



Deployment of common European data spaces

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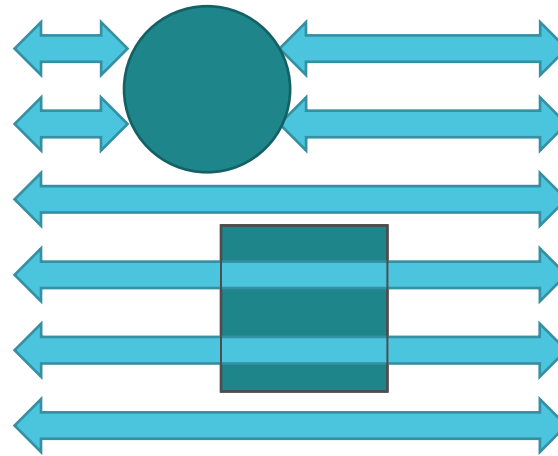
Data sharing models

Current situation



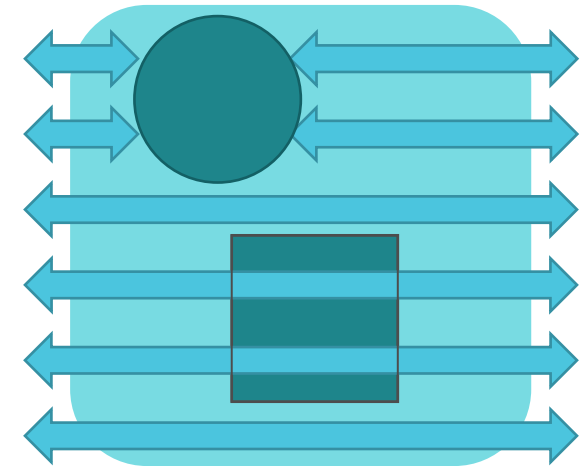
One to one sector-specific data sharing based on contractual agreements.

Taking shape



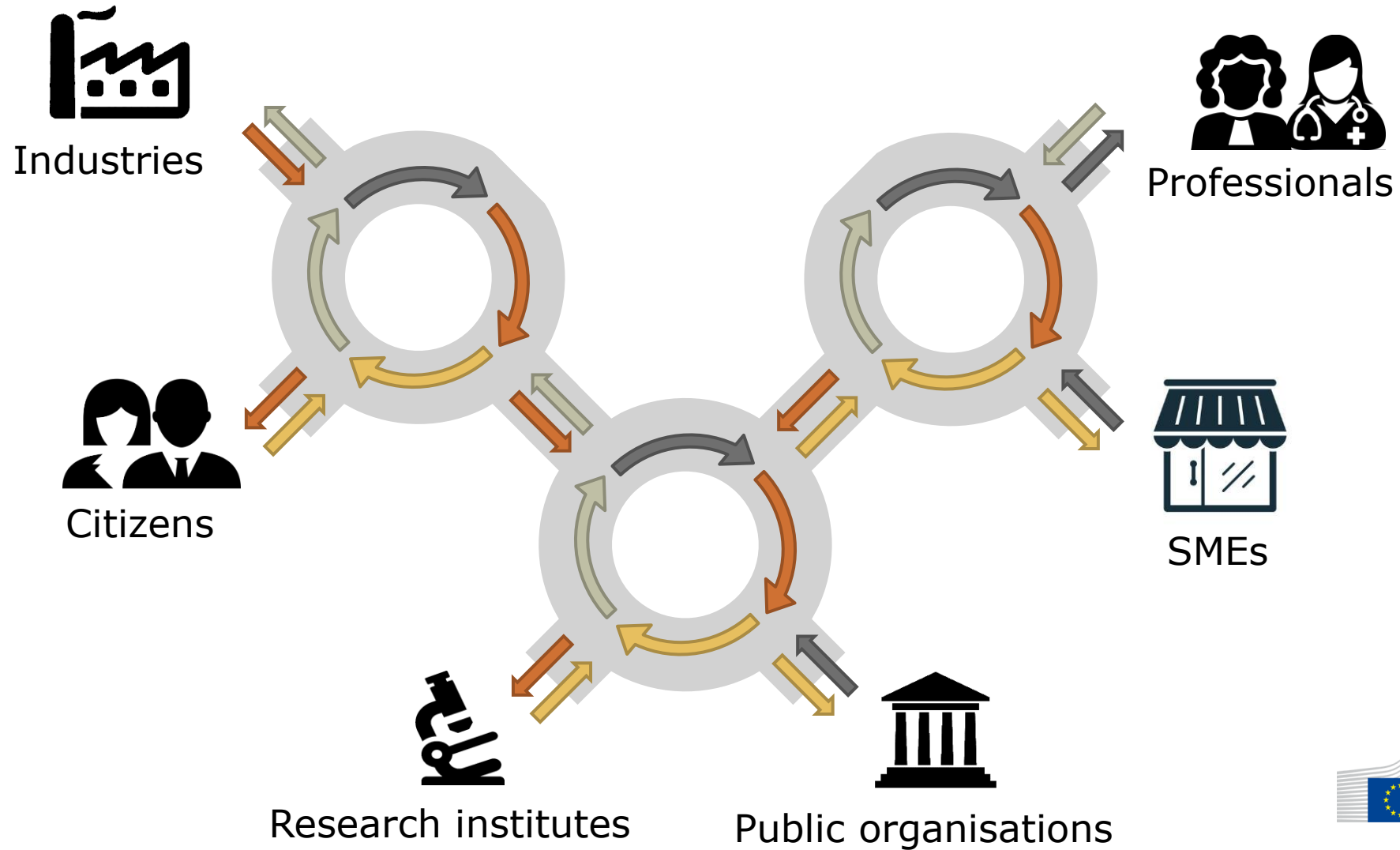
Data sharing infrastructures with centralized data hosting, and/or data marketplaces to enable discovery and reduce transaction costs where data is not held in a central repository.

Data space



Links are created between data space participants. Federated data is stored in a distributed manner with tools to enable discovery, access, and analysis across industries, companies, and entities.

Data Spaces



Data Spaces are more like fish markets



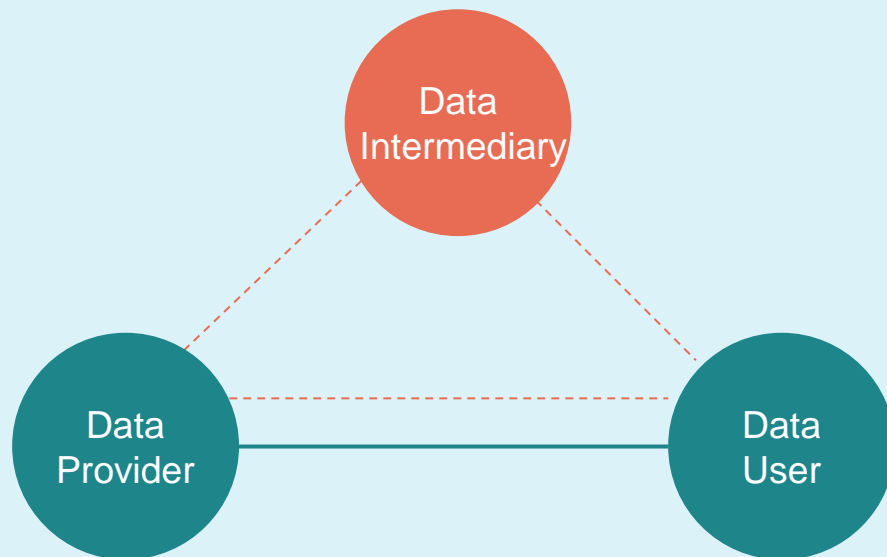
A data space can be defined as a federated data ecosystem based on shared policies and rules. The users of such data spaces are enabled to access data in a secure, transparent, trusted, easy and unified fashion.

Data holders are in control of who can have access to their data, for which purpose and under which conditions it can be used.

From a technical perspective, a data space can be seen as a data integration concept which does not require common database schemas and physical data integration, but is rather based on distributed data stores and integration on an “as needed” basis.

Data Space Fundamentals

Role Interactions



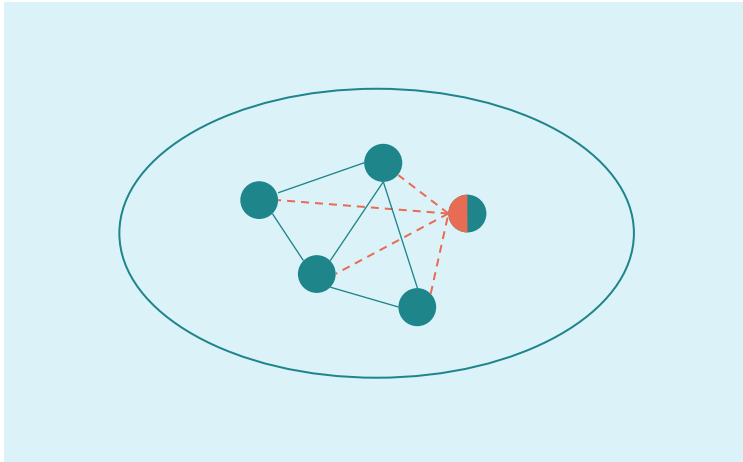
Legend: — Payload data; - - - Metadata.

Activities

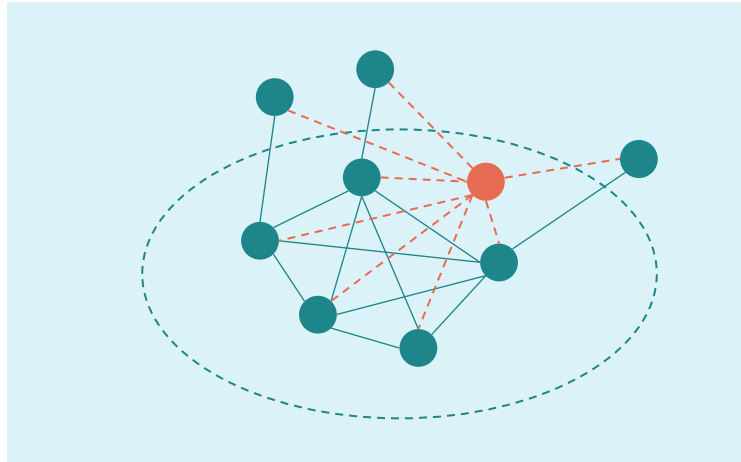
- Data source
 - Publish
 - Search for
- Participant
 - Register
 - Identify
 - Authorize
- Data exchange
 - Request
 - Perform
 - Log
- Data use
 - Constrain
 - Perform

Evolution of data spaces

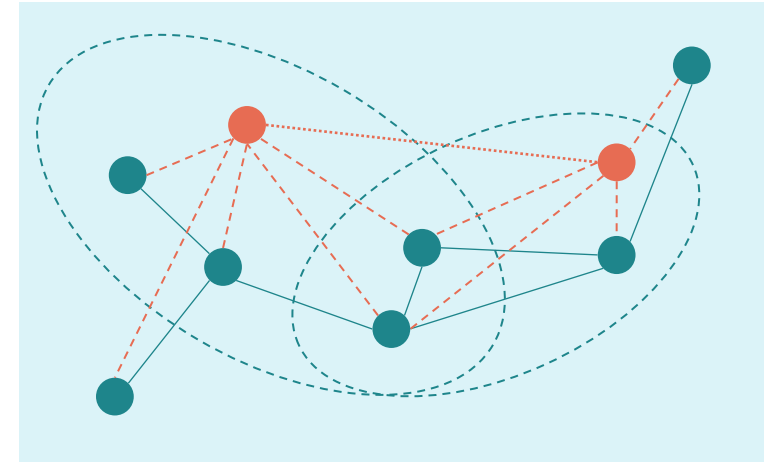
I Closed ecosystem



II Open ecosystem



III Federation of ecosystems



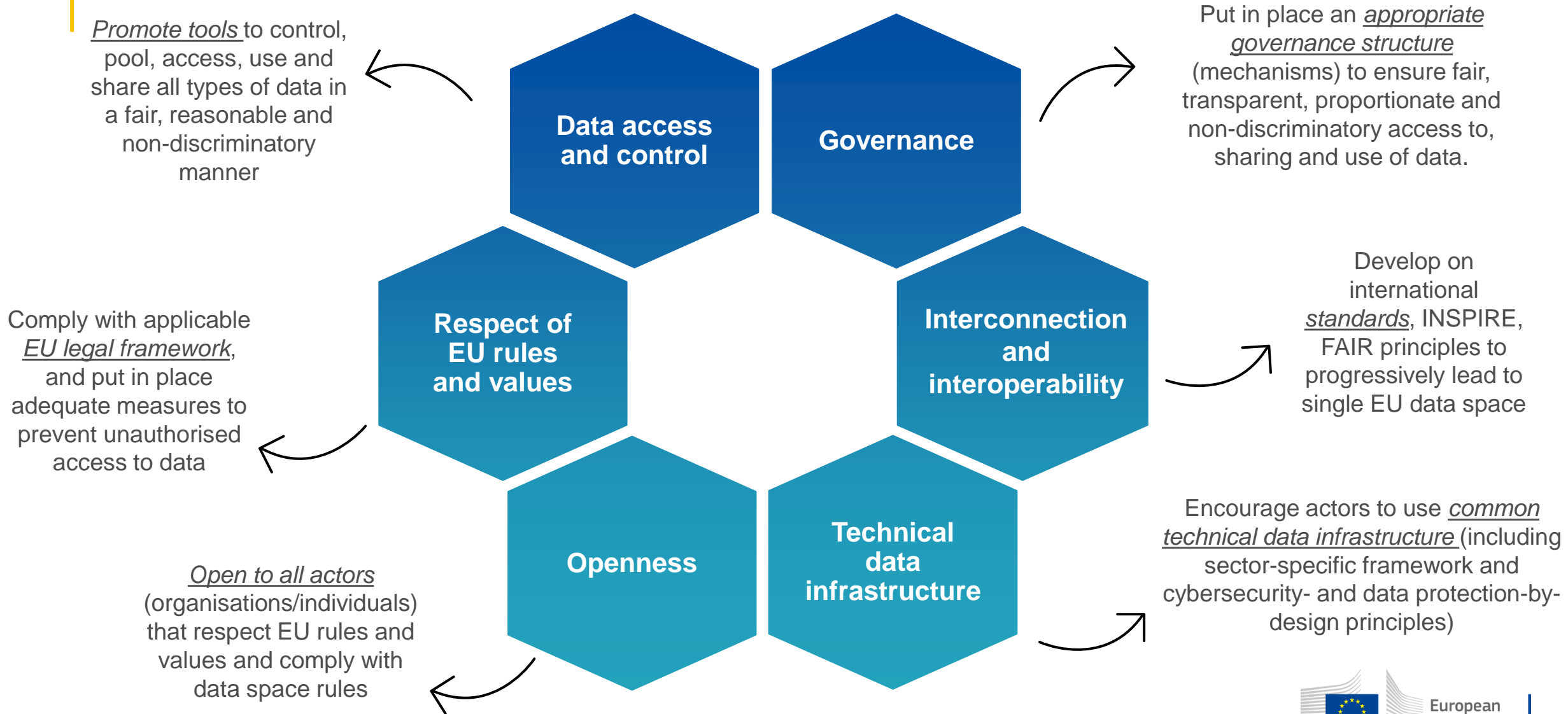
Legend:

Roles: ● Participant (Data Provider | Data User); ● Data intermediary.

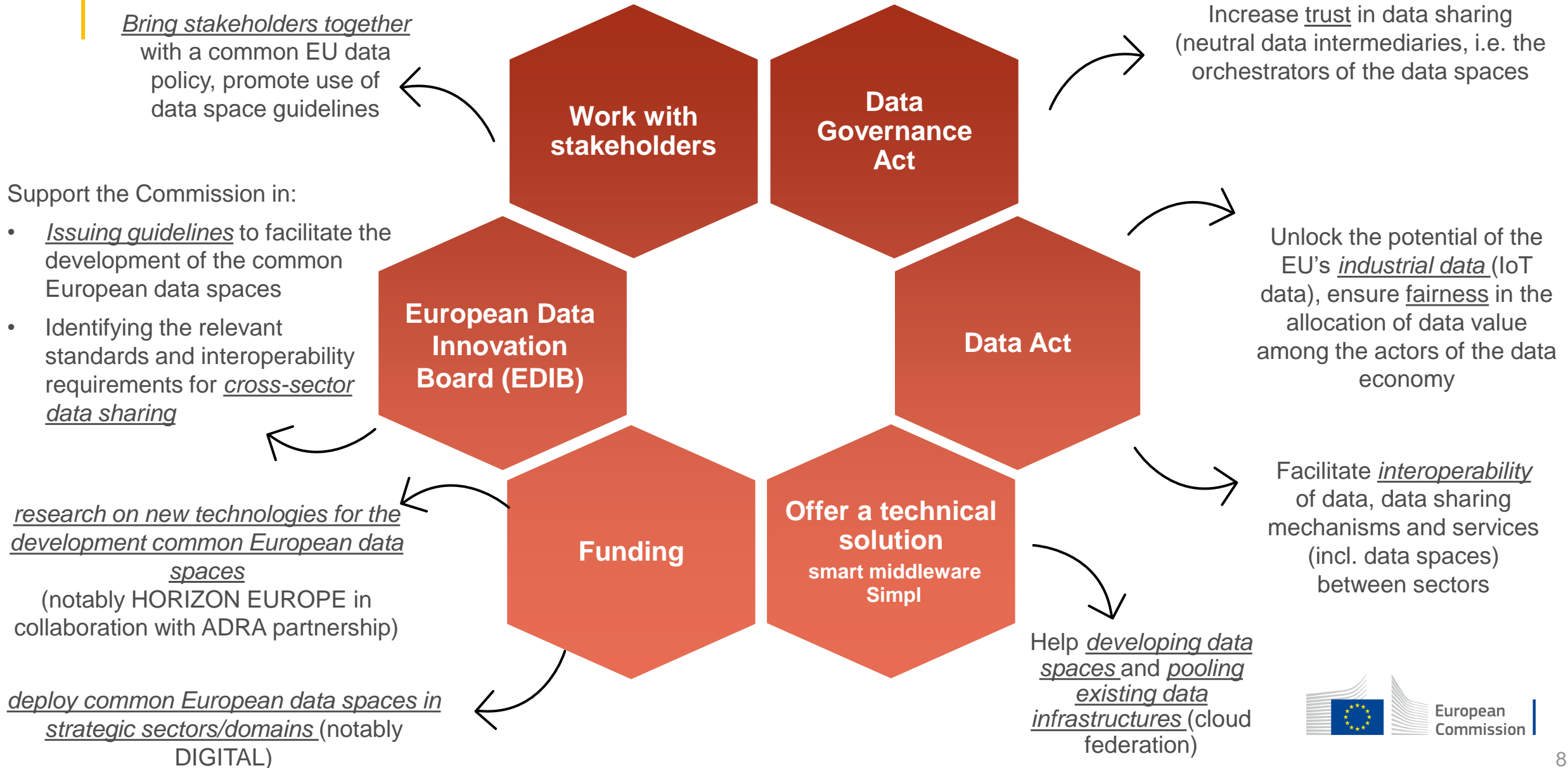
Data Exchanges: — Payload data incl. metadata between participants; - - - Metadata between participant and federator; ····· Metadata between federators.

Ecosystems: ○ Closed; ○ Open.

Design principles for common European data spaces



The EC's role in supporting the creation of data spaces



Common European data spaces



High Value Datasets from public sector

- 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

Data Spaces Support Centre

- Coordinating the development of data spaces
- Assuring common standards and interoperability

Technical infrastructure for data spaces



Edge & cloud Services

Smart Middleware solutions (Simpl)

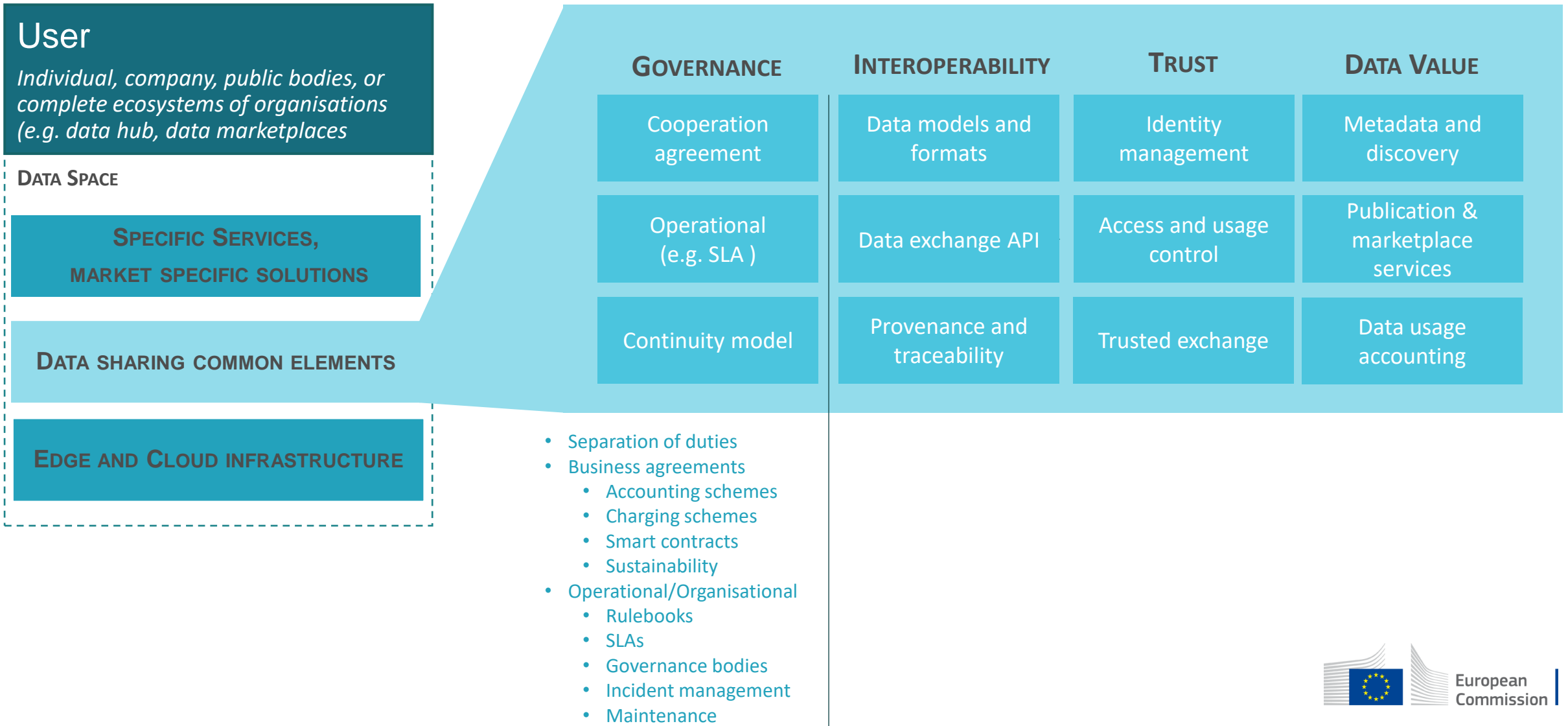
Marketplace

High-Performance Computing

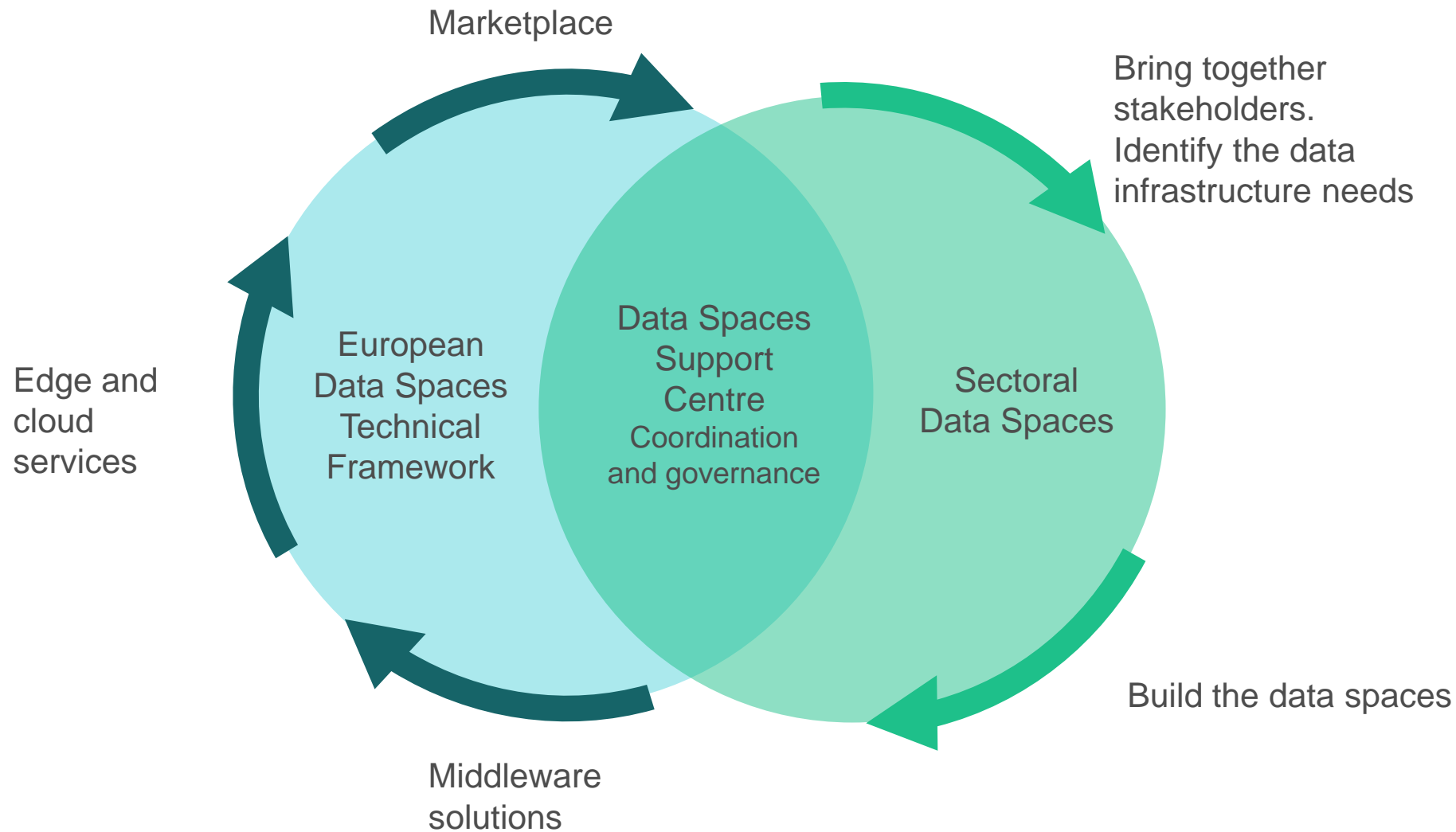
AI on demand platform

AI Testing and Experimentation Facilities

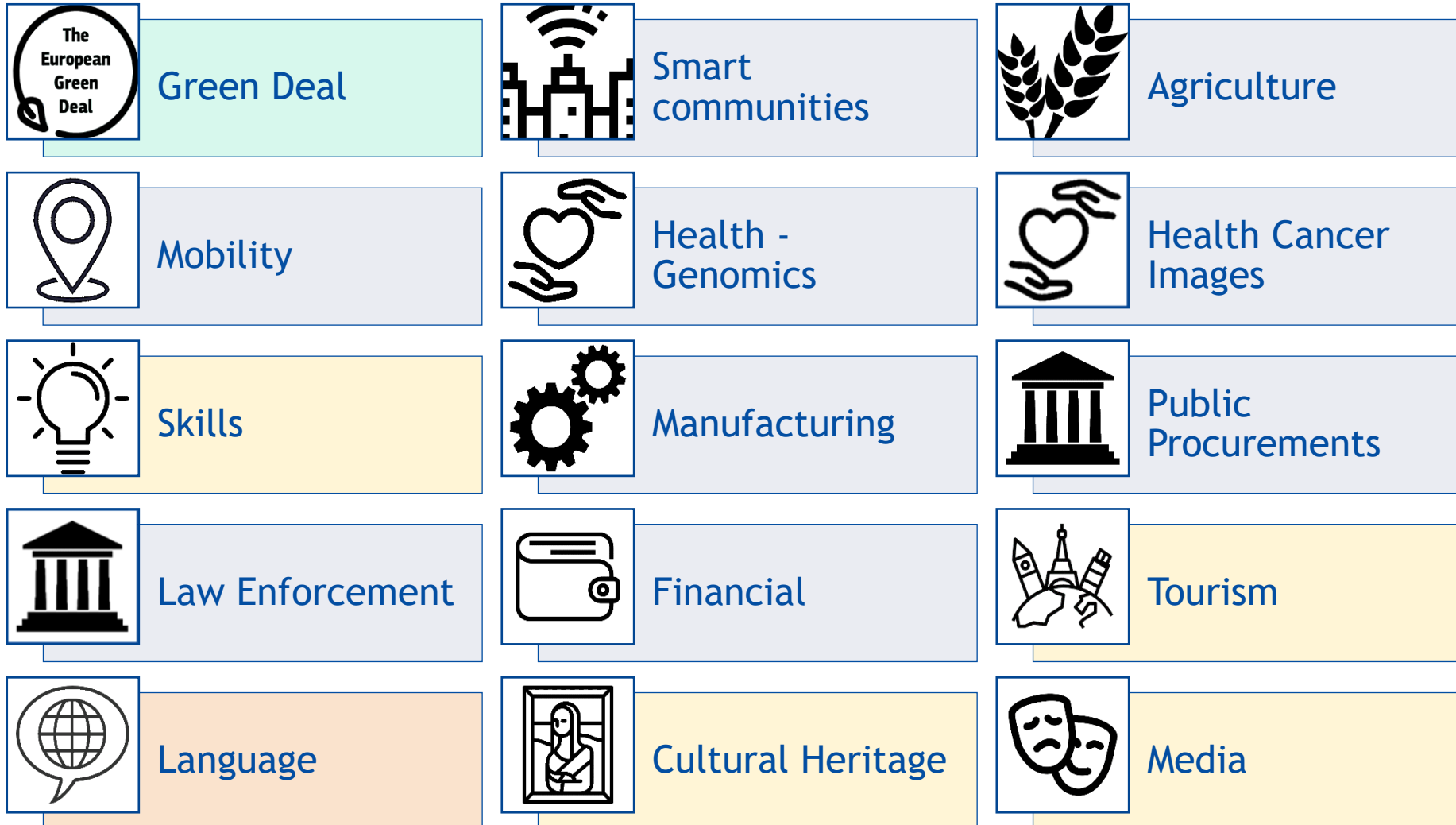
Data spaces common elements



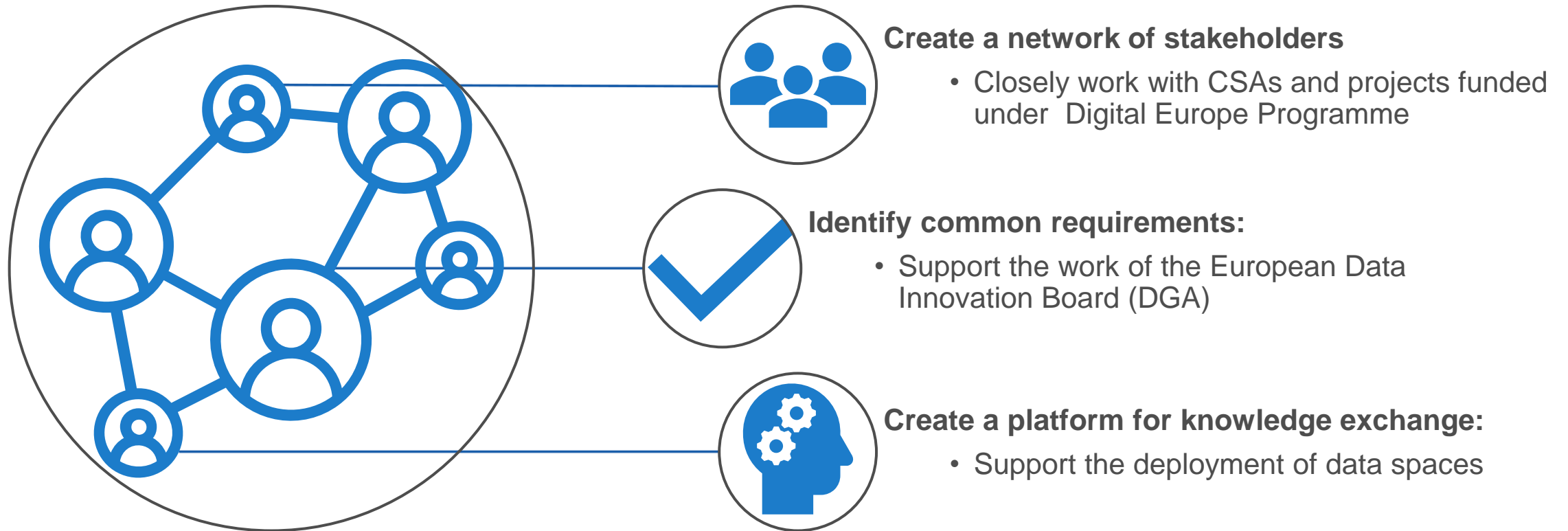
Data Spaces and Infrastructure in DIGITAL



Data Spaces in DIGITAL



Data Spaces Support Centre



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Thank you



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