



23 April
2024

Third Working Group webinar on the revision of GeoDCAT-AP

interoperable
europe
innovation ∞ govtech ∞ community

Agenda



Introduction



GeoDCAT-AP issues



Codelists



Guest speakers: National experience



Next steps

Workshop practicalities

Audio

Click on 'connect audio' but please mute your microphones



Chat

You can also share your questions for the Q&A session via the chat



Recording

The workshop will be recorded



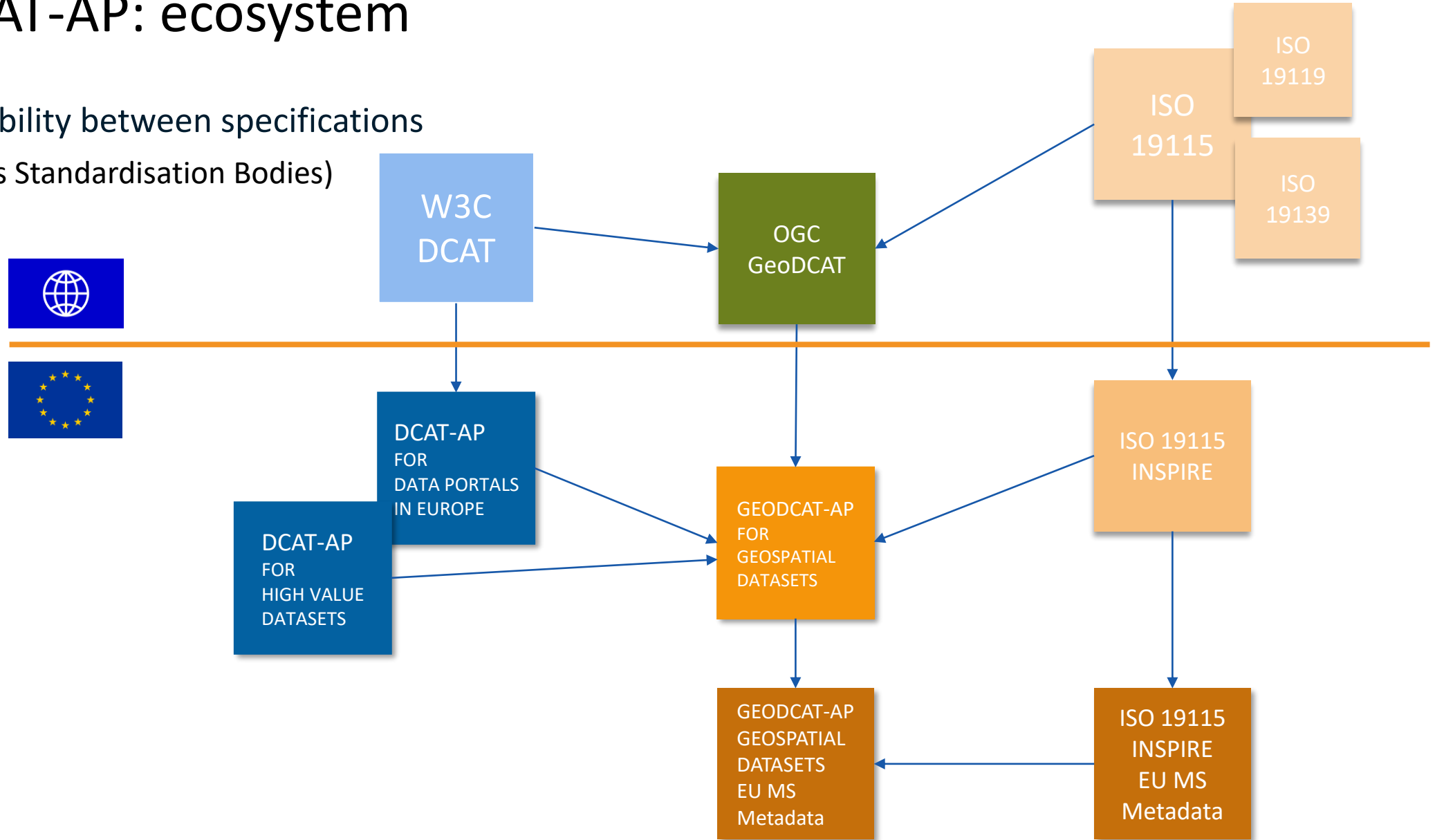


GeoDCAT-AP:
DCAT-AP for geographical
data



GeoDCAT-AP: ecosystem

Interoperability between specifications
(even across Standardisation Bodies)





Status OGC

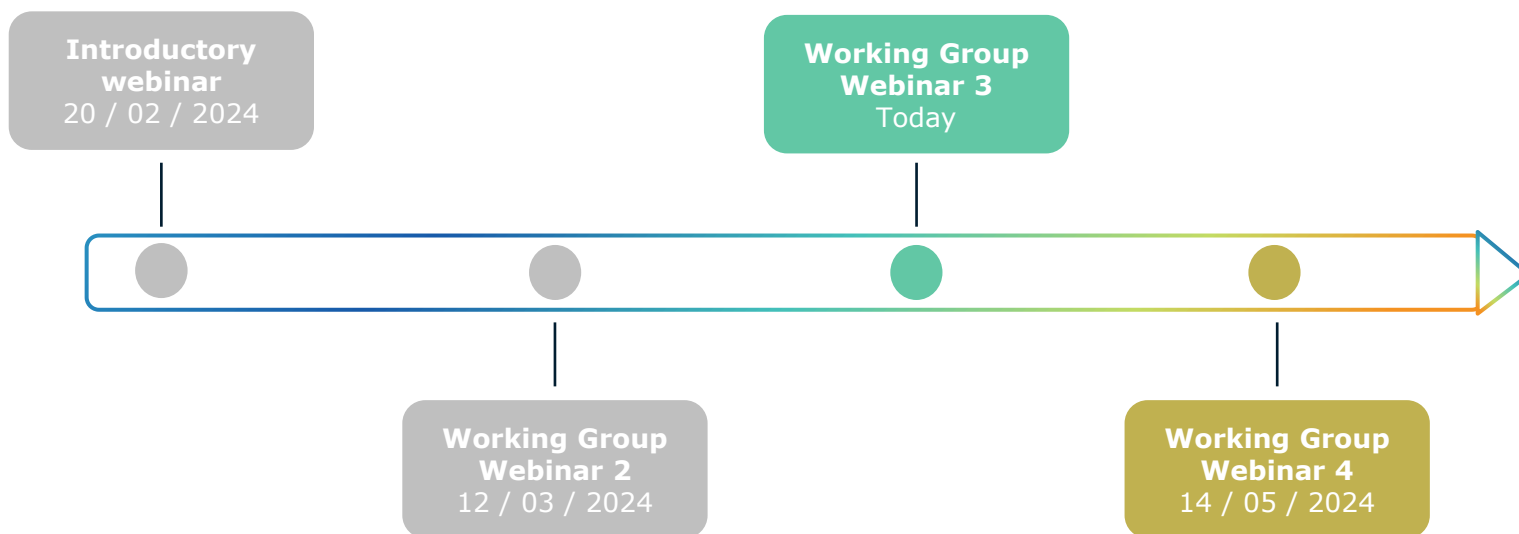
Status OGC

- 128th OGC member meeting 27 Mar 2024: progress report during SWG
- Content wise limited progress: additional hands are welcome
- SWG core team considers organising hands-on workshops in the autumn
- Continued collaboration between OGC GeoDCAT SWG and SEMIC & JRC

A dark blue circular area containing a complex network of thin, curved lines in shades of yellow, green, and blue, connecting numerous small dots. The lines are dense and create a sense of interconnectedness.

GeoDCAT-AP 3.0.0 revision plan

GeoDCAT-AP Timeline



GeoDCAT-AP 3.0.0: revision plan

Revision on-going in <https://github.com/SEMICeu/GeoDCAT-AP/issues>

Working Group Webinar 2 - Concerning generic organisation & findability (12/03/2024)

- Datasets, Distributions and their relationships
- Categories (alignment with DCAT-AP 3.0): keywords, categories, themes

Working Group Webinar 3 – specific geo-aspects (today)

- Geospatial coverage & resolution
- Guest speakers on existing implementation of GeoDCAT-AP

Working Group Webinar 4 – relationship with INSPIRE (14/05/2024)

- Discussion on Codelists
- HVD and remaining issues
- GeoDCAT-AP related tools: XSLT

We are interested in which issues you are facing and we encourage you to post them as issues on the [GeoDCAT-AP GitHub repository](#).



GeoDCAT-AP Issues

Issue types and their handling

1. Regular issues to be discussed and/or voted on (👍 👎) during webinars

webinar:2024-05-14

- Use the `webinar:<webinar-date>` label
 - 2024-03-12
 - 2024-04-23
 - 2024-05-14

2. Minor issues to be discussed and/or voted on (👍 👎) in GitHub

webinar:2024-05-14

status:resolution-proposed

- Listed in webinar slides
- To be resolved before the indicated webinar
- To be escalated to regular issues in case of bigger discussion



<https://github.com/SEMICeu/GeoDCAT-AP/issues>



Specific geospatial aspects

Relation of spatial resolution on Dataset, Distribution and Data Service (#100)

Description

Spatial resolution – optional property on Dataset, Distribution, Data Service.

What are the relations of spatial resolution specifications on these classes?

+spatial
resolution

dqv:hasQualityMeasurement

dqv:QualityMeasurement

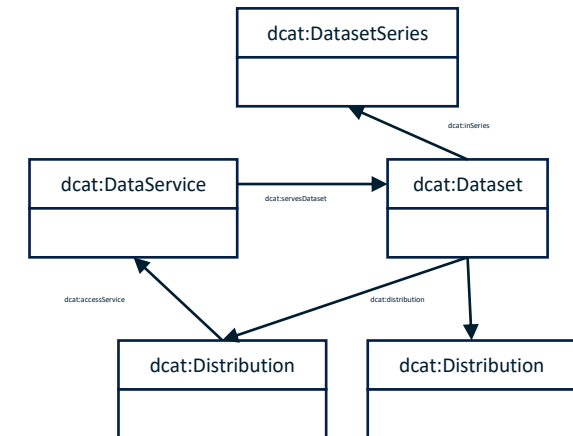
Refers to the performed quality measurements.

In GeoDCAT-AP, this property is used to specify "spatial resolution", as defined in [INSPIRE-MD-REG], [ISO-19115], and [ISO-19115-1].

0..n

Questions

1. Can a Distribution have a different spatial resolution than the Dataset?
 1. If no, why do we need the property both on a Dataset and a Distribution?
 2. If yes
 1. Should all Distributions of a Dataset have the same spatial resolution as the Dataset?
 2. Should the Dataset be tagged by all the different spatial resolutions found in its Distributions?
2. Do all datasets served by a Data Service have the same spatial resolution as the Data Service?



Clarifying the meaning of multiple values of spatial coverage ([#107](#))

Description

With multiple values for spatial coverage are allowed e.g. for a dataset, it may not be clear enough, what the interpretation of those multiple values should be based on the current usage note:

spatial / geographic
coverage

`dct:spatial`

`dct:Location`

This property refers to a geographic region that is covered
by the Dataset.

0..n

Examples

Possible spatial expressions

```
<ds> dct:spatial _:Belgium .
```

```
<ds> dct:spatial _:Brussels .
```

```
<ds> dct:spatial _:Antwerp .
```

Different ways of representation. What does this mean?

```
<ds> dct:spatial _:Belgium .
```

```
<ds> dct:spatial [ dct:identifier _:Brussels ] .
```

```
<ds> dct:spatial [ skos:prefLabel "Antwerp"@en ] .
```

```
<ds> dct:spatial [ dcat:bbox ""{ "type": "Polygon", "coordinates": [[  
    [ 2.345693352852237, 51.705922095507674 ],  
    [ 2.345693352852237, 49.478466262366766 ],  
    [ 6.50311285587884, 49.478466262366766 ],  
    [ 6.50311285587884, 51.705922095507674 ],  
    [ 2.345693352852237, 51.705922095507674 ]  
]]}""^^
```

```
<http://www.opengis.net/ont/geosparql#geoJSONLiteral>
```

```
]
```


Clarifying the meaning of multiple values of spatial coverage ([#107](#))

Description

With multiple values for spatial coverage are allowed e.g. for a dataset, it may not be clear enough, what the interpretation of those multiple values should be based on the current usage note:

spatial / geographic
coverage

`dct:spatial`

`dct:Location`

This property refers to a geographic region that is covered
by the Dataset.

0..n

Proposition

Explicitly say in a usage note that:

“when multiple values are used for spatial coverage, this may be interpreted as a spatial union, or as alternative representations of spatial coverage that might fit, with no explicit spatial relation”

to give guidance to implementers as to how to treat the multiple values of spatial coverage.

Clarifying the meaning of multiple values of spatial coverage ([#96](#))

Description

The meaning of having multiple spatial / geographic coverages specified on one Data Service may not be clear enough.

+spatial / geographic coverage	<code>dct:spatial</code>	<code>dct:Location</code>	This property refers to a geographic region that is covered by the Data Service.	0..n
--------------------------------------	--------------------------	---------------------------	----------------------------------------------------------------------------------	------

Proposition

Explicitly say in a usage note that:

“If the Data Service provides access to multiple Datasets, then this will be the union of the spatial coverages of these Datasets.”



Information on GeoDCAT-AP strategy

Use case implementation strategy: abstraction vs precise

Abstraction/Aggregation

```
_:d dct:subject codelist1:a.  
_:d dct:subject codelist2:x1.
```

property	definition	Card
subject	A topic of the resource.	1..n

- + One property to implement.
- Label and definition are very abstract.
- Cardinality constraints unclear, certainly in combination with codelists.
- Extensive usage notes needed to explain the semantics.

Precise

```
_:d ex:subject1 codelist1:a.  
_:d ex:subject2 codelist2:x1.
```

```
ex:subject1 rdfs:subPropertyOf dct:subject.  
ex:subject2 rdfs:subPropertyOf dct:subject.
```

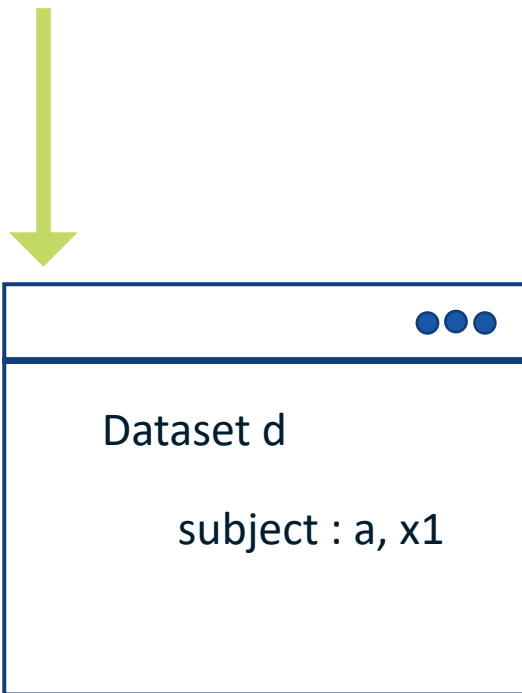
property	definition	Card
subject1	A category defined by System1	1..n
subject2	A topic defined according legislation A	1..n

- For each case a specific property to implement.
- + Label and definition are very precise.
- + Cardinality constraints unambiguous.
- + In case of codelists the usage note is simpler.
- + Automation of constraint generation in artifacts is simpler.

Use case implementation strategy: abstraction vs precise

Abstraction/Aggregation

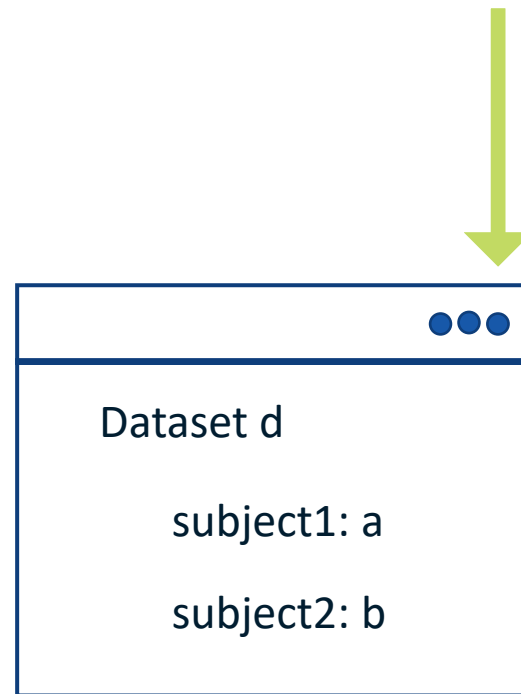
```
_:d dct:subject codelist1:a.  
_:d dct:subject codelist2:x1.
```



Precise

```
_:d ex:subject1 codelist1:a.  
_:d ex:subject2 codelist2:x1.
```

```
ex:subject1 rdfs:subPropertyOf dct:subject.  
ex:subject2 rdfs:subPropertyOf dct:subject.
```



Implementation effort:

- **Green** = specification and visualisation are identical.
- **Orange** = visualisation can be automatically derived from the specification, specification provides a default approach by information of subproperty.
- **Red** = implementers have to interpret the values to get the visualisation.

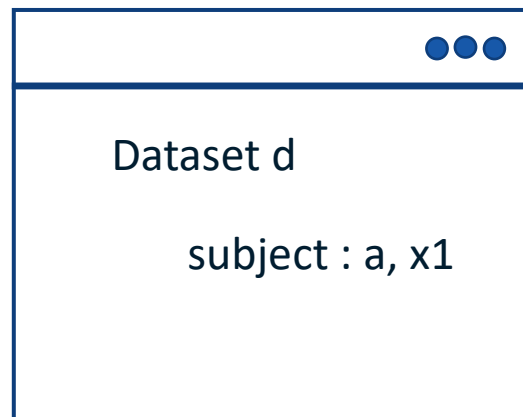
Automation

Precise to Abstraction/Aggregation

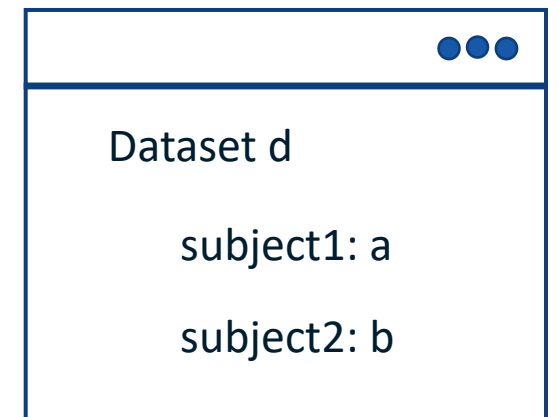
1. Export the Catalogue to RDF (GeoDCAT-AP).
2. Textually replace the subproperty with the superproperty.

```
sed -i :s/ex:subject1/dct:subject/g
```
3. Done.

Abstraction/Aggregation



Precise



Strategic decision

- Strategy 1: GeoDCAT-AP is derived from INSPIRE metadata.
 - It may aggregate and condense information from INSPIRE.
 - Doing so the conversion from GeoDCAT-AP to ISO INSPIRE is **impossible**.
- Strategy 2: Use GeoDCAT-AP natively for INSPIRE metadata.
 - It must express INSPIRE metadata as precise as possible.
 - A **two-way conversion** should be **possible**:
 - From ISO INSPIRE to GeoDCAT-AP.
 - From GeoDCAT-AP to ISO INSPIRE.

Strategic decision

Strategic Approach 1 allows abstraction implementation strategy.

Strategic Approach 2 imposes precise implementation strategy.

Design of a profile cannot be created based on a dual Strategic Strategy approach.

Future impact:

- If chosen for S.A.1 then a shift to S.A.2 is a major rewrite.
- If chosen for S.A.2 then a shift to S.A.1 can be automated.



Postponed issues from last webinar

Postponed issues from webinar 12/03

1. Ambiguous mapping of *dct:type* on Data Service ([#77](#))
2. Profile specific sub-property of *dct:subject* ([#78](#))
3. Mapping of reference system to *dct:conformsTo* ([#94](#))
 - Identical: Data Service Protocol mapped to *dct:conformsTo* ([#114](#))



Ambiguous mapping of *dct:type* on Data Service (issue [#77](#))

Description

In GeoDCAT-AP 2.0.0 *dct:type* on Data Service is used in three different contexts.

1. [service category](#) with "Classification of spatial data services" code list
2. [service type](#) with "Spatial data service types" code list
3. [type](#) with "Resource types" code list. (this one also appears in Dataset)

Motivation

- Correct assignment of usage notes, labels and required code lists rather difficult, as well as validation
- Not in line with guidelines of the SEMIC Style Guide
 - [Reuse of a property with terminological adaptations](#) or
 - [Reuse of a property with semantic adaptations](#).
- Even more problematic in a cross-profile environment - incompatible requirements can be easily made

+service category	<i>dct:type</i>	<i>skos:Concept</i>	In GeoDCAT-AP, this property <i>SHOULD</i> take as value one of the URIs of the "Classification of spatial data services" code list operated by the INSPIRE Registry [INSPIRE-SDSC] .	0..1
-------------------	-----------------	---------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

+service type	<i>dct:type</i>	<i>skos:Concept</i>	In GeoDCAT-AP, this property <i>SHOULD</i> take as value one of the URIs of the "Spatial data service types" code list operated by the INSPIRE Registry [INSPIRE-SDST] .	0..1
---------------	-----------------	---------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

+type	<i>dct:type</i>	<i>skos:Concept</i>	In GeoDCAT-AP, this property <i>SHOULD</i> take as value one of the URIs of the "Resource types" code list operated by the INSPIRE Registry [INSPIRE-RT] - namely the one corresponding to "Spatial data service".	0..1
-------	-----------------	---------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

Ambiguous mapping of *dct:type* on Data Service (issue [#77](#))

Description

In GeoDCAT-AP 2.0.0 *dct:type* on Data Service is used in three different contexts.

1. [service category](#) with "Classification of spatial data services" code list
2. [service type](#) with "Spatial data service types" code list
3. [type](#) with "Resource types" code list. (this one also appears in Dataset)

Proposition

Introduce subproperties of *dct:type*

- `geodcat-ap:serviceCategory` for "Classification of spatial data services" code list
- `geodcat-ap:serviceType` for "Spatial data service types" code list
- `geodcat-ap:resourceType` for "Resource types" code list with the domain of `dcat:Resource` to accommodate both for Datasets and Data Services

+service category	<i>dct:type</i>	<i>skos:Concept</i>	In GeoDCAT-AP, this property <i>SHOULD</i> take as value one of the URIs of the "Classification of spatial data services" code list operated by the INSPIRE Registry [INSPIRE-SDSC] .	0..1
-------------------	-----------------	---------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

+service type	<i>dct:type</i>	<i>skos:Concept</i>	In GeoDCAT-AP, this property <i>SHOULD</i> take as value one of the URIs of the "Spatial data service types" code list operated by the INSPIRE Registry [INSPIRE-SDST] .	0..1
---------------	-----------------	---------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

+type	<i>dct:type</i>	<i>skos:Concept</i>	In GeoDCAT-AP, this property <i>SHOULD</i> take as value one of the URIs of the "Resource types" code list operated by the INSPIRE Registry [INSPIRE-RT] - namely the one corresponding to "Spatial data service".	0..1
-------	-----------------	---------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

Reference system mapped to *dct:conformsTo* ([#94](#))

Description

The generic property `dct:conformsTo` is used in a specific context for a Reference system.
(Catalogue, Dataset, Distribution, Data Service).

Motivation

- Same as before (style-guide)

§ 4.6.3 Optional properties for Catalogue

Property	URI	Range	Usage note	Card.
+conforms to	<code>dct:conformsTo</code>	<code>dct:Standard</code>	This property refers to an implementing rule or other specification.	0..n
+reference system	<code>dct:conformsTo</code>	<code>dct:Standard</code>	This property <i>SHOULD</i> be used to specify the reference system used in the Catalogue. Spatial reference systems <i>SHOULD</i> be specified by using the corresponding URIs from the “EPSG coordinate reference systems” register operated by OGC [OGC-EPSS].	0..n

Proposition

- 1) Merge usage notes to *conforms to*, or
- 2) Introduce subproperty of `dct:conformsTo`: `geodcatap:referenceSystem`

Data Service Protocol mapped to *dct:conformsTo* ([#114](#))

Description

The generic property `dct:conformsTo` is used in a specific context for a Data Service Protocol.

Motivation

- Same as before (style-guide)

+`dct:conformsTo`

Data Service	OGC EPSG Coordinate Reference Systems	http://www.opengis.net/def/crs/EPSSG/0/	GeoDCAT-AP extension.
Dataset	Register		
Distribution	[OGC-EPSSG]		
Data Service	INSPIRE Protocol Values	https://inspire.ec.europa.eu/metadata-codelist/ProtocolValue	
	[INSPIRE-PV]		

Proposition

- 1) Merge usage notes to *conforms to*, or
- 2) Introduce subproperty of `dct:conformsTo`: `geodcatap:dataServiceProtocol`



Minor issues

Additional issues

webinar:2024-05-14

status:resolution-proposed

1. CRS support in GeoJSON ([#6](#))

To be voted on (👍 👎) or discussed on GitHub
and resolved before the next webinar



<https://github.com/SEMICeu/GeoDCAT-AP/issues>



Resolved issues

Additional alignment with DCAT-AP 3.0

webinar:2024-04-23

status:resolution-provided

alignment:dcat-ap-3.0

1. Using dcat:landingPage also for services ([#9](#))
2. Maintenance frequency code list ([#56](#))
3. Add dcat:DatasetSeries ([#71](#))
4. Add properties for dcat:DatasetSeries ([#72](#))
5. Agent.Type definition alignment ([#85](#))
6. Distribution availability vocabulary update ([#86](#))
7. CatalogueRecord.changetype definition difference ([#87](#))
8. Checksum usage alignment ([#89](#))
9. Distribution byte size range change ([#91](#))
10. Temporal literals ([#93](#))
11. Split current usage notes into definitions and usage notes as in DCAT-AP ([#105](#))



<https://github.com/SEMICeu/GeoDCAT-AP/issues>

Minor/editorial issues

webinar:2024-04-23

status:resolution-provided

1. Relation of various Agent classes used throughout the specification ([#112](#))
2. Clarify the usage note of Distribution.representation technique ([#97](#))
3. Remove note from the Kind class ([#98](#))
4. Limit the range of vcard:hasEmail ([#99](#))
5. Multiple character encodings for Catalogue Record ([#103](#))
6. Geographic name optional, yet 1..n ([#104](#))
7. Remove example for Media Type as it is confusing ([#110](#))



<https://github.com/SEMICEu/GeoDCAT-AP/issues>



Break



Guest speakers on their implementations



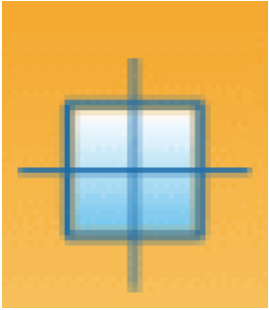
NLS
NATIONAL
LAND SURVEY
OF FINLAND

National implementations

SEMIC GeoDCAT-AP webinar 23. April 2024

Lena Hallin-Pihlatie

National Land Survey of Finland



National Metadata Catalogue Paikkatietohakemisto

- Service provided by National Land Survey for publishing metadata for **geospatial data sets and services**
- Based on GeoNetwork
- The official discovery service of INSPIRE in Finland
- Metadata templates based on the ISO/INSPIRE metadata profiles

Paikkatietohakemisto Hae metatietoja Kirjautu sisään Suomeksi

Kirjoita hakusana tähän

Tervetuloa Paikkatietohakemistoon!

Palvelussa on kuvattuna yhteensä 1588 paikkatietoaineistoa ja -palvelua. Rekisteröityneenä käyttäjänä voit osallistua oman organisaatiosi metatietojen eli aineistojen ja palvelujen kuvausten laatimiseen ja ylläpitoon.

[Lisätietoja metatiedoista](#)
[Paikkatietohakemiston käyttöohje](#)
[Tietosuojaseloste](#)
[Saavutettavuusseloste](#)

Jos sinulla on mitä tahansa kysyttävää, ota yhteyttä metatieto@maanmittauslaitos.fi.

Hae valitun ehdon mukaan **Aiheluokka**

Aiheluokka	Luokan määrä
Aluesuunnittelu/kiint...	373
Ympäristö	204
Rajat	87
Geolieteet	40
Eläin- ja kasvikunta	27
Vallameret	9
Liikenne	355
Rakennelma	115
Sijainti	79
Yhteiskunta	36
Maatalous	20
Talous	8
Kuvat/peruskartat/m...	233
Korkeus	89
Sisävedet	70
Ilmastotiede/meleoro...	33
Johtoverkot/viestintä	11
Terveys	2

Tyypeittäin

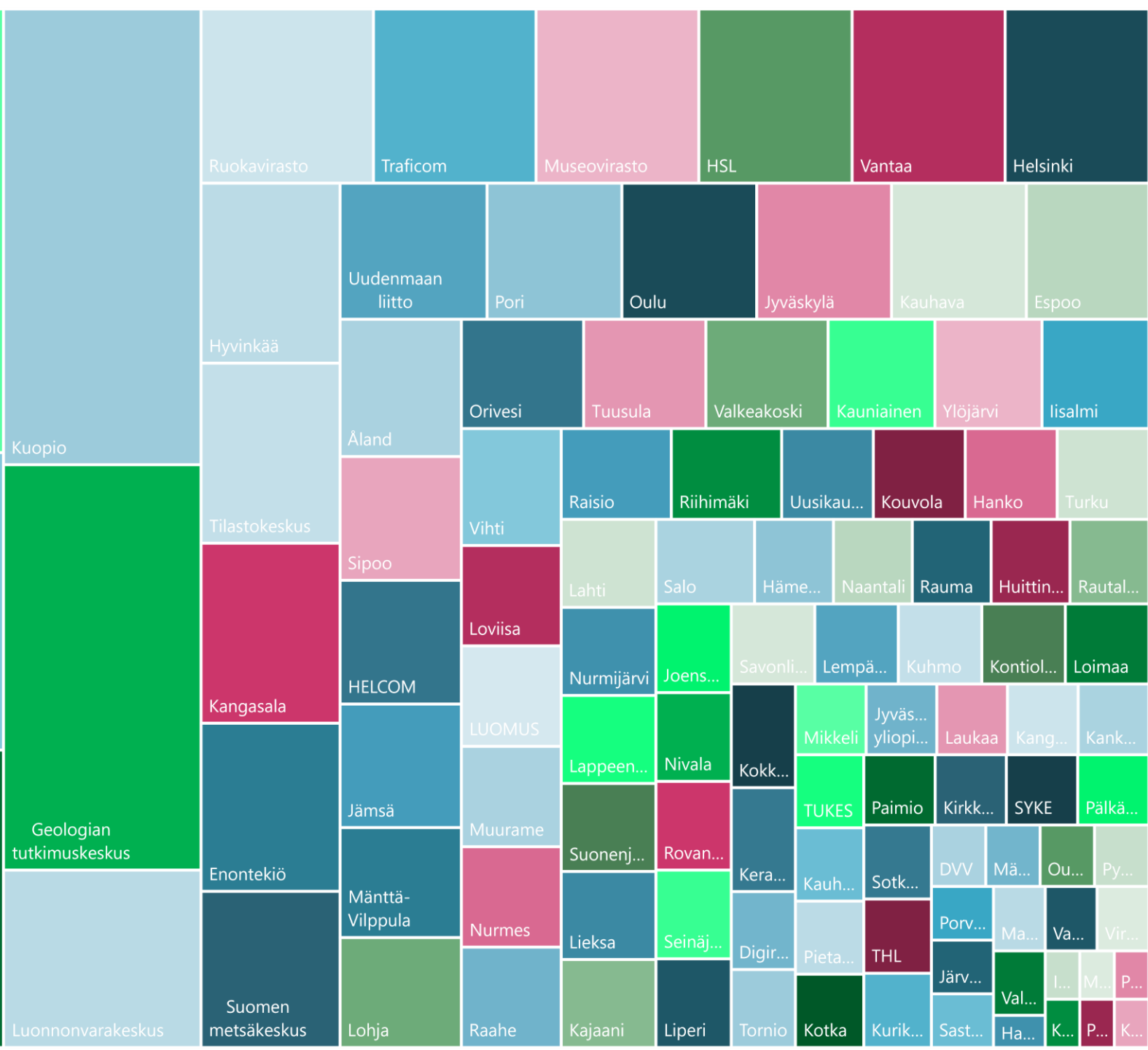
Tyyppi	Määrä
Tietoaineisto	1254
Palvelu	254
service-view	141
service-download	89
Tietoaineistosarja	82
service-other	10

Palvelu perustuu avoimen lähdekoodin ohjelmistoon: [GeoNetwork](#) [Github](#) [API](#)



~ 100 organisations
~ 1 800 published
metadata

~ 650 INSPIRE
~ 700 Open Data



Tampere

Maanmittauslaitos

Kuopio

Geologian
tutkimuskeskus

Luonnonvarakeskus

Suomen
metsäkeskus

Lohja

Raabe

Kajaani

Liperi

Tornio

Kotka

Kurik...

Sast...

Ha...

K...

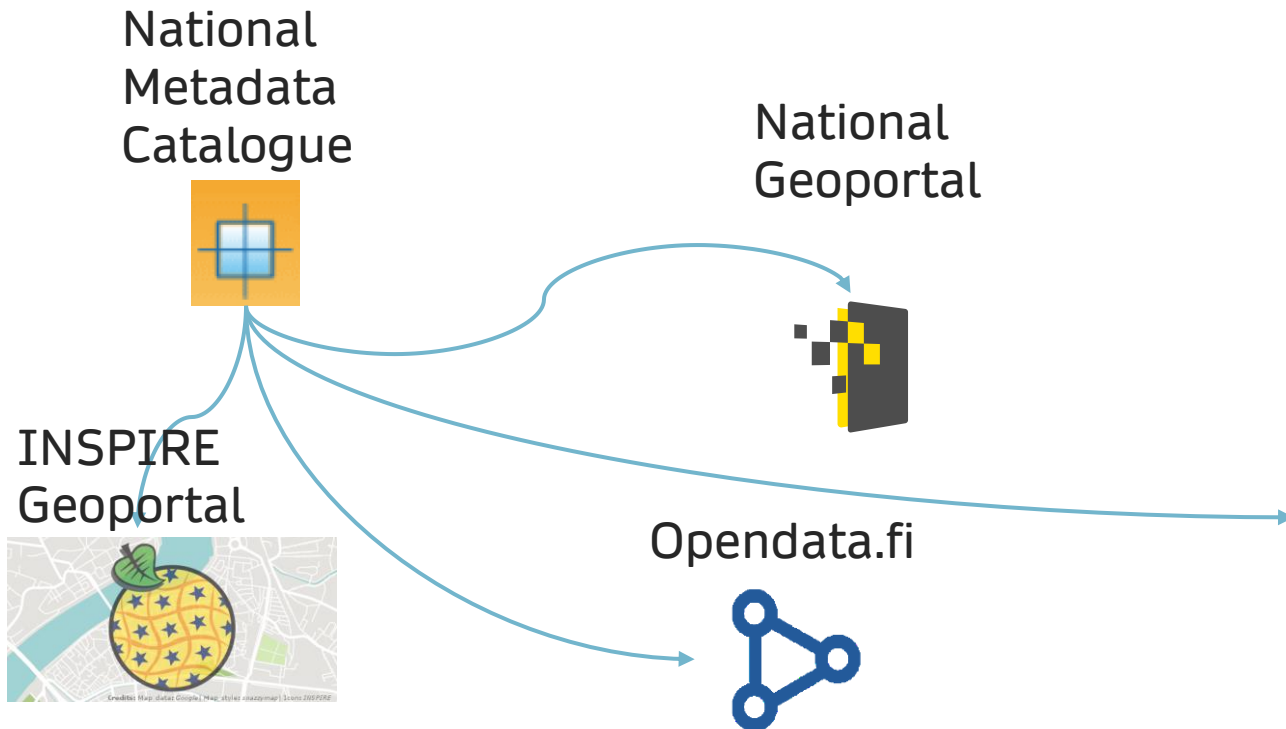
P...

K...

Varsinais-Suomen liitto/Lounaistieto

HSY

How it works - Catalogue Service for the Web (CSW)



Product descriptions on NLS-FI web site

The screenshot shows the 'Product descriptions' page on the NLS-FI website. The page title is 'Product descriptions'. The main content area contains the following text: 'The National Land Survey maintains topographic data and produces maps, aerial photos and laser scanning data from the entire country. The product descriptions present the data content of products, quality information and the formats in which data is available.' Below this, there is a section titled 'See our product descriptions' with the text: 'Most of the products are available at downloading service in [MapSite](#).' There is also a section for 'Background map (raster)' with the text: 'The Background map is a dataset product series in raster format that depicts the whole of Finland and that is meant for web use as a background material for thematic data. Its key objects are road names, roads and railways, buildings and constructions, administrative borders, geographical names, waterways, land use and addresses of buildings (the Digital and Population Data Services Agency).' The page also features a sidebar with navigation options: '+ Maps', '× Datasets and interfaces', and '+ Coordinates and positioning'. The 'Datasets and interfaces' section is expanded, showing 'Topographic data and how to acquire it', 'Product descriptions' (highlighted), and 'General information about interface services'. At the bottom of the sidebar, there is a section for 'Download geospatial data section' with the text: 'You can download geospatial datasets and maps from the MapSite.' and a link: 'Go to the Download geospatial data section of the MapSite >'. The page footer includes the NLS logo and the text 'NLS NATIONAL LAND SURVEY OF FINLAND'.

Opendata.fi

- Based on CKAN
- Operated by Finnish Digital and Population Data Services Agency (DVV)
- Opendata.fi service has created an extension to the DCAT-AP application profile recommended by the European Data Portal (EDP)

The screenshot shows the Opendata.fi website interface. At the top, there is a navigation bar with the logo 'AVOINDATA.FI', a search bar with the placeholder text 'Search Suomi.fi Open Data...', and buttons for 'Log in', 'Register', and a language selector 'EN'. Below the navigation bar, there is a main header with the text 'All Finnish open data from one place'. Underneath this header, there are four statistics: 2352 Datasets, 68 APIs, 746 Publishers, and 97 Showcases. A search bar is located below the statistics, with the placeholder text 'Type what you are searching for' and a 'Search' button. To the right of the search bar, there is a link for 'Use advanced search'. Below the search bar, there is a section titled 'Open data categories' with a grid of 16 categories, each represented by an icon and a count:

Category	Count
Regions & Cities	552
Energy	32
Government & Public Sector	200
International Issues	9
Education & Sport	68
Arts, Culture & Leisure	118
Transport	476
Agriculture, Fisheries, Forestry & Foods	14
Tourism & Travel	5
Justice, Legal System & Public Safety	9
Built-up areas & Infrastructure	370
Economy & Finance	155
Health	68
Science & Technology	73
Population & Society	271
Environment & nature	423

Metadata is harvested to Opendata.fi portal

National Metadata Catalogue



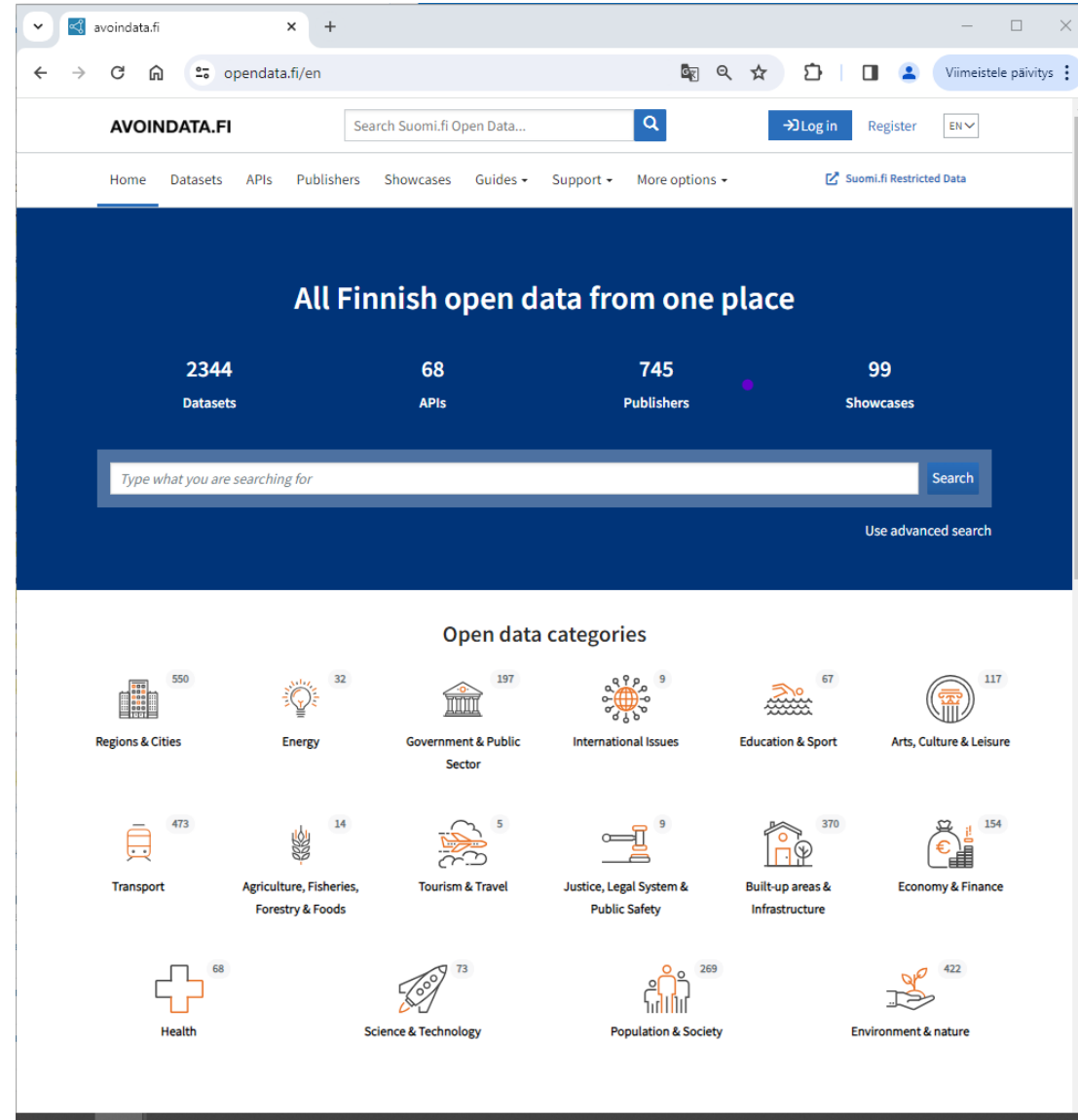
Virtual CSW interface providing metadata with Opendata.fi (Avoindata.fi) key word

Filter by license:

- CC BY 4.0 or Public domain
- Mapping to Opendata.fi DCAT-profile taking into account GeoDCAT-AP



Opendata.fi



NLS-FI & DVV: Mapping from ISO to DCAT

	Heading	Technical name	DCAT AP	Compulsory	Correspondence in ISO XML
2	Dataset title	title	dct:title	yes, in Finnish	title
3	Title in Finnish				
4	Title in Swedish				
5	Title in English				
6	URL	name	dcat:Dataset	yes	
7	Dataset description	notes	dct:description	yes, in Finnish	abstract
8					
13	Keywords	keywords	dcat:keyword	yes, in Finnish	keyword
14					
15	Keywords in Finnish Keywords in Swedish Keywords in English				
16					
17	Dataset maintainer	maintainer	dcat:contactPoint vcard:fn	yes	responsible party
18	Maintainer email	maintainer_email	dcat:contactPoint vcard:hasEmail	yes	contact email
19	Maintainer website	maintainer_website	dcat:contactPoint vcard:hasUrl	no	
20	Publisher	owner_org	dct:publisher	yes	Paikkatietohakemisto or responsible-party
21					
22	License	license_id	resurssien dct:license	yes	licence
23					

ISO/INSPIRE category (Google translate)	DCAT/Open Data topic category (Google translate)
Agricultural	Agriculture, fisheries, forestry and food
Fauna and flora	Environment and nature
Bounds/borders	Built environment and infrastructure
Climatology/meteorology/atmosphere	Environment and nature
Economic	Economy and finance
Height	Built environment and infrastructure, Environment and nature
Environment	Environment and nature
Geosciences	Environment and nature, Science and technology
Health	Health
Images/base maps/land cover	Regions and cities, Environment and nature, Built environment and infrastructure
Intelligence/defense	Law, legal system and public safety
Inland waters	Environment and nature
Location	Built environment and infrastructure
The oceans	Environment and nature
Spatial planning/real estate system	Regions and cities, Built environment and infrastructure
Society	Population and society
Structure	Regions and cities, Built environment and infrastructure
Transport	Transport
Networks/communications	Built environment and infrastructure

DEMO

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0" encoding="UTF-8" />
<csw:Capabilities xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" xmlns:inspire_ds="http://inspire.ec.europa.eu/schemas/inspire_ds/1.0" xmlns:ogc="http://www.opengis.net/ogc"
xmlns:inspire_com="http://inspire.ec.europa.eu/schemas/common/1.0" xmlns:gml="http://www.opengis.net/gml" xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
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http://inspire.ec.europa.eu/schemas/inspire_ds/1.0/inspire_ds.xsd">
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    <ows:Title>Paikkatietohakemiston CSW-rajapinta</ows:Title>
    <ows:Abstract>Paikkatietohakemisto on valtakunnallinen metatietopalvelu, johon tallennetaan valtakunnallisten paikkatietoa tuottavien organisaatioiden ja kuntien tuottamien
paikkatietoaineistojen ja -palvelujen kuvailut. CSW-rajapinnan kautta Paikkatietohakemistoon tallennetut kuvailut voidaan hakea esimerkiksi toisen organisaation omille www-sivuille, ja näin
kuvailuja ei tarvitse ylläpitää kuin yhdessä paikassa.</ows:Abstract>
    <ows:Keywords>
      <ows:Keyword>avoindata.fi</ows:Keyword>
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      <ows:Keyword>Yleishyödylliset ja muut julkiset palvelut</ows:Keyword>
      <ows:Keyword>Koordinaattijärjestelmät</ows:Keyword>
      <ows:Keyword>Paikannimet</ows:Keyword>
      <ows:Keyword>Osoitteet</ows:Keyword>
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      <ows:Keyword>Biomaantieteelliset alueet</ows:Keyword>
      <ows:Keyword>Korkeus</ows:Keyword>
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      <ows:Keyword>Maankäyttö</ows:Keyword>
      <ows:Keyword>Maaperä</ows:Keyword>
    </ows:Keywords>
  </ows:ServiceIdentification>
</csw:Capabilities>
```

Links to the "Background map" example

- Example in XML in the National Metadata Catalogue (INSPIRE)
 - <https://www.paikkatietohakemisto.fi/geonetwork/srv/api/records/aa5d9171-1f47-4434-bd28-183ebe2117a1/formatters/xml?approved=true>
- Example in OpenData.fi [opendata.fi/opendata.fi/data/fi/dataset/taustakartta-rasteri.ttl](https://opendata.fi/data/fi/dataset/taustakartta-rasteri.ttl)
 - dcat:Dataset, dcat:Distribution, foaf:Agent ja dct:Location
- Example in European Data Portal:
 - [Background map \(raster\) - Data Europa EU](#)
 - <https://data.europa.eu/data/datasets/c897e7db-a106-4e52-9634-dc0543456ae5.ttl>

Future

- Mapping of High Value Dataset Category between the two services

- National Metadata Catalogue



- Geonetwork version update (3.12.-4.2.x)

- Opendata.fi portal



- Present version based on CKAN 2
- CKAN 3.0 update wishlist
 - Implementaion of DCAT-AP 3.0 and Geo-DCAT-AP metadata profiles

Concluding remarks

- The metadata standards of ISO contain a broad range of information
 - De facto standard and rich for describing geospatial data
- Present systems are complex and involve a vast number of metadata and data providers
 - Implementing changes take time and resources
 - Standards -> software -> uptake by data providers

Knowing the Earth – Securing the future



How GeoDCAT-AP is part of a federated ecosystem of metadata and portals in Belgium

April 23rd, 2024

Geraldine Nolf

DIGITAAL
VLAANDEREN



Vlaamse
overheid

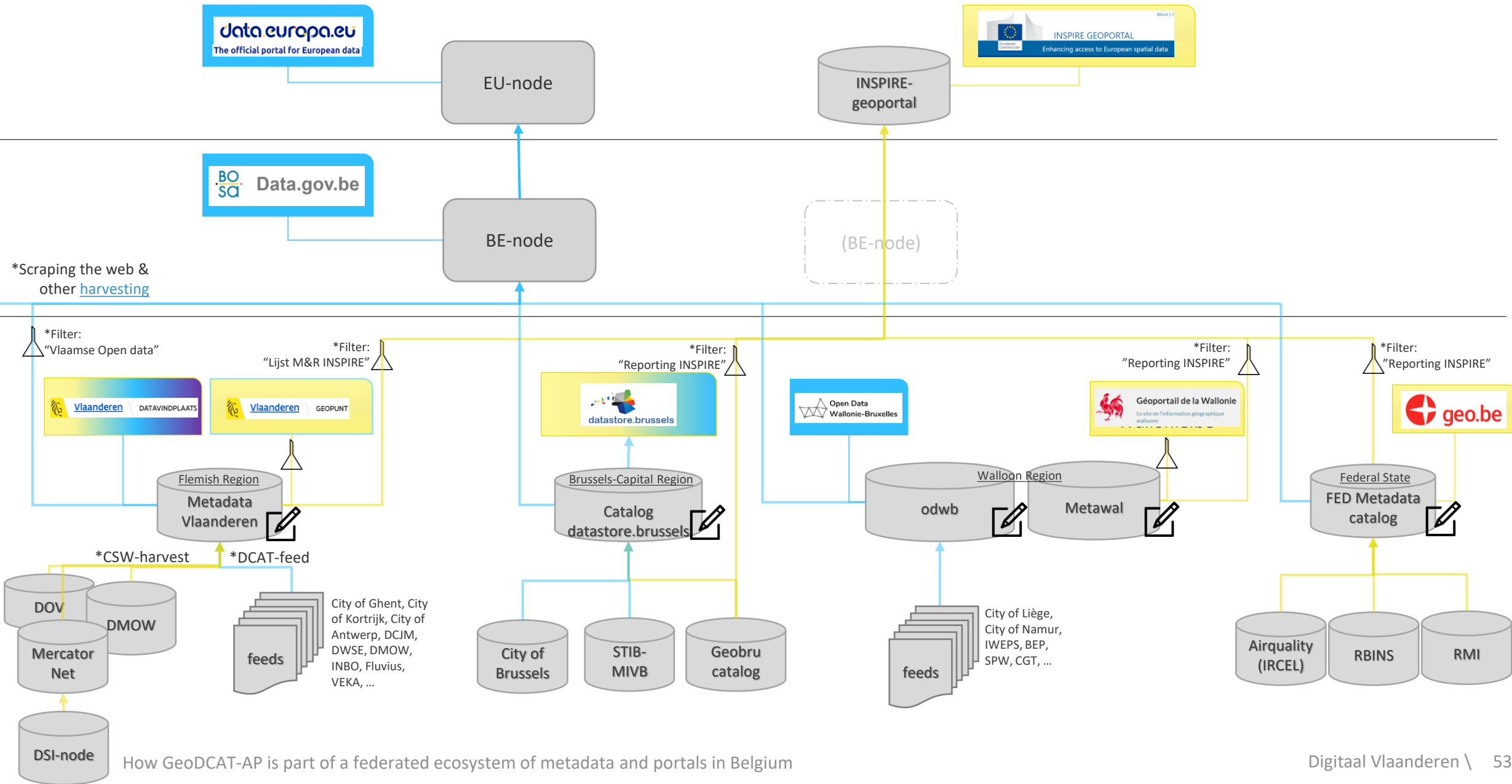


Overview on Metadata Nodes & Portals

EUROPEAN

NATIONAL

REGIONAL / FEDERAL



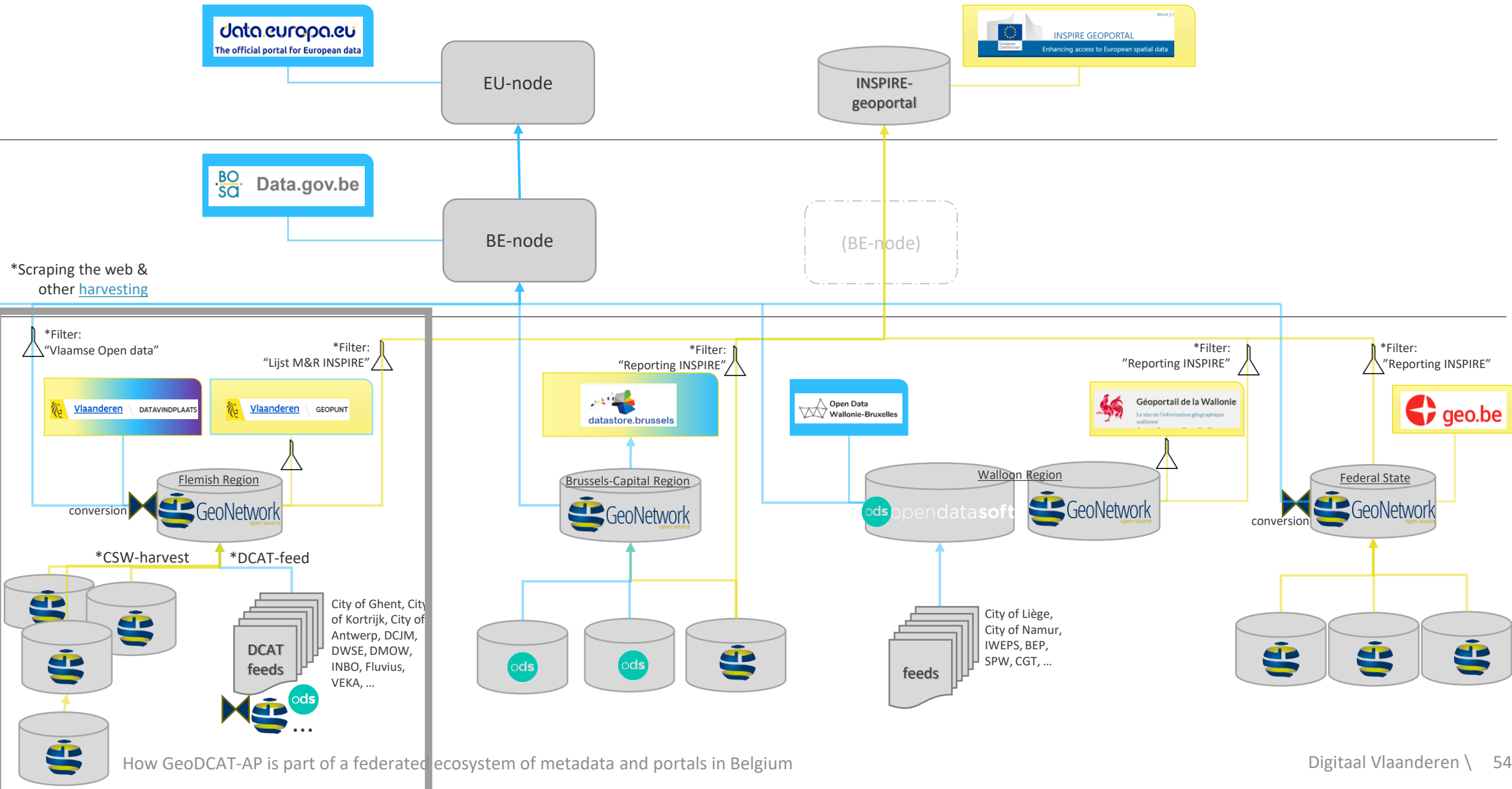
How GeoDCAT-AP is part of a federated ecosystem of metadata and portals in Belgium

Implementation of Metadata Nodes & Portals

EUROPEAN

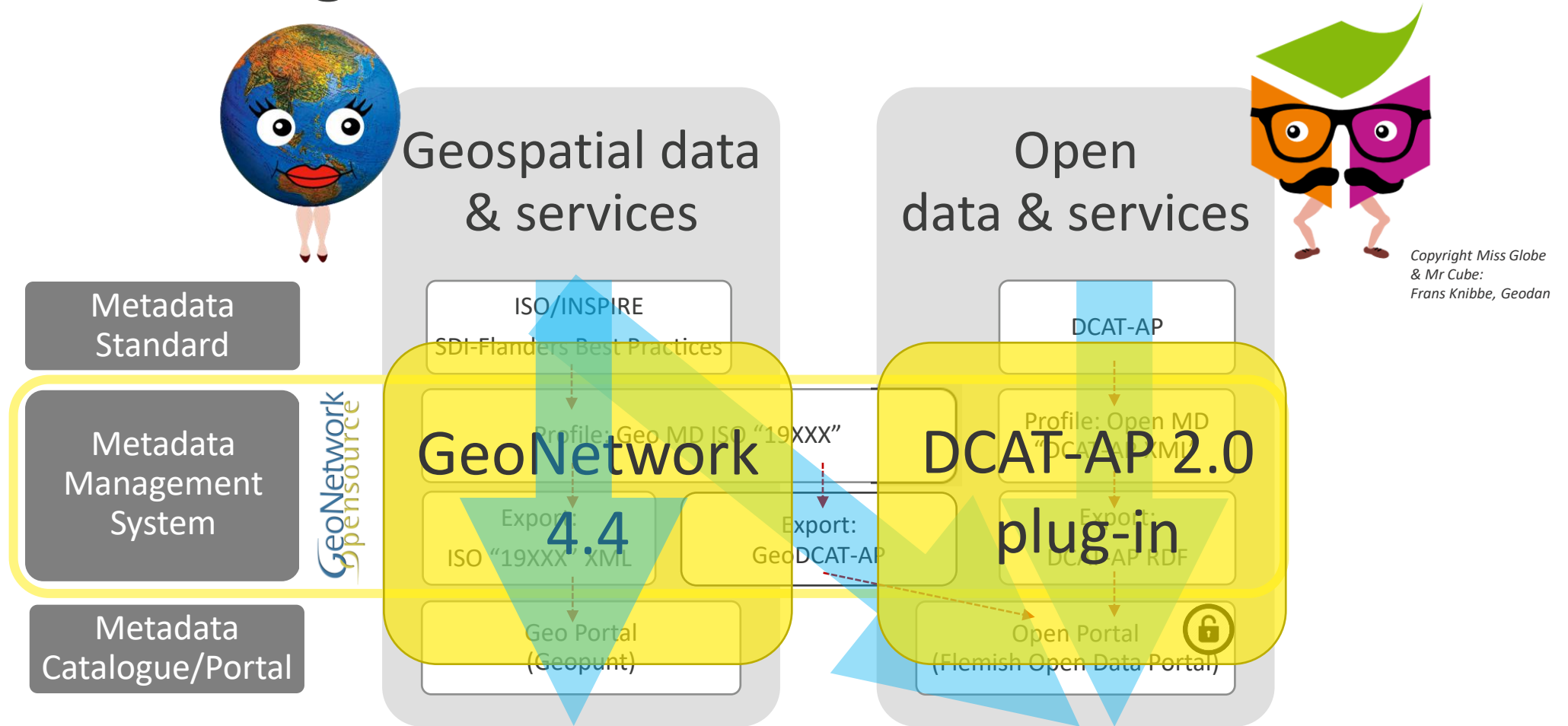
NATIONAL

REGIONAL / FEDERAL



How GeoDCAT-AP is part of a federated ecosystem of metadata and portals in Belgium

Bridge is built between the Geo and Open data domains, through GeoNetwork



<https://metadata.vlaanderen.be/>

Ecosystem of Standards & Application Profiles

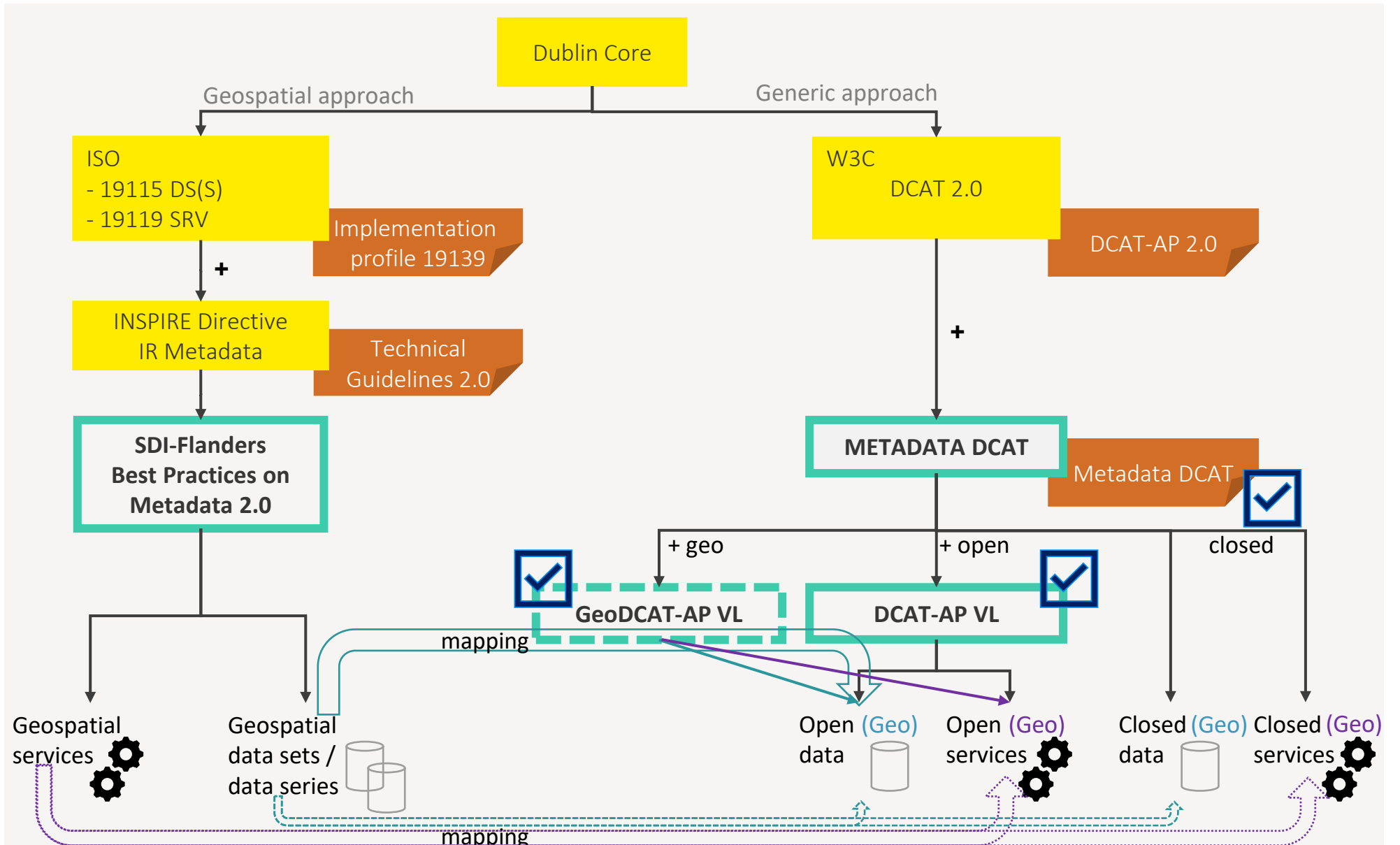
Legenda:

International standards

Profiles

Profiles on Flemish level

Data itself



DCAT-AP vocabulary and application profiles

Metadata Standards

- **BASIC profile: Metadata DCAT**

- > 'aligned with 'DCAT' en 'DCAT-AP' => 'to describe every kind of data and services, not-open & not-geo'
=> 'Metadata DCAT (2.0) specification'
 - Vocabulary: <https://data.vlaanderen.be/ns/metadata-dcat/>
 - Application profile: <https://data.vlaanderen.be/doc/applicatieprofiel/metadata-dcat/>

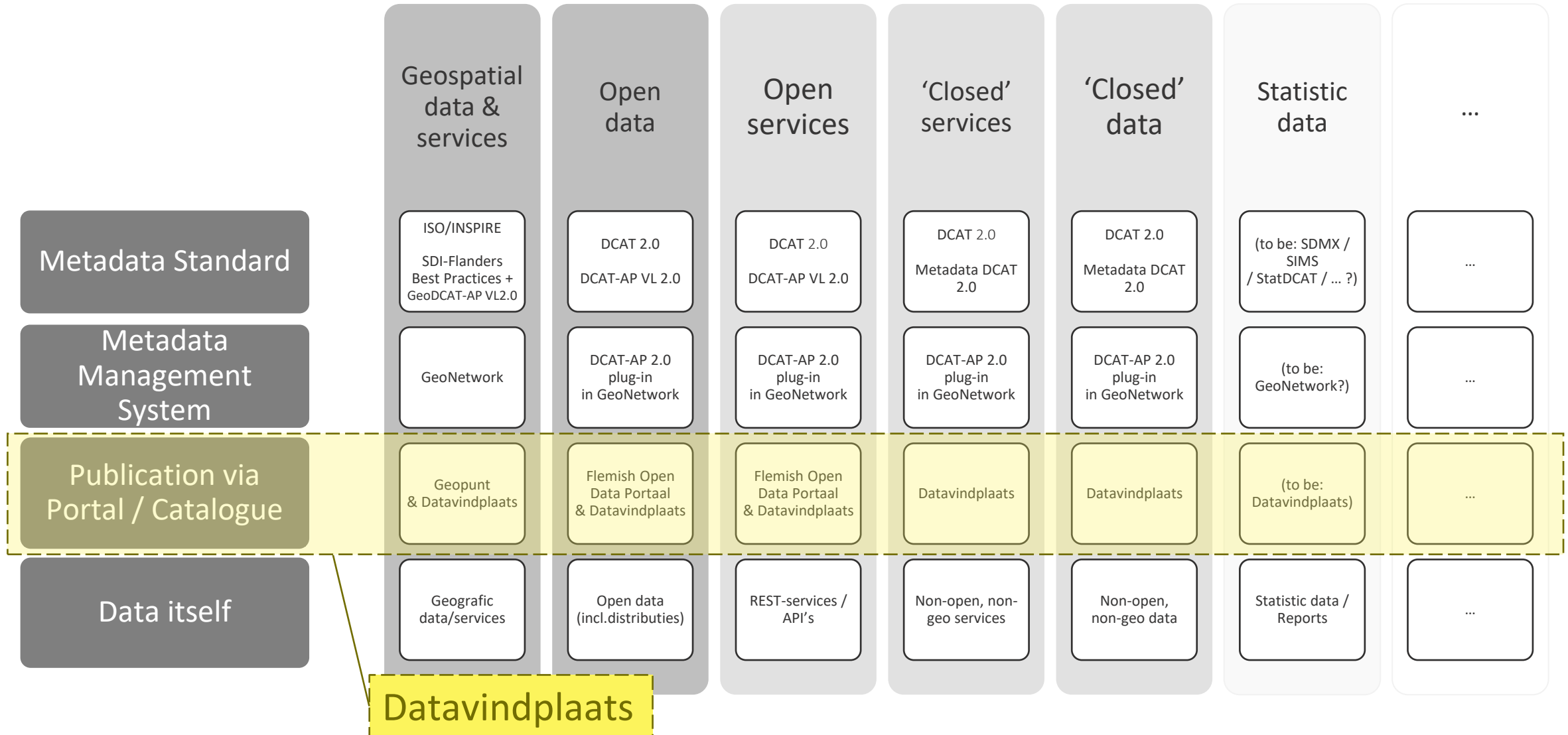
- **Open data profile: DCAT-AP-VL**

- > 'aligned with Metadata-DCAT' => 'to describe Open data and services'
=> 'DCAT-AP-VL (2.0) specification'
 - Application profile: <https://data.vlaanderen.be/doc/applicatieprofiel/DCAT-AP-VL/>

- **Geo data - mapping profile: GeoDCAT-AP-VL**

- > 'aligned with Metadata-DCAT' => 'to map the described Geographic data and services from the ISO descriptions'
=> 'GeoDCAT-AP VL (2.0) specification'
 - Application profile: <https://data.vlaanderen.be/doc/applicatieprofiel/GEODCAT-AP-VL/>

Vision: bring domains together



For data providers

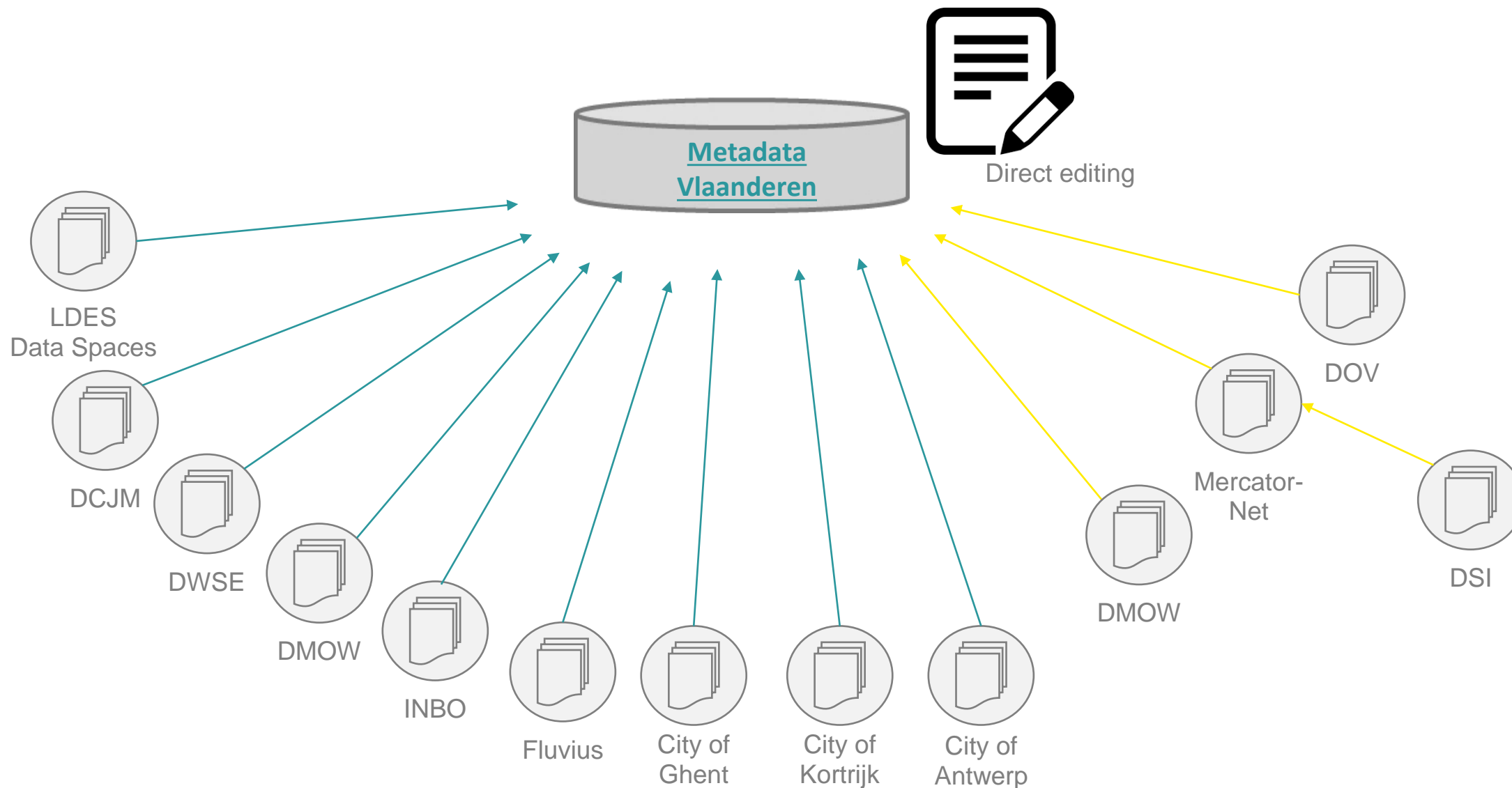
The screenshot shows the 'Create a' interface on the Vlaanderen Metadata website. It features a navigation bar with 'Vlaanderen', 'METADATA VLAANDEREN', 'SEARCH', 'CONTRIBUTE', 'ADMIN CONSOLE', 'CHANGELOG', and 'CONTACT US'. The main content area is titled 'Create a' and includes a 'Need help' button. There are two main sections: 'Create a dataset' and 'Create a service'. Each section has a 'From ...' dropdown menu with three options: 'Geografische gegevens' (Sjabloon voor Metadata van Geografische (open) datasets, conform GDI-Vlaanderen Best Practices v2.0), 'Open data (niet-geo)' (Sjabloon voor Metadata van Generieke Open data, conform DCAT-AP VL v2.0), and 'Andere gegevens (niet-open en niet-geo)' (Sjabloon voor Metadata van Generieke Gesloten data, conform metadata-DCAT v2.0). A 'Warning' box is visible, stating: 'By selecting *Digitaal Vlaanderen*, you agree to manage the new record yourself. If you want to have support by the DataPublicatie team, select a DataPublicatie group instead.'

The screenshot shows the 'Record' editing interface for a service. The top bar includes 'All changes saved', 'Validate', 'Cancel', 'Save & close', 'Save', and 'Display mode'. The main content area is titled 'Service Record' and includes a 'Basic information' section with fields for 'title' and 'description'. The 'title' field contains the text: '1358. Titel - De naam van de dataservice. (https://data.vlaanderen.be/doc/applicatieprofiel/metadata-dcat/erkendestandaard/2021-04-22#DataService%3Atitel) : De range van titel moet van het type <http://www.w3.org/1999/02/22-rdf-syntax-ns#langString> zijn. (dct.title)'. The 'description' field contains the text: '1303. Beschrijving - Een bondige tekstuele omschrijving van de dataservice. (https://data.vlaanderen.be/doc/applicatieprofiel/metadata-dcat/erkendestandaard/2021-04-22#DataService%3Abeschrijving) : De range van beschrijving moet van het type <http://www.w3.org/1999/02/22-rdf-syntax-ns#langString> zijn. (dct.description)'. The 'publisher' section includes an 'organisation' dropdown menu and a '+ URI' button. The 'name' field is empty. On the right side, there is a 'Validation' section with a 'Show messages' button and a list of validation rules: 'Recommended DCAT-API Rules' (0/0), 'Recommended metadata-dcat' (1/1), and 'Mandatory metadata-dcat Rules' (61/71). A message box at the bottom of the validation section states: 'At least one of vcard:hasEmail or vcard:hasURL is a required for a contact'.

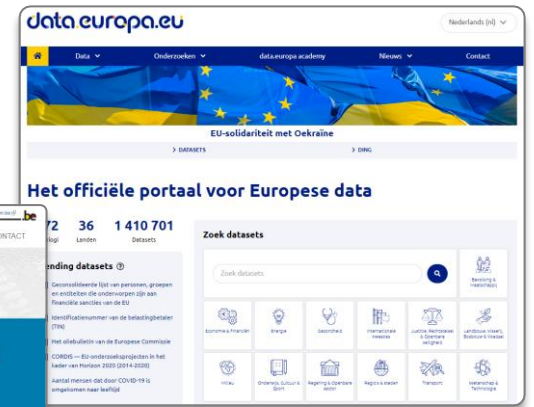
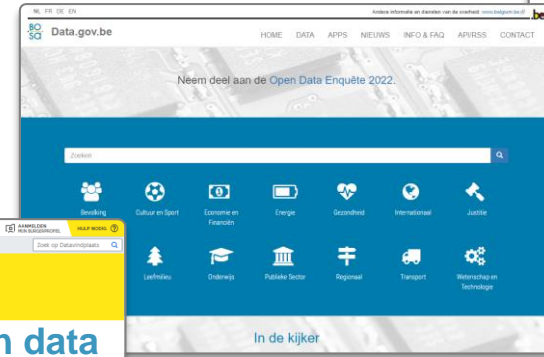
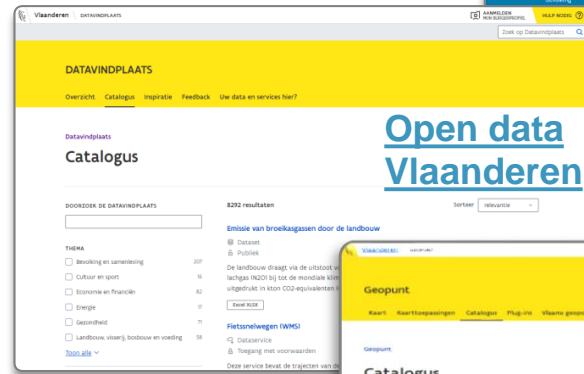
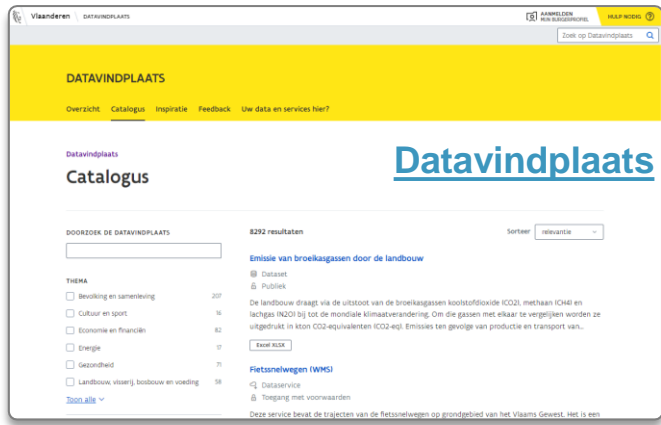
ISO & DCAT profiles implemented as templates with validation rules

>> Open Source Software GeoNetwork

Via Metadata – Once-only principle



Via Metadata – Publish in portals



Open data EU

Open data Belgium

Open data Vlaanderen

Geopunt Flanders

INSPIRE EU



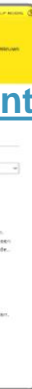
Input via external portals

Google Dataset Search & others

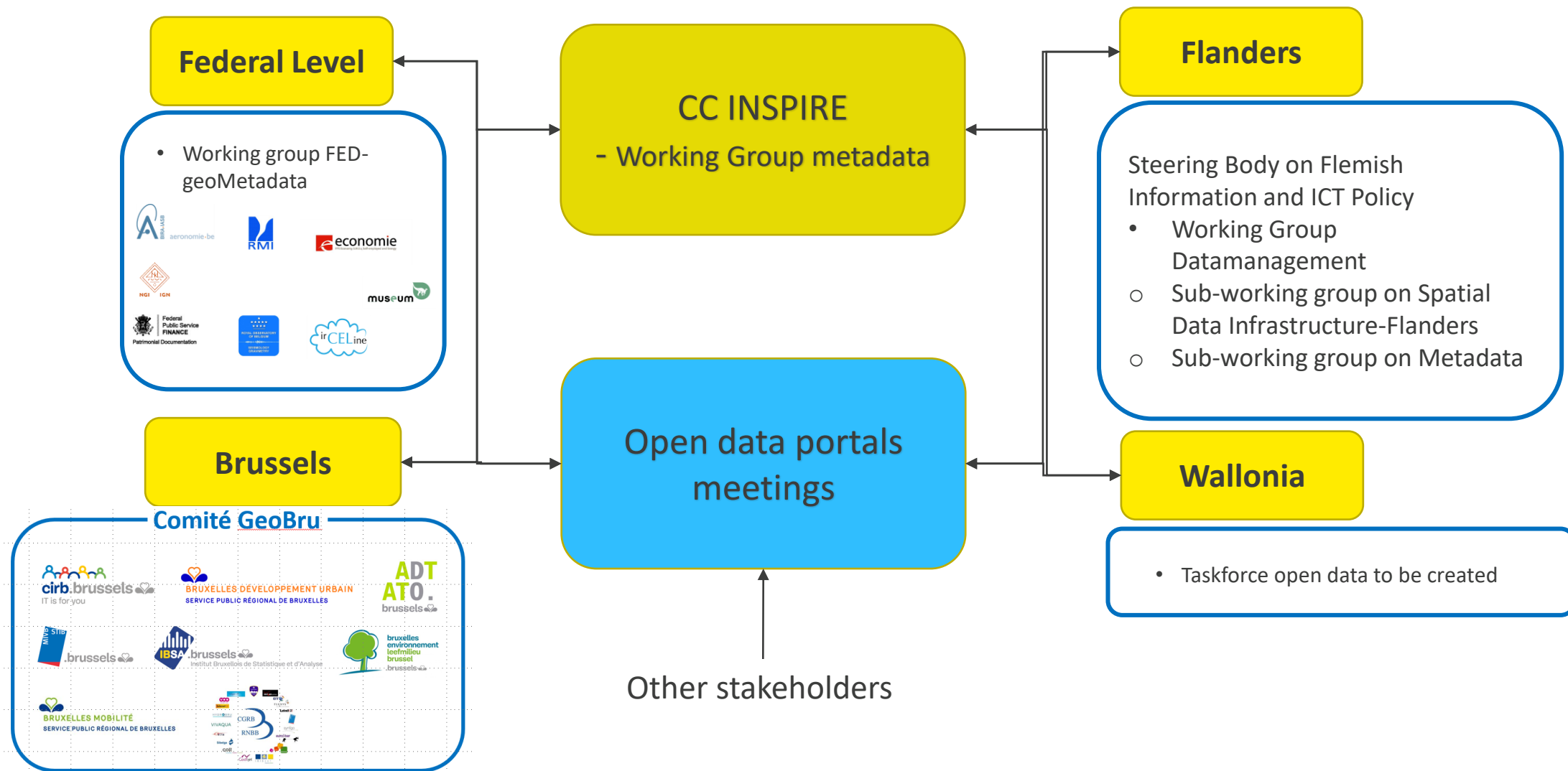
High Value Datasets (HVD)

National Access Point - Mobility

Health Data Space



Communication and collaboration in Belgium



Code repositories

GitHub - URLs:

- Metadata Vlaanderen fork of GeoNetwork:
 - <https://github.com/Informatievlaanderen/metadata-geonetwork/>
- DCAT-AP VL 2.0 plugin for GeoNetwork:
 - <https://github.com/Informatievlaanderen/metadata-dcatap>
- Metadata Vlaanderen fork of GeoNetwork Microservices:
 - <https://github.com/Informatievlaanderen/metadata-geonetwork-microservices>

Challenges

Awareness and interoperability of standards used in other sectors

- Use of persistent and unique identifiers at every level, leading to original source of metadata / avoiding duplication

Geraldine.Nolf@vlaanderen.be

& teams:

Metadata: Geraldine Nolf, Gerda Cobbaert, Bart Cosyn, Joachim Nielandt, Loes Deventer, Peter Haelvoet, Stijn Tallir, Severien D'Hoker, Patty Cant en Mathieu Chaussier (GIM) & François Prunayre (Tellitus)

OSLO-standardisation: Eveline Vlassenroot & Bert Van Nuffelen


Datavindplaats: Nicolas Hoflack, Tom Van Haute, Dominique Houwen & Kim Delbeke

Samen
Bouwen we ***vandaag***
Aan de overheid van ***morgen***


DIGITAAL
VLAANDEREN



Vlaamse
overheid



Deze presentatie werd opgemaakt door Digitaal Vlaanderen.
Het is niet toegestaan om de inhoud van deze presentatie in welke vorm en/of op welke wijze dan ook te verspreiden, te publiceren of te hergebruiken zonder nadrukkelijke toestemming van de auteur.





GOBIERNO
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MINISTERIO
DE TRANSPORTES
Y MOVILIDAD SOSTENIBLE

INSTITUTO
GEOGRÁFICO
NACIONAL



CONSEJO
SUPERIOR
GEOGRÁFICO

Experience of the Spanish SDI

Repeated data sets in DCAT-AP

Paloma Abad
















Centro Nacional de Información Geográfica



Situation of geographic information metadata Spanish SDI



Metadata at national level

National SDI nodes	Responsible for INSPIRE Themes
National Cartographic System (SCN)	TN , HY , GN , AU , LC , LU , EL , OI , etc.
Ministry of Agriculture, Fisheries and Food (MAPA)	SD , HY , HB , EF , MF , AC , PS , ER , etc. 
<u>Spanish Agrarian Guarantee Fund (FEGA)</u>	LC , LU , GSAA, LPIS 
Ministry for the Ecological Transition and the Demographic Challenge (MITECO)	SD , HY , HB , EF , MF , AC , PS , ER , etc.
<u>Nature Database</u>	PS , HB , etc. 
<u>Geoportal petrol stations and recharging points</u>	ER , etc. 
<u>Hydrographic Confederations</u>	HY
<u>State Meteorological Agency (AEMET)</u>	AC , MF , etc. 
<u>Mining Cadastre</u>	SO , MR 
Ministry of Science and Innovation	
<u>Geological and Mining Institute</u>	GE , SO 
<u>Spanish Institute of Oceanography</u>	OF , SR , etc. 
Ministry of Transport and Mobility	
<u>Administrator of Railway Infrastructures (ADIF)</u>	TN , 
<u>National Geographic Institute (IGN)</u>	TN , HY , GN , AU , LC , LU , EL , OI , NZ , 
<u>Government agency Puertos del Estado</u>	TN 
<u>Directorate General for Architecture, Housing and Land (Urban Information System)</u>	LU 
Ministry of Finance	
<u>General Directorate for Cadastre</u>	AD , BU , CP 
<u>National Statistics Institute</u>	SU , PD , etc. 
Ministry of Defense	
<u>Marine Hydrographic Institute (IHM)</u>	AU , US , etc. 

**>19 national SDI
9,500 resources**

Metadata at regional level

Regional SDI nodes	Official name
Andalusia	SDI of the Andalusian Regional Government. (IDEAndalusia)
Aragon	Spatial Knowledge Infrastructure of Aragon. (ICEARAGON)
Balearic Islands	SDI of the Balearic Islands Government. (IDEIB)
Basque Country	SDI Basque Country. (geoEuskadi)
- Provincial Council of Gipuzkoa	SDI Gipuzkoa. (SDI Gipuzkoa)
- Provincial Council of Araba	SDI Araba. (GeoAraba)
- Provincial Council of Bizkaia	SDI Bizkaia. (GeoBizkaia)
Canary	SDI the Canary Islands Government. (IDECanarias)
Cantabria	SDI of Cantabria. (IDE Cantabria)
Castile and Leon	SDI of the Castile-Leon Regional Government. (IDEECyL)
Castile–La Mancha	SDI of the Castilla la Mancha Regional Government. (IDE-CLM)
Catalonia	SDI of Catalonia. (IDEC)
Extremadura	SDI of the Extremadura Regional Government. (IDEextremadura)
Galicia	SDI of the Regional Government of Galicia. (IDEG)
La Rioja	SDI of the Government of La Rioja. (IDERioja)
Madrid	SDI of the Community of Madrid. (IDEM)
Murcia	SDI of the Region of Murcia. (IDERM)
Principality of Asturias	SDI of Asturias from the Principality of Asturias Government. (SITPA-IDEAS)
Regional Community of Navarra	SDI of the Government of Navarre. (IDENA)
Valencian Community	SDI of Valencia. (IDEV)



17 regional SDI

Metadata at regional level

Regional SDI nodes	Nº resources
Andalusia	5.704
Aragon	16.867
Balearic Islands	215
Basque Country	442
Canary	535
Cantabria	201
Castile and Leon	137
Castile–La Mancha	24
Catalonia	5.312
Extremadura	583
Galicia	367
La Rioja	179
Madrid	240
Murcia	227
Principality of Asturias	119
Regional Community of Navarra	1675
Valencian Community	1159



**17 regional SDI
33,986 resources**



Buscar sobre **43443** recursos

43443 resources.

All metadata complies with the Regulation (EC) N° 1205/2008 about metadata.

All resources are classified by INSPIRE themes.



Official INSPIRE data and services catalogue, CODSI



National

HVDs accessible in the CODSI catalogue	2023 (datasets)
Geospatial	32: 5 of AU , 7 of GN , 7 of AD , 6 of BU , 5 of CP , 2 of GSAA , LPIS
Earth Observation and environment	253
Mobility	3 of TN

Dep.

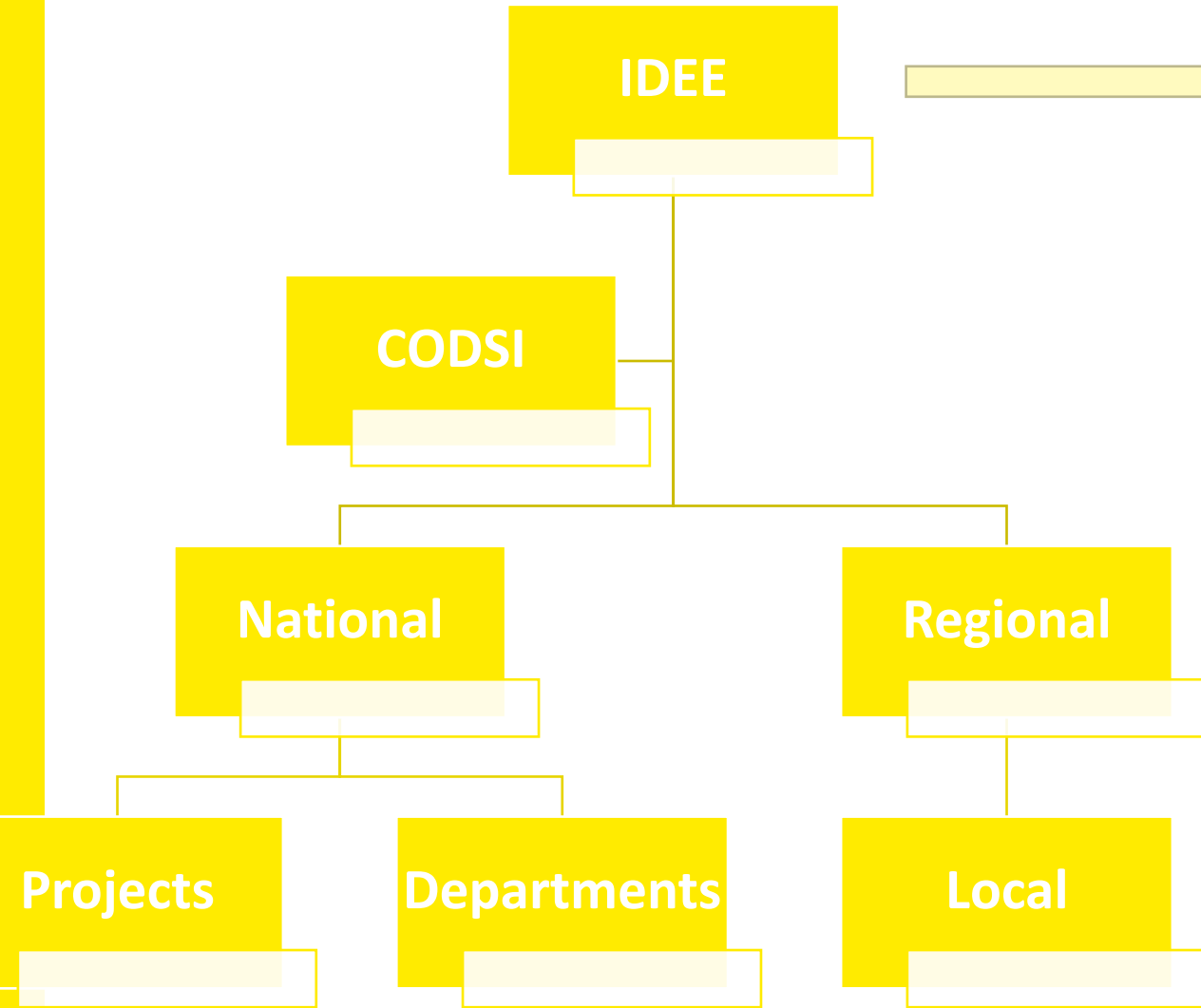
Dep.

Local

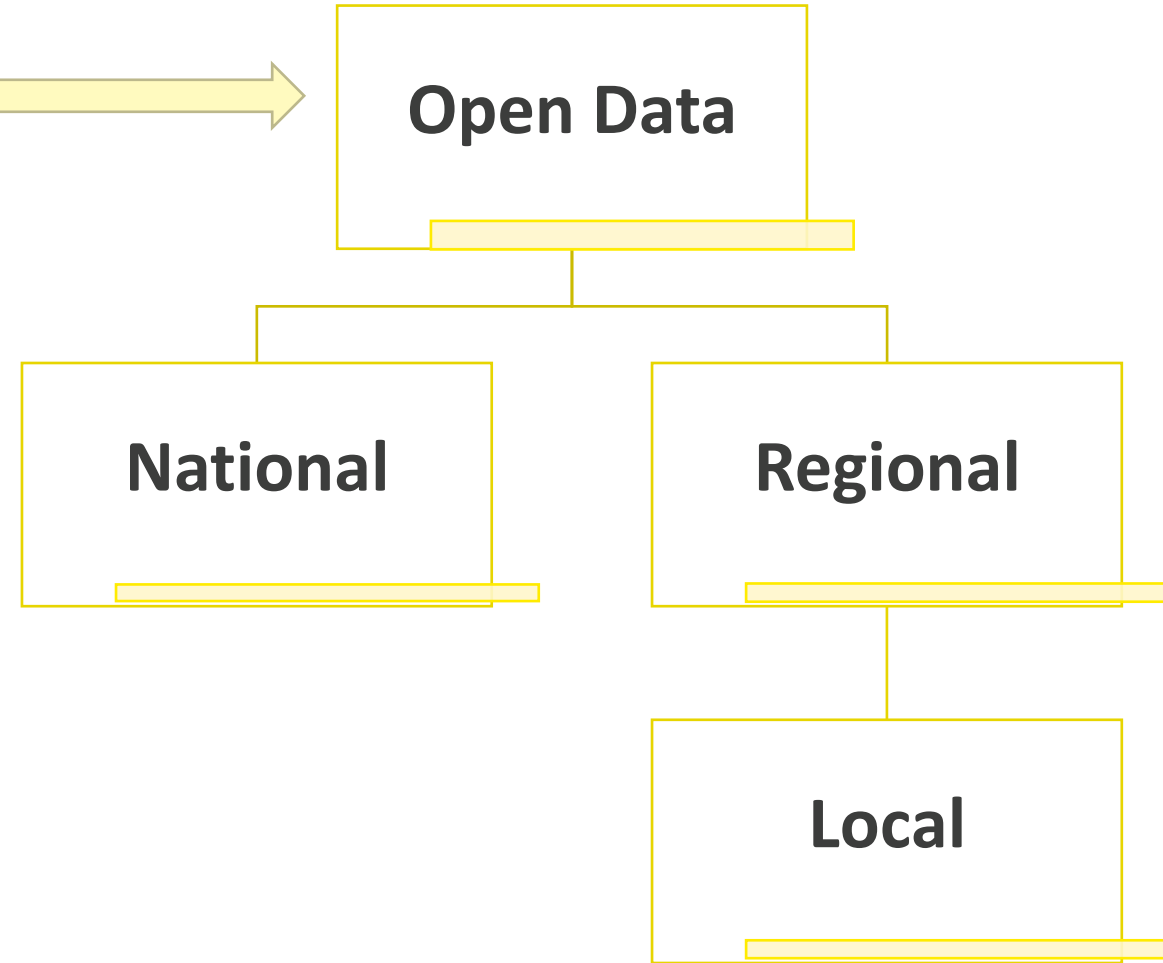
Local

Local

Geographic catalogues

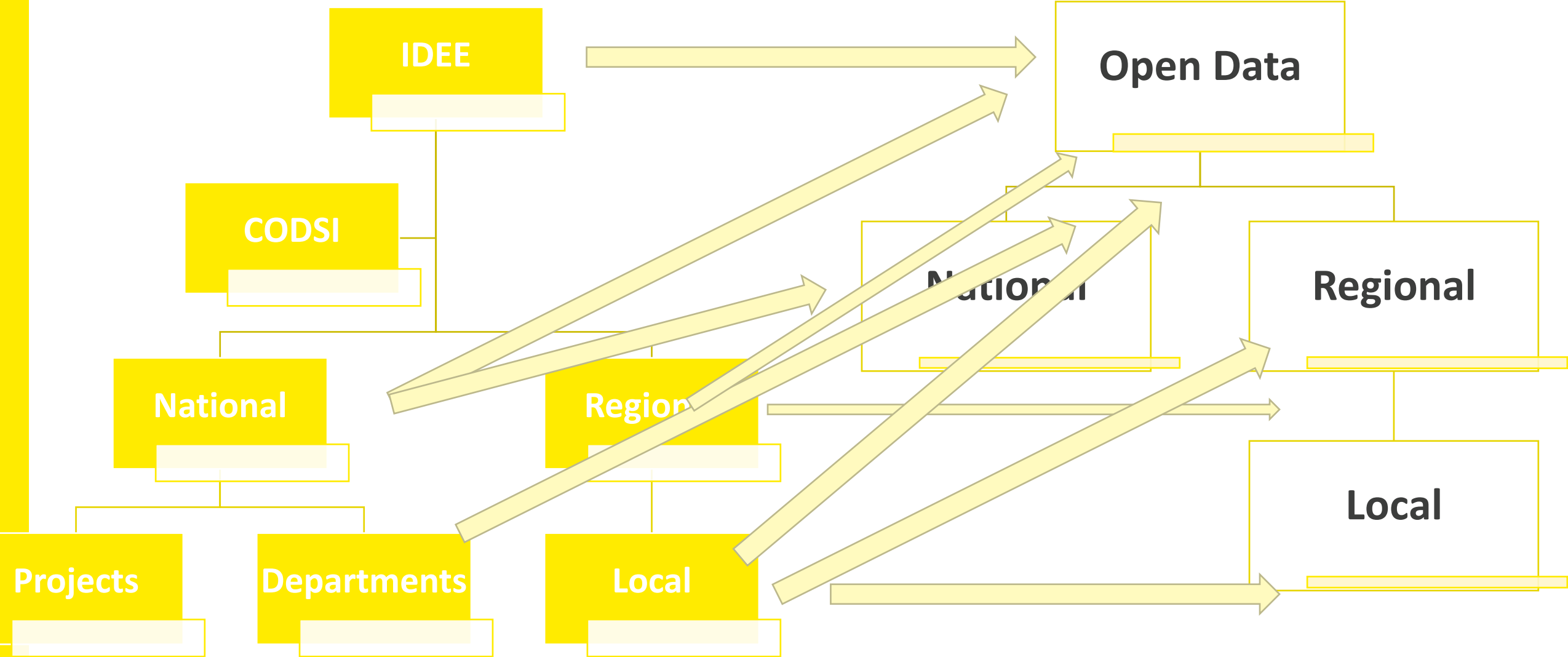


Open data catalogues



Geographic catalogues

Open data catalogues

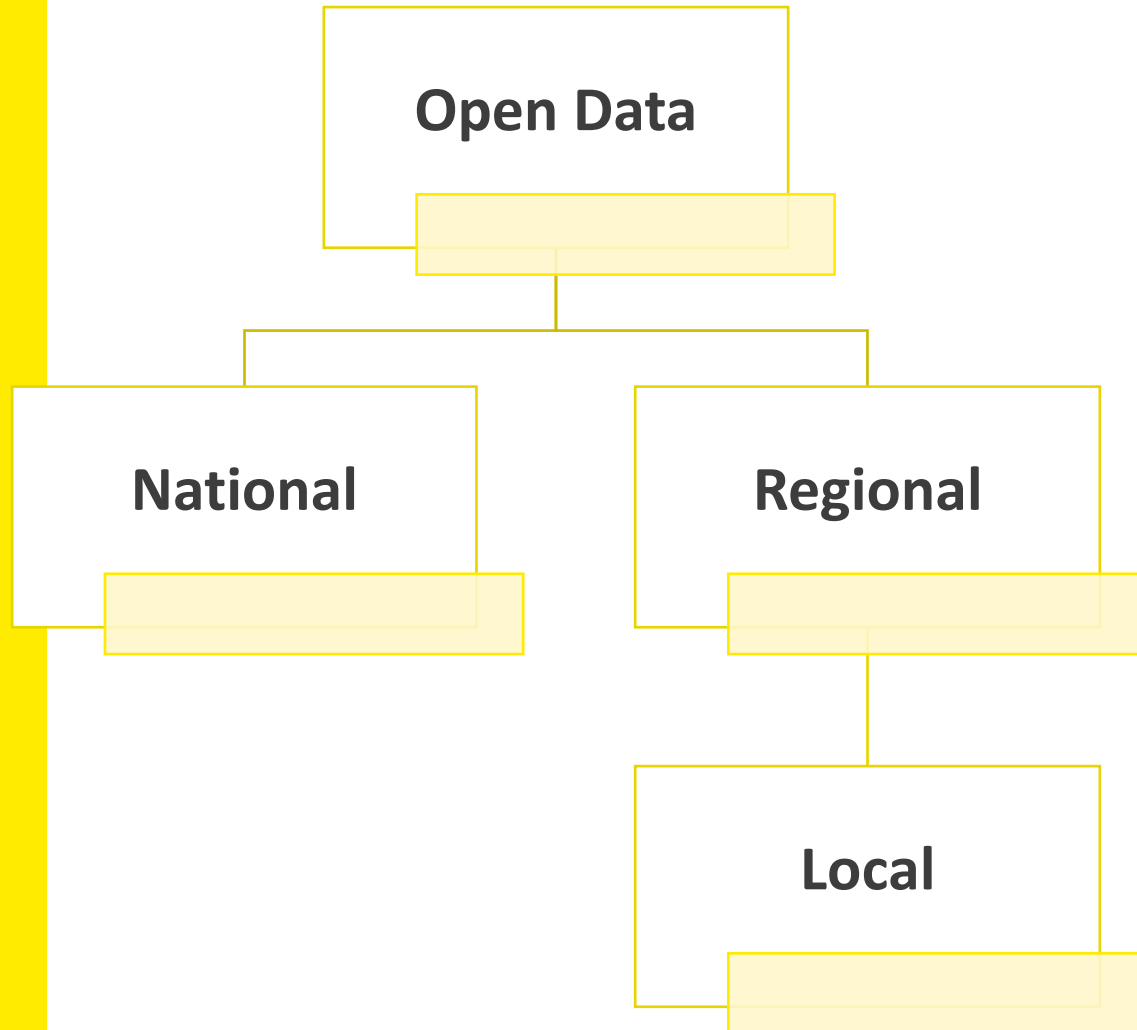


Open data catalogues

When INSPIRE metadata is published in an open data catalogue: metadata files are repeated.

An INSPIRE metadata files appears for each catalogue in which it is published (Federation).

Why does the metadata file appear duplicated? Because the file identifier depends on the catalogue where it is published.



European data

data.europa.eu The official portal for European data

Home

Data

Academy

Community

Publications

Documentation

Nomenclátor Geográfico de Andalucía

La información contenida en el Nomenclátor Geográfico de Andalucía (NGA) comprende el conjunto de toponimia mayor y menor más completo existente del territorio andaluz, puesta a disposición de la sociedad...

WFS WMS CSV

IDEAndalucia



Nomenclátor Geográfico de Andalucía

La información contenida en el Nomenclátor Geográfico de Andalucía (NGA) comprende el conjunto de toponimia mayor y menor más completo existente del territorio andaluz, puesta a disposición de la sociedad...

WFS WMS CSV

IDEE



Nomenclátor Geográfico de Andalucía

La información contenida en el Nomenclátor Geográfico de Andalucía (NGA) comprende el conjunto de toponimia mayor y menor más completo existente del territorio andaluz, puesta a disposición de la sociedad...

WFS WMS CSV

datos.gob.es



Examples of repeated metadata in EDP

This problem also exists in the Spanish National Open Data catalogue.

European data

data.europa.eu

The official portal for European data

Home

Data



Academy

Community



Publications



Documentation



Inspire TH Administrative Units ATKIS Basic DLM

Annex I to the INSPIRE Directive defines this subject as follows: "Local, regional and national administrative units delimiting the territories in which Member States have and/or exercise..."

über WMS

view

download

GovData



Inspire TH Administrative Units ATKIS Basic DLM

Annex I to the INSPIRE Directive defines this subject as follows: "Local, regional and national administrative units delimiting the territories in which Member States have and/or exercise..."

UNKNOWN

WMS

GDI-DE



Examples of repeated
metadata in EDI

1st problem in DCAT-AP

In INSPIRE metadata (ISO 19115), each metadata file has a unique identifier. This identifier is like a passport number.

ISO 19115 and 19115-1 use fileidentifier

- **Unique identifier for this metadata file**
 - Using **Universal Unique Identifier, UUID**. It is displayed in 5 groups separated by hyphens, in the form 8-4-4-4-12 for a total of 36 characters (32 hexadecimal characters and 4 hyphens), xxxxxxxx-xxxx-Mxxx-Nxxx-xxxxxxxxxxxx.
 - Unique Identifier given by the organisation

DCAT-AP must take into account the metadata element fileidentifier



1st problem in DCAT-AP

A metadata file travels to many catalogues:

- thematic catalogues,
- catalogues of other organizations,
- project catalogues,
- cross-border catalogues, etc.

A metadata file does not belong to a federator.

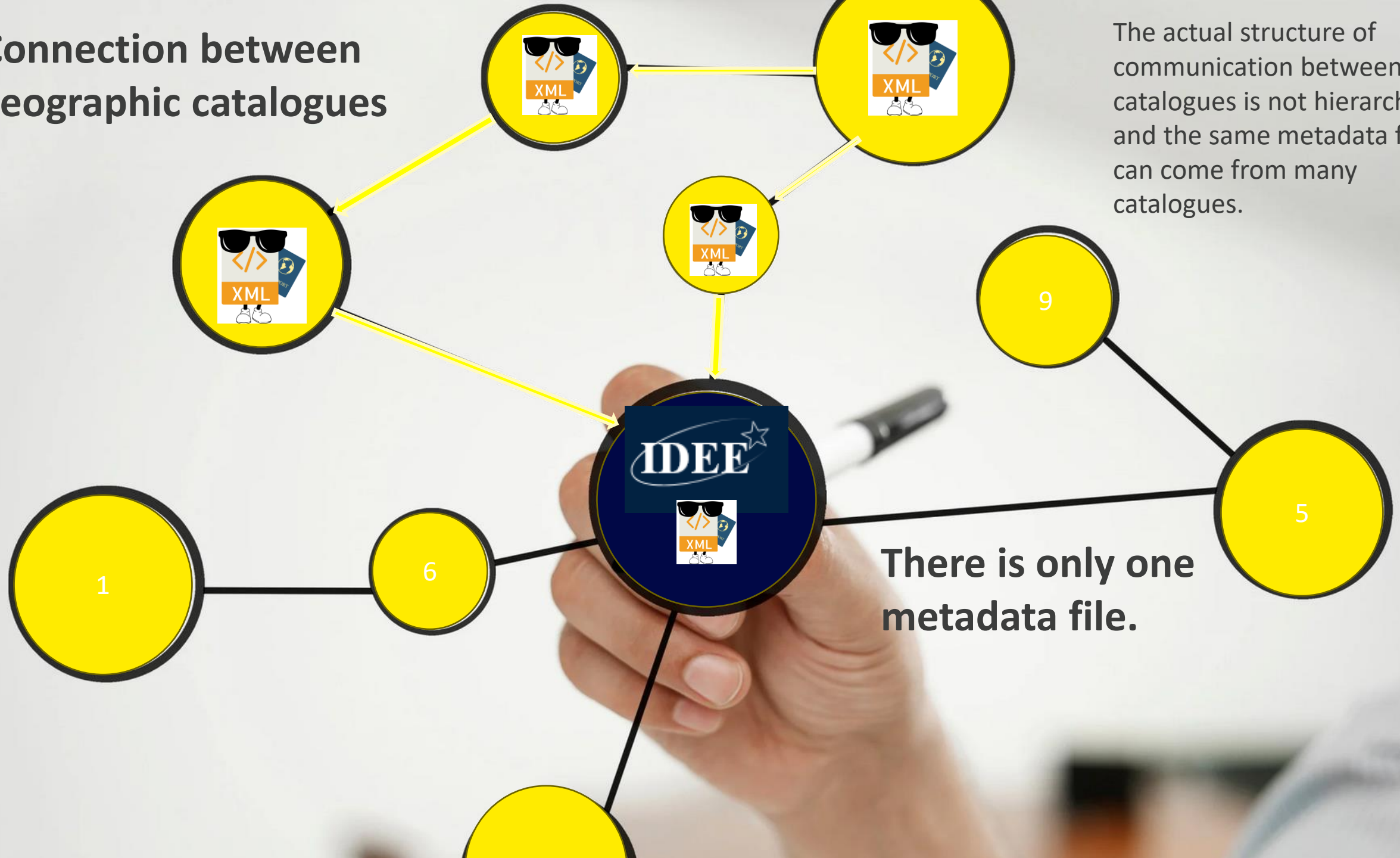




This is the theoretical situation, but the reality is very different.



Connection between geographic catalogues



The actual structure of communication between catalogues is not hierarchical and the same metadata file can come from many catalogues.

There is only one metadata file.

Conclusions

What is the solution to make metadata files unique in a catalogue final?

The hierarchical federation of catalogues?

The actual and future structure of communication between catalogues is non-hierarchical and a single metadata file may originate from many catalogues.

The metadata element "fileidentifier" needs to be taken into account in DCAT-AP as the unique file identifier (<dct:identifier>), as no federation of catalogues can be established between organisations.

Metadata is used to describe data on:

- Thematic project catalogues. For example, orthoimagery or environmental catalogues whose data originate from many organisations.
- Cross-country project datasets to be published in the catalogues of each of the organisations, etc.
- Local catalogues that communicate with the regional catalogues and the thematic catalogues.

References

Spanish SDI: <https://www.ideo.es>

National Catalogue: <https://www.ideo.es/csw-inspire-ideo/srv/spa/catalog.search#/home>

National and regional catalogues: <https://www.ideo.es/csw-inspire-ideo/srv/spa/catalog.search#/catalogue>

Official Catalogue of INSPIRE Data and Services (CODSI): <https://www.ideo.es/csw-codsi-ideo/srv/spa/catalog.search#/home>

Gracias

Thank you

Paloma Abad

CNIG

paloma.abad@cnig.es

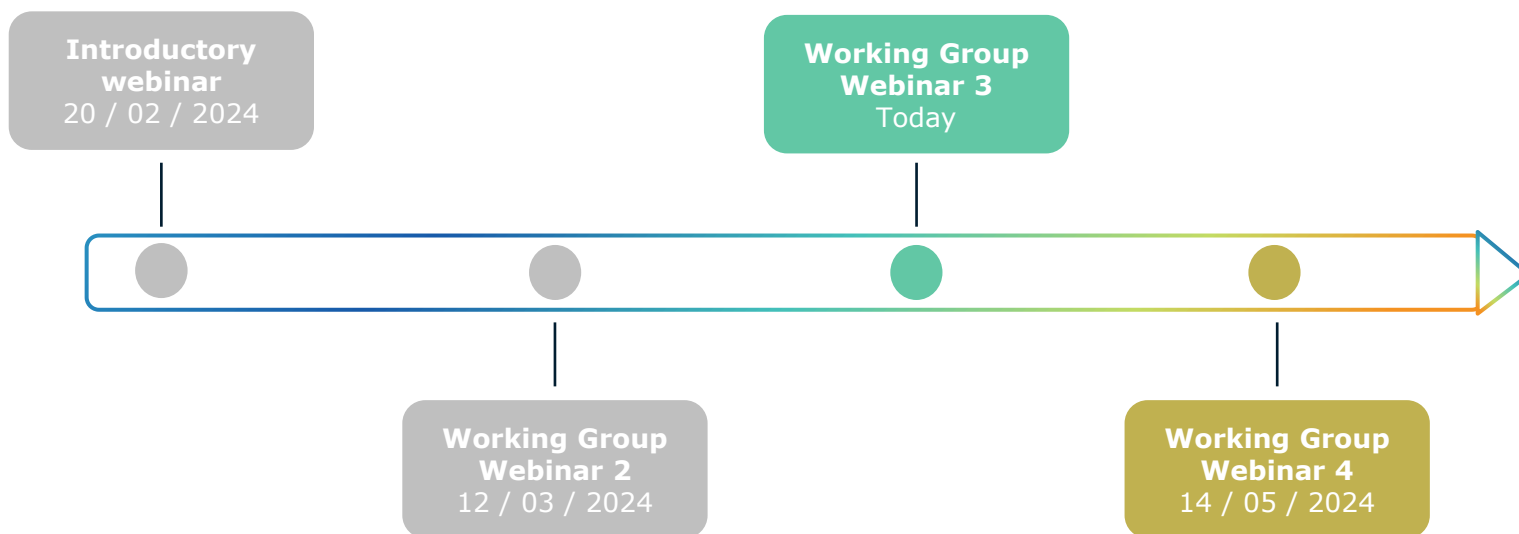


Q&A Guest Speakers



Next steps

GeoDCAT-AP Timeline



GeoDCAT-AP 3.0.0: revision plan

Revision on-going in <https://github.com/SEMICeu/GeoDCAT-AP/issues>

Working Group Webinar 2 - Concerning generic organisation & findability (12/03/2024)

- Datasets, Distributions and their relationships
- Categories (alignment with DCAT-AP 3.0): keywords, categories, themes

Working Group Webinar 3 – specific geo-aspects (23/04/2024)

- Geospatial coverage & resolution
- Guest speakers on existing implementation of GeoDCAT-AP / Discussion on Codelists

Working Group Webinar 4 – relationship with INSPIRE (14/05/2024)

- HVD and remaining issues
- GeoDCAT-AP related tools: XSLT

We are interested in which issues you are facing and we encourage you to post them as issues on the [GeoDCAT-AP GitHub repository](#).

Next steps



Please provide your additional feedback on GitHub.

<https://github.com/SEMICeu/GeoDCAT-AP/issues>



A new editor's draft will be created at

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



GeoDCAT-AP mapping to HVD will be done as a separate document

A network visualization on a dark blue background. A central node is highlighted in bright orange. From this central node, numerous lines radiate outwards, connecting to other nodes. The lines are colored in a gradient from orange near the center to green and then blue as they extend further. The overall shape is roughly star-like or fan-like, with the lines spreading out in all directions.

Thank you



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innovation ∞ govtech ∞ community

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