



# Introduction to GeoDCAT-AP

GeoDCAT-AP webinar, 16 July 2019

<https://joinup.ec.europa.eu/node/701966>



## What is GeoDCAT-AP

- Geospatial extension to **DCAT-AP** (DCAT application profile for data portals in Europe)
  - DCAT-AP is a metadata profile meant to provide an interchange format for data portals operated by EU Member States, based on and compliant with the W3C Data Catalog (DCAT) vocabulary
- Developed in the framework of the EU Programme “Interoperability Solutions for European Public Administrations” (ISA) – now **ISA<sup>2</sup>**
- Meant to provide a DCAT-AP compliant representation for the set of metadata elements included in
  - **INSPIRE** metadata
  - The core profile of **ISO 19115:2003**

## INSPIRE in a nutshell

- Provides **access to cross-border EU data** to be used in support to **EU environmental policies**
- Development & revision process involving **experts & stakeholders from all EU Member States** (public & private sectors, research institutions)
- Comprehensive **legal & technical framework** for **data & service interoperability**
- **Cross-sector thematic scope**



 Coordinate reference systems	 Geographical grid systems	 Geographical names
 Administrative units	 Addresses	 Cadastral parcels
 Transport networks	 Hydrography	 Protected sites
 Elevation	 Land cover	 Orthoimaginary
 Geology	 Statistical units	 Buildings
 Soil	 Land use	 Human health and safety
 Utility and governmental services	 Environmental monitoring facilities	 Production and industrial facilities
 Agricultural and aquaculture facilities	 Population distribution - demography	 Area management/restriction/regulation zones and reporting units
 Natural risk zones	 Atmospheric conditions	 Meteorological geographical features
 Oceanographic geographical features	 Sea regions	 Bio-geographical regions
 Habitats and biotopes	 Species distribution	 Energy resources
 Mineral resources		

## The underlying platform & communities

- INSPIRE is implemented with geospatial standards, used world-wide and across communities (public administrations, private sector, research institutions)
- These technologies are well-consolidated and supported by widely adopted tools
- These standards and technologies are integral part of the data management workflow of all the organisations dealing with geospatial data



## INSPIRE & GeoDCAT-AP: Why?

### Agree upon a common RDF representation

- RDF is increasingly being used as an alternative representation of INSPIRE metadata
- Without a harmonised INSPIRE-to-RDF mapping, metadata interoperability is lost

### Facilitate cross-sector sharing of INSPIRE metadata

- INSPIRE metadata are already being harvested by and published in cross-domain data catalogues at the national and/or regional level
- INSPIRE metadata are harvested and published also on the European Data Portal, which uses DCAT-AP as a metadata interchange format



## GeoDCAT-AP: Objectives

- *The GeoDCAT-AP specification does not replace the INSPIRE Metadata Regulation nor the INSPIRE Metadata Technical Guidelines based on ISO 19115:2003 and ISO 19119*
- Its purpose is to give owners of geospatial metadata the possibility to achieve more by providing an additional RDF syntax binding
- Its basic use case is to make spatial datasets, data series, and services searchable on general data portals, thereby making geospatial information better searchable across borders and sectors



## GeoDCAT-AP: Current status

- Final specification (GeoDCAT-AP 1.0) released in December 2015, along with its reference implementation
- Third-party implementations, including CSW-based ones, are available
- Brought to the attention of standards body, in particular the **Open Geospatial Consortium (OGC)** and the **World Wide Web Consortium (W3C)**, in order to be consolidated with further review and to contribute the identified issues



## The GeoDCAT-AP API

- Shows how GeoDCAT-AP can be supported without changing the existing infrastructure
- Shows how to enable traditional HTTP functionalities in geospatial catalogue services (CSWs), as content negotiation
- Shows how the existing catalogue infrastructure can be used to publish metadata in a way that increases their visibility on the Web, by following standards as HTML+RDFa and Search Engine Optimisation (SEO) techniques

GeoDCAT-AP FOR GEOSPATIAL DATASETS

### GeoDCAT-AP API

ISO 19139 records in RDF

Output Schema :

Output format :

#### Usage notes

Copy & paste the URL of a file or of a CSW request returning ISO 19139 records.

Supported CSW request types: GetRecords, GetRecordById.

Supported CSW output schema: <http://www.isotc211.org/2005/gmd>

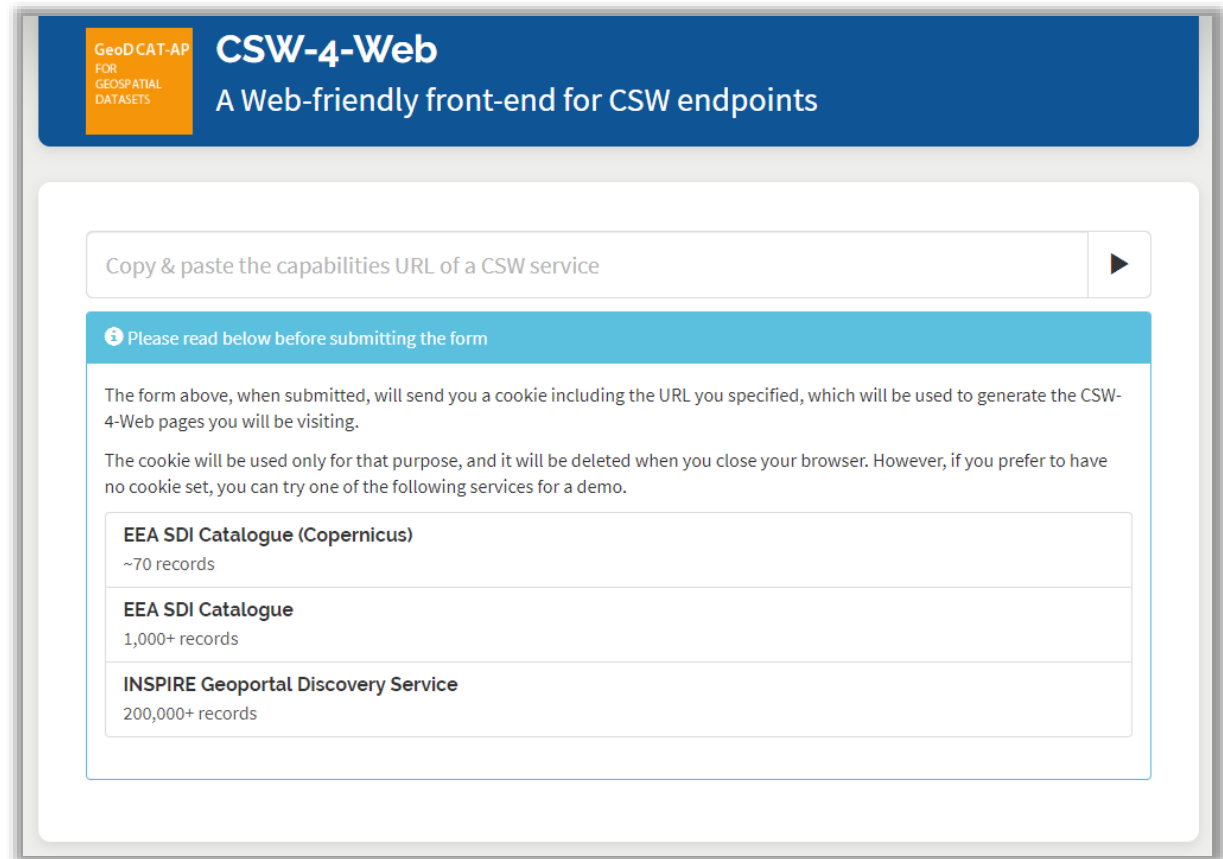
**NB:** The current version of the API supports only CSW calls using the GET HTTP method.

*A description of the GeoDCAT-AP API is available on the dedicated GitHub repository.*



## The CSW-4-Web API

- Builds upon and extends the GeoDCAT-AP API
- Exposes a CSW endpoint in a Web-friendly way, and enabling the exploration of its content without the need of specific client applications
- Alternative representations and encodings of metadata records (including the original ones) are available according to linked data best practices (HTTP content negotiation, direct links to each supported metadata representation and encoding)



The screenshot shows the CSW-4-Web API interface. At the top, there is a blue header with the text "GeoDCAT-AP FOR GEOSPATIAL DATASETS" and "CSW-4-Web A Web-friendly front-end for CSW endpoints". Below the header is a search bar with the placeholder text "Copy & paste the capabilities URL of a CSW service" and a submit button. A light blue notification box contains the text: "Please read below before submitting the form". Below the notification box, there is a paragraph of text: "The form above, when submitted, will send you a cookie including the URL you specified, which will be used to generate the CSW-4-Web pages you will be visiting. The cookie will be used only for that purpose, and it will be deleted when you close your browser. However, if you prefer to have no cookie set, you can try one of the following services for a demo." Below this text is a table with three rows, each representing a service and its record count.

<b>EEA SDI Catalogue (Copernicus)</b> ~70 records
<b>EEA SDI Catalogue</b> 1,000+ records
<b>INSPIRE Geoportal Discovery Service</b> 200,000+ records



## For more information

- GeoDCAT-AP 1.0.1 specification  
<https://joinup.ec.europa.eu/release/geodcat-ap/101>
- GeoDCAT-AP Reference Implementation (XSLT & API)  
<https://github.com/SEMICEu/iso-19139-to-dcat-ap/>
- Examples of GeoDCAT-AP implementations  
<https://joinup.ec.europa.eu/document/geodcat-ap-implementations>