



From IDSA specifications to working code

12 March 2026

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Agenda

What we will cover today

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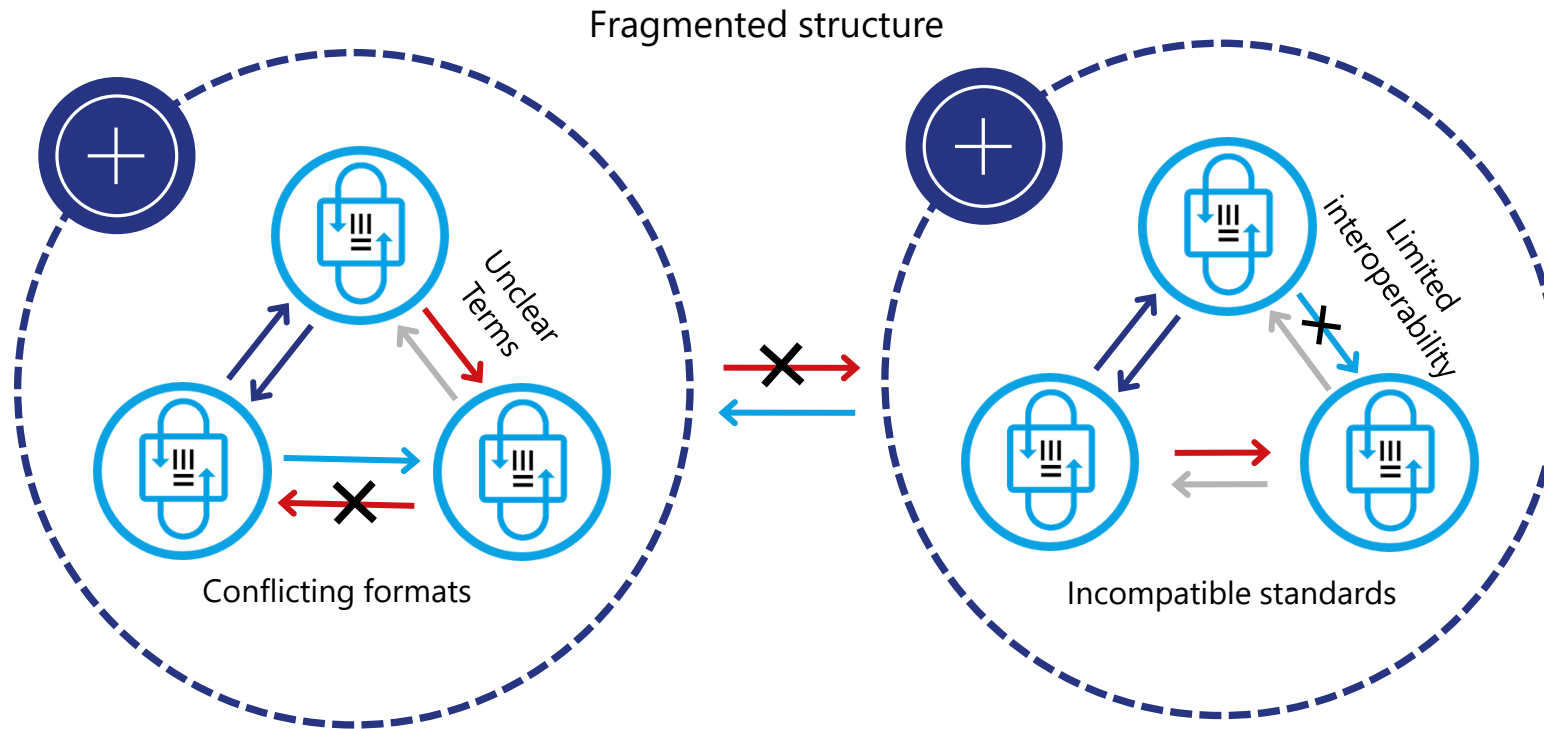
1. Introduction
2. Specification and Standardization work within IDSA
3. Why open source accelerates dataspaces
4. How to build dataspaces
5. Call for action

What is the Dataspace Protocol?

The essence for interoperability



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Data spaces require:

- Data sovereignty
- Interoperability
- Scalability
- Trustworthiness

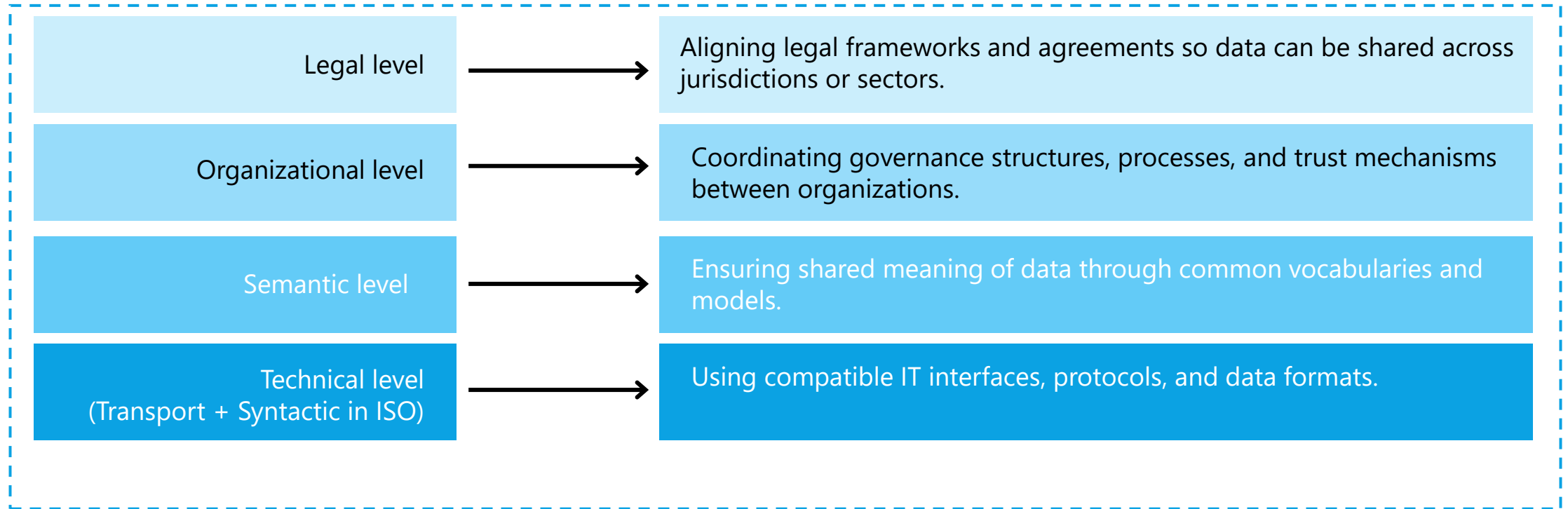
Remember these:



Universal standardized protocols

Foundation for interoperability

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Source: New European Interoperability Framework

How DSP supports the Data Act

DSP provides a technical and operational framework to meet art. 33

	Data Act (Article 33)	Dataspace Protocol
Technical interoperability	Requires participants in data spaces to ensure interoperability	Provides a technical standard .
	Use machine-readable format to allow discovery, access, and use. This includes data structures, formats, taxonomies, and API terms	Ensures data and metadata interoperability (formats like JSON-LD).
	APIs enables automatic, real-time, or bulk access	Implements standardized APIs for data access and exchange . The protocol supports continuous data flows , secure data transmission.
Governance	Introduce smart contracts for automating data-sharing agreements to improve interoperability.	Ensure usage control and data sovereignty principles, using tools like smart policies .
Harmonization	Use of harmonized standards (developed by EU standardization bodies) to comply with essential requirements.	Aligns with global standards (e.g., W3C, ISO, GAIA-X) CEN/CENELEC and European standardisation initiatives to create harmonized specifications for data spaces.

Global standardization

IDSA standardization scope



ISO/IEC 20151 Dataspace concepts and characteristics

International standard defining key characteristics of data spaces.
Expected publication: May 2026.



ISO/IEC DIS 26450 Dataspace Protocol (DSP)

Ensures standardized communication between data space participants. PAS transposition completed: March 2026



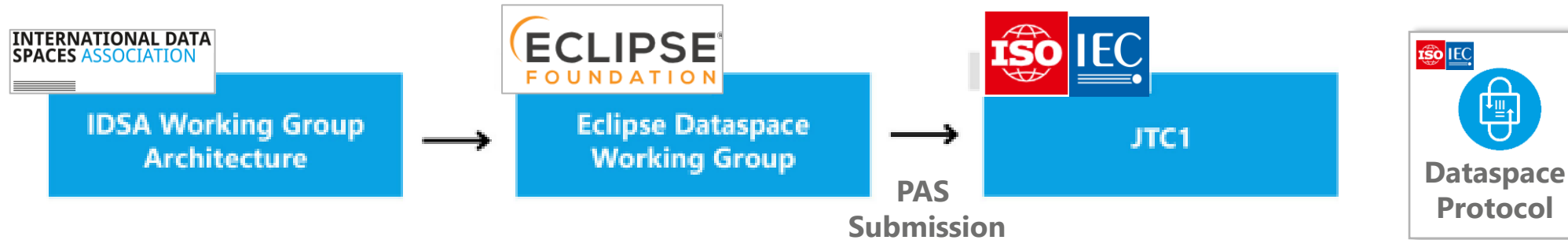
ISO/IEC DIS 26451 Decentralized Claims Protocol (DCP)

Organizational identities and establishing trust in a way that preserves privacy and limits the possibility of network disruption.
PAS transposition completed: March 2026

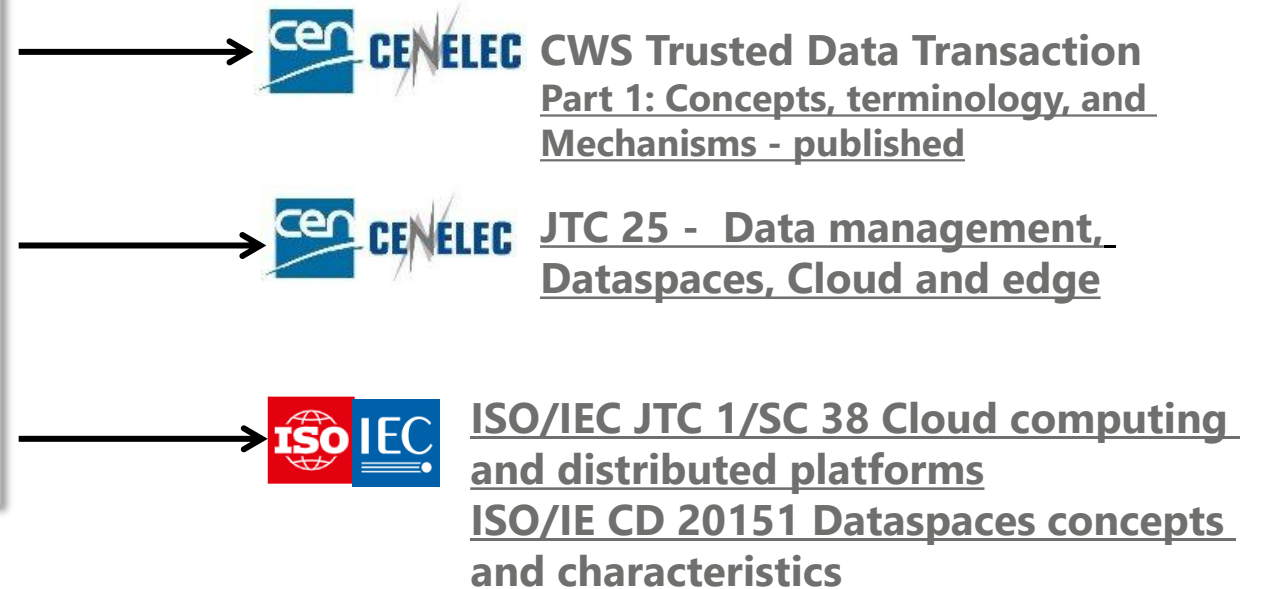
The path to standardisation

How data spaces achieve recognition through ISO and CEN/CENELEC

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Data spaces standardisation committees





Data space characteristics | ISO/IEC 20151



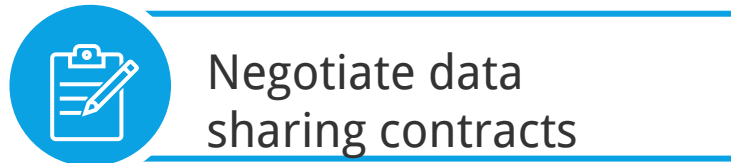
Maintain control



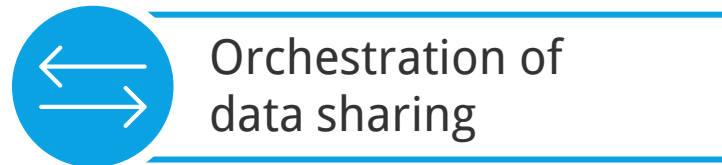
Establish trust



Discover data



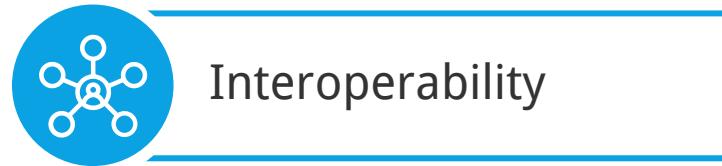
Negotiate data
sharing contracts



Orchestration of
data sharing



Observability of action



Interoperability

Functional components

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



ISO/IEC CD 20151
Dataspaces concepts
and characteristics

More to do: The work of IDSA in the context of other standardization efforts

Integrating global standards

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Align with European Standardization Bodies

- CEN/CENELEC JTC 25 Data management, Dataspaces, Cloud and Edge – working groups 1 - 4
- Harmonized standards in the context of the European Trusted Data Framework

Alignment with legal and regulatory requirements

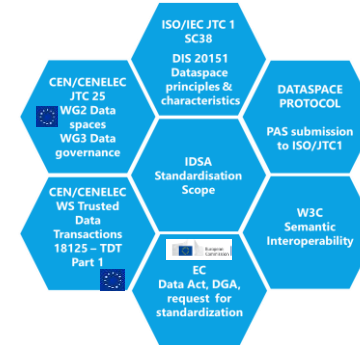
- Data Act, Data Governance Act
- AI Act
- PIPL/GDPR
- ...

International Standardization Efforts

Ensuring global applicability and adoption:

- ISO/IEC DIS 20151 Dataspace Concepts and Characteristics
- ISO/IEC TS 10866 Digital sovereignty and organizational autonomy
- NEW PWI in ISO/IEC JTC1 SC38: Use-cases for dataspaces
- NEW PWI in ISO/IEC JTC1 SC38: Dataspace Trust Frameworks
- Ongoing: Support for semantic interoperability (W3C) DCAT and ODRL policy model

Holistic Standardization



Asian Standardization efforts

- China: TC609 – trusted data spaces, collaboration with CESI
- Japan: ODS RAM – collaboration with DADC
- Japan: IEEE P3800, 3800.1, 3800.2
- ...

Open-source projects

Specification and Implementation projects (Eclipse Foundation)

- Dataspace Protocol
- Dataspace TCK
- Decentralized Claims Protocol
- Eclipse Dataspace Components
- Tractus-X
- NEW: Data Plane Signaling
- NEW: Data Plane Core

Your Inputs Please

Use this poll to share your perspective

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EDC

< 1 2 3 4 5 >

What best describes your role:

☐ Developer

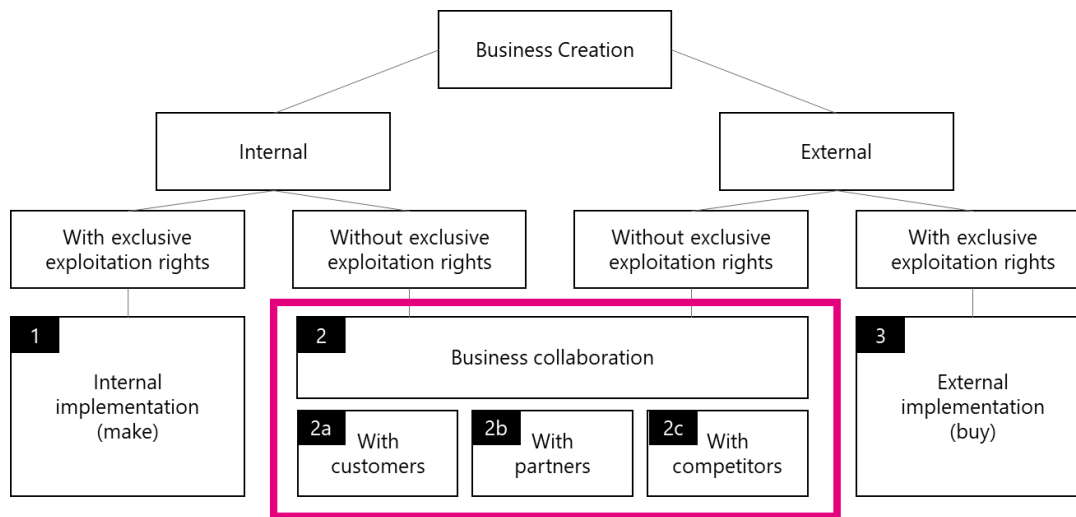
☐ Architect

Abstain

<https://partici.fi/61842611>

Why open source accelerates dataspaces

Towards interoperable dataspace implementations



- Based on open, international standards
- Requires high level of adoption
- Serve a range of use cases and requirements
- Require coherence on technical layer
- Allow flexibility for business and legal layers
- Infrastructure & provider agnostic

➤ Bootstrap business solutions

Learn from Big Data and AI domain on building dataspace ecosystems!

How to build dataspaces

Around the world of dataspace components' repositories



Dataspace Protocol

- Base terminology
- Cataloging
- Negotiation
- Transfer orchestration

[Link](#)

Decentralized Claims Protocol

- Verifiable presentation
- Credential issuance
- Self-Issued ID tokens

[Link](#)

Data Plane Signaling

- Data plane interaction
- Perform data transfer

[Link](#)

Technical Compatibility Kit

- Proof compliance
- Automated tests
- Provide reports

[Link](#)

How to build dataspaces

Around the world of dataspace components' repositories



Control Plane

- Assembling catalogs
- Creating contract agreements
- Grant access to data
- Managing data transfers
- Monitoring usage policies

[Link](#)

Catalog

- Crawl catalogs
- Aggregate catalogs
- Cache catalogs

[Link](#)

IdentityHub

- Manage VC
- Present VP
- Renewal and re-issuance

[Link](#)

Data Plane SDKs

- Provide SDK for various languages
- Ease adoption and integration

[Link](#)

Samples

- Getting started
- Basic capabilities
- Focus on individual topics

[Link](#)

MVD

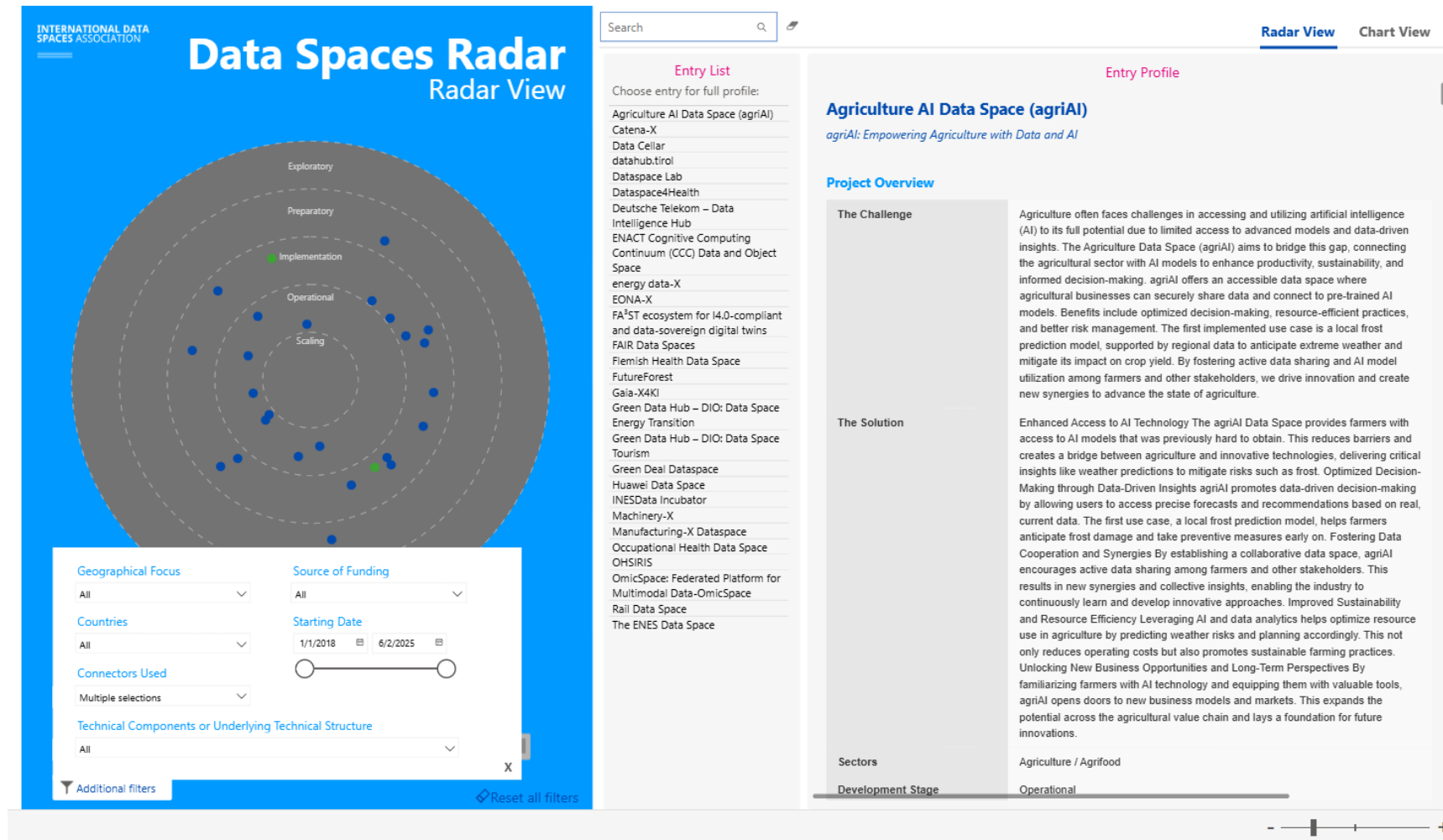
- Extends Samples
- Bring components together
- Placed in a business scenario

[Link](#)

Data Spaces Radar

The place to find the implementations

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From IDSA specifications to working code

IDSA Working Groups

Learn more about
IDSA Working Groups



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IDSA working groups focus areas

WG Architecture

- Creates and maintains the **IDS Reference Architecture Model (IDS-RAM)** and the **Dataspace Protocol**
- Coordinates inputs to **standards** on data spaces.
- Incubates the developer community

WG Certification

Creates and maintains the **IDSA certification scheme** as an important aspect of building trust among participants in data spaces

WG Rulebook

Creates and maintains the **IDSA Rulebook** which describes how to operationalize data spaces in the real world

WG Training

Creates and maintains the **Data Space Body of Knowledge (DSBOK)** part of the **Data Space Professional Qualification Programme**, a training initiative to disseminate knowledge and build skills on data spaces.

Data Space Adoption Forum

The Data Space Adoption Forum's purpose is to bring together the actors who can make **adoption coordinated, reliable, and scalable**: Governance bodies, cloud and managed service providers, integrators, technology teams and IDSA as a neutral convener to ensure effective collaboration and alignment.

Innovation & Policy Forum

The Innovation & Policy (I&P) Forum **promotes informed policymaking** to create environments that enable secure, sovereign, and innovative data sharing. It focuses on **observing global regulatory trends**, addressing policy gaps through advocacy, and leveraging best practices to influence data policy internationally.

*Join our
Working
Activities to
make an
impact!*

Call for action

How to get engaged



- Start with the Samples
- Build your first dataspace along the MVD
- Dive into the source code and get technical insights
- Start contributing
 - Start with Documentation
 - Bring in your thoughts through discussions
 - Contribute to open issues
- Join IDSA's working groups to bring everything together