



SLOVENSKI STANDARD
SIST-TS CEN/CLC/TS 18331:2026

01-september-2026

Ocena zrelosti skupnih evropskih podatkovnih prostorov

Maturity assessment of Common European Data Spaces

Reifegradbewertung der gemeinsamen europäischen Datenräume

Ta slovenski standard je istoveten z: CEN/CLC/TS 18331:2026

ICS:

35.210

Računalništvo v oblaku

Cloud computing

SIST-TS CEN/CLC/TS 18331:2026

en,fr,de

Sample Document

get full document from standards.iteh.ai

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/CLC/TS 18331

July 2026

ICS 35.210

English version

Maturity assessment of Common European Data Spaces

Reifegradbewertung der gemeinsamen europäischen
Datenräume

This Technical Specification (CEN/TS) was approved by CEN on 10 May 2026 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN and CENELEC will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN and CENELEC members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

get full document from standards.iteh.ai



CEN-CENELEC Management Centre:
Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	3
Introduction	4
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions.....	5
4 Data spaces maturity model concept.....	5
4.1 Overview	5
4.2 Data spaces maturity model purpose.....	5
4.3 Data spaces maturity model structure.....	6
4.4 Data spaces maturity phases.....	6
4.5 Data spaces maturity dimensions.....	7
4.6 Data space maturity indicators (DSMIs).....	7
4.7 Reporting structure	8
5 Assessment methodology and guidance.....	8
5.1 General.....	8
5.2 DSMIs per dimension.....	9
5.2.1 General.....	9
5.2.2 Governance dimension	9
5.2.3 Business dimension	10
5.2.4 Legal dimension	12
5.2.5 Interoperability dimension.....	14
5.2.6 Control over data and Trust dimension.....	15
5.2.7 Value Creation dimension	17
5.3 Visualization of the assessment.....	20
5.4 Evolution criteria	21
Annex A (informative) Template for Data Spaces Maturity self-assessment.....	26
Bibliography	42

European foreword

This document (CEN/CLC/TS 18331:2026) has been prepared by Technical Committee CEN/CLC JTC 25 “Data Management, Dataspaces, Cloud and Edge”, the secretariat of which is held by UNI.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Sample Document

get full document from standards.iteh.ai

Introduction

The Common European Data Spaces (CEDSS)¹ are a key enabler for the implementation of the European strategy on data.

The Data Act promotes the fair access and use of data in a harmonized legal framework. In support of Article 33 of that regulation, the European Commission adopted on 1st July 2025 the European Trusted Data Framework standardization request.

The CEN/CENELEC JTC5 has the mandate to draft various deliverables of this standardization request. This document addresses one of these deliverables regarding “Technical Specification(s) on a maturity model for Common European Data Spaces”.

The DSSC Maturity Model [1], created by the Data Spaces Support Centre (DSSC), has been taken as a baseline document for producing this technical specification. Data spaces and similar data-sharing initiatives evolve as the number of participants increases and as diverse use cases emerge. These factors shape the priorities for their development.

At the same time, potential participants need insight into the capabilities of these data spaces.

This document introduces a maturity model designed for self-assessment of any data space and data sharing initiative, offering guidance and transparency for data spaces and their stakeholders.

1 Scope

This document provides a multi-dimensional assessment framework of data spaces maturity, considering the different needs of data spaces, their participants, domain, or scope.

Specifically, it defines a maturity model concept, structure, methodology and measurable criteria, with related requirements and guidance for the assessment of data space maturity.

This document applies to all types of organizations, regardless of their type or size.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

<std> ISO/IEC TS 27560, *Privacy technologies — Consent record information structure*</std>

<std> EN 18235-1, *Trusted data transactions - Part 1: Terminology, concepts and mechanisms*</std>

<std> ISO/IEC/DIS 20151, *Cloud computing and distributed platforms — Dataspaces*</std>

¹ Sectoral/domain-specific data spaces established in the European single market with a clear EU-wide scope that adheres to European rules and values (DSSC Glossary).

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 18235-1 and ISO/IEC DIS 20151 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

data spaces maturity model

means of and scale for evaluating and assessing the current state of maturity of a data space

[SOURCE: EN 13054:2012, definition 2.5, modified – «data spaces» added to the term]

3.2

data space maturity dimension

logical grouping of data space maturity indicators

3.3

data space maturity phase

defined phase in evolution of a data space, representing a specific level of development and capability

3.4

data space maturity indicator

DSMI

quantitative or qualitative metric applied to monitor, measure, and evaluate the maturity level of a data space

4 Data spaces maturity model concept

4.1 Overview

This Technical Specification provides:

- **The maturity model purpose and structure.** The rationale, purpose and conception of the model, the required structure and the method to be applied and measured.
- **The maturity indicators to measure the maturity.** They are measurable values to demonstrate the fulfilment of a goal.
- **The reporting structure to be produced by the data spaces.** Set of reports which provides additional information on the data space that is not captured through the Data Space Maturity Indicators (DSMIs) or in supporting them.
- **A self-assessment guidance and templates** for conducting it. Other types of assessment, such as third-party certifications, are feasible and proposed.

4.2 Data spaces maturity model purpose

The purpose of the data spaces maturity model is to enable any of the following:

- Assessing the evolution of a data space.

CEN/CLC/TS 18331:2026 (E)

- Supporting the self-assessment of each data space.
- Benchmarking a data space in the overall landscape of data spaces.
- Enabling data spaces to identify their strengths and areas for improvement.
- Providing data spaces with a common reporting structure to collect information about their structure and operations in alignment with European objectives and best practices.
- Evaluating the interoperability of a data space, both within the data space and across data spaces.

The data spaces maturity model can be used by:

- 1) **Data space governance authorities or data space participants**, during the assessment of their current evolution stage, to identify the requirements needed to reach the next maturity level. This process enables the determination of the necessary actions to implement in order to progress from their current maturity phase to the target phase.
- 2) **Data space candidate participants**, for the assessment of the capabilities of the data space at any time. This assessment enables them to decide their level of engagement in the data space based on its self-assessment.
- 3) **Policy makers**, to gain an overview of the capabilities and evolution of the data spaces landscape. This overview enables them to derive practical insights and conclusions from the self-assessments conducted by the data spaces.
- 4) **Certification providers**, to develop their own certification programs based on these technical specifications.

The maturity model relies on fundamental concepts in data spaces, namely interoperability, governance, control over data, trust, regulatory compliance and value creation out of data products. These concepts are aligned with the proposed dimensions described in clause 4.5.

4.3 Data spaces maturity model structure

The structure of the data spaces maturity model defines the phases of a data space evolution, the dimensions under which ones the data space is going to be evaluated, the data space maturity indicators and the reporting structure for additional information provided by the data space.

4.4 Data spaces maturity phases

The data space maturity phases are:

- a) **Exploratory phase**: The stage at which a data space initiative begins. Typically, at this stage, a group of participants starts exploring the interest, potential, and feasibility of a data space. Exploratory activities can include, among others: identifying and engaging stakeholders, gathering requirements, discussing use cases and business goals, and reviewing existing regulations or standards.
- b) **Preparatory phase**: This stage begins when a data space initiative has reached a critical mass of committed partners and there is an agreement to move forward with the initiative and proceed toward the creation of a data space. At this stage, it is common for these partners to collaboratively develop use cases and prepare for the implementation of the data space.
- c) **Implementation phase**: This stage begins when a data space initiative has a sufficiently detailed project plan, milestones, and resources (financial and otherwise) to develop its governance

framework and infrastructure in the context of a data space pilot. At this stage, it is typical to clearly identify the parties involved in the pilot and the value created for each one.

- d) **Operational phase:** This stage begins when a data space initiative has a tested infrastructure implementation and governance framework, and the first use cases become operational (data flows between data providers and data users, and the use cases deliver the intended value). At this stage, adjustments are typically made to both the governance framework and the technical implementation of the data space in order to adapt to day-to-day operations.
- e) **Scaling phase:** This stage begins when a data space initiative has demonstrated the ability to consistently and organically attract new participants and adopt new use cases. At this stage, it can be realistically expected that the data space is financially and operationally sustainable, responsive to market changes, and capable of growing over time.

4.5 Data spaces maturity dimensions

The data space maturity dimensions are:

- 1) **Governance dimension:** includes aspects on transparent decision-making process, data-sharing agreements establishment, making data transactions secure and legally sound, robust organisational form and governance authority establishment and participation management.
- 2) **Business dimension:** includes aspects on data space strategic planning, financial sustainability to guarantee operational continuity, balance participation of participants and generation of value for all of them from the data sharing.
- 3) **Legal dimension:** includes aspects on the rights and responsibilities of participants, structure of contracts and data-sharing rules establishment in accordance with relevant applicable legal frameworks throughout data space lifecycle.
- 4) **Interoperability dimension:** includes aspects on semantic and technical interoperability as well as provenance and traceability.
- 5) **Control over data and trust dimension:** includes aspects on participants and assets identification and verification, establishment of trust and definition of enforcement policies for access and usage control.
- 6) **Value creation dimension:** includes aspects on value-creation enablement through the provisioning of value-creation services, cataloguing mechanisms, proper description of data and services, and means to assess the adoption level of the data space.

4.6 Data space maturity indicators (DSMIs)

The DSMIs can provide the quantitative or qualitative assessment of the data space.

Every DSMI is measuring a set of metrics and capabilities of the data space.

Every DSMI has:

- a. a description of the aspect which is going to be measured (i.e Participation Management);
- b. the metrics which are used to measure the indicator (i.e. Onboarding process in place). Every metric includes a set of capabilities which require to be fulfilled (i.e. Accession agreement signed);
- c. the measure values which are the possible values that every metric can take (i.e. Undefined, Drafted, Established, Continuously running, Size-adapted);

CEN/CLC/TS 18331:2026 (E)

- d. a weight of relevance per metric since not all the metrics are equally relevant for the overall indicator maturity (i.e. 30% of the total);
- e. a scoring per phase which provides the corresponding score obtained by the data space in each metric depending on the measured value replied in the questionnaire (i.e Exploratory 10 points, Preparatory 20 points, Implementation 50 points, Operation 80 points, Scaling 100 points).

4.7 Reporting structure

The reporting structure provides some additional information for the assessment of the data space.

The data space should report on at least the following capabilities:

- a. Set of policies, standards, and protocols defined in the data space rulebook describing the interoperability capabilities based on the structure of the European Interoperability Framework (EIF).
- b. Assessment report on lawfulness, including European rules and values, in particular personal data protection, consumer protection legislation, and competition law.
- c. Preconditions for participation, if not open to all organizations/individuals.
- d. Assessment report providing insight into the different types of value (including societal and environmental) generated through data being shared in the data space.
- e. Assessment report on implementing the key characteristics of data spaces which are not measurable through DSMIs.
- f. Providing levels of international and cross-border interactions, considering the international dimension (national, Union, non-Union) of data space participants and data flows.

5 Assessment methodology and guidance**5.1 General**

The assessment method is of a hybrid nature, combining quantitative and qualitative measurement based on data space maturity indicators (DSMIs) and additional information from the reporting structure.

The assessment is conducted by:

- 1) Gathering the values provided by the data space using a human-oriented questionnaire which includes one question per metric for all DSMIs (see Annex A for template example).
- 2) Applying the corresponding weight to each metric, obtaining the pondered value.
- 3) Assessing the measured value with the scoring per phase.
- 4) Summing up the score per metric to calculate the total score per DSMI.
- 5) Summing up the score per indicator to calculate the total score per dimension.
- 6) Visualizing the results of the assessment by using a spider graph with the percentages of fulfilment per dimension. The data space evolution can be illustrated with a bar graph of dimensions over the time (i.e. years). See clause 5.3.

- 7) Assessing the current maturity phase per dimension by looking at the criteria per phase in table provided in clause 5.4. It also allows to identify the requirements for evolving to the next phase.

This process can be repeated on a fixed timeframe (e.g. annually) or at any point when the data space needs to assess its maturity status.

5.2 DSMIs per dimension

5.2.1 General

The Following DSMIs shall be measured by the data space. The tables in the following sub-clauses show the specific metrics to measure in each DSMI, the capabilities that are required to assess for each metric and the measure values per metric.

Annex A provides a template of the questionnaire with the corresponding questions per DSMI and metric to facilitate the assessment process.

5.2.2 Governance dimension

Table 1

DSMI	METRICS	CAPABILITIES	MEASURE VALUES
Governance Framework Establishment	Organizational form set up	Decision on permanent/temporary form, type of legal entity and jurisdiction of the legal entity; Include participant types, privileges and duties; Identify the role of members in the data space operation; Keeping long term structure sustainability.	Undefined Drafted Established Enforced Long term sustainable
	Data Space Governance Authority established	Governance framework creation; Governance model definition; Ensure transparent decision making process; Internal regulations in place;	Undefined Drafted Established - under validation Operational Scalable
	Rulebook existence	Book of data space rules tailored to data space needs; Covering contract frameworks and data licensing requirements; Bylaws, internal rules, procedures, contract templates, technical requirements and standards; In human and machine readable formats.	Not existing Exists with basic tailoring Comprehensive, tailored, and covers all key topics Applied in daily operation at least in human-readable format Fully operational, digital integrated, and available in a machine-readable format
	Governance processes in place	Processes for governance execution, including mechanisms for monitoring, review, and continuous improvement;	No formal processes in place Draft processes

CEN/CLC/TS 18331:2026 (E)

DSMI	METRICS	CAPABILITIES	MEASURE VALUES
		Dispute resolution procedures; Change management procedures; Management of data space agreements processes; Adaptation to the scale; Participation lifecycle management process.	Defined and communicated processes Enforced and regularly updated Size-adapted processes
Participation Management	Roles and responsibilities management	Keep updated the matrix of roles and responsibilities and scale it up when needed; Management of participants; Transactions monitoring.	Undefined Drafted Established Continuous operation Size-adapted
	Onboarding processes in place	Signature of participation agreement, include accepting the data spaces rules; Participants verification, including identity verification and compliance with data space rules for participation; Technical requirements verification; Access policies; Contract policies.	Undefined Drafted Established Continuous operation Size-adapted
	Offboarding processes in place	Termination of the participation agreement; Closing ongoing contracts; Assurance of operation continuity; Remove granted access; Data Contract Management.	Undefined Drafted Established Continuous operation Size-adapted
	Support mechanisms to participants	Identify the support needs of data space participants; Provision of continuous support service to all participants in all the data space services (onboarding, offboarding, contracts...); Having a help-desk system for managing the supporting actions and track the process.	Undefined Drafted Established Continuous operation Size-adapted

5.2.3 Business dimension

Table 2

DSMI	METRICS	CAPABILITIES	MEASURE VALUES
Business Model Development	Business goals and profits defined	Define the purpose, principles and scope of the data space (possible use of Data Space Canvas);	Discussed Defined Adopted