



# Geospatial metadata on the (Semantic) Web Lessons learnt in GeoDCAT-AP

Joint EuroSDR & EuroGeographics Workshop on Geodata Discoverability

28 April 2022

**interoperable**  
europe



**SEMIC**  
SEMANTIC  
INTEROPERABILITY  
COMMUNITY



# What is GeoDCAT-AP

---

*An alternative representation of geospatial metadata by using Semantic Web technologies*

Geospatial extension to **DCAT-AP** – the *de facto* standard for **metadata interchange** across European data catalogues, based upon the **W3C Data Catalog Vocabulary (DCAT)**

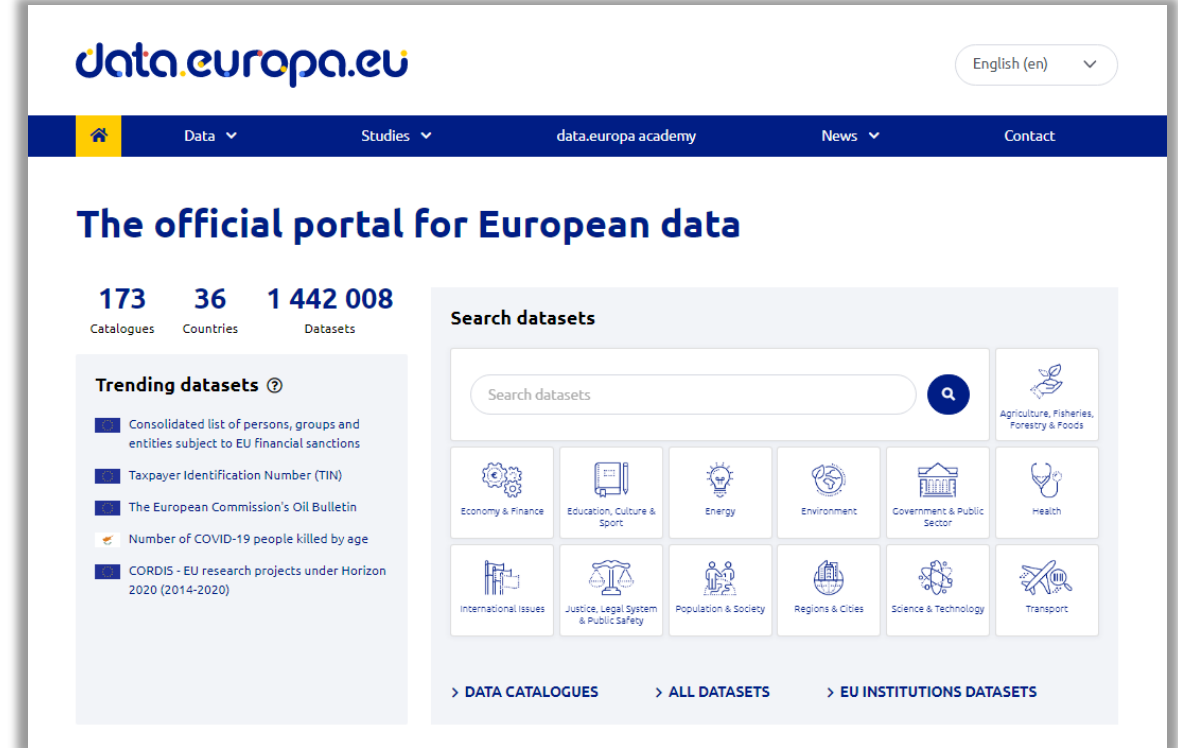
Developed in 2015 by a working group involving **experts and stakeholders from EU Member States**, chartered by the **EU ISA Programme** (now **Interoperable Europe**)

**Version 2 of GeoDCAT-AP released in 2020**

# Objectives

Define a harmonised RDF transformation & representation of geospatial metadata

Facilitate the sharing of geospatial metadata with general-purpose data catalogues



The screenshot displays the homepage of data.europa.eu. At the top, the logo 'data.europa.eu' is visible on the left, and a language selector 'English (en)' is on the right. A dark blue navigation bar contains links for 'Data', 'Studies', 'data.europa academy', 'News', and 'Contact'. Below the navigation bar, the main heading reads 'The official portal for European data'. A statistics section shows '173 Catalogues', '36 Countries', and '1 442 008 Datasets'. A 'Trending datasets' section lists items such as 'Consolidated list of persons, groups and entities subject to EU financial sanctions' and 'Taxpayer Identification Number (TIN)'. A 'Search datasets' section features a search bar and a grid of category icons including 'Economy & Finance', 'Education, Culture & Sport', 'Energy', 'Environment', 'Government & Public Sector', 'Health', 'International Issues', 'Justice, Legal System & Public Safety', 'Population & Society', 'Regions & Cities', 'Science & Technology', and 'Transport'. At the bottom of the search section, there are links for '> DATA CATALOGUES', '> ALL DATASETS', and '> EU INSTITUTIONS DATASETS'.

Facilitate cross-platform discovery of and access to geospatial data



# Data discoverability



The Web

Data Catalogues

Geospatial Data Catalogues



increased  
visibility

# Data discoverability

---

The Web

Data Catalogues

Geospatial Data Catalogues

More generic

More specific

# Data discoverability

---

The Web

Data Catalogues

Geospatial Data Catalogues



# Data discoverability

---

The Web

Data Catalogues

Geospatial Data Catalogues





# Data discoverability

The Web

Data Catalogues

Geospatial Data Catalogues



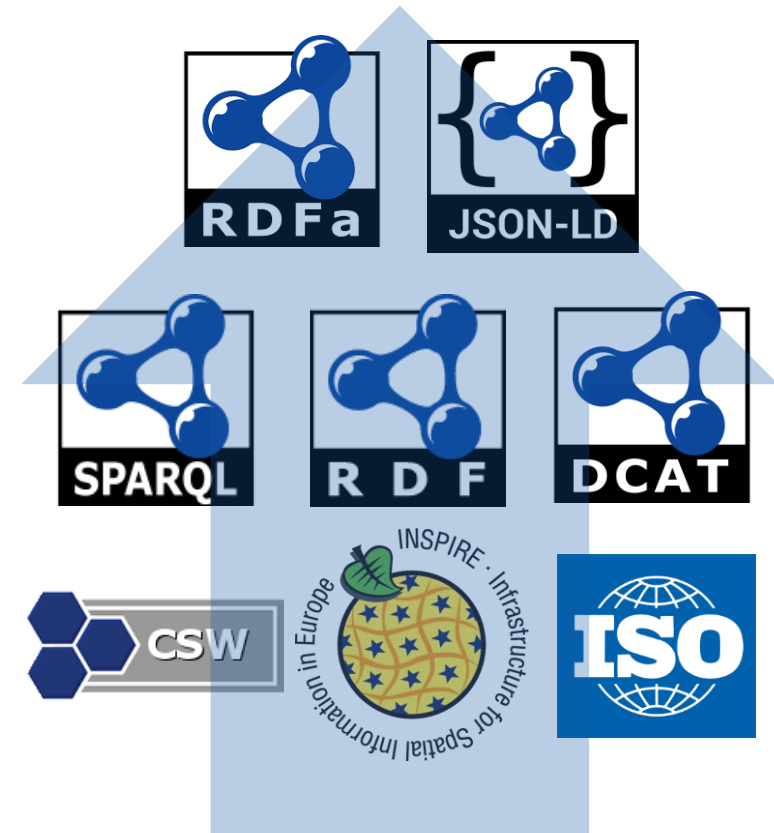


# Data discoverability

The Web

Data Catalogues

Geospatial Data Catalogues



# XSLT & API

Provide a working example on how GeoDCAT-AP can be supported **without changing the underlying infrastructure**

Show how to **enable standard HTTP functionalities in CSWs**, as HTTP content negotiation

### GeoDCAT-AP API

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 API's Stash repository.*

GeoDCAT-AP API @ Stash: <https://webgate.ec.europa.eu/CITnet/stash/projects/ODCKAN/repos/iso-19139-to-dcat-ap/browse/api>

Show how to **increase visibility on the Web for geospatial metadata**, using standards as HTML+RDFa

# Lessons learnt

---

*Lack of common practices on how to specify some geospatial information in RDF*

Some examples:

- Service / API-based data access
- Data quality, spatial / temporal reference systems, spatial / temporal resolution

**This situation has improved** since GeoDCAT-AP v1 (2015)

In particular **DCAT v2 (2020) fills almost all the gaps**

Other relevant work:

- W3C/OGC Spatial Data on the Web Best Practices (2017)
- GeoSPARQL 1.1 (draft)



# Lessons learnt

---

*Limited use of global & persistent identifiers in geospatial metadata*

Some examples:

- Resource / file identifiers
- Keywords
- Spatial reference systems
- Use and access conditions
- Responsible parties

The use of global and persistent identifiers, as HTTP URIs, is **beneficial to geospatial data themselves**, and enables **better integration with other data**

The latest versions of the INSPIRE Technical Guidelines are a first step in this direction

The background features a complex, symmetrical pattern of glowing green and blue lines and particles. The lines form a central, diamond-like shape that tapers towards the left and right edges. The particles are scattered throughout, creating a sense of depth and movement. The overall color palette is dominated by dark blue, with vibrant green and blue highlights.

Thank you

# References

---

GeoDCAT-AP specification

<https://semiceu.github.io/GeoDCAT-AP/releases/>

GeoDCAT-AP issue tracker:

<https://github.com/SEMICEU/GeoDCAT-AP>

GeoDCAT-AP XSLT & API

<https://github.com/SEMICEU/iso-19139-to-dcat-ap>

GeoDCAT-AP API – demo:

<http://geodcat-ap.semic.eu/api/>





# interoperable europe

innovation ∞ govtech ∞ community

Stay in touch



@ IoP\_EU



Interoperable Europe



Interoperable Europe



[ec.europa.eu/InteroperableEurope](http://ec.europa.eu/InteroperableEurope)



[IoP\\_Europe\\_COMM@ec.europa.eu](mailto:IoP_Europe_COMM@ec.europa.eu)