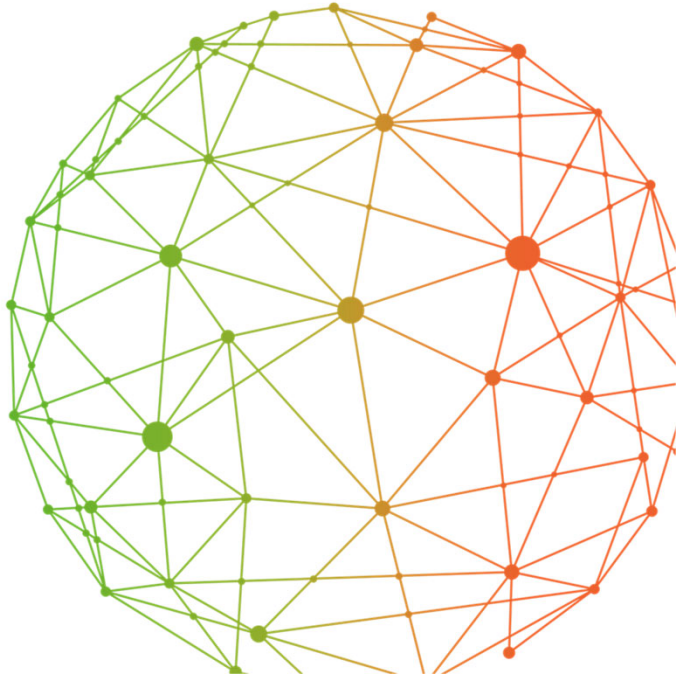
Data Spaces Symposium

15:30

Global importance of standardization and interoperability

Data space tech



Data Spaces Symposium

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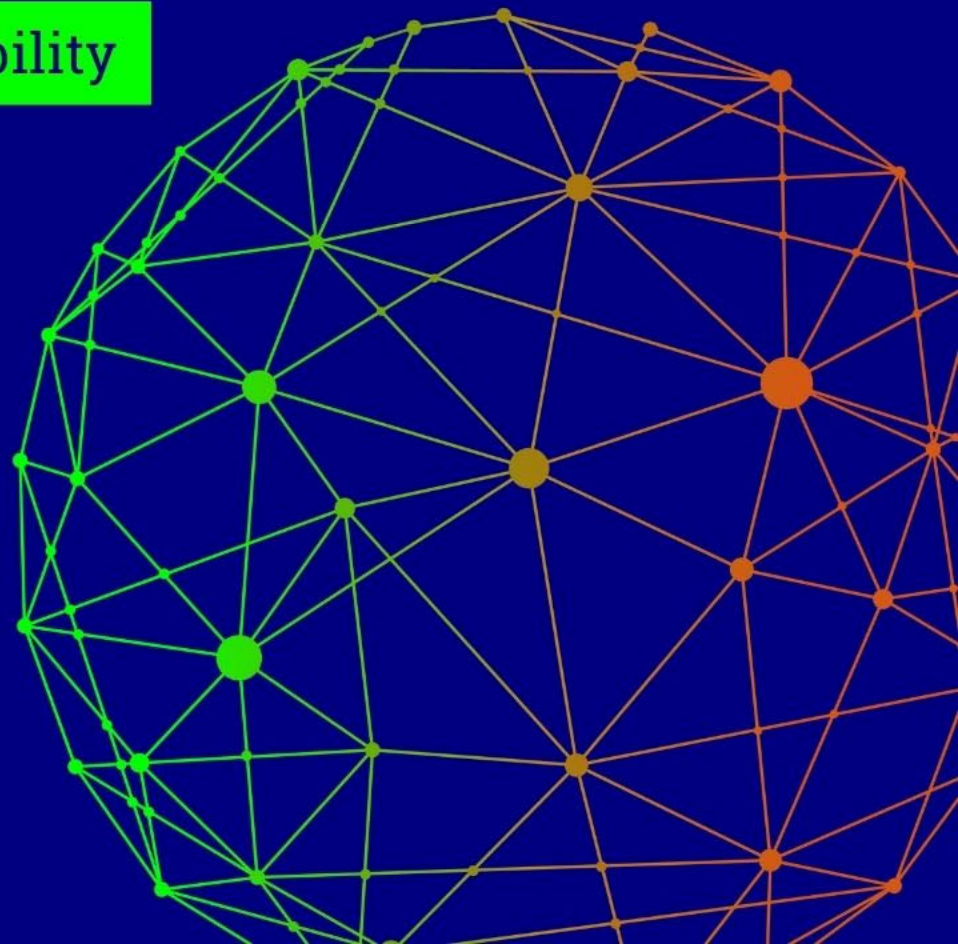
11 March 2025 | 15:30

Global importance of standardization and interoperability

The role of CEN and CENELEC in developing harmonised European Standards

Ewa Zielinska
Polish Committee for standardisation



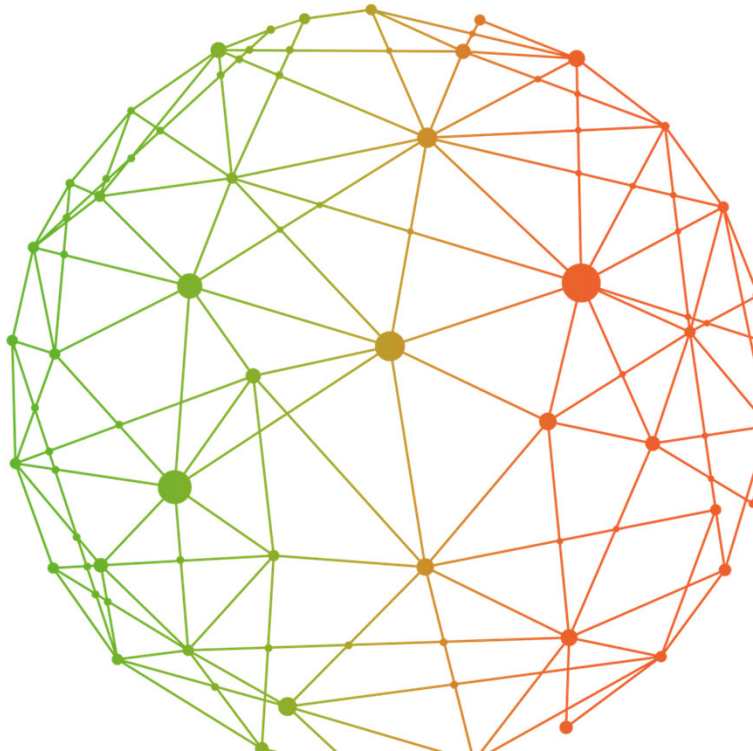
The role of CEN and CENELEC in developing harmonized European Standards

Global importance of standardization and interoperability

Data Spaces Symposium 2025

Ewa Zielińska

PKN President
CENELEC Vice-President Policy



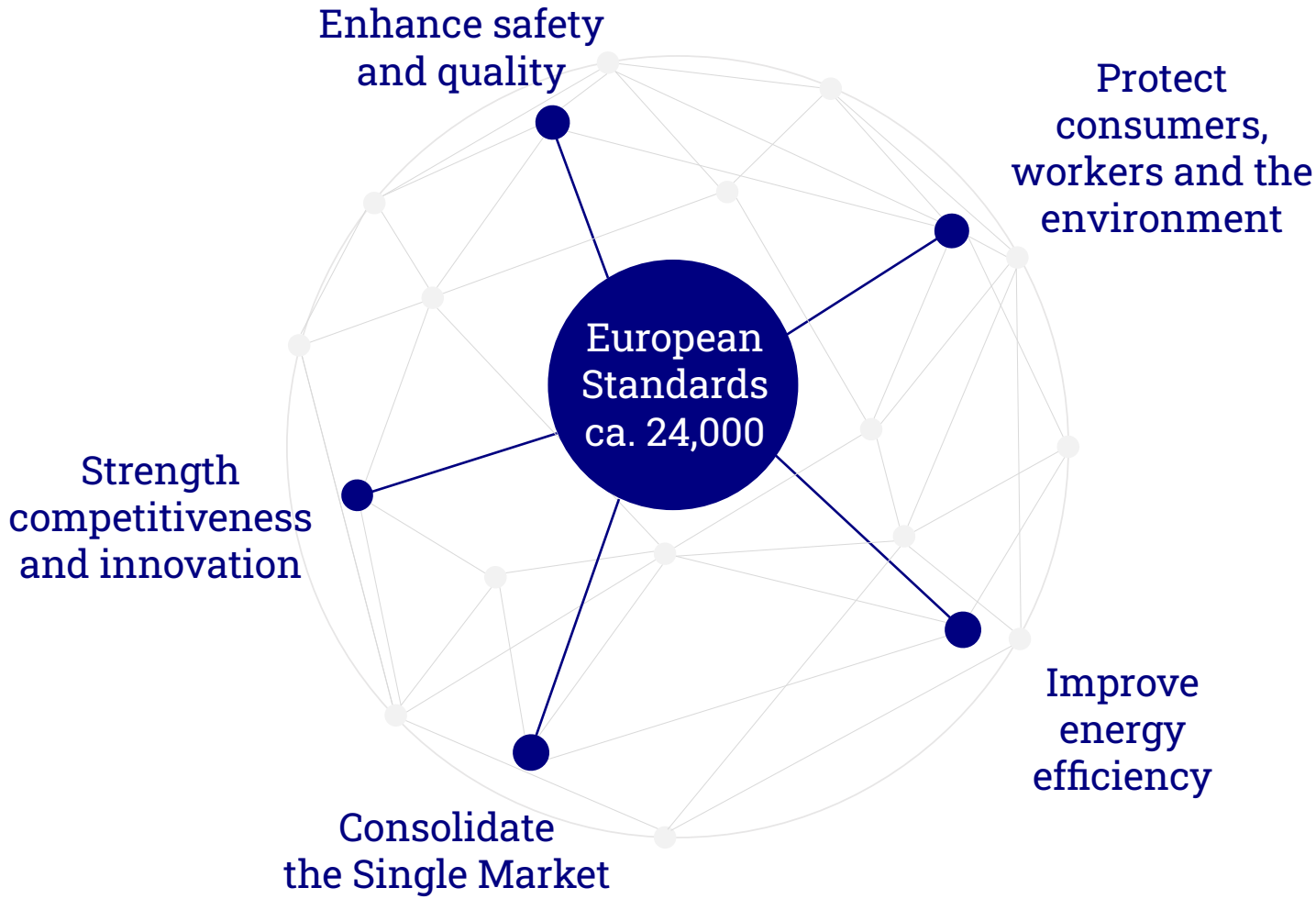
DSBA ■ BDV BIG DATA VALUE ASSOCIATION FIWARE FOUNDATION gaia-x INTERNATIONAL DATA SPACES ASSOCIATION

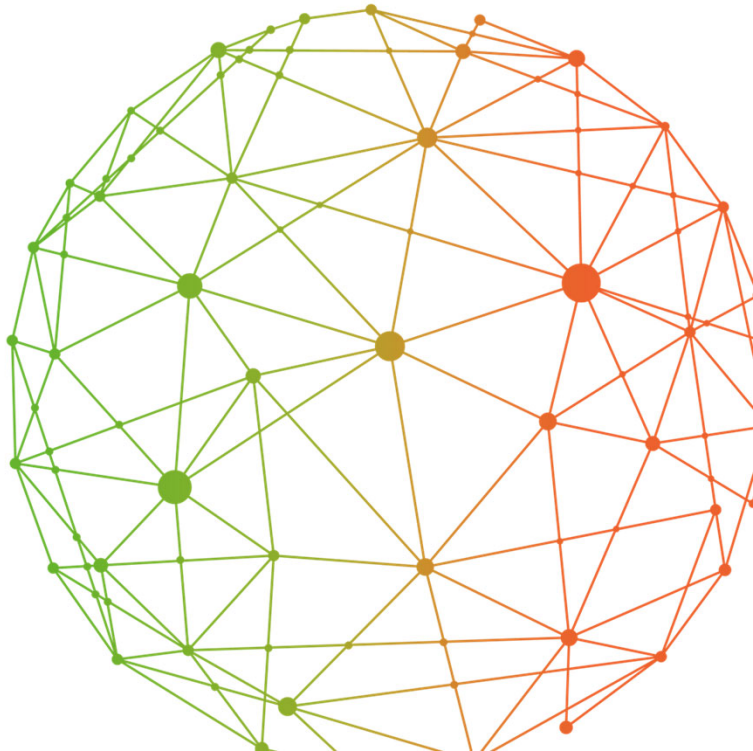
DATA SPACES SUPPORT CENTRE

Funded by the European Union

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412

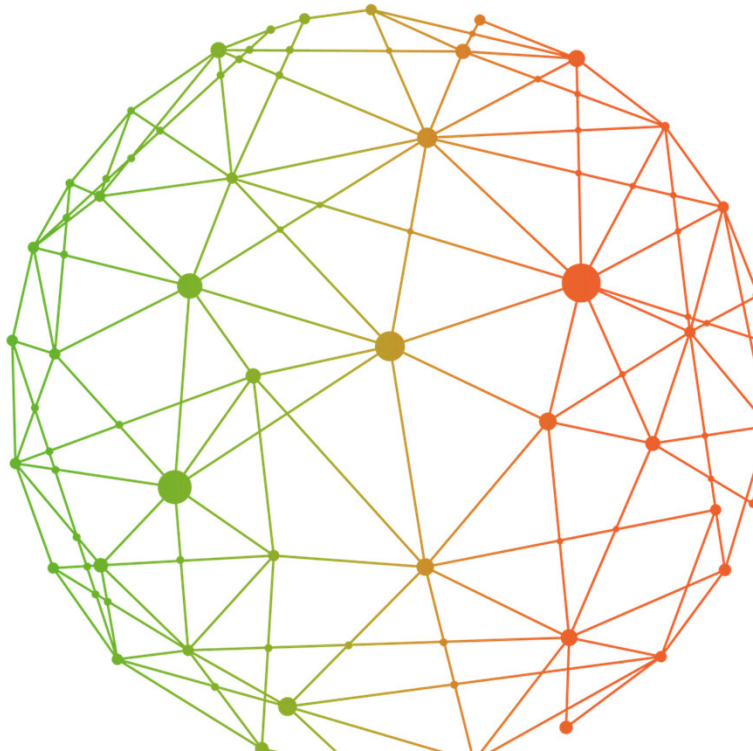
European Standards



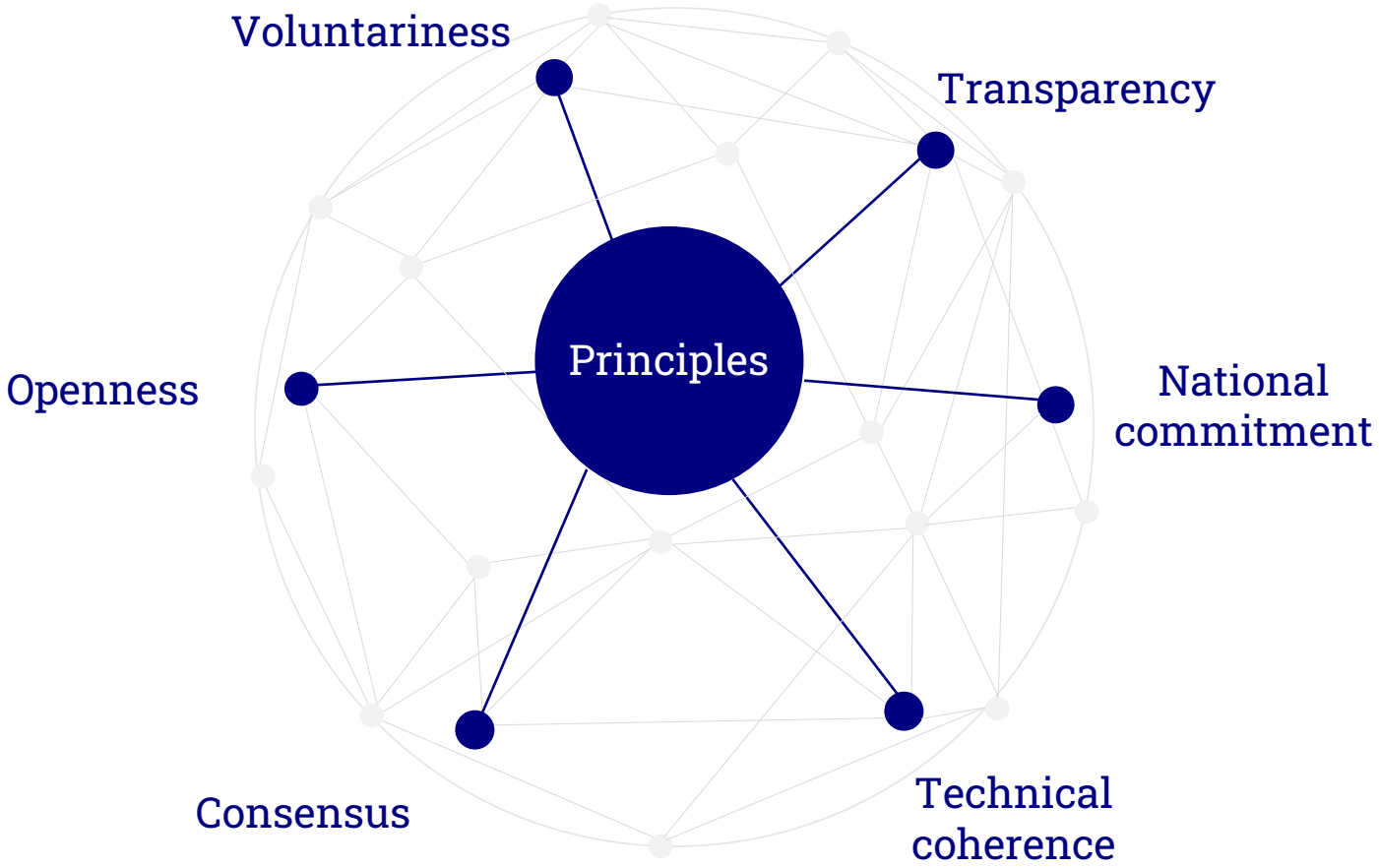


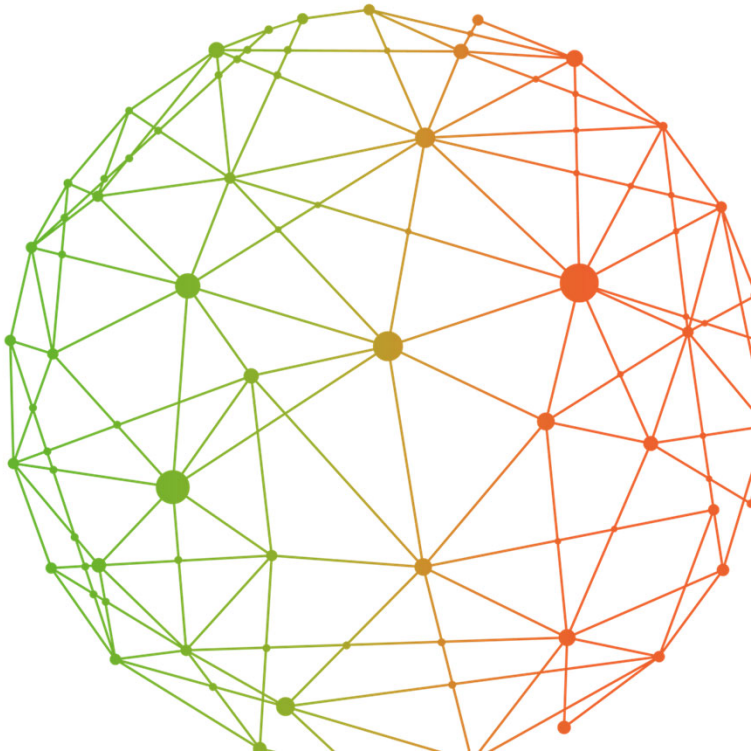
Stakeholders involved in standardization work

- business
- industry and commerce
- service providers
- public authorities
- regulators
- academia and research centres
- European trade associations
- interest groups representing environmentalists
- consumers
- trade unions
- SMEs
- other public and private institutions



Principles of standardization work





Harmonized European Standards

European standards

- Created on the basis of the Standardization Request from

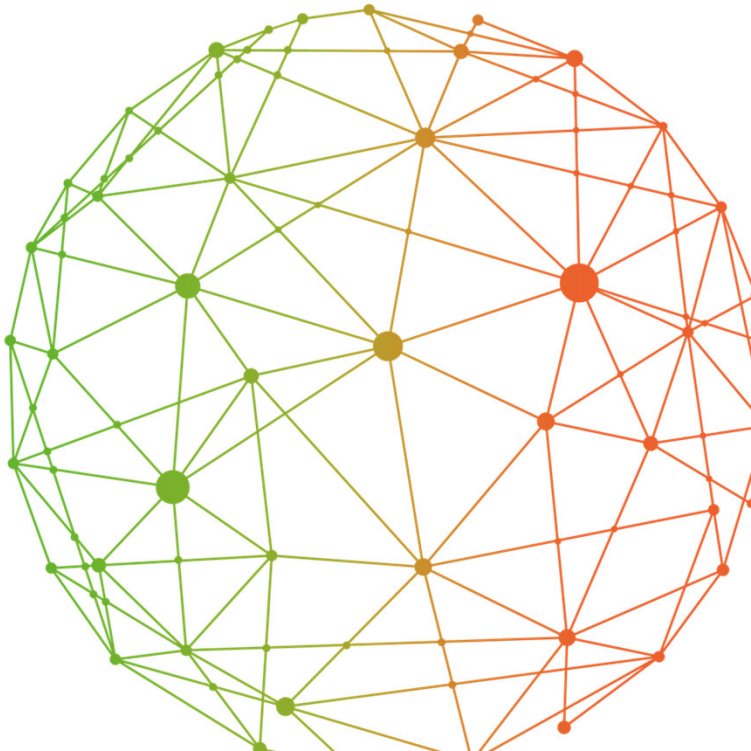
European Commission

- Developed by

CEN

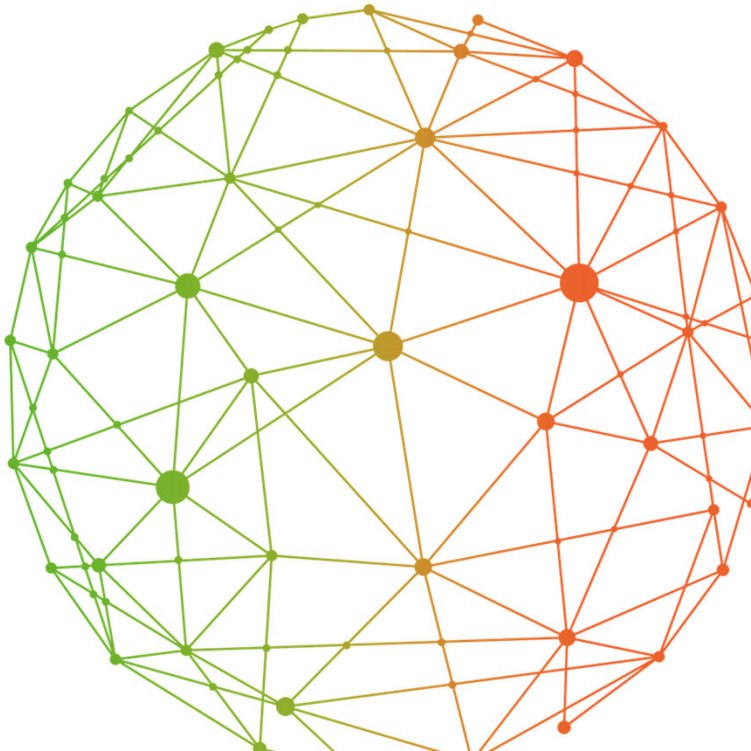
CENELEC

ETSI



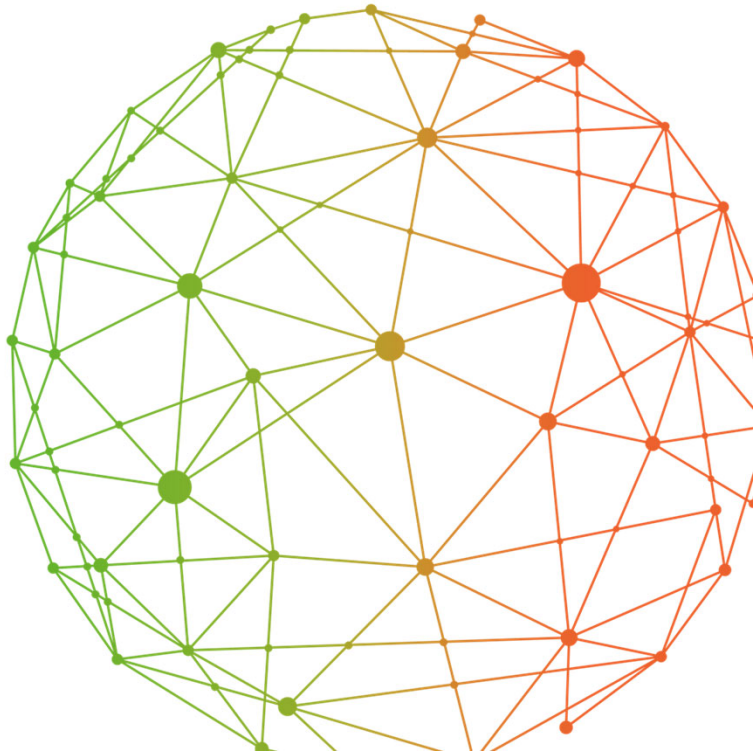
Harmonized European Standards

Enable businesses to ensure that their products or services comply with essential requirements that have been set out in European legislation.



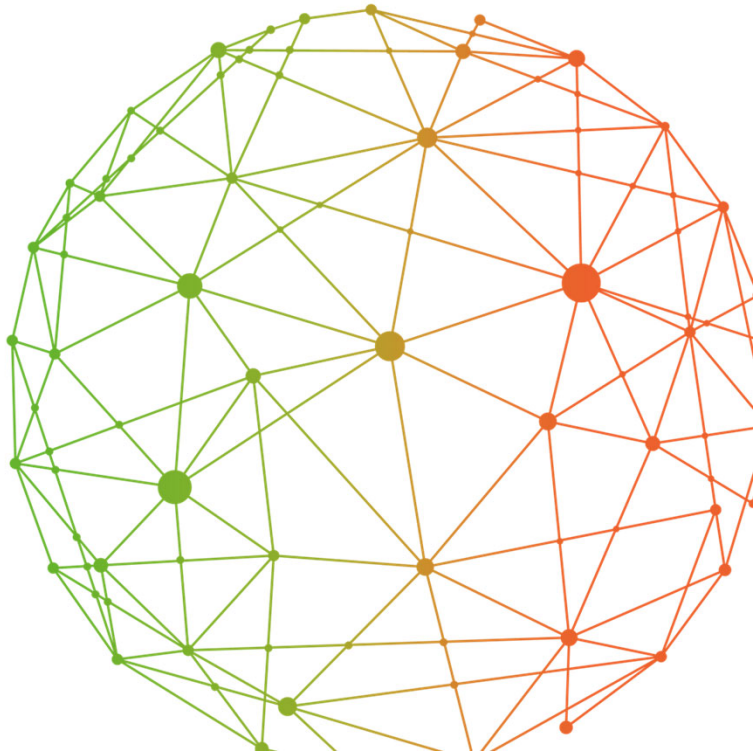
Harmonized European Standards

Provide technical benchmarks that help convert European legislation, such as the European strategy for data, into measurable criteria.



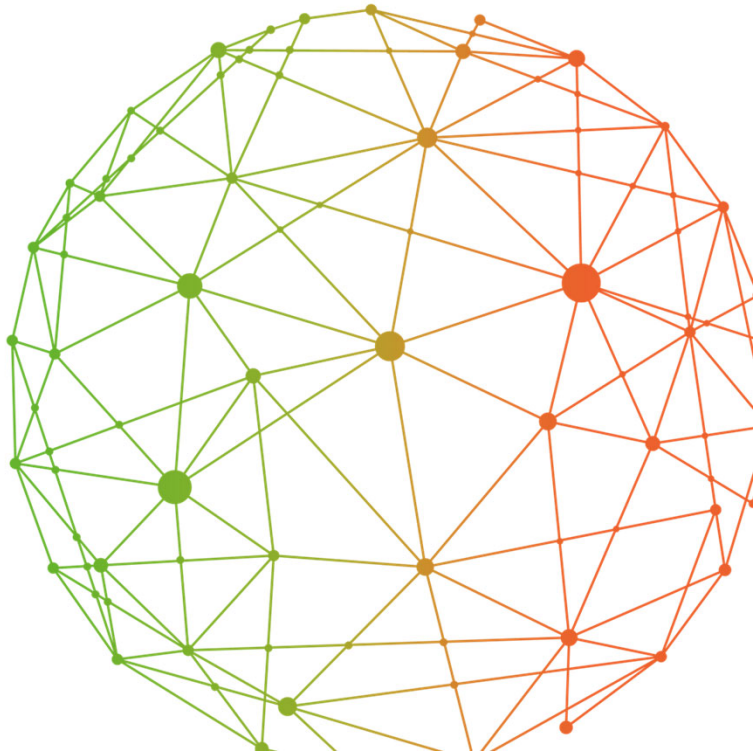
Harmonized European Standards

Help businesses meet legal requirements and support the needs of all stakeholders in Europe.



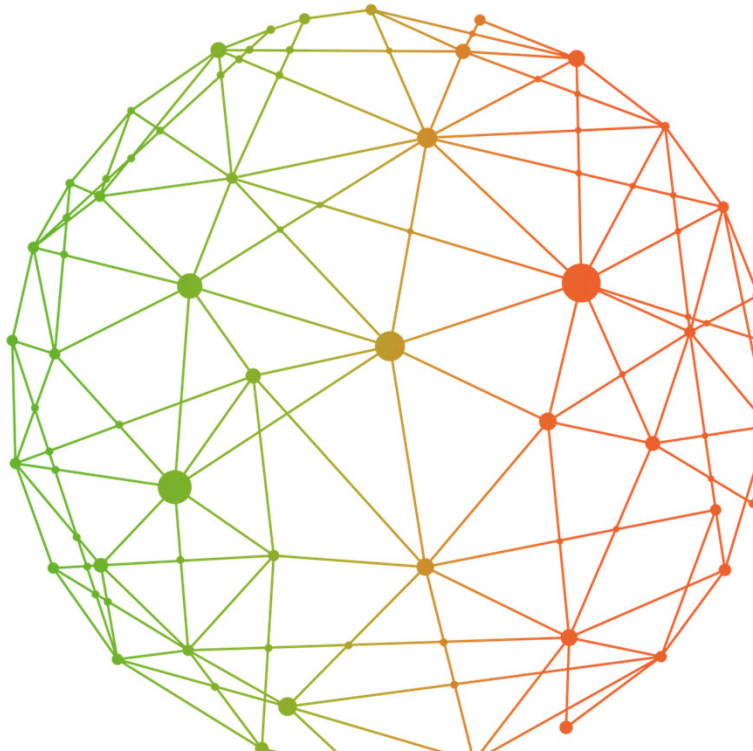
European Standards in support of the European Strategy for Data

The European Standardization System should be at the heart of the EU's efforts to create a single market for data, driving digital transformation and enhancing Europe's competitiveness on the global stage.

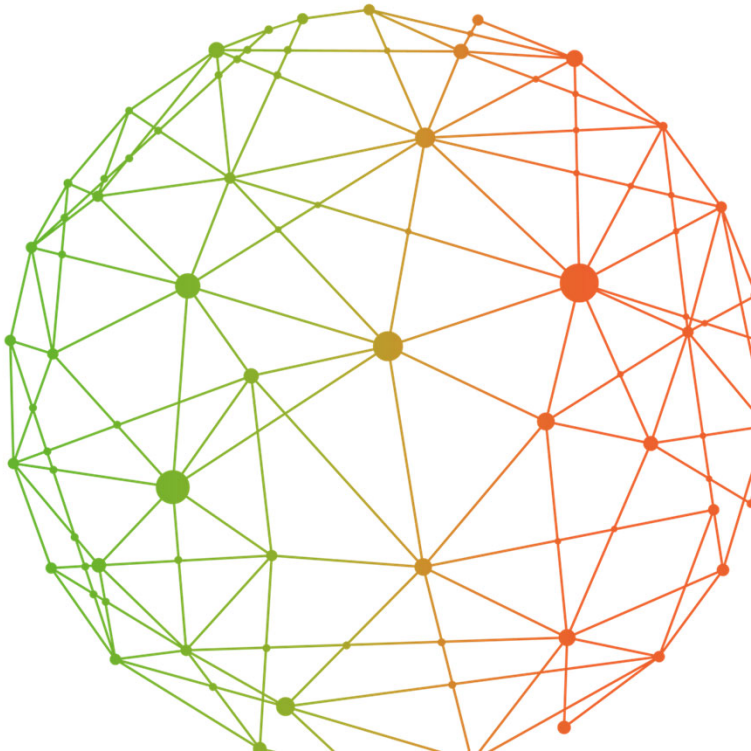


In support of the European Strategy for Data

- Launch of a new dedicated Joint Technical Committee, JTC 25 ‘Data management, Dataspaces, Cloud and Edge’ (September 2024)
- Development of standards to support the widespread adoption of digitalization
- Establishment of a fully functioning Single Digital Market for the EU Drafting in a neutral way
- Alignment with international standards on data spaces (ISO/IEC JTC1 SC38 and SC41)



Standards make our lives safer, simpler, more comfortable and more efficient.



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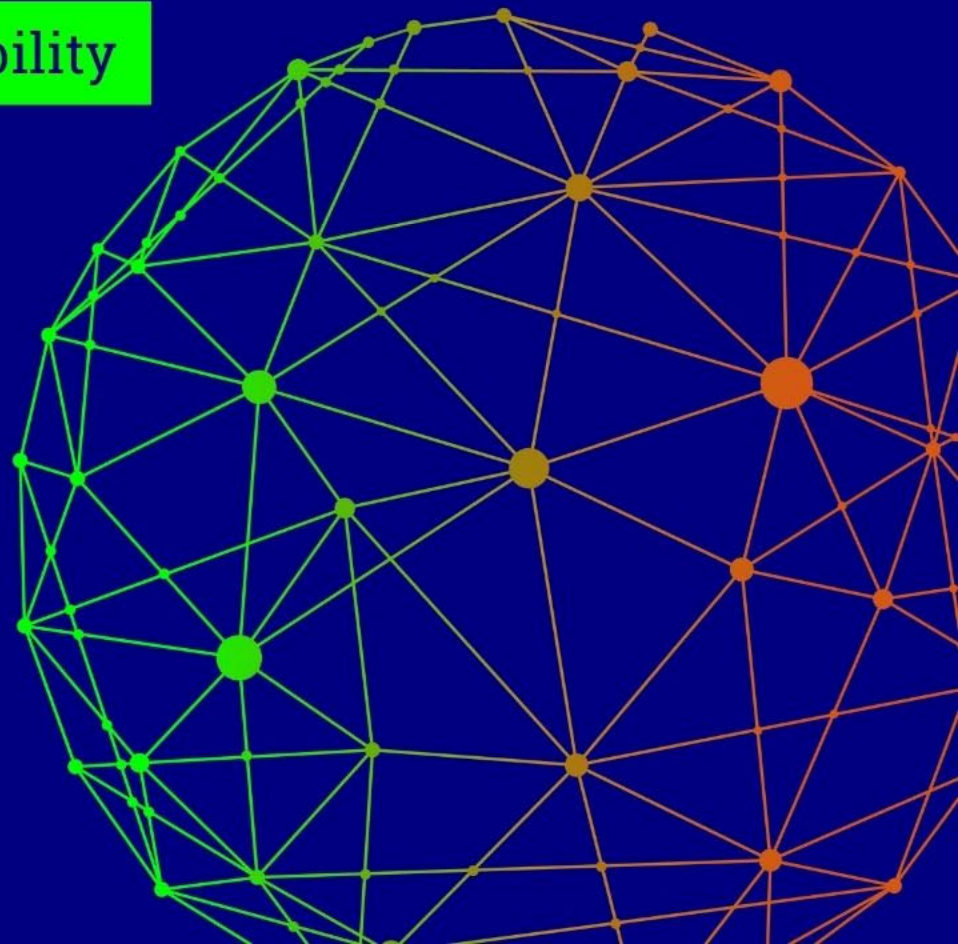
Global importance of standardization and interoperability

Standardization initiatives in Europe and ISO

Sebastian Steinbuß
IDSA



INTERNATIONAL DATA SPACES ASSOCIATION

Dataspace Standardization (selected)

Conceptual Standards

ISO/IEC 20151Dataspaces

CEN/CENELEC JTC25

Trusted Data Transaction

Technical Standards

IDSA Rulebook, RAM

Eclipse Dataspace Working Group (EDWG)

- Dataspace Protocol (DSP) Specification
- Dataspace Decentralized Claims Protocol(DCP) Specification

Interoperable Implementations

Ecosystem of OSS projects

- Eclipse Dataspace Components
- TSG
- FiWare
- other

Status and structure of AWI 20151 Dataspaces concepts and characteristics

INTERNATIONAL DATA SPACES ASSOCIATION

Under development, Stage 30.60

Processing CD results

– **Open for contributions and participation!**

Editor: Geoff Clarke (Australia)

Active liaison with Eclipse Foundation and SC41 IoT and Digital Twins (among others)

Other relevant projects in ISO/IEC JTC1 SC38:

- IS 19941 (Rev: Interop & Portability)
- TS 10866 (Organizational Autonomy & digital sovereignty)

Content overview

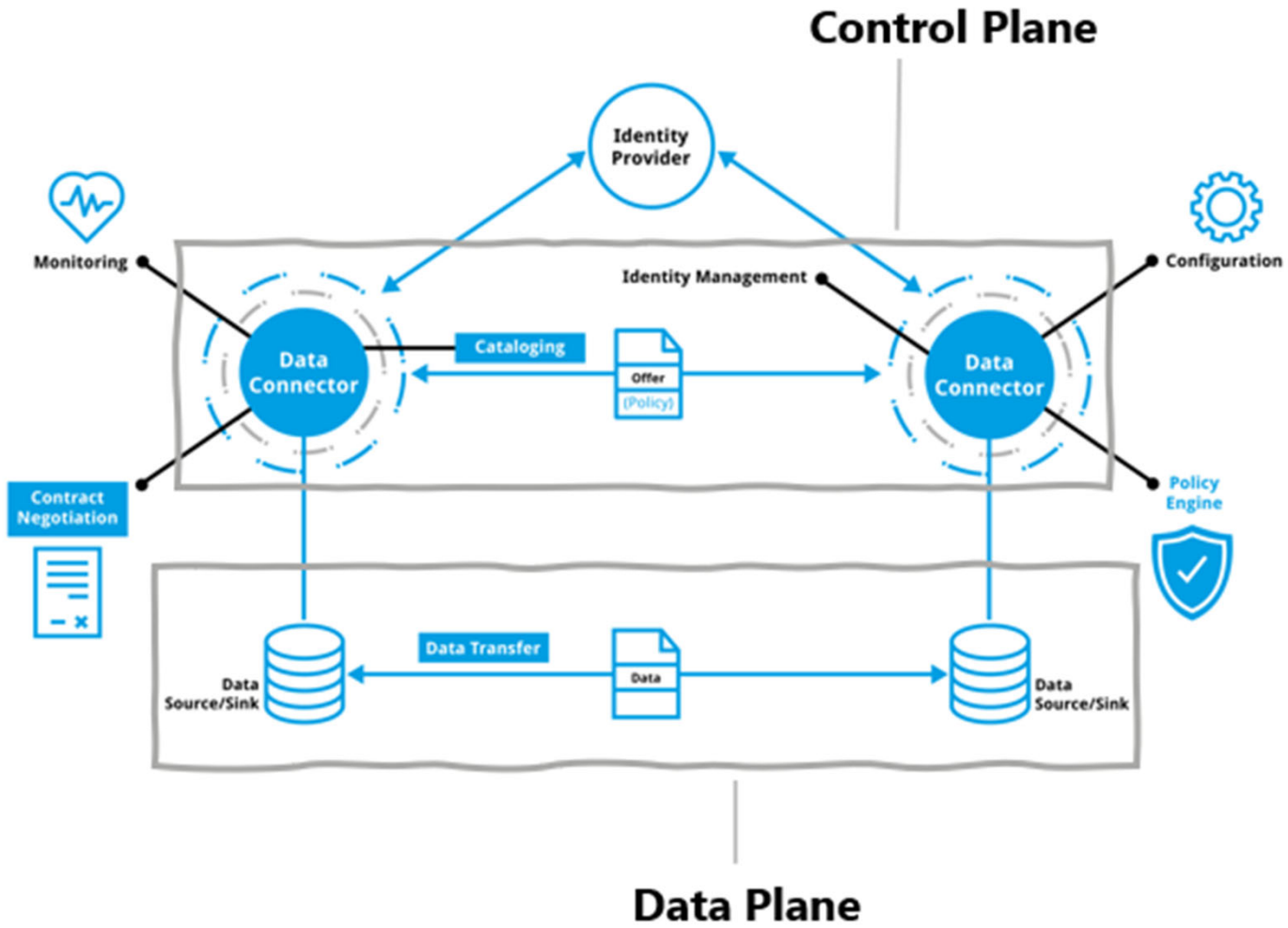
Trusted data sharing using dataspaces
- Relation to organizational autonomy and organizational interoperability

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

The need for Dataspace Protocol

Ensuring data space interoperability



INTERNATIONAL DATA SPACES ASSOCIATION

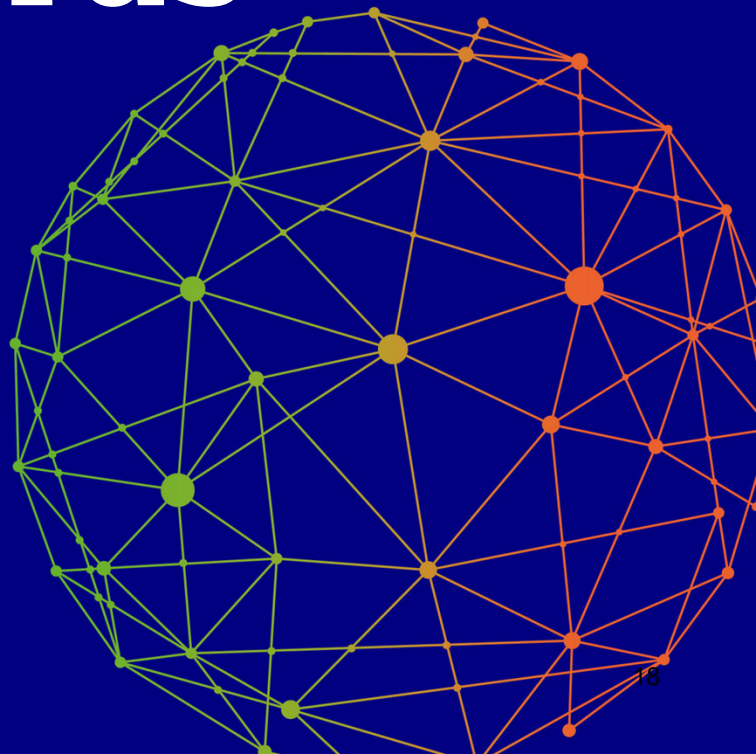
Promotes seamless technical interoperability, while addressing certain aspects of semantic interoperability.

Enables standardized data exchange across different data space instances.

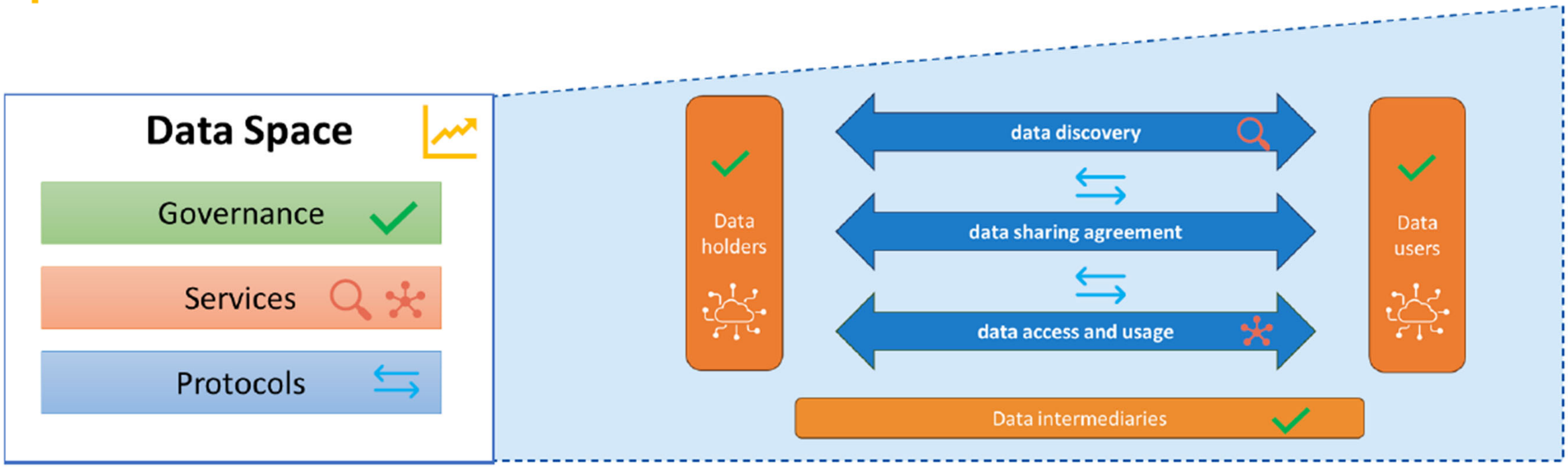
Provides flexibility and scalability through the separation of control plane and data plane.

European Standards

to support
the implementation
of the Data Act



Standardisation request
European Trusted Data Framework



Trusted Data Transaction standard

Data governance standard for data space participants

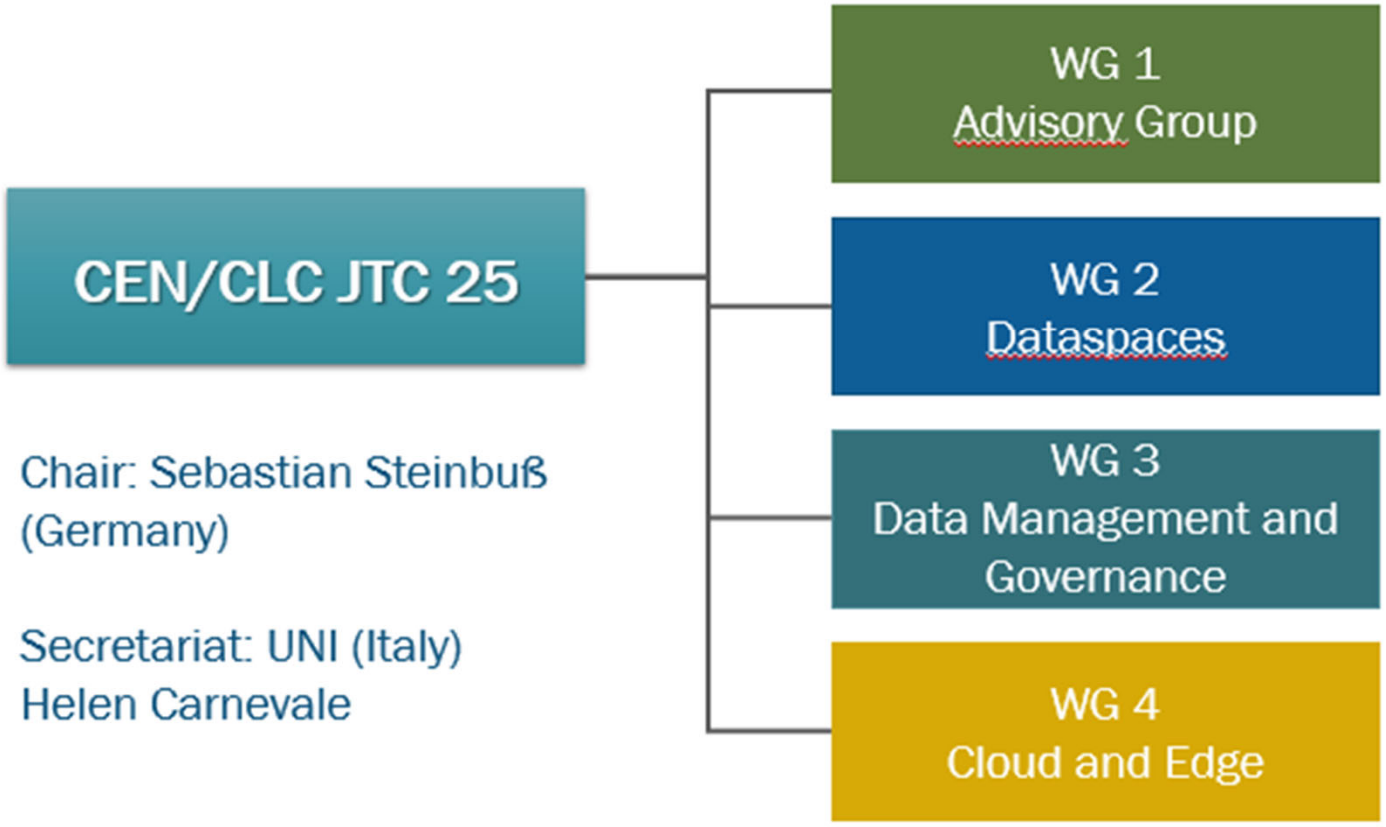
Maturity model for Common European Data Spaces

Data catalogue implementation framework

Semantic assets implementation framework

European Commission

CEN/CLC JTC 25 - Structure



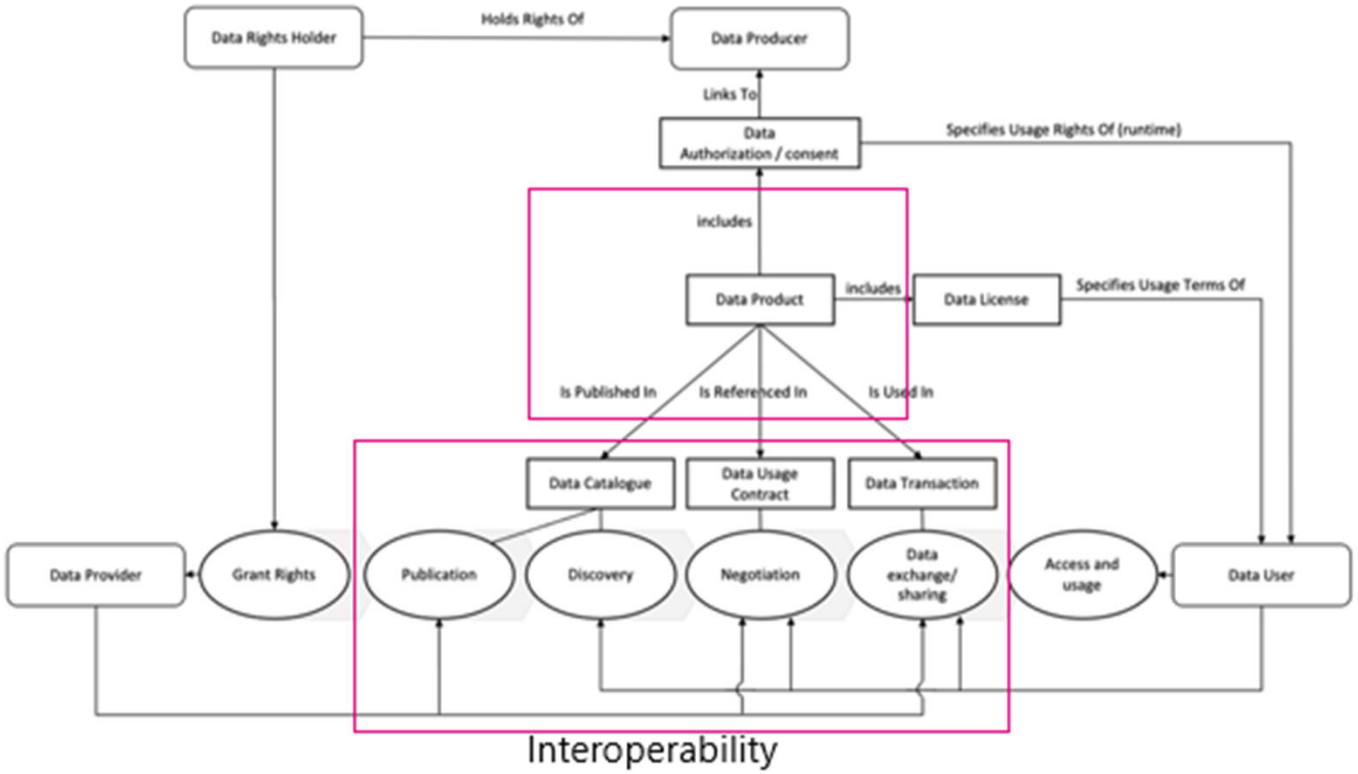
Chair: Sebastian Steinbuß (Germany)

Secretariat: UNI (Italy)
Helen Carnevale

Convenors
WG 1 – Andrea Caccia
WG 2 – Patrick Bezombes & Martin Brynskov
WG 3 – Ismael Caballero Muñoz-Reja
WG 4 – Machiel Bolhuis

CWA Trusted Data Transaction

INTERNATIONAL DATA SPACES ASSOCIATION



Modified from: https://www.cencenelec.eu/media/CEN-CENELEC/CWAs/RI/2024/cwa18125_2024.pdf

Started in March 2023, should terminate in summer 2025

Part 1 Concepts, terminology, and mechanisms (published → hEN in JTC25)

Part 2 Trustworthiness (under preparation in CWA → hEN in JTC25)

Part 3 Interoperability
(Homegrown hEN in JTC25)

INTERNATIONAL DATA SPACES ASSOCIATION

What now to do?

There are standardization activities beyond the ones mentioned above, e.g.

Data Free Flow with Trust DFFT
IEEE P3800 Data Trading
Trusted Data Matrix

The activities need to be kept aligned

The Data Act and the subsequent standardization request make the work more time-critical

The continuous exchange with the implementing projects and solutions is mandatory.

INTERNATIONAL DATA SPACES ASSOCIATION

Sebastian Steinbuss

Join us in data space standardization

Data Spaces Symposium

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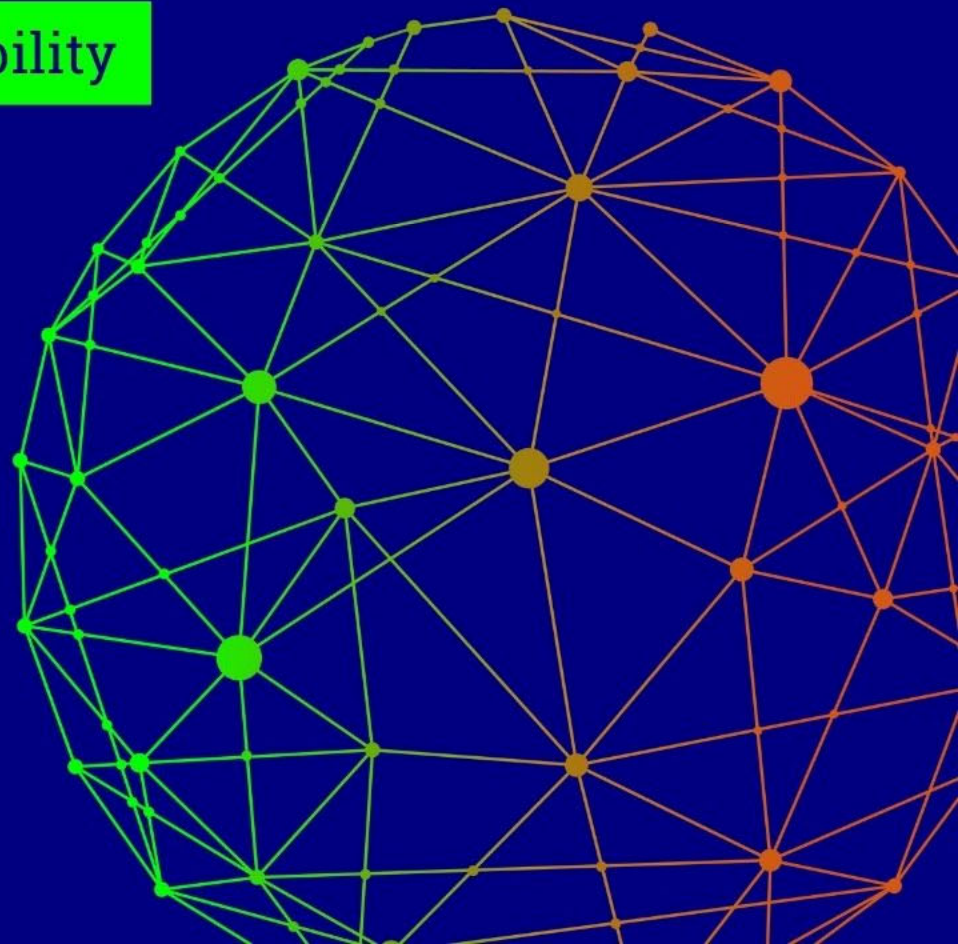
Global importance of standardization and interoperability

Standardization initiatives in ETSI

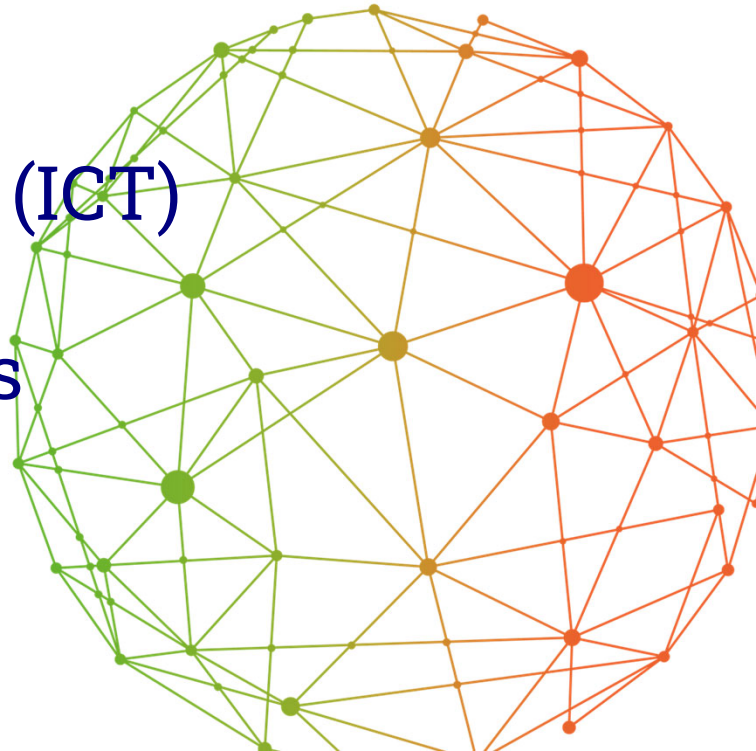
Alberto Abella
FIWARE



Who is ETSI

ETSI

- Independent
- Not-for-profit
- European Standards Organization
- Founded in 1988
- Develops globally applicable standards for information and communication technologies (ICT)
- 900 members from 60+ countries
- Recognized by the EU as a European Standards Organization (ESO).



New Technical Committee Data

- ETSI have announced the establishment of a new Technical Committee on Data Solutions (TC DATA).
- Announced Feb 2025
- A Technical Committee TC is more powerful than an ISG - Industry Specification Group and can directly contribute to European Norms

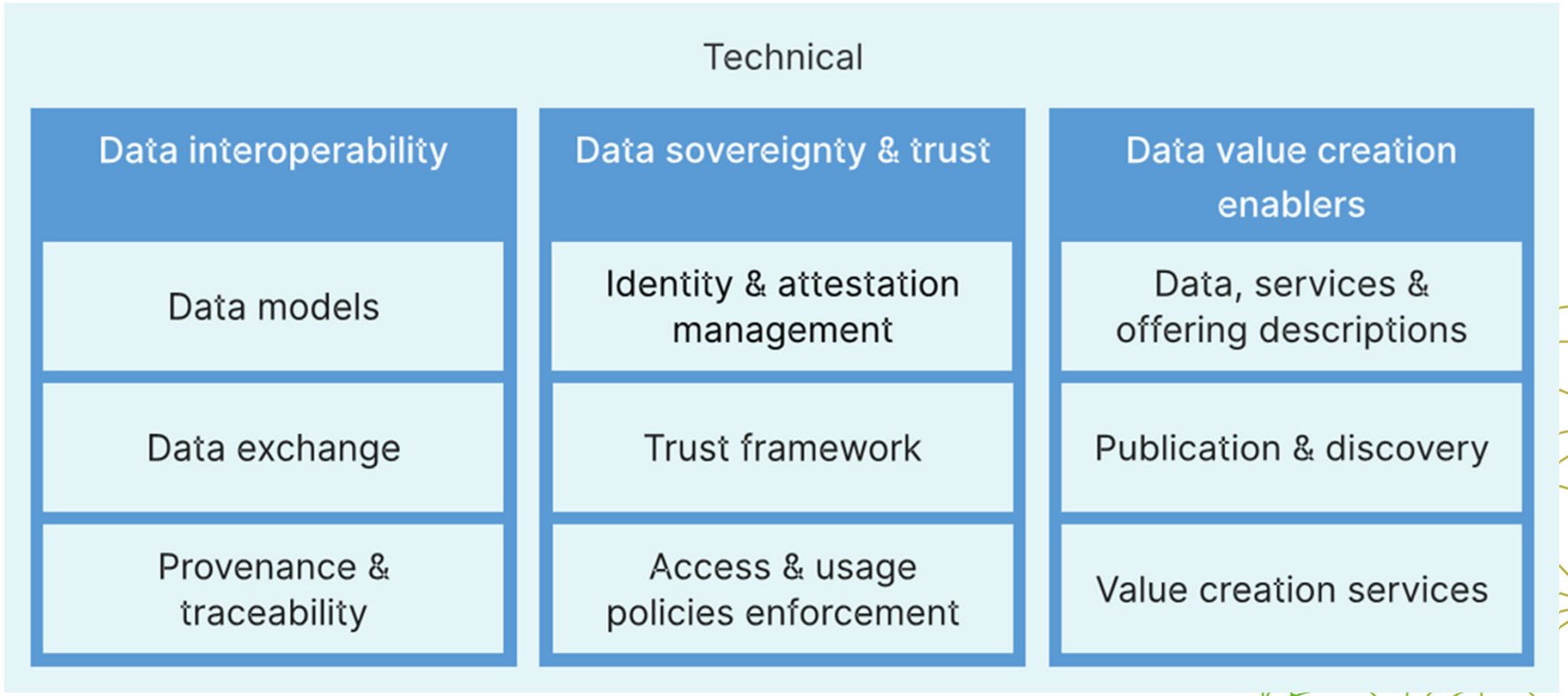
Aimed at:

- Data representation and availability
- Data access control
- Data consistency
- Data privacy preservation cross-sector data sharing

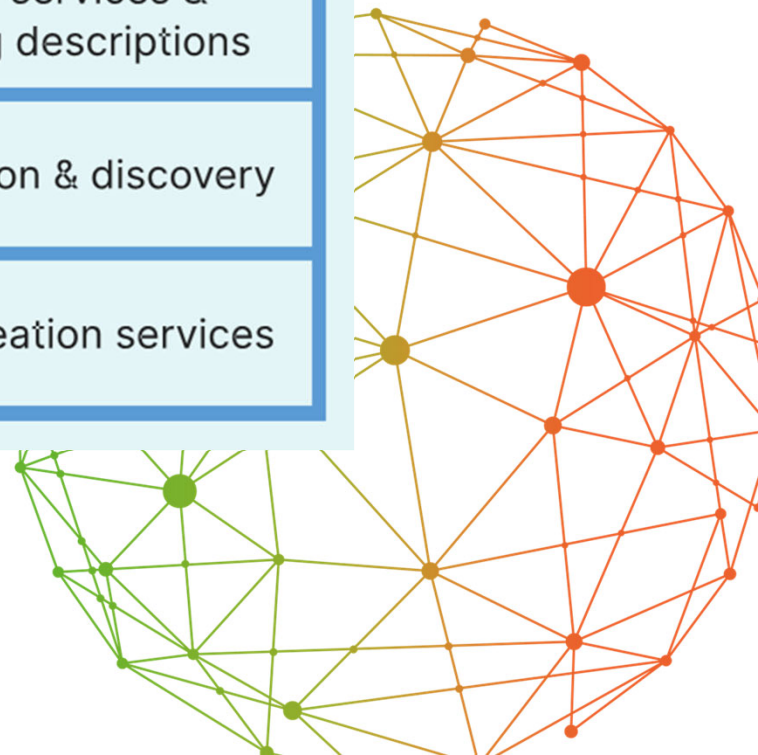
Merge ISG

- (CIM) NGSI-LD
- Smart M2M
- ARF
- CDM

Data Spaces Building Blocks



Source: dssc.eu

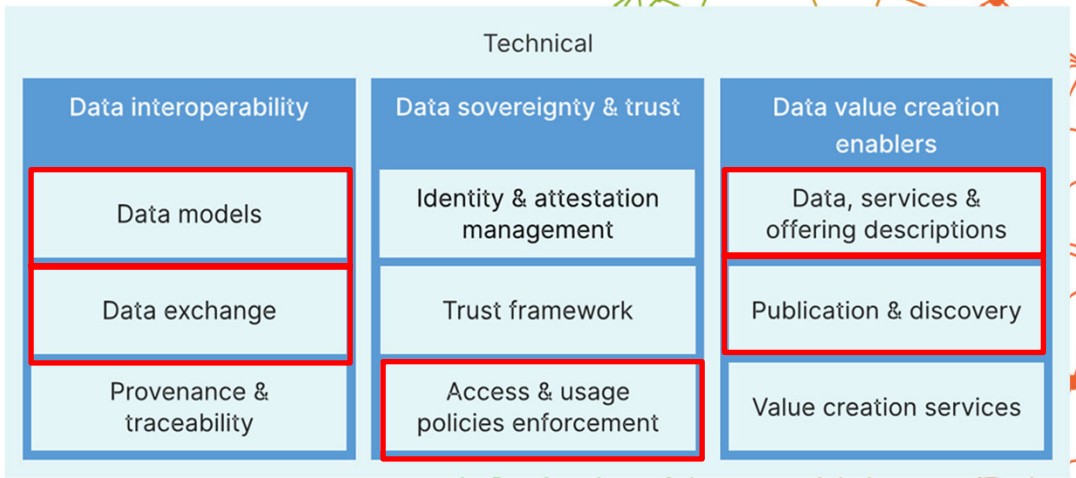


Technical Committee Data

Deployment and operation of distributed infrastructures for:

- data collection
- data sharing
- data management

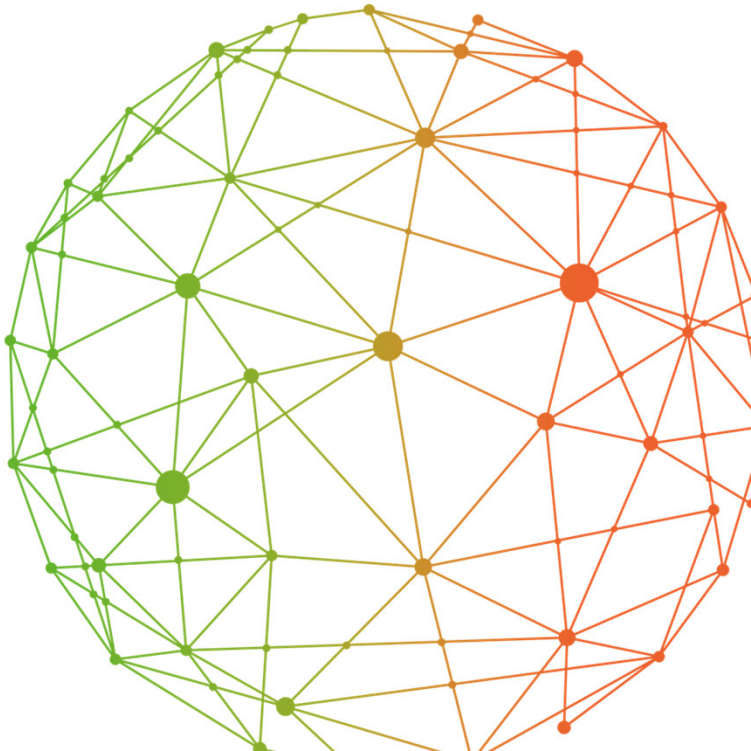
- The TC DATA will also develop technical standards to support data interoperability and semantic interoperability.



Technical Committee Data

Current activities

- Testing conformance
- Testing federation (multiple options)
- Testing backward compatibility

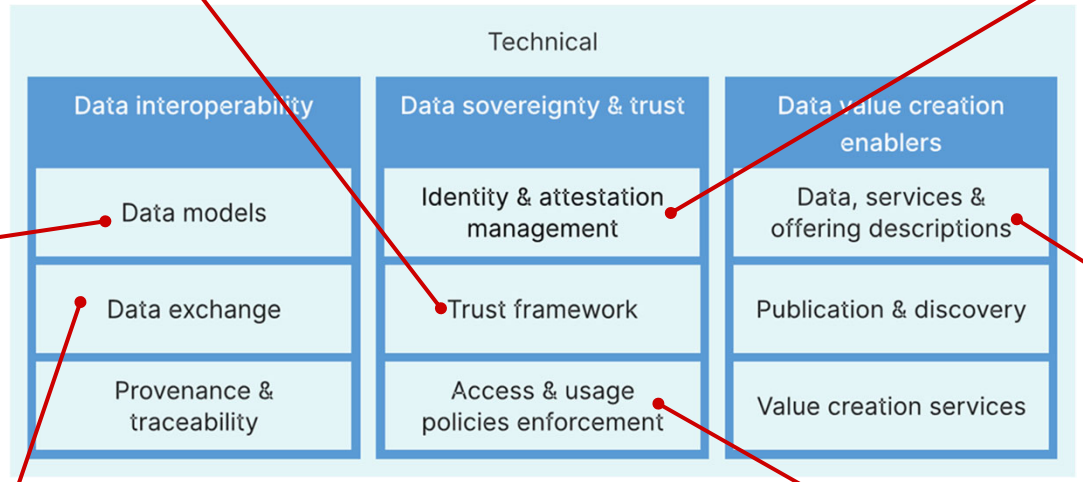


FIWARE contribution

Trust services aligned with EBSI specifications

Smart Data Models

Data exchange based on NGSI-LD

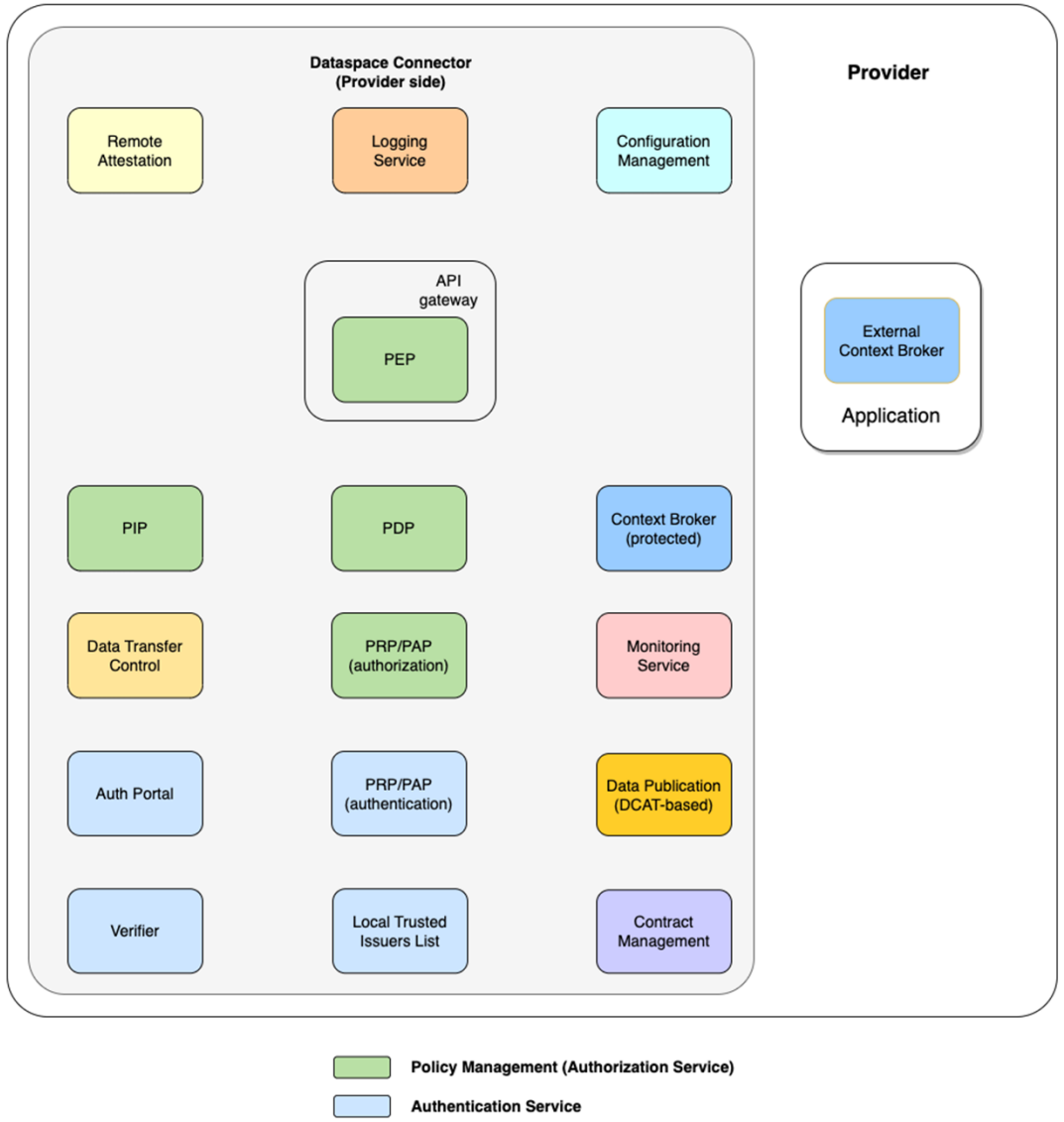


Authentication based on W3C DID with VC/VP standards and SIOPv2 / OIDC4VP protocols

TMForum API for contract negotiation

Attribute base control following XACML P*P using ODRL

FIWARE contribution



All these standards implemented in a suite of open source components under the FIWARE data space components https://github.com/FIWARE/data-space-connector

For installation as a helm umbrella chart that sets up the different components

Some already existing components tested in the market

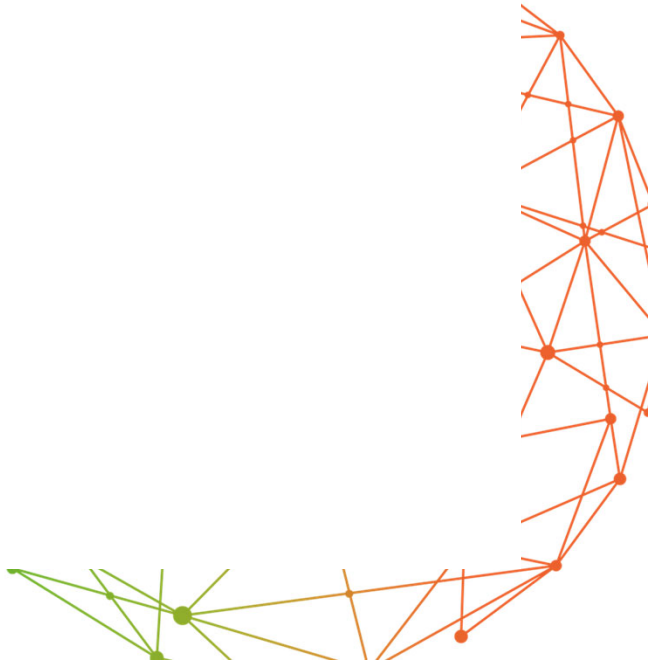
Community-driven with weekly follo
FIWARE Data Spaces Workgroup

Challenges to standardization

1. Interoperation of data spaces ‘Federation’
   a. Negotiation of protocols, assets listing, etc
   b. Role fo intermediary entities

1. Semantic interoperability.
   a. Does DCAT provide enough detail for DS users?
   b. What if there is not a semantic source?

1. Traceability challenge
   a. Are we capable to track every data interchange?



Challenges to standardization

4. Payments
   a. Smart contract enforcement needs proven traceability
   b. Are we capable to create flexible commercial offerings?

4. Easy adoption (technical expertise)
   a. Is it easy enough the access (even as consumer) to a DS?
   b. Compatibility between connectors
   c. Could a simple citizen with eIdas access a Data space?

4. Rights enforcement
   a. How could we enforce the rights to the data assets once accessed?

Data Spaces Symposium

Share data. Unlock value. Boost impact.

Global importance of standardization and interoperability

Panel discussion | Practical value of standards for users

Coen Janssen
European Comission
moderator

Elzbieta Halas
GS1

Sébastien Picardat
SYNEVOP

Victor Andersson
ChainTraced

Peter Koen
Microsoft

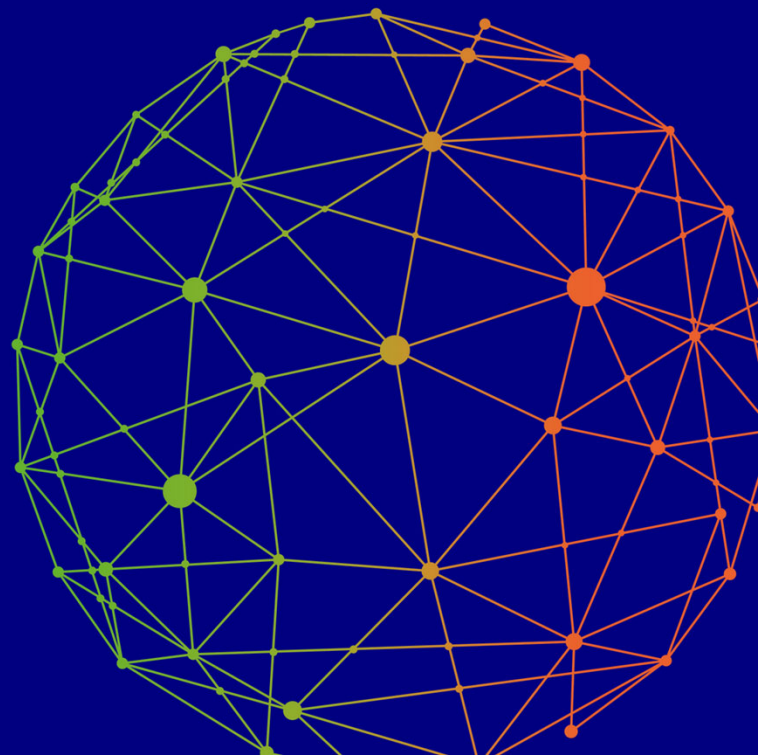
Gerard van der Hoeven
iShare

Welcome

"The importance and limits of building international data spaces by design: a practical view on standardization and interoperability"

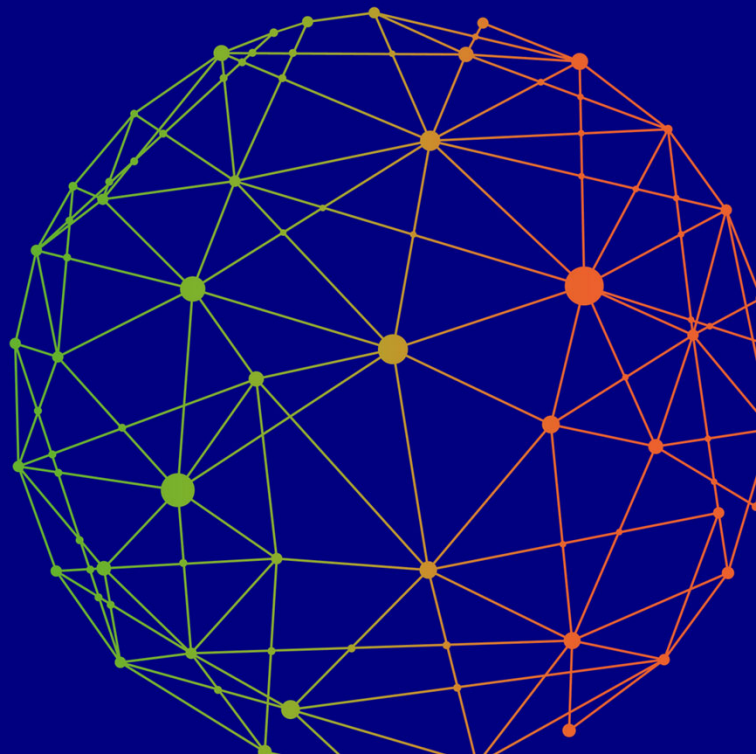
Elżbieta Halas *GS1 Polska*
Victor Andersson *ChainTraced*
Peter Koen *Microsoft*
Sébastien Picardat *SYNEVOP*
Gerard van der Hoeven *iShare*

Moderator:
Coen Janssen *European Commission*



Topics

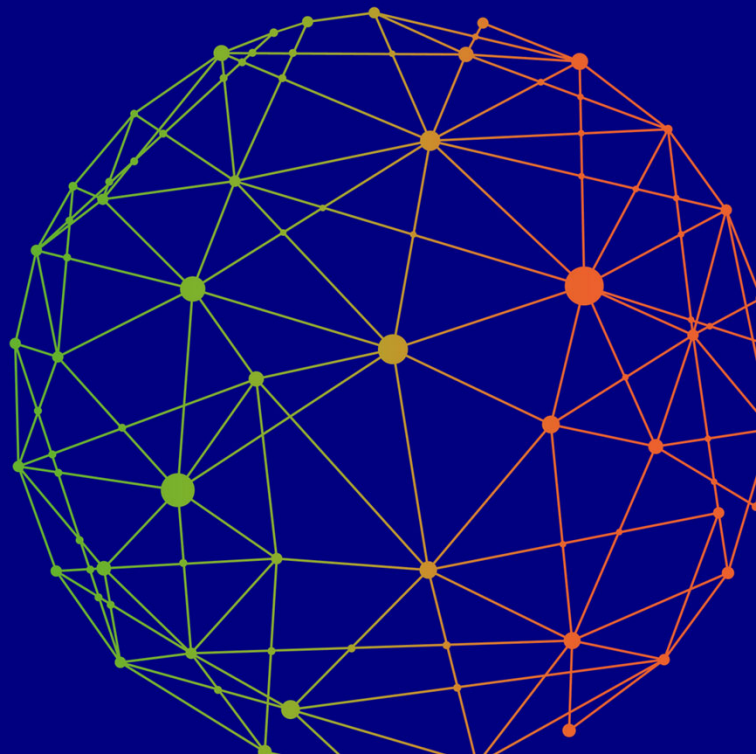
1. Introduction
2. Scale
3. International
4. Recommendations
5. Questions from the audience



1. Introduction

Each panellist represents a unique type of organization in the area of data sharing and standardisation.

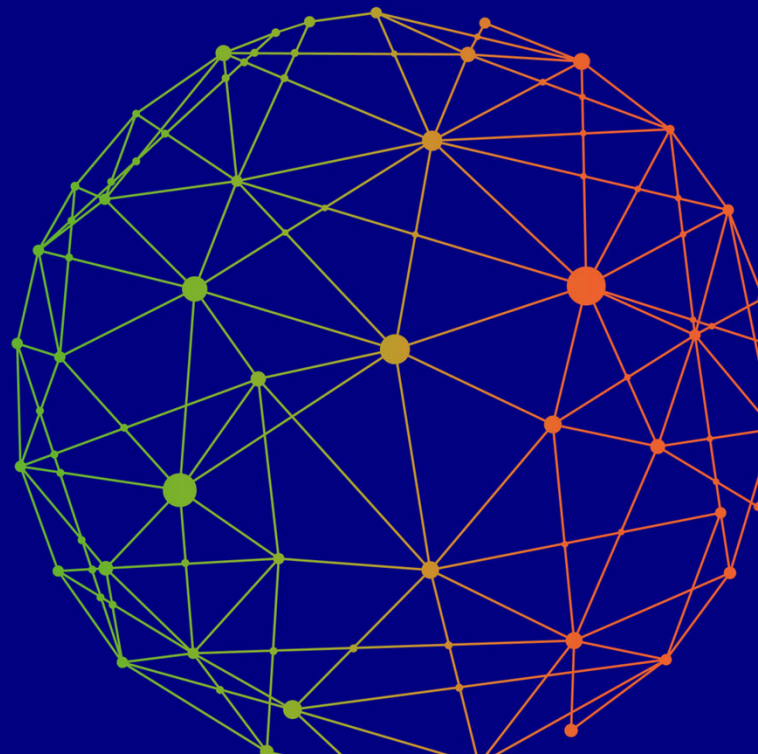
Could you introduce your organisation and share how you approach data sharing and standardisation, along with any challenges or successes you've encountered?



2. Scale

Standards can help data sharing initiatives to grow, within the EU and beyond.

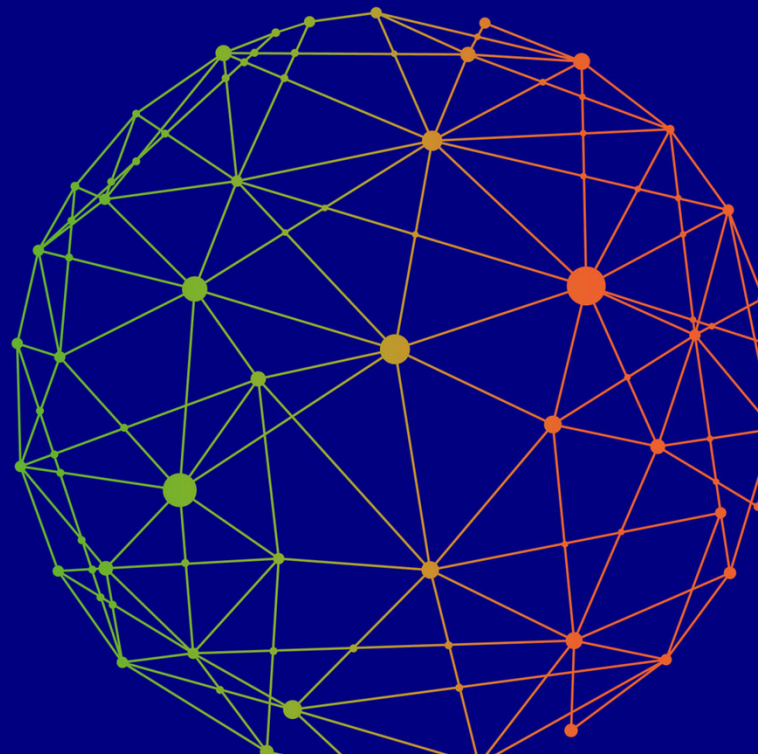
What is your advice to the data sharing initiatives? Which standards are key?



3. International

Many sectors and domains have connections beyond Europe. Also many solution providers operate at a global scale.

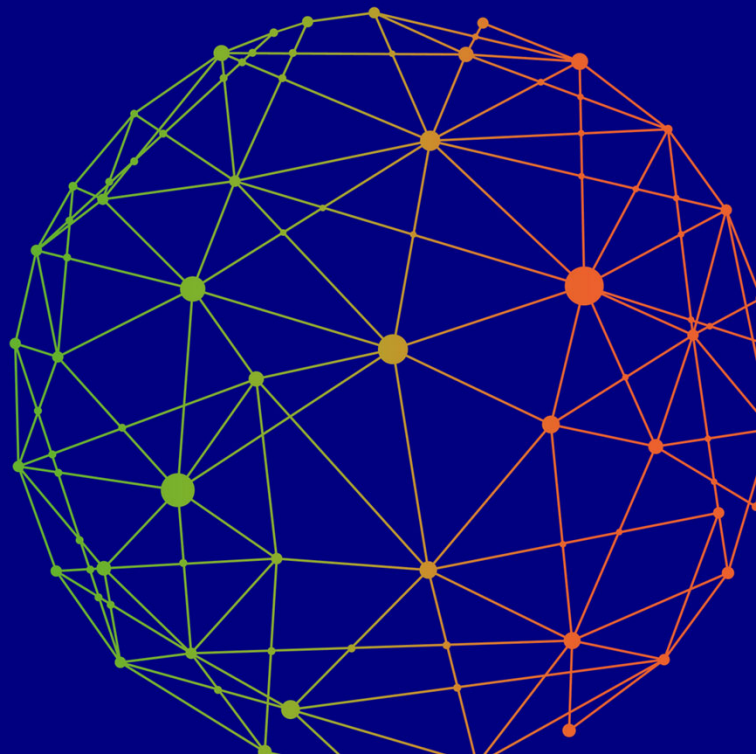
How do you see the role of European versus international standardisation?



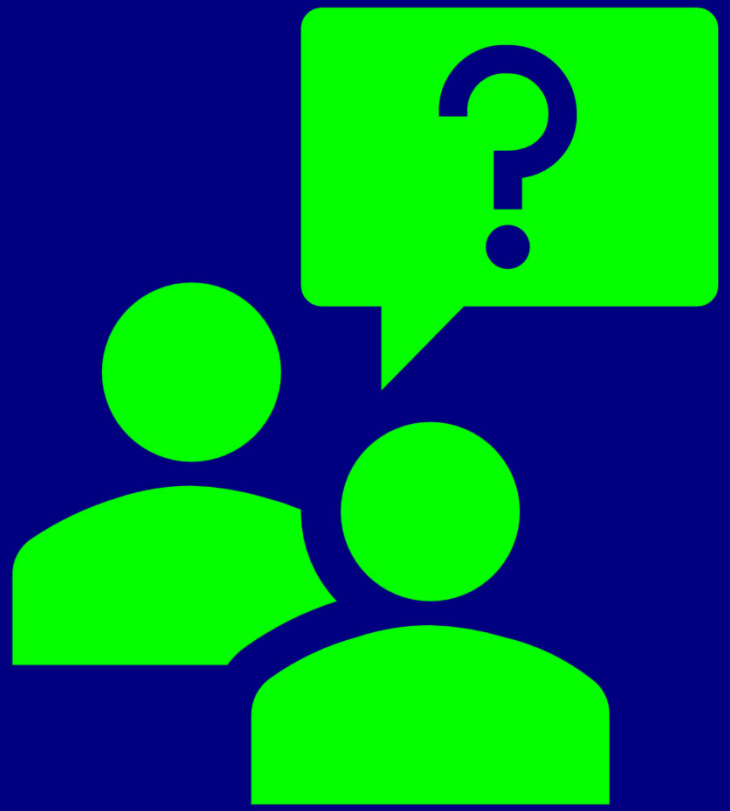
4. Recommendations

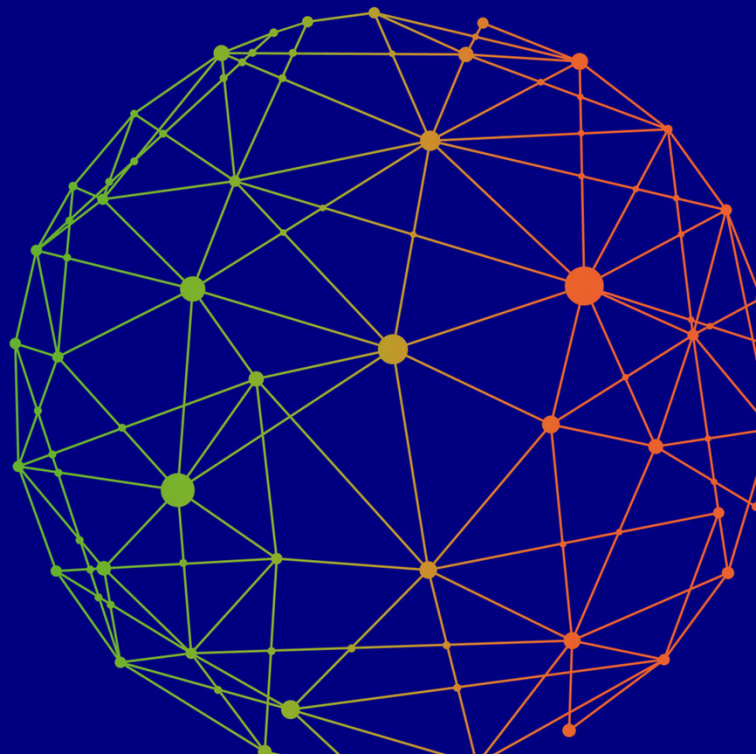
Which actions should the EU take to support the global competitiveness of European businesses through data sharing?

Which role should the European Commission play to foster international data sharing initiatives?



5. Questions from the audience





Data Spaces Symposium

We need 20 minutes to combine the rooms again!

After the break at 17:20:

Track 2 | maintrack

Plenary session

Economic opportunities through the shaping of data governance at bilateral and multilateral level

Track 3:

Interactive session

Data space creation: Design your own data space