



# National Geographic Institute of Spain

## National Center for Geographic Information

# Spanish NSDI (IDEE)

## Metadata and Services Validator

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# ❖ Introduction

## ■ Framework of Spanish NSDI (IDEE)

- CNIG (IGN) is working in implementing validation tools to comply Inspire Directive
  - Metadata and services

## ■ Current situation:

- In development two web prototype of validators
  - Metadata and services (WMS and CSW)

## ■ Future :

- Included in IDEE Geoportal
- Distribution in the community
  - Open Source code



# Metadata validation

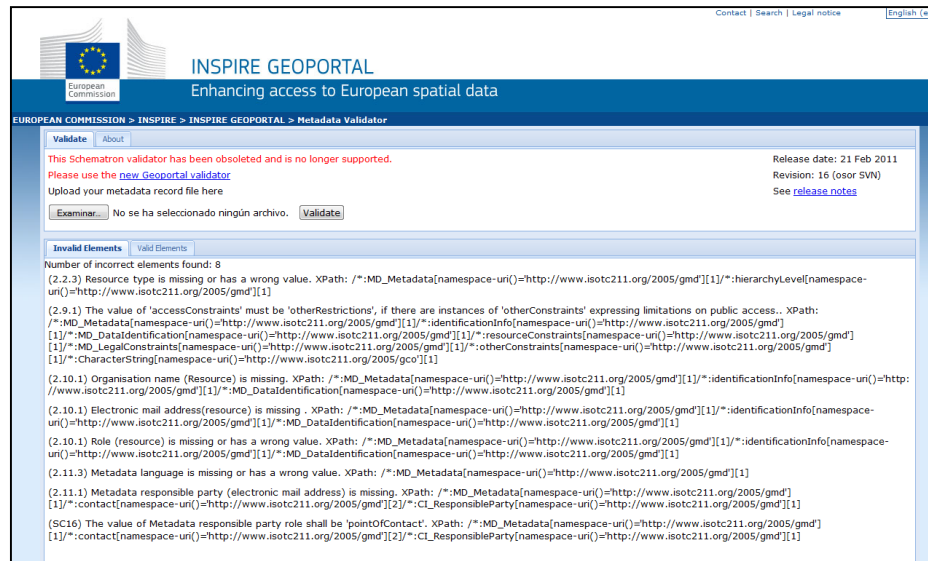
```

gmd:MD_Metadata xsi:schemaLocation="http://www.isotc211.org/2005/gmd http://www.isotc211.org/2005/gmd/gmd.xsd http://www.isotc211.org/2005/err http://schemas.opengis.net/iso/19139/20060504/err/err.xsd"
- <gmd:fileIdentifier>
  <geo:CharacterString>spaigllMM2013</geo:CharacterString>
  </gmd:fileIdentifier>
+ <gmd:language></gmd:language>
+ <gmd:characterSet></gmd:characterSet>
<gmd:parentIdentifier>gco:nilReason="missing"/>
- <gmd:hierarchyLevel>
  <gmd:MD_ScopeCode codeList="/resources/codelist/metadata/ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>
  </gmd:hierarchyLevel>
<gmd:hierarchyLevelName>gco:nilReason="missing"/>
- <gmd:contact>
  - <gmd:CI_ResponsibleParty>
    <gmd:individualName>gco:nilReason="missing"/>
    - <gmd:organisationName>
      <geo:CharacterString>Instituto Geográfico Nacional (IGN)</geo:CharacterString>
      </gmd:organisationName>
      <gmd:positionName>gco:nilReason="missing"/>
      + <gmd:contactInfo></gmd:contactInfo>
      + <gmd:role></gmd:role>
    </gmd:CI_ResponsibleParty>
  </gmd:contact>
- <gmd:dateStamp>
  <geo:Date>2014-03-03</geo:Date>
  </gmd:dateStamp>
- <gmd:metadataStandardName>
  <geo:CharacterString>
    NEM:ISO 19115:2003 + Reglamento (CE) N° 1205/2008 de Inspire
  </geo:CharacterString>
  </gmd:metadataStandardName>
- <gmd:metadataStandardVersion>
  <geo:CharacterString>1.1</geo:CharacterString>
  </gmd:metadataStandardVersion>
+ <gmd:referenceSystemInfo></gmd:referenceSystemInfo>
+ <gmd:referenceSystemInfo></gmd:referenceSystemInfo>
- <gmd:identificationInfo>
  - <gmd:MD_DataIdentification>
    - <gmd:CI_Citation>
      - <gmd:title>
        <geo:CharacterString>Líneas límite municipales 1:25.000</geo:CharacterString>
        </gmd:title>
      - <gmd:alternateTitle>
        <geo:CharacterString>LLM</geo:CharacterString>
        </gmd:alternateTitle>
      - <gmd:date>

```



- Based on:
  - previous version of the Inspire Metadata Validator
- Source code:
  - obtained from JRC Repository at Join Up



<http://inspire-geoportal.ec.europa.eu/validator/>



# ❖ Metadata

## ■ Technology

- Web client based on STRUTS
- Web service
  - based on Java Servlets
  - implemented with Schematron validation engine

## ■ Features

- ISO19139 Scheme Validation
- INSPIRE Metadata Implementing Rules

## ■ Coverage

- INSPIRE metadata Regulation
- Metadata Spanish profile (NEM, NEM-Services)

## ■ Multilingual

- Spanish and English version



## ■ Implemented needs

- INSPIRE Metadata Implementing Rules version 1.3
- Validation against Spanish Metadata Profiles (NEM, NEM-S)
- Validation multilingual Gemet and Part D4 keywords values
- IDEE Geoportal look&feel
- INSPIRE and NEM validation integrated in CatMDEdit (Metadata edition tool)
- Validation reports in Spanish/English
  - A big effort has been made to include simple explanations that the user can easily understand



# ❖ Metadata Validation web client

## Validador de Metadatos



Services Metadata

About ▾

Through this application, it is possible to check Data and Services Metadata Registers compliance against the rules of:

- ❖ Spanish Profile for Dataset Metadata (NEM)
- ❖ Spanish Profile for Services Metadata (NEM-S)
- ❖ INSPIRE Metadata Technical Guidelines (development of the commission regulation (EC) No 1205/2008)

### 1. Select a File

Browse

### 2. Select the schema

- Spanish Metadata Profile (NEM/NEM-S)
- Inspire Metadata Technical Guidelines

Validate

Access to [Metadata Theory](#)

Contact Info [idee@fomento.es](mailto:idee@fomento.es)



# ❖ Metadata Validation web client

**Services** Metadata **About ▾**

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**1. Select a File** **2. Select the schema**

**Browse**

Spanish Metadata Profile (NEM/NEM-S)  
 Inspire Metadata Technical Guidelines

**Validate**

[Access to Metadata Theory](#)

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**Validation Result**

**Validation Summary**

File Identifier : **475bfc5d-bf26-11e3-9152-001cc0ae83f8**

Title : **Pruebas validador perfil NEM**

Validation Result : **Metadata Register is not valid**

---

**Spanish Metadata Profile (NEM/NEM-S)**

Errors found: 3

- 2.2.12.2 UserContactInfo could not be found (emailAddress) (row 271, column 40)
- 2.2.12.2 UserContactInfo could not be found (name) (row 271, column 40)
- 2.2.12.2 UserContactInfo could not be found (role) (row 271, column 40)

**INSPIRE**

Errors found: 0

**XML-Schema**

Errors found: 0

Contact Info [idee@fomento.es](mailto:idee@fomento.es)

Upper Frame

2. Validation profile

Lower Frame

1. File Input Dialog

3. Validation summary

4. Validation details

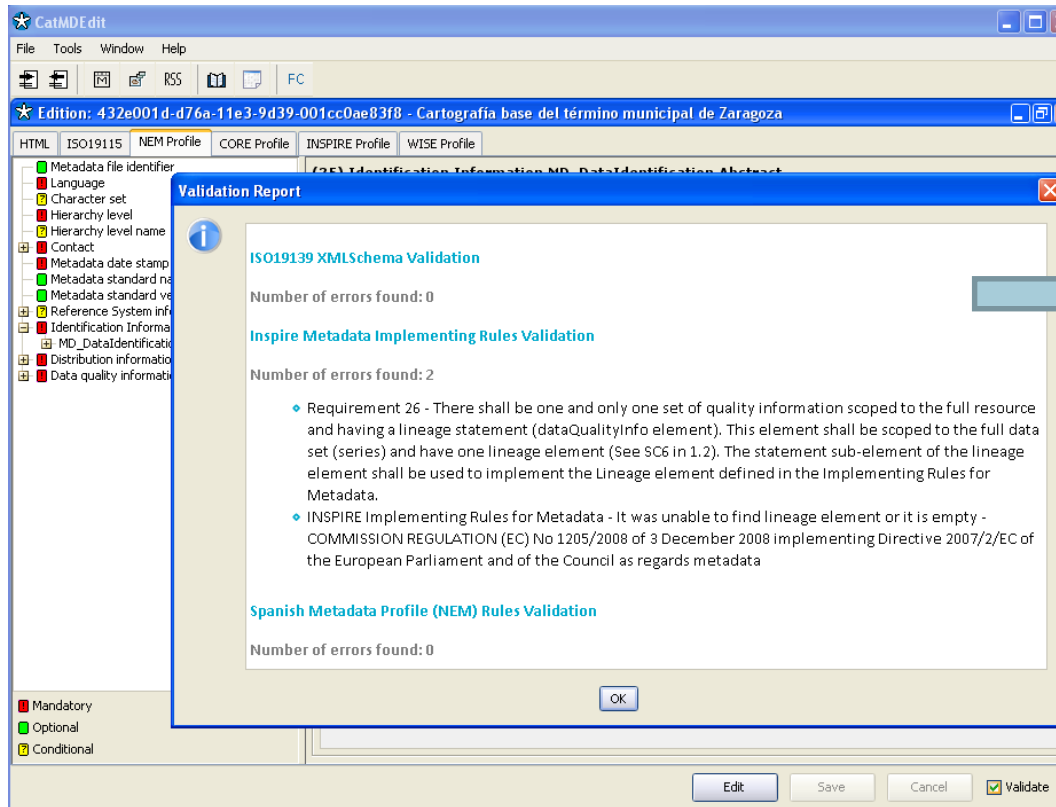




# ❖ CatMDEdit integration

## ■ CatMDEdit

- Open Source tool to edit metadata
- Include a validation service
  - Based on Metadata validation service



➔ 5. Validation details



- **Spanish validator versus Inspire tool:**
  - Include several profiles to validate:
    - Inspire, Spanish profiles (data and services)
  - Description/error messages simple in Spanish/English
  
- **General problems:**
  - Metadata Semantic validations are very difficult
  - It is not possible to validate a set of metadata files
  - Validate “Discovery metadata” not “Interoperability metadata”
  - Update of Guidelines
    - Have to update the tool



# Services validation



# ❖ Services

- Coverage
  - INSPIRE View Services
  - INSPIRE Discovery Services
- Multilingual
  - Spanish, English
- Testing

		View	Discovery	Total
Requirements	Automated Verification	60	25	85
	Human Verification	13	7	20

- It is very difficult to automatize the 20 remaining requirements





With this application, you will be able to check the INSPIRE compliance level of a given Visualization (WMS) or Discovery (CSW) Service against the following profiles:

- ❖ WMS 1.3.0 (Technical Guidance for the implementation of INSPIRE View Services 07.11.2011)
- ❖ CSW 2.0.2 (Technical Guidance for the implementation of INSPIRE Discovery Services 07.11.2011)

## 1. Introduce the GetCapabilities URL of the service you want to check

URL input

## 2. Select the INSPIRE profile

- INSPIRE Profile of WMS 1.3.0 (en)
- INSPIRE Profile of CSW 2.0.2 ISO AP (en)

Type of service

Validate

Contact Info [idee@fomento.es](mailto:idee@fomento.es)



# ❖ Service Validation web client

## Compliance Report

INSPIRE Profile of WMS 1.3.0: **Fail (2014-02-13 17:50:27 CET)**

Justification:

**55 Pass** **10 Fail** **8 Check**



**Results**

*Requirements marked as 'Check' after a validation need to be checked by the user. This can be because they cannot be checked automatically or because they haven't been implemented yet.*

**Explanations**



## Set of Tests:

Test Purpose	Result
<p><b>Requirement 1</b></p> <p>An INSPIRE View Service shall implement the minimal mandatory behaviour from an <b>ISO 19128</b> service, extended with the extensions required by the INSPIRE Directive and the Implementing Rules for View services.</p>	<b>Fail »</b>
<p><b>Requirement 2</b></p> <p>The use of <b>ISO 19128</b> de jure standard as a basis for implementing an INSPIRE View service means that this service shall comply with the "basic WMS" conformance class as defined in this de jure standard.</p>	<b>Pass »</b>
<p><b>Requirement 3</b></p> <p>The following <b>ISO 19128</b> operations shall be implemented for an INSPIRE View service: <i>GetCapabilities, GetMap.</i></p>	<b>Pass »</b>



# ❖ Service Validation web client

Reporting: Detailed explanation

## Set of Tests: INSPIRE Profile of WMS 1.3.0



Requirement 23	
Service Analyzed	<a href="http://www.ign.es/wms-inspire/pnoa-ma?SERVICE=WMS&amp;REQUEST=GetCapabilities&amp;version=1.3.0">http://www.ign.es/wms-inspire/pnoa-ma?SERVICE=WMS&amp;REQUEST=GetCapabilities&amp;version=1.3.0</a>
Test Purpose	<p>An extension shall be used to map this to an &lt;inspire_common:Conformity&gt; element within an &lt;inspire_vs:ExtendedCapabilities&gt; element.</p> <p>Requirement established in the guidance document <a href="#">Technical Guidance for the implementation of INSPIRE View Services Version 3.1 for view services</a> based on the international standard <b>ISO 19128 (OGC WMS 1.3.0)</b>. The applicable legislation is the <a href="#">Commission Regulation (EC) n° 976/2009 (amended by Commission Regulation (EU) n° 1088/2010)</a>.</p>
Test Method	<p><b>Scenario:</b> <i>If Scenario 2 has been selected, check if the inspire_common:Conformity element has been correctly used</i></p> <ol style="list-style-type: none"> <li><b>Given</b> the service's capabilities document</li> <li><b>And</b> prefix wms is <a href="http://www.opengis.net/wms">http://www.opengis.net/wms</a></li> <li><b>And</b> prefix inspire_vs is <a href="http://inspire.ec.europa.eu/schemas/inspire_vs/1.0">http://inspire.ec.europa.eu/schemas/inspire_vs/1.0</a></li> <li><b>And</b> prefix inspire_common is <a href="http://inspire.ec.europa.eu/schemas/common/1.0">http://inspire.ec.europa.eu/schemas/common/1.0</a></li> <li><b>When</b> there is not an inspire_common:MetadataUrl node in the inspire_vs:ExtendedCapabilities section</li> </ol> <p><b>Scenario not applicable detected in 00:00.004</b></p> <p>Node [inspire_vs:ExtendedCapabilities\inspire_common:MetadataUrl] exists</p> <ol style="list-style-type: none"> <li><b>Then</b> there is a inspire_common:Conformity node in the inspire_vs:ExtendedCapabilities section</li> </ol>
Verdict	<b>Pass (2014-02-13 17:50:19 CET)</b>



## ■ Problems in general:

- Very difficult to define “scenarios for each requirement “
- Very difficult to automatize some requirements
- Services are not yet included: WFS, ATOM,..
- Some requirements needs to be improved
- Improving the reporting to make it simple

<http://idee.unizar.es/validator/?lang=en>





# Thanks for your attention!



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