eCH-0200 – DCAT-Anwendungsprofil für Datenportale in der Schweiz (DCAT-AP CH) - v2.0

Name	DCAT-Anwendungsprofil für Datenportale in der Schweiz (DCAT-AP CH) v2
eCH-Nummer	eCH-0200
Kategorie	Standard
Reifegrad	Definiert
Version	2.0.0
Status	Entwurf
Beschluss am	JJJJ-MM-TT
Ausgabedatum	JJJJ-MM-TT
Ersetzt Version	1.0.0 Major Change
Voraussetzungen	-
Beilagen	-
Sprachen	Englisch (Original), Deutsch, Französisch (Übersetzung)
Autoren	Mitglieder der eCH-Fachgruppe "Open Government Data" Co-Leiter eCH-Fachgruppe: S. Haller (BFH), J.P. Lovato (BFS/Liip) Unterstützung Leitung eCH-Fachgruppe: S. Maennel (Liip)
Herausgeber / Vertrieb	Verein eCH, Mainaustrasse 30, Postfach, 8034 Zürich T 044 388 74 64, F 044 388 71 80 www.ech.ch / info@ech.ch

Zusammenfassung

Das DCAT-Anwendungsprofil für Datenportale in der Schweiz (DCAT-AP CH) basiert auf Data Catalog Vocabulary (DCAT[1]) und dient zur Beschreibung der in Schweizer Datenportalen (z.B. opendata.swiss) verzeichneten Daten. Seine Zielgruppe sind die Betreiber von Datenportalen in der Schweiz (gemäss DCAT Terminologie "Data Receivers") und die Anbieter dieser Daten, welche Datenkataloge führen (gemäss DCAT Terminologie "Data Sender").

Datenportale stellen in der Regel nicht die Daten selbst bereit, sondern nur Metadaten zu den Daten innerhalb von Datenkatalogen. Diese dienen dem Zweck, die Daten auffindbar und wiederverwendbar zu machen. So fokussiert DCAT-AP CH grundsätzlich primär auf die Beschreibung von Metadaten.

DCAT-AP CH soll ebenfalls die Kompatibilität mit dem Anwendungsprofil für Datenportale in Europa (DCAT-AP) sicherstellen. Denn dies mit der Version 1 nicht mehr gegeben war, wurde im Rahmen der eCH-Fachgruppe "Open Government Data" die vorliegende Version 2 definiert. So ist die höchstmögliche Kompatibilität mit DCAT-AP (aktuelle Version 2.1.0) sichergestellt.

---

[1] DCAT: Data Catalog Vocabulary - Version 2. URL: https://www.w3.org/TR/vocab-dcat

Inhaltsverzeichnis

Hinweis

Aus Gründen der besseren Lesbarkeit und Verständlichkeit wird im vorliegenden Dokument bei der Bezeichnung von Personen ausschliesslich die maskuline Form verwendet. Diese Formulierung schliesst Frauen in ihrer jeweiligen Funktion ausdrücklich mit ein.

1 Einleitung

1.1 Status

<Zutreffendes fett markieren>

In Arbeit: Der Gebrauch ist nur innerhalb der Fachgruppe, bzw. im Expertenausschuss zugelassen.

Entwurf: Das Dokument wurde von den zuständigen Referenten aus dem Expertenausschuss zur öffentlichen Konsultation freigegeben und entsprechend publiziert.

Vorschlag: Das Dokument wird dem Expertenausschuss zur Genehmigung TT-MM-JJJJ vorgelegt, ist aber normativ noch nicht gültig.

Genehmigt: Das Dokument wurde vom Expertenausschuss genehmigt. Es hat für das definierte Einsatzgebiet im festgelegten Gültigkeitsbereich normative Kraft.

Abgelöst: Das Dokument wurde durch eine neue, aktuellere Version ersetzt. Die Benutzung ist zwar noch möglich, es wird aber empfohlen, die neuere Version einzusetzen.

Aufgehoben: Das Dokument wurde von eCH zurückgezogen. Er darf nicht mehr genutzt werden.

Sistiert: Das Dokument wurde von eCH zurückgezogen. Es darf nicht genutzt werden. Es hat den Status «Genehmigt» nicht erreicht.

1.2 Area of application

The DCAT Application Profile for data portals in Switzerland (DCAT-AP CH) is an Application Profile of the DCAT vocabulary and a Subprofile of the European Application Profile DCAT-AP.

- **DCAT ("Data Catalog Vocabulary")**[2] is a semantic definition to describe data by the means of an RDF vocabulary. It allows for a decentralized approach regarding the publication of data by enforcing interoperability via the use of a common language to describe the data.
- Being DCAT a generic language, it can be applied in various contexts. An **Application Profile** specifies its utilization within a specific domain, context or application, with the goal of facilitating data exchange. In particular it adds more specificity by identifying *mandatory*, *recommended* and *optional* elements to be used for a particular application, as well as recommendations for *controlled vocabularies* to be used.
- In Europe **DCAT-AP**[3] was defined as the main Application Profile, which then assumed the role of a *de facto* standard within Europe.
- Based on DCAT-AP, several European Countries defined their own localized, tailored to their

---

[2] DCAT: Data Catalog Vocabulary - Version 2. URL: https://www.w3.org/TR/vocab-dcat

[3] https://joinup.ec.europa.eu/collection/semantic-interoperability-community-semic/solution/dcat-application-profile-data-portals-europe/release/210

specific needs, Application Profiles[4]. So, the Swiss community defined **DCAT-AP CH, to provide guidance for Swiss data publishers on how to specify their data catalogues and to data portal managers on how to process data catalogues, in a DCAT-AP CH and DCAT-AP conformant manner, so that interoperability with DCAT-AP is assured**

It should be always kept in mind that both DCAT-AP CH and DCAT-AP primarily focus on *metadata*. Metadata is by definition secondary information on the data: when and by whom were they published, which usage conditions apply, how often are they updated, whom to contact about them and where and how can they be accessed.

1.3 Overview changes from v1

The main focus of the eCH Expert Group by the creation of DCAT-AP CH v2 was to ensure the compatibility to DCAT-AP.

- All mandatory and recommended properties of DCAT-AP (v2.1.0) were adopted in DCAT-AP CH (v2).
- The Requirement level "conditional" was replaced by the "recommended", to align with the DCAT-AP's notation and concept.
- The cardinality and requirement levels were updated to make them compatible with DCAT-AP (see chapter 4 for more insights on the rational of the conformity to DCAT-AP).
- First DCAT and then DCAT-AP introduced the new class "Data Service"[5], which is used to describe "a collection of operations that provides access to one or more datasets or data processing functions." The v2 of DCAT-AP CH adopts this new class too
- The informational structure defined by DCAT-AP CH v1 to inform about the legal framework (see in particular dct:accessRights, dct:rights, dct:license and their relationships) of data was aligned to the one utilized in DCAT-AP.
- The custom class dct:coverage on dcat:Dataset was removed, since it was considered to be redundant to other properties defined by DCAT-AP, in particular dct:spatial and dct:temporal
- The custom class rdfs:seeAlso on dcat:Dataset was removed, since it was considered to be redundant to other properties defined by DCAT-AP, in particular dct:relation

2 DCAT-AP CH: Building Blocks

2.1 DCAT as a universal vocabulary

The Application Profile specified in this document is based on the specification of the Data Catalog

---

[4] See https://joinup.ec.europa.eu/collection/semantic-interoperability-community-semic/solution/dcat-application-profile-data-portals-europe/about, Chapter 8 for a list of the different national profiles and users

[5] https://www.w3.org/TR/vocab-dcat-2/#Class:Data_Service

Vocabulary (DCAT) developed under the responsibility of the Government Linked Data Working Group at W3C[6]. DCAT is an RDF[7] vocabulary designed to facilitate interoperability between data catalogues published on the Web. Additional classes and properties from other well-known vocabularies are re-used where necessary.

The DCAT vocabulary consists of **classes** and **properties**.

- **Classes are *things on the internet***: Not all of them have URIs, but it is recommended to provide a URI for them. They are complex things like a person, an organization, a dataset, a website or a downloadable data file.
- **Classes have properties**: The properties are the attributes describing these things. Some properties occur in more than one class, a title for example is a common attribute. Other properties are very specialized such as a file format that only makes sense for a data file.
- **Properties can be simple or complex**: Some properties are classes. For example, an organization can have a website. Or a dataset can have a data publisher. In general, a class can be recognized by its spelling: A property name starts with a lowercase letter such as dcat:dataset, while a class starts with a capital letter such as dcat:Dataset.

Classes and properties are used to deliver the metadata in a structured way.

2.2 The core structure of DCAT-AP CH v2 replicates the core structure of DCAT-AP

Being a *Subprofile* of DCAT-AP, DCAT-AP CH replicates its core structure and concepts.

2.2.1 Classes

The Swiss Application Profile ("DCAT-AP CH") as well as the European Application Profile ("DCAT-AP") are structured around the following main 4 classes:

Class name	Usage note for the Application Profile	URI	Reference
Catalogue	A catalogue or repository that hosts the Datasets or Data Services being described.	dcat:Catalog	https://www.w3.org/TR/vocab-dcat-2/#Class:Catalog
Dataset	A conceptual entity that represents the information published.	dcat:Dataset	https://www.w3.org/TR/vocab-dcat-2/#Class:Dataset
Distribution	A physical embodiment of the Dataset in a particular format.	dcat:Distribution	https://www.w3.org/TR/vocab-dcat-2/#Class:Distribution
Data Service	A collection of operations that provides access to one or more datasets or data processing functions.	dcat:DataService	https://www.w3.org/TR/vocab-dcat-2/#Class:Data_Service

---

[6] W3C. Government Linked Data (GLD) Working Group. http://www.w3.org/2011/gld/wiki/Main_Page

[7] W3C. Resource Description Framework (RDF). http://www.w3.org/RDF/

Note that in the previous versions of DCAT-AP and DCAT-AP CH, classes were categorised to be mandatory, recommended and optional, like it's currently the case for properties. This categorisation has been removed in favour of the above overview and guidelines to create a common expectation for DCAT-AP catalogues.

To improve the coherency by the description of shared Dataset, Distribution and the new introduced class Data Services, DCAT-AP provided guidelines on their usage: https://github.com/SEMICeu/DCAT-AP/blob/2.1.0-draft/releases/2.1.0/usageguide-dataset-distribution-dataservice.md .

2.3 Requirement levels

CAT-AP CH defines four requirement levels for data receivers and senders:

- **Mandatory** property: a receiver MUST be able to process the information for that property; a sender MUST provide the information for that property.
- **Recommended** property: a receiver MUST be able to process the information for that property; a sender SHOULD provide the information for that property if it is available.
- **Optional** property: a receiver MUST be able to process the information for that property; a sender MAY provide the information for that property but is not obliged to do so.
- **Deprecated** property: a receiver SHOULD be able to process information about instances of that property; a sender SHOULD NOT provide the information about instances of that property.

The meaning of the terms MUST, MUST NOT, SHOULD and MAY in this section and in the following sections are as defined in RFC 2119[8].

In the given context, the term "processing" means that receivers MUST accept incoming data and transparently provide these data to applications and services. It does neither imply nor prescribe what applications and services finally do with the data (parse, convert, store, make searchable, display to users, etc.).

2.4 Controlled vocabularies of DCAT-AP CH v2

In the table below, a number of properties are listed with controlled vocabularies (CV) that MUST be used for the listed properties.

Where possible the same controlled vocabularies as DCAT-AP were utilized[9]. However not every vocabulary proposed by DCAT-AP is currently applied for DCAT-AP CH v2. In some cases, the eCH-Expert Group is still evaluating the application of the proposed vocabulary, while in other cases the eCH-Expert Group decided to evaluate the introduction of a new, Swiss-specific vocabulary. In particular for the property dct:publisher, which refers to an entity (organisation) responsible for making a Catalogue, a Dataset or a Data Service available, a CV is still being discussed within the eCH-Expert Group "Open Government Data" - its introduction will be evaluated for the next iterations

---

[8] IETF. RFC 2119. Key words for use in RFCs to Indicate Requirement Levels. http://www.ietf.org/rfc/rfc2119.txt

[9] Siehe DCAT-AP v2.1.0, Chapter 5 "Controlled Vocabularies"

of this standard eCH-0200.

Property URI	Used for Class	Vocabulary name	Vocabulary URI	Usage note
dcatap:availability	Distribution	Distribution availability vocabulary	http://publications.europa.eu/resource/authority/planned-availability	The list of terms for the availability levels of a dataset distribution in the DCAT-AP specification.
dct:accessRights	Dataset, Data Service	Access Rights Named Authority List	http://publications.europa.eu/resource/authority/access-right	
dct:accrualPeriodicity	Dataset	EU Vocabularies Frequency Named Authority List[10]	http://publications.europa.eu/resource/authority/frequency	
dct:format	Distribution	EU Vocabularies File Type Named Authority List[11]	http://publications.europa.eu/resource/authority/file-type	
dct:language	Catalogue, Dataset, Catalogue Record, Distribution	EU Vocabularies Languages Named Authority List	http://publications.europa.eu/resource/authority/language	
Dct:license	Distribution	Swiss Controlled Vocabulary for Licences and Terms of Use	https://dcat-ap.ch/vocabulary/licenses/20210623.html	Within the federal level only the "Terms of use opendata.swiss are applicable"
dcat:mediaType	Distribution	IANA Media Types[12]	http://www.iana.org/assignments/media-types/media-types.xhtml	
dct:spatial	Catalogue, Dataset	EU Vocabularies Continents Named Authority List , EU Vocabularies Countries Named Authority List , EU Vocabularies Places Named Authority List , Geonames	http://publications.europa.eu/resource/authority/continent/, http://publications.europa.eu/resource/authority/country, http://publications.europa.eu/resource/authority/place/,	

---

[10] EUROPA. Publications Office of the EU. EU Vocabularies. Controlled Vocabularies. Authority tables. Frequency. https://publications.europa.eu/en/web/eu-vocabularies/at-dataset/-/resource/dataset/frequency

[11] EUROPA. Publications Office of the EU. EU Vocabularies. Controlled Vocabularies. Authority tables. File type. https://publications.europa.eu/en/web/eu-vocabularies/at-dataset/-/resource/dataset/file-type

[12] Internet Assigned Numbers Authority (IANA). Media Types http://www.iana.org/assignments/media-types

Property URI	Used for Class	Vocabulary name	Vocabulary URI	Usage note
dcat:theme	Dataset	Dataset Theme Vocabulary	http://publications.europa.eu/resource/authority/data-theme	The values to be used for this property are the URIs of the concepts in the vocabulary. A possible (non-normative) "mapping" to the current themes on opendata.swiss is proposed here: https://dcat-ap.ch/vocabulary/themes/20210623.html
dcat:themeTaxonomy	Catalogue	Dataset Theme Vocabulary	http://publications.europa.eu/resource/dataset/data-theme	The value to be used for this property is the URI of the vocabulary itself, i.e. the concept scheme, not the URIs of the concepts in the vocabulary.

2.5 Multilingualism

Switzerland is a multilingual country. Therefore, supporting multiple languages is particularly important. For this reason, DCAT-AP CH defines guidelines regarding the content and the technical publication of this content in different languages.

In terms of content:

- **Organisations at the federal level MUST provide metadata in at least 2 official languages**, for instance German and French or Italian and English.
- **Every other organisation MUST provide this metadata in at least one of the following four languages: English, German, French or Italian**. The specification in other languages is optional.

From a technical perspective multilingualism SHOULD be handled as follows:

- **Multilingual literals**: Properties of Range rdfs:Literal can be provided in multiple languages by adding so called language encoded strings: these add the language as an ISO 639-1 two letter code after the string in the way that is shown in the example below:

Example for localizing a rdfs:Literal:

@*prefix dcat: <http://www.w3.org/ns/dcat#> .*

@*prefix dct: <http://purl.org/dc/terms/> .*

<https://swisstopo/opendata/dataset/1234>

a dcat:Dataset ;

dct:title "Holztürme im Kanton Zürich"@de,

"Wooden staircases in canton Zurich"@en.

- **Content negotiation**: Properties of Range rdfs:Resource SHOULD be URIs. It is important to use URIs that are language independent. Then the data publisher in the process of dispatching these URIs can use content negotiation.

Example for a rdfs:Resource that is language independent. The host of that landing page can redirect a request coming in for 'https://opendata.swisstopo/1234/about' to a page that matches with the language of the user:

@prefix dcat: <http://www.w3.org/ns/dcat#> .

@prefix dct: <http://purl.org/dc/terms/> .

<https://swisstopo/opendata/dataset/1234>

a dcat:Dataset ;

dct:title "Holztürme im Kanton Zürich"@de,

"Wooden staircases in canton Zurich"@en.

The table lists multilingual properties of DCAT-AP CH and the translation strategies that apply to them:

Label	RDF property	Range	Multilingual Support
Catalog title	dct:title	rdfs:Literal	Language encoded string
Catalog description	dct:description	rdfs:Literal	Language encoded string
Dataset title	dct:title	rdfs:Literal	Language encoded string
Dataset description	dct:description	rdfs:Literal	Language encoded string
Dataset keyword	dcat:keyword	rdfs:Literal	Language encoded string
Catalog homepage	foaf:homepage	foaf:Document	Content negotiation
Dataset landing Page	dcat:landingPage	foaf:Document	Content negotiation
Catalog publisher	dct:publisher	foaf:Agent	Content negotiation for the URI and language encoded string for the name

Label	RDF property	Range	Multilingual Support
Dataset publisher	dct:publisher	foaf:Agent	Content negotiation for the URI and language encoded string for the name

3 DCAT-AP-CH: Properties per Class

3.1 Notation

- **Property**: denotes the label that the class or property is given in DCAT-AP and/or DCAT-AP CH.
- **URI**: denotes the property URI.
- **Range**: specifies the range of values that is expected for the property.
- **ReqLevel** ("Requirement level"): denotes whether the class / property is mandatory, recommended or optional.
- **Card** ("Cardinality"): specifies the minimum number of values that MUST be provided for that property and the maximum number of values that MAY be provided.
- **Usage Note**: specifies custom usage instructions and provides background information.
- **CV** ("Controlled Vocabulary"): defines which controlled vocabulary SHOULD be used.

3.2 Class: Catalogue

A Catalogue or repository that hosts the Datasets or Data Services being described.

DCAT-AP CH allows Catalogues of only Datasets, but also Catalogues of only Data Services, but usually it will be a mixture of both.

Property	URI	Range	Req Level	Card	Usage Note
description	dct:description	rdfs:Literal	M	1..n	**This property contains a free-text account of the data Catalogue (in the language indicated in the attribute).** **This property can be repeated for parallel language versions of the description (see Chapter 2.4 on Multilingualism).**
publisher	dct:publisher	foaf:Agent	M	1..1	**This property refers to an entity (organisation) responsible for making the Catalogue available.**
Title	dct:title	rdfs:Literal as an ISO 639-1 two letter code indicating the language	M	1..n	**The title of the catalogue in the indicated language** **This property can be repeated for parallel language versions of the description (see Chapter 2.4 on Multilingualism)**
dataset	dcat:dataset	dcat:Dataset	R	0..n	- This property links the Catalogue with a Dataset that is part of the Catalogue. - As empty Catalogues are usually indications of problems, this property SHOULD be combined with the property service to implement an empty Catalogue check.

Property	URI	Range	Req Level	Card	Usage Note
homepage	foaf:homepage	foaf:Document	R	0..1	• This property refers to a web page that acts as the main page for the Catalogue • For instance opendata.swiss, would be the homepage of the Swiss Catalogue exported to data.europa.eu.
language	dct:language	dct:LinguisticSystem	R	0..n	• This property refers to a language used in the textual metadata describing titles, descriptions, etc. of the Datasets in the Catalogue. • The properties title and description of Catalogues, Datasets or Distribution can be provided in multiple languages. In that case, it makes sense to also list these languages on the Catalogue level. • CV to be used: http://publications.europa.eu/resource/authority/language
license	dct:license	dct:LicenseDocument	R	0..1	• This property refers to the licence under which the Catalogue can be used or reused. • CV to used: https://dcat-ap.ch/vocabulary/licenses/20210623.html
release date	dct:issued	rdfs:Literal typed as xsd:date, xsd:dateTime, xsd:gYear or xsd:gYearMonth	R	0..1	• This property contains the date of formal issuance (e.g., fir publication of the Catalogue).
Rights	dct:rights	dct:RightsStatement	R	0..1	• This property refers to a statement that specifies rights associated with the Catalogue.
service	dcat:service	dcat:DataService	R	0..n	• This property refers to a site or end-point (Data Service) that is listed in the Catalogue. • As empty Catalogues are usually indications of problems, this property SHOULD be combined with the property Dataset to implement an empty Catalogue check.
spatial/ geographic	dct:spatial	dct:Location	R	0..n	• This property refers to a geographical area covered by the Catalogue. • CV to be used: The EU Vocabularies Name Authority Lists MUST be used for continents, countries and places that are in those lists; if a particular location is not in one of the mentioned Named Authority Lists, Geonames URIs MUST be used: • http://publications.europa.eu/resource/authority/continent/ • http://publications.europa.eu/resource/authority/country • http://publications.europa.eu/resource/authority/place • http://sws.geonames.org
themes	dcat:themeTaxonomy	skos:ConceptScheme	R	0..n	• This property refers to a knowledge organization system used to classify the Catalogue's Datasets. • CV to be used: http://publications.europa.eu/resource/dataset/data-theme

Property	URI	Range	Req Level	Card	Usage Note
update/ modificati on date	dct:modified	rdfs:Literal typed as xsd:date, xsd:dateTime, xsd:gYear or xsd:gYearMonth	R	0..1	● This property contains the most recent date on which the Catalogue was modified.

3.3 Class: Dataset

A Dataset is a collection of data, published or curated by a single source and related by a common idea or concept. In contrast to a Data Service a Dataset is expected to be a collection of data that is available for access or download in one or more formats, as Distributions. Distributions belonging to the same Dataset should not differ in regards to the idea of the data that they represent. They may differ in regards to the physical representation of the data such as format or resolution. Or they may split the data of the dataset into portions of comparable size such as data per time period or location

DCAT-AP provides guidelines about the usage of Data services and Distribution in relation to Datasets:
https://github.com/SEMICeu/DCAT-AP/blob/2.1.0-draft/releases/2.1.0/usageguide-dataset-distribution-dataservice.md.

Property	URI	Range	Req Level	Card	Usage Note
contact point	**dcat:contactP oint**	**vcard:Kind**	**M**	**1..n**	● **This property contains contact information that can be used for sending comments about the Dataset.** ● **This property MUST contain an email address that is continuously monitored by the data publisher.** ● **If there are several contributors involved in the publication of the Dataset, the property can be used multiple times.**
description	**dct:descriptio n**	**rdfs:Literal**	**M**	**1..n**	● **This property contains a free-text account of the Dataset.** ● **This property can be repeated for parallel language versions of the description (see Chapter 2.4 on Multilingualism). On the user interface of data portals, the content of the element whose language corresponds to the display language selected by the user is displayed.**
identifier	**dct:identifier**	**rdfs:Literal**	**M**	**1..n**	● **This property contains the unique identifier for the Dataset, e.g. the URI or other unique identifier in the context of the Catalogue.** ● **The identifier may be used as part of the URI of the Dataset.**
publisher	**dct:publisher**	**foaf:Agent**	**M**	**1..1**	● **This property refers to an entity (organisation) responsible for making the Dataset available.**

Property	URI	Range	Req Lev el	Card	Usage Note
Title	**dct:title**	**rdfs:Literal**	**M**	**1..n**	• **This property contains a name given to the Dataset.** • **This property can be repeated for parallel language versions of the description (see Chapter 2.4 on Multilingualism).**
dataset distribution	dcat:distribution	dcat:Distribution	R	0..n	• This property links the Dataset to an available Distribution. • In exceptional cases, a Dataset for which no distribution form exists (yet) can be described in the Catalogue. In this case, the element dcat:distribution may be omitted.
keyword/tag	dcat:keyword	rdfs:Literal	R	0..n	• This property contains a keyword or tag describing the Dataset. • If a suitable keyword is available in TERMDAT (termdat.bk.admin.ch) then this SHOULD be used. • Good practice: mark the language of the keywords with the ISO 639-1 language code such as "geodata"@en.
landing page	dcat:landingPa ge	foaf:Document	R	0..n	• This property refers to a web page that provides access to the Dataset, its Distributions and/or additional information. • It is intended to point to a landing page at the original data provider, not to a page on a site of a third party, such as an aggregator.
release date	dct:issued	rdfs:Literal typed as xsd:date, xsd:dateTime, xsd:gYear or xsd:gYearMonth	R	0..1	• This property contains the date of formal issuance (e.g., first publication of the Dataset). • If this date is not known, the date of the first referencing of the data collection in the Catalogue can be entered.
spatial/ geographical coverage	dct:spatial	dct:Location	R	0..n	• This property refers to a geographic region that is covered by the Dataset. • CV to be used: The EU Vocabularies Name Authority Lists MUST be used for continents, countries and places that are in those lists; if a particular location is not in one of the mentioned Named Authority Lists, Geonames URIs MUST be used: • http://publications.europa.eu/resource/author ity/continent/ • http://publications.europa.eu/resource/author ity/country • http://publications.europa.eu/resource/author ity/place • http://sws.geonames.org
temporal coverage	dct:temporal	dct:PeriodOfTime	R	0..n	• This property refers to a temporal period that the Dataset covers.
theme/categ ory	dcat:theme, subproperty of dct:subject	skos:Concept	R	0..n	• This property refers to a category of the Dataset. A Dataset may be associated with multiple themes. • CV to be used: http://publications.europa.eu/resource/author ity/data-theme

Property	URI	Range	Req Level	Card	Usage Note
update/ modification date	dct:modified	rdfs:Literal typed as xsd:date, xsd:dateTime, xsd:gYear or xsd:gYearMonth	R	0..1	• This property contains the most recent date on which the Dataset was changed or modified. • No value may indicate that the Dataset has never changed after its initial publication, or that the date of the last modification is not known, or that the Dataset is continuously updated • This property MUST only be set if the distributions (the actual data) that the Dataset describes have been updated after it has been issued. In this case the property MUST contain the date of the last update. That way a person or institution using the data for an analysis or application will know when to update the report or application on their side.
access rights	dct:accessRights	dct:RightsStatement	O	0..1	• This property refers to information that indicates whether the Dataset is open data, has access restrictions or is not public. • CV to be used: http://publications.europa.eu/resource/authority/access-right
conforms to	dct:conformsTo	dct:Standard	O	0..n	• This property refers to an implementing rule or other specification. • This property SHOULD be used to indicate the model, schema, ontology, view or profile that this representation of a Dataset conforms to. This is (generally) a complementary concern to the media-type or format.
documentation	foaf:page	foaf:Document	O	0..n	• This property refers to a page or document about this Dataset.
frequency	dct:accrualPeriodicity	dct:Frequency	O	0..1	• This property refers to the frequency at which the Dataset is updated. • CV to be used: http://publications.europa.eu/resource/authority/frequency
image	schema:image	schema:url or schema:ImageObject	O	0..1	• A thumbnail picture illustrating the content of the Dataset. • For distributions that consist of visual content (photographs, videos, maps, etc.) it makes sense to add a limited number of thumbnails to the metadata. • It's a DCAT-AP CH Custom Class (not present in DCAT-AP)
is referenced by	dct:isReferencedBy	rdfs:Resource	O	0..n	• This property is about a related resource, such as a publication, that references, cites, or otherwise points to the Dataset.
language	dct:language	dct:LinguisticSystem	O	0..n	• This property refers to a language of the Dataset. This property can be repeated if there are multiple languages in the Dataset. • CV to be used: http://publications.europa.eu/resource/authority/language

Property	URI	Range	Req Lev el	Card	Usage Note
qualified attribution	prov:qualifiedAttribution	prov:Attribution	O	0..n	● This property refers to a link to an Agent having some form of responsibility for the resource
qualified relation	dcat:qualifiedRelation	dcat:Relationship	O	0..n	● This property provides a link to a description of a relationship with another resource and it's especially meant for relationships between Dataset. ● It replaces the property rdfs:seeAlso of DCAT-AP CH v1. ● See here for examples on how to use it: https://www.w3.org/TR/vocab-dcat-2/%23Class:Relationship#qualified-relationship.
related resource	dct:relation	rdfs:Resource	O	0..n	● This property refers to a related resource where the relationship cannot be further specified as a dcat:qualifiedRelationship. This may be additional material such as an article, example or documentation helpful in the context of the Dataset. ● The element can also be used to link to legal foundations that apply to the publication or usage of the Dataset .

3.4 Class: Distribution

A metadata entry of this class describes a distribution of the data, which is a specific representation of a Dataset. A Dataset might be available in multiple serializations that may differ in various ways, including natural language, media-type or format, schematic organization, temporal and spatial resolution, level of detail or profiles (which might specify any or all of the above).

The distribution can contain all the data of the Dataset or it can contain just a part of the data. For example: it can contain all data about the population in Switzerland or it can contain just one year of this data, say the year 2018. It can also contain the data in an alternative data format, for example a graphical presentation of the data for the years 1990 up to 2010.

DCAT-AP allows the representation of various relationships within Dataset or between Datasets: The simplest relationship is the aggregation of various physical representations of data ("Distributions") into a Dataset . One possible such Dataset would be a time series where each distribution covers one year of the data and the Dataset spans several years.

A distribution represents a general availability of a Dataset. It implies no information about the actual access method of the data, i.e. whether by direct download or through a Web page. The use of dcat:downloadURL property indicates directly downloadable distributions.

DCAT-AP provides guidelines about the usage of Data services and Distribution in relation to Dataset: https://github.com/SEMICeu/DCAT-AP/blob/2.1.0-draft/releases/2.1.0/usageguide-dataset-distribution-dataservice.md.

Property	URI	Range	Req Lev el	Car d	Usage Note

access URL	dcat:accessURL	rdfs:Resource	M	1..n	• **This property contains a URL that gives access to a Distribution of the Dataset. The resource at the access URL may contain information about how to get the Dataset.**
license	**dct:license**	**dct:LicenseDocument**	**M**	**1..1**	• **This property refers to the licence under which the Distribution is made available.** • **CV to be used: https://dcat-ap.ch/vocabulary/licenses/20210623.html**
availability	dcatap:availability	skos:Concept	R	0..1	• This property indicates how long it is planned to keep the Distribution of the Dataset available.
description	dct:description	rdfs:Literal	R	0..n	• This property contains a free-text account of the Distribution. • The description MUST be provided if the distribution contains only part of the data offered by the Dataset. • This property can be repeated for parallel language versions of the description (see Chapter 2.4 on Multilingualism).
format	dct:format	dct:MediaTypeOrExtent	R	0..1	• This property refers to the file format of the Distribution. • CV to be used: http://publications.europa.eu/resource/authority/file-type • If a format is not available: a) media type (IANA Media Types) should be used b) If necessary, a discussion to evaluate the adoption within the EU should be launched (Contact point: OP-EU-VOCABULARIES@publications.europa.eu).
Rights	dct:rights	dct:RightsStatement	R	0..1	• This property refers to a statement that specifies rights associated with the Distribution.
Title	dct:title	rdfs:Literal	R	0..n	• This property contains a name given to the Distribution. This property can be repeated for parallel language versions of the description (see Chapter 2.4 on Multilingualism). • The title MUST be given if the distribution contains only part of the data offered by the Dataset • The title can be given in several languages. In multilingual data portals, the title in the language selected by a user will usually be shown as title for the distribution.
update/ modification date	dct:modified	rdfs:Literal typed as xsd:date, xsd:dateTime, xsd:gYear or xsd:gYearMonth	R	0..1	• This property contains the most recent date on which the Distribution was changed or modified.
access service	dcat:accessService	dcat:DataService	O	0..n	• This property refers to a data service that gives access to the distribution of the Dataset
byte size	dcat:byteSize	rdfs:Literal typed as xsd:decimal	O	0..1	• This property contains the size of a Distribution in bytes.

					● If the precise size is not known, an approximate size can be indicated.
Checksum	spdx:checksum	spdx:Checksum	O	0..1	● This property provides a mechanism that can be used to verify that the contents of a distribution have not changed. ● The checksum is related to the downloadURL.
Coverage	dct:coverage	dct:LocationPeriod OrJurisdiction	O	0..n	● If a dataset contains distributions that differ regarding their content beyond just differences in format or resolution this property can be used to specify temporal or spatial coverage of the data that the distribution contains. ● It's a DCAT-AP CH Custom Class (not present in DCAT-AP).
Document ation	foaf:page	foaf:Document	O	0..n	● This property refers to a page or document about this Distribution.
download URL	dcat:downloadU RL	rdfs:Resource	O	0..n	● In case of a downloadable file, it is good practice to repeat the mandatory accessURL in this more specific property, to indicate to the data user that the distribution has this extra characteristic of being downloadable. The downloadURLs MAY thus be the same as the accessURLs but they MAY also differ.
identifier	dct:identifier	rdfs:Literal	O	0..1	● An identifier for the distribution, that identifies it as a resource mainly for the organisation publishing the data. ● It's a DCAT-AP CH Custom Class (not present in DCAT-AP).
image	schema:image	schema:url or schema:ImageObje ct	O	0..3	● A thumbnail picture illustrating the content of the Distribution. ● For distributions that consist of visual content (photographs, videos, maps, etc.) it makes sense to add a limited number of thumbnails to the metadata. ● It's a DCAT-AP CH Custom Class (not present in DCAT-AP).
Language	dct:language	dct:LinguisticSyste m	O	0..n	● This property refers to a language used in the Distribution. ● This property can be repeated if the metadata is provided in multiple languages. ● The property MUST be set if the distribution is language-dependent, or if it is given in some of the languages German, French, Italian and English but not in all four languages. ● CV to be used: http://publications.europa.eu/resource/auth ority/language
linked schemas	dct:conformsTo	dct:Standard	O	0..n	● This property refers to an established schema to which the described Distribution conforms.

media type	dcat:mediaType, subproperty of dct:format	dct:MediaType	O	0..1	• This property refers to the media type of the Distribution as defined in the official register of media types managed by IANA. • Der Wert des Elements "dcat:mediaType" muss einem MIME Type gemäss IANA entsprechen: https://www.iana.org/assignments/media-types/media-types.xhtml.
packaging format	dcat:packageFormat	dct:MediaType	O	0..1	• This property refers to the format of the file in which one or more data files are grouped together, e.g. to enable a set of related files to be downloaded together. • It SHOULD be expressed using a media type as defined in the official register of media types managed by IANA.
release date	dct:issued	rdfs:Literal typed as xsd:date, xsd:dateTime, xsd:gYear or xsd:gYearMonth	O	0..1	• This property contains the date of formal issuance (e.g., publication) of the Distribution. • Date of formal issuance (publication) of the distribution • UsageThe first time issuance of the distribution.
temporal resolution	dcat:temporalResolution	xsd:duration	O	0..1	• This property refers to the minimum time period resolvable in the Dataset distribution.

3.5 Class: Data Service

A Data Service is a collection of operations that provides access to one or more Datasets or data processing functions. If a dcat:DataService is bound to one or more specified Datasets, they are indicated by the dcat:servesDataset property.

DCAT-AP provides guidelines about the usage of Data services and Distribution in relation to Datasets:
https://github.com/SEMICeu/DCAT-AP/blob/2.1.0-draft/releases/2.1.0/usageguide-dataset-distribution-dataservice.md.

Property	URI	Range	Req Level	Card	Usage Note
endpoint URL	**dcat:endpoint URL**	**rdfs:Resource**	**M**	**1..n**	• **The root location or primary endpoint of the service (an IRI).**
Contact Point	**Dcat:contactpoint**	**vcard:Kind**	**M**	**1..n**	• **This property contains contact information that can be used for sending comments about the Dataset.** • **This property MUST contain an email address that is continuously monitored by the data publisher.** • **If there are several contributors involved in the publication of the Dataset, the property can be used multiple times.**

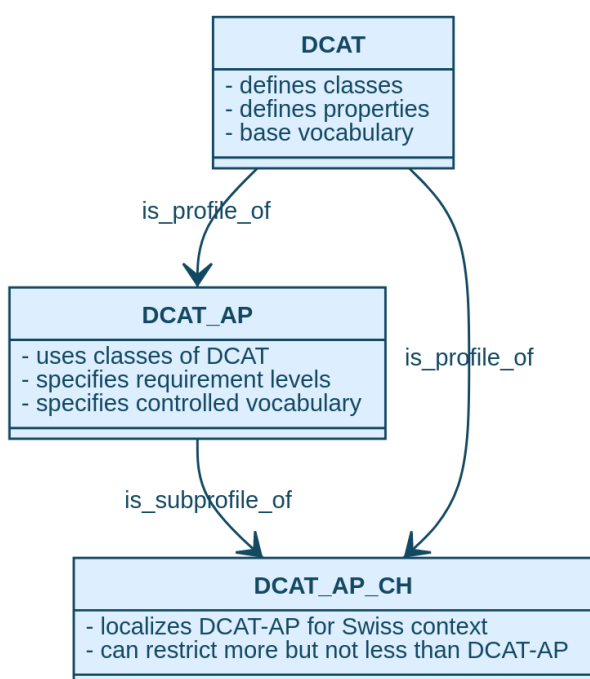| Property	URI	Range	Req Level	Card	Usage Note
Publisher	**Dct:publisher**	**Foaf:agent**	**M**	**1..1**	• **This property refers to an entity (organisation) responsible for making the Dataset available.**
Title	**dct:title**	**rdfs:Literal**	**M**	**1..n**	• **This property contains a name given to the Data Service. This property can be repeated for parallel language versions of the name (see Chapter 2.4 on Multilingualism).** • **Organisations at the federal level SHOULD provide metadata in at least 2 official languages.** • **Every other organisation MUST provide this metadata in at least one of the following four languages: English, German, French or Italian. The specification in other languages is optional.**
endpoint description	dcat:endpointD escription	rdfs:Resource	R	0..n	• This property contains a description of the services available via the end-points, including their operations, parameters etc.The property gives specific details of the actual endpoint instances.
license	dct:license	dct:LicenseDoc ument	R	0..1	• This property refers to the licence under which the Data Serviceis made available. • CV to be used: https://dcat-ap.ch/vocabulary/licenses/20210623.h tml
serves dataset	dcat:servesDat aset	dcat:Dataset	R	0..n	• This property refers to a collection of data that this data service can distribute.
access rights	dct:accessRigh ts	dct:RightsState ment	O	0..1	• This property MAY include information regarding access or restrictions based on privacy, security, or other policies.
Document ation	foaf:page	foaf:Document	O	0..n	• This property refers to a page or document about this Data Service.
Keyword	dcat:keyword	rdfs:Literal	O	0..n	• This property contains a keyword or tag describing the Dataset. • If available, the keyword from TERMDAT (termdat.bk.admin.ch) SHOULD be used.
Landing page	dcat:landingPa ge	foaf:Document	O	0..n	• This property refers to a web page that provides access to the Data Service and/or additional information. It is intended to point to a landing page at the original data provider, not to a page on a site of a third party, such as an aggregator.

4 Conformance to DCAT-AP

This section is non-normative.

DCAT-AP CH is a Subprofile of DCAT-AP and DCAT-AP is an application profile of DCAT.

The DCAT-Profile Guidance states that application profiles may form hierarchies.

There is a close collaboration between DCAT-AP and DCAT-AP CH which takes place mostly as an online discussion on GitHub at https://github.com/SEMICeu/DCAT-AP.

The following diagram captures the relationship between DCAT, DCAT-AP and DCAT-AP CH:

For the aforementioned interoperability reasons, DCAT-AP CH aims to stay a sub-profile of DCAT-AP. Furthermore, this way it can be assured that metadata structured as DCAT-AP CH can be efficiently harvested by data.europa.eu.

DCAT-AP CH also aims for completeness, in the way that a data provider that only uses DCAT-AP CH as guidance should be able to form a data catalogue that automatically conforms to DCAT-AP.

Therefore:

- DCAT-AP CH contains all core classes currently known to be in DCAT-AP (Version 2.1.0, Chapter 3)
- DCAT-AP CH contains all currently known recommended and mandatory properties of DCAT-AP (Version 2.0.1). For these mentioned properties the usage conditions of DCAT-AP CH apply.
- Properties of DCAT-AP or DCAT that are not mentioned in DCAT-AP CH are considered to be

optional. For these properties the usage conditions of DCAT-AP and DCAT apply in the following order: if the property is part of DCAT-AP, DCAT-AP's usage conditions apply, if it is a property of DCAT only, then DCAT's usage conditions apply

Custom properties in DCAT-AP CH

DCAT-AP CH MAY introduce Swiss specific properties and vocabulary, such as the list of cantons of Switzerland, which don't exist in the DCAT or DCAT-AP vocabulary. It SHOULD however not introduce its own (custom) properties that can already be expressed in DCAT with different vocabularies. In those cases, the DCAT-AP or DCAT vocabulary have to be used.

Therefore, some properties that were custom in Version 1 have been removed in Version 2 of DCAT-AP CH:

- dct:coverage on dcat:Dataset can be now be expressed by dct:temporal and dct:spatial
- rdfs:seeAlso on dcat:Dataset can now be expressed by dcat:qualifiedRelation

DCAT-AP CH still defines custom properties where a replacement by DCAT-AP or DCAT vocabulary is currently not considered possible or useful (in DCAT-AP Version 2.1.0):

- schema:image on dcat:Dataset and dcat:Distribution: this property is used to provide thumbnails for Distributions that contain visual data
- dct:coverage on dcat:Distribution is needed to model distributions of datasets as a series of data

5 Conformance to DCAT-AP CH

5.1 Data Provider requirements

A data catalogue conforms to DCAT-AP CH if:

- An RDF description of the catalogue is available
- All classes and properties defined in DCAT-AP CH v2 are used in a way consistent with the semantics declared in this specification.
- Properties not mentioned in this specification MAY be used if they are included in either DCAT-AP or DCAT and their usage conforms to DCAT-AP if they are included in DCAT-AP or to DCAT if they are only included in DCAT.

5.2 Receiver requirements

An application (data portal) conforms to DCAT-AP if:

- It is able to process RDF catalogues that conform to DCAT-AP CH.

- Processing means that it MUST accept incoming data and transparently provide this data to applications and services.
- Processing does not prescribe whether and how the metadata is stored internally, displayed or made searchable.
- This processing of metadata also applies to classes and properties not mentioned in DCAT-AP CH that are part of DCAT-AP or DCAT. A DCAT-AP CH conformant receiver MUST also be able to process these classes and properties].

6   Haftungsausschluss/Hinweise auf Rechte Dritter

eCH-Standards, welche der Verein **eCH** dem Benutzer zur unentgeltlichen Nutzung zur Verfügung stellen oder welche **eCH** referenzieren, haben nur den Status von Empfehlungen. Der Verein **eCH** haftet in keinem Fall für Entscheidungen oder Massnahmen, welche der Benutzer auf Grund dieser Dokumente trifft und / oder ergreift. Der Benutzer ist verpflichtet, die Dokumente vor deren Nutzung selbst zu überprüfen und sich gegebenenfalls beraten zu lassen. **eCH**-Standards können und sollen die technische, organisatorische oder juristische Beratung im konkreten Einzelfall nicht ersetzen.

In **eCH**-Standards referenzierte Dokumente, Verfahren, Methoden, Produkte und Standards sind unter Umständen markenrechtlich, urheberrechtlich oder patentrechtlich geschützt. Es liegt in der ausschliesslichen Verantwortlichkeit des Benutzers, sich die allenfalls erforderlichen Rechte bei den jeweils berechtigten Personen und/oder Organisationen zu beschaffen.

Obwohl der Verein **eCH** all seine Sorgfalt darauf verwendet, die **eCH**-Standards sorgfältig auszuarbeiten, kann keine Zusicherung oder Garantie auf Aktualität, Vollständigkeit, Richtigkeit bzw. Fehlerfreiheit der zur Verfügung gestellten Informationen und Dokumente gegeben werden. Der Inhalt von **eCH**-Standards kann jederzeit und ohne Ankündigung geändert werden.

Jede Haftung für Schäden, welche dem Benutzer aus dem Gebrauch der **eCH**-Standards entstehen ist, soweit gesetzlich zulässig, wegbedungen.

7   Urheberrechte

Wer **eCH**-Standards erarbeitet, behält das geistige Eigentum an diesen. Allerdings verpflichtet sich der Erarbeitende, sein betreffendes geistiges Eigentum oder seine Rechte an geistigem Eigentum anderer, sofern möglich, den jeweiligen Fachgruppen und dem Verein **eCH** kostenlos zur uneingeschränkten Nutzung und Weiterentwicklung im Rahmen des Vereinszweckes zur Verfügung zu stellen.

Die von den Fachgruppen erarbeiteten Standards können unter Nennung der jeweiligen Urheber von **eCH** unentgeltlich und uneingeschränkt genutzt, weiterverbreitet und weiterentwickelt werden.

eCH-Standards sind vollständig dokumentiert und frei von lizenz- und/oder patentrechtlichen Einschränkungen. Die dazugehörige Dokumentation kann unentgeltlich bezogen werden.

Diese Bestimmungen gelten ausschliesslich für die von **eCH** erarbeiteten Standards, nicht jedoch für

Standards oder Produkte Dritter, auf welche in den **eCH**-Standards Bezug genommen wird. Die Standards enthalten die entsprechenden Hinweise auf die Rechte Dritter.

Anhang A – Referenzen & Bibliographie

Keine

[Ref]   <Referenz>

Anhang B – Mitarbeit & Überprüfung

<Hier sind alle Mitarbeiterinnen und Mitarbeiter aufzuführen, die an dieser Version des Dokuments mitgearbeitet haben.>

<N. N.>   <Organisation/Firma>

<N. N.>   <Organisation/Firma>

Anhang C – Abkürzungen und Glossar

<Abk.>   <Text>

<Abk.>   <Text>

Anhang D – Änderungen gegenüber Vorversion

<Dies ist die erste Version.>

<oder eine detaillierte Zusammenstellung der Änderungen gegenüber der Vorgängerversion>

Kapitel	Seite	Anpassung	RFC Nr.

Tabelle 2 Änderungen gegenüber Vorversion

Anhang E – Abbildungsverzeichnis

Anhang F – Tabellenverzeichnis