



# ASSESSMENT SUMMARY v1.0.0

Data Catalog Vocabulary (DCAT<sup>1</sup>)

W3C<sup>2</sup>

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<sup>1</sup> DCAT specification: <https://www.w3.org/TR/vocab-dcat/>

<sup>2</sup> The developer organisation: <https://www.w3.org/>

# Change Control

Modification	Details
<b>Version 1.0.0</b>	
Initial version	

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## 1. INTRODUCTION

The present document is a summary of the assessment of **DCAT** carried out by CAMSS using the CAMSS Assessment EIF scenario<sup>3</sup>. The purpose of this scenario is to assess the compliance of a standard or specification with the European Interoperability Framework (EIF)<sup>4</sup>.

## 2. ASSESSMENT SUMMARY

Data Catalogue Vocabulary (DCAT) is a specification from W3 for describing public sector datasets in Europe. Its basic use case is to enable a cross-data portal search for datasets and make public sector data better searchable across borders and sectors. This can be achieved by the exchange of descriptions of data sets among data portals.

### 2.1. EIF Interoperability Principles

Interoperability principles are fundamental behavioural aspects that drive interoperability actions. They are relevant to the process of establishing interoperable European public services. They describe the context in which European public services are designed and implemented.

***The specification does support the principles setting context for EU actions on interoperability:***

- **Subsidiarity and proportionality**

DCAT is included in five national catalogues, naming as an example the Netherlands and Spain. Both Member States comply with at least 3 out of 3 sections of the EIF according to the NIFO factsheets.

***The specification fully supports the principles setting context for EU actions on interoperability:***

- **Openness**

DCAT is included in five national catalogues, naming as an example the Netherlands and Spain. The highest Member States comply with at least 3 out of 3 sections of the EIF according to the NIFO<sup>5</sup> factsheets. By describing catalogues, datasets and resources, a publisher makes them easily searchable and discoverable.

In fact, DCAT is used for the publication of datasets in linked open data portals at a National (e.g.) and European scale (European Data Portal).

- **Transparency**

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<sup>3</sup> CAMSS Assessment EIF Scenario 6.0.0: <https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-assessment-EIF-scenario/release/600>

<sup>4</sup> ISA<sup>2</sup> programme: [https://ec.europa.eu/isa2/eif\\_en](https://ec.europa.eu/isa2/eif_en)

<sup>5</sup> NIFO Factsheets: <https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/digital-public-administration-factsheets-2022>

By allowing the exchange of datasets metadata, DCAT increases the searchability, visibility, discoverability and reuse of existing data, including information on processes and administrative rules.

DCAT does not directly help for the provision of application programming interfaces (APIs) or Web services. However, DCAT aims to ensure consistency by providing a standard description of the catalogues and datasets published by data portals across Europe. This description makes datasets more searchable and accessible for data reuse and encourages the data providers to use open data portals.

- **Reusability**

DCAT is a domain-agnostic specification that can be reused for the description of any dataset independently from the business domain. For DCAT users having business-specific requirements, the specification can be generally extended (e.g. StatDCAT-AP<sup>6</sup> for statistical data).

As most of the vocabularies, DCAT reuses several existing ones and the Resource Description Framework (RDF)<sup>7</sup>. This results in a dependency that can hamper interoperability, especially in the case where new releases of the reused vocabularies are not backward compatible.

- **Technological neutrality and data portability**

DCAT supports the evolution of European Public Services by enhancing the searchability and discoverability of datasets across borders. DCAT is an interoperability enabler.

***The specification partially supports the principles related to generic user needs and expectations:***

- **User-centricity**

The specification, as a cross-border and cross-sector vocabulary increases government-to-government reuse of data and therefore can prevent citizens or businesses from providing the same information several times. Like all common vocabularies, DCAT facilitates the implementation of the once-only principle.

- **Inclusion and accessibility**

The purpose of DCAT is not related to e-accessibility. Therefore, this criterion is not applicable to this specification.

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<sup>6</sup> StatDCAT-AP: <https://joinup.ec.europa.eu/collection/semantic-interoperability-community-semic/solution/statdcat-application-profile-data-portals-europe/release/100>

<sup>7</sup> RDF: <https://www.w3.org/TR/rdf11-primer/>

- **Privacy**

The specification partially addresses the protection of personal data managed by public administrations. It is possible to include additional metadata elements in DCAT to provide information on security, data protection and privacy.

The DCAT specification has incorporated the `dcat:DataService` class which inherits some other properties, among those inherited properties there is the `dcat:accessrights` class that can provide a mean for restriction of access to information/data.

- **Security**

The DCAT vocabulary supports the attribution of data and metadata to various participants such as resource creators, publishers and other parties.

In addition, it also supports the association of rights and licenses with catalogued Resources and Distributions. Such metadata improves the reliability of data exchanged between citizens, businesses and public administrations.

- **Multilingualism**

The DCAT vocabulary defines the "Distribution" concept which can be used for publishing datasets in different languages.

***The specification supports the foundation principles for cooperation among public administrations:***

- **Administrative Simplification**

DCAT is an RDF vocabulary for representing data catalogues that allows data owners to provide metadata about the datasets they publish. By describing catalogues, datasets and resources, a publisher makes them easily searchable and discoverable.

Following the previous statement it can be said that DCAT can simplify the delivery of European public services.

- **Preservation of information**

By allowing the description of catalogues and datasets, aggregated DCAT metadata can serve as a manifest file as part of the digital preservation process.

- **Assessment of effectiveness and efficiency**

There are assessments evaluating the specification's effectiveness and efficiency, for example, in ScienceDirect there is a paper evaluating the assessment<sup>8</sup>.

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<sup>8</sup> Study on the DCAT-AP representation of Czech National Open Data Catalog and its impact: <https://www.sciencedirect.com/science/article/abs/pii/S1570826818300532>

## 2.2. EIF Interoperability Layers

The interoperability model which is applicable to all digital public services includes:

- Four layers of interoperability: legal, organisational, semantic and technical;
- A cross-cutting component of the four layers, 'integrated public service governance';
- A background layer, 'interoperability governance'.

***The Specification partially supports the implementation of digital public services complying with the EIF interoperability model:***

- **Interoperability governance**

DCAT is associated with EIRA<sup>9</sup> ABBs in the EIRA Library of Specifications (ELIS)<sup>10</sup>. DCAT can define the interoperability aspects of the Base Registry, Controlled Vocabulary, Data, Data Model, Data Policies, Data Set, Data Set Catalogue, Data Syntax, Forms Structure, Hash Code, Metadata Reference Data ABBs of the EIRA Semantic View; and the Data Publication Component, Data Publication Service, Metadata Management Component, Metadata Management Service ABBs of the EIRA Technical View.

- **Legal Interoperability**

DCAT is not a European Standard in the sense of a formal standard developed and recognized by the European standards organizations.

- **Organisational interoperability**

The purpose of DCAT is not related to the modullisation of business processes. Therefore this criterion is not applicable to this specification.

- **Semantic Interoperability**

While DCAT does not explicitly encourage the creation of communities or the sharing of data and results on national platforms, its use can help to enable these activities by providing a common format for describing and sharing metadata about data sets. By providing a standardized way of describing and sharing data, DCAT can help to facilitate the discovery, access, and reuse of data, which can in turn help to support collaboration and the creation of communities around data.

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<sup>9</sup> EIRA: <https://joinup.ec.europa.eu/collection/european-interoperability-reference-architecture-eira/solution/eira/release/v500>

<sup>10</sup> ELIS: <https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/elis/elis-dashboard>

### 3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for **DCAT**. The CAMSS “Strength” indicator measures the reliability of the assessment by calculating the number of answered (applicable) criteria. On the other hand, the number of favourable answers and the number of unfavourable ones is used to calculate the “Automated Score” per category and an “Overall Score”.

Category	Automated Score	Assessment Strength	Compliance Level
Principle setting the context for EU actions on interoperability	100/100 (100%)	100%	Seamless
Core interoperability principles	1540/1700 (91%)	100%	Seamless
Principles related to generic user needs and expectations	1040/1200 (87%)	92%	Seamless
Foundation principles for cooperation among public administrations	460/500 (92%)	100%	Seamless
Interoperability layers*	840/1000 (84%)	70%	Seamless
Overall Score	3580/4100 (87%) <sup>11</sup>	91%	

*\*The technical interoperability layer is covered by the criteria corresponding to the core interoperability principle "Openness".*

With an 91% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 87% (3580/4100) demonstrates that the specification supports the European Interoperability Framework in the domains where it applies.

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<sup>11</sup> See the “results interpretation” section of the CAMSS Assessment EIF Scenario Quick User Guide:

<https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-assessment-eif-scenario/results-visualisation-and-interpretation>