Draft ETSI EN 304 199 V1.0.0 (2026-03)



EUROPEAN STANDARD

Data Solutions (DATA);
Data catalogue implementation framework;
Guidelines for Data Catalogue Framework

Sample Document
get full document from standards.iteh.ai

Reference
DEN/DATA-00304199

Keywords
DATA, data collection, data interoperability, data sharing, semantic, terms, vocabulary

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from the ETSI Search & Browse Standards application.

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format on ETSI deliver repository.

Users should be aware that the present document may be revised or have its status changed, this information is available in the Milestones listing.

If you find errors in the present document, please send your comments to the relevant service listed under Committee Support Staff.

If you find a security vulnerability in the present document, please report it through our Coordinated Vulnerability Disclosure (CVD) program.

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.
No recommendation as to products and services or vendors is made or should be implied.
In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.
The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2026.
All rights reserved.

Sample Document
get full document from standards.iteh.ai

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

Contents

Intellectual Property Rights 5
Foreword 5
Modal verbs terminology 5
Introduction 6
1 Scope 7
2 References 7
2.1 Normative references 7
2.2 Informative references 7
3 Definition of terms, symbols and abbreviations 8
3.1 Terms 8
3.2 Symbols 8
3.3 Abbreviations 9
4 Catalogue metadata data model 9
4.1 Context 9
4.2 DCAT-AP as catalogue metadata data model 10
4.3 Guidelines for using DCAT-AP as catalogue metadata data model 12
4.3.1 Align the catalogue metadata data model with DCAT-AP 12
4.3.2 Using DCAT-AP 12
4.3.3 Create an extension of DCAT-AP 12
4.4 Mapping between the chosen catalogue metadata data model and DCAT-AP 13
5 Compliance validation 14
6 Considerations for creating a catalogue metadata data model 14
7 ETSI EN 304 199 Management Framework 15
7.1 Motivation and objectives 15
7.2 Governance 16
7.3 Release cycling and long-term maintenance 16
7.4 Versioning and editorial quality 16
7.5 Accessibility 16
Annex A (informative): Examples of a DCAT-AP Extension 17
A.1 EPOS-DCAT-AP 17
A.2 Language-DCAT-AP 17
A.3 mobilityDCAT-AP (NAPCORE) 18
A.4 HealthDCAT-AP 19
A.5 AI-Ready Data 20
Annex B (informative): Use Cases examples 21
B.1 Cognitive traffic management with Cellular sensing and Smart City data 21
B.1.1 Overview 21
B.1.2 Actors 21
B.1.3 The Role of DCAT-AP and its Extensions 22
B.1.4 Scenarios 22
B.1.5 Considerations 24
B.2 Cross-Border Pandemic Preparedness with Asynchronous Contact Tracing and Smart Health Data 24
B.2.1 Overview 24
B.2.2 Actors 24
B.2.3 The Role of DCAT-AP and its Extensions 25
B.2.4 Scenarios 26
B.2.5 Considerations 27

Sample Document
Get full document from standards.iteh.ai

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

B.3 Interoperability of Energy Smart Appliances with SAREF and Smart Grid Data 27
B.3.1 Overview 27
B.3.2 Actors 28
B.3.3 The Role of DCAT-AP and its Extensions 28
B.3.4 Scenarios 29
B.3.5 Considerations 30
B.4 Mapping DCAT-AP to NGSI-LD in Environmental Monitoring 31
B.4.1 Overview 31
B.4.2 Description of the Use Case 31
B.4.3 Scenarios 31
B.4.4 Strategies 32
B.4.5 Examples 33
B.5 Semantic Adaptation and Automated Federation of High-Value Datasets (HVD) 36
B.5.1 Overview 36
B.5.2 Actors 36
B.5.3 Enabling Technologies 36
B.5.4 The Role of DCAT-AP Adaptation 36
B.5.5 Scenario: Automated Compliance through Metadata Federation 37
B.5.6 Considerations 37
Annex C (informative): Change history 38
History 39

Sample Document
get full document from standards.iteh.ai

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI IPR online database.

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™**, **LTE™** and **5G™** logo are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM**® and the GSM logo are trademarks registered and owned by the GSM Association.

Sample Document

Foreword

This draft European Standard (EN) has been produced by ETSI Technical Committee Data Solutions (DATA), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI Standardisation Request deliverable Approval Procedure (SRdAP).

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

Introduction

The present document is developed in the context of the European Commission's Standardisation Request C(2025) 4135 [i.1] addressing article 33 of the Data Act (Regulation (EU) 2023/2854).

This standardization request foresees the joint development by ETSI and CEN/CENELEC of seven deliverables, ETSI is primarily responsible for deliverables 4 and 5, while the other deliverables have a primary responsibility of CEN/CENELEC.

The present document addresses the 4th deliverable (The Data Catalogue Implementation Framework), and it aims at making the data within European data spaces visible, findable, and therefore ready for supporting the trusted data transactions concept.

It ensures that data products, including data catalogues, datasets, and their distributions, are described in a consistent way.

Its relation to the other deliverables is sequential and interdependent:

- The Harmonised standards on Trusted Data Transactions (Parts 1-3) define how to share data securely and fairly. The present document ensures that data products are structured, described, and listed in a consistent way across all sectors. It is an essential precursor to enable the automated execution of transactions (the goal of Deliverables 1-3).
- Regarding the implementation framework for semantic assets (Deliverable 5): the present document standardizes the metadata for discovery (e.g. title, publisher, availability), the subsequent deliverable on semantic assets provides the meaning of the data itself. They are complementary: the catalogue framework allows one to find a data product, while the semantic assets framework ensures its content can be correctly interpreted. Both are critical for full data and semantic interoperability.
- Regarding Quality and Maturity (Deliverables 6 and 7), a standardized catalogue is a key indicator of mature internal data governance (Deliverable 6) and is a measurable feature for assessing the maturity of a data space itself (Deliverable 7). A participant's ability to register and manage assets in a shared catalogue reflects the quality of their data governance.

Sample Document
get full document from standards.iteh.ai

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

1 Scope

The present document provides a framework for standardized catalogue metadata in data spaces, in support of the publication and discovery of data products and to assure findability of data products within and across data spaces.

The present document:

a) sets out the common catalogue metadata, the minimum set to be applied across all common European data spaces;

b) establishes rules on the setting out of catalogue metadata extensions, specific to a domain-specific data space or to a specific data spaces set.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found in the ETSI docbox.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long-term validity.

Sample Document

The following referenced documents are necessary for the application of the present document.

get full document from standards.iteh.ai

[1] European Commission: "DCAT Application Profile for data portals in Europe".

[2] European Commission: "DCAT-AP reuse guidelines".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long-term validity.

The following referenced documents may be useful in implementing an ETSI deliverable or add to the reader's understanding, but are not required for conformance to the present document.

[i.1] Commission Implementing Decision C(2025)4135 of 1.7.2025 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.

[i.2] SEMIC - Interoperable Europe.

[i.3] European Commission: "GeoDCAT Application Profile for data portals in Europe".

[i.4] mobilityDCAT-AP: "A mobility extension for the DCAT application profile for data portals in Europe".

[i.5] European Union: "StatDCAT Application Profile for data portals in Europe".

[i.6] HealthDCAT-AP.

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

[i.7] European Data Portal.

[i.8] EPOS-DCAT-AP: "An extension of the DCAT Application Profile for Research Infrastructures in the solid-Earth domain".

[i.9] ETSI TS 103 757: "SmartM2M; Asynchronous Contact Tracing System; Fighting pandemic disease with Internet of Things (IoT)".

[i.10] Language-DCAT-AP.

[i.11] W3C® Recommendation 22 August 2024: "Data Catalog Vocabulary (DCAT)".

[i.12] ETSI TR 104 244: "Data Solutions (DATA); Implementation of Data Catalogues with NGSI-LD and DCAT-AP".

[i.13] W3C® Recommendation 16 July 2020: "JSON-LD 1.1".

[i.14] W3C® Recommendation 25 February 2014: "RDF 1.1 Turtle".

[i.15] W3C® Recommendation 20 July 2017: "Shapes Constraint Language (SHACL)".

[i.16] Commission Implementing Regulation (EU) 2023/138 of 21 December 2022 laying down a list of specific high-value datasets and the arrangements for their publication and re-use.

[i.17] W3C® Recommendation 15 February 2018: "ODRL Information Model 2.2".

[i.18] EN 18235-1: "Trusted Data Transactions - Part 1: Terminology, concepts and mechanisms", (produced by CEN).

Sample Document

3 Definition of terms, symbols and abbreviations

get full document from standards.iteh.ai

3.1 Terms

For the purposes of the present document, the following terms apply:

NOTE: The following terms are defined in EN 18235-1 [i.18]: data, data user, data sharing/data exchange, data licence term, data product, data producer, data provider, data rights holder, data space, data transaction, metadata, data sharing contract, trust service, trust anchor, data intermediary, data intermediation service, data catalogue, data usage consent, trust, trusted data transaction, data space participant/data space participant/ participant, data space participant role/data space participant role/participant role, party, data use, data sharing process/data exchange process.

catalogue metadata data model: data model describing the catalogue metadata used in a data space to increase the discoverability of data products within the data space and across other data spaces

data catalogue: organized inventory of data products published by one or more data providers that can be searched by data users

data product: data sharing unit, packaging data and metadata, and any associated licence term

data space: environment enabling trusted data sharing between participating parties, based on an agreed governance framework, along with an agreed set of policies, semantic models, standardized protocols, processes, and facilitating services

data space rulebook: publicly available data space register where the data space guidelines and any other governance agreement are registered and maintained

metadata: data defining and describing other data

3.2 Symbols

Void.

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ACT	Asynchronous Contact Tracing
AI	Artificial Intelligence
API	Advanced Programming Interface
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CoC	Code of Conduct
CSV	Comma-Separated Value document
CSW	Catalogue Service Web
DCAT	Data Catalogue vocabulary
DCAT-AP	Data Catalog vocabulary - Application Profile
DSO	Distribution System Operator
ECDC	European Centre for Disease Prevention and Control
EHDS	European Health Data Space
EMS	Energy Management Systems
EPOS	European Plate Observing System
EPREL	European Product Registry for Energy Labelling
ESA	Energy Smart Appliances
ETSI	European Telecommunication Standards Institute
EU	European Union
EV	Electrical Vehicle
GDPR	General Data Protection Regulation
GeoDCAT-AP	Geospatial DCAT-AP
HDAB	Health Data Access Bodies
HEMS	Home Energy Management Systems
HTML	HyperText Markup Language,
HVAC	Heating, Ventilation, Air-Conditioning
HVD	High Value Datasets
ICS	Integrated Core Services
INSPIRE	INfrastructure for SPatial InfoRmation in the European community
ISAC	Integrated Sensing and Communication
ISO	International Organization for Standardization
JSON-LD	JavaScript Object Notation for Linked Data
LDS	Language Data Space
LLM	Large Language Model
ML	Machine Learning
NAP	National Access Points
NGSI-LD	Next Generation Service Interfaces - Linked Data
NUTS	Nomenclature of Territorial Units for Statistics
ODRL	Open Digital Rights Language
PM	Post Meridiem
RDF	Resource Description Framework
SAREF	Smart Applications REFerence ontology
SEMIC	Semantic Interoperability Community
SHACL	SHApes Constraint Language
TCS	Thematic Core Services
TURTLE	Terse RDF Triple Language
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
URLLC	Ultra-Reliable Low-Latency Communication

Sample Document
Standards.iteh.ai

4 Catalogue metadata data model

4.1 Context

Data spaces [2] are environments designed to enable trusted data sharing between participants.

ETSI EN 304 199 V1.0.0 (2026-03) • https://standards.iteh.ai/catalog/standards/etsi/d99e2f7f-6e62-43a2-beda-8be8d98524ef/etsi-en-304-199-v1-0-0-2026-03