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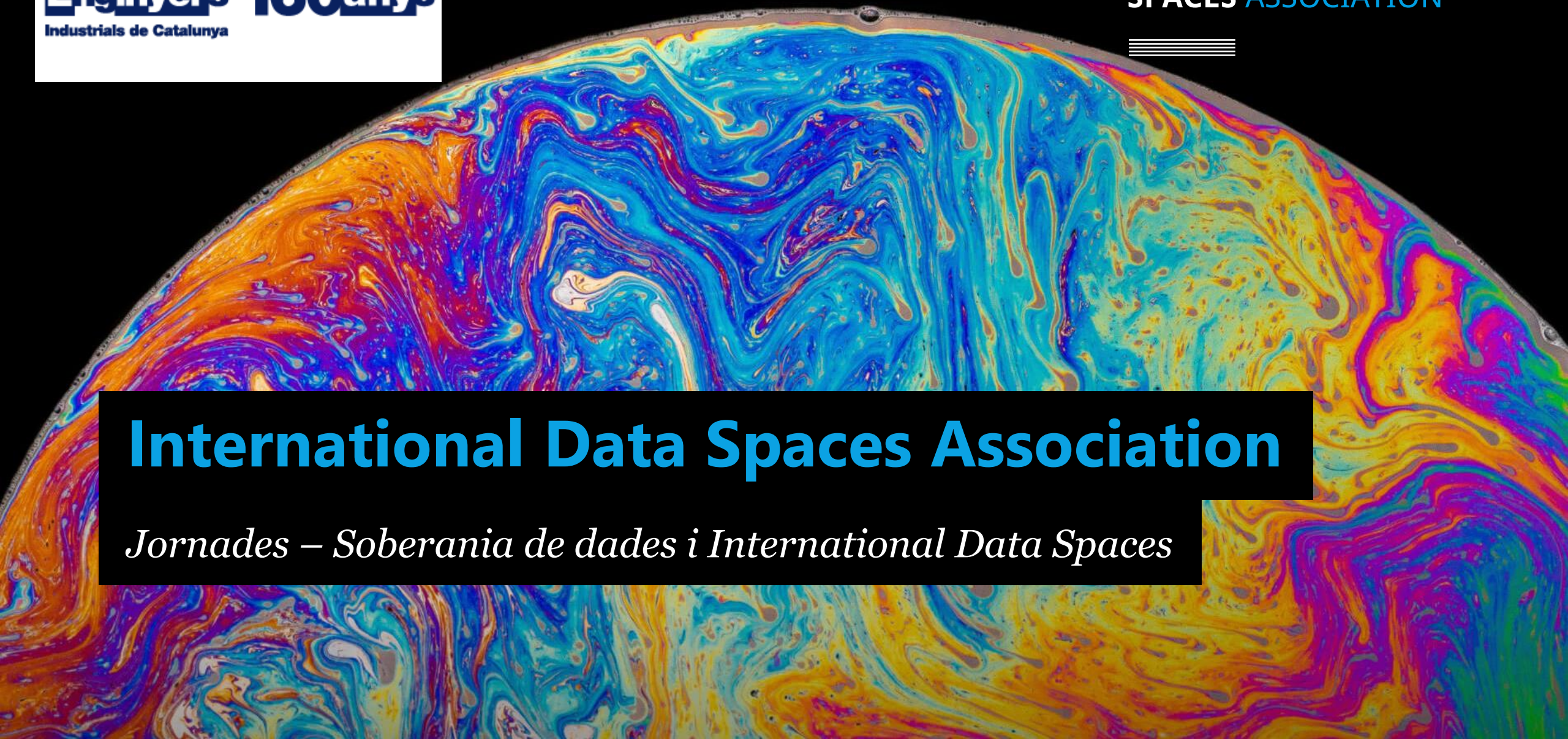
Industrials de Catalunya

INTERNATIONAL DATA SPACES ASSOCIATION



International Data Spaces Association

Jornades – Soberania de dades i International Data Spaces


INTERNATIONAL DATA SPACES ASSOCIATION
Governance for data sharing
Defining usage constraints
Trusted manipulation of data
DATA SPACES
CLEANROOMS FOR A PROSPERING DATA ECONOMY
@ssteinbuss

Companies want to link data

Without regret

INTERNATIONAL DATA SPACES ASSOCIATION

Interoperability
Data exchange
“Sharing Economy”
Data Centric Services

Data ownership
Data security
Data value

Data Sovereignty

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

International Data Spaces Association

Driving data freedom for the whole world

INTERNATIONAL DATA SPACES ASSOCIATION

The International Data Spaces Association (IDSA) is a **coalition of more than 140 member companies** that share a vision of a world where all companies realize the full value of their data in secure, trusted, equal partnerships.

The IDSA is a **not-for-profit organization.** All members contribute equally to the association's results. These are publicly available and can be used by any company or organization.

1. Develop a **reference architecture for international data spaces** (IDS), including a governance model and adoption strategy
2. Continue to evolve IDS-based **use cases**
3. Establish IDS as the **international standard** for data exchange in the economy of the future
4. Support the **certification** of IDS-based software solutions and business models
5. Shape the future of IDS with **open-source**

Key facts and figures

IDSA in a nutshgell

INTERNATIONAL DATA SPACES ASSOCIATION

2016

Year of foundation

- **Research**
- **Politics**
- **Business**

Founding parties

140+ from 28 countries

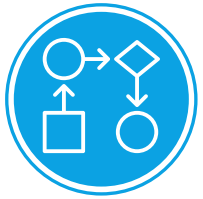
Members

- 10 Hubs
- 5 Competence centers
- 9 Liaisons
- 1 Research lab

Partners

- 30+ Research projects
- 4 Communities
- 4 Working groups

Communities



100+

Use cases

What are our core assets?

IDSA pools the data spaces experts

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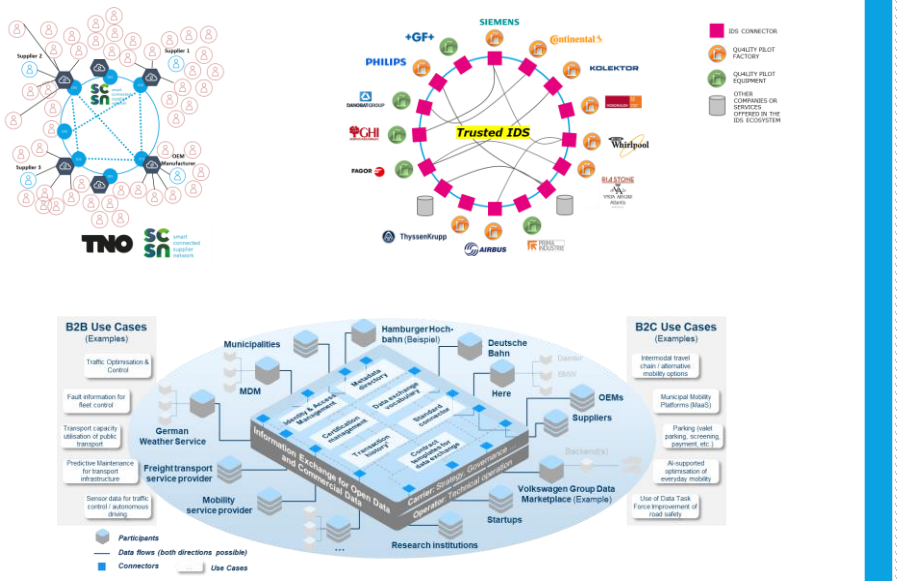


Design Principles for Data Spaces

IDSA RAM

Data Sharing Canvas

IDSA Rulebook

We know how to build and how to run and govern data spaces. We do not only understand the technical foundation, but also the holistic governance for data spaces:

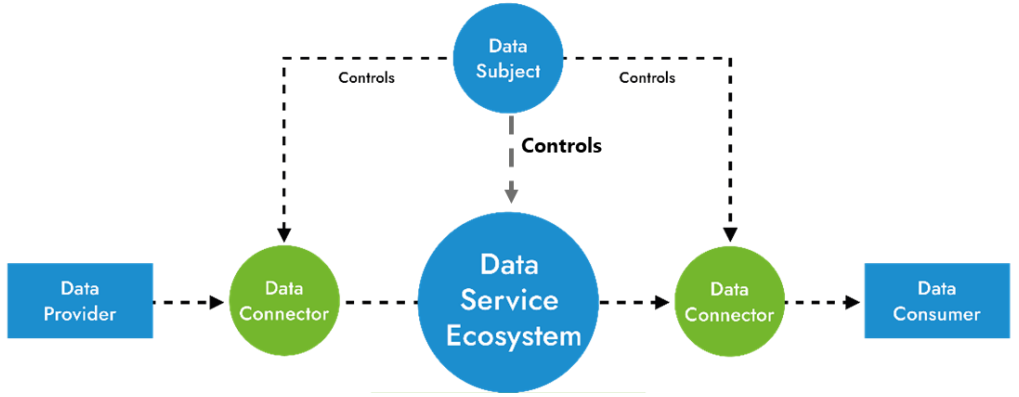
- How to build data spaces
  - » Reference Architecture → Certification → MVDS with Testbed
  - » Core components: Data Space Connector, others, Portfolio
- How to run and organize data spaces
  - » Rulebook
  - » Design Principles Paper
  - » Liaison with Sitra and Data Sharing Coalition

The International Data Spaces Association

INTERNATIONAL DATA SPACES ASSOCIATION

- Goal is the **creation of a standard for data sharing** while maintaining **data sovereignty** → **data spaces**

- We want to accelerate adoption & help speed organizations of all sizes along the **path to embrace IDS**.



Data Spaces Radar

Data Connector Report

Reference Architecture Model

IDSA Rulebook

Design Principles for Data Spaces

Jointly shaping the future of data economy

INTERNATIONAL DATA SPACES ASSOCIATION

860+ **People contributing**

28 **Countries**

146

We are lacking a data sharing framework

Availability of data remains limited

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For companies to add value, there is a need for data ecosystems that:

- are vendor-independent
- connect platforms
- are open to all at low cost
- are easy to adopt and easy to use

The data economy involves many players

Evolution of data sharing

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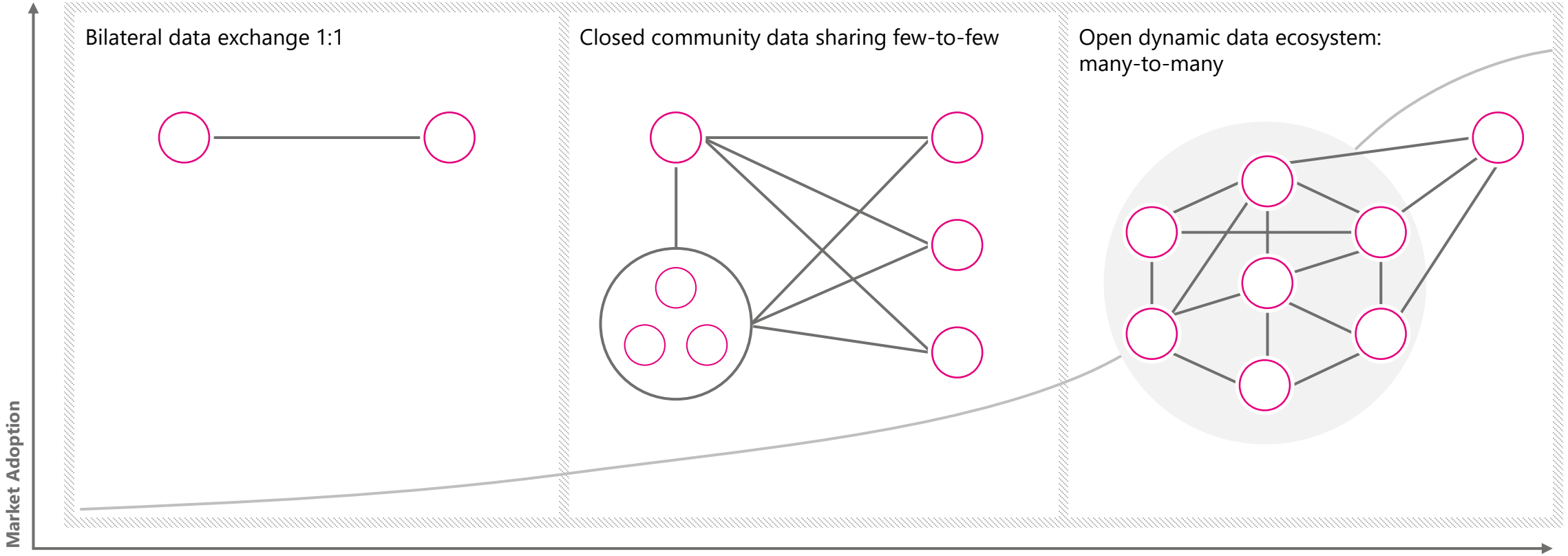
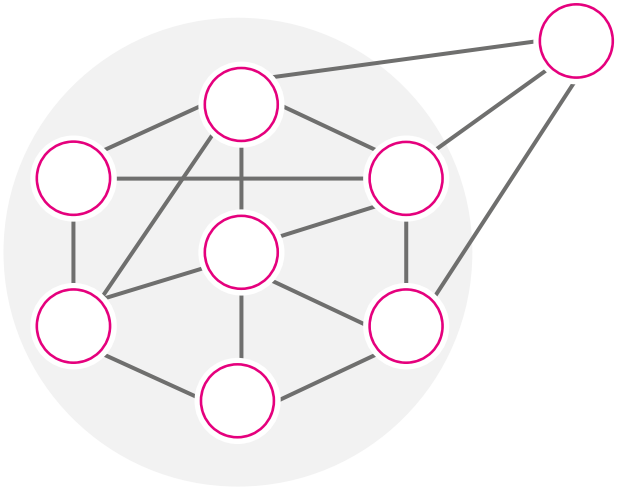


The data space approach

...connecting all kinds of data endpoints

INTERNATIONAL DATA SPACES ASSOCIATION

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.

- Federated data architecture: no physical data integration, leave data where it is
- Interoperability: no silos, no vendor-dependency
- Data Sovereignty and traceability
- Trusted participants

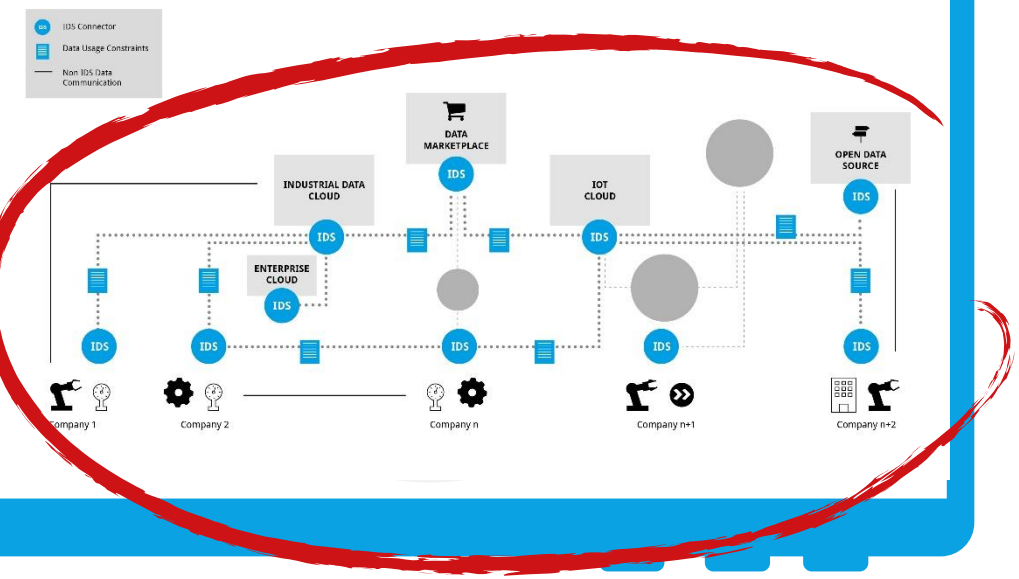
11

The data space approach

...connecting all kinds of data endpoints

INTERNATIONAL DATA SPACES ASSOCIATION

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



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Data Spaces establish the connection

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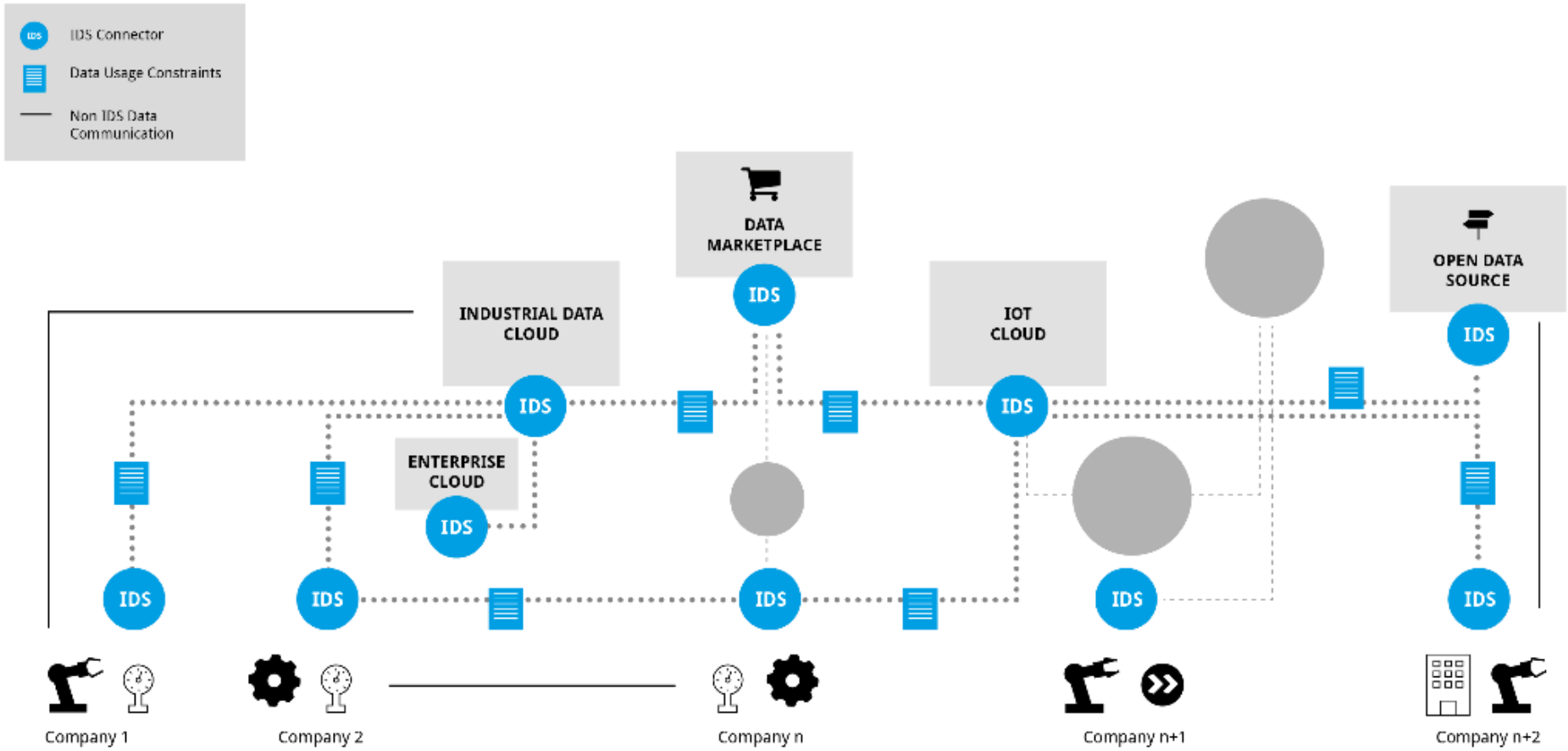

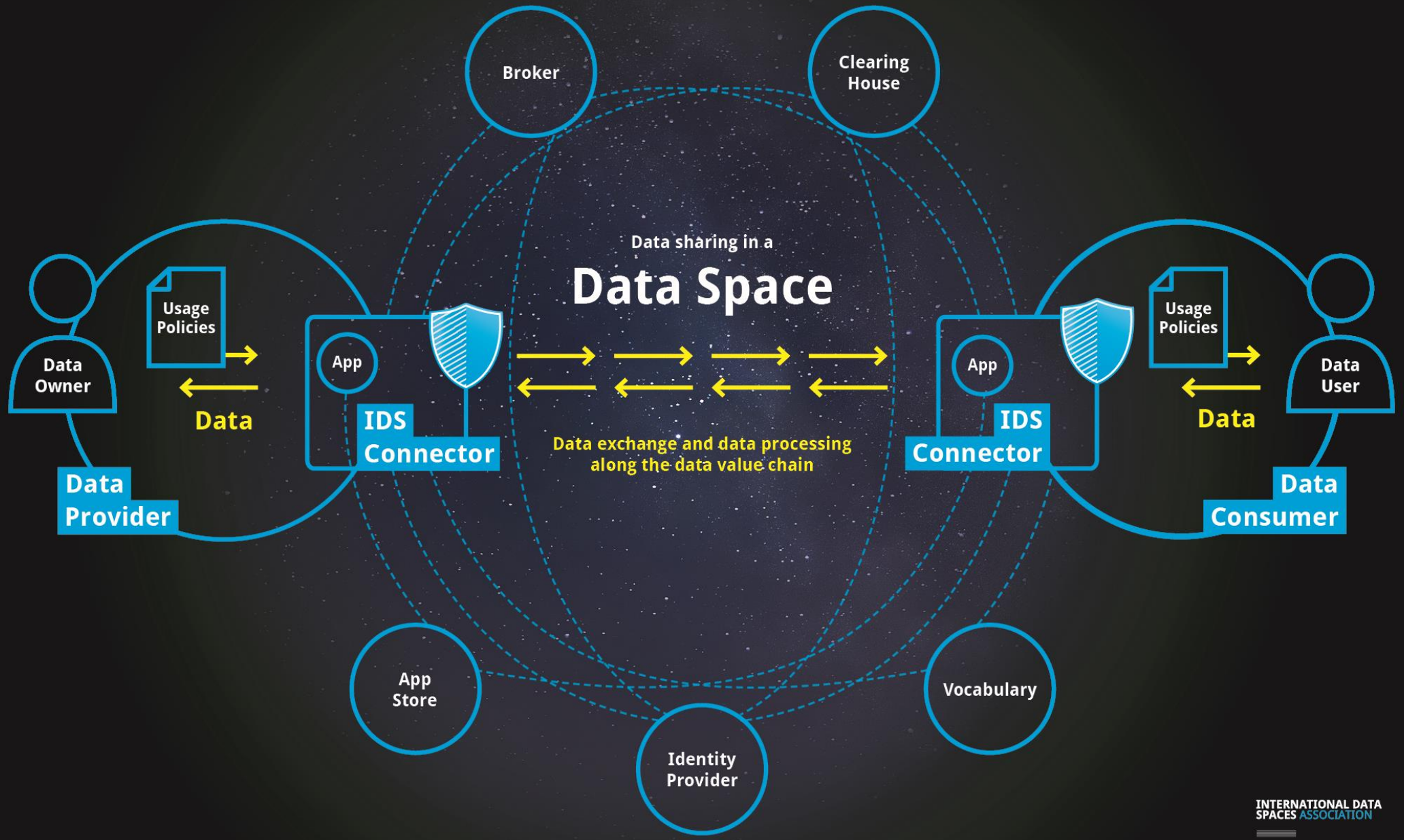

IDS approach

IDS-based data spaces are built on three pillars

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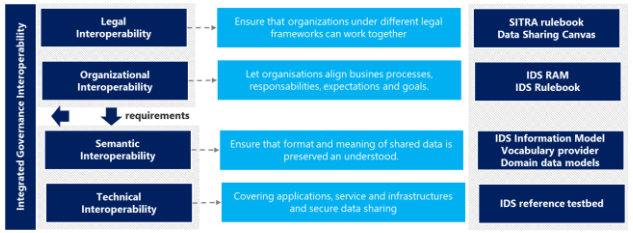
Unlimited **Interoperability**

Standard for data flows between all kinds of data endpoints



4 levels of interoperability

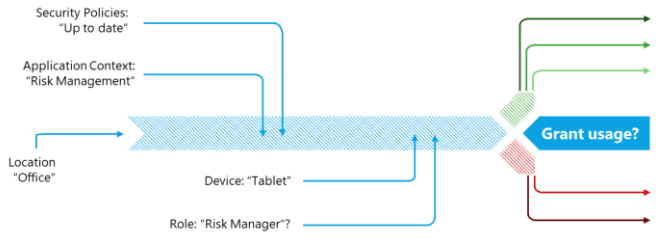
Trust between different security domains

Certified, comprehensive security functions providing a maximum level of trust

Certification Scheme

Rules for the data economy

Usage control and enforcement for data flows

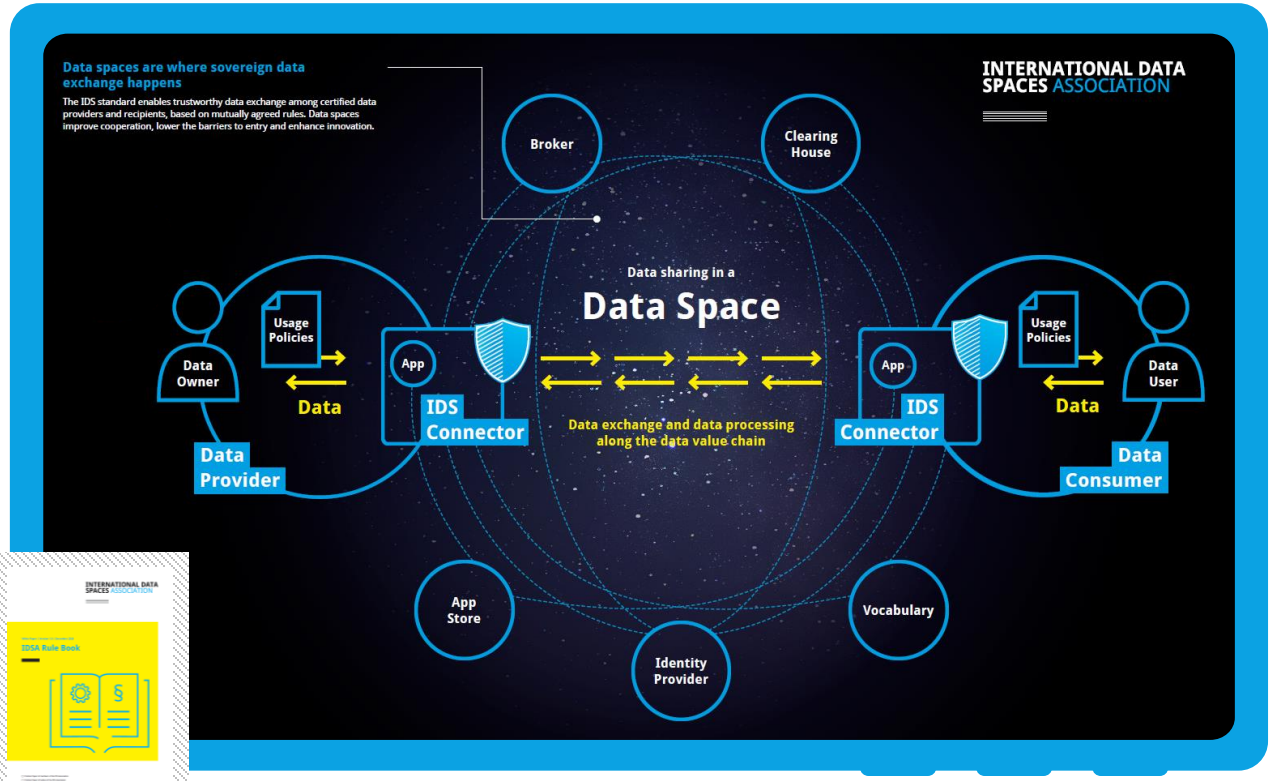


Concept of usage control

Data spaces

A holistic challenge

INTERNATIONAL DATA SPACES ASSOCIATION



Functional agreements

- Role models – separation of duties
- Trust scheme / anchor

Technical agreements

- Specifications for the standard
- Service descriptions
- Reference components

Operational agreements

- Provider of essential services
- Handbooks

Maintenance agreements

- Reliable development of standard, processes and artefacts
- Policies for services

Legal agreements

- Legal policies
- Usage policy enforcement

The magic triangle

IDSA as reliable base for data spaces

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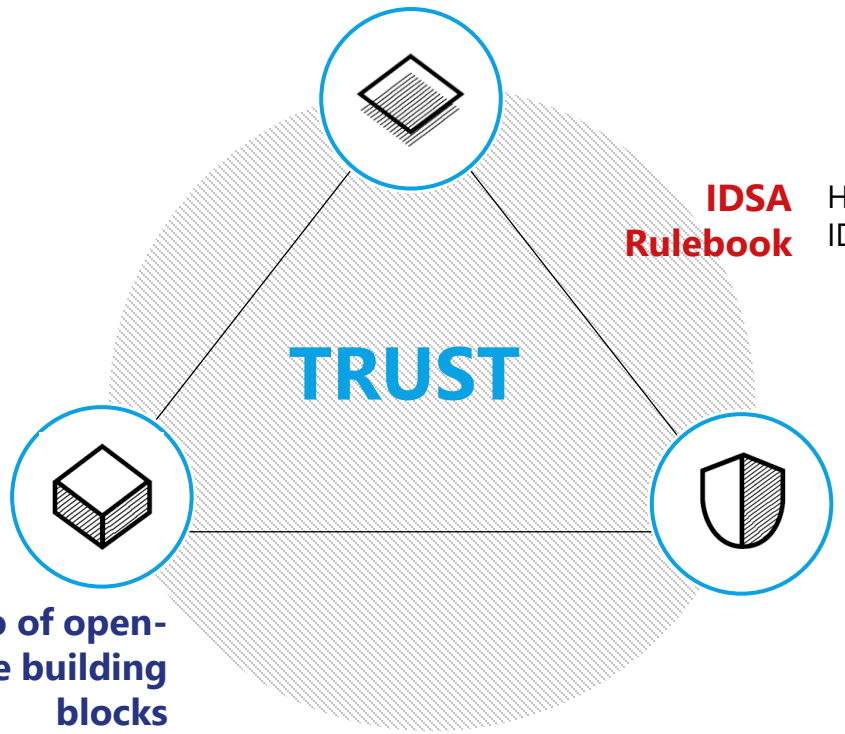

IDS Reference Architecture
Blueprint for data spaces with detailed specifications

IDSA Rulebook
How to implement IDS in the real world

Certification Scheme
3rd party conformity allows for an informed decision about the trustworthiness of partners and components in a data space

Portfolio of open-source building blocks
Bring IDS in commercial set-ups

- Guarantee **interoperability** in data spaces and between data spaces
- Holistic **governance** to run data spaces
- Reliable foundation for **commercial offerings** (including **c**lear lifecycle, change management, versioning)
- Ensure **trust** in data spaces

From concept to reality

IDSA on its way to a global standard

INTERNATIONAL DATA SPACES ASSOCIATION

Bringing IDS concepts to the big markets and to true global standardization

Aligning architectures and thought leadership on data spaces

First impressive impact stories

Core pillars of International Data Spaces Association

- **Open Standard**
- **3rd party conformity**
- **Open Processes**
- **Open Source**
- **De-facto standard**

Increasing readiness level and extensive use of IDS concepts

100+ projects on radar

30+ research projects

Data Space Radar
Current overview

62 Total entries

45 Use Cases

17 Data Spaces

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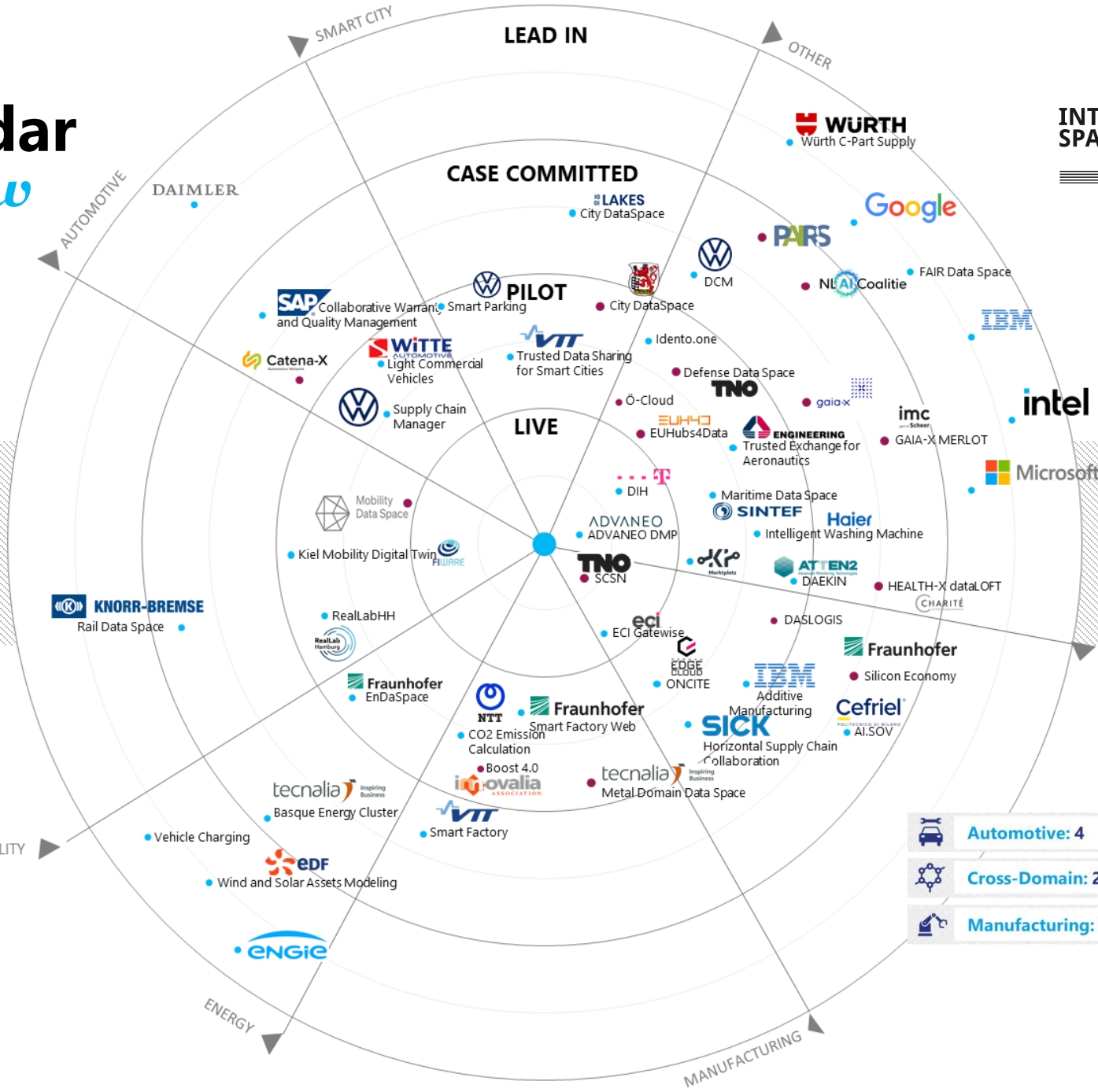

Domains
Inspiring Success Stories from different domains supported by our experts

Maturity Levels
Covering use cases from **business case generation to real-life data spaces**

Progress Monitoring
Forward looking radar. We make room for new items and highlight moving data spaces

https://internationaldataspaces.org/adopt/data-space-radar/

- Automotive: 4
- Cross-Domain: 24
- Manufacturing: 8
- Mobility: 7
- Smart City: 5
- Supply Chain: 9
- Energy: 5

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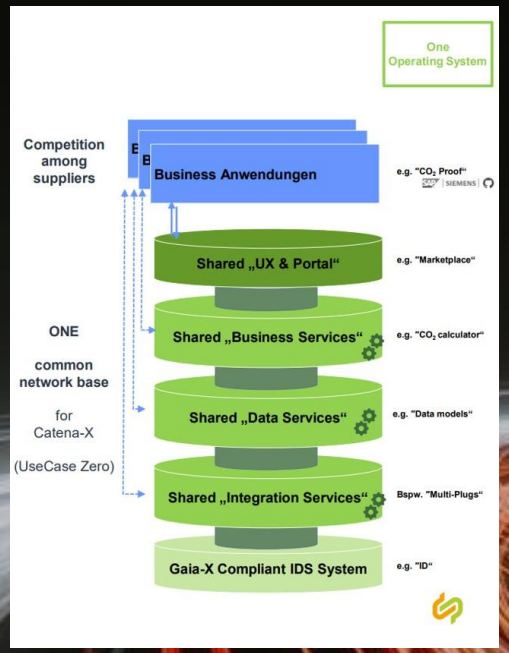
Catena-X

SUCCESS

With the IDS standard as the essential infrastructure basis, Catena-X will be an extensible ecosystem in which automotive manufacturers and suppliers,
dealer associations and equipment suppliers, including the providers of applications, platforms and infrastructure, can all participate equally.

BENEFITS

» Increase the automotive industry's competitiveness
» Improve efficiency through cooperation
» Accelerate company processes through standardization and access to data



COMPONENTS

» IDS Connector
» Identity Provider

Catena-X Automotive Network

Catena-X Operating System / Architecture

One Operating System

Data Sovereignty & Interoperability (europ. architecture)

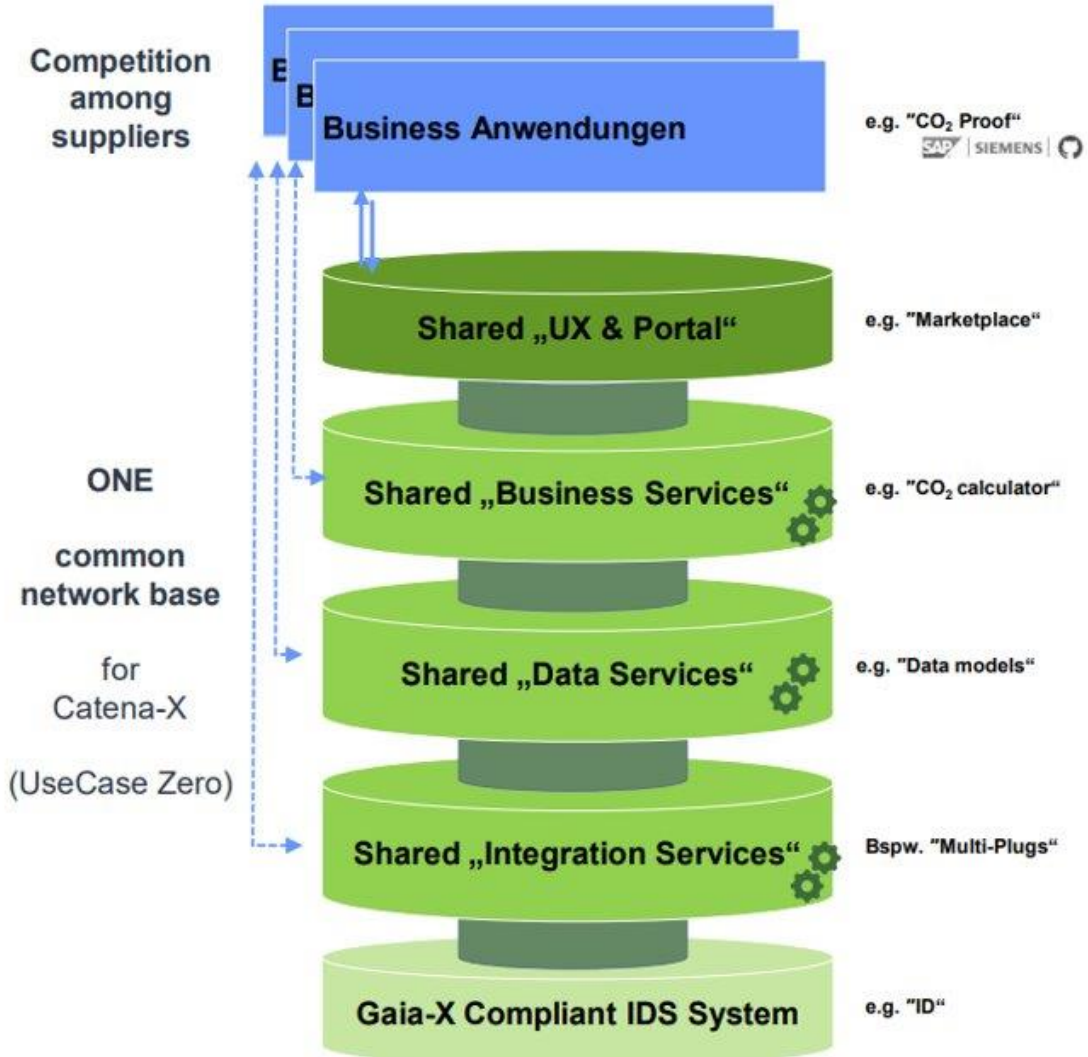
- Decentralized data rooms
- Competition at application level

One Operating System (decentralized, federated, FOSS)

- Operating System on GitHub
- Plug and Play - Standardized APIs

Collaborative and agile product development

- Eclipse Open Source Community
- 100% Agile working model



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Smart Connected Supplier Network

SUCCESS

Network of high-tech manufacturers and IT-suppliers along the supply chain.

Facilitates cross-factory communication, collaboration and data sharing.

Decentrally implemented agreements on semantic, technical and legal aspects between the participants.

BENEFITS

» Seamless scalable company integration to exchange data across supply chains

» Reduced administrative efforts, faster ROI, lower IT integration costs, access to a large group of suppliers

» Single integration of IT providers via SCSN

COMPONENTS

» IDS Connectors

» Identity Provider

» Meta Data Broker

» Data Apps

» ERP systems

TNO

smart connected supplier network

How does it work?

Service Providers:

- Digital platforms, interconnected using IDS
- Independent ‘address book’ for routing communication
- Several providers. Choose the most suitable for your business

Manufacturing companies:

- One-time integration with own ERP system
- Registration in the SCSN address book

ERP systems:

- A manufacturing company can choose their preferred ERP system.

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Mobility Data Space [Datenraum Mobilität]

SUCCESS

The Mobility Data Space enables the sovereign handling of data for digital mobility solutions.

By linking offers from different mobility providers, individual mobility can be better combined with public transport offers and sharing providers.

Comprehensive mobility data can be made available on a national level in the future.

BENEFITS

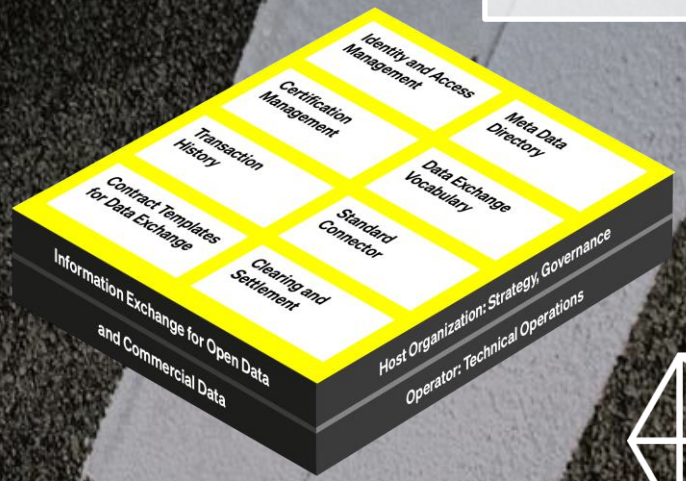
» Secures data sovereignty by establishing common rules for trustworthy data transactions

» Reduces the economic & technical dependence on digital platforms of large private providers

» Creates a basis for a cross-modal and intermodal mobility system

COMPONENTS

» IDS Connector
» Identity Provider
» Meta Data Broker
» Clearing House
» App Store
» Vocabulary Provider



Mobility Data Space

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Thank you

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