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Metadata workshop

New rules and processes for metadata

Agenda

- Introduction
- Survey results
- Rationale behind metadata changes
- Activities related to metadata
 - Fixing links between data sets and services
 - Monitoring and reporting
 - New INSPIRE Geoportal harvesting console
 - Other relevant activities
- Summary

Introduction (1)

- The goal of this presentation is to inform about recently implemented, current and planned changes related to metadata
- The source of information:
 - Geoportal workshop in January 2019, Ispra (Italy)
 - Maintenance and Interoperability Technical Group (MIG-T) meeting in April 2019, Ispra (Italy)

Introduction (2)

- Geoportals workshop
 - 23-24.1.2019
 - 45 experts from 28 European countries
 - The workshop goal was to:
 - Improve Member States (MS) data sets accessibility via INSPIRE Geoportals by:
 - Presenting & clarifying Geoportals back-end system
 - Sharing JRC assessment of the MS feedback related to the description of the MS infrastructures in use
 - Presenting a new system for harvesting MS resources
 - Improving MS data sets usability
 - Plan future steps (operational aspects) and the way of collaborating with MS technical experts (Helpdesk, Forum, Virtual meetings..)
 - <https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/INSPIRE+Geoportals+Workshop>

Introduction (3)

- MIG-T meeting
 - 3-4.4.2019
 - The meeting goal was to discuss and agree on technical aspects related to INSPIRE implementation by MS
 - This presentation covers INSPIRE geoportal developments that were discussed during the meeting and are strongly related to metadata
 - <https://webgate.ec.europa.eu/fpfis/wikis/pages/viewpage.action?pageId=332217789>

MS Survey on the INSPIRE Geoportal workshop

- Launched in December 2018
- 31 answers received
- 1 reply per country
- Complete survey results available to download as a [presentation](#) and [individual MS responses](#)

Survey on the INSPIRE Geoportal Workshop for MS experts 23-24 January 2019

Fields marked with * are mandatory.

This survey is aimed at collecting technical information about the organization and management of the national/regional metadata catalogues in European MS and EFTA countries, in preparation of the Geoportal Workshop to be held at the JRC in Ispra on January 23-24, 2019. **that for each country the questionnaire is filled only once.**

* Which MS or EFTA country are you representing?

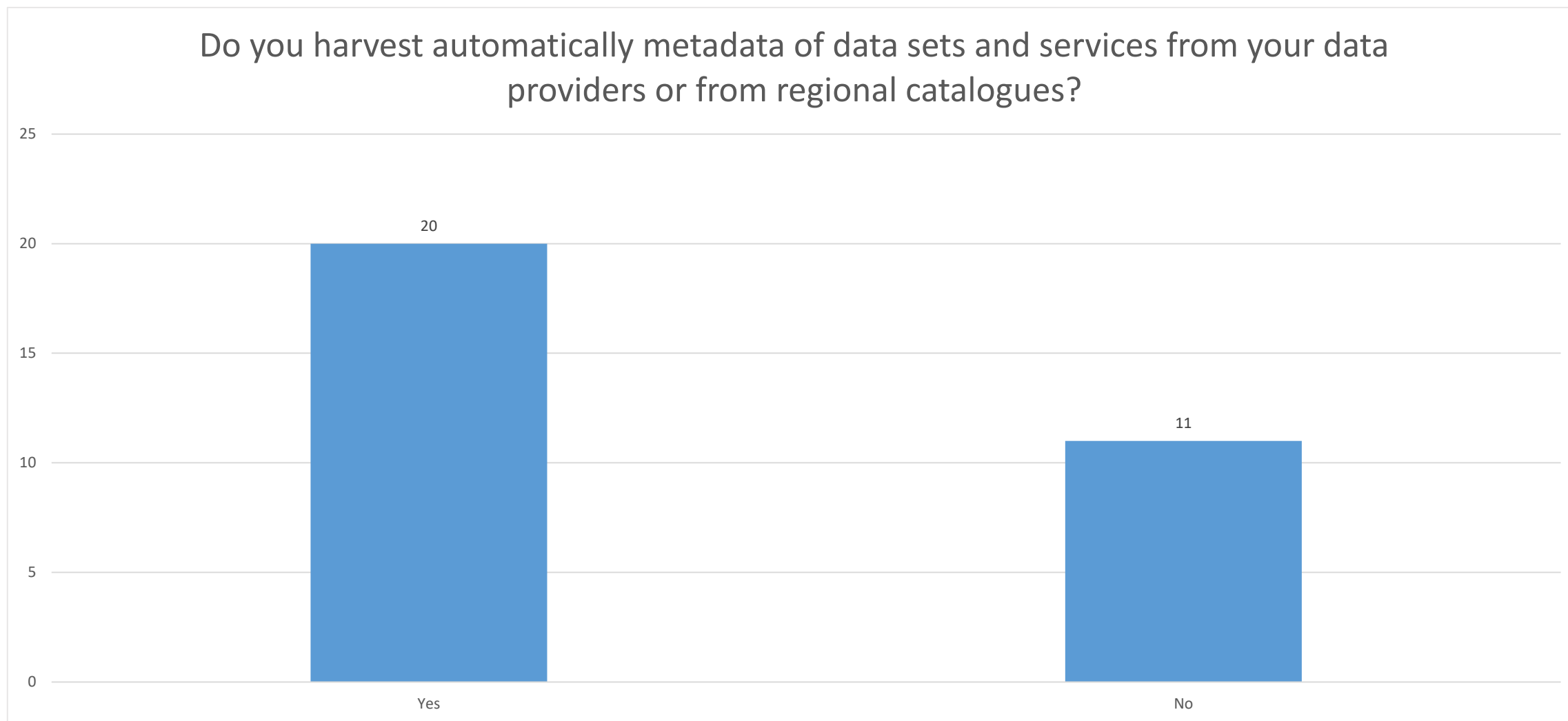
- | | | | |
|--------------------------------------|-------------------------------|-------------------------------------|---------------------------------------|
| <input type="radio"/> Austria | <input type="radio"/> Finland | <input type="radio"/> Latvia | <input type="radio"/> Portugal |
| <input type="radio"/> Belgium | <input type="radio"/> France | <input type="radio"/> Liechtenstein | <input type="radio"/> Romania |
| <input type="radio"/> Bulgaria | <input type="radio"/> Germany | <input type="radio"/> Lithuania | <input type="radio"/> Slovak Republic |
| <input type="radio"/> Croatia | <input type="radio"/> Greece | <input type="radio"/> Luxembourg | <input type="radio"/> Slovenia |
| <input type="radio"/> Cyprus | <input type="radio"/> Hungary | <input type="radio"/> Malta | <input type="radio"/> Spain |
| <input type="radio"/> Czech Republic | <input type="radio"/> Iceland | <input type="radio"/> Netherlands | <input type="radio"/> Sweden |
| <input type="radio"/> Denmark | <input type="radio"/> Ireland | <input type="radio"/> Norway | <input type="radio"/> Switzerland |
| <input type="radio"/> Estonia | <input type="radio"/> Italy | <input type="radio"/> Poland | <input type="radio"/> United Kingdom |

1. Technical description of your system use

Metadata Organization in your country

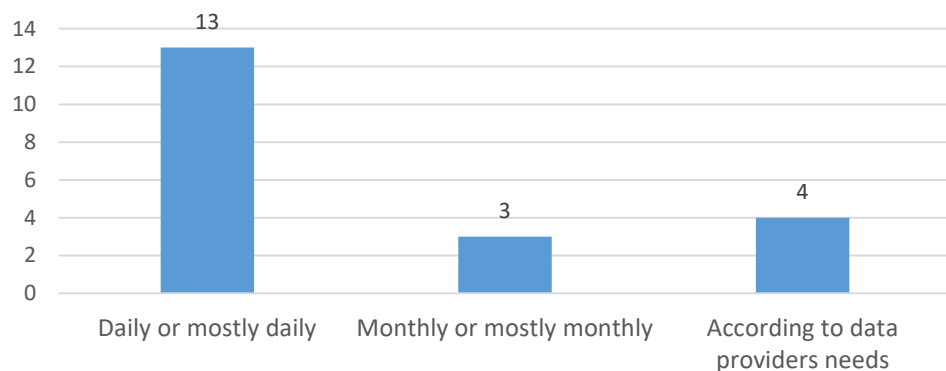
* 1. Do you harvest automatically metadata of data sets and services from your data providers or from regional catalogues?

Survey: MS Metadata organisation – harvesting mode

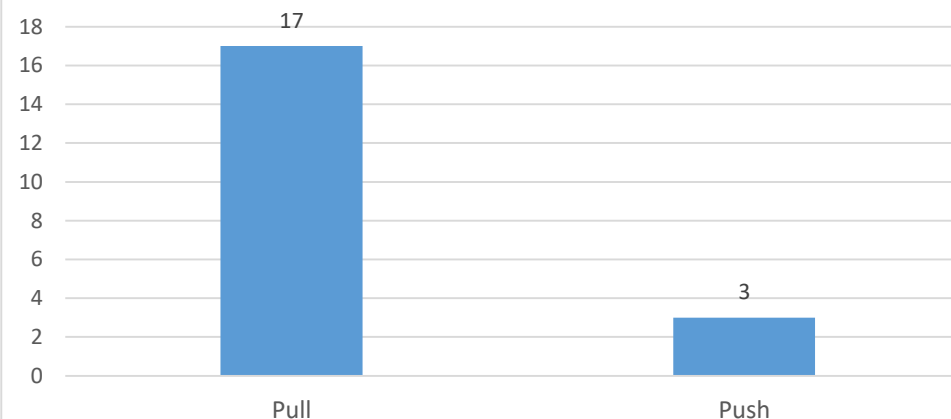


Survey: Metadata organisation – For those who do harvest automatically

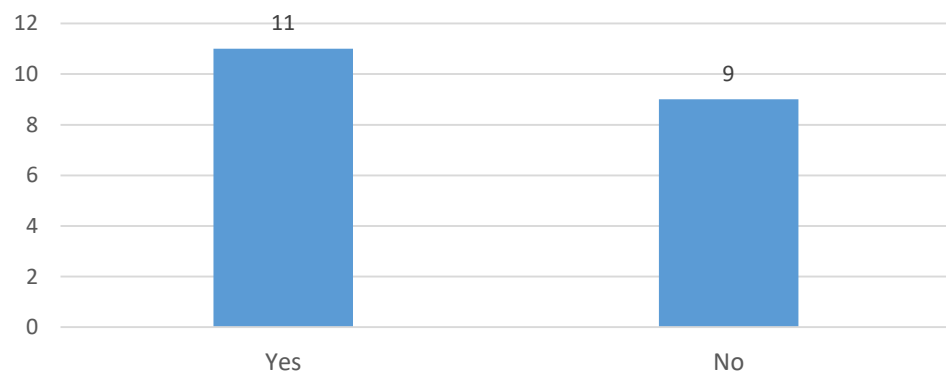
How often do you harvest metadata from your regional and data providers' catalogues?



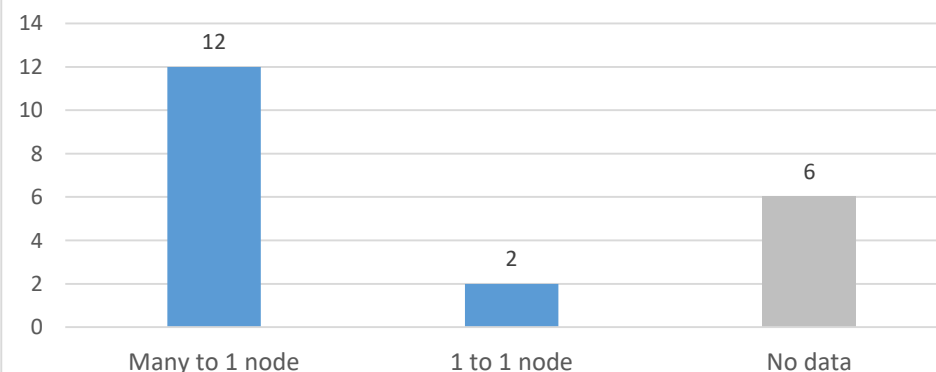
Do you use pull or push method for harvesting metadata?



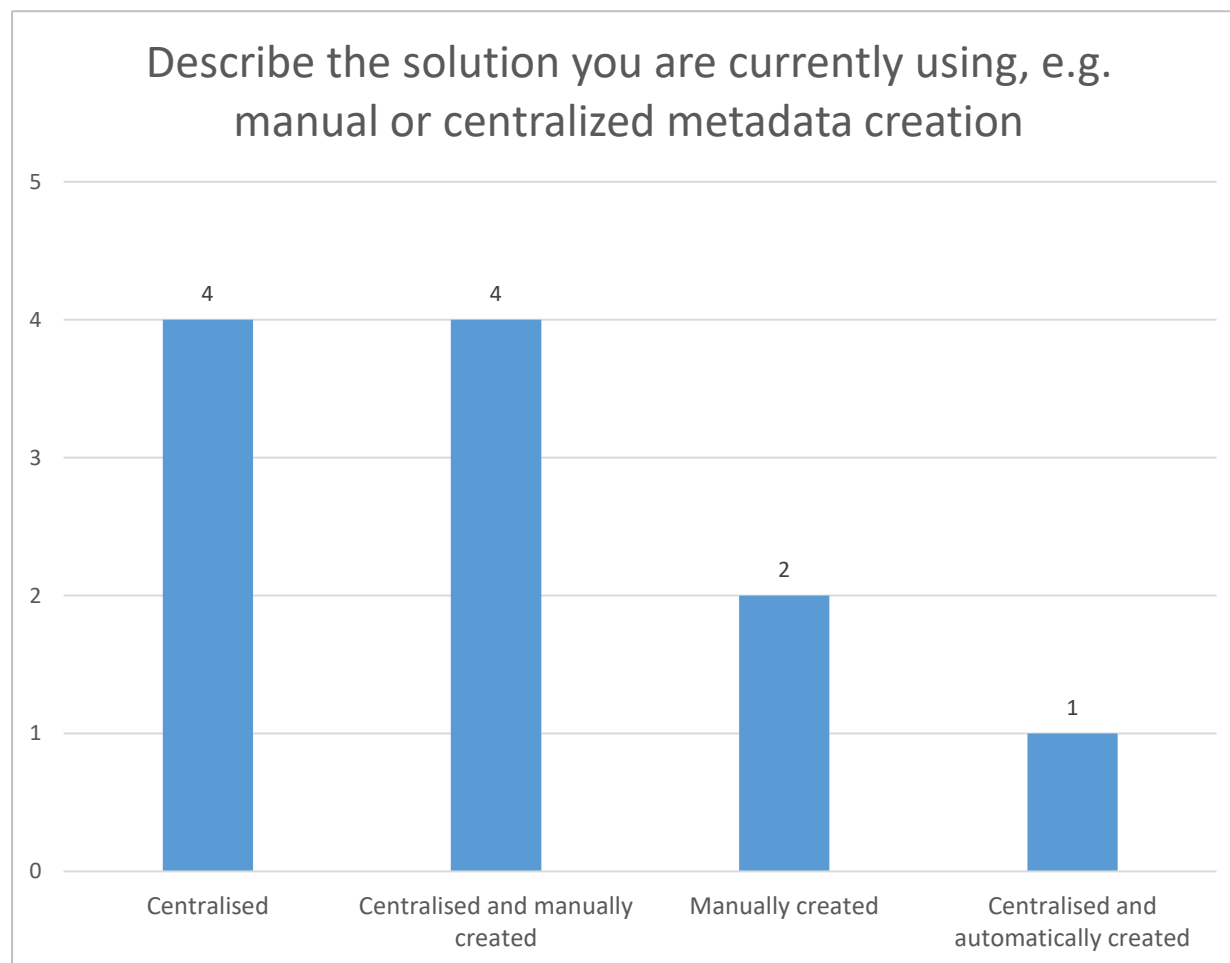
Have you implemented incremental updates to harvest metadata?



Provide a description of your implemented harvesting solution

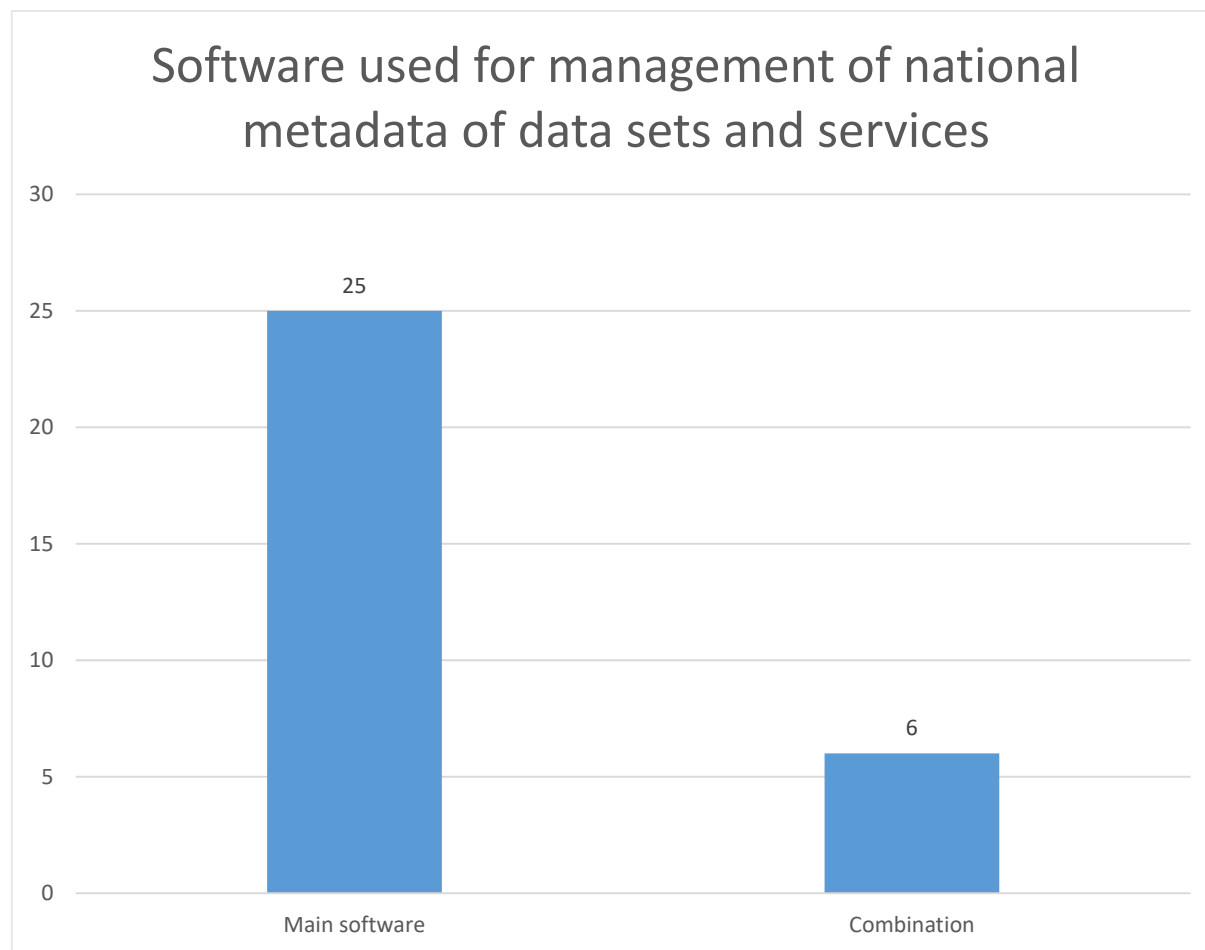


Survey: Metadata organisation – For those who do NOT harvest



- Reasons for manually creating MD centrally:
 - *“almost all the metadata are created by us (geoportal administrators) because **structure of metadata is quite complex for data providers and they often make mistakes, etc. So it is easier for use to create metadata for them.**”*
 - *“Harvesting process was done only once with the [***] agency for environment and nature but since **their metadata profile has some errors and is not completely compliant with INSPIRE implementing rules we had to manually correct the metadata.**”*

Survey: Software used for the management of metadata



Software(s) used	Total
Geonetwork	19
Geonetwork	15
Geoserver	2
CKAN	1
FME	1
ESRI Geoportal Server	8
ESRI Geoportal Server	6
Geonetwork	1
GEMA editor	1
MDE server	1
Metadata Editor (COTS/MOTS)	1
Micka	1
Micka	1
Own development	1
Own development	1
terraCatalog 3.0	1
terraCatalog 3.0	1
Grand Total	31

Some countries are planning:

- to move to Geonetwork
- upgrade their current Geonetwork's version

Survey: Metadata software versions used & main issues

Geonetwork Version	Total
2.X	5
2.6.4	1
2.10.1	1
2.10.4	2
2.11	1
3.X	14
3	2
3.0.2.0	2
3.2	3
3.2.2	1
3.4.1	1
3.4	1
3.4.2	2
3.4.3	2
Grand Total	19

Geoportal Server version	Total
1.2.5	2
1.2.7	1
2.5	1
No version indicated	4
Grand Total	8

- | | |
|-------------------------|---|
| Geonetwork | <ul style="list-style-type: none"> • Index issues - duplicated metadata • Download errors with stored query • Requires still too much manual operation on raw XML (<i>Tagging of priority datasets, resource linking</i>) • Doesn't drop off decimals of coordinates without rounding up • Opensearch document is not complete (missing information) • <i>Metadata editor doesn't produce 100% INSPIRE compliant metadata.</i> |
| Geoportal Server | <ul style="list-style-type: none"> • Not possible to import new thesaurus, code lists • Metadata anchor element not supported (<i>manually corrected metadata, is not valid for ESRI validator the file cannot be uploaded</i>) • Have to remain on an older version of Geoportal software as newer versions of CSW not allowed under INSPIRE technical guidelines |
| MDE Server | <ul style="list-style-type: none"> • Mix of issues with MD editor and harvesting process |

Rationale behind metadata changes

Usability improvement

- First of all for end users
- But also for data providers

INSPIRE Geoportal

- Launched on 18th of September 2018 during INSPIRE conference in Antwerp
- <http://inspire-geoportal.ec.europa.eu/>
- Provides easier, more intuitive access to a spatial data
- Top-down search approach
- Focusses on finding data sets rather than services

New INSPIRE Geoportal

- Top-down approach
 - Priority data sets
 - Country overview
 - Environmental domains
 - Environmental legislation
 - INSPIRE themes
 - Country overview
 - INSPIRE Data themes

The screenshot displays the INSPIRE Geoportal website. At the top, there is a navigation bar with the European Commission logo and the text 'INSPIRE GEOPORTAL Enhancing access to European spatial data'. Below this, there is a secondary navigation bar with links for 'Home', 'Priority Data Sets Viewer', 'INSPIRE Thematic Viewer', 'Harvesting status', and 'Find out more about'. The main content area is titled 'INSPIRE Thematic Viewer' and contains the following text: 'Explores INSPIRE data sets provided by EU Member States and EFTA countries. You can filter by spatial data theme (from Annex I, II and III) and country. The Thematic Viewer provides statistical overviews of data set availability as well as simplified access to view or download selected data sets.' Below this text, there are two boxes for browsing data sets: 'Country overview' (Availability of INSPIRE data sets grouped by individual EU & EFTA countries) and 'INSPIRE Data Themes' (Availability of INSPIRE data sets grouped by INSPIRE data themes). A large blue 'DEMO' watermark is overlaid on the center of the page.

Discrepancies between number of datasets and number of network services

Select a COUNTRY

Austria	552 381 299	Finland	572 43 47	Latvia	135 2 4	Portugal	610 104 206
Belgium	553 175 399	France	39328 845 10118	Liechtenstein	59 9 11	Romania	113 23 27
Bulgaria	166 0 0	Germany	29978 10090 10478	Lithuania	60 9 11	Slovakia	232 8 12
Croatia	114 5 5	Greece	57 56 57	Luxembourg	197 192 163	Slovenia	95 7 8
Cyprus	42 27 0	Hungary	109 1 1	Malta	157 129 151	Spain	218 142 150
Czech Republic	149 34 91	Iceland	147 7 0	Netherlands	198 116 124	Sweden	297 26 113
Denmark	220 24 25	Ireland	54 4 0	Norway	220 33 8	Switzerland	208 2 0
Estonia	76 13 23	Italy	20184 0 368	Poland	32148 95 12	United Kingdom	20776 62 174

* Data acquired on 7th of May 2019

Causes of discrepancies between number of datasets and number of network services

It can be caused by many reasons:

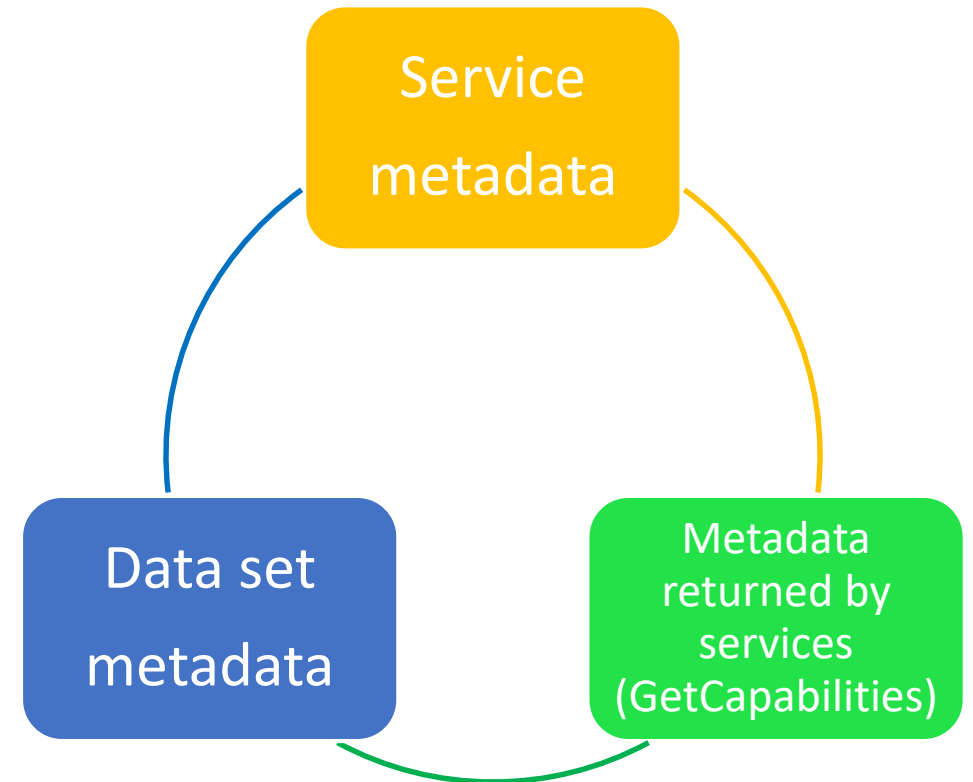
- Many data sets published by one service
- Data sets are not published -> lack of services publishing data sets
- **Broken links between data sets and network services**

The broken links issue was identified at [INSPIRE KEN validation workshop](#) in 2016



Broken links

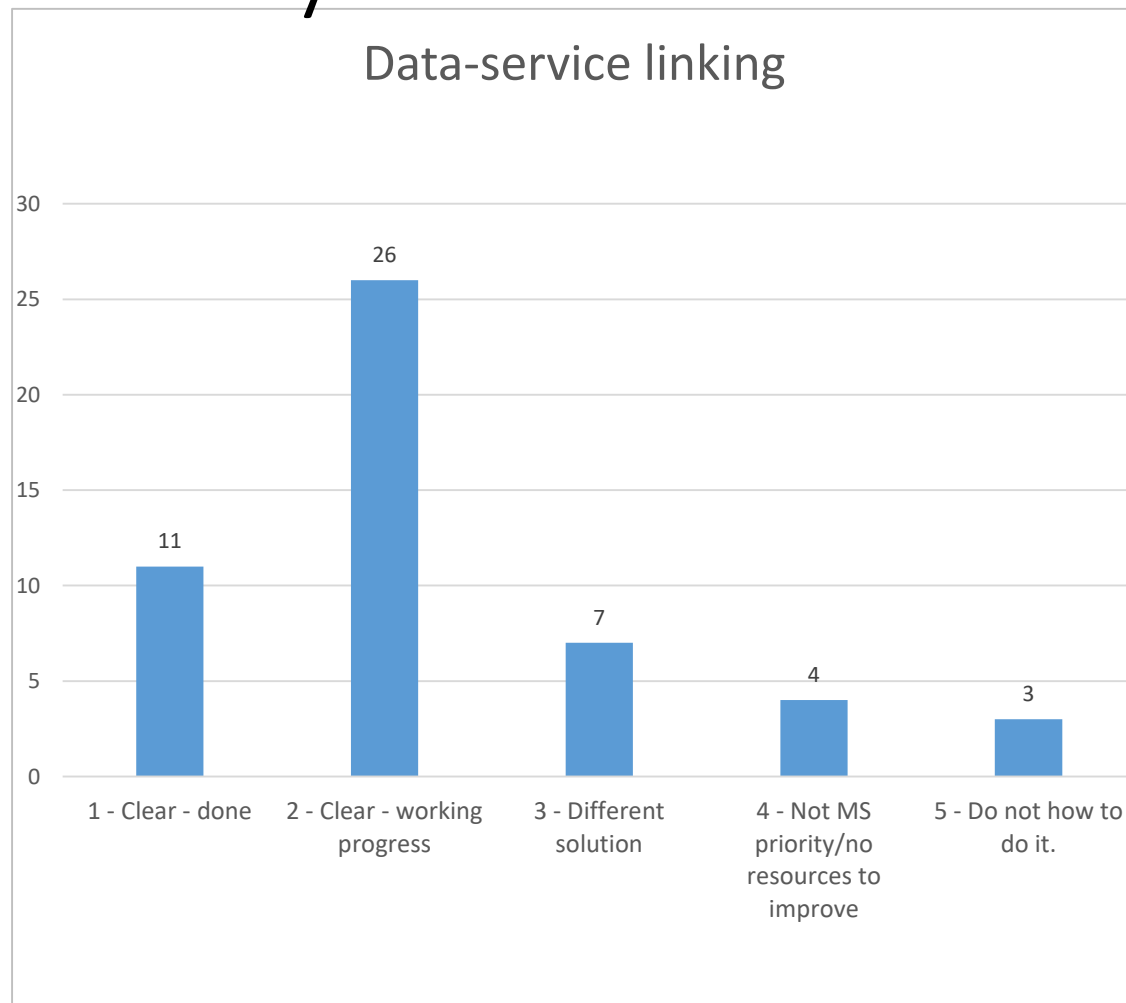
- Links between the data set and the service metadata harvested from the national discovery services as well as on the service metadata that can be obtained from the network services through their Get View/Download Service Metadata



What has been done to solve broken links issue?

- JRC provided:
 - The background document [Geoportal workflow for establishing links between data sets and network services](#)
 - [Individual report per country with resource linking issues + examples of good metadata – services linking](#)
 - January workshop was organised to further explain activities in this area
 - „Softening” data-service harvesting checker
 - JRC developed Resource Linking Testing Tool
 - Allows data providers to check whether the necessary linkages between MD – Services (View – Download) resources are provided correctly / consistently
 - Eliminates/reduces the use of the Geoportal harvesting as a testing environment.
 - Goes through internal security checks – should be available till 31st of May

Survey: Data set - service linking

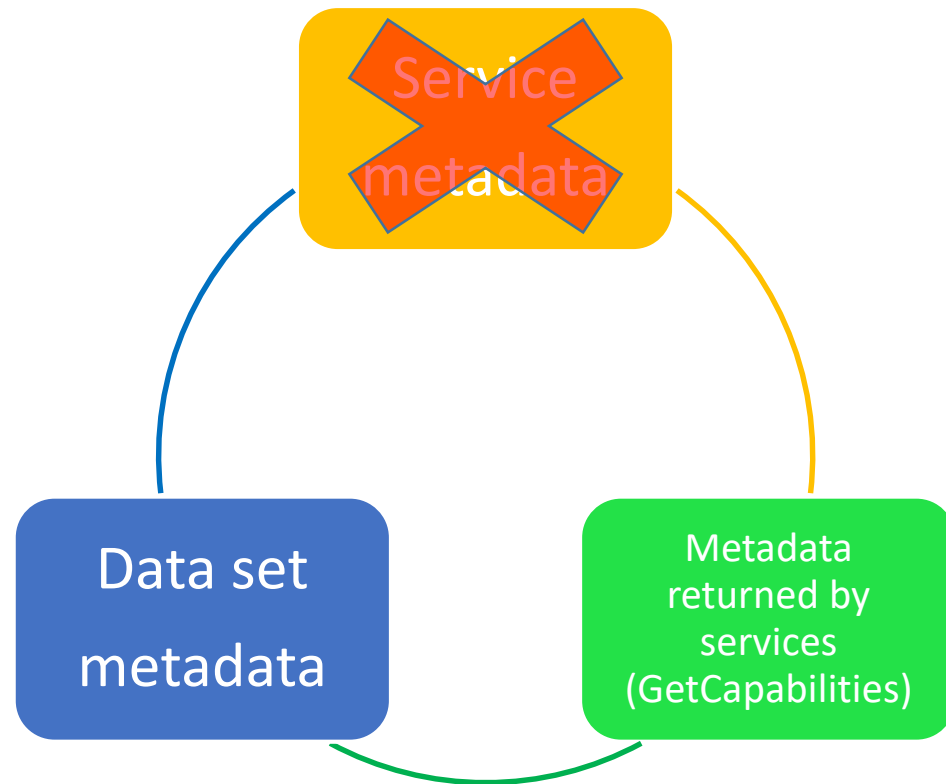


Additional information:

- New national projects to improve (4)
- National workshops/webinars upcoming (3)
- Correct links only for harmonized INSPIRE datasets (2)
- There is still a value in providing only MD for datasets without services (2)
- Due to the WFS problems – ATOM feed only (2)
- + Technical issues (missing extended capability for WFS, WFS 2.0 generation, WFS Stored queries..) related to the use of various SW packages

The majority of MSs INSPIRE coordinators know - how to set up the correct links between data and services. The controlling and updating of MD of National “resources” is on-going activity.

Plans for further simplification of data set and service linking



- Pros
 - Less metadata to maintain
 - Less complex implementation
- Cons
 - Necessity to update mainly metadata returned by view/download services

Plans for further simplification of data set and service linking

- [Draft document](#) describing the change proposal has been developed by JRC
- The change proposal was endorsed by MIG-T
- Technical details are being developed
- Volunteered countries (CY, CZ, EL, ES, FR, IT, LT, NL, PL, SE, SK) work on example implementations
- Initial plan was to finish the activity by the end of 2019
- MS will have a transition period (2 years?) to implement the changes

Monitoring and Reporting

- Dedicated INSPIRE KEN webinar
<https://eurogeographics.org/calendar-event/inspire-ken-webinar-news-on-inspire-monitoring-and-reporting-2019/>
- From 2020 metadata driven approach
 - Information collected from the metadata (for monitoring and part of reporting)
 - Plan is to harvest metadata once a year and calculate indicators automatically
- New metadata tagging
 - priority data sets
 - spatial scope

Metadata tagging - priority data sets

- Main goal was to develop a list of datasets related to environmental reporting
- INSPIRE Registry was updated with priority data sets controlled vocabulary <http://inspire.ec.europa.eu/metadata-codelist/PriorityDataset>
- [Encoding guidelines](#) have been developed for Metadata TG 2.0 and 1.3
- Consequently, properly tagged priority data sets can be identified
- European Commission opened infringement procedure against 4 EU countries over lack of priority data sets tags in metadata

Metadata tagging – spatial scope

- Main goal was to better identify spatial scope of a data set in metadata
- INSPIRE Registry was updated with spatial scope controlled vocabulary <http://inspire.ec.europa.eu/metadata-codelist/SpatialScope>
- Vocabulary contains 5 keywords values. However, only 2 (national, regional) are planned to become mandatory
- Discussion in some countries how to differentiate (especially between regional and local)

Previous metadata harvesting approach

Limited MS control when metadata was to be harvested by INSPIRE geoportal from national metadata catalogues

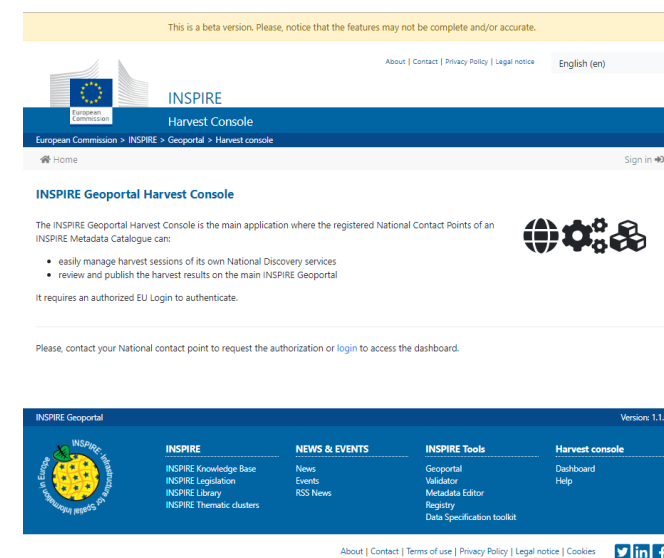
Metadata records were harvested sometimes when national infrastructure was not fully operational

Some metadata may be missing in INSPIRE geoportal

Harvesting console (1)

Main features:

- Available for MS **national catalogue admins**
- **Provides** full MS control of the harvesting process including its initiation, monitoring/reviewing and publishing of harvested MD
- **Supports** MS with indications of concrete MD records with possible errors found e.g. missing resource linkages
- **Reduces** the number of requests from MS for the ad-hoc harvesting.
- <http://inspire-geoportal.ec.europa.eu/harvestconsole>



The screenshot shows the INSPIRE Geoportal Harvest Console interface. At the top, there is a yellow banner stating "This is a beta version. Please, notice that the features may not be complete and/or accurate." Below this, the European Commission logo and the INSPIRE logo are visible. The page title is "Harvest Console" and the breadcrumb trail is "European Commission > INSPIRE > Geoportal > Harvest console". The main content area features the heading "INSPIRE Geoportal Harvest Console" and a description: "The INSPIRE Geoportal Harvest Console is the main application where the registered National Contact Points of an INSPIRE Metadata Catalogue can:". A list of features includes "easily manage harvest sessions of its own National Discovery services" and "review and publish the harvest results on the main INSPIRE Geoportal". It also notes that it requires an authorized EU Login to authenticate. A footer section contains navigation links for "INSPIRE" (Knowledge Base, Legislation, Library, Thematic clusters), "NEWS & EVENTS" (News, Events, RSS News), "INSPIRE Tools" (Geoportal, Validator, Metadata Editor, Registry, Data Specification toolkit), and "Harvest console" (Dashboard, Help). The version number "Version: 1.1.0" is displayed in the bottom right corner.



This is a beta version. Please, notice that the features may not be complete and/or accurate.

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English (en) ▼



INSPIRE

Harvest Console

[European Commission](#) > [INSPIRE](#) > [Geoportal](#) > [INSPIRE Geoportal Harvest console](#) > [Dashboard](#)

[Home](#) [Dashboard](#)

User: ngrudzma [Sign out](#)

Dashboard

Welcome **Marcin GRUDZIEN**, here you can manage the Discovery endpoints registered for your country/organization.

Discovery services

Country ↑↓	Discovery Service endpoint	Responsible organizations	Last successful execution	Actions	Status
PL	PL_GOV - Geoportal - Polska Usługa Wyszukiwania INSPIRE	Centralny Ośrodek Dokumentacji Geodezyjnej i Kartograficznej	Fri Apr 12 2019 14:06:22 GMT+0200 (czas środkowoeuropejski letni) Check last report	Schedule a new harvest	▶ Ready

Showing 1 to 1 of 1 entries

* The time and date provided are based on an automatic estimation. The calculation is based on previous elapsed times. The estimation provided is purely indicative and may not be realistic.



INSPIRE

Harvest Console

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English (en)

European Commission > INSPIRE > Geoportal > INSPIRE Geoportal Harvest console > Dashboard

Home Dashboard

User: ngrudzma Sign out

Dashboard

Welcome **Marcin GRUDZIEN**, here you can manage the Discovery endpoints registered for your country/organization.

Discovery services

DEMO

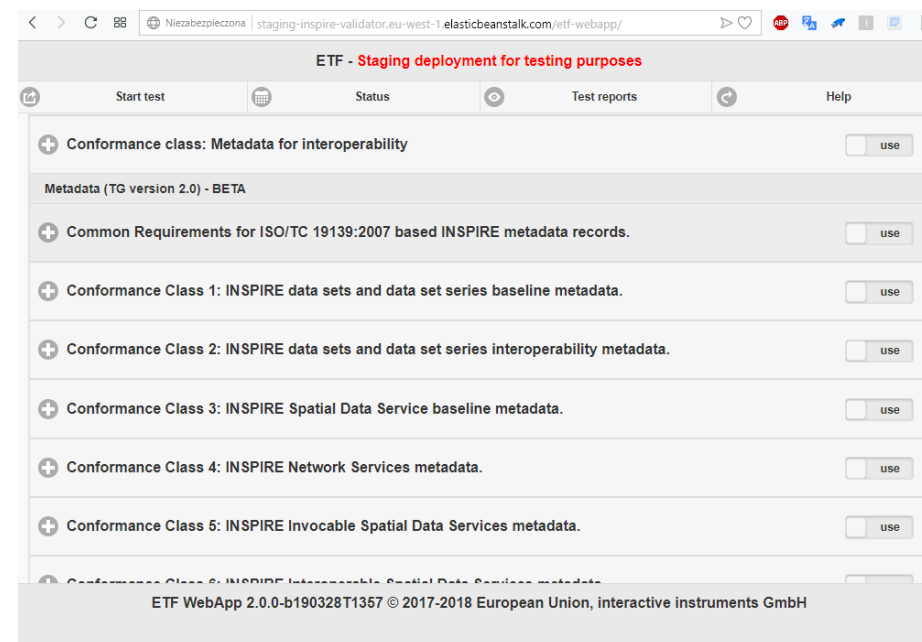
Country	Discovery Service endpoint	Responsible organizations	Last successful execution	Actions	Status
PL	PL_GOV - Geoportal - Polska Usługa Wyszukiwania INSPIRE	Centralny Ośrodek Dokumentacji Geodezyjnej i Kartograficznej	Thu May 09 2019 14:55:50 GMT+0200 (czas środkowoeuropejski letni) Check last report	Check and publish Schedule a new harvest	Pending publish

Showing 1 to 1 of 1 entries

* The time and date provided are based on an automatic estimation. The calculation is based on previous elapsed times. The estimation provided is purely indicative and may not be realistic.

Other relevant info (1)

- INSPIRE reference validator developments
 - Cloud staging instance available at <http://staging-inspire-validator.eu-west-1.elasticbeanstalk.com/etf-webapp/>
 - Supports among others
 - Metadata v. TG 2.0
 - Tests are still ongoing



Other relevant info (2)

- Plans for new features of INSPIRE Geoportal (June/July 2019)
 - Support of metadata TG 2.0 in INSPIRE Geoportal
 - Automatic translation of metadata (already available for title and abstract)
- Plans for new features of INSPIRE Geoportal (October 2019)
 - Monitoring indicators available
 - Better integration with the reference validator
- Discussion about improving usability – make licensing more homogeneous
 - Initial studies to harmonise identification of open data and licensing information in metadata

Summary

- EC focuses on improving data sets - service links
 - In a current technical and legal framework
 - However, this framework is likely to change in order to further simplify linking
- New code lists for e-reporting
- New harvesting console for national catalogue admin
- Other relevant changes
 - Reference validator
 - INSPIRE Geoportal
 - Usability improvements



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Thank you

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References

- Tomas Robert, Hernandez Lorena (2019) Results from the member States feedback to the survey https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/324049586/GeoportalWorkshop_SurveyResults.pdf?version=1&modificationDate=1549033539587&api=v2 accessed on 2019.05.07
- Tomas Robert (2019) https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/INSPIRE+Geoportal+Workshop?preview=/324049586/324050092/GeoportalWorkshop_SurveyResults_Session_1.pdf accessed on 2019.05.07
- Lutz Michael (2019) New approach for Data-service linking <https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/INSPIRE+Geoportal+Workshop?preview=/324049586/324049867/Geoportal-WS%20Jan-2019%20Simplification%20of%20data-service%20linking.pdf> accessed on 2019.05.07
- Tomas Robert, (2019) INSPIRE Geoportal https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/INSPIRE+Geoportal+Workshop?preview=/324049586/324049729/INSPIRE%20Geoportal%20WS%20_ Objectives.pdf accessed on 2019.05.07
- Nathalie Delattre (2019) Monitoring & Reporting 2019 Some news on future changes https://eurogeographics.org/wp-content/uploads/2019/03/Nathalie_INSPIRE_MR_NEWS.pdf accessed on 2019.05.17
- Conclusions from 2016 INSPIRE KEN workshop from producer's point of view (2016)