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IDSA: Impulsando la Estandarización y la Interoperabilidad en los Espacios de Datos

PRIMERA CUMBRE DE ESPACIOS DE DATOS GAIA-X ESPAÑA

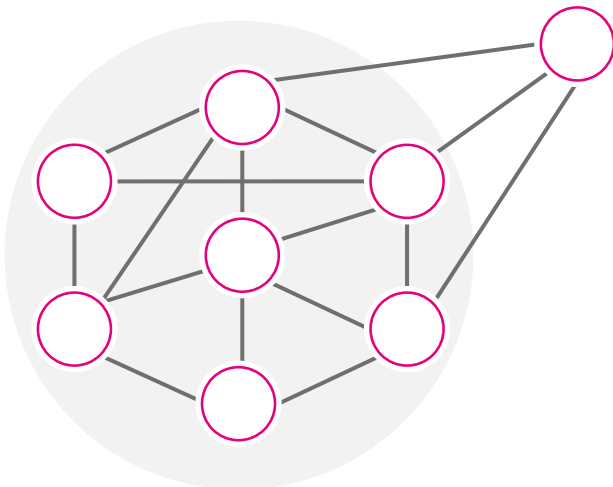
Silvia Castellvi,
Research and Standardisation Director, International Data Spaces

Trustful data sharing takes place in data spaces

Where participants share one common trust framework



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, services, components
- **Usage control** for data as economic asset

Building data spaces

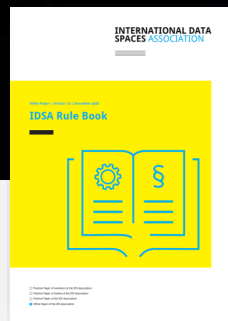
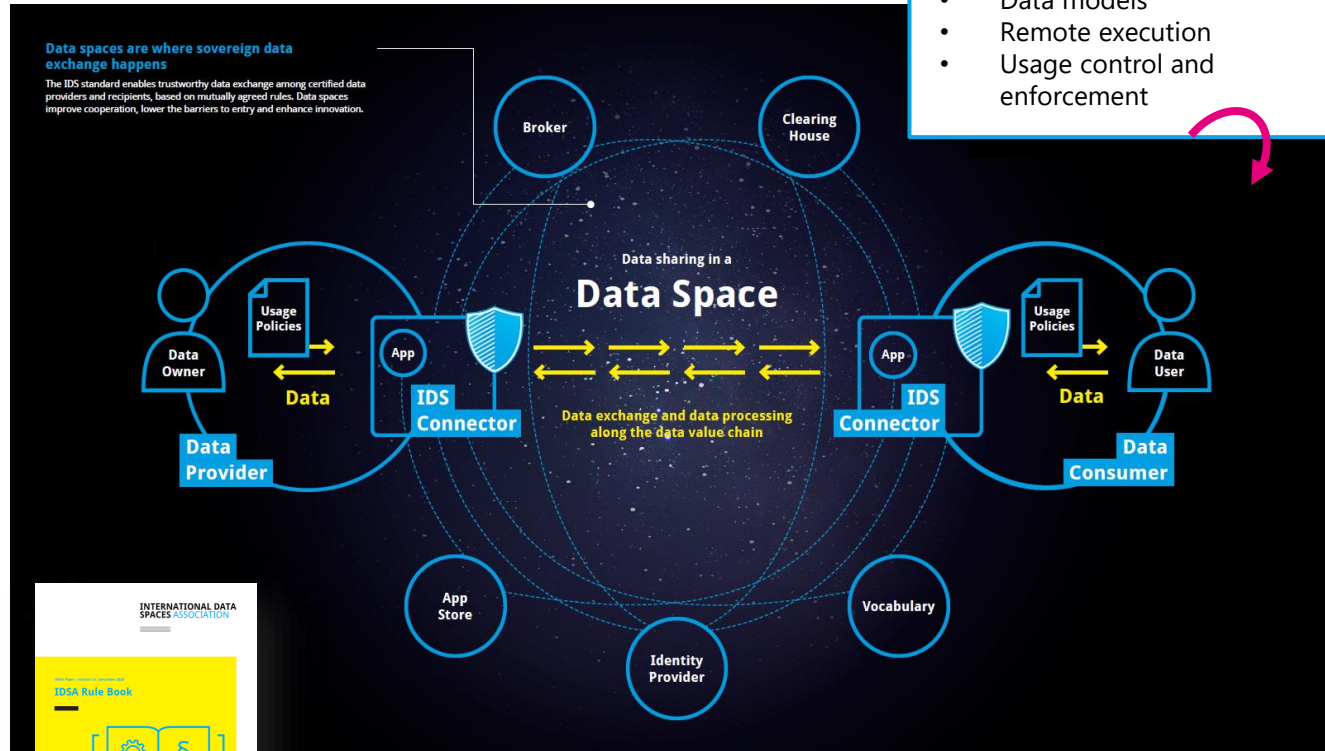
A holistic guide for makers

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What exactly does "data economy" call for?

- Secure end2end data exchange
- Trusted parties
- Monetize data and usage policies
- Data models
- Remote execution
- Usage control and enforcement



The IDSA Rulebook as design blueprint for data spaces

Functional agreements

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

Maintenance agreements

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

Technical agreements

- Specifications for the standard
- Service descriptions
- Reference components

Legal agreements

- Legal policies, regulation
- Usage policy enforcement

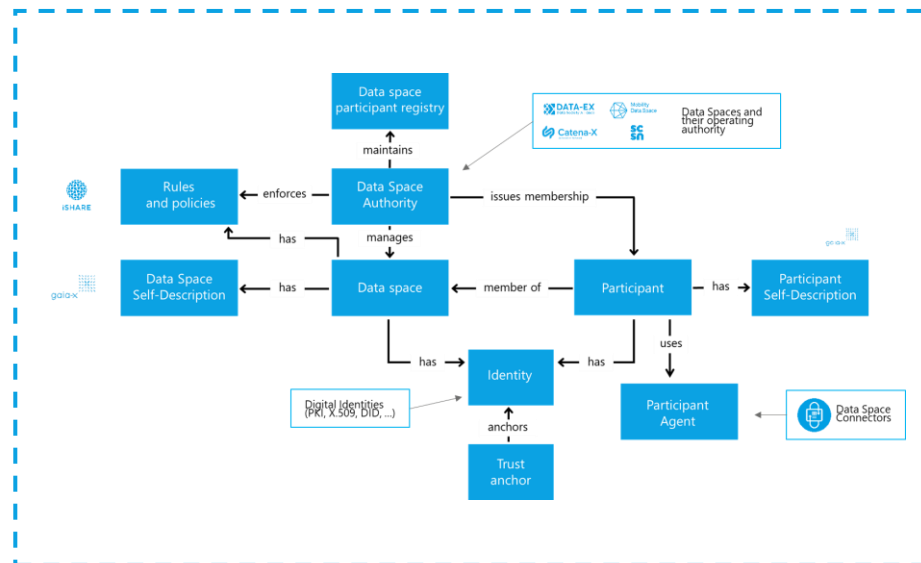
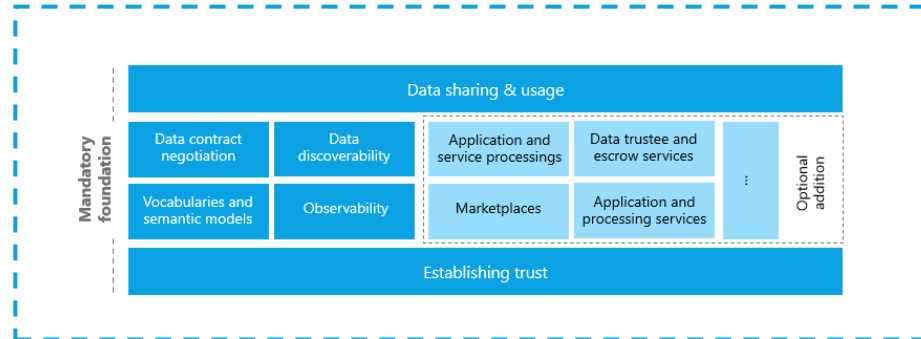
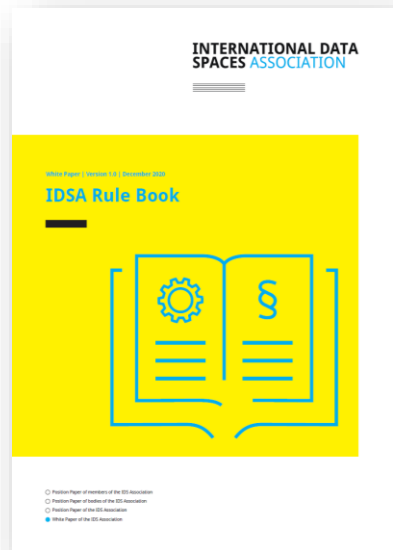
Administrative agreements

- Provider of essential services
- Handbooks



IDSA Rulebook – design and governance scheme for data spaces

We play an ecosystem game

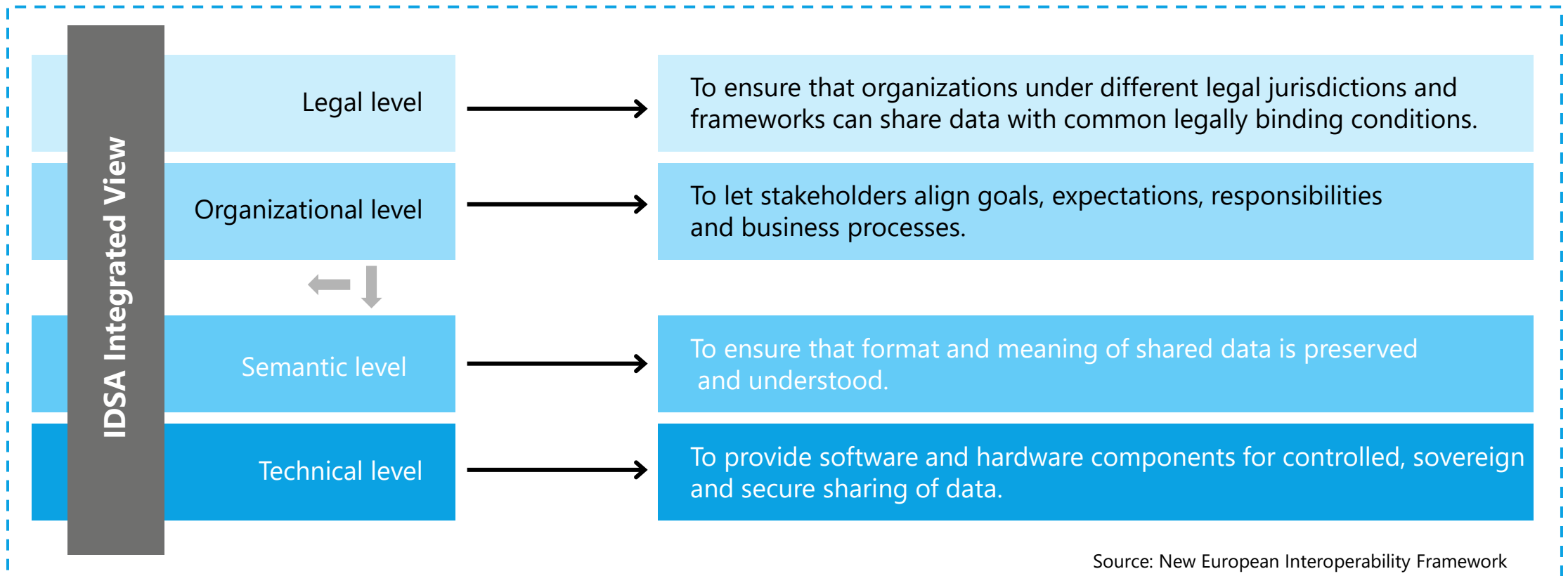


The **IDSA Rulebook** brings together ...

- the requirements from data economy ...
- with measures for technical, semantic and organizational interoperability.



Layered model for interoperability



- **Intra data space interoperability**, between the data space authority, processing, and data sharing building blocks within a single data space instance
- **Cross data space interoperability**, between multiple data space instances at each of the functional levels

A holistic approach to bring data spaces to global scale

IDSA on its way to a global standard

How others use IDS concepts

Promoting open-source solutions

IDS-certified data connectors

Readiness

Impressive data spaces

Aligning architectures and thought leadership on data spaces

20+ connectors in the data connector report

100+ projects on radar

30+ research projects

Bringing IDS concepts global standardization



IDS concepts



Make the connection and enable data economy

Data space connectors lay the basis for interoperable trustful data sharing



- » **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.

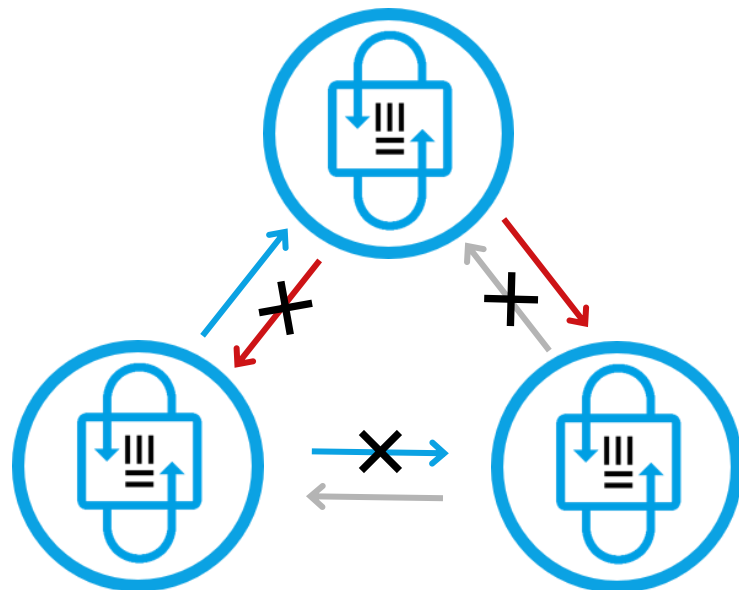


The Dataspace Protocol

Advancing interoperability



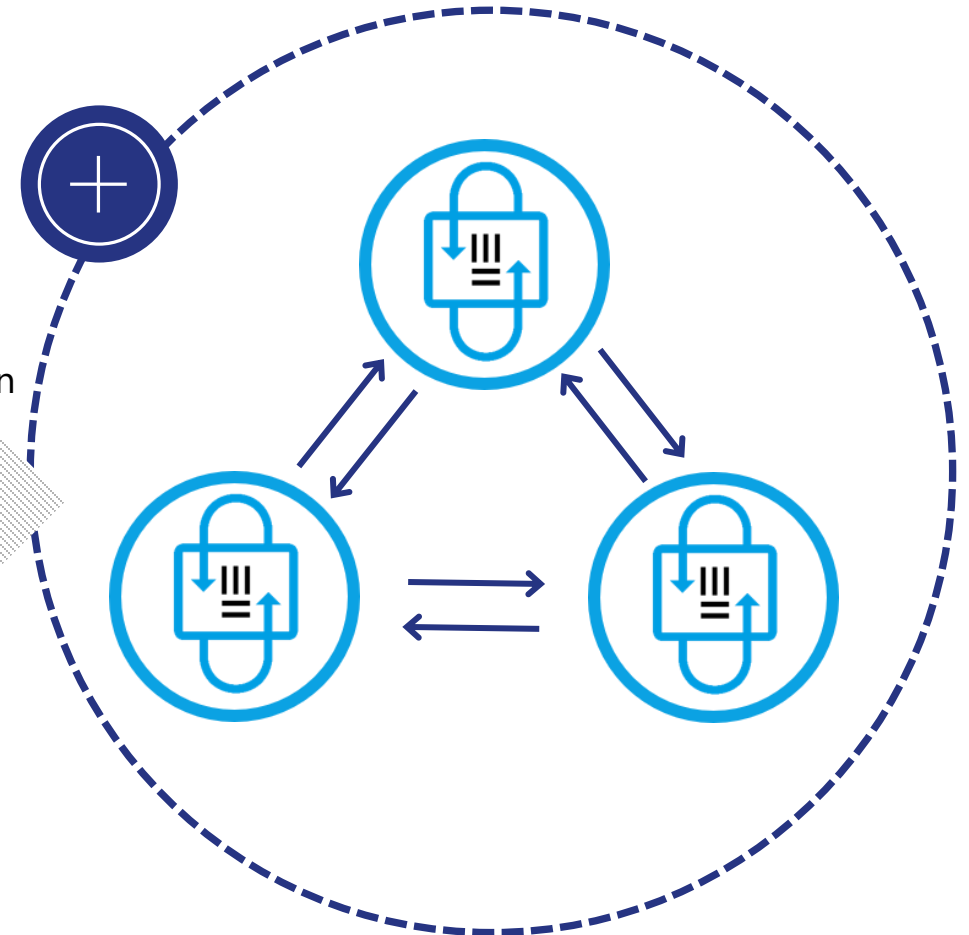
A **growing number of connectors** is witnessed. But how do we ensure that these connectors are **interoperable**?



Initiating the implementation of the **Dataspace Protocol**

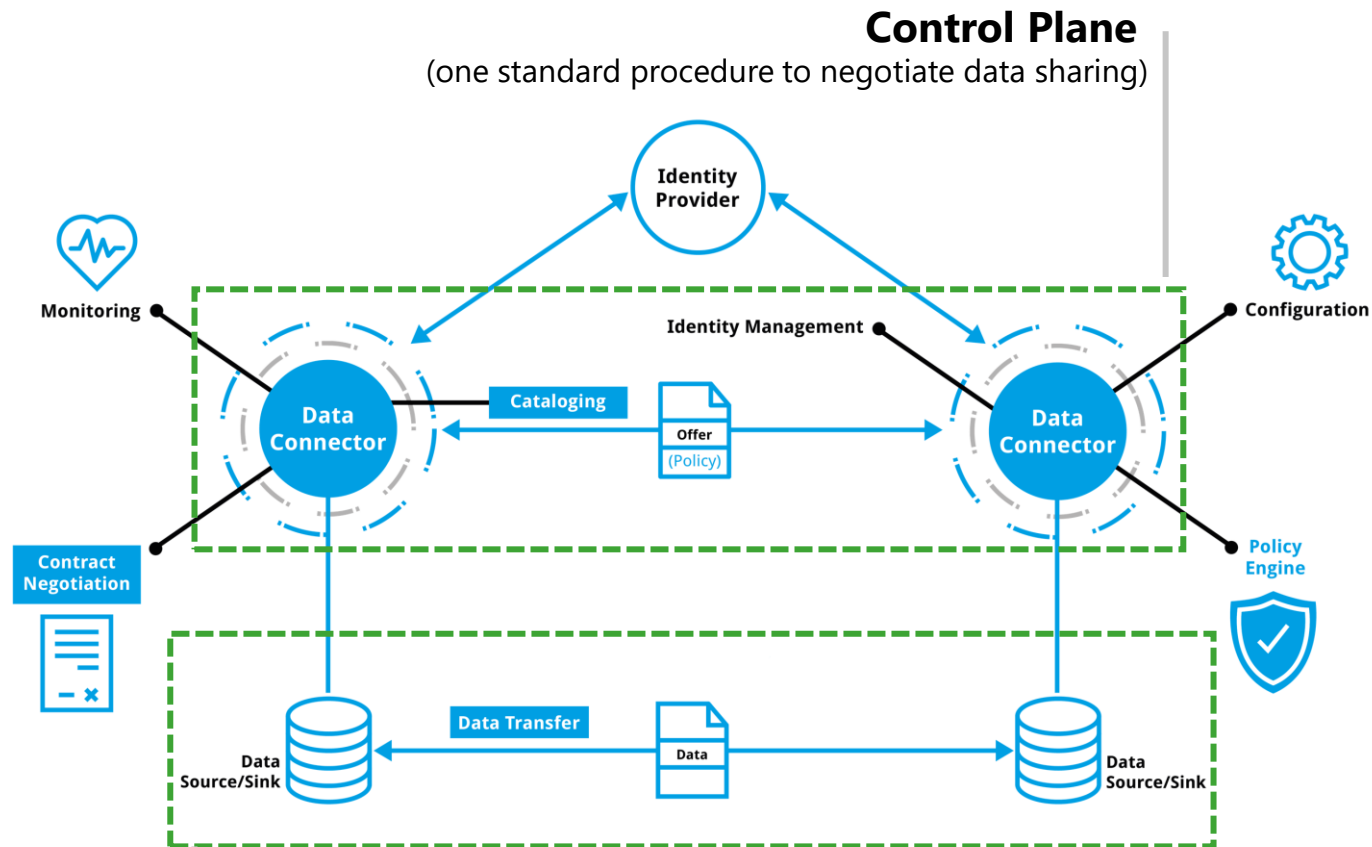


Check Dataspace Protocol:



The need for Dataspace Protocol

Ensuring data space interoperability



Data Plane

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

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Promotes seamless technical interoperability, while addressing certain aspects of semantic interoperability.



Enables standardized data exchange across different data space instances.



Provides flexibility and scalability through the separation of control plane and data plane.

International and European Standardisation

IDSAs data space standardisation efforts

International Standardization

- » ISO/IEC JTC1 SC38 and AWI 20151 – Dataspace Concepts and Characteristics
- » Eclipse Dataspace Working Group Protocol specifications, Dataspace Protocol and beyond

European Standardization

- » Standardisation Request on Data Act
- » CEN/CENELEC Trusted Data Transaction
- » CEN/CENELEC JTC25



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ISO/IEC JTC1 SC38

AWI 20151: ataspaces concepts and characteristics



SC38 AWI20151

- » Just finished Working Draft 3
- » Targeting now Committee Stage

Open for contributions and participation!

- » Editor is Geoff Clarke (Australia)
- » Project was moved from WG5 to WG6
- » Active liaison with Eclipse Foundation
- » Active liaison with SC41 IoT and Digital Twins (among others).

Content overview

Trusted data sharing using dataspaces

- Relation to organizational autonomy and organizational interoperability

Characteristics

- Maintain control
- Trust
- Discover data
- Negotiate data-sharing contracts
- Orchestrate data-sharing and data-use
- Observability
- Interoperability

Logical components

- Multi-level policies
- Semantic models
- Communication protocols
- Processes and rules

Eclipse Dataspace Working Group

Overview Specifications



Eclipse Conformity Assessment
Policy and Credential Profile
Eclipse Data Rights Policy
Profile

Policy & Credential Profiles

Define an ODRL policy model, subject format for verifiable credentials, and semantics associated with the former



Eclipse Dataspace
Decentralized Claims Protocol

Claims Protocols

Message protocols for proving the identity of, and claims about, dataspace participants

Dataspace Protocol

(Planned PAS submission to
ISO/IEC JTC1)

<https://dataspace.eclipse.org/>

<https://www.eclipse.org/projects/efsp/>

Bindings

Application of abstract message protocols to wire protocols such as HTTP

Base Protocols

Abstract message protocols for catalog, contract negotiation, and data transfer

IDSAs core position

How can we support you?

IDSAs support services

What we bring to the table

What we do and why it matters

01

Modular IDS-RAM 5.0

comprehensive framework for designing and implementing secure, interoperable, and trustworthy data spaces

02

Dataspace Protocol

foundation for sovereign data sharing, for interoperability, and to manage the policies

03

Certification

ensures that participating entities adhere to the established standards and requirements of IDS

04

IDSAs Rulebook

outlines the principles, policies, and guidelines governing data sharing and collaboration within data spaces

05

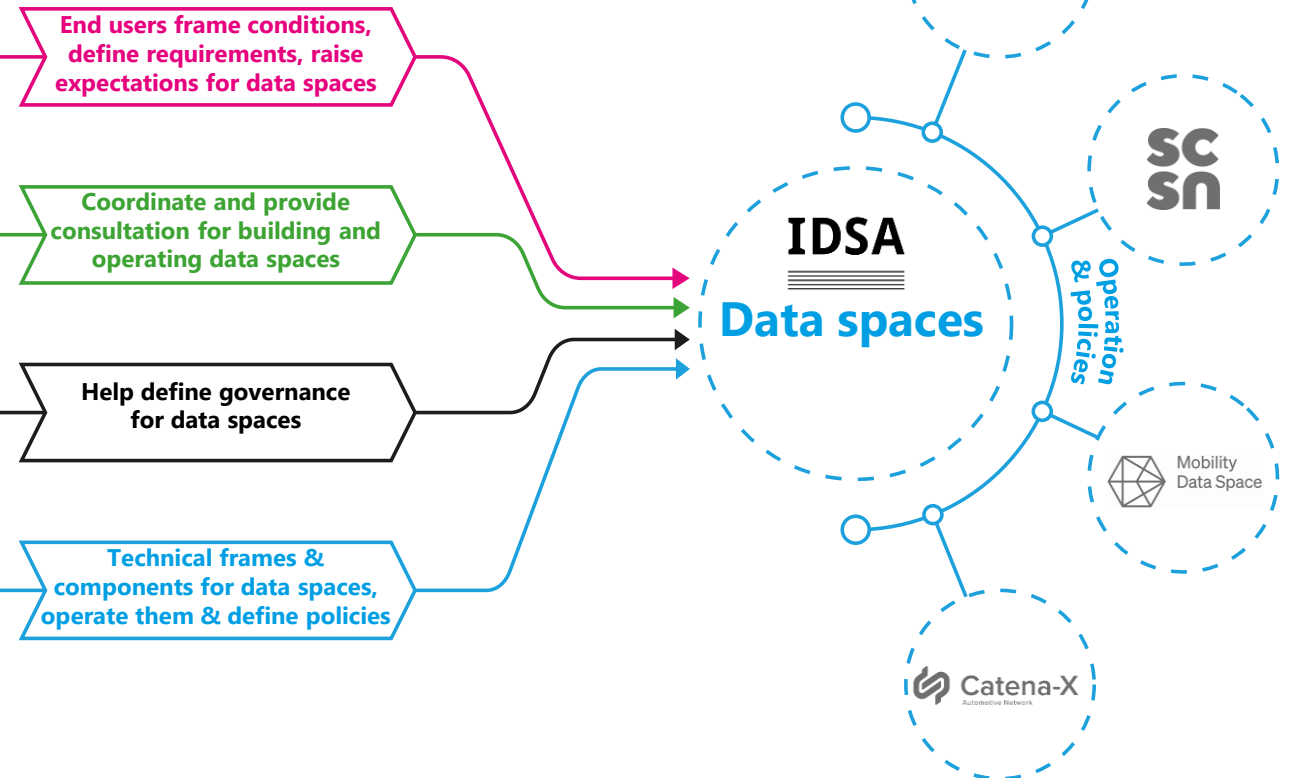
Open-source repository

shared toolbox for IDS community; collaborative space where everyone can contribute and grab useful tools

06

Standards & standardisation committees

Contribute to develop specifications for interoperability standardization at European and International level





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