



Brussels, 1.7.2025
C(2025) 4135 final

ANNEXES 1 to 2

ANNEXES

to the

COMMISSION IMPLEMENTING DECISION

**on a standardisation request to the European standardisation organisations as regards a
European Trusted Data Framework in support of Regulation (EU) 2023/2854 of the
European Parliament and of the Council**

ANNEX I

List of new European standards and European standardisation deliverables to be drafted as referred to in Article 1

Table 1: List of new European standards and European standardisation deliverables to be drafted and deadlines for their adoption

| Reference information | | Deadline for the adoption by the ESOs |
|------------------------------|---|--|
| 1. | Harmonised standards on Trusted Data Transactions Part 1: Terminology, concepts and mechanisms | 1 June 2026 |
| 2. | Harmonised standards on Trusted Data Transactions Part 2: Trustworthiness requirements | 1 November 2026 |
| 3. | Harmonised standards on Trusted Data Transactions Part 3: Interoperability requirements | 1 May 2027 |
| 4. | Technical specification(s) on a data catalogue implementation framework | 1 March 2026 |
| 5. | Technical specification(s) on an implementation framework for semantic assets | 1 September 2026 |
| 6. | European standard on a quality framework for internal data governance | 1 March 2027 |
| 7. | Technical specification(s) on a maturity model for Common European Data Spaces | 1 September 2026 |

ANNEX II

Part A. General requirements for standards and European standardisation deliverables listed in Annex I

1. Legal requirements to be supported by the harmonised standards

The harmonised standards, entries 1, 2 and 3 in table 1 of Annex I, shall support application of relevant essential requirements referred to in Regulation (EU) 2023/2854 Article 33.

The harmonised standards shall provide detailed technical specifications of essential requirements, with regard to the design of data sharing system interfaces with the purpose of allowing compliance with relevant essential requirements of that Regulation.

The harmonised standards shall include a clear and precise description of the relationship between their content and the corresponding essential requirements that they aim to cover.

The structure of each harmonised standard shall be such that a clear distinction can be made between its clauses and sub-clauses which are necessary for compliance with the essential requirements and those which are not. The essential requirements shall be taken into account from the beginning and throughout the entire process of developing of standards.

The harmonised standards shall exclusively provide provisions specific to data sharing system interfaces. These provisions include methods for the verification of compliance with such provisions. Based on this request the harmonised standards must not support any other legal requirements than those referenced in the first paragraph of this point 1 and in particular shall not:

- make any references to Regulation (EU) 2023/2854 or reproduce its requirements in their normative body;
- modify any definitions set by Regulation (EU) 2023/2854 or define any legally relevant terms not defined by Regulation (EU) 2023/2854 itself;
- address any requirements, responsibilities, contractual arrangements or obligations for any economic operator including notified or other bodies or market surveillance authorities.

Each harmonised standard developed on the basis of the request referred to in Article 1 of this Decision shall refer to this Decision.

CEN, Cenelec and ETSI shall include in each revised standard information on significant changes that were introduced in that standard.

A harmonised data sharing system interface standard shall not make conformity with that standard dependent on requirements of administrative or organisational nature like management system requirements for organisations, competence requirement for natural persons or through normative references to management system standards of any kind.

2. Legal requirements to be covered by an individual harmonised standard

When a harmonised standard does not cover all the essential requirements, which are applicable to the data sharing system interfaces falling under its scope, the standard shall indicate the requirements applicable to those data sharing system interfaces that are not covered by it. Where a harmonised standard contains technical specifications which do not support application of essential requirements set out in Regulation (EU) 2023/2854 Article 33, such technical specifications shall be clearly distinguished from the specifications supporting the essential requirements.

Part B. Requirements for the European standards and European standardisation deliverables referred to in Article 1

1. Requirements for all European standards and European standardisation deliverables

The European standards and European standardisation deliverables shall provide requirements that are technology neutral, performance-based and objectively verifiable.

The European standards and European standardisation deliverables may include non-binding examples of the technical implementation.

The development of European standards and European standardisation deliverables, including the selection of any normative references, shall take into account the advice of the European Data Innovation Board.

Elements from the Data Spaces Blueprint, a set of guidelines, recommendations and specifications developed by the Data Spaces Support Centre¹, shall be used as a basis for the development of the European standards and European standardisation deliverables. Where appropriate, ongoing developments on the creation of sector- and domain-specific common European data spaces shall be considered.

Solutions provided under the Interoperable Europe initiative², in particular the solutions regarding semantics (SEMIC solutions), shall be considered.

Standards, guidelines³ and best practices⁴ provided by the official portal for European data – data.europa.eu – shall be considered.

Regulation (EU) 2024/1183 shall be used as the overall strategic direction for the verification of the identity and credentials of legal and natural persons.

2. Requirements for specific European standards and European standardisation deliverables

2.1. Trusted data transactions

These harmonised standards, entries 1, 2 and 3 in table 1 of Annex I, shall support the automated execution of data transactions in the European single market for data. The first harmonised standard shall define the terminology, concepts and mechanisms, the second harmonised standard shall define the trustworthiness

¹ <https://dssc.eu/>

² <https://joinup.ec.europa.eu/interoperable-europe>

³ <https://op.europa.eu/en/publication-detail/-/publication/b601d9cc-b3c0-11ec-9d96-01aa75ed71a1/language-en>

⁴ <https://data.europa.eu/sites/default/files/report/2023%20Open%20Data%20Best%20Practice%20in%20Europe.pdf>

requirements and the third harmonised standard shall define the interoperability requirements.

The standards shall be such to allow data space participants to presume compliance with the essential requirements regarding interoperability of data, of data sharing mechanisms and services, as well as of common European data spaces as specified in Article 33 of Regulation (EU) 2023/2854.

In accordance with Article 33, the standards shall address “participants in data spaces that offer data or data services to other participants”. Furthermore, the standards shall address the role of data intermediation service providers and data altruism organisations, and other third parties, where appropriate.

As regards the trust and security aspects, the standards shall also ensure coherence with Regulation (EU) 2016/679, Regulation (EU) 2022/868, and Directive (EU) 2022/2555.

The standards shall address the main data sharing methods, including file transfer, Application Programming Interface (API) queries, and emerging scenarios such as distributed analytics (“algorithm to the data”). That shall include scenarios for access of data residing in distributed systems, connected products and other environments, such as platforms. Where appropriate, the standards shall address technical tools that facilitate the automated execution of elements of a data transaction.

The standards shall define the trustworthiness and interoperability requirements for the following key aspects of a data transaction:

- (a) the way to make data discoverable (findable), including but not limited to metadata of data content, licences, data collection methodology, data quality and uncertainty;
- (b) the way to record data sharing agreements, including aspects such as data usage conditions (licences), data quality conditions, service level agreements, and monetary or non-monetary compensation;
- (c) the way to describe the technical access to the shared data, to enable automatic access and transmission of data between parties;
- (d) the way to describe usage permissions of shared data, such as licensing terms;
- (e) the way to describe information relevant to assess a legal basis for processing the data in question under GDPR;
- (f) the way to document the data being shared, including but not limited to descriptions of data structures, data formats, vocabularies, classification schemes, taxonomies and code lists;
- (g) the way to ensure observability and auditability of data transactions.

2.2. Data catalogue implementation framework

This (these) technical specification(s), entry 4 in table 1 of Annex I, shall provide a framework for standardised catalogue metadata, in support of the findability of data within and across data spaces.

The development of the technical specification(s) shall take into account the Interoperable Europe solutions based on the W3C Data Catalogue Vocabulary

(DCAT) standard, in particular the DCAT-AP, DCAT-AP-HVD and GeoDCAT-AP profiles⁵

The technical specification(s) shall:

- (a) set out the common catalogue metadata, to be applied across all common European data spaces;
- (b) establish rules on the setting out of domain-specific catalogue metadata, to be applied in selected common European data spaces;

2.3. Semantic assets implementation framework

This (these) technical specification(s), entry 5 in table 1 of Annex I, shall provide a framework for common, open vocabularies, classification schemes, taxonomies, code lists and ontologies, in support of the interpretation and analysis of shared data within and across data spaces.

Existing standards-based frameworks, in particular the Core Vocabularies and the Asset Description Metadata Schema Application Profile/ADMS-AP (EC - SEMIC), the Asset Administration Shell (IEC), the ISO/IEC 19115 metadata standards, the European Commission *countries and territories* reference data asset⁶ for geospatial data, and the Smart Applications REference/SAREF Ontology (ETSI), shall be taken into account.

The technical specification(s) shall:

- (a) specify criteria for the selection of semantic assets;
- (b) specify methods for the semantic annotation of shared data, the detailed metadata, based on the semantic assets mentioned under point (a).

2.4. Quality framework for internal data governance

This European standard, entry 6 in table 1 of Annex I, shall enable the quality assessment of internal data governance processes of parties participating in data spaces.

The European standard shall:

- (a) set out best practices for data rights management, including data for which the data space participant is the rights owner, data for which another party is the rights owner, and personal data;
- (b) set out best practices for data quality management;
- (c) ensure that the concept of data spaces is consistently understood and effectively implemented across various contexts, rigorously aligned with the language and intent of the relevant legal texts on Union and national level, covering horizontal and vertical legislation;
- (d) address the way to meet domain-specific (non-regulatory) requirements, for example imposed by data spaces;
- (e) be articulated in practical, non-legal language that is accessible to all stakeholders;

⁵ The copyright of these profiles is owned by the European Commission

⁶ European Commission reference data asset *countries and territories* (<https://op.europa.eu/en/web/eu-vocabularies/dataset/-/resource?uri=http://publications.europa.eu/resource/dataset/country>)

- (f) be adapted to the resources available to small and medium sized organisations, by offering simplified processes and templates for easy implementation.

2.5. Maturity model for Common European Data Spaces

This (these) technical specification(s), entry 7 in table 1 of Annex I, shall define a maturity model for the self-assessment of Common European Data Spaces and related data sharing initiatives, consisting of key performance indicators and a supporting reporting structure.

The technical specification(s) shall:

- (a) enable to evaluate the interoperability of a data space, both internally between the data space participants as well as across data spaces, according to each layer of the European Interoperability Framework;
- (b) enable to evaluate the maturity of a data space in terms of the key features of common European data spaces listed in section 2 of the Staff Working Document on Data Spaces⁷, notably:
 - (1) a secure and privacy-preserving infrastructure to pool, access, share, process and use data;
 - (2) a clear and practical structure for access to and use of data in a fair, transparent, proportionate and non-discriminatory manner and clear and trustworthy data governance mechanisms;
 - (3) European rules and values, in particular personal data protection, consumer protection legislation and competition law, are fully respected;
 - (4) data holders will have the possibility, in the data space, to grant access to or to share certain personal or non-personal data under their control;
 - (5) data that is made available can be reused against compensation, including remuneration, or for free;
 - (6) participation of an open number of organisations/individuals.
- (c) enable to evaluate the maturity of the data space in terms of the level of participation and the level of activity;
- (d) provide insight in the different types of value (including societal and environmental) generated through data being shared in the data space, also considering the international dimension (national, Union, non-Union) of data space participants and data flows.

⁷

SWD(2022) 45 final