



ISO & GeoDCAT-AP pilot Updates

80th INSPIRE MIG-T, 13 December 2024

Tallir Stijn
Metadata Vlaanderen (Belgium Flanders)

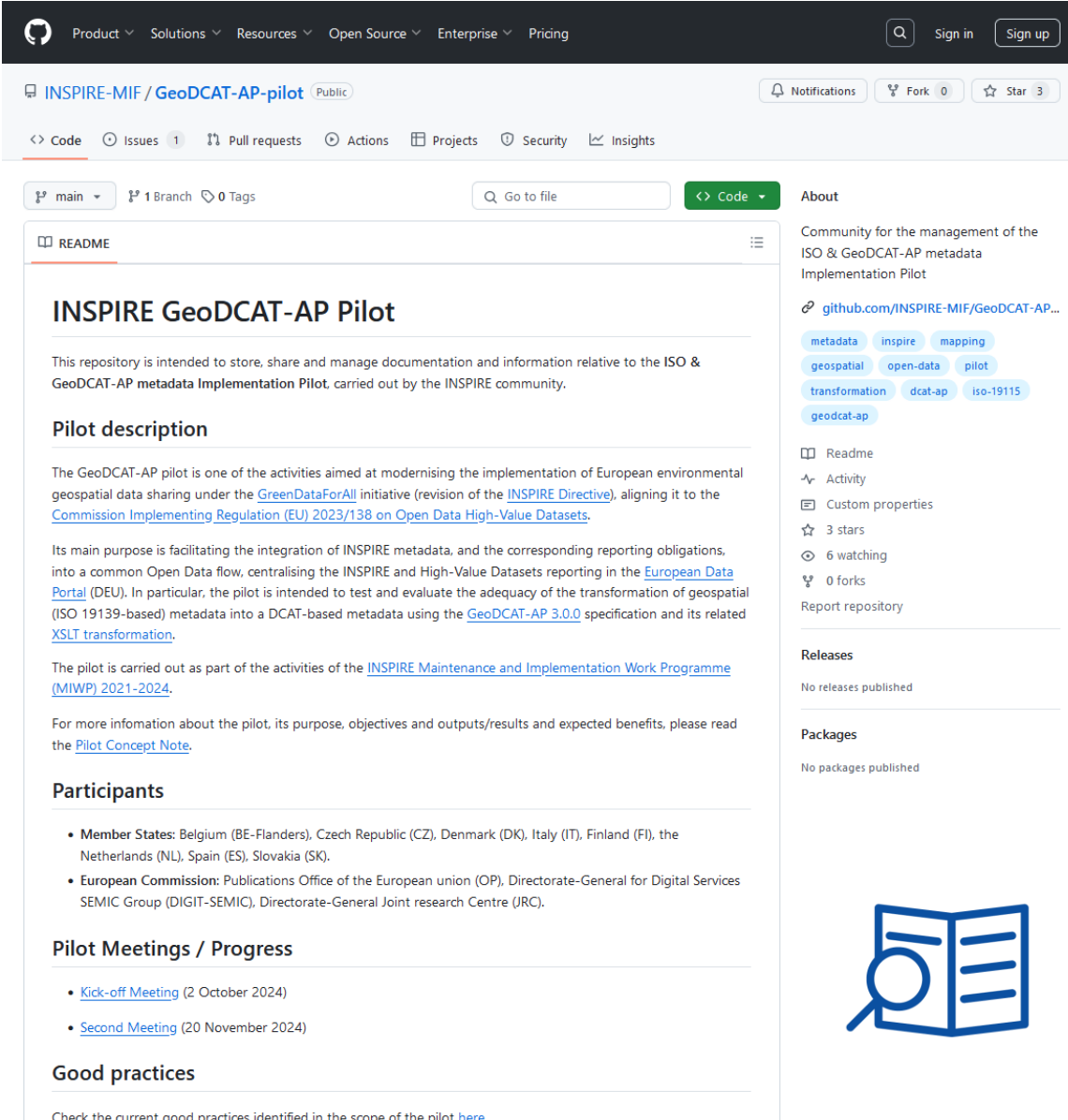
Jordi Escriu
European Commission, Joint Research Centre

Joint
Research
Centre

ISO & GeoDCAT-AP Pilot Collaborative activity

- Cross-community collaboration.
- Pilot meetings materials and documentation.
- Share issues and Good practices.
- GitHub repository for pilot management.

<https://github.com/INSPIRE-MIF/GeoDCAT-AP-pilot/>



The screenshot displays the GitHub repository page for INSPIRE-MIF/GeoDCAT-AP-pilot. The repository is public and has 1 issue, 0 pull requests, 0 actions, 0 projects, 0 security issues, and 0 insights. The main branch is 'main' with 1 branch and 0 tags. The repository description states: 'Community for the management of the ISO & GeoDCAT-AP metadata Implementation Pilot'. The README section includes a 'Pilot description' and 'Participants' list. The 'Pilot description' states: 'This repository is intended to store, share and manage documentation and information relative to the ISO & GeoDCAT-AP metadata Implementation Pilot, carried out by the INSPIRE community.' The 'Participants' list includes: 'Member States: Belgium (BE-Flanders), Czech Republic (CZ), Denmark (DK), Italy (IT), Finland (FI), the Netherlands (NL), Spain (ES), Slovakia (SK).', 'European Commission: Publications Office of the European union (OP), Directorate-General for Digital Services SEMIC Group (DIGIT-SEMIC), Directorate-General Joint research Centre (JRC).', and 'Pilot Meetings / Progress' section with 'Kick-off Meeting (2 October 2024)' and 'Second Meeting (20 November 2024)'. The 'Good practices' section states: 'Check the current good practices identified in the scope of the pilot [here](#).' The right sidebar shows repository statistics: 3 stars, 6 watching, 0 forks, and 0 releases published.

INSPIRE-MIF / GeoDCAT-AP-pilot (Public)

Notifications Fork 0 Star 3

<> Code Issues 1 Pull requests Actions Projects Security Insights

main 1 Branch 0 Tags

Go to file

Code

About

Community for the management of the ISO & GeoDCAT-AP metadata Implementation Pilot

[github.com/INSPIRE-MIF/GeoDCAT-AP...](https://github.com/INSPIRE-MIF/GeoDCAT-AP-pilot/)

metadata inspire mapping geospatial open-data pilot transformation dcat-ap iso-19115 geodcat-ap

Readme Activity Custom properties 3 stars 6 watching 0 forks Report repository

Releases

No releases published

Packages

No packages published

INSPIRE GeoDCAT-AP Pilot

This repository is intended to store, share and manage documentation and information relative to the ISO & GeoDCAT-AP metadata Implementation Pilot, carried out by the INSPIRE community.

Pilot description

The GeoDCAT-AP pilot is one of the activities aimed at modernising the implementation of European environmental geospatial data sharing under the [GreenDataForAll](#) initiative (revision of the [INSPIRE Directive](#)), aligning it to the [Commission Implementing Regulation \(EU\) 2023/138 on Open Data High-Value Datasets](#).

Its main purpose is facilitating the integration of INSPIRE metadata, and the corresponding reporting obligations, into a common Open Data flow, centralising the INSPIRE and High-Value Datasets reporting in the [European Data Portal](#) (DEU). In particular, the pilot is intended to test and evaluate the adequacy of the transformation of geospatial (ISO 19139-based) metadata into a DCAT-based metadata using the [GeoDCAT-AP 3.0.0](#) specification and its related [XSLT transformation](#).

The pilot is carried out as part of the activities of the [INSPIRE Maintenance and Implementation Work Programme \(MIWP\) 2021-2024](#).

For more information about the pilot, its purpose, objectives and outputs/results and expected benefits, please read the [Pilot Concept Note](#).

Participants

- **Member States:** Belgium (BE-Flanders), Czech Republic (CZ), Denmark (DK), Italy (IT), Finland (FI), the Netherlands (NL), Spain (ES), Slovakia (SK).
- **European Commission:** Publications Office of the European union (OP), Directorate-General for Digital Services SEMIC Group (DIGIT-SEMIC), Directorate-General Joint research Centre (JRC).

Pilot Meetings / Progress

- [Kick-off Meeting](#) (2 October 2024)
- [Second Meeting](#) (20 November 2024)

Good practices

Check the current good practices identified in the scope of the pilot [here](#).



ISO & GeoDCAT-AP Pilot

General Objectives



- Evaluating the **adequacy** of:
 - The [GeoDCAT-AP 3.0.0](#) specification.
 - Its accompanying [XSLT transformation](#).
- Smooth the **integration of geospatial metadata assets** within the **data.europa.eu**.
 - Pragmatic sandboxing approach.
 - Minimise information losses.
 - Bring data providers' experience.
- **Support the SEMIC community** to release an **improved GeoDCAT-AP 3** specification and XSLT transformation



- Reporting of pilot issues:
<https://github.com/SEMICeu/GeoDCAT-AP/issues>
<https://github.com/SEMICeu/iso-19139-to-dcat-ap/issues>
'3.0.0 Pilot' tag
- **Pilot final report**
Pilot summary. Results achieved.
Evaluation: Extent to which the transformation helps data providers in being compliant to the applicable legal framework.



ISO & GeoDCAT-AP Pilot Participants



- **Member States**

Contact points for the national geospatial catalogues, as **users of GeoDCAT-AP** to **transform geospatial metadata**.

- Participants:



- **Experts from the ‘DCAT-AP schema plug-in integration in GeoNetwork’ WG.**
- **Publications Office of the European Union (OP) / European Data Portal (data.europa.eu)**
Future receptor of GeoDCAT-AP metadata and transformation re-user.
- **DG DIGIT SEMIC group**
Point of contact for **resolving and contributing to solutions** in case potential issues.
- **DG JRC**
Organiser of the pilot, and provider of **scientific & policy knowledge**.



Kick-off Meeting Goals



2 Oct. 2024

Main objectives

- Discuss with participants how to approach the pilot exercise
- Achieve initial agreements:
 - General & Specific objectives
 - Expected outputs
 - Timeline

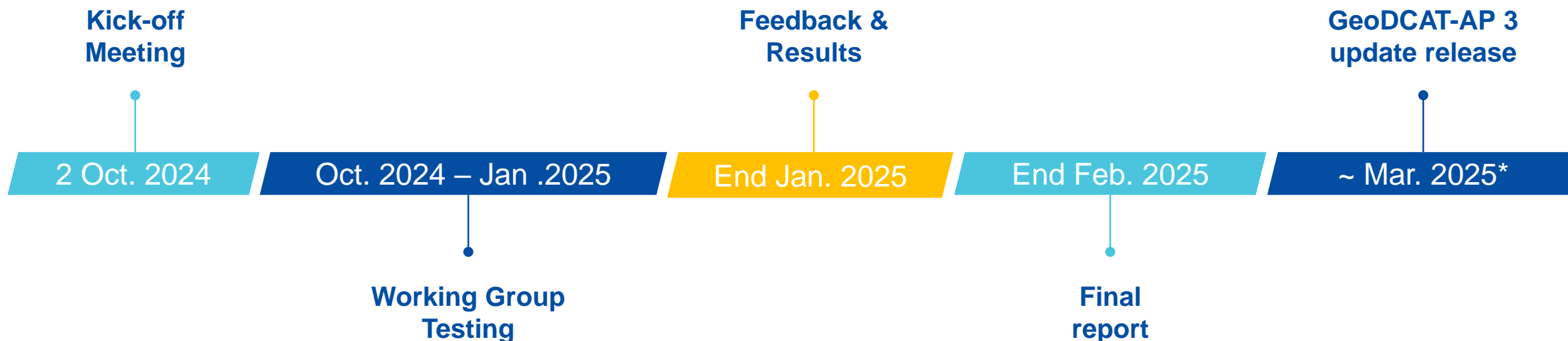
Meeting materials and summary

- GitHub: <https://github.com/INSPIRE-MIF/GeoDCAT-AP-pilot/tree/main/meetings/2024-10-02>

Kick-off Meeting Timeline



- Metadata implementation pilot



- More relaxed timeline, agreed in the Kick-off meeting (2024-10-02).

* GeoDCAT-AP 3 update release timeline to be agreed with the SEMIC Group (DG DIGIT)

Second Pilot Meeting Goals



20 Nov. 2024

Main objectives

- Clarify any aspects discussed and agreed in the [Kick-off Meeting](#).
- Evaluate the progress achieved by each participant.
- Share & discuss:
 - Different approaches to run the XSLT transformation
 - ISO metadata High-Value Datasets tagging candidate good practices
- Share documentation in the [INSPIRE GeoDCAT-AP Pilot](#) management repository.









Meeting materials and summary

- GitHub: <https://github.com/INSPIRE-MIF/GeoDCAT-AP-pilot/tree/main/meetings/2024-11-20>

Second Pilot Meeting

Participants' progress overview











								
TESTING	BE Flanders	DK	ES	FI	NL	SK	JRC	OP
Focus	XSLT & HVD reporting	XSLT	XSLT	XSLT & HVD reporting	SPEC / XSLT	SPEC / XSLT	SPEC / XSLT	XSLT
Resources	GeoNetwork GeoDCAT-AP plugin	Limited INSPIRE md records	~300 md records	~20 md records	NOT REPORTED	~1000 md records	Feedback GeoDCAT-AP 3 Limited INSPIRE- compliant md records	Selected Geo-catalogues
Status	ADVANCED	STARTED	STARTED	ADVANCED	ADVANCED	STARTED	STARTED	STARTED
Tools	GeoNetwork	Saxon	SEMIC PoC API (Previously)	XMLSpy / Command-line tool	Custom Python script	Custom tools	NOT SELECTED	DEU Geo-harvester
First Results	✓	✓	PENDING	✓	✓	✓	PENDING	PENDING
HVD tagging examples	✓	✓	✓	REUSED	✓	✓	N/A	N/A

- Detailed progress reports:
<https://github.com/INSPIRE-MIF/GeoDCAT-AP-pilot/tree/main/meetings/2024-11-20/presentations>

Second Pilot Meeting

Participants' highlights



Looking forward		
	BE-Flanders	<ul style="list-style-type: none"> GeoNetwork ready for GeoDCAT-AP Concrete encoding examples (e.g. tagging in ISO & DCAT)
	DK	<ul style="list-style-type: none"> SEMIC PoC API updated to GeoDCAT-AP 3 Shared tooling Guidelines for HVD and license tagging
	ES	<ul style="list-style-type: none"> Concrete encoding examples SEMIC PoC API updated to GeoDCAT-AP 3 GeoNetwork support
	FI	<ul style="list-style-type: none"> Clarification on the role of the service metadata in HVD reporting XSLT transformation API
	NL	<ul style="list-style-type: none"> Common basis for transformation approaches (XSLT, tagging, etc.)
	SK	<ul style="list-style-type: none"> Use-cases for GeoDCAT-AP 3 EU & National tooling supporting GeoDCAT-AP 3
	JRC	<ul style="list-style-type: none"> Inventory of related good practices Identify the best tools available to run the XSLT transformation
	OP	<ul style="list-style-type: none"> DEU Geo-harvester updated to GeoDCAT-AP 3 How to filter HVDs in DEU

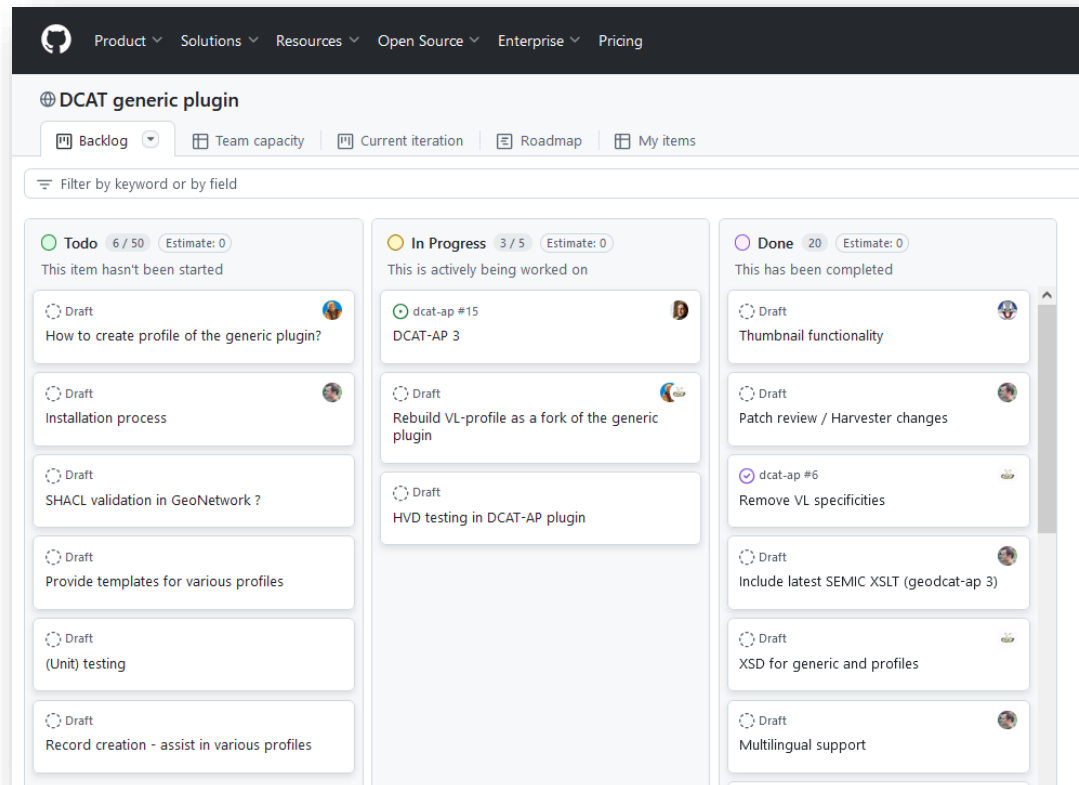
Second Pilot Meeting

HVD Tagging good practices



Synergies

‘DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP’ WG



Steps

- **Sprint 3** (25-17 Nov. 2024)
1st good practice candidate proposal, ready for testing.
- **Sprint 4** (09-11 Dec. 2024)
Final discussions and good practice candidate agreement.
- **80th MIG-T** (13 Dec. 2024)
Share proposal for initiate potential endorsement.

<https://github.com/orgs/metadata101/projects/2>

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



Input examples identified

25-17 Nov. & 09-11 Dec. 2024

- Approaches:
 - Keyword-based: BE-Flanders, DE, DK, NL
 - Data Quality report-based: ES
- Encoding: mixes of 'gmx:Anchor' vs. 'gco:CharacterString'

Agreed decisions

- Approach:
 - Keyword-based (most commonly used)
- Scope – Tagging of:
 - 'High-value dataset' keyword (referencing applicable legislation) - **Mandatory**
 - Thesaurus-based keyword for HVD Category - **Mandatory**
 - Thesaurus-based keyword for HVD Sub-Category – **Optional, highly recommended**
- Encoding: Use 'gmx:Anchor' encoding + Allow use of ISO multi-lingual structure



DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



Good practice candidate

‘DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP’ WG

HVD ISO Elements:

- Free keyword for Identification:
 - "High-value dataset" linked to EU regulation
- Thesaurus-Based Keyword(s) for HVD Categorization:
 - Category
 - Subcategory (optional)
 - Thesaurus Reference

Finally candidate agreement

- **Sprint 4** (09-11 Dec. 2024)

Sharing for potential endorsement

- **80th MIG-T** (13 Dec. 2024)

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Free Keyword

Purpose:

- To classify the dataset as a High-Value Dataset (HVD) and link it to the EU directive.

Key Elements:

- Keyword:
 - <gmd:keyword> contains:
"High-value dataset"
- Anchor with Reference URL:
 - <gmx: Anchor xlink:href="**http://data.europa.eu/eli/reg_impl/2023/138/oj**">
Links to the EU Regulation implementing the high-value datasets directive.

Benefits:

- Ensures compliance with EU regulations.
- Provides semantic interpretation for metadata.

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Free Keyword – Example

```
...
<gmd:descriptiveKeywords>
  <gmd:MD_Keywords>
    <!-- HVD Keyword -->
    <gmd:keyword>
      <gmx:Anchor xlink:href="http://data.europa.eu/eli/reg\_impl/2023/138/oj">High-value dataset
    </gmx:Anchor>
    </gmd:keyword>
  </gmd:MD_Keywords>
</gmd:descriptiveKeywords>
...
```

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Thesaurus-Based Keywords – 1

Purpose:

- To provide a structured classification of the dataset using a controlled vocabulary (thesaurus).

Keywords:

- Primary **Category**:
 - <gmd:keyword> contains f.i.:
 - "Earth observation and environment"
 - Reference:
 - http://data.europa.eu/bna/c_dd313021
- Optional **Subcategory**:
 - <gmd:keyword> contains:
 - "Sea regions"
 - Reference:
 - http://data.europa.eu/bna/c_f399050e

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Thesaurus-Based Keywords – 2

Thesaurus Reference:

- <gmd:thesaurusName> provides metadata for the controlled vocabulary.

Details:

- Thesaurus Title:
 - <gmx:Anchor>: <http://data.europa.eu/bna/asd487ae75>
 - **"High-value dataset categories"**
- Publication Date:
 - <gco:Date>: **2023-09-05**
- Date Type:
 - <gmd:CI_DateTypeCode>: publication

Benefits:

- Ensures precise categorization and link to the thesaurus.
- Supports semantic interoperability with EU HVD standards.

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Thesaurus-Based Keywords – Example

```
<gmd:descriptiveKeywords>
  <gmd:MD_Keywords>
    <!-- Category Keyword -->
    <gmd:keyword>
      <gmx:Anchor xlink:href="http://data.europa.eu/bna/c\_dd313021">Earth observation and environment
    </gmx:Anchor>
    </gmd:keyword>
    <!-- Optional Subcategory Keyword-->
    <gmd:keyword>
      <gmx:Anchor xlink:href="http://data.europa.eu/bna/c\_f399050e">Sea regions</gmx:Anchor>
    </gmd:keyword>
    <!-- Thesaurus Reference -->
    <gmd:thesaurusName>
      <gmd:CI_Citation>
        <gmd:title>
          <gmx:Anchor xlink:href="http://data.europa.eu/bna/asd487ae75">High-value dataset categories
        </gmx:Anchor>
        </gmd:title>
        <gmd:date>
          <gmd:CI_Date>
            <gmd:date>
              <gco:Date>2023-09-05</gco:Date>
            </gmd:date>
            <gmd:dateType>
              <gmd:CI_DateTypeCode codeList=
                "http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\_19139\_Schemas/resources/Codelist/ML\_gmxCodetlists.xml#CI\_DateTypeCode" codeListValue="publication"/>
            </gmd:dateType>
          </gmd:CI_Date>
        </gmd:date>
      </gmd:CI_Citation>
    </gmd:thesaurusName>
  </gmd:MD_Keywords>
</gmd:descriptiveKeywords>
```

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Free Keyword – Multilingual Example

```
...
<gmd:language>
  <gmd:LanguageCode codeListValue="eng">English</gmd:LanguageCode>
</gmd:language>
<gmd:locale>
  <gmd:PT_Locale id="nl">
    <gmd:languageCode>
      <gmd:LanguageCode codeListValue="dut"/>
    </gmd:languageCode>
  </gmd:PT_Locale>
</gmd:locale>
...
<!-- HVD Free Keyword Section -->
<gmd:descriptiveKeywords>
  <gmd:MD_Keywords xsi:type="gmd:PT_FreeText_PropertyType">
    <!-- HVD Keyword -->
    <gmd:keyword>
      <gmx:Anchor xlink:href="http://data.europa.eu/eli/reg_impl/2023/138/oj">High-value dataset
      </gmx:Anchor>
      <gmd:PT_FreeText>
        <gmd:textGroup>
          <gmd:LocalisedCharacterString locale="#nl">High-value dataset</gmd:LocalisedCharacterString>
        </gmd:textGroup>
      </gmd:PT_FreeText>
    </gmd:keyword>
  </gmd:MD_Keywords>
</gmd:descriptiveKeywords>
...
```

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Tagging candidate good practice



HVD Thesaurus-Based Keywords – Multilingual Example

```
...
<gmd:descriptiveKeywords>
  <gmd:MD_Keywords>
    <!-- Category Keyword -->
    <gmd:keyword xsi:type="gmd:PT_FreeText_PropertyType">
      <gmx:Anchor xlink:href="http://data.europa.eu/bna/c_dd313021">Earth observation and environment
      </gmx:Anchor>
      <gmd:PT_FreeText>
        <gmd:textGroup>
          <gmd:LocalisedCharacterString locale="#nl">Aardobservatie en milieu
          </gmd:LocalisedCharacterString>
        </gmd:textGroup>
      </gmd:PT_FreeText>
    </gmd:keyword>
    <!-- Optional Subcategory Keyword-->
    <gmd:keyword>
      <gmx:Anchor xlink:href="http://data.europa.eu/bna/c_f399050e">Sea regions</gmx:Anchor>
      <gmd:PT_FreeText>
        <gmd:textGroup>
          <gmd:LocalisedCharacterString locale="#nl">Zeegebieden</gmd:LocalisedCharacterString>
        </gmd:textGroup>
      </gmd:PT_FreeText>
    </gmd:keyword>
    <!-- Thesaurus Reference -->
    <gmd:thesaurusName>
      <gmd:CI_Citation>
        <gmd:title xsi:type="gmd:PT_FreeText_PropertyType">
          <gmx:Anchor xlink:href="http://data.europa.eu/bna/asd487ae75">High-value dataset categories
          </gmx:Anchor>
          <gmd:PT_FreeText>
            <gmd:textGroup>
              <gmd:LocalisedCharacterString locale="#nl">High-value dataset categorieën
              </gmd:LocalisedCharacterString>
            </gmd:textGroup>
          </gmd:PT_FreeText>
        </gmd:title>
        <gmd:date>
          <gmd:CI_Date>
            <gmd:date>
              <gco:Date>2023-09-05</gco:Date>
            </gmd:date>
            <gmd:dateType>
              <gmd:CI_DateTypeCode codeList=
                "http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources
                /CodeList/ML_gmxCodeLists.xml#CI_DateTypeCode" codeListValue="publication"/>
            </gmd:dateType>
          </gmd:CI_Date>
        </gmd:date>
      </gmd:CI_Citation>
    </gmd:thesaurusName>
  </gmd:MD_Keywords>
</gmd:descriptiveKeywords>
...
```

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

HVD Validation Rules added to GeoNetwork



Validation

Show messages: success errors

✓ Daticite (DOI) 6 success 0 Error

✓ DCAT-AP High Value Dataset (HVD) 3 success 2 Error(s)

HVD

Applicable legislation is mandatory. Use a keyword with an Anchor pointing to http://data.europa.eu/eli/reg_impl/2023/138/oj.

HVD

HVD categories found: Observation de la terre et environnement.

HVD

Contact information that can be used for sending comments about the Dataset defined: Helpdesk carto du SPW (SPW - Secrétariat général - SPW Digital - Département Données transversales - Gestion et valorisation de la donnée) helpdesk.carto@spw.wallonie.be.

HVD (dataset)

No implementing rule or other specification found. Check the data quality report specification to add one. For INSPIRE datasets, this is a data specification conformity.

HVD (dataset)

Distribution URLs found: <http://carto1.wallonie.be/CIGALE/viewer.htm?APPNAME=REGINE>.

ISO 18 success 0 Error

Schema validation 0 Error

Standard / ISO / Schematron for DCAT HVD requirements

- ISO metadata can be retrieved in DCAT and specific rules apply to High Value Dataset context.
 - See <https://semiceu.github.io/DCAT-AP/releases/2.2.0-hvd/>
- This schematron tests ISO19139 or ISO19115-3 records and checks for mandatory elements for datasets and services to facilitate encoding of HVD requirements in ISO records.
- The mapping rules defined in the ISO to DCAT mapping are used.
- Extra HVD fields added to the Geonetwork editor

EU applicable legislations

2023/138 x

Zoeken ...

+

High-value dataset categories

Aardobservatie en ... x

Zoeken ...

Validation

Show messages: success errors

✓ Daticite (DOI) 6 success 0 Error

✓ DCAT-AP High Value Dataset (HVD) 3 success 3 Error(s)

HVD

Applicable legislation is mandatory. Use a keyword with an Anchor pointing to http://data.europa.eu/eli/reg_impl/2023/138/oj.

HVD

The HVD category to which this Dataset belongs is missing.

HVD

Contact information that can be used for sending comments about the Dataset defined: Helpdesk carto du SPW (SPW - Secrétariat général - SPW Digital - Département Données transversales - Gestion et valorisation de la donnée) helpdesk.carto@spw.wallonie.be.

HVD (service)

Documentation pages found: <https://directory.spatineo.com/service/164564>, https://stats.wallonie.be/services?url=https://geoservices.wallonie.be/arcgis/services/SOL_SOUS_SOL/WAL_OCS_IA_CHA_18_20/MapServer/WMServer.

HVD (service)

The root location or primary endpoint of the service (an IRI) is missing. Add an operation with a protocol which is not considered as an endpoint description (ie. OpenAPI[Swagger][GetCapabilities][WSDL] description) or a URL containing GetCapabilities[WSDL].

HVD (service)

Operates on dataset found: <https://metawal.wallonie.be/geonetwork/srv/a/pi/records/5a5859ed-08f0-4bbb-8ed9-aa28494a8848>.

ISO 11 success

DCAT-AP schema plug-in integration in GeoNetwork & Testing Pilot GeoDCAT-AP (Sprints 3 & 4)

Next steps



- Volunteers for testing?
- Keep you informed about future sprints?

➤ stijn.tallir@vlaanderen.be

Third Pilot Meeting

Next steps



Main objectives

- Update and trace progress of participants.
- Share common issues identified.
- Agree on how to report them to SEMIC.

When?

- To be scheduled early in January 2025
- A pool will be sent next week (before Christmas)

Thank you

This presentation has been prepared for internal purposes. The information and views expressed in it do not necessarily reflect an official position of the European Commission or of the European Union.

Except otherwise noted, © European Union (year). All Rights Reserved



EU Science Hub

joint-research-centre.ec.europa.eu

