MWC Barcelona 2024
26 - 29 February

INTERNATIONAL DATA SPACES ASSOCIATION

The 13th GIO Rountable
27 February, Barcelona

Establishing data sharing standards to promote global industry development

Findings from the Global Data Spaces Roundtable, 26 February, Barcelona

Thorsten Huelsmann, Managing Director, International Data Spaces Association


Companies only share 2% of their data
because they don’t trust each other

How to build trust in data sharing?

Data sharing must preserve data sovereignty

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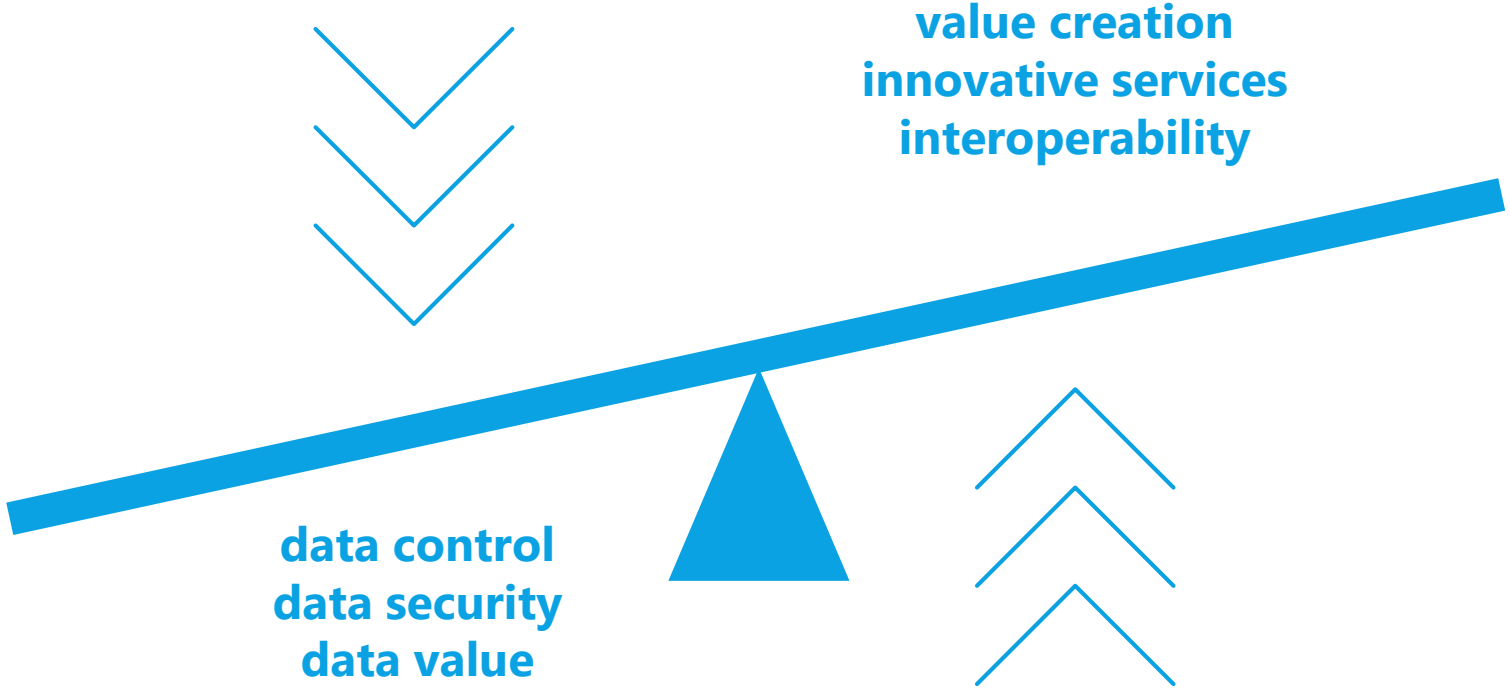

Data sovereignty

is the ability of a natural or legal person to exclusively and sovereignly decide regarding the usage of data as an economic asset.

Trustful data sharing takes place in data spaces

Where participants share one common trust framework

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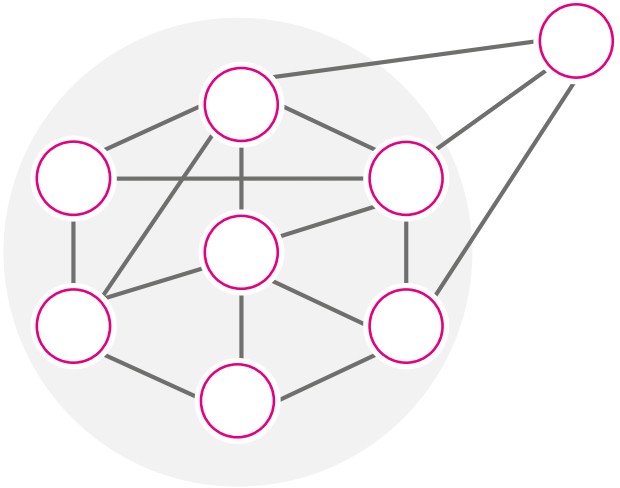
A decentralized and dynamic data ecosystem:
with many-to-many interactions



A **data space** is the sum of all end points that are able to share data with each other.

- Decentralized/Centralized/Federated data architecture: no physical data integration, leave data where it is
- Interoperability: no silos, no vendor-dependency
- Data Sovereignty and traceability
- Trusted participants
- Usage control for data as economic asset

How to build data spaces

Manufacturing example

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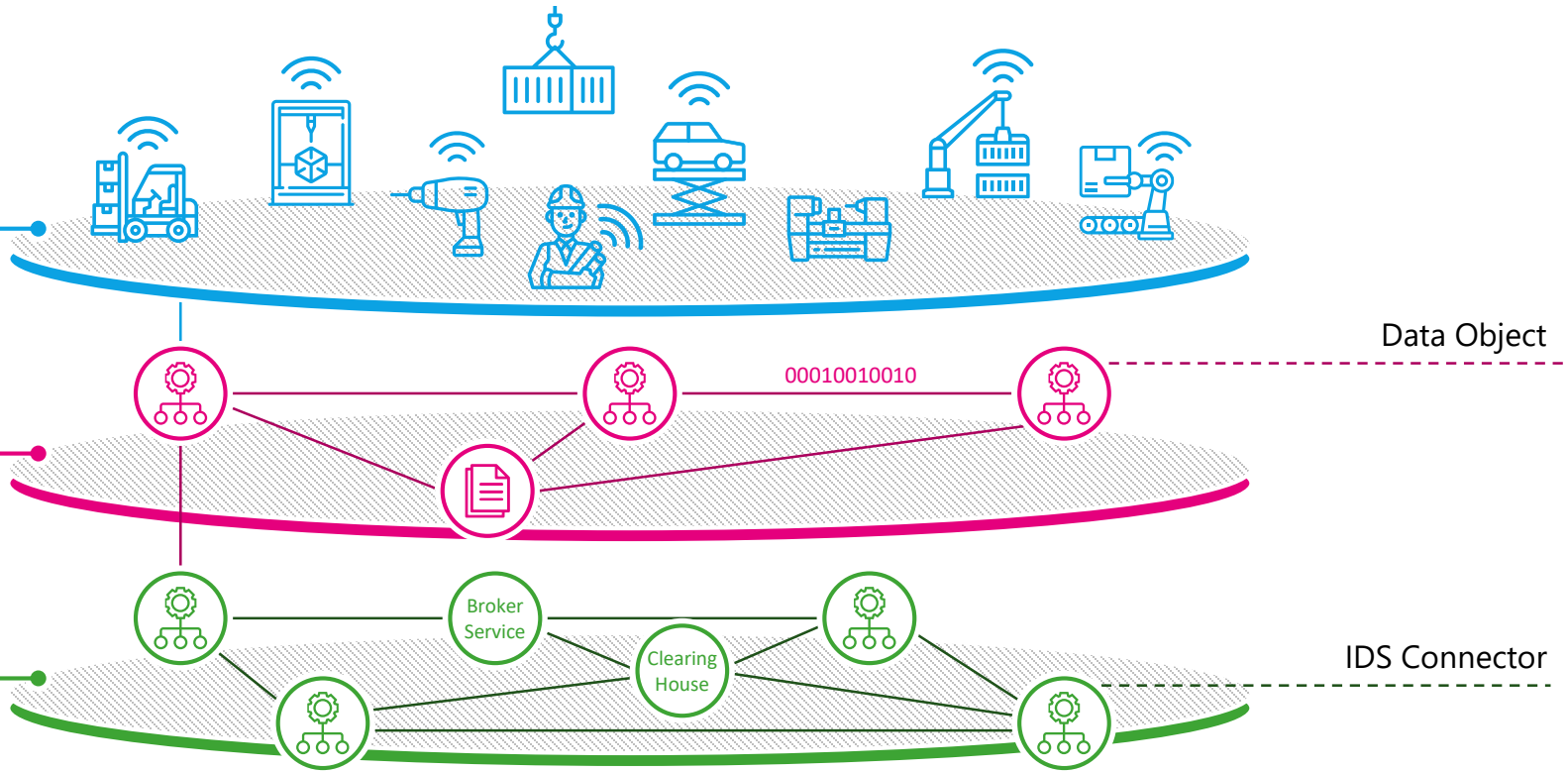
Manufacturing & Supply chain **Ecosystem**

Manufacturing **Data Space** (shared Digital Twin)

IDS Software **Infrastructure**



Trustful data sharing takes place in data spaces

Where participants share one common trust framework

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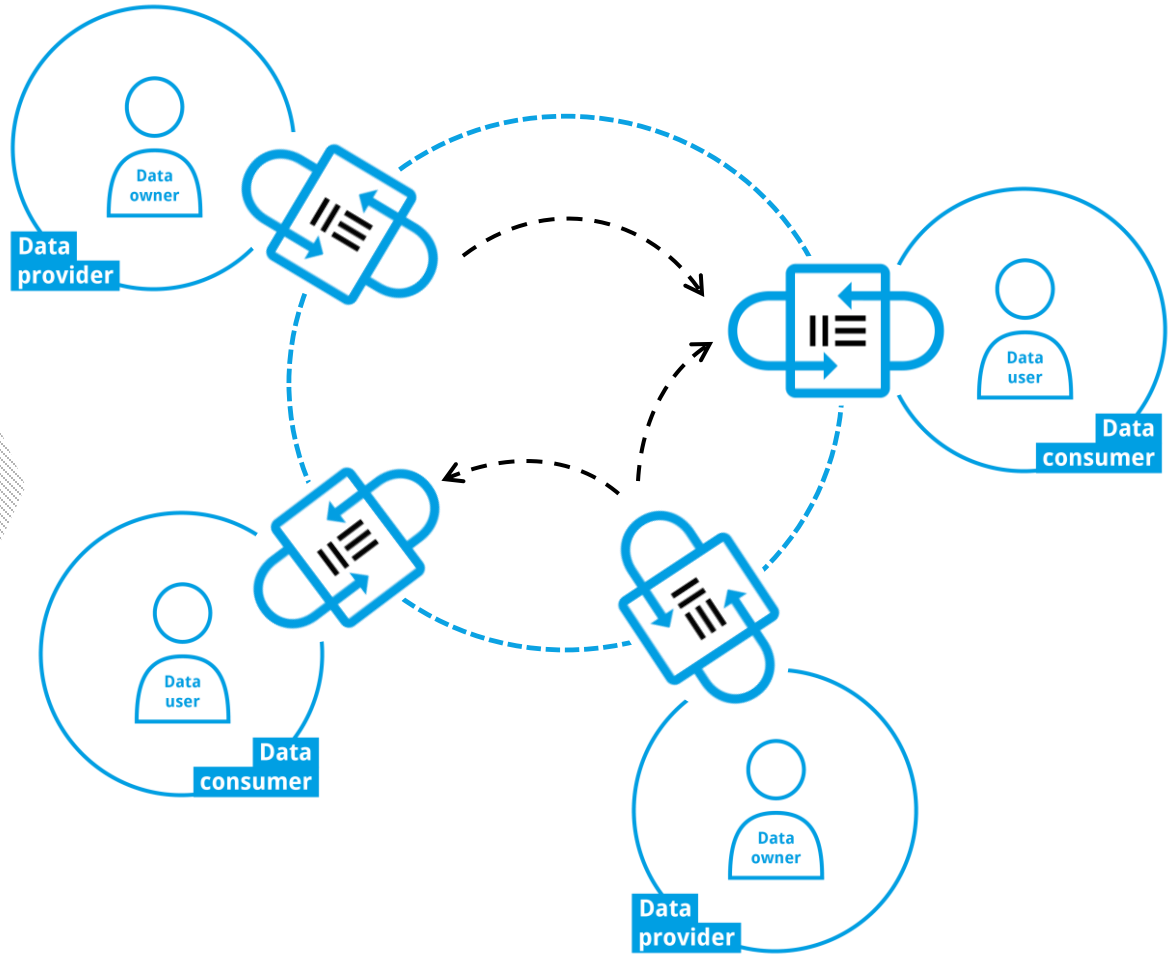
A data space is the sum of all data end points that can share data with each other.

- Federated data architecture
- Interoperability
- Sovereign data sharing
- Trusted participants



Comparable Paths: The Internet and Data Space(s)

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Similarities in evolution and the role of protocols

	Initial Conceptualization	Core Protocol Dev	Public Adoption and Standardization	Advanced Networking & Efficiency Measures
The Internet	Multiple isolated networks (e.g. ARPANET, BITNET) with their own communication protocols.	Introduction of TCP/IP (1983) as a universal protocol, enabling different networks to communicate with each other.	World Wide Web & HTML (1990s)	Software-Defined Networking (SDN) & Separation of Control/Data Planes (late 2000s-2010s)
Data Space(s)	Organizations having unique data storage and sharing mechanisms. Isolated data spaces & control/data planes.	Connectors and Protocols to standardize data sharing across different spaces are being introduced.	Rise of solutions making the tech accessible and usable. Widespread adoption of Dataspace Protocol.	Separation of control plane (defining rules and policies) and data plane (actual data transfer).

IDS concepts as baseline for data spaces

Data spaces in multiple sector use IDS principles as blueprint

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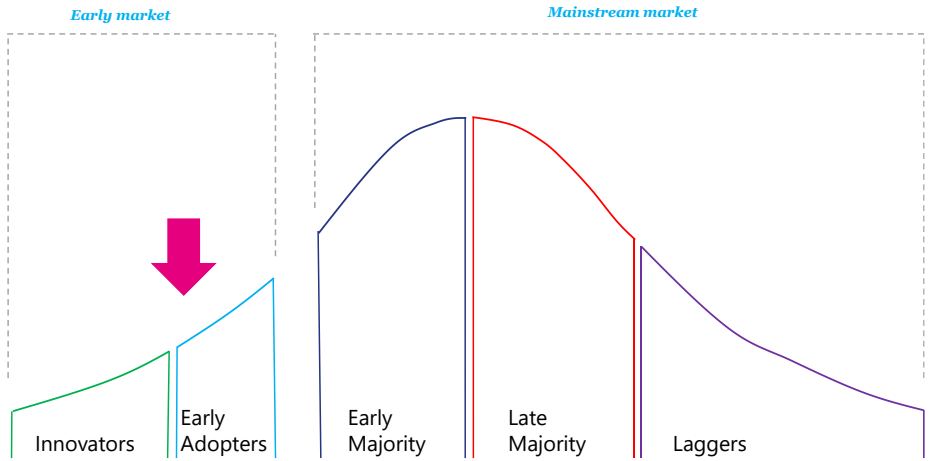


- Catena-X
- MDS
- SCSN
- DATA-EX

- Manufacturing-X
- Health Data Space
- ERJU-Rail Data Space
- Resilience Data Space
- Eona-X
- Media Data Space (DEP – now TEMS)
- Manufacturing Data Space (DEP)
- Kultur Datenraum
- AgDataHub
- Skills Data Space (DEP)

- More CSAs and Deployment actions
- SIMPL

- Chinese Endeavors

- More – see Radar

Catena-X Automotive Network

DATA-EX Data Society Alliance

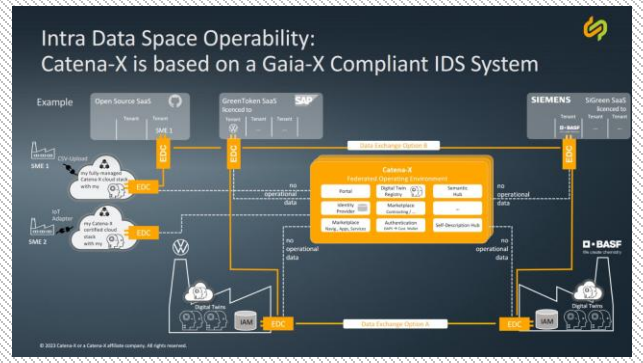
EONA-X

MANUFACTURING-X

Mobility Data Space Data Sharing Community

BAIDATA

scsn smart connected supplier network



Data spaces as enabler for a flourishing data economy

How the different organizations contribute to the paradigm shift

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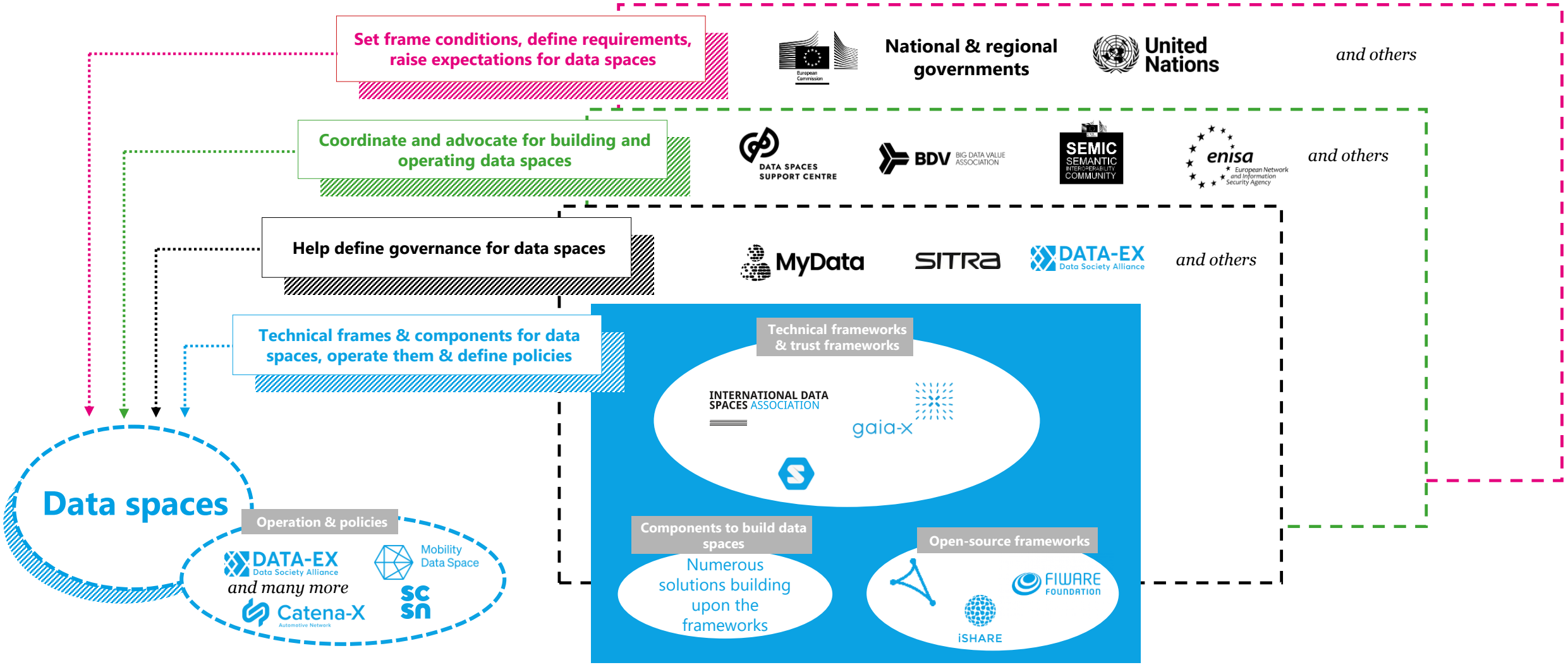

Plan, build, run and use data spaces

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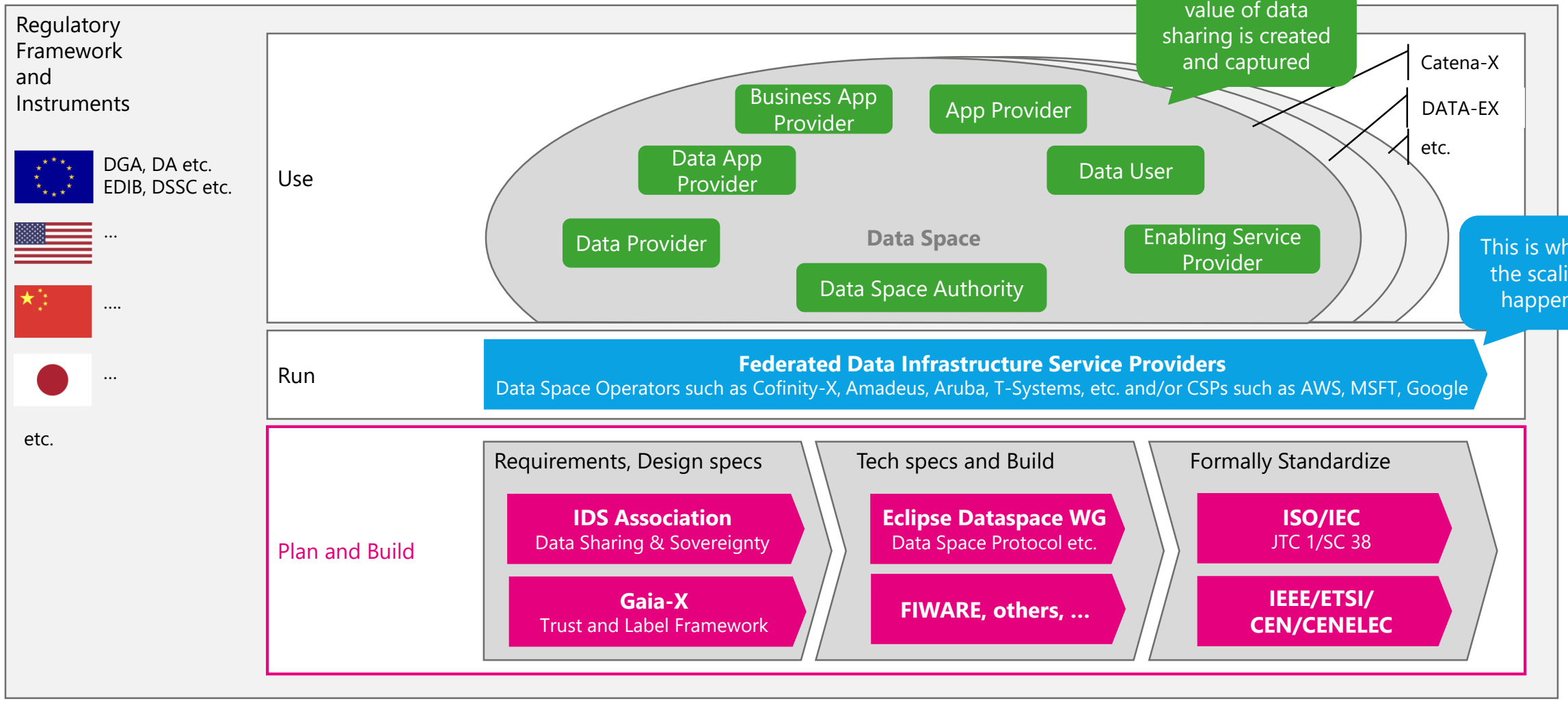
Cloud-Based Data Spaces



NB: This viewgraph does aim at completeness.

Dataspace Protocol V1.0 → ISO Standard

Enables standardized data sharing across different data space instances

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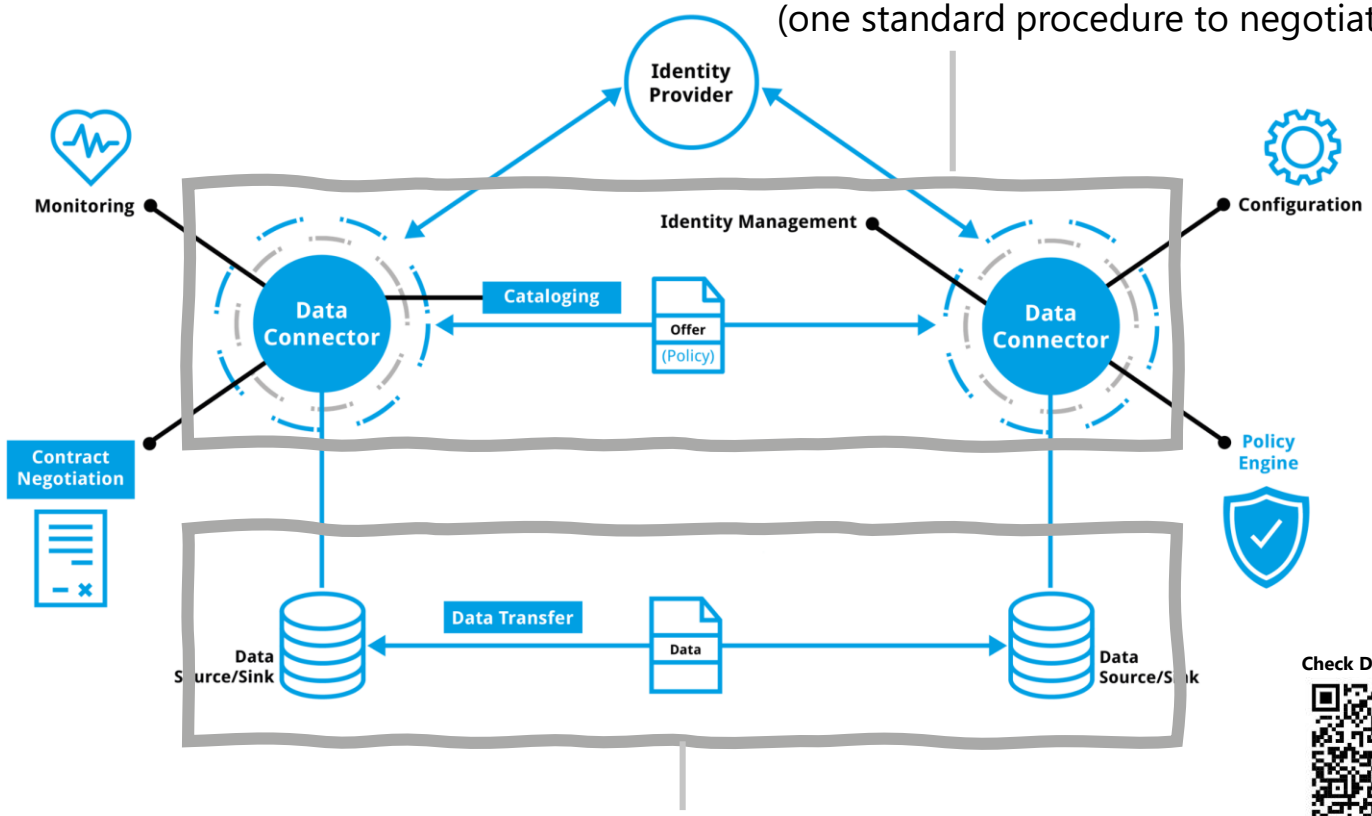
Control Plane decides who can access the data and how.

Data Plane is where the action (data sharing) happens.

Conceptually divided, can be combined practically

Control Plane

(one standard procedure to negotiate data sharing)



Check Dataspace Protocol:

Data Plane

(several possible for different data sharing scenarios:
confidential data sharing, streaming data, event based data, edge devices, ...)

Make the connection and enable data economy

The key to data spaces is the data connector

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- **Connects participants in a data space** – to share, utilize, benefit from data.
- Ensures **trust through IDS Certification** and **cyber security** assessment.
- Connects to **trust frameworks** and **identity management**
- Includes **identity & policy management**, ensures **data usage control**.
- Guarantees **interoperability**.
- Understands and enforces **data usage policies**.
- **Master** for other connectors of diverse feature sets.

System Layer – The Connector

The connector – functional components

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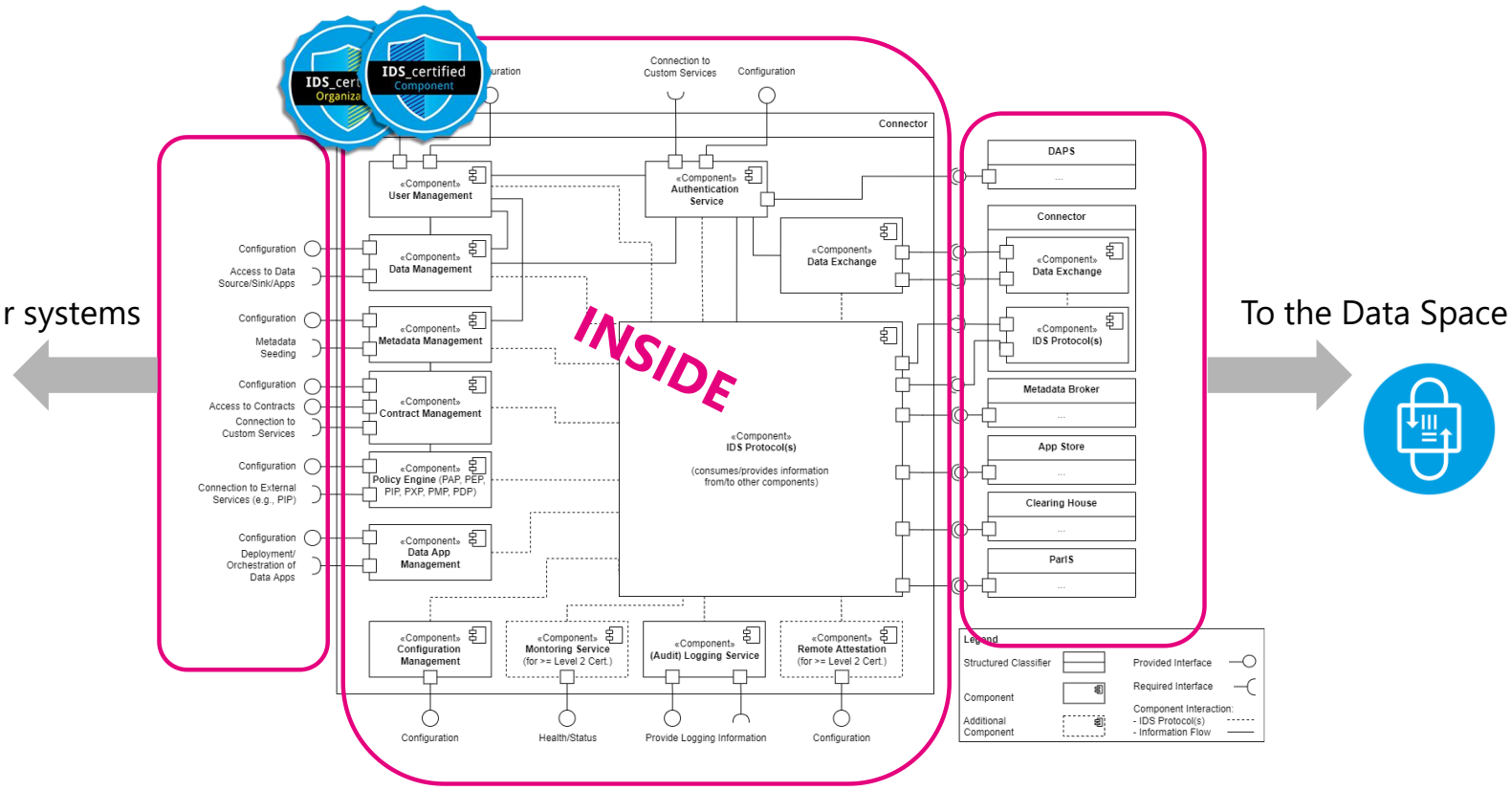
- **Software component** that is being defined by IDSA community since 2016
- Enables **data sharing** between different parties under predefined policies
- **Strictly controlled** environment to enable trust and data sovereignty



A holistic approach to bring data spaces to global scale

IDSA on its way to a global standard

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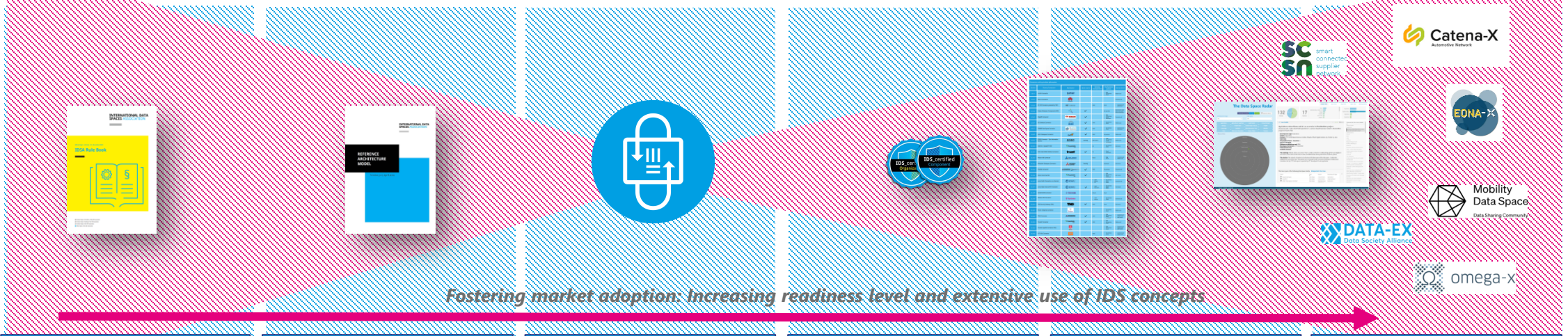
Global Standardization

W3C · IEEE · CEN CENELEC · ISO

Aligning architectures, market proliferation and thought leadership on data spaces

DESIGN PRINCIPLES FOR DATA SPACES · BDV BIG DATA VALUE ASSOCIATION · MyData · European Commission · gaia-x · iSHARE · FIWARE · DATA-EX · DATA SPACES SUPPORT CENTRE



IDSA Rulebook for holistic governance view

Reference Architecture as technology-agnostic framework on conceptual model

Dataspace Protocol as detailed specification and essence for interoperability

Certification for reliable, industry grade components

Diverse landscape of usable components and **radar** as orientation for ecosystem building and future investments

Running Data Spaces as impressive impact stories

Let’s make data spaces fly

Build and use the Dataspace Protocol

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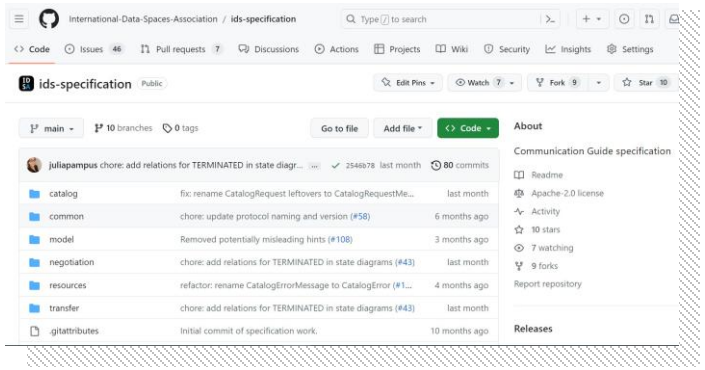
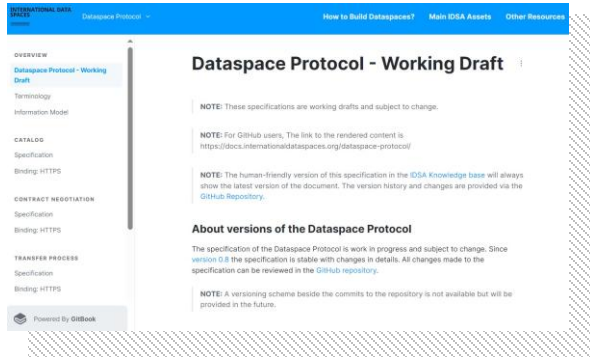


- **Integrate** the Dataspace Protocol in your work
- Actively **contribute to the development** of the Dataspace Protocol
- Join discussions, track issues, and review the evolution of the protocol through commits and updates.

https://github.com/International-Data-Spaces-Association/ids-specification

- Explore the IDS Knowledge Base on Gitbook for comprehensive documentation and specifications of the Dataspace Protocol, in an easier to read format.
- https://docs.internationaldataspaces.org/ids-knowledgebase/v/dataspace-protocol/



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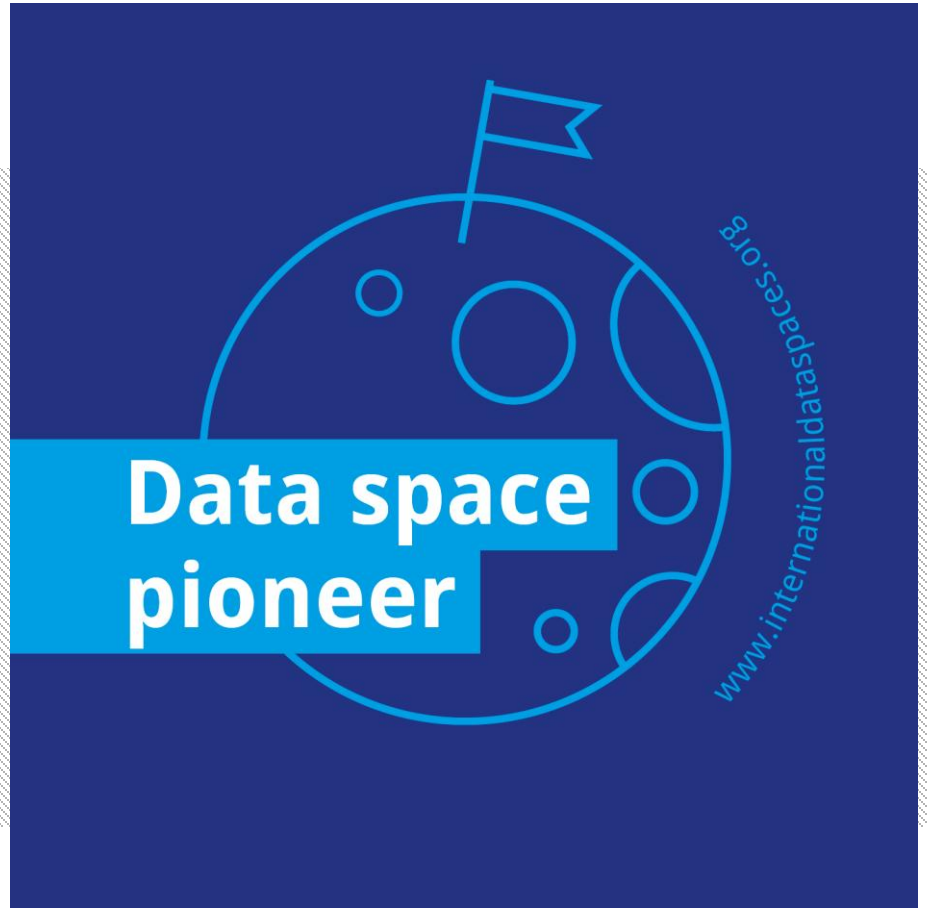

» We all believe in data spaces as enabler for our future wealth.

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International Data Spaces Association

www.internationaldataspaces.org

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