

Federated ecosystem of metadata and portals in Belgium

13/12/2023

Céline Vilain, Geraldine Nolf, Loes Deventer

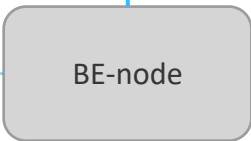
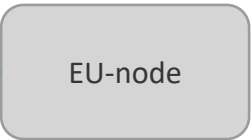
NGI Belgium and Digitaal Vlaanderen

Overview on Metadata Nodes & Portals

EUROPEAN

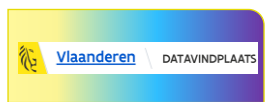
NATIONAL

REGIONAL / FEDERAL

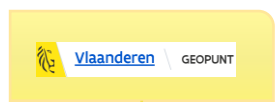


*Scraping the web & other [harvesting](#)

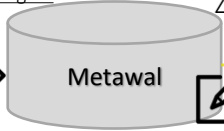
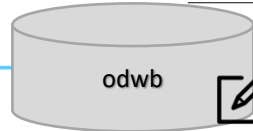
*Filter: "Vlaamse Open data"



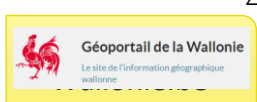
*Filter: "Lijst M&R INSPIRE"



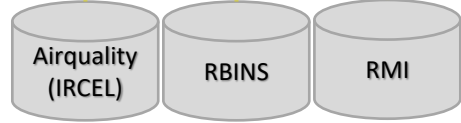
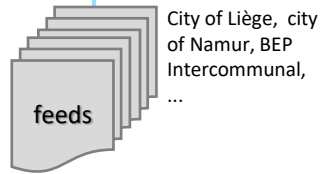
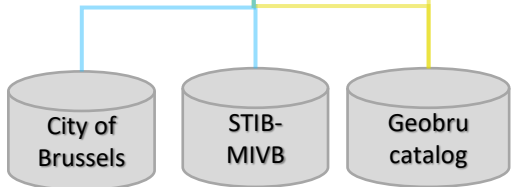
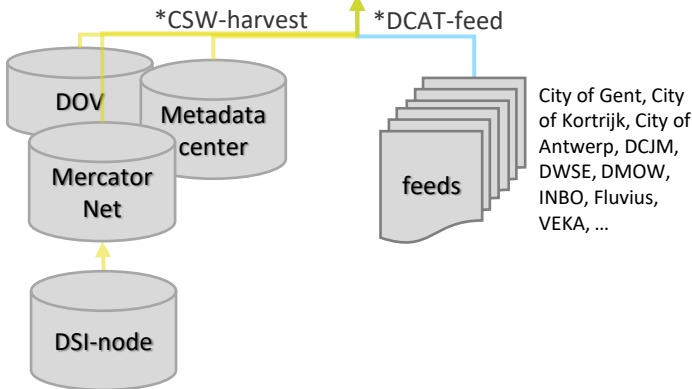
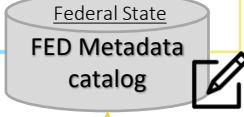
*Filter: "Reporting INSPIRE"



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*Filter: "Reporting INSPIRE"



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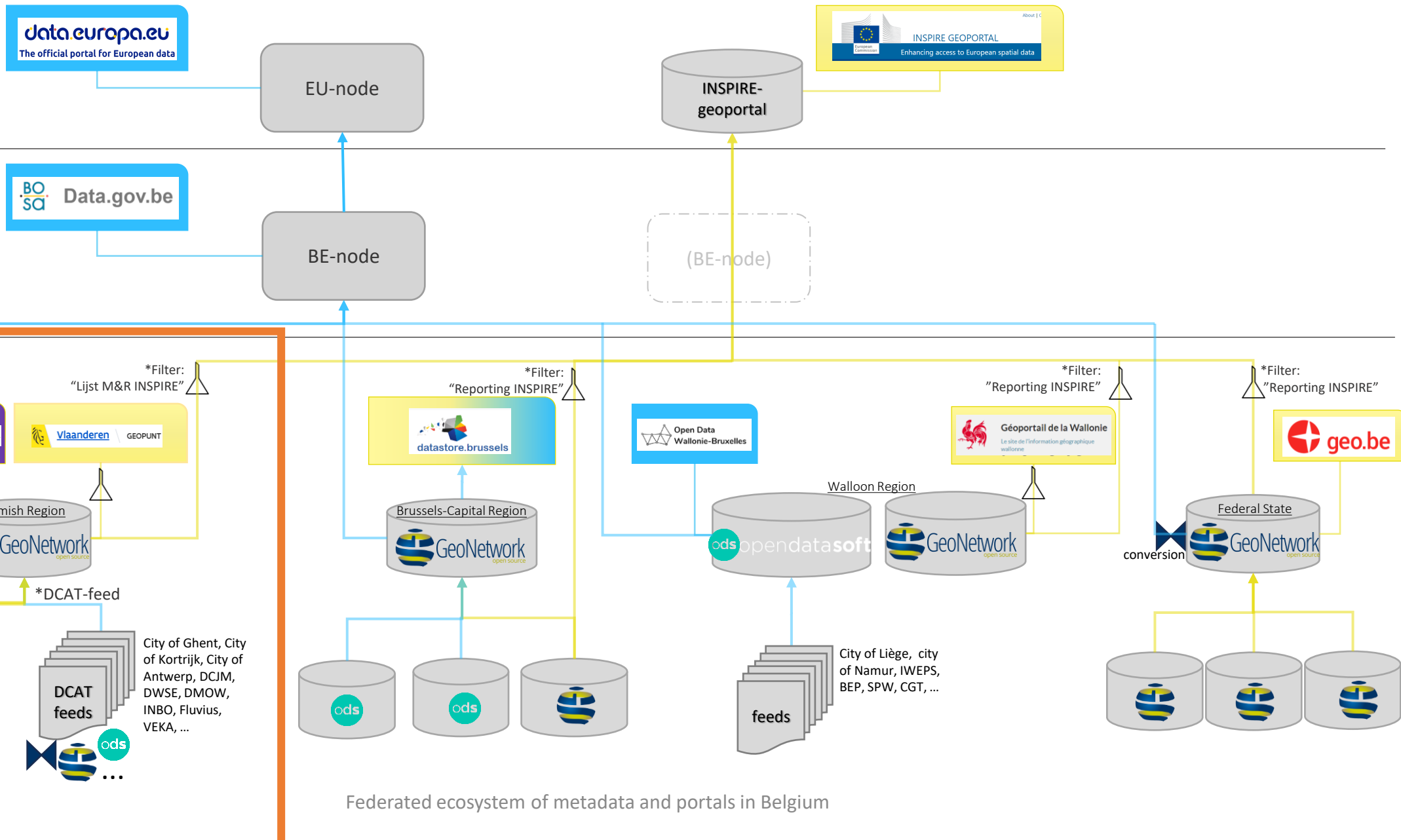
Implementation of Metadata Nodes & Portals

EUROPEAN

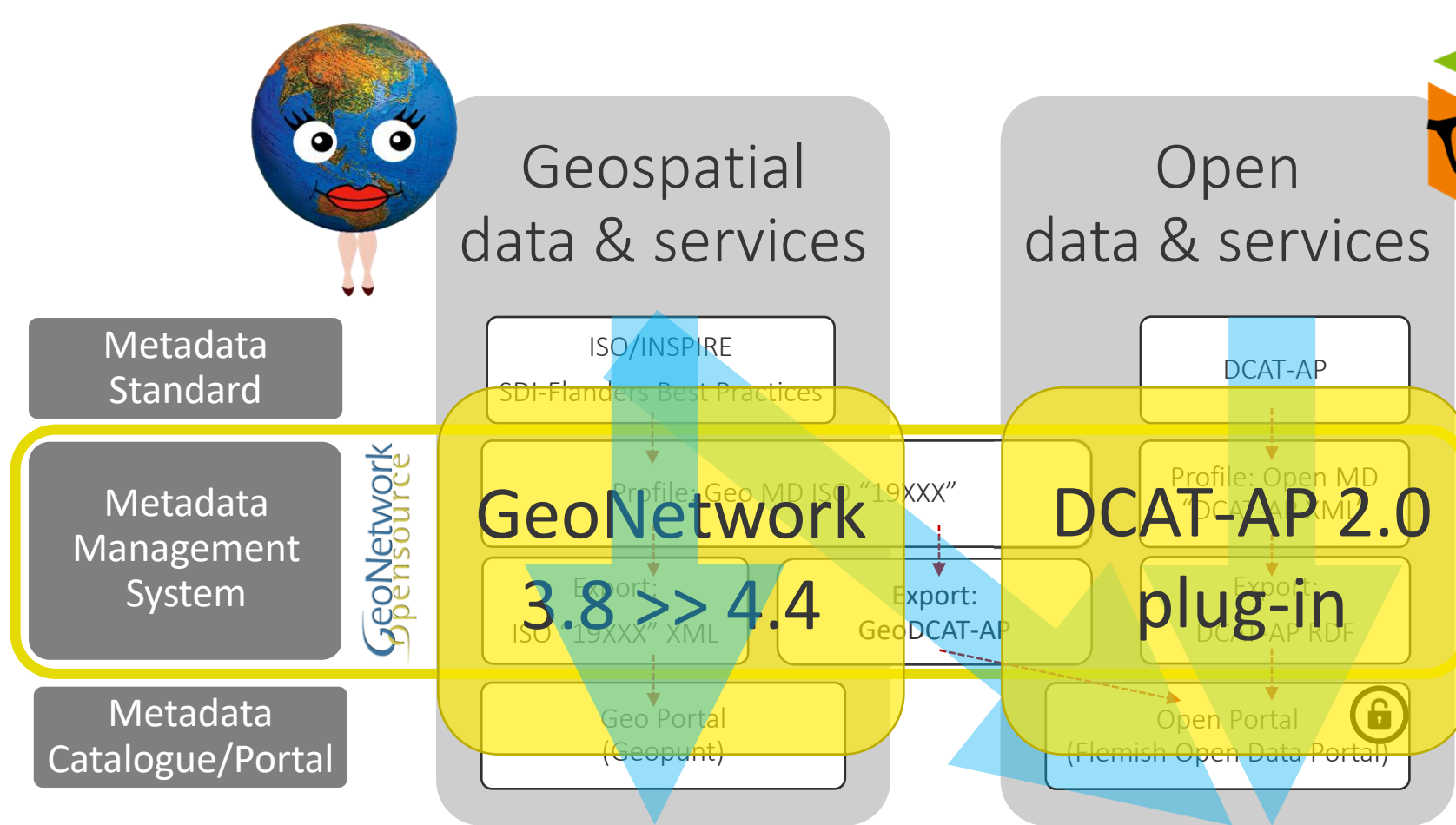
NATIONAL

*Scraping the web & other [harvesting](#)

REGIONAL / FEDERAL



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



Copyright Miss Globe
& Mr Cube:
Frans Knibbe, Geodan

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

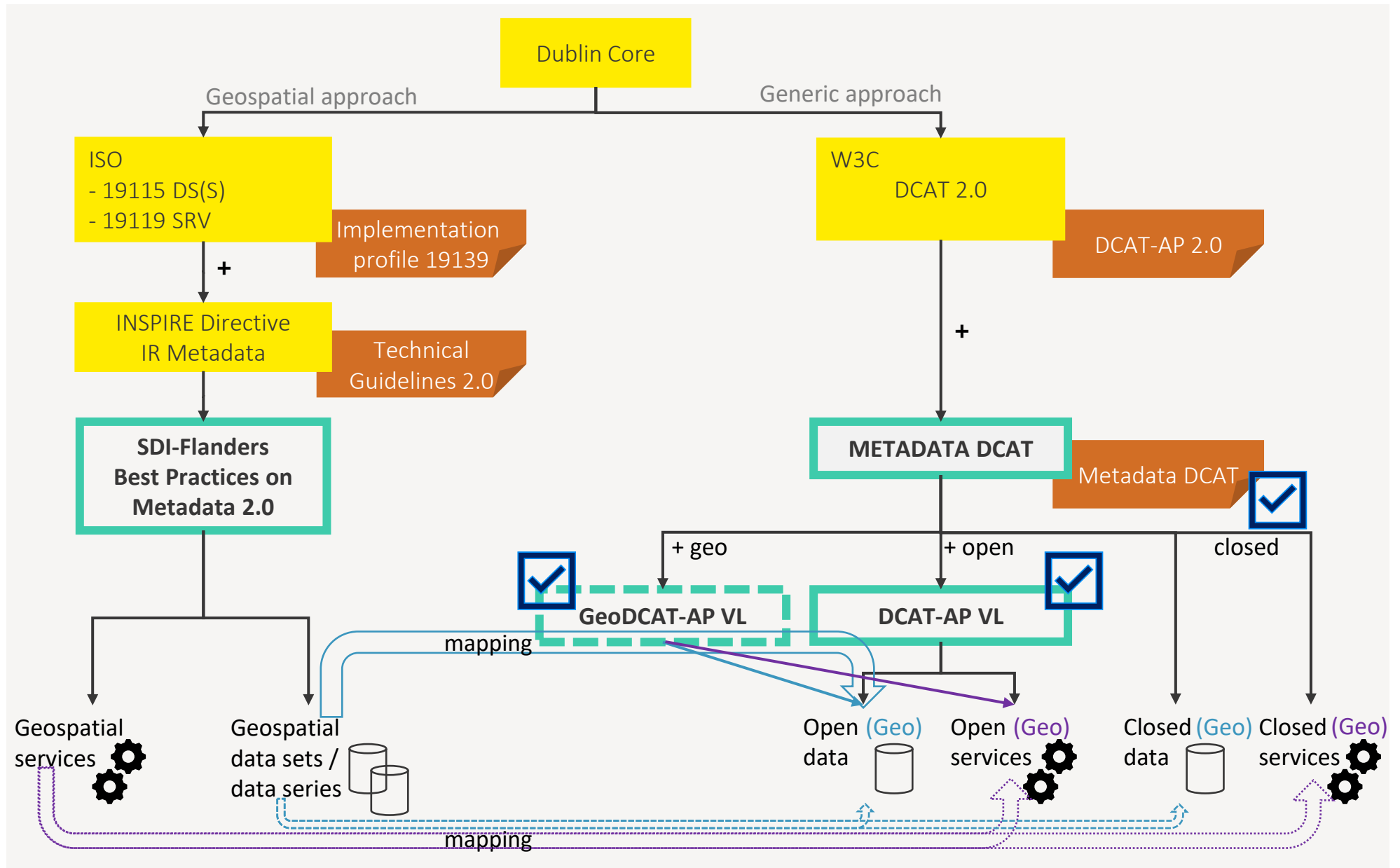
Ecosystem of Standards & Application Profiles

Legenda:

International standards

Profiles

Profiles on Flemish level



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/>

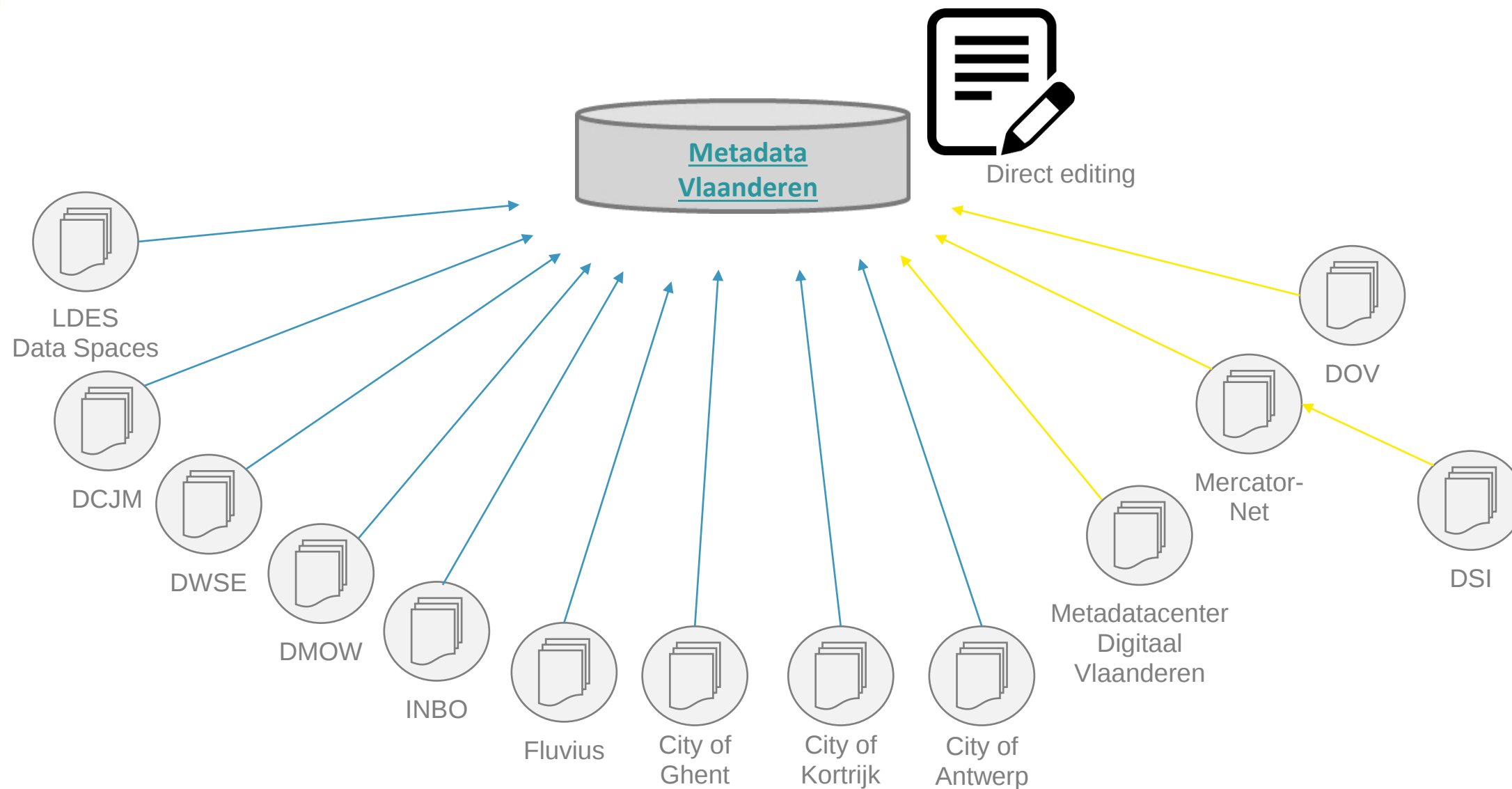
- **Open data profile: DCAT-AP-VL**

- > '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/>

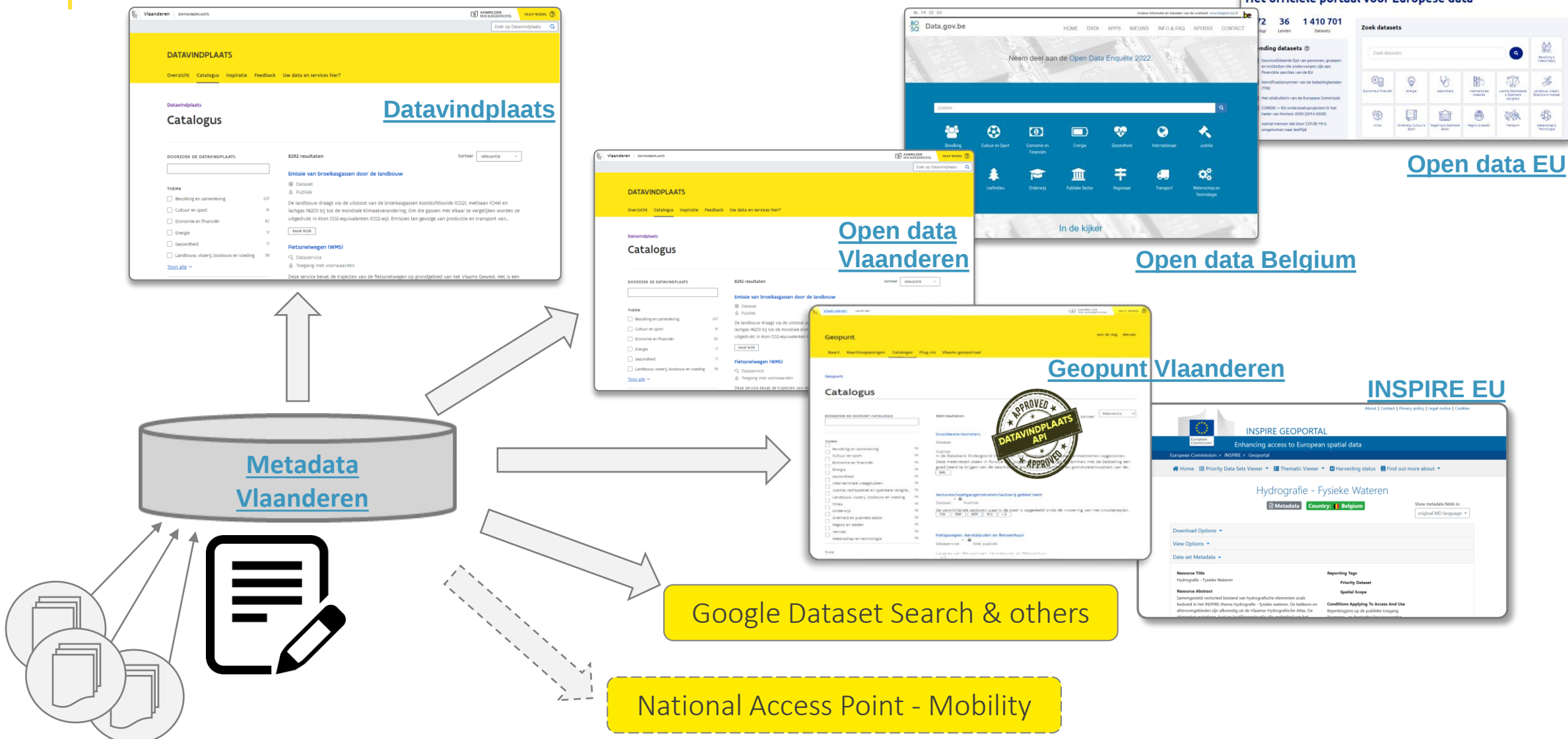
- **Geo data - mapping profile: GeoDCAT-AP-VL**

- > '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/>

Via Metadata – Once-only principle



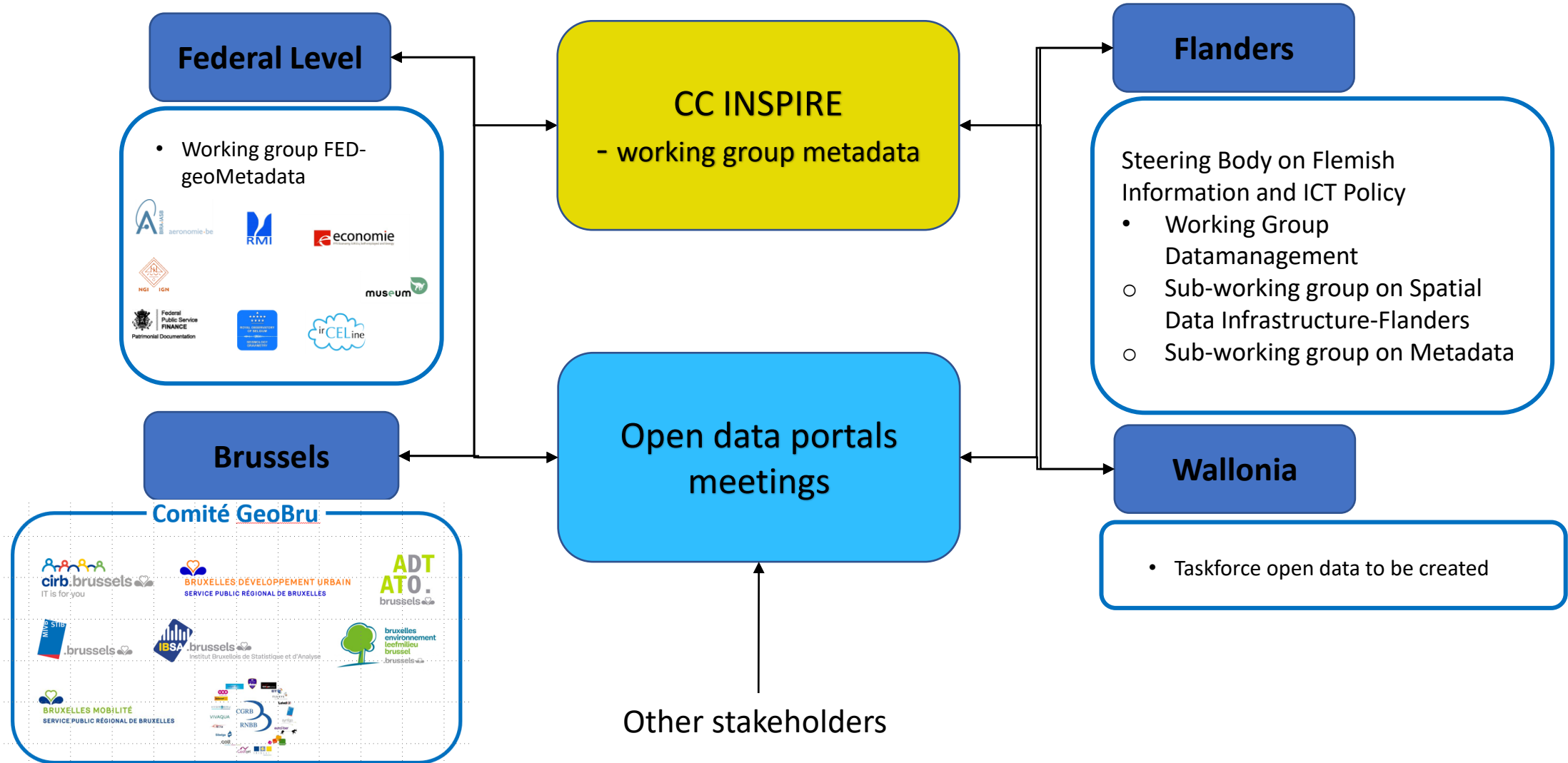
Via Metadata – Publishing in portals



import via ...

Federated ecosystem of metadata and portals in Belgium

Communication and collaboration in Belgium



Federated ecosystem of metadata and portals in Belgium

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

Mapping between INSPIRE and DCAT

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Overview

- Context and goals
- Extending geoDCAT-AP v2
- Conversion tool from ISO to DCAT
- Geo-metadata world facing 'new' regulations

Context: Standards

Portal



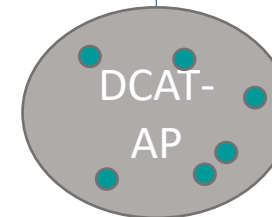
Data



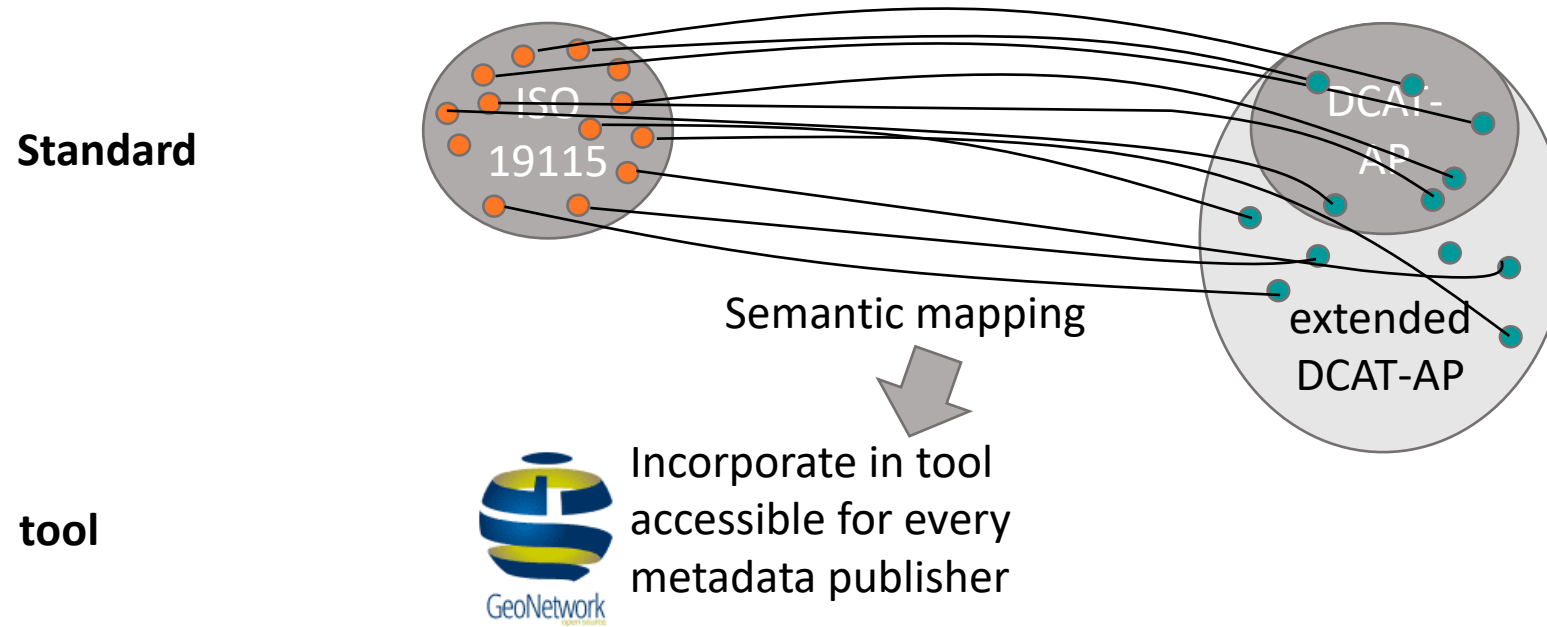
Standard



data.europa.eu
The official portal for European data



Context : Mapping



Main goals

- Keep 'Once-only' principle
- Share INSPIRE metadata – cross-sector
- Avoid information loss of INSPIRE metadata
- Collaboration on implementation

Extending GeoDCAT-AP v2

FED [Federal DCAT-AP](#)
FL [GeoDCAT-AP-VL](#)

- **Improving conversion** by using our knowledge of INSPIRE:
 - **Change of level/class:**
 - **Into lower-level** ex.: geodcat:distributor in class dcat:Distribution instead of class dcat:Dataset
 - **Into higher-level** ex.: adms:representationtype in class dcat:Dataset instead of dcat:Distribution
 - **Adjust definitions of classes and properties**
 - ex.: dcat:catalogRecord dedicated to information about the reference MD-record
 - ex. FL: INSPIRE & GEMET-themes as dct:subject instead of dcat:theme
 - **Manage versioning** ex. FED: Versioning in property temporal resolution in class dcat:distribution
 - **Meet own needs** ex. FL: a Distribution of a DS / an EndpointURL of a SRV not mandatory because of the creation of 'restricted' resources in the catalog

- **Stay interoperable** by discussing AP specifications and mapping in the WG metadata:

Discussions led to:

- Adapting the profile and the mapping (cardinality, definition, mapping, ...)
- Adopting same thesauri (data.gov.be, ...)

Conversion tool from ISO to DCAT

- Micro-service integrated in GeoNetwork
 - Fork of OGC API Geonetwork micro-service
 - Conversion of 1 or more ISO MD-files, or a complete catalog
- Contribution to the open-source community:
 - XSLT file v1.0 upgraded to v2.0
 - Improved documentation
- Future work:
 - Refactoring the mapping to integrate it into the core of GeoNetwork (in collaboration with BE & other users in the Open-Source community)

Geo-metadata world is facing 'new' regulations

New datasets with own directives/portals/requirements...

- Mobility datasets
- High Value Datasets
- ...

>> be interoperable
and
keep 'once only' principle !

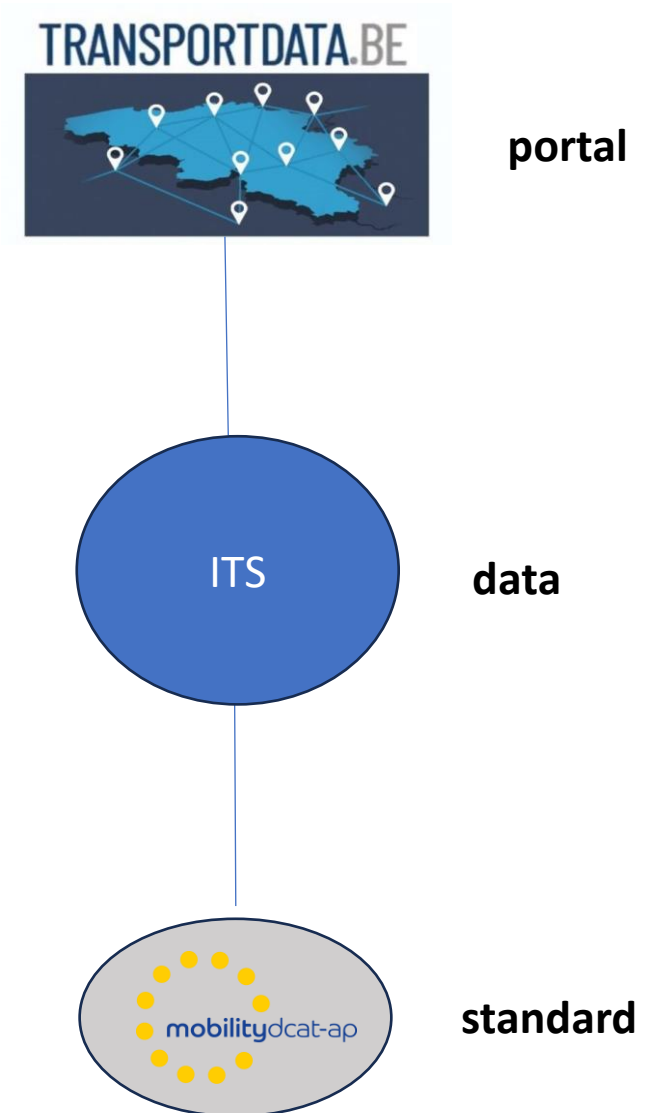
Mobility datasets in Belgium

>> Agreement in WG metadata :

If regional dataset :

- metadata is registered on regional metadata portal
- transportdata.be will harvest these metadata

If other, dataset register directly on transportdata.be



High Value Datasets - suggestions (1)

- Suggestion of automatically generating the report for HVD based on metadata (DCAT-AP), *like the INSPIRE approach for M&R*
- <https://github.com/SEMICeu/DCAT-AP/issues/321>
- For
 - **Article 3** Arrangements for publication applicable to all categories of high-value datasets
 - **Article 4** Arrangements for re-use applicable to all categories of high-value datasets
 - **Article 5** Reporting
- **Target:** based entirely on (existing) metadata fields according to the once-only principle

High Value Datasets - suggestions (2)

- HVD says:
- *“3. High-value datasets shall be made available for re-use under the conditions of the Creative Commons Public Domain Dedication (CC0) or, alternatively, the Creative Commons BY 4.0 licence, **or any equivalent or less restrictive open licence**, as set out in the Annex, allowing for unrestricted re-use. A requirement of attribution, giving the credit to the licensor, can additionally be required by the licensor.”*
- And later in the text we see that:
- *“the licence has to be available in a machine readable and human readable way”*
- **Conclusion:** It is up to the data providers using these licenses to prove compatibility
- **Suggestion:** We can suggest to DG to create a list of excepted equally seen licenses

Annex Geospatial

- Mapping Geospatial
- INSPIRE
 - Annex I
 - Administrative units
 - Adresses
 - Cadastral parcels
 - Geographical names
 - Annex III
 - Buildings
- Agricultural policy
 - Agricultural parcels
 - Reference parcels

Annex Geospatial

- Specific requirements for Annex Geospatial
- **Granularity** (/rdf:RDF/dcat:Dataset/dqv:hasQualityMeasurement/dqv:QualityMeasurement/dqv:value)
- **Geographical coverage** (/rdf:RDF/dcat:Dataset/dct:spatial[i]/dct:Location/locn:geometry[i])
- **Key attributes** (currently not extractable from the metadata)
 - Suggestion: by self-declaration

High Value Datasets - suggestions (3)

- Suggestion to introduce self-declaration to report on HVD, *like the INSPIRE approach for Technical Guidelines*
- <https://github.com/SEMICeu/DCAT-AP/issues/322>
- Based on example 'INSPIRE Data Specification on Agricultural and Aquaculture Facilities - Technical Guidelines':

Identificatie Inhoud Referentiesysteem Kwaliteit Conformiteit Toegangs- en gebruiksbeperkingen Distributie Meta-metadata Objectencatalogus Schema info

Conformiteit

Conformiteit + Zoek een conformiteit

Domeinconsistentie

Datum meting +

Resultaat

Titel specificatie * INSPIRE Data Specification on Agricultural and Aquaculture Facilities - Technical Guidelines

% URL http://inspire.ec.europa.eu/id/document/tg/af

Versiedatum Publicatie dd/mm/yyyy

Versiedatum +

Uitleg * Geharmoniseerd volgens INSPIRE richtlijn

Conform verklaard * ☒

HVD Specification on Geospatial

Conform the specific requirements from the Annex Geospatial

