



# Keynote

Semantic Interoperability in Data Spaces, 1 October 2024

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# European Single Market for Data

## Data legislation

Data Act

Data Governance Act

Open Data Directive

GDPR

...

## Common European Data Spaces



Health



Industrial & Manufact.



Agriculture



Finance



Mobility



Green Deal



Energy



Public Admin.



Skills



EOSC



Tourism



Cultural heritage



Media



Language

High Value Datasets from public sector

## European Data Innovation Board

- Facilitate the sharing of best practices
- Prioritisation of cross-sectoral interoperability standards

## Data Spaces Support Centre

- Development of blueprint, glossary, etc.
- Support of data space projects

## Technical infrastructure

Standards

Digital identity (eIDAS)

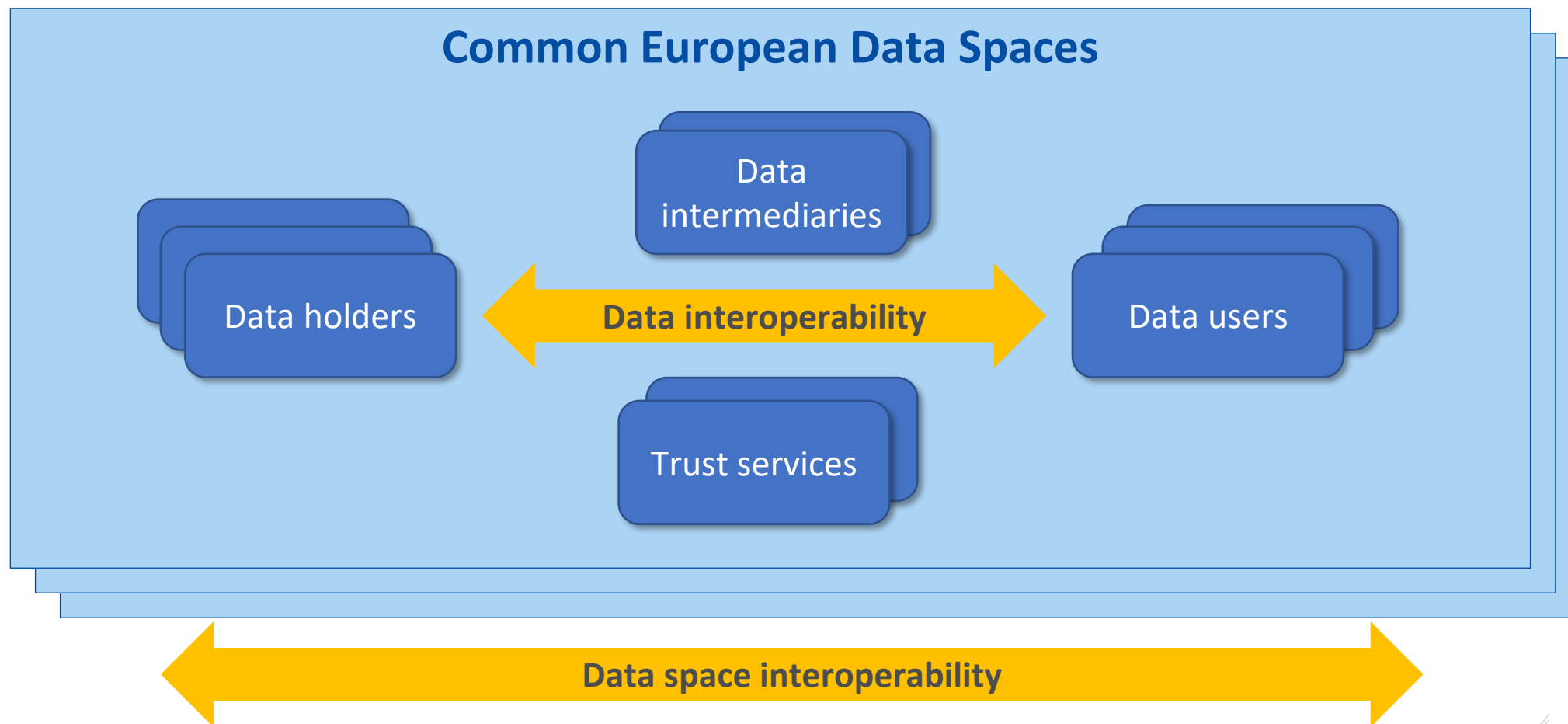
Smart Middleware solutions (Simpl)

High-Performance Computing

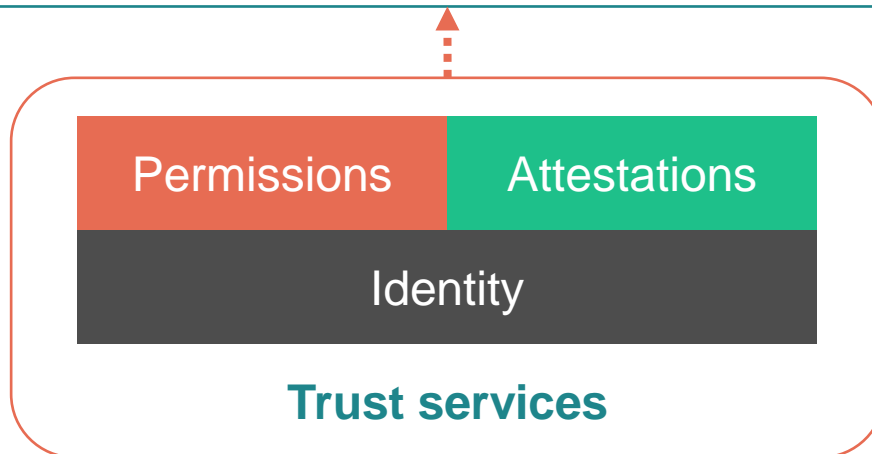
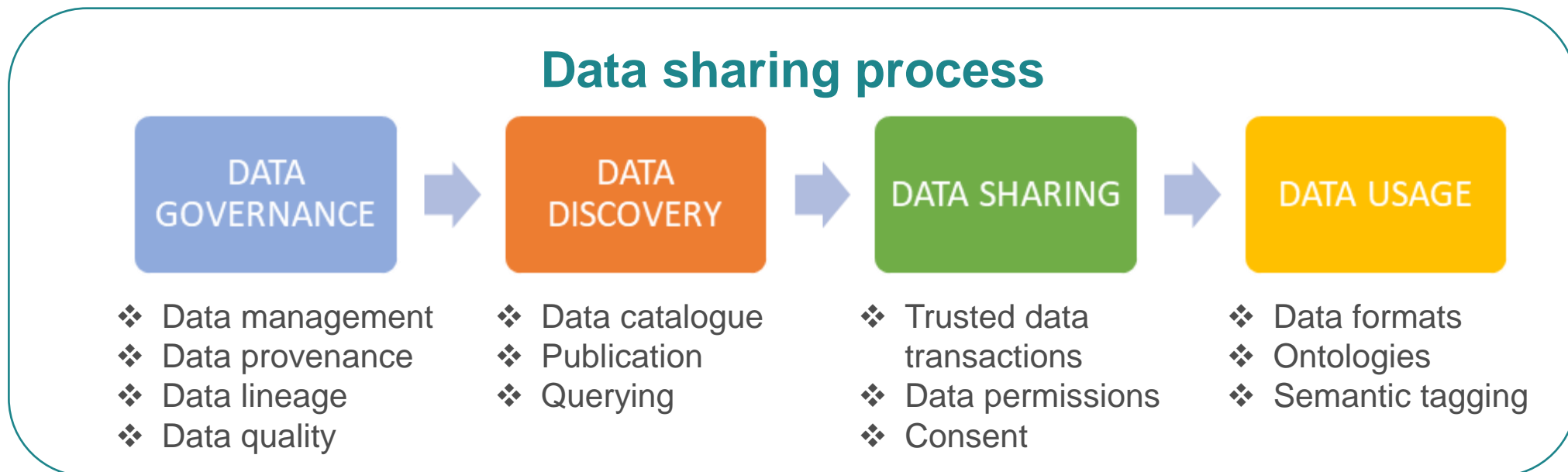
Testing and Experimentation Facilities

# High-Level Forum on European Standardisation Data Interoperability report

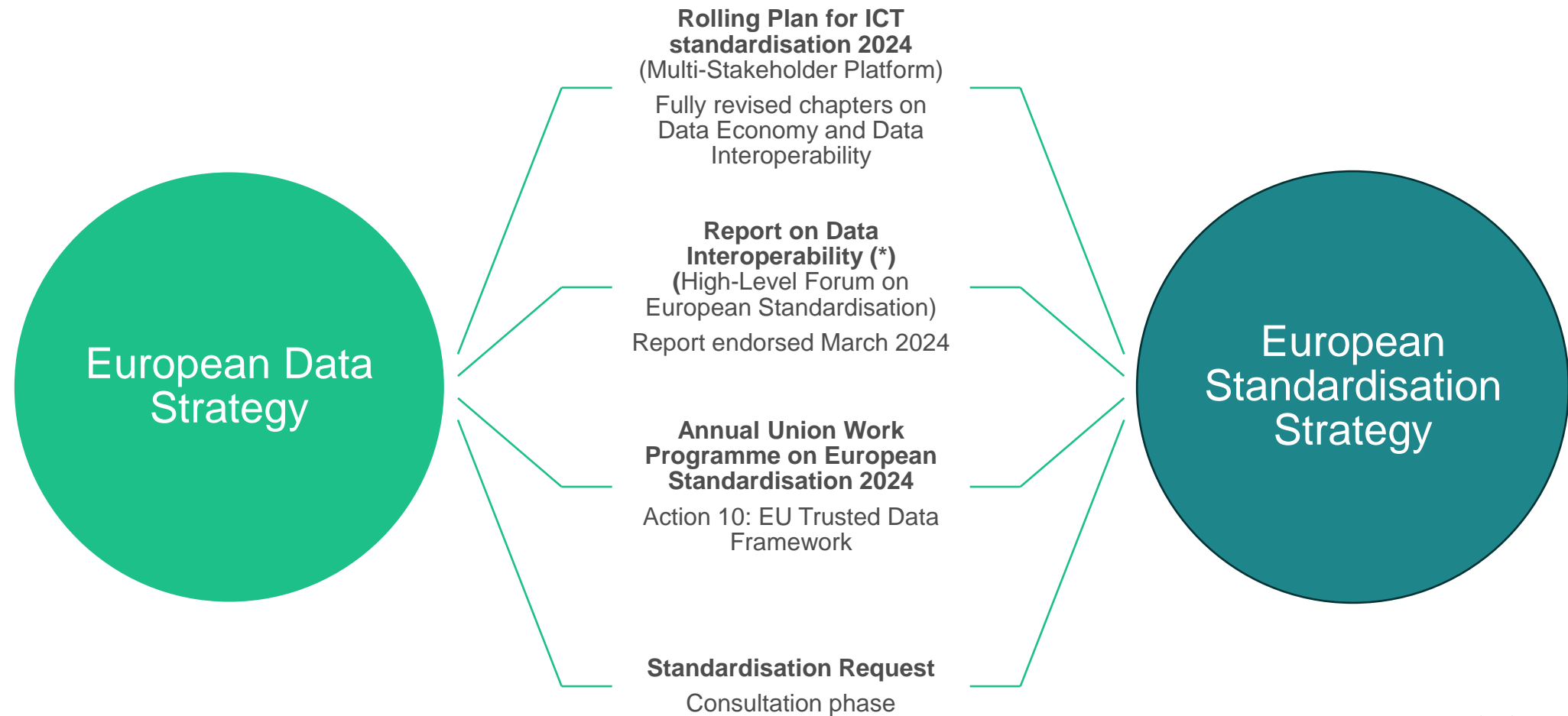
Report endorsed  
27 March 2024



# Process areas



# Standardisation status

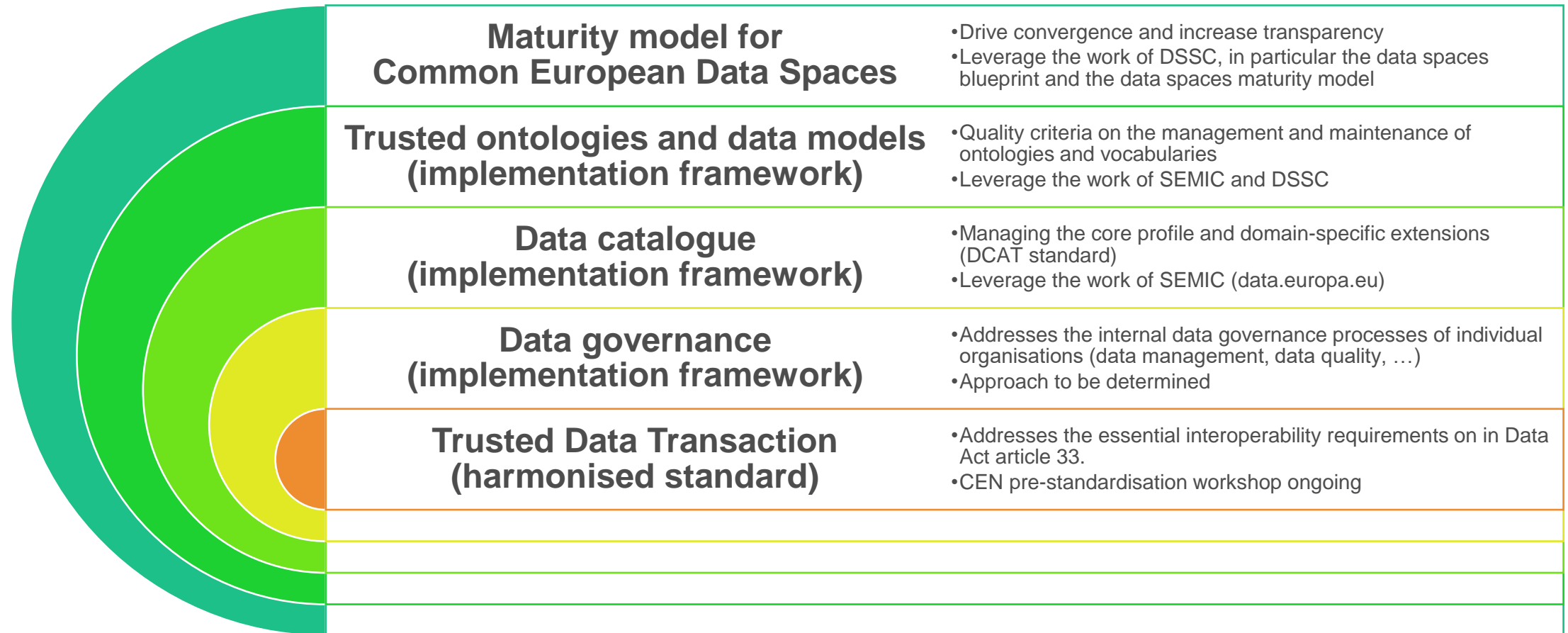


(\*) <https://ec.europa.eu/docsroom/documents/58914>

# Standardisation request

## European Trusted Data Framework

Includes the following 5 standards / standardisation deliverables:



# Data Act article 33

## Essential requirements regarding the interoperability of data, data sharing, and common European data spaces

1. *Participants in data spaces* that offer data or data services to other participants shall comply with the following essential requirements (...):

(a) *the dataset content, use restrictions, licences, data collection methodology, data quality and uncertainty* shall be sufficiently described, (...) to allow the recipient to find, access and use the data;

(b) *the data structures, data formats, vocabularies, classification schemes, taxonomies and code lists, where available, shall be described in a publicly available and consistent manner;*

(c) *the technical means to access the data, such as application programming interfaces, and their terms of use and quality of service shall be sufficiently described to enable automatic access and transmission of data between parties (...)*

(d) *where applicable, the means to enable the interoperability of tools for automating the execution of data sharing agreements, such as smart contracts shall be provided.*

Quality, provenance

Semantics, data formats,  
value domains

FAIR principles

# Approach for semantic interoperability

## Semantic assets

- Addressing aspects such as quality, completeness, development and long-term maintenance
- Leverage SEMIC framework for semantics assets

## Annotation of shared data

- Need for metadata linked to the data product
- Attribute level: Semantics, data formats, value domains
- “Data Product” level: Provenance, quality (freshness, accuracy, ...), rights, ...
- JSON-LD, but also need annotation of other formats, e.g. CSV, XML, JSON, without requiring transformations

**Goal: Reduce friction in the European data economy**



# Thank you



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