

*The impact of digital transformation on societal priorities*

*Urban Data Platforms as critical infrastructure in cities and regions*

January 12, 2022 | Dr Marcel van Oosterhout



# Urban Data is everywhere ...



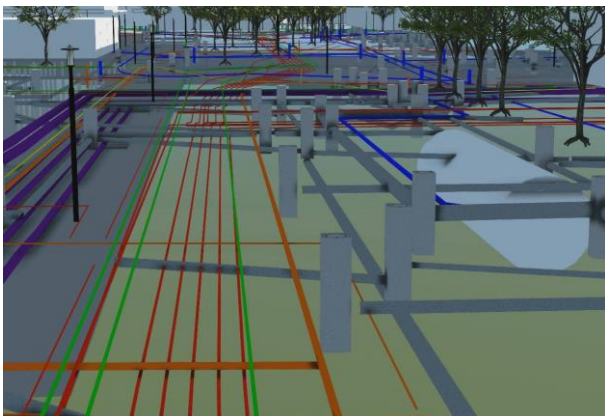
Waste collection



Parking sensors



Position and energy use  
of electric buses



Underground infrastructure



traffic & crowd measurement



Personal  
(social media)  
data

*Erasmus*

## However, the existing urban data landscape has many challenges....

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*Closed data*  
*Silo applications*  
*Not re-usable*

*Lack of*  
*data quality*

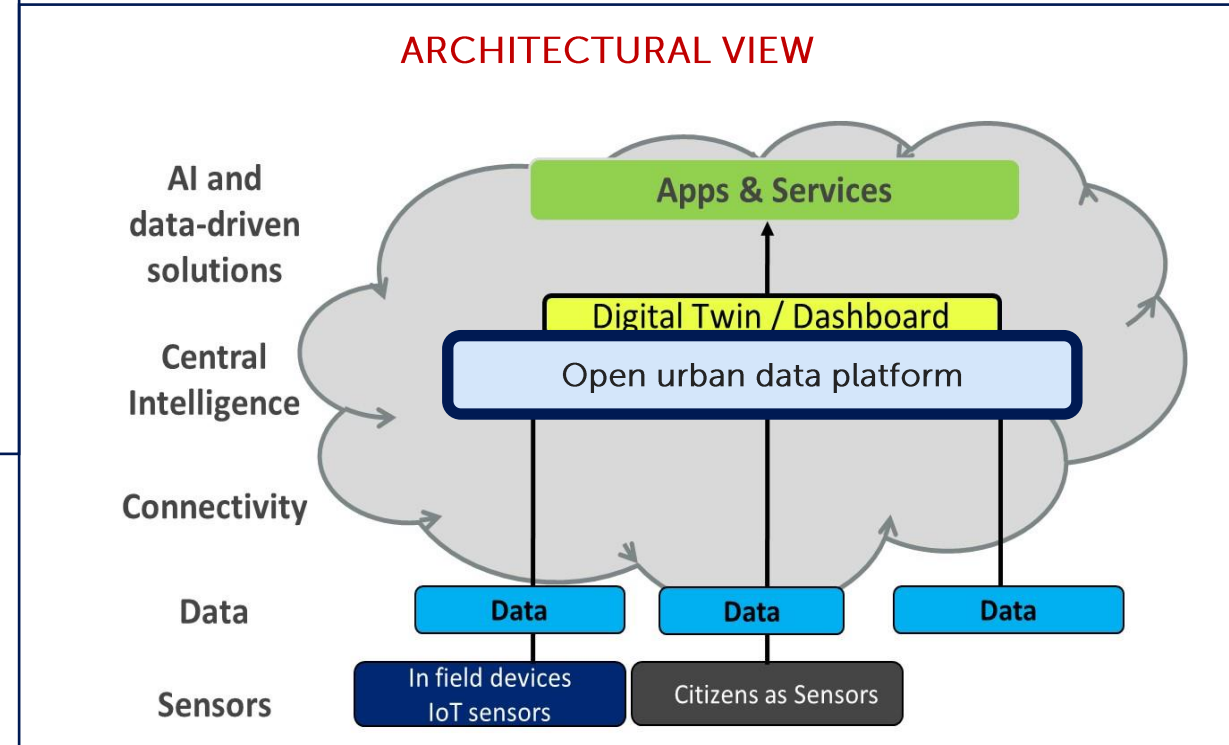
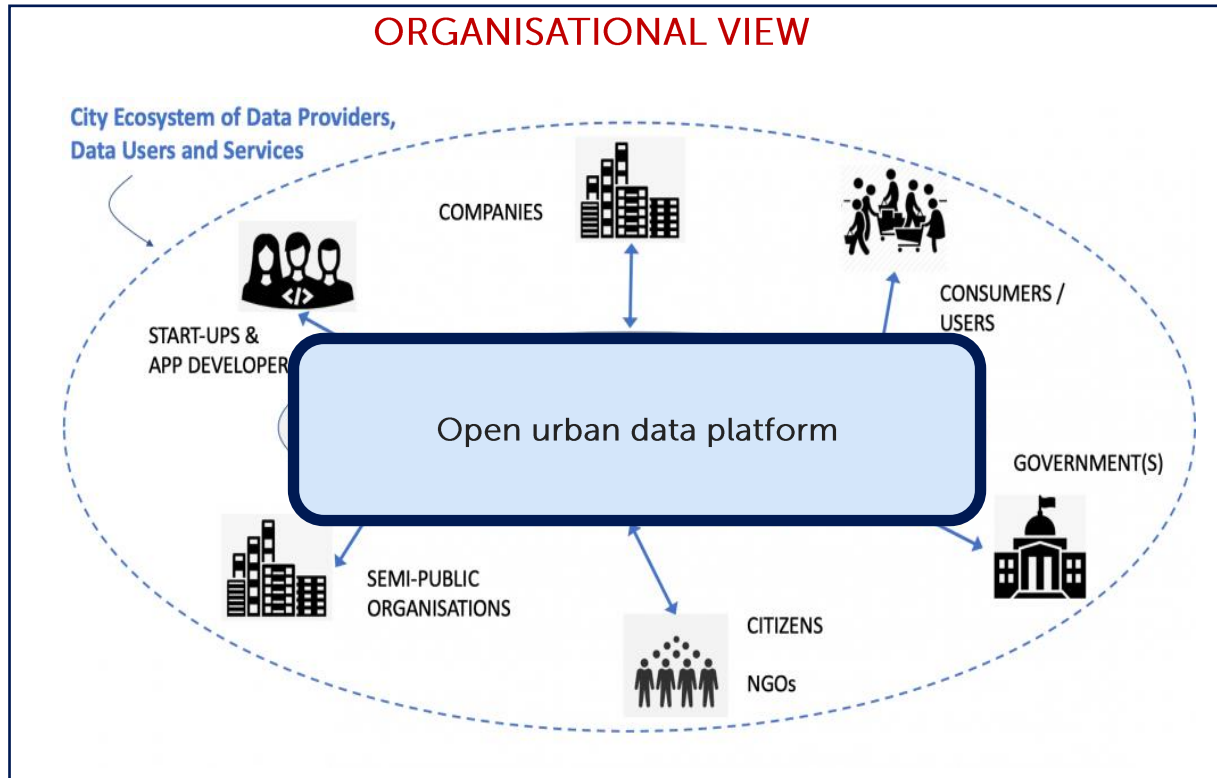
*Lock-in*

*Fragmentation*  
*of initiatives*

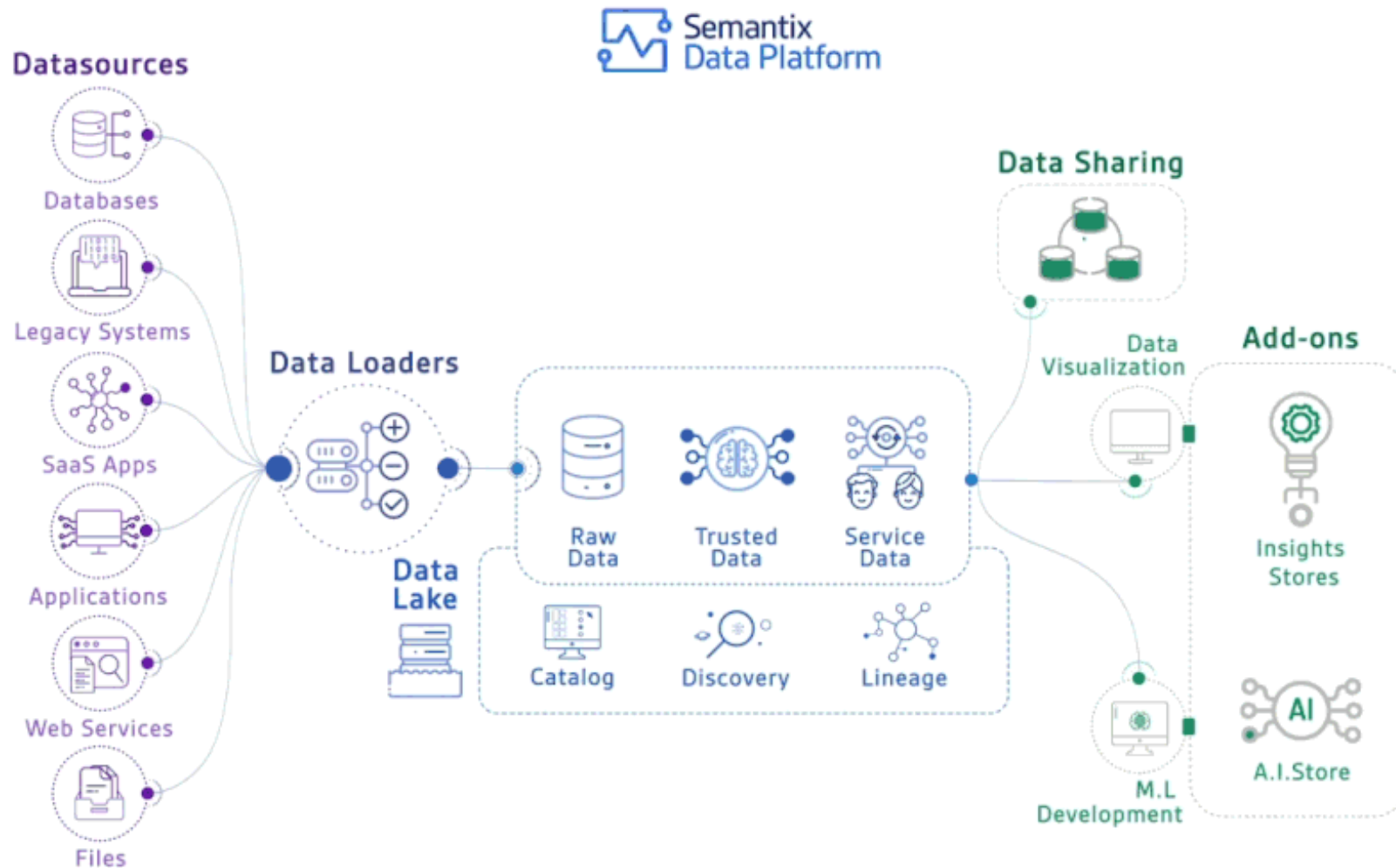
*Challenging*  
*Governance*  
*(Multiple*  
*stakeholders &*  
*owners)*

*Unused*  
*Potential*  
*for innovation*  
*(quadruple helix)*

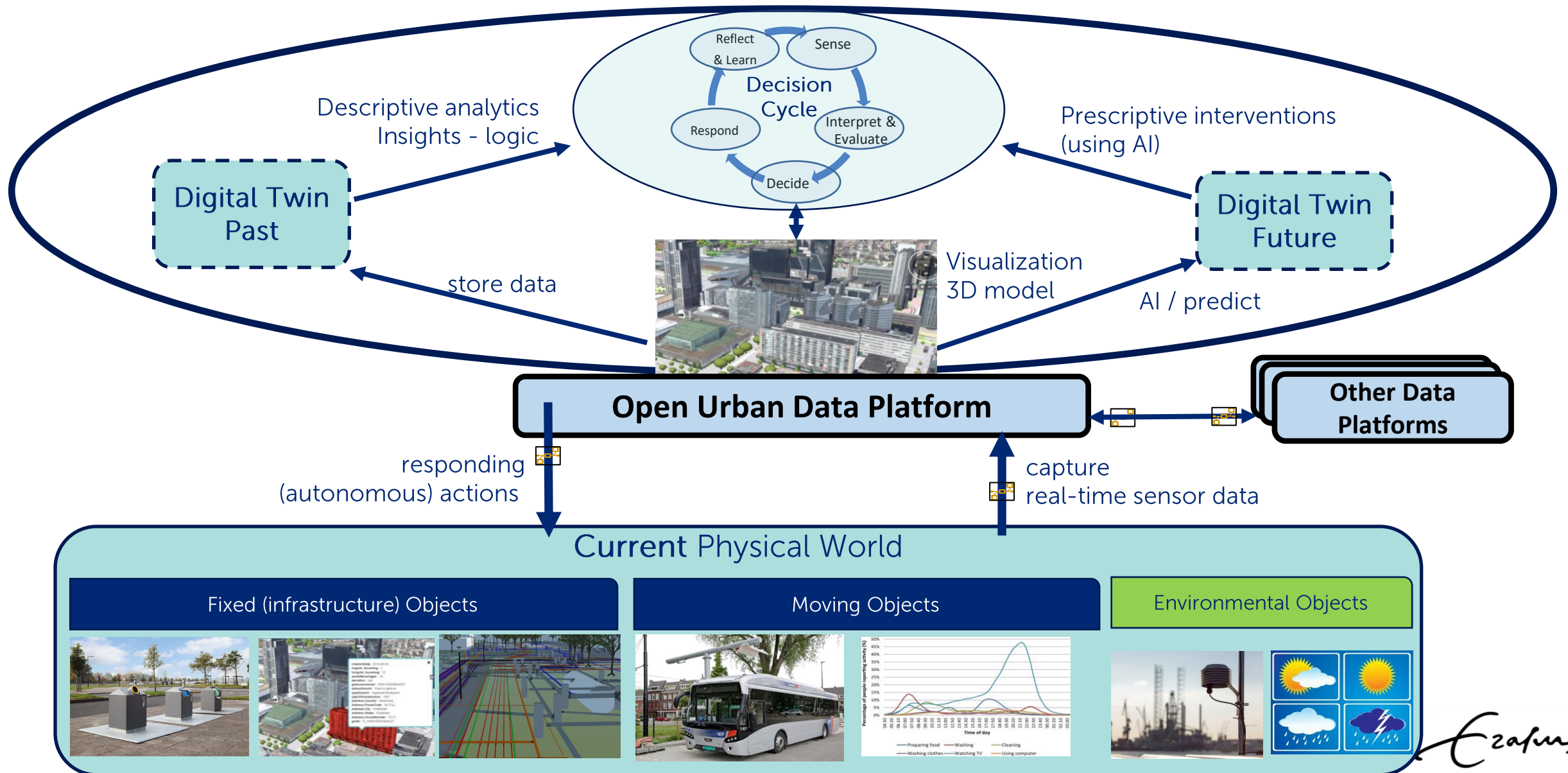
# Urban Data & Open Urban Data Platforms (UDP)



# Urban Data & Open Urban Data Platforms (UDP) example



# Towards a Digital Twin of the City to support decision making



# State of development in Europe (per 2020)



Representative sample of 80 cities in Europe, with in total 105 respondents.  
 The study was executed in the period November 6, 2019, until January 10, 2020.  
 85 percent of the respondents were partner in one of the EU SCC projects, funded by the European Commission



## Exploring & Planning for Urban Data Platform (44%)

Alexandroupolis	Évora	Porto
Alkmaar	Gent	Rennes
Amsterdam	Gothenburg	Reykjavik
Bassano del grappa	Graz	Riga
Berlin	Kerava	Santa Cruz de Tenerife
Budapest	Leon	Skellefteå
Cluj-Napoca	Maia	Suceava
Derry	Manchester	Smolyan
Eskişehir	Oostende	The Hague
Essen	Parma	Umeå



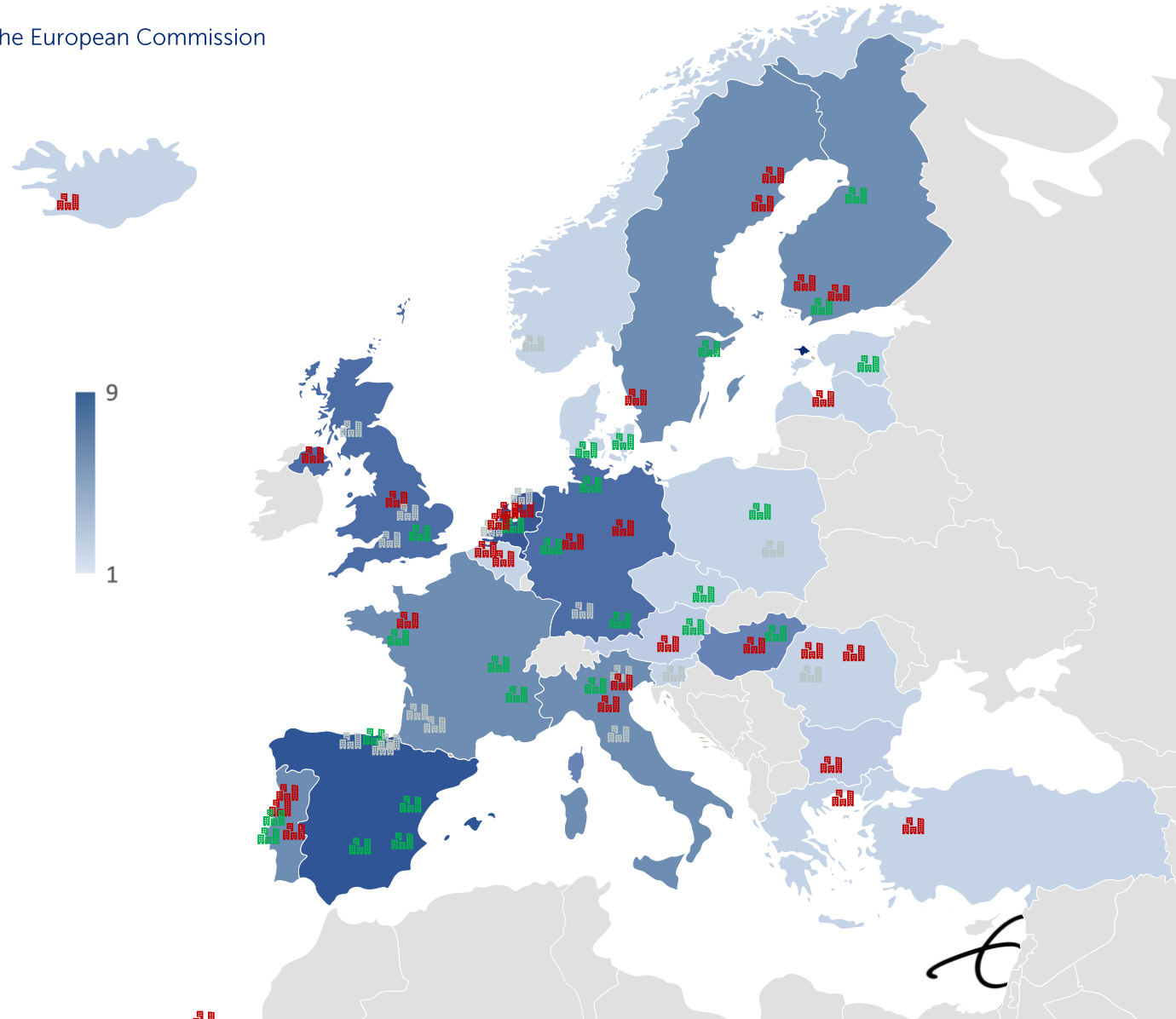
## Building & Implementing Urban Data Platform (25%)

Alba Iulia	Maribor	Stuttgart
Bilbao	Nottingham	Trento
Bordeaux	Pamplona	Tampere
Bristol	Rotterdam	Firenze
Groningen	Saint-Quentin	Glasgow
Lublin	Santander	
Linköping	Stavanger	

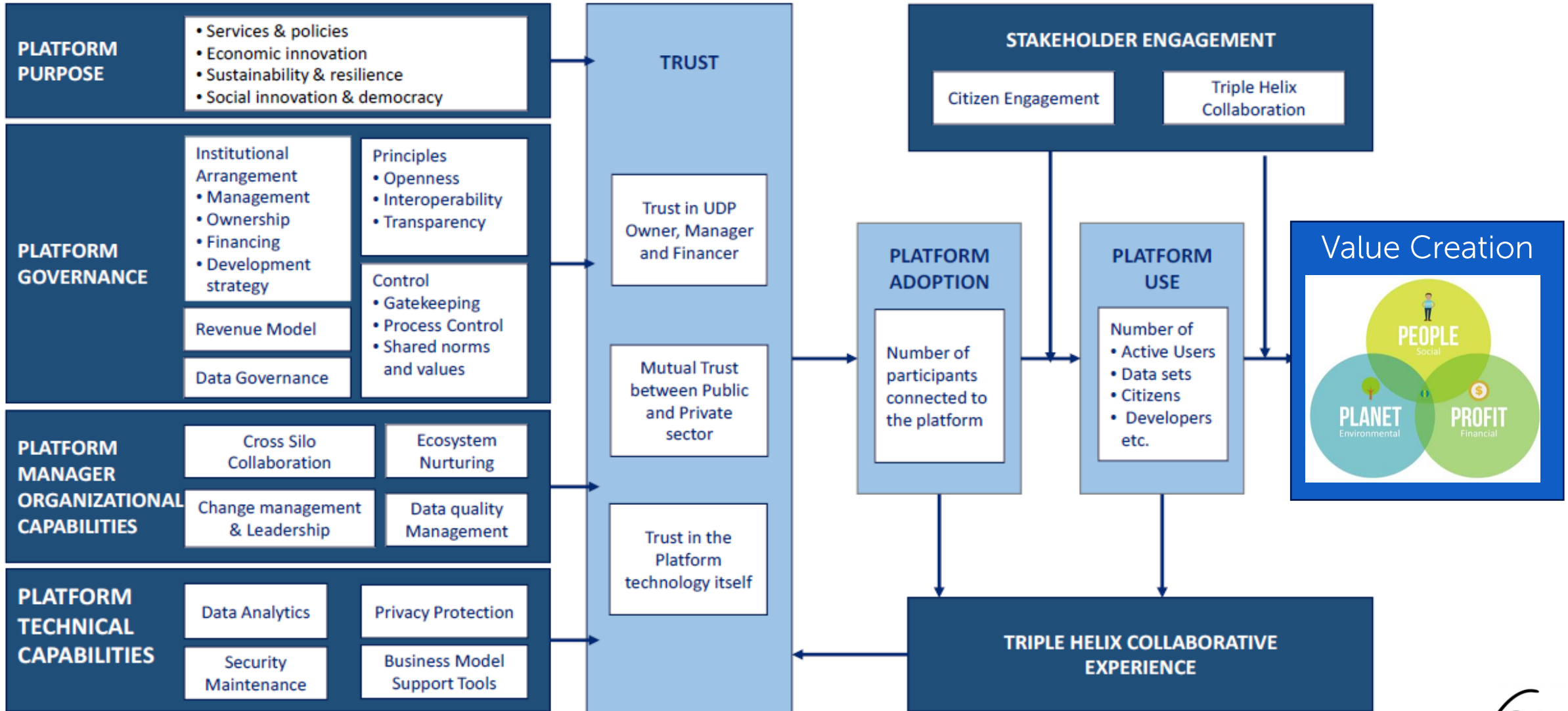


## Operational Urban Data Platform (31%)

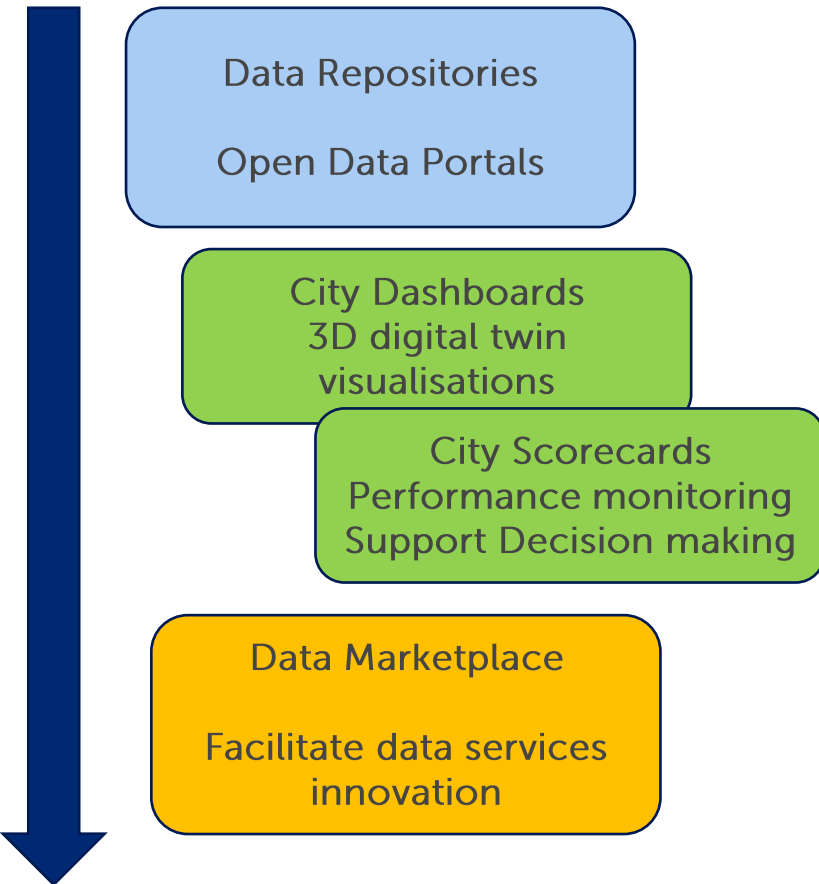
Albacete	Lisboa	San Sebastian
Barcelona	London	Sonderborg
Brno	Lyon	Stockholm
Cologne	Matosinhos	Tartu
Copenhagen	Milan	Utrecht
Grenoble	Munich	Valencia
Hamburg	Nantes	Vienna
Helsinki	Oulu	Warsaw



# Framework

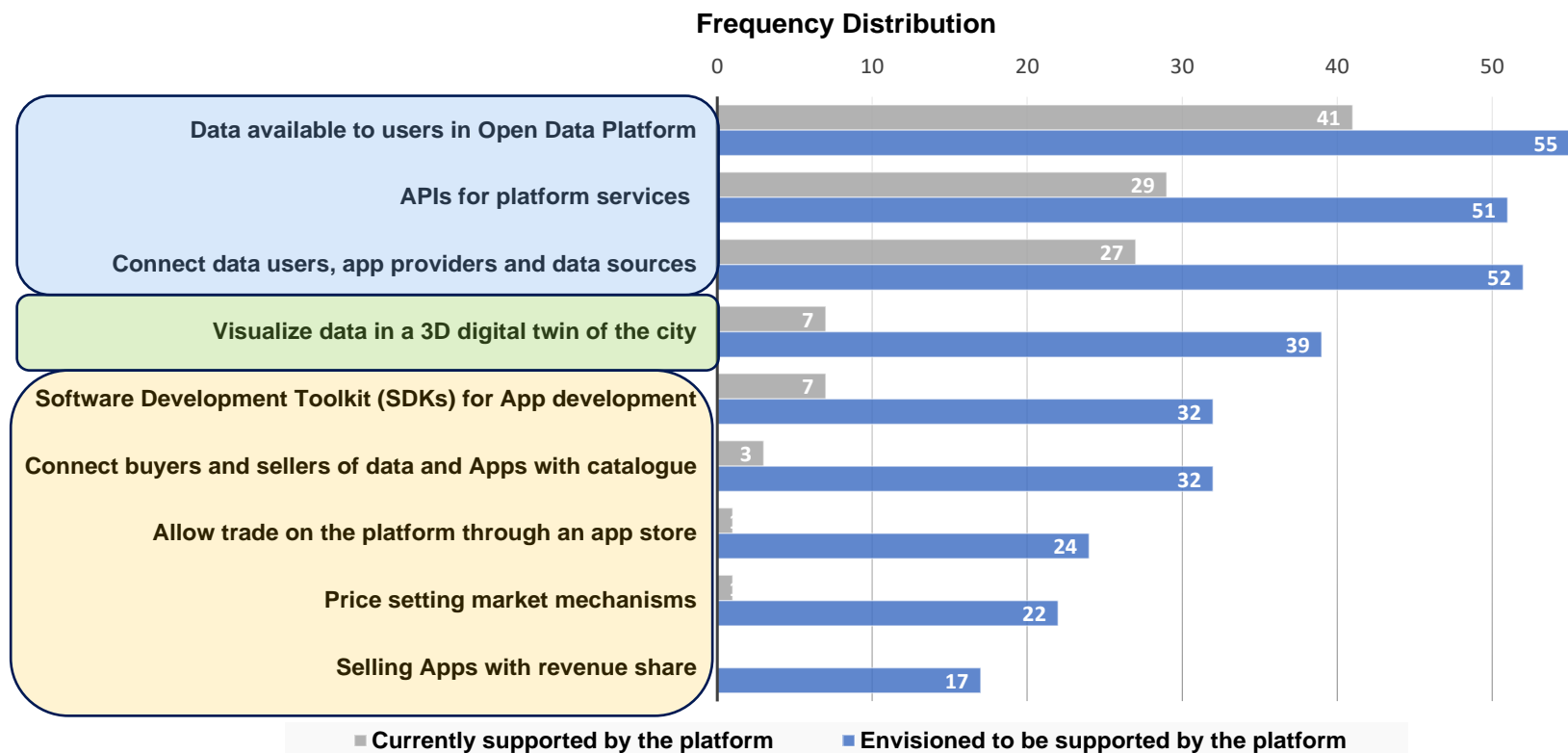


# Development Paths for Open Urban Data Platforms



*Maturity & value creation*

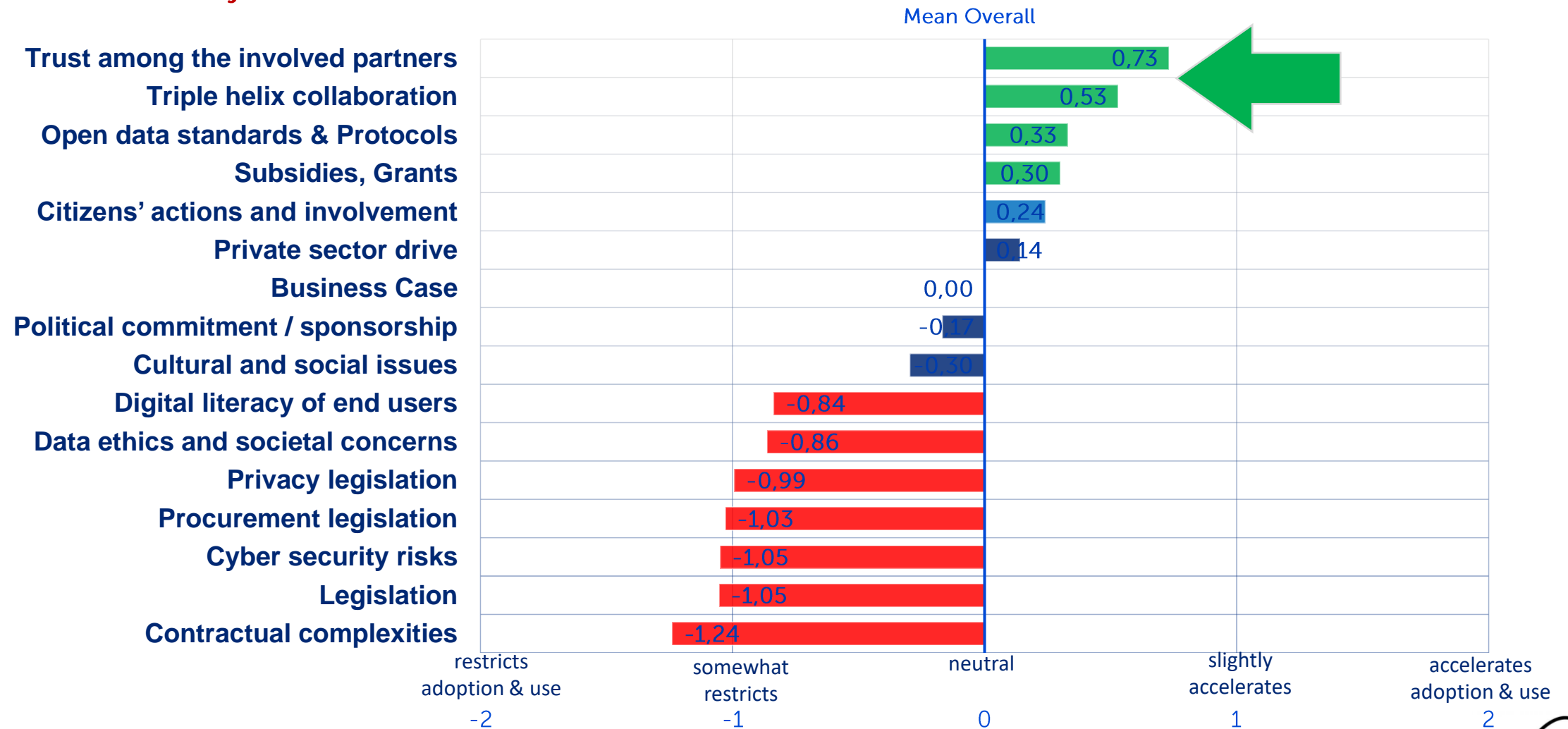
What Core Interaction is currently facilitated on the platform?



# Trust is the core success driver of an UDP ecosystem

## Capabilities – Collaboration – and Governance breed Trust

### What are the key accelerators and inhibitors of UDPs?

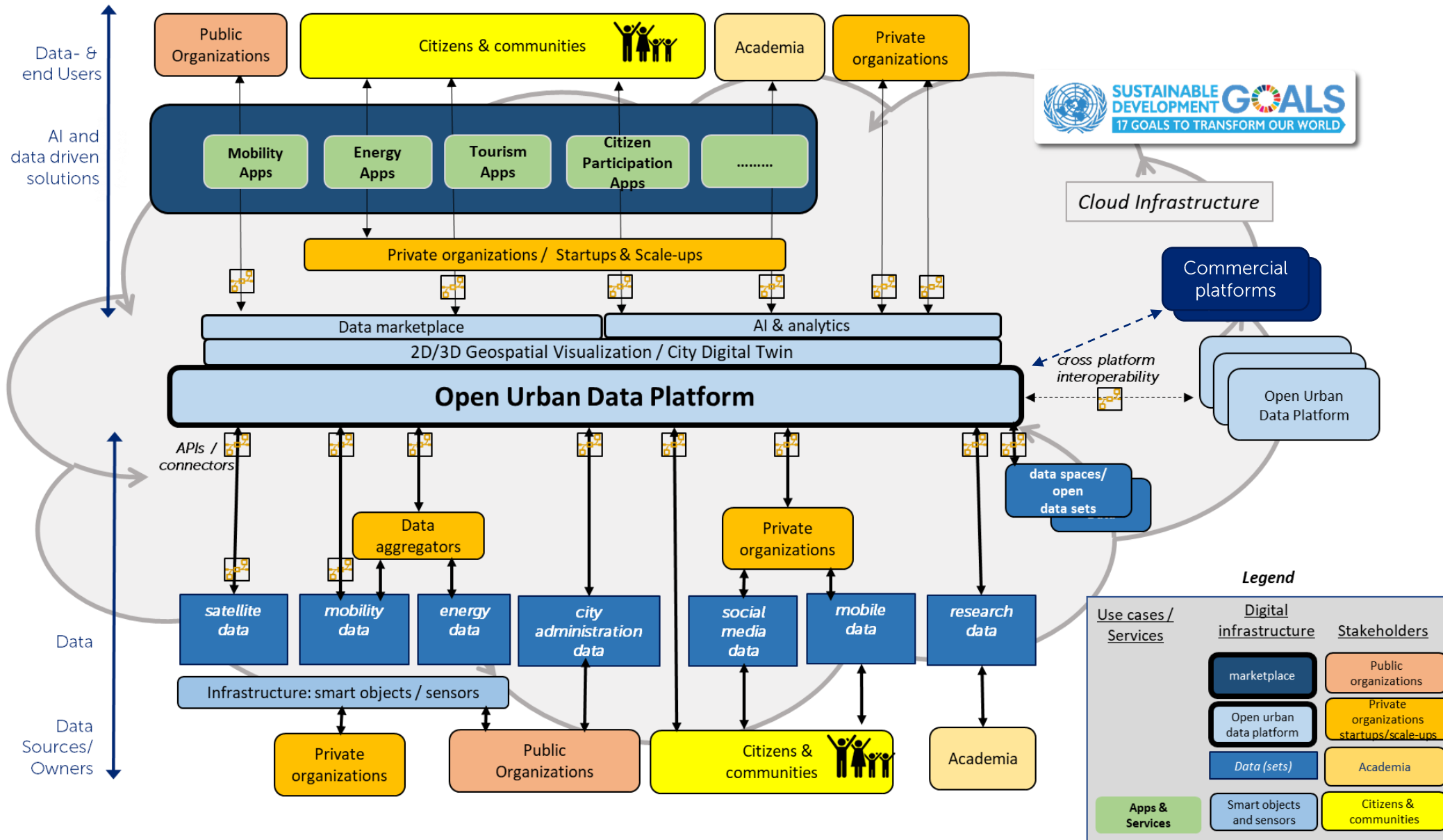


# Digital literacy, ethics and legislation are among the key restricting factors

## What are the key accelerators and inhibitors of UDPs?



# The UDP is part of a broader urban data ecosystem



# Key take-aways & recommendations

- 1) Data is a key strategic resource for cities, Open Urban Data Platforms are vital infrastructure for cities:
  - support cycle of decision making
  - creates platform for innovation
  - enables scaling of smart city Initiatives and deployment of AI-based services
- 2) Development of UDPs is still in early stage in Europe, there is no one size fits all development approach
- 3) Governance, Capabilities, and Triple Helix collaboration & engagement build the **Trust** needed for UDPs to work
- 4) Data governance (quality management, open data standards , data ownership, data security) is crucial capability
- 5) Use agile mind set and continuous improvement approach: Think big, start small and learn fast! (**licence to fail!**)
- 6) Existing companies need to rethink their business model in the context of urban data platforms
- 7) Urban data platforms are part of an ecosystem (of platforms) – that creates many opportunities for new business models

