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# Automated generation of INSPIRE monitoring reports including service validation

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September 2016

Every member state  
has to provide annually  
information on their INSPIRE implementation  
status:

The INSPIRE monitoring

This is in most cases a burden:

Collecting information of all data providers in the  
member state

Uploading this information in a standard form

## **INSPIRE monitoring**

The Netherlands use since 2015 the EEA financed dashboard conceived by MIWP-16

## The dashboard

- Make use of the metadata available in the INSPIRE discovery service
- Calculate most of the mandatory monitoring indicators out of the metadata
- Use automated metadata validation to provide the metadata conformity information

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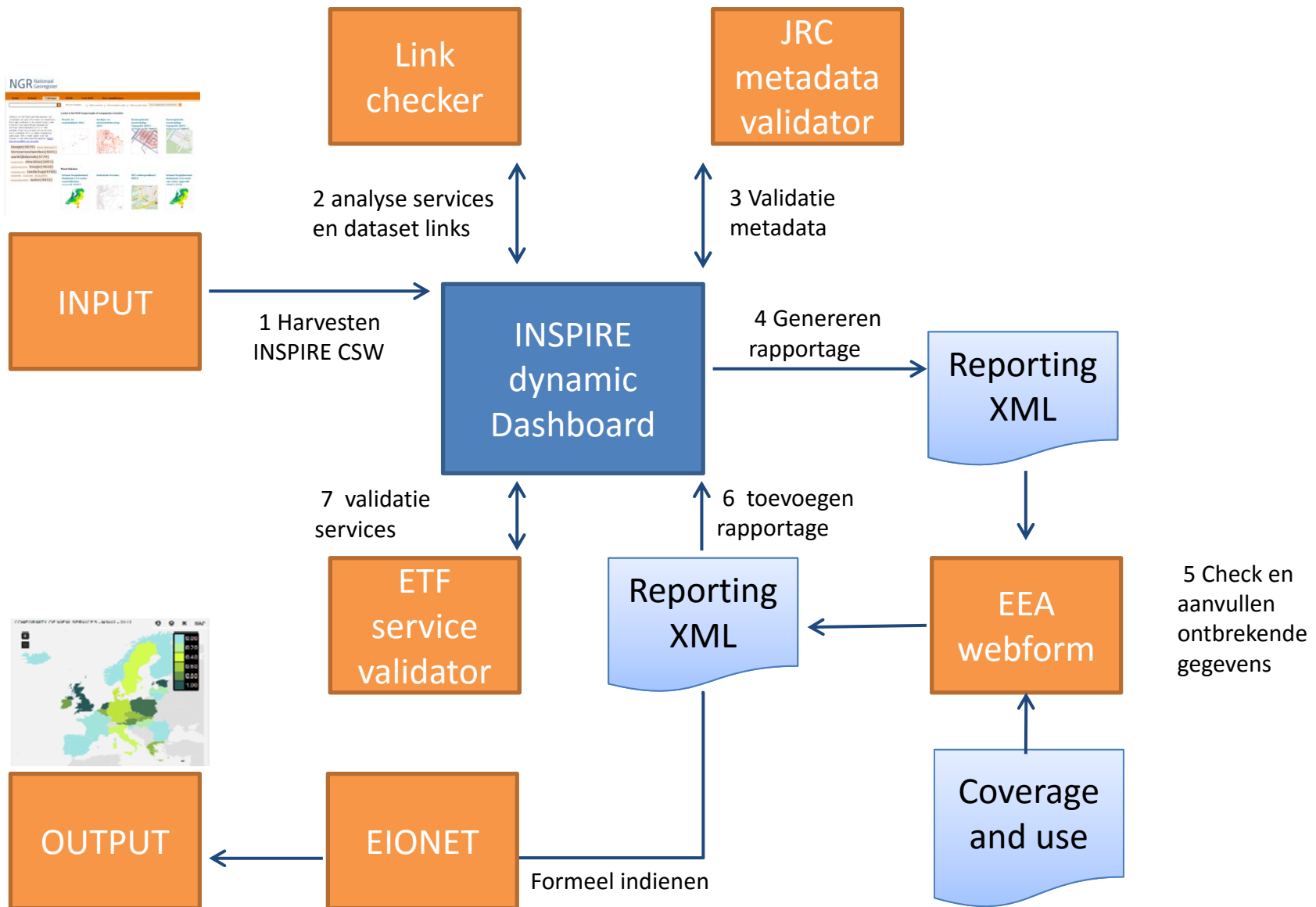
## Dynamic EEA dashboard / the official EEA dashboard

Dynamic EEA dashboard:

- To generate the monitoring
- To visualize up to date monitoring indicators
- To report metadata and service validity

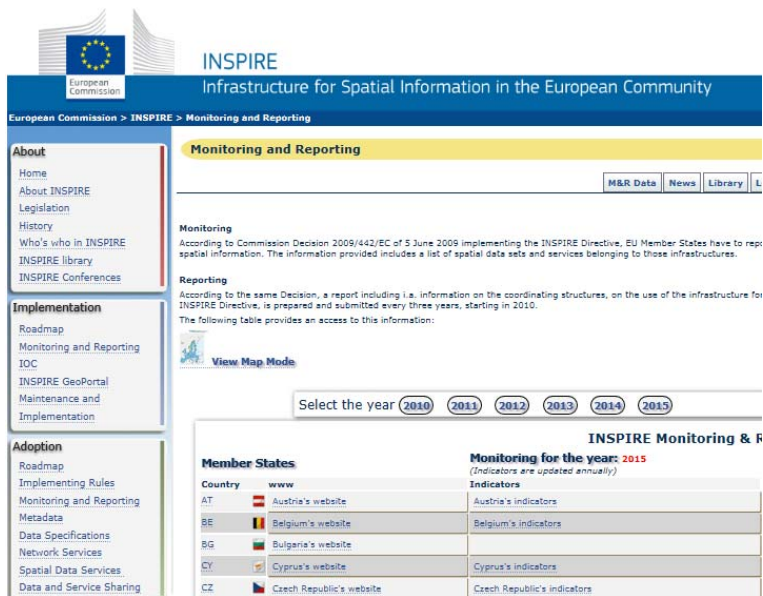
The official EEA dashboard:

- To visualize the reported monitoring indicators



# OUTPUT monitoring

INSPIRE site



The screenshot shows the INSPIRE website interface. The header includes the European Commission logo and the text "INSPIRE Infrastructure for Spatial Information in the European Community". The main navigation bar is "European Commission > INSPIRE > Monitoring and Reporting".

The left sidebar contains several sections:

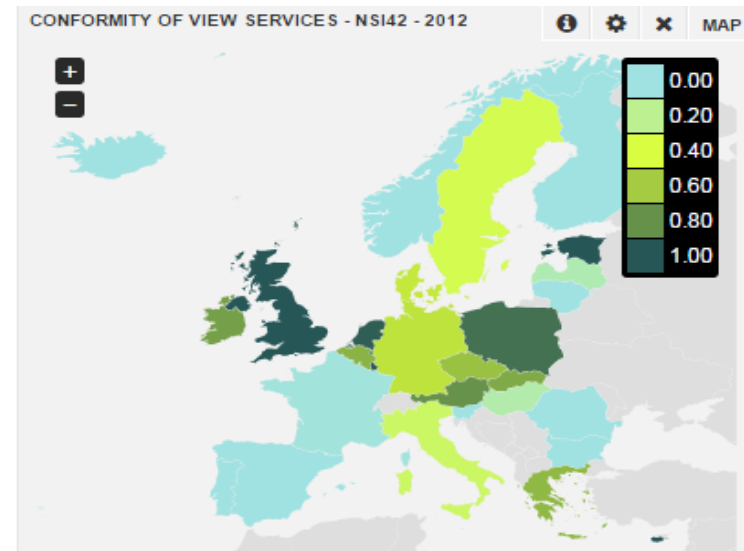
- About:** Home, About INSPIRE, Legislation, History, Who's who in INSPIRE, INSPIRE library, INSPIRE Conferences.
- Implementation:** Roadmap, Monitoring and Reporting, IOC, INSPIRE GeoPortal, Maintenance and Implementation.
- Adoption:** Roadmap, Implementing Rules, Monitoring and Reporting, Metadata, Data Specifications, Network Services, Spatial Data Services, Data and Service Sharing.

The main content area is titled "Monitoring and Reporting" and includes a "Monitoring" section with text about Commission Decision 2009/442/EC and a "Reporting" section with text about the reporting process. Below this is a "View Map Mode" button and a year selection dropdown set to 2015.

At the bottom, there is a table titled "INSPIRE Monitoring & R" with columns for "Member States" and "Monitoring for the year: 2015".

Country	www	Indicators
AT	<a href="#">Austria's website</a>	<a href="#">Austria's indicators</a>
BE	<a href="#">Belgium's website</a>	<a href="#">Belgium's indicators</a>
BG	<a href="#">Bulgaria's website</a>	
CY	<a href="#">Cyprus's website</a>	<a href="#">Cyprus's indicators</a>
CZ	<a href="#">Czech Republic's website</a>	<a href="#">Czech Republic's indicators</a>

Official dashboard





- Metadata conformity is not a part of the metadata itself
- Metadata conformity is calculated on base of the JRC metadata validation tooling
- A threshold is be used, due to lack of the commonly agreed rules

## **Service Validation in the dynamic dashboard**

This year additional;

- Under ELF developed ETF INSPIRE service validator (inclus ATOM) added by the Netherlands to the EEA dashboard to support service conformance

## Benefits

- We have saved at least 20 days per year; less coordination and less work for the data providers
- Quality improvement; use of metadata for the monitoring obligation was an impulse to improve existing metadata
- A clear, comparable picture of the validity of metadata, accessible to all Dutch inspire stakeholders

This year additional;

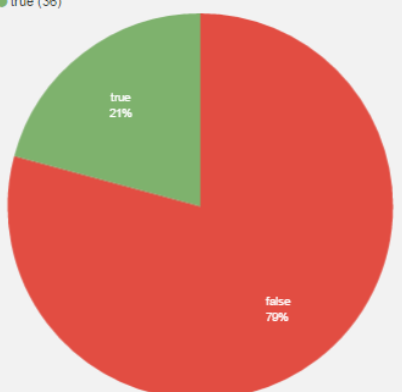
- A clear, comparable picture of the validity and reported conformity of services, accessible to all Dutch inspire stakeholders

# Metadata Validation

Browser tabs: NGR - PDOK, Nationaal Georegister | 45 x, INSPIRE indicator trends 2 x, Metadata validation report x, Publieke Dienstverlening x, Downloads

URL: <https://inspire-dashboard.eea.europa.eu/dashboard/dashboard2/#/dashboard/solr/Metadata%20validation%20report>

**CONFORMANT DATA SETS**  
 ● false (137) ● true (36)



Conformant Status	Count	Percentage
false	137	70%
true	36	21%

**CONFORMANT SERVICES**

Conformity of datasets and services is declared in the metadata records.

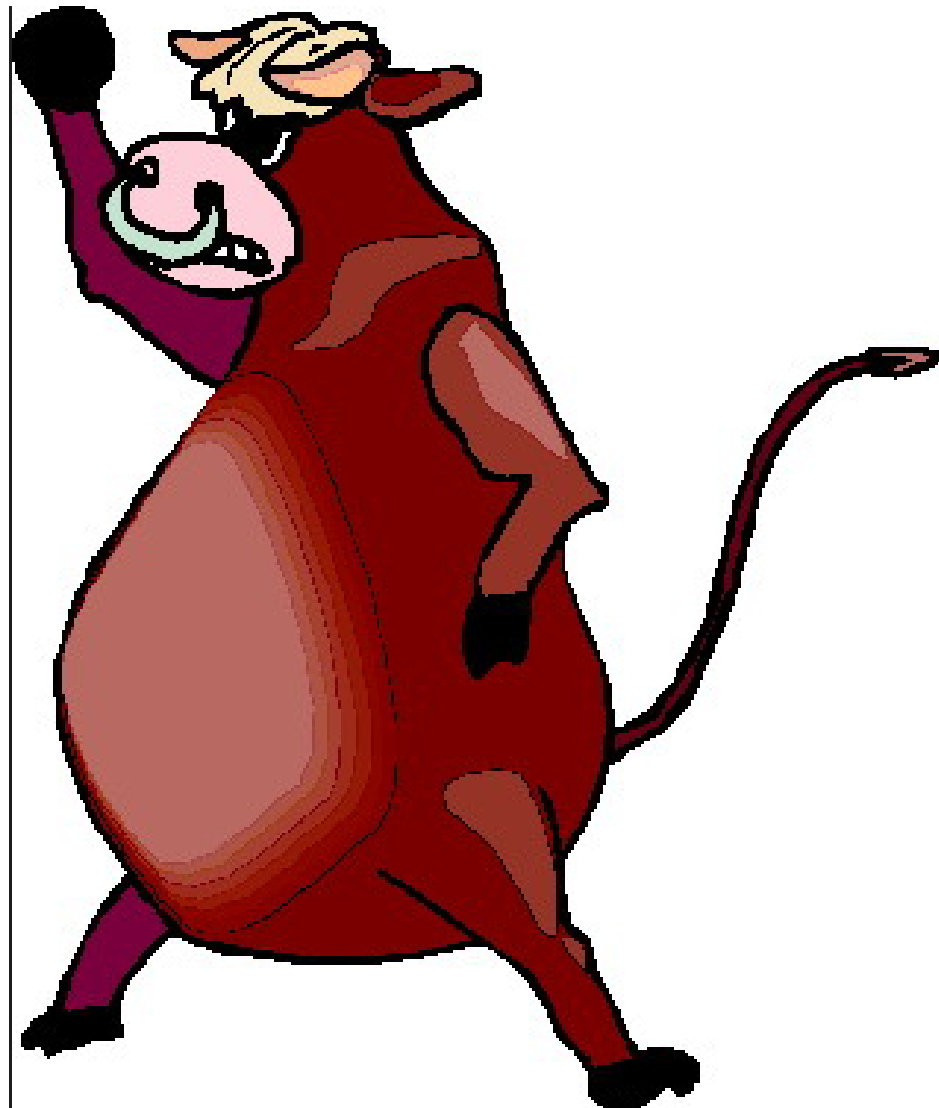
**RECORD DETAILS**

Fields:  resourceTitle,  completenessIndicator,  Validation,  isSchemaValid,  id,  validReport,  validInfo

11 To 20 of 174 available for paging

resourceTitle	is SchemaValid	Validation	completenessIndicator	inspireConformResource	Link
Grondwateronderzoek onder INSPIRE	true	false	100		
Zwemwaterlocaties en zwemwaterkwaliteit - monsterpunten	true	false	100		
Nationale Parken 2014	true	false	100		
Potentieel warmte uit open WKO systemen per gemeente (GJ/ha....	true	false	100		
Beschermde Natuurmonumenten februari 2016	true	false	100		
Vogelrichtlijn verspreiding van soorten	true	false	100		
Habitatrichtlijn verspreidingsgebied van habitattypen	true	false	100		
Wetlandgebieden Nederland 2005	true	false	100		

Taskbar: 20:41, 2-6-2016



# Service Validation

NGR - PDOK | Nationaal Georegister | 45 | INSPIRE indicator trends 2 | Service validation report | Publieke Dienstverlening | Downloads

https://inspire-dashboard.eea.europa.eu/dashboard/dashboard2/#/dashboard/solr/Service%20validation%20report

Home | Dashboard | Monitoring | Harvesting | Sign in

## Service validation report

SEARCH: \*\*

TOTAL HITS: 266

**range Must**

field : etfCompletenessIndicator  
from : -1  
To : 100

**range Must**


field : etfCompletenessIndicatorOptional  
from : -1  
To : 100

**Terms Must**

field : territory  
Value : NL

**ETF MANDATORY**

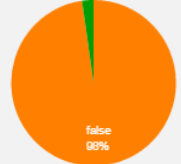
● false (254) ● true (12) ● Missing field (0)



false 99%

**ETF OPTIONAL**

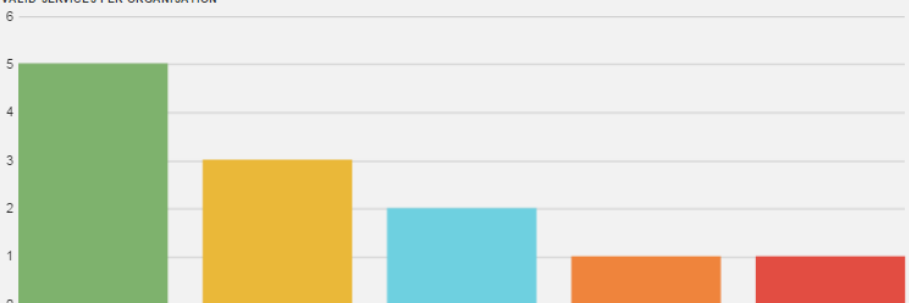
● false (260) ● true (6)



false 98%

**COMPLETENESS INDICATOR**  
Note that the completeness indicator currently weighs all tests equally. Please, consider that failures in some tests may have much more impact as failures in other tests. So use the completeness Indicator with caution

**VALID SERVICES PER ORGANISATION**

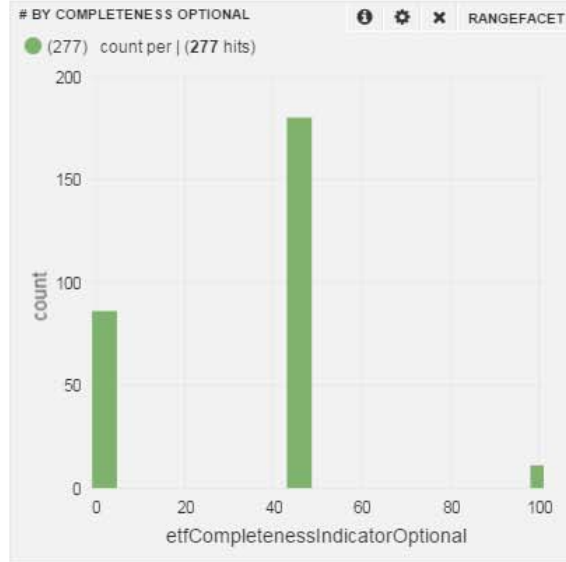
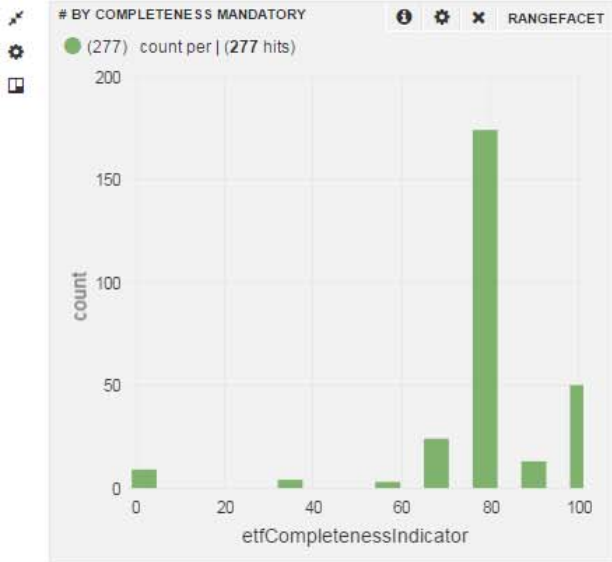
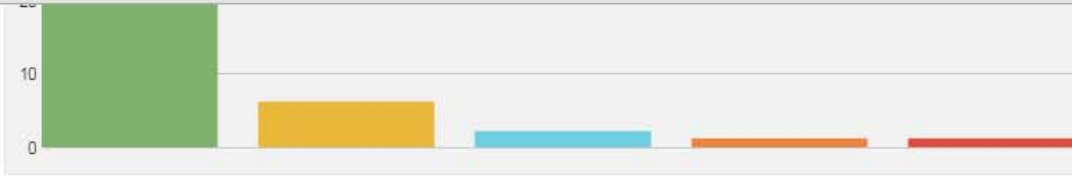


Organisation	Valid Services
Beheer PDOK	5
Royal Netherlands Meteorological Institute (KNMI)	3
Het Waterschapshuis	2
Rijksdienst voor het Cultureel Erfgoed	1
RDW	1

20:35 2-6-2016



completeness Indicator  
with caution



### Limit Your Search

- territory
- NL (277)
- inspireServiceType
- etflsValid
- OrgForResource
- inspireAnnex
- etfCompletenessIndicator
- inspireConformResource

SERVICE METADATA RECORDS (ONLY FIRST 100 RECORDS DISPLAYED)

1 to 10 of 100 available for paging

resourceTitle	OrgForResource	etfCompletenessIndicator	etfCompletenessIndicatorOptional	inspireConformResource	Report



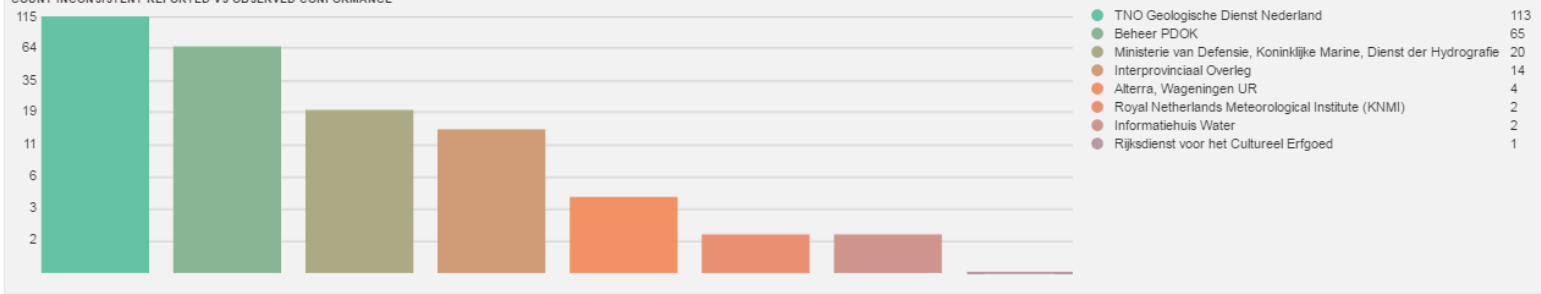
SERVICE METADATA RECORDS (ONLY FIRST 100 RECORDS DISPLAYED)

31 To 40 of 100 available for paging

resourceTitle ▶	Resource contact ▶	etfCompletenessIndicator ▲▶	etfCompletenessIndicatorOptional ▶	inspireConformResource ▶	Report
Gebieden in de Eemsmonding en de Dollard Downloadservice	Ministerie van Defensie, Koninklijke Marine, Dienst der Hydr...	35.71		true	<a href="#">Q</a>
Blokindeling Nederlands Continentaal Plat Downloadservice	Ministerie van Defensie, Koninklijke Marine, Dienst der Hydr...	35.71		true	<a href="#">Q</a>
KNMI view service for the network of observation stations in...	Royal Netherlands Meteorological Institute (KNMI)	40		true	<a href="#">Q</a>
Gebieden in de territoriale zee Downloadservice	Ministerie van Defensie, Koninklijke Marine, Dienst der Hydr...	42.86		true	<a href="#">Q</a>
GeoTOP - lagenmodel 22 Eem Formatie	TNO Geologische Dienst Nederland	50		true	<a href="#">Q</a>
TOP10NL WMS	Beheer PDOK	50		true	<a href="#">Q</a>
INSPIRE download service PDOK	Beheer PDOK	57.14		true	<a href="#">Q</a>
Kadastrale Percelen (INSPIRE geharmoniseerd) (WFS)	Beheer PDOK	57.14		true	<a href="#">Q</a>
Amplitude van het getij op de Noordzee Viewservice	Ministerie van Defensie, Koninklijke Marine, Dienst der Hydr...	60		true	<a href="#">Q</a>
INSPIRE View service voor Gebieden met natuurrisico's	Interprovinciaal Overleg	60		true	<a href="#">Q</a>

31 To 40 of 100 available for paging

COUNT INCONSISTENT REPORTED VS OBSERVED CONFORMANCE



Banana x Unit Test Results. x Unit Test Results. x

← → ↻ https://inspire-dashboard.eea.europa.eu/dashboard/etf-validation-reports/report-20160129170016640/index.html

Home

Packages

[DS Tests \(WFS 2.0.0 / ISO19142\) TG 3.1](#)

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Classes

[M-01 - PredefinedWFS](#)

[O-02 - DirectAccessWFS](#)

[TestSetup](#)

Unit Test Results.

Designed for use with [JUnit](#) and [Ant](#).

All Failures

Class	Name	Status	Type
<a href="#">M-01 - PredefinedWFS</a>	<a href="#">Query support - Mandatory</a>	Failure	<p>Cancelled due to failed test step</p> <p><b>DescribeStoredQueries Failed</b></p> <p>'[M-01.7]: DescribeStoredQueries does NOT contain a StoredQuery with parameters CRS/DataSetID/Language, to download'</p> <p>Full error message</p> <p><b>DescribeStoredQueries Failed</b></p> <p>[DescribeStoredQueries contains more StoredQueries (with parameters CRS/DataSetID/Language) besides GetFeatureById] XQuery Match Assertion failed for path [decl declare namespace gml="http://www.opengis.net/gml/3.2"; declare namespace ows="http://www.opengis.net/ows/1.1"; declare namespace fes="http://www.opengis.net/fes/2.0";</p> <pre>[M-01.7]: {   let \$query-/ows:DescribeStoredQueriesresponse/ows:StoredQueryDescription[id1="urn:ogc:def:query:OGC-WFS::GetFeatureById"]exists(/ows:Parameter[@name="CRS"])   return   if (exists(\$query))   then "DescribeStoredQueries contains more StoredQueries (with parameters CRS/DataSetID/Language) besides the StoredQuery GetFeatureById."   else "DescribeStoredQueries does NOT contain a StoredQuery with parameters CRS/DataSetID/Language, to download the entire INSPIRE dataset. Check the DescribeSto   }   } : exception.org.custommonkey.xmlunit.Diff   [different] Expected text value '[M-01.7]: DescribeStoredQueries contains more StoredQueries (with parameters CRS/DataSetID/Language) besides the StoredQuery Ge</pre>
<a href="#">M-01 - PredefinedWFS</a>	<a href="#">Mandatory INSPIRE GetCapabilities</a>	Failure	<p>Java.lang.NullPointerException</p> <p><b>GetCapabilities Failed</b></p> <p>'[M-01.28]: the referred dataset Metadata document does not seem to be ISO Metadata. It does not have an XML element gml:Metadata'</p> <p>Full error message</p> <p><b>GetCapabilities Failed</b></p> <p>[Simple Schema Validator] org.xml.sax.SAXException: Fatal error: org.xml.sax.SAXParseException; lineNumber: 1; columnNumber: 119; cvc-elt.1: Cannot find the de</p> <p><b>Req 42 (Scenario 1) ExternalServiceMetadata Failed</b></p> <p>[Metadata has ISO Metadata root element (gml:MD_Metadata exists)] XQuery Match Assertion failed for path [declare namespace gml="http://www.isotc211.org/2005/gml declare namespace cs="http://www.opengis.net/cat/csw/2.0.2";</p> <pre>[M-01.28]: {   let \$value-/gml:MD_Metadata   return   if (exists(\$value))   then "the dataset metadata has an ISO Metadata root element (gml:Metadata exists). URL: '{(url otest:replace("M", "O"))}'"   else "the referred dataset Metadata document does not seem to be ISO Metadata. It does not have an XML element gml:Metadata. Check the URL in the MetadataURL of   }   } : exception.org.custommonkey.xmlunit.Diff   [different] Expected text value '[M-01.28]: the dataset metadata has an ISO Metadata root element (gml:Metadata exists). URL: '' but was '[M-01.28]: the refer</pre>
<a href="#">O-02 - DirectAccessWFS</a>	<a href="#">Minimum XPath - Optional</a>	Failure	<p>Cancelled due to failed test step</p>

14:41  
4-2-2016

## Results

- Observed inconsistency between validation and reported conformity of services in the metadata, 80-20/20-80
- Most data providers/managers are not aware of that (service validation is a technical thing)
- Discussions about “how much validity” is needed but 80% is not equal to 80%!
- Increase of the service quality
- Request of managers to provide insight;  
- > At managers level, an organisation based dashboard



## Dashboard links

Dynamic dashboard :

[https://inspire-  
dashboard.eea.europa.eu/dashboard/#/](https://inspire-dashboard.eea.europa.eu/dashboard/#/)

Ask your INSPIRE reporter acces!

Every member state can use this!

Only thing to do is, to hit the button to start the harvesting and validation !

**But,**

If you prefer not to share the indicators and validation results with other Member States or organizations .....



The opensource version 1.0 is released

It can be download at:

<https://github.com/INSPIRE-MIF/daobs/releases>