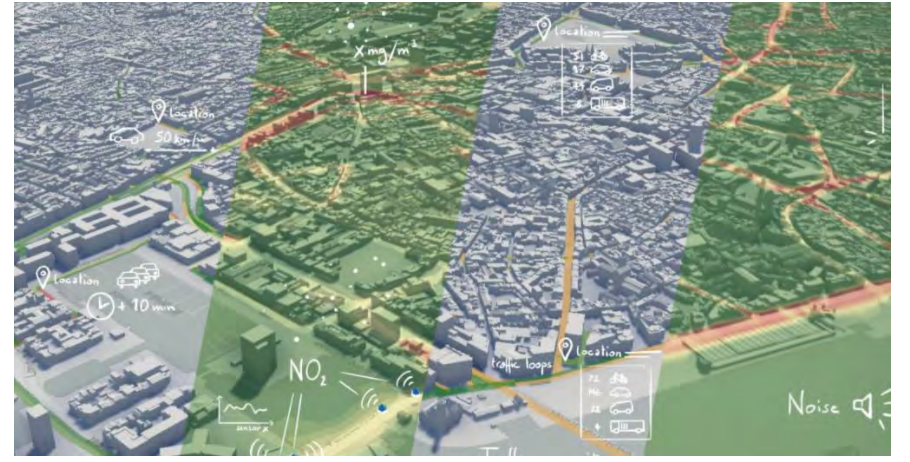
Digital Day - Declaration on a Green and Digital Transformation of the EU (19/03/2021)

The Commission recognises Member States' ambition to '**work with local authorities and other relevant stakeholders to set up a European network of digital twins of the physical environment**'

# European examples



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...





## Data



Data space for climate-neutral and smart cities

- Developing data governance scheme
- Blueprint of data space (building blocks)
- Priority data sets aligned with blueprint standards and principles
- Roadmap
- Validation of the blueprint on at least two of the European Green Deal action areas

## Interoperability



Local Data Platforms

Help prepare the procurement and deployment of the interoperable local platforms

## Application building block & Smart Green services

AI

TEFs

Analytics and Intelligence



Local Digital twins

Develop a European toolbox for Local Digital Twins that all European cities could use when developing urban digital twins.

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The European way of digital transformation in cities and communities



- 5G Communities - deployment of 5G networks in communities
  - Operational digital platforms to contribute to the digitalisation of energy and transport
  - Synergy projects to fund energy or mobility project with dedicated funding allocated to digitalising the infrastructure
- 
- Cluster 5 – Climate, energy and mobility
  - Cluster 4 – Digital, industry and space
  - Mission on climate-neutral and smart communities





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