Validation of INSPIRE metadata, data and services
National experience from Belgium

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26th June 2018
Validation of transformed data

Our key experience
Which theme’s?

■ Annex I
  ▪ Administrative Units
  ▪ Cadastral Parcels
  ▪ Hydrography
  ▪ Transport Network

■ Annex III
  ▪ Buildings
  ▪ Statistical Units
Getting started is easy enough...

- Find the tool
- Find your scope

Data Theme: Administrative Units (Data Specification version 3.1)
But then...

- **Abstract Test Suite:** Conformance Classes
  - Application Schema
  - Reference System
  - Data Consistency
  - Metadata IR
  - Information Accessibility
  - Data Delivery
  - Portrayal
  - Technical Guideline

- **Executable Test Suite**
  - Other conformance classes?
  - Which test are included?
Uploading a file

- Upload failed: happens often, but why?
  - “Unknown error”
    - Data set too big? > 100 MB
    - Server too busy? No warnings
    - Sometimes it helps to try it the next day...

- Alternative: WFS (if available...)

Select one or multiple XML/GML files or ZIP files containing XML/GML files. The Maximum size of each uploaded file is 772 MB. The upload starts immediately after selecting the files. The 'Start' button is unlocked when the upload has been successfully completed.
Result output looks user friendly, however...

| Conformance class: INSPIRE GML encoding          | 1 |
| Conformance class: INSPIRE GML application schemas, General requirements | 6 |
| Conformance class: GML application schemas, Administrative Units | 1 |
| Conformance class: Application schema, Administrative Units | 7 |
| Conformance class: Data consistency, General requirements | 2 |
| Conformance class: Data consistency, Administrative Units | 7 |
| Conformance class: Information accessibility, General requirements | Failed: 1/1 |
| Conformance class: Information accessibility, Administrative Units | 2 |
| Conformance class: Reference systems, General requirements | Failed: 1/2 |
| Conformance class: Reference systems, Administrative Units | 1 |
... the link between tests is not always clear
... or one-to-one
Service testing?

No experience
METADATA: which validator?

Geoportal Resource Browser vs.
Geoportal Metadata Validator vs.
INSPIRE Validator
Example: “Orthophoto”, a dataset of the NGI

Orthophotographs are digital aerial photographs that have been adjusted for lens distortion, topographic relief and camera tilt. The orthophotographs are metrically more accurate than common aerial photographs. They are very valuable as reference information and also, for instance, for surveying...more
Geoportal Resource Browser
Geoportal Metadata Validator

Average degree of conformity of INSPIRE Metadata: 100.00%

INSPIRE Evaluation Potential Warning

- Missing or wrong Originating Controlled Vocabulary URI - URI needs to be 'http://www.eionet.europa.eu/geonet/inspire_themes'
- This recommendation has to be taken into consideration by 19/12/2019

Relevant documentation:

Expert documentation:
  - UML Requirement Diagram

- Missing or wrong Keyword URI - URI needs to be 'http://inspire.ec.europa.eu/theme/oi'
- This recommendation has to be taken into consideration by 19/12/2019

Relevant documentation:

Expert documentation:
  - UML Requirement Diagram
### Average degree of interoperability of INSPIRE Resources: 57.14%

<table>
<thead>
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<th>Verified</th>
<th>Missing</th>
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</thead>
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<tr>
<td>ALL_LAYERS_MATCHING_DATA_HAVE_COMPLETE_METADATA</td>
<td>DOWNLOAD_MATCHING_DATA_IS_AVAILABLE</td>
</tr>
<tr>
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<td>ALL_DOWNLOADS_MATCHING_DATA_HAVE_COMPLETE_METADATA</td>
</tr>
<tr>
<td>RESOURCE_PREVIEW_IMAGE_IS_AVAILABLE</td>
<td>INSPIRE_SPATIAL_OBJECT_IS_AVAILABLE</td>
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<tr>
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### Average degree of interoperability of INSPIRE Resources: 14.29%

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<th>Unverified (reason)</th>
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</tbody>
</table>
INSPIRE VALIDATOR

Metadata (Technical Guidance version 1.3)
- Conformance class: INSPIRE Profile based on EN ISO 19115 and EN ISO 19119
- Conformance class: Metadata for interoperability

Test run on 13:24 - 19.06.2018 with test suite Conformance class: INSPIRE Profile based on EN ISO 19115 and EN ISO 19119 and one more test suite

<table>
<thead>
<tr>
<th>Status</th>
<th>Failed</th>
<th>Total Count</th>
<th>Skipped</th>
<th>Failed</th>
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</table>

- Conformance class: XML encoding of ISO 19115/19119 metadata
  - Failed: 1/1

- Conformance class: INSPIRE Profile based on EN ISO 19115 and EN ISO 19119
  - Failed: 1/0

- Conformance class: Metadata for interoperability
  - Failed: 1/1
Cannot find the declaration of element 'gmd:MD_Metadata'.

\[<\textit{gmd:MD_Metadata} xmlns:gmd=\textit{http://www.isotc211.org/2005/gmd} xmlns\]

Cannot resolve 'gmd:PT_FreeText_PropertyType' to a type definition for element 'gmd:deliveryPoint'.

\[<\textit{gmd:deliveryPoint} xmlns:xsi=\textit{http://www.w3.org/2001/XMLSchema-instance} xsi:type=\textit{gmd:PT_FreeText_PropertyType}>\n\<\textit{gco:CharacterString}>Abdij ter Kameren 13</\textit{gco:CharacterString}>\n\</\textit{gmd:deliveryPoint}>\n\]

The metadata record has a date of publication, creation, or revision that is invalid.

\[<\textit{gmd:date}>\n\<\textit{gmd:CI_Date}>\n\<\textit{gmd:date}>\n\<\textit{gco:Date}>2015</\textit{gco:Date}>\n\</\textit{gmd:date}>\n\<\textit{gmd:dateType}>\n\<\textit{gmd:CI_DateTypeCode} codeList\</\textit{gmd:dateType}>\n\</\textit{gmd:CI_Date}>\n\</\textit{gmd:date}>\]
Metadata for interoperability errors

The metadata record references none of the expected coordinate reference systems.

```xml
<gmd:referenceSystemIdentifier>
  <gmd:RS_Identifier>
    <gmd:code>
      <gco:CharacterString>http://www.opengis.net/def/crs/EPSG/0/3812</gco:CharacterString>
    </gmd:code>
    <gmd:codeSpace>
      <gco:CharacterString>EPSG</gco:CharacterString>
    </gmd:codeSpace>
  </gmd:RS_Identifier>
</gmd:referenceSystemIdentifier>
```

Every metadata record must document the encoding in which the dataset is available.
Inconveniences

To which metadata record does this report belong?

Original metadata record can only be accessed in case there is an error. Impossible to compare with ‘good’ metadata records…
Guesswork – getting rid of ‘red flags’ in validator – does not guarantee a correct implementation.
Is the Editor still supposed to be in use?

Upload problems (error 10004: unable to load the selected file)
The newest specs of 2017 have not been updated
Needs a ‘deprecated’ label
Thank you