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

Joint EuroSDR & EuroGeographics Workshop on Geodata Discoverability

28 April 2022

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)**

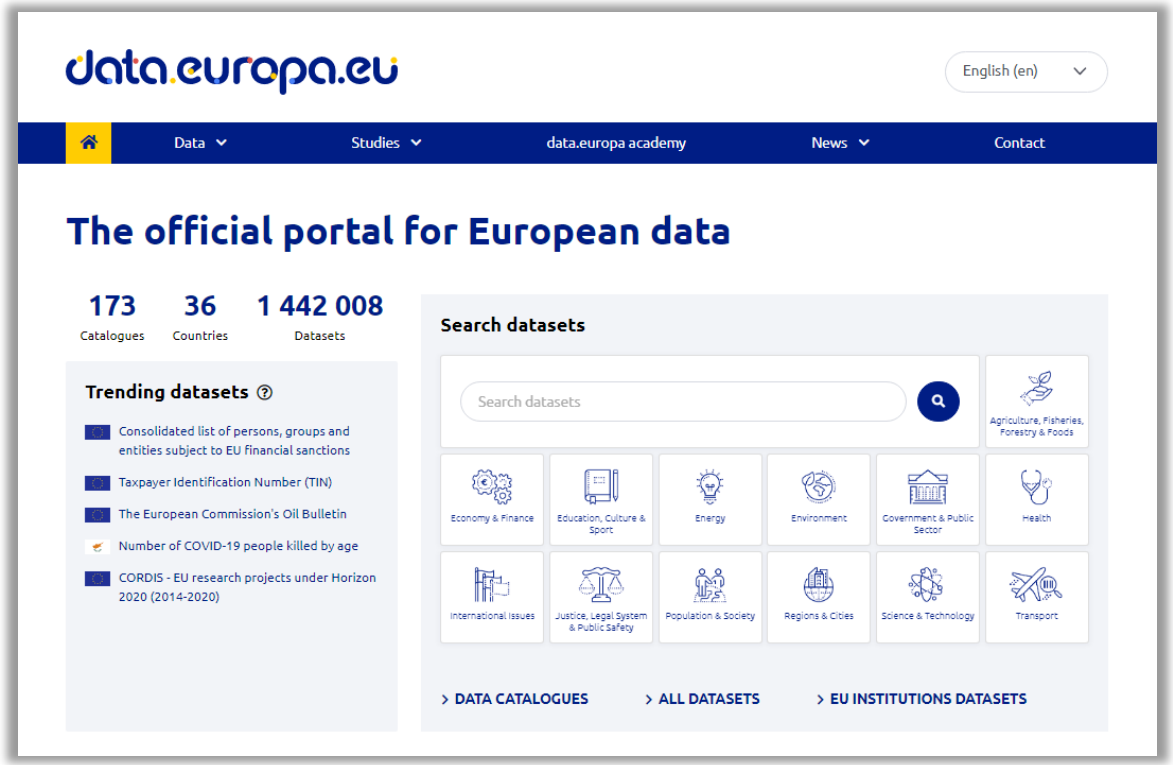
Developed in 2015 by a working group involving **experts and stakeholders from EU Member States**, chartered by the **EU ISA Programme** (now **Interoperable Europe**)

Version 2 of GeoDCAT-AP released in 2020

Objectives

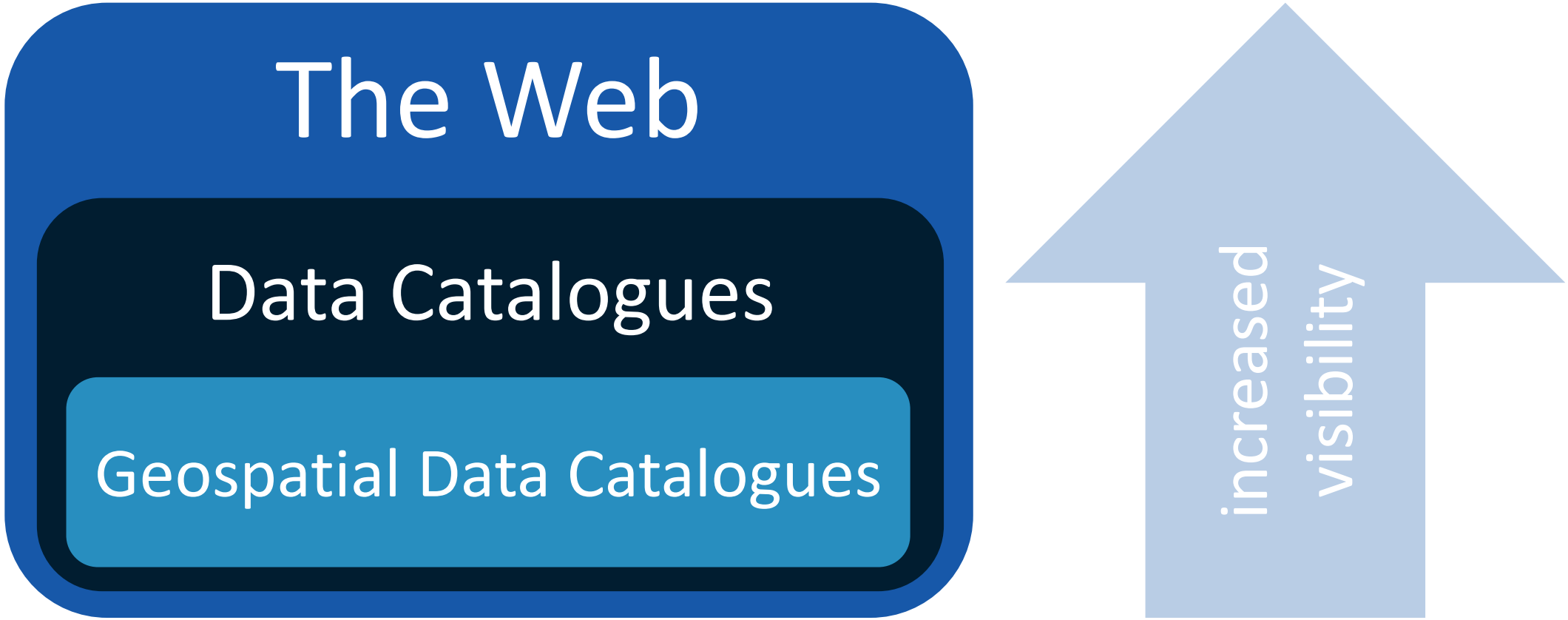
Define a **harmonised RDF transformation & representation** of geospatial metadata

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

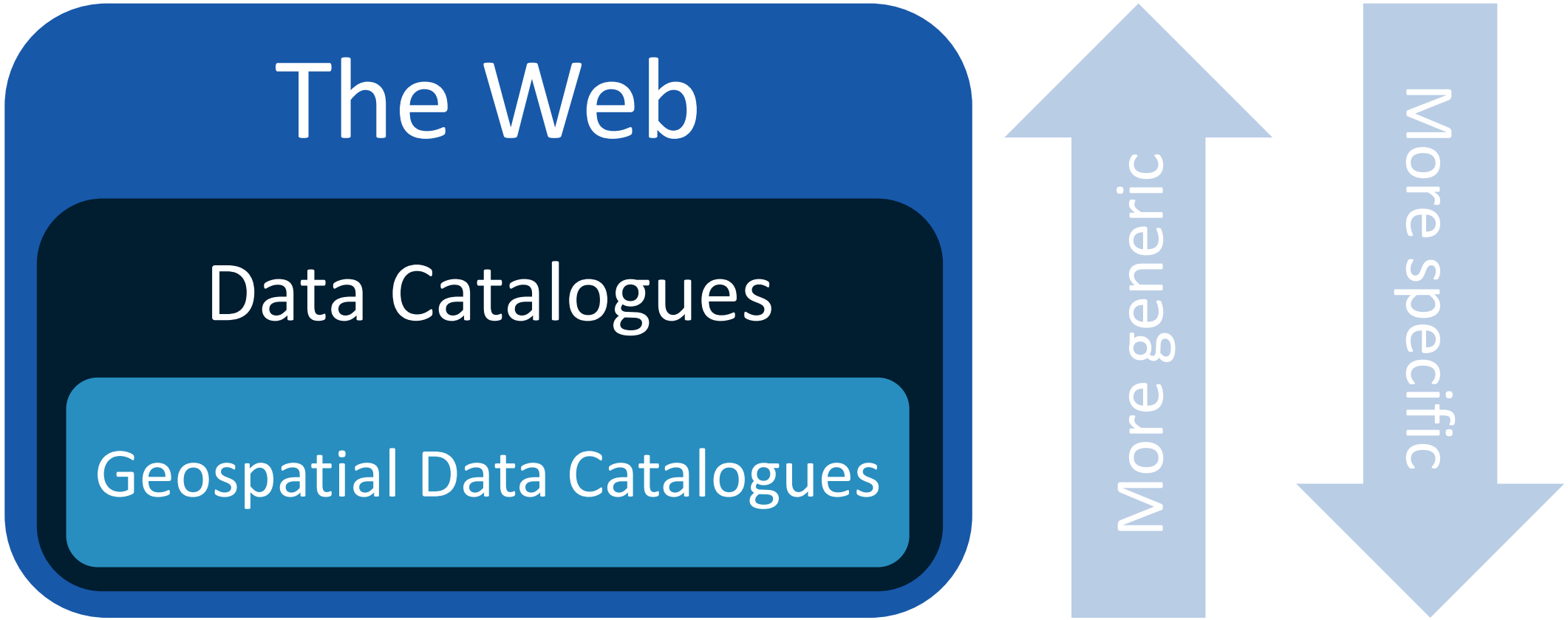


Facilitate **cross-platform discovery** of **and access** to geospatial data

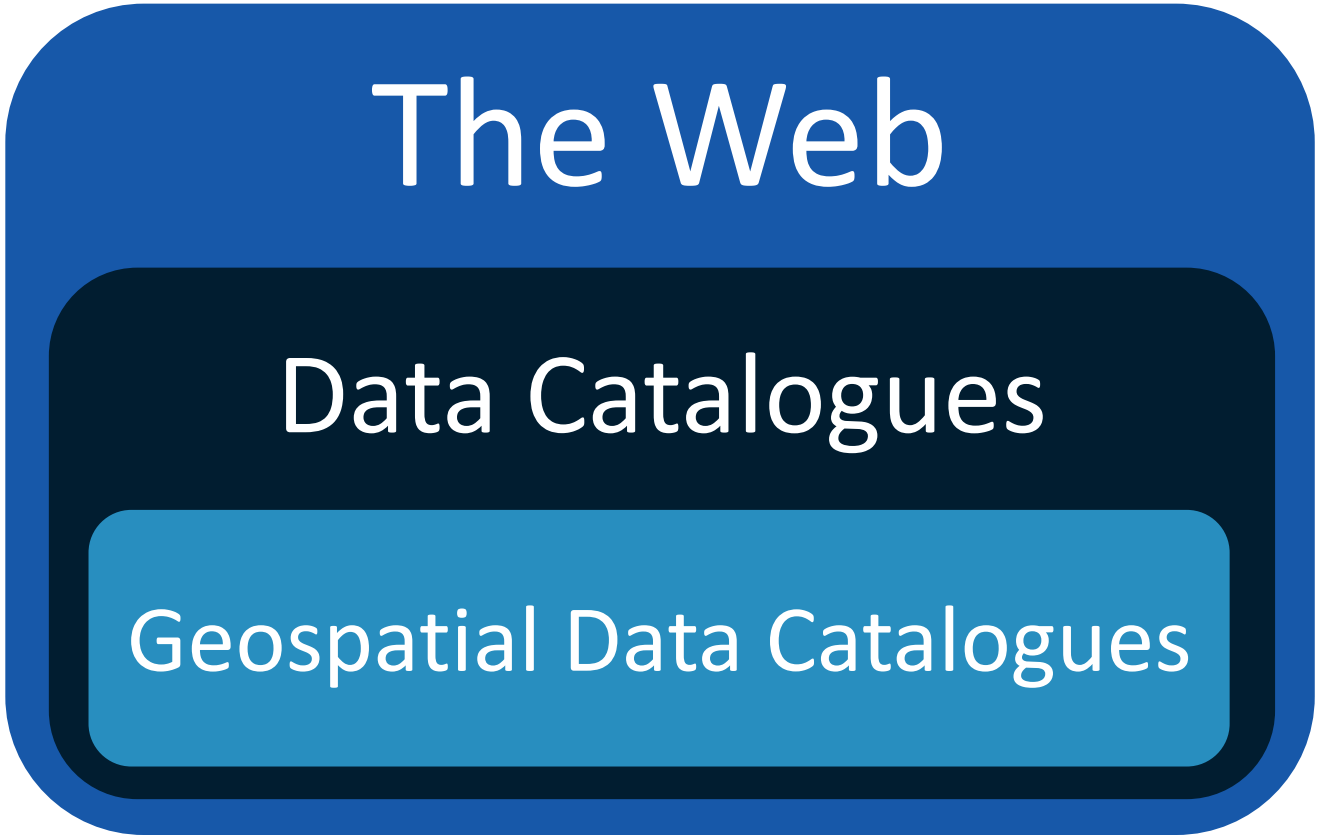
Data discoverability



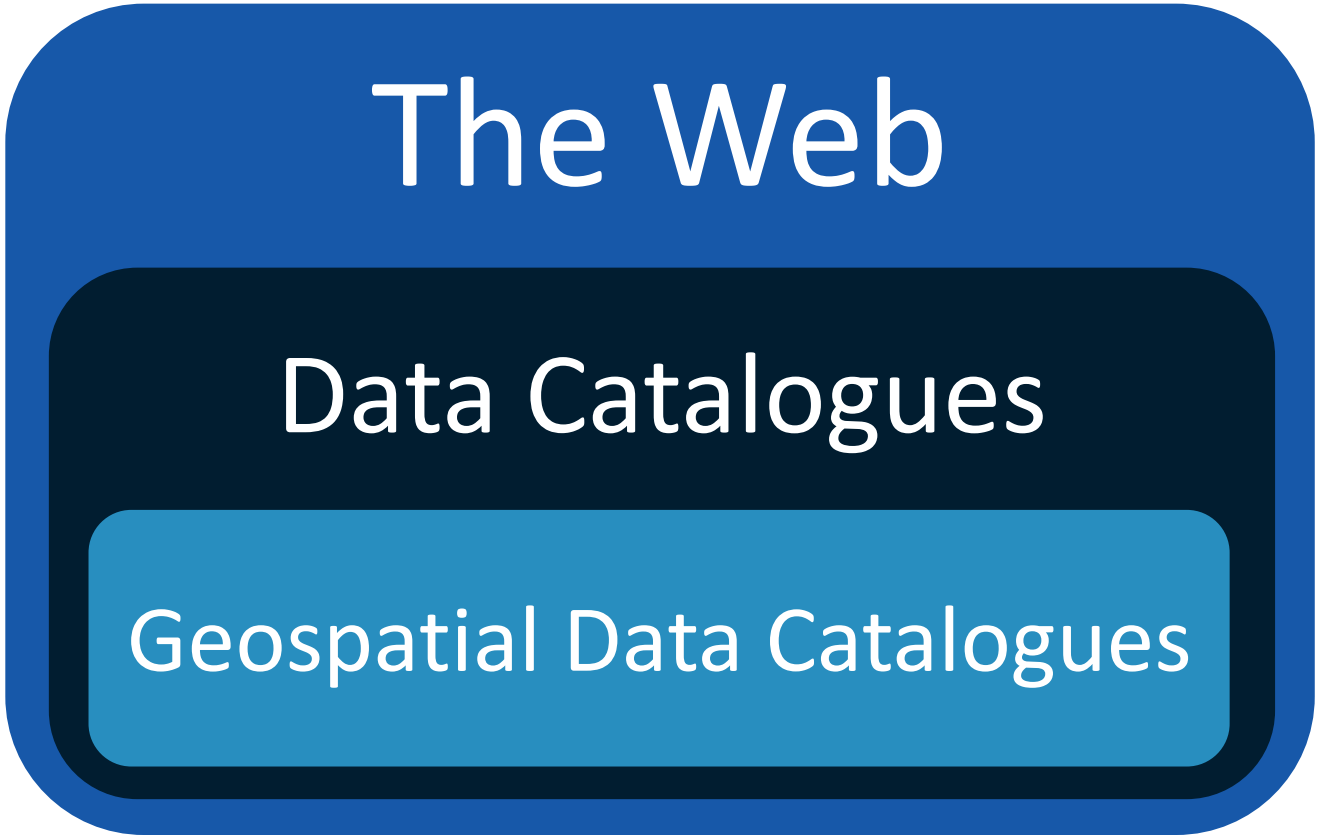
Data discoverability



Data discoverability



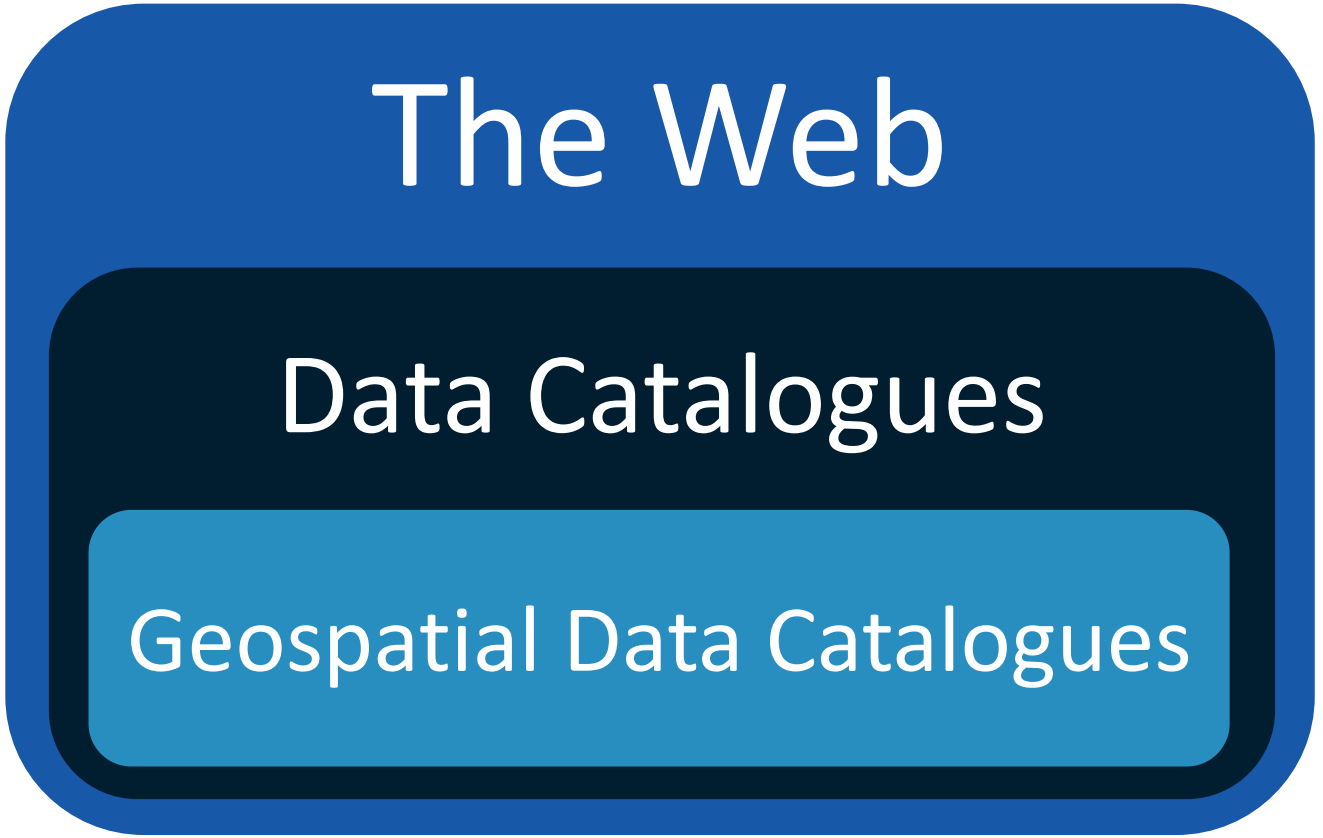
Data discoverability



SPARQL R D F DCAT

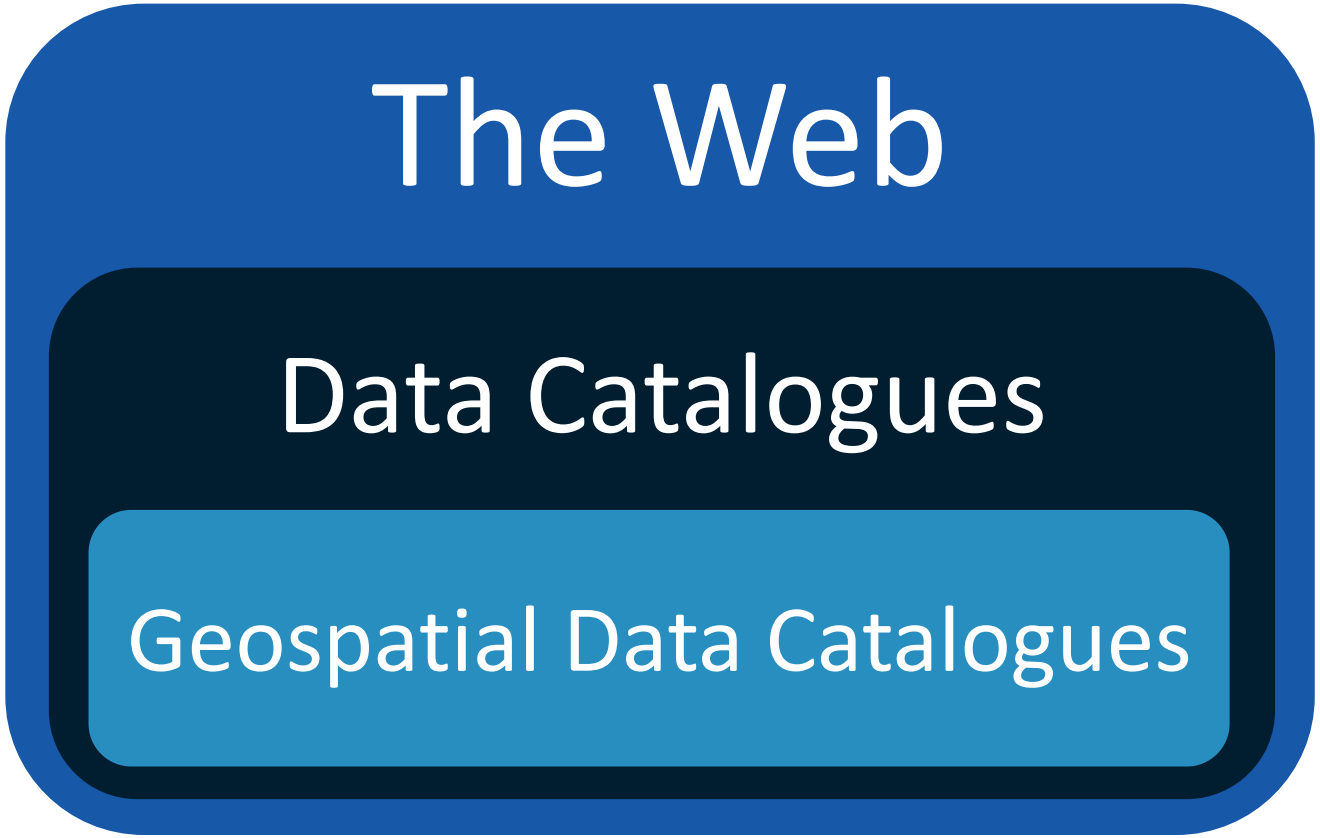
CSW INSPIRE · Infrastructure for Spatial Information in Europe ISO

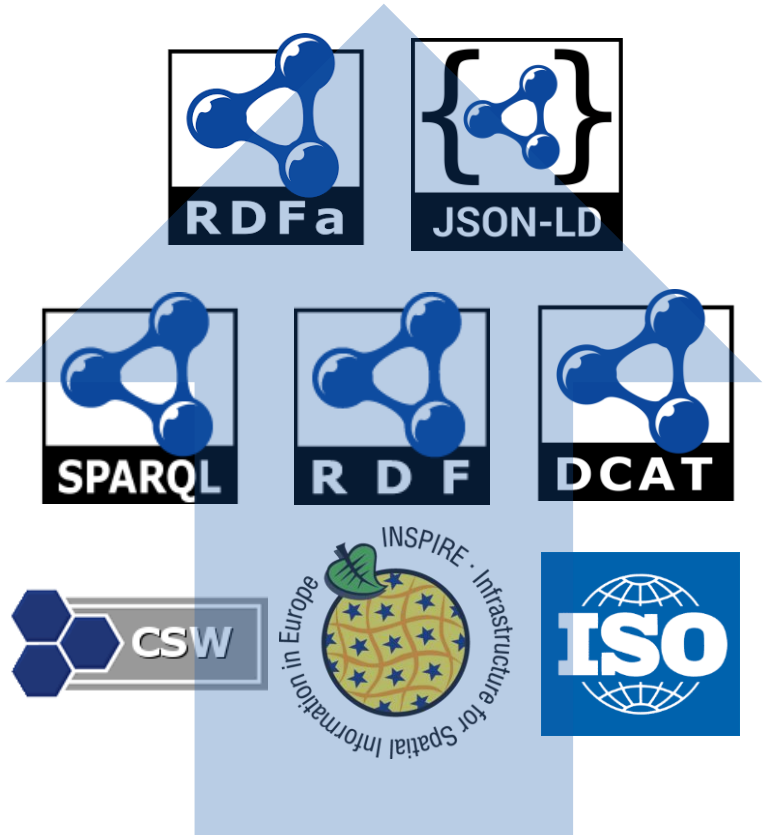
Data discoverability



RDFa JSON-LD SPARQL RDF DCAT CSW INSPIRE Infrastructure for Spatial Information in Europe ISO

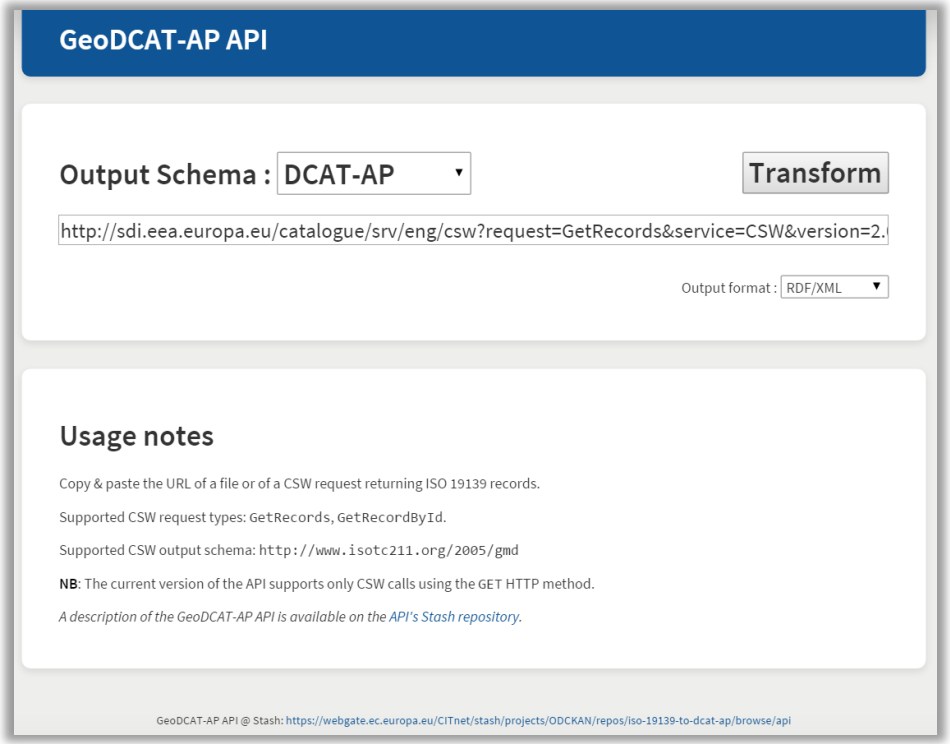
Data discoverability





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

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


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/

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