



# Results from the member States feedback to the survey

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Workshop on the INSPIRE Geoportal  
Ispra, 23-24 January 2019

Joint Research Centre

The European Commission's science and knowledge service



# Introduction

- Survey “[Survey on the INSPIRE Geoportal Workshop for MS experts 23-24 January 2019](#)”
- Divided into three main sections:
  - 1. Technical description of your system use
  - 2. Organizational description of your system use
  - 3. Improvement of the Geoportal
- Background documents provided
  - Geoportal workflow for establishing links between data sets and network services (PDF)
  - Individual report per country with resource linking issues
- Launched in December 2018
- 31 answers received (except for Bulgaria)
- 1 reply per country except for Belgium (2 😊)

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 n European MS and EFTA countries, in preparation of the Geoportal Workshop to be held at the JRC in Ispra on January 23-24, 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

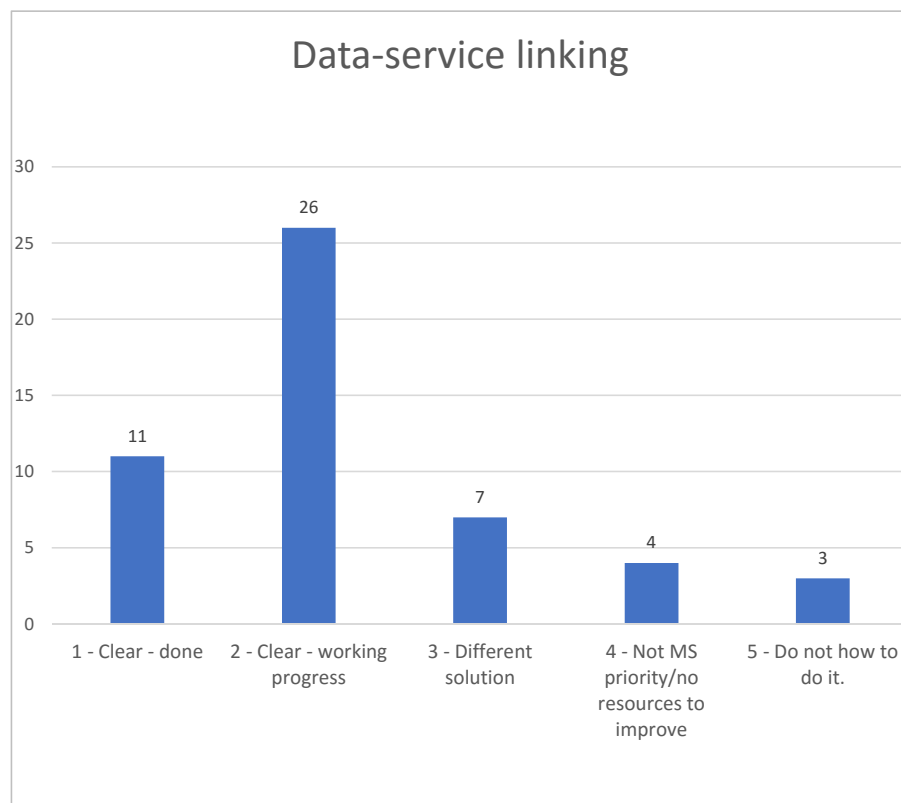
\* 1. Do you harvest automatically metadata of data sets and services from your data providers or from regional catalogues?



# 1

Organizational description of your  
system use  
**Resource linking**

# Data/service linking

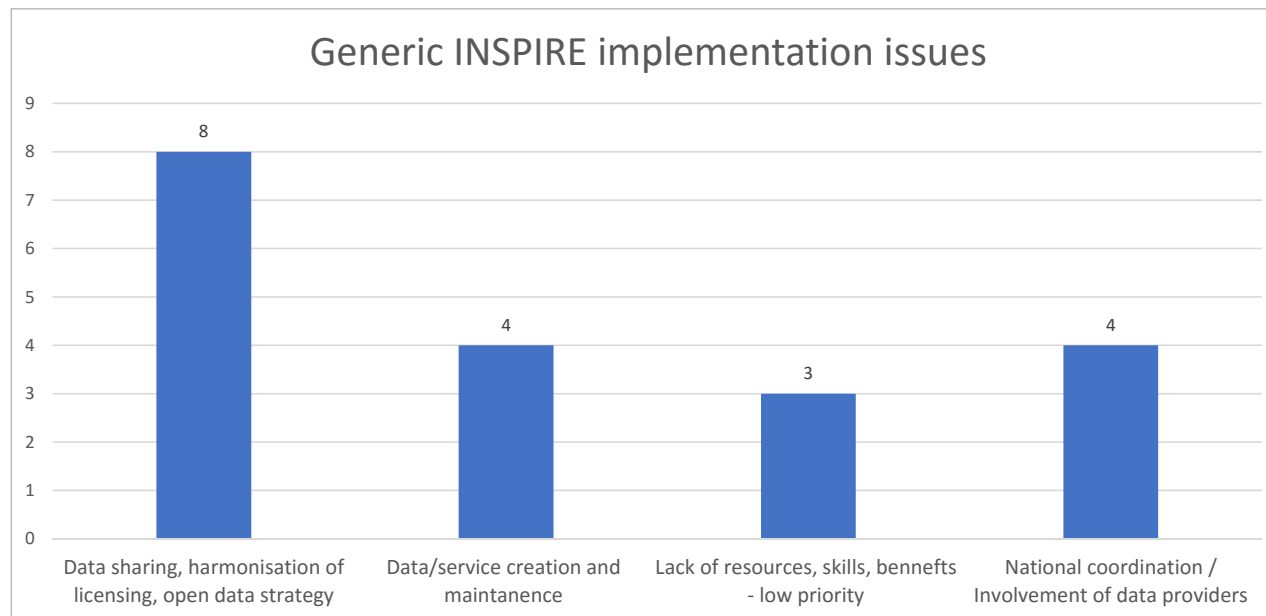


## Additional information:

- New national projects to improve (4)
- National workshops/webinars upcoming (3)
- JRC doc. on Geoportal data/service linking not clear only for (1)
- 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.

# General issues with implementing INSPIRE



## Additional information:

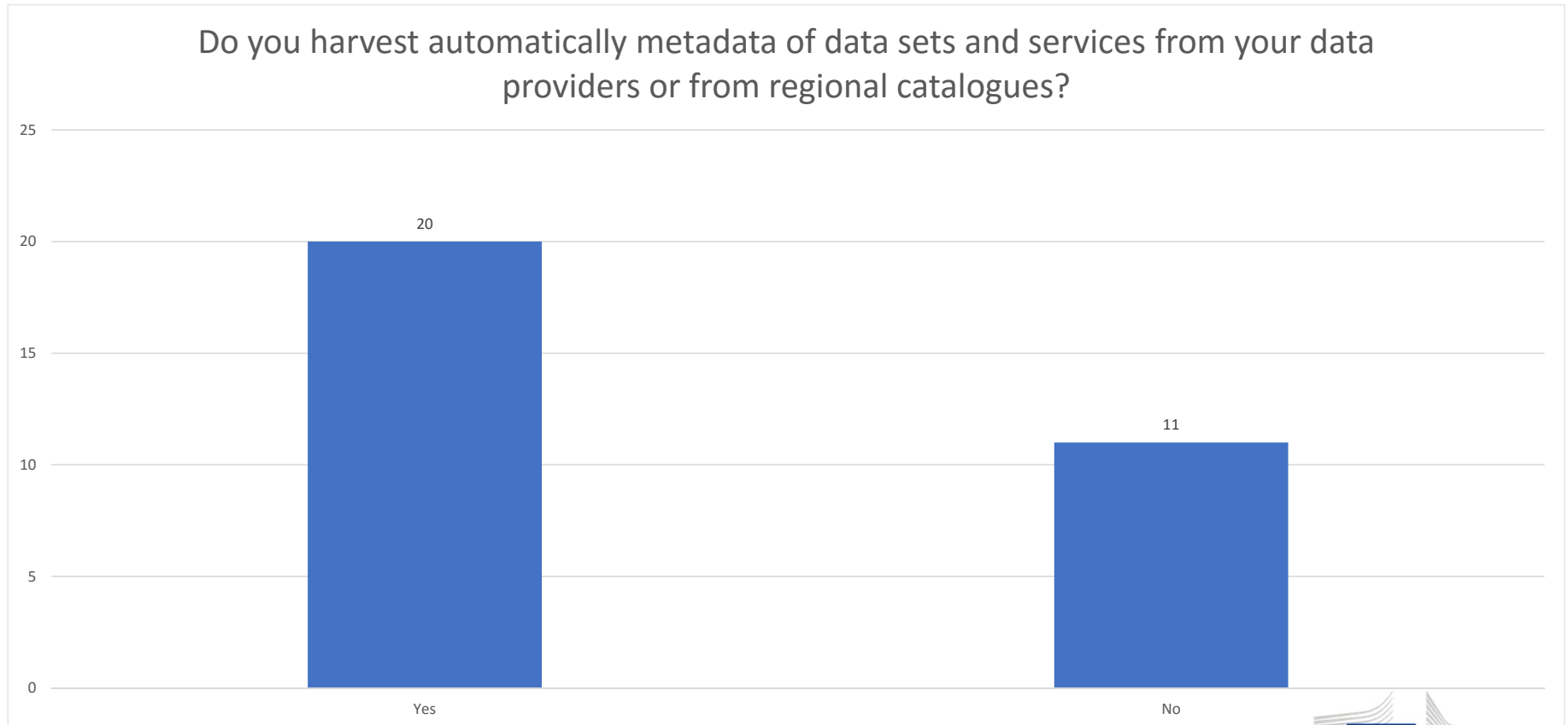
- Competition with other Regulations e.g. e-Reporting
- Semantic Interoperability – heavy load
- Complex “business” calculations
- Data at “zero cost” = not priority for publishing

Any suggestions on how to raise the priority at MS (Data providers) for INSPIRE implementation?  
Could data/service creation and maintenance issue be solve/partially by not using INSPIRE infrastructure exclusively?

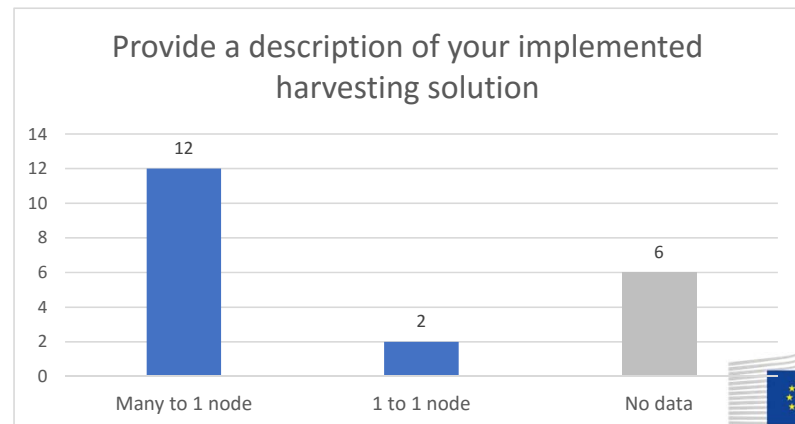
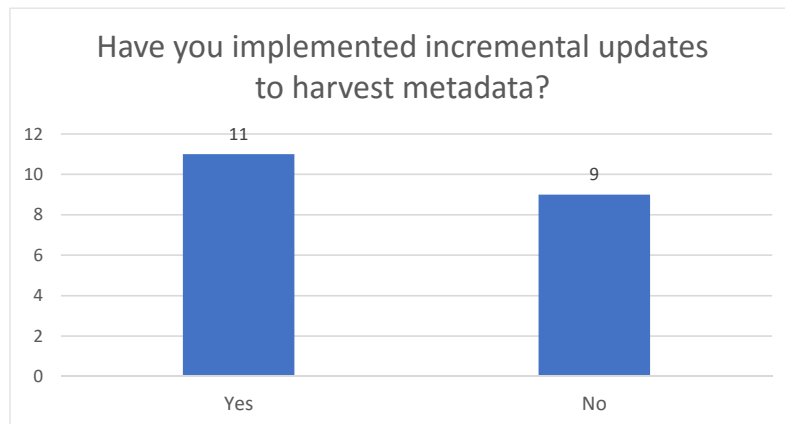
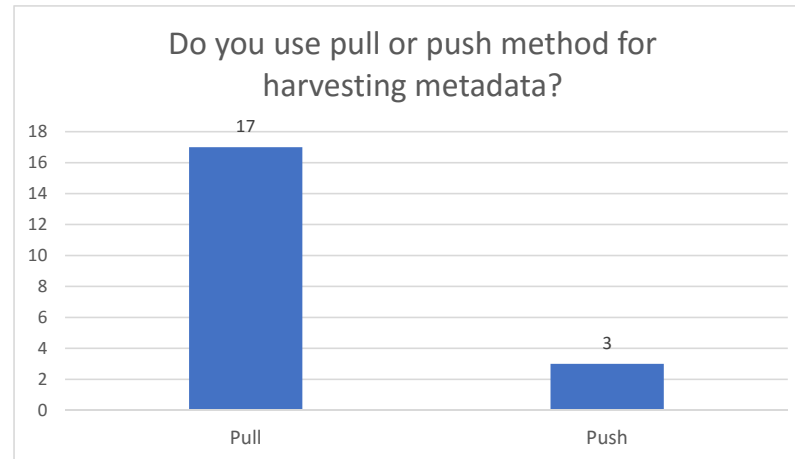
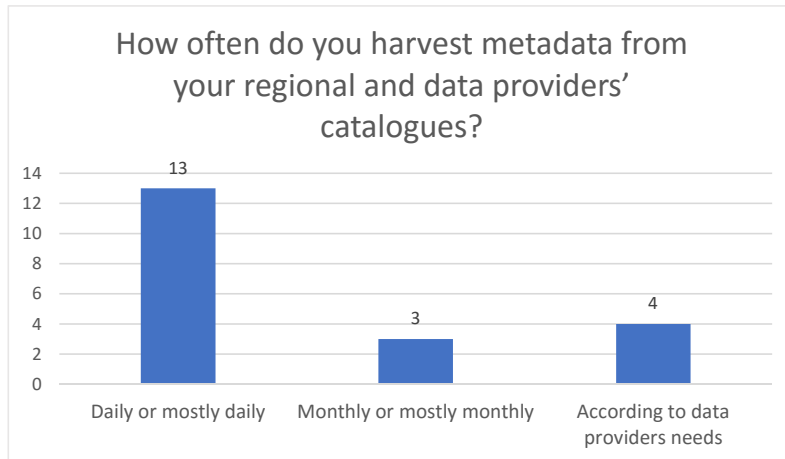
# 2

Description of Member States  
**Metadata & Network services'**  
systems in operation

# Metadata organisation – harvesting mode



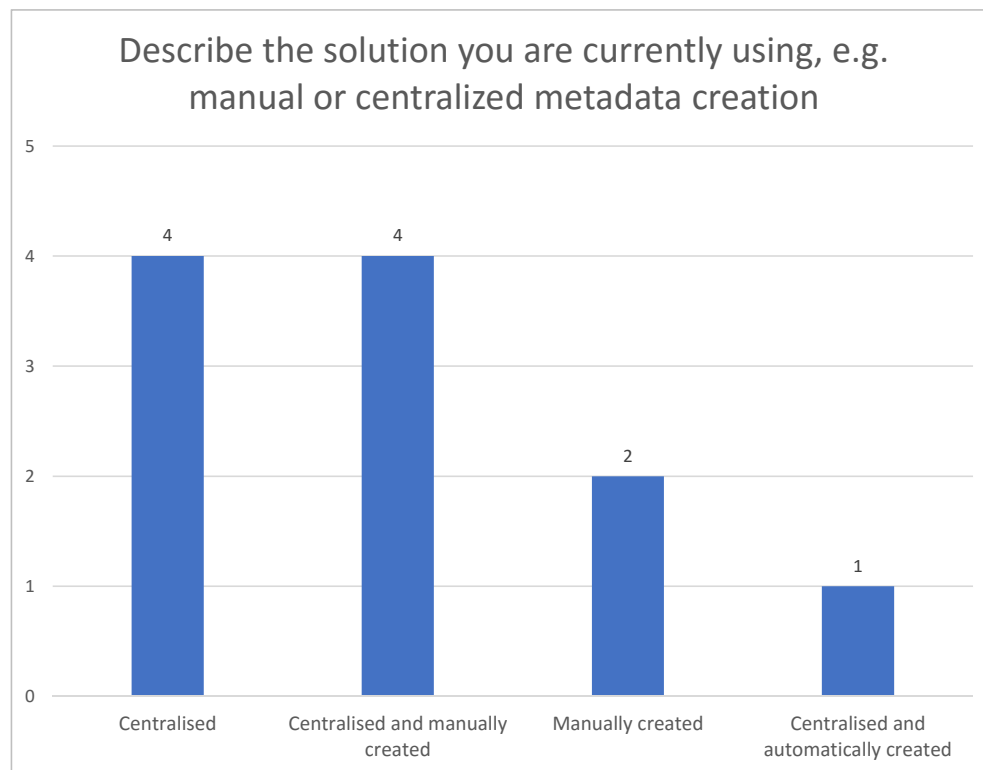
# Metadata organisation – For those who **do** harvest automatically



- Different catalogues interfaces are often supported:
  - CSW
  - Webdav (WAF)
- Reporting and approval system for publication often put in place.

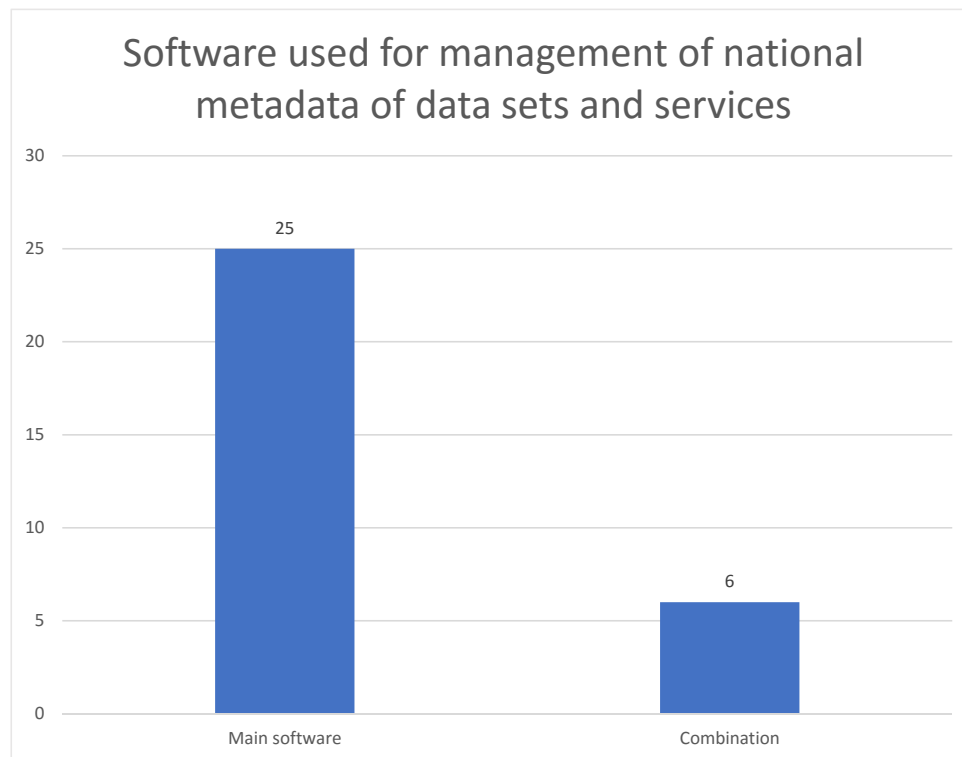


# Metadata organisation – For those who **do NOT** harvest



- 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.**”*

# Software used for the management of metadata



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

Some countries are planning:

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

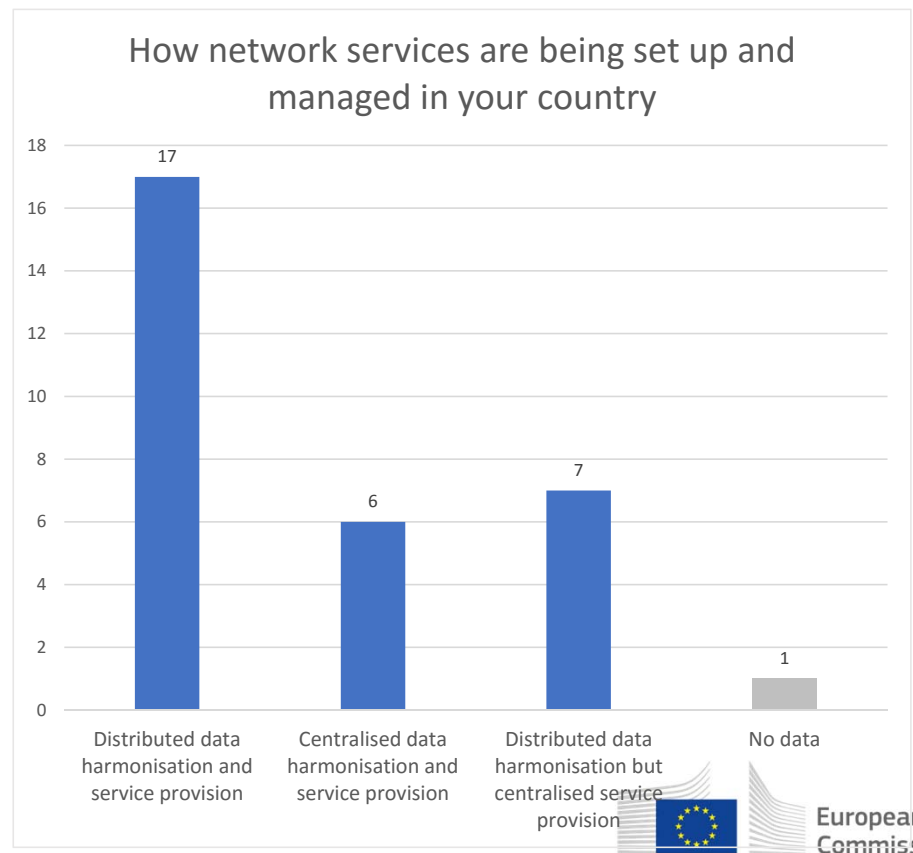
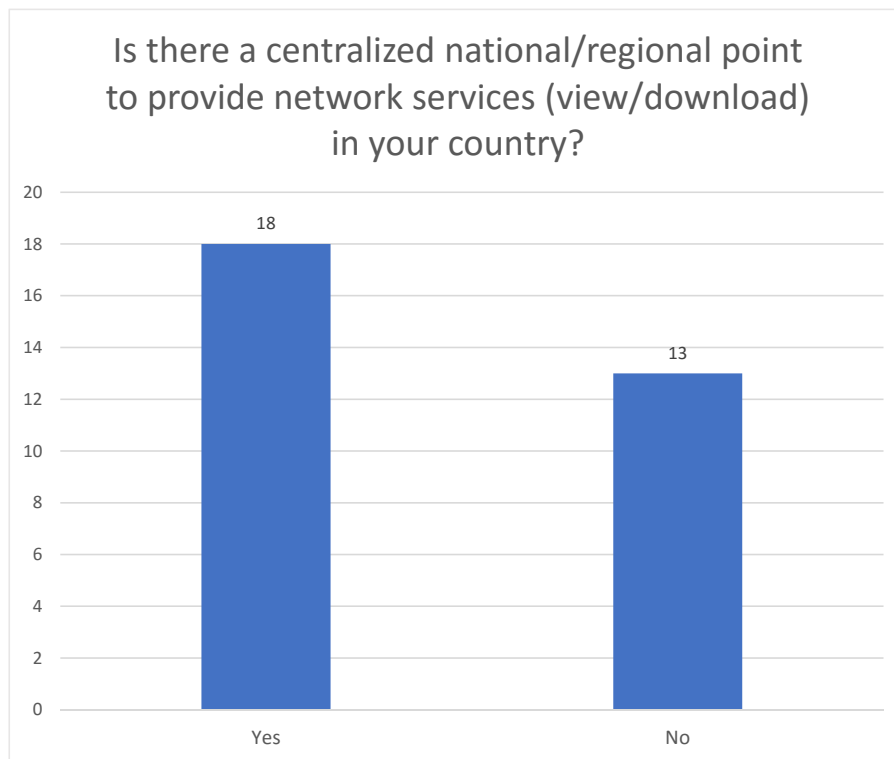
# Metadata software versions used & main issues

Geonetwork Version	Total
<b>2.X</b>	<b>5</b>
2.6.4	1
2.10.1	1
2.10.4	2
2.11	1
<b>3.X</b>	<b>14</b>
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
<b>Grand Total</b>	<b>19</b>

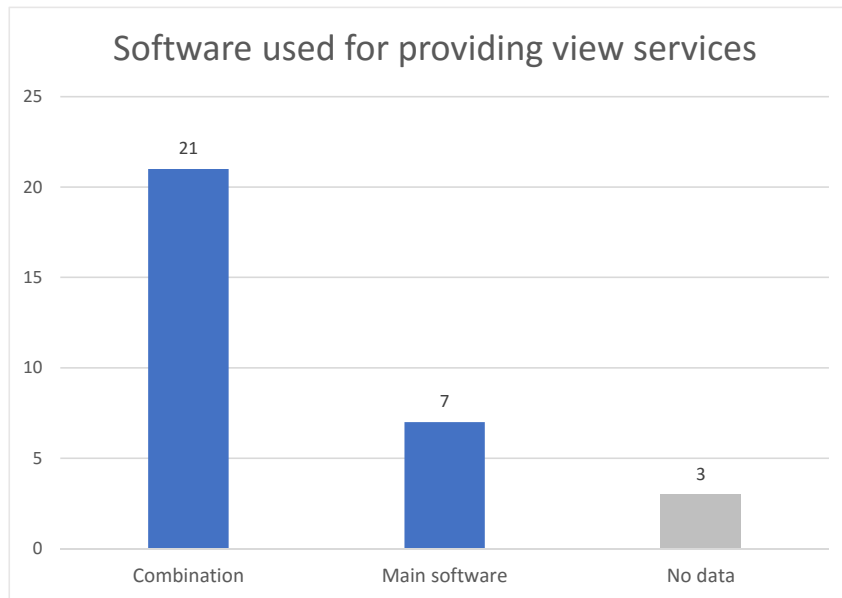
Geoportal Server version	Total
1.2.5	2
1.2.7	1
2.5	1
No version indicated	4
<b>Grand Total</b>	<b>8</b>

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

# How **network services** are being set up and managed in your country



# Software used for providing **view services**



Trend of replacing commercial software with open source software

Software(s) used	Total
<b>Geoserver</b>	<b>12</b>
Mapserver	5
ESRI ArcGIS Suite	5
Geoserver	1
FME Server	1
<b>ESRI ArcGIS Suite</b>	<b>10</b>
ESRI ArcGIS Suite	5
Geoserver	2
Intergraph	1
Deegree	1
Geomedia, Erdas Apollo	1
<b>Mapserver</b>	<b>4</b>
Geoserver	2
Mapserver	1
ESRI ArcGIS Suite	1
<b>No data</b>	<b>3</b>
No data	3
<b>Deegree</b>	<b>1</b>
Geoserver	1
<b>Mapproxy</b>	<b>1</b>
Geoserver	1
<b>Grand Total</b>	<b>31</b>

# View services software versions used & main issues

Geoserver Version	Total
2.14	1
2.13	1
2.12.1	1
2.12	1
2.10	1
2.8.4	1
2.8	1
2.5.2	1
No version indicated	14
<b>Grand Total</b>	<b>22</b>

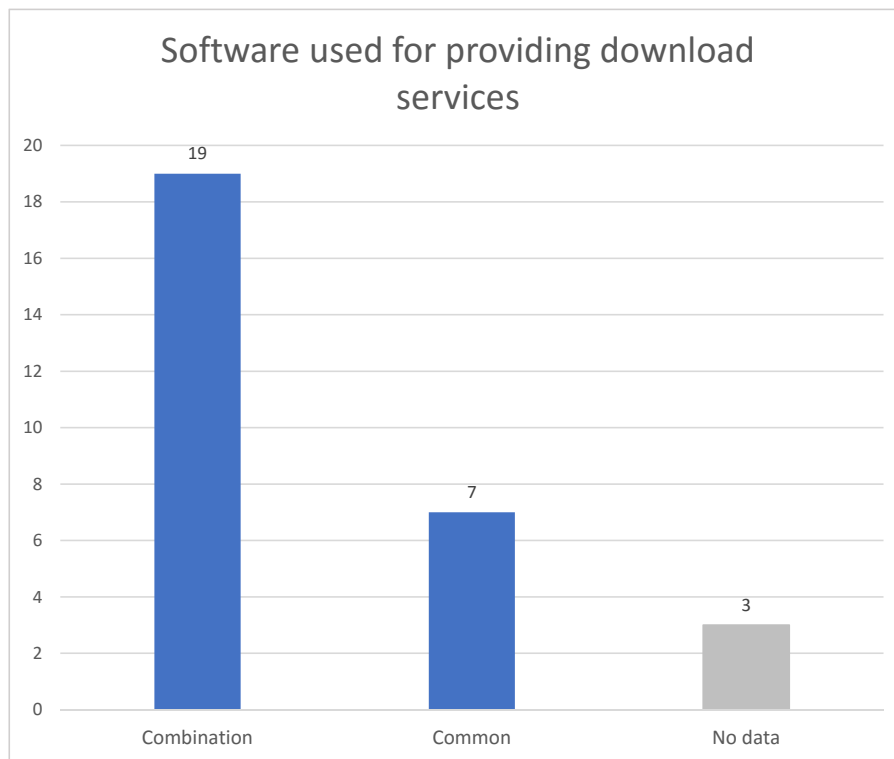
ESRI ArcGIS version	Total
10.1	1
10.3	3
10.3.1	1
10.5	1
No version indicated	14
<b>Grand Total</b>	<b>20</b>

Mapserver version	Total
7.2.1	1
7.0.7	1
6.4.1	1
No version indicated	1
<b>Grand Total</b>	<b>4</b>

- Sometimes, different versions of software used by the same organisation depending on the resource targeted
- INSPIRE extensions and plugins are often used with Geoserver & ESRI

<b>Esri</b>	<ul style="list-style-type: none"> <li>• WMS service configuration environment <b>allows to add only one <i>Layer Identifier</i> authority attribute</b> per service</li> <li>• Bad performance of service</li> </ul>
<b>Deegree</b>	<ul style="list-style-type: none"> <li>• view services render slow</li> </ul>

# Software used for providing **download services**



Software(s) used	Total
<b>ArcGIS Server</b>	<b>9</b>
ArcGIS Server	4
Deegree	1
Geoserver	2
Hexagon	2
<b>Geoserver</b>	<b>9</b>
ArcGIS Server	3
Mapserver	3
Caris	1
ESRI ArcGIS Suite	1
GML packages prepared by Hale Studio	1
<b>Deegree</b>	<b>4</b>
Deegree	2
Mapserver	1
Geoserver	1
<b>Mapbender</b>	<b>1</b>
Deegree	1
<b>GoPublisher</b>	<b>1</b>
Geoserver	1
<b>Files shared through Apache server</b>	<b>1</b>
ArcGIS Server	1
<b>Own development</b>	<b>1</b>
Own development	1
<b>FME Server</b>	<b>1</b>
FME Server	1
<b>GeoNetwork</b>	<b>1</b>
FME Server	1
<b>Grand Total</b>	<b>28</b>

- Geonetwork used for ATOM/OpenSe arch feature
- Plain files placed on a http server
- SOS services with 52Noth

# Download services software versions used & main issues

Geoserver version	Total
2.8.4	1
2.8.0	1
2.5.2	1
2.14	1
2.1	1
No version indicated	11
<b>Grand Total</b>	<b>16</b>

ESRI ArcGIS Suite version	Total
10.3.1	2
10.3	2
10.1	1
No version indicated	16
<b>Grand Total</b>	<b>21</b>

Deegree version	Total
3.4.2	1
3.3.9	1
3.3.20	1
3.3.18	1
No version indicated	5
<b>Grand Total</b>	<b>9</b>

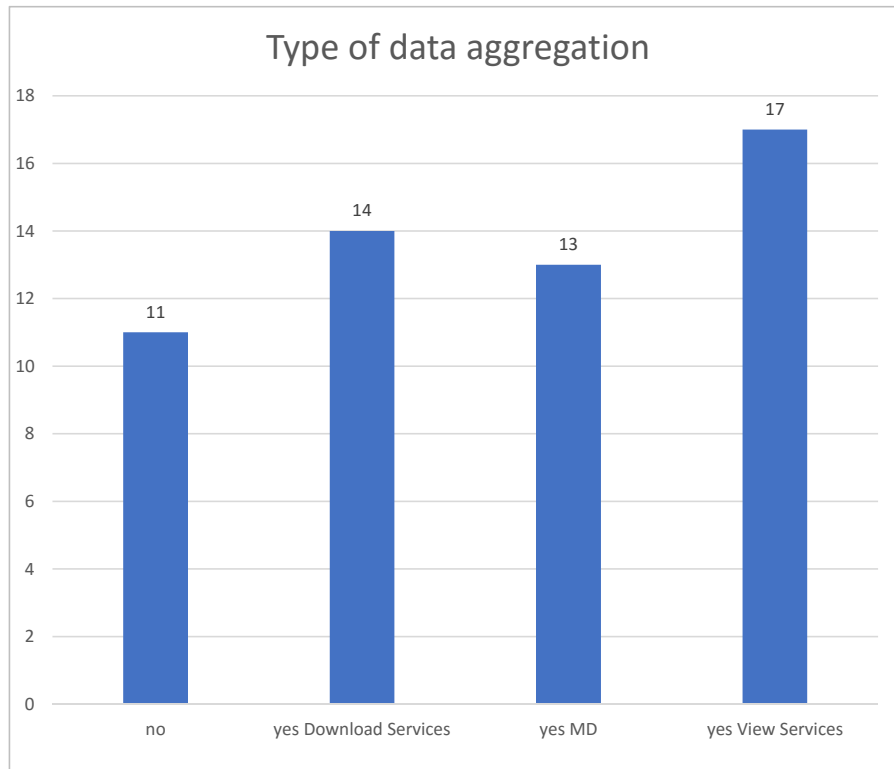
<b>Geoserver</b>	<ul style="list-style-type: none"> <li>• <b>Impossible to provide a single INSPIRE stored query</b> → Geoserver lists all stored queries, also for other datasets.</li> <li>• <b>Impossible to provide many INSPIRE themes dataset on one Geoserver</b> because in a feature type you can't refer to the same namespace.</li> <li>• <b>Impossible to establish different security policies</b> for different WFS services</li> <li>• Bugs in the <b>App Schema extension</b></li> </ul>
<b>Esri ArcGIS server</b>	<ul style="list-style-type: none"> <li>• Includes invalid parameter in the <i>GetMap</i> request: <b>EXCEPTION=application/vnd.ogc.se_xml</b></li> <li>• <b>Limitation on the maximum number of records</b> that can be downloaded via a REST Feature Access service</li> <li>• Sometimes a WFS service works on QGIS but at the same time is <b>unresponsive in ArcGIS</b></li> <li>• <b>Impossible to configure INSPIRE extended properties</b> for metadata in <i>GetCapabilities</i></li> <li>• <b>Impossible to export SLD</b> legend of dataset</li> </ul>
<b>Deegree</b>	<ul style="list-style-type: none"> <li>• <b>Limit on the number of features loaded</b></li> <li>• <b>Slow reload for complex datasets</b> and rectified grid in GML</li> </ul>
<b>Mapserver</b>	<ul style="list-style-type: none"> <li>• <b>Doesn't have an app-schema plugin.</b> Therefore we can't deliver harmonised data on-the-fly</li> </ul>
<b>Geonetwork</b>	<ul style="list-style-type: none"> <li>• <b>ATOM/OpenSearch</b> passes 39 out of 40 test cases on the etf-webapp</li> </ul>
<b>HALE connect</b>	<ul style="list-style-type: none"> <li>• <i>Application Schema for geology theme has issues with cardinality of Geofeature object</i></li> </ul>



# 3

Organizational description of your  
system use -  
**Content organisation**

# Data aggregation for publishing



## View/download

- Aggregation by INSPIRE theme
- Aggregation “tiles/collections”
- Aggregation by time series
- Aggregation by scales
- Aggregation by use cases

## Metadata

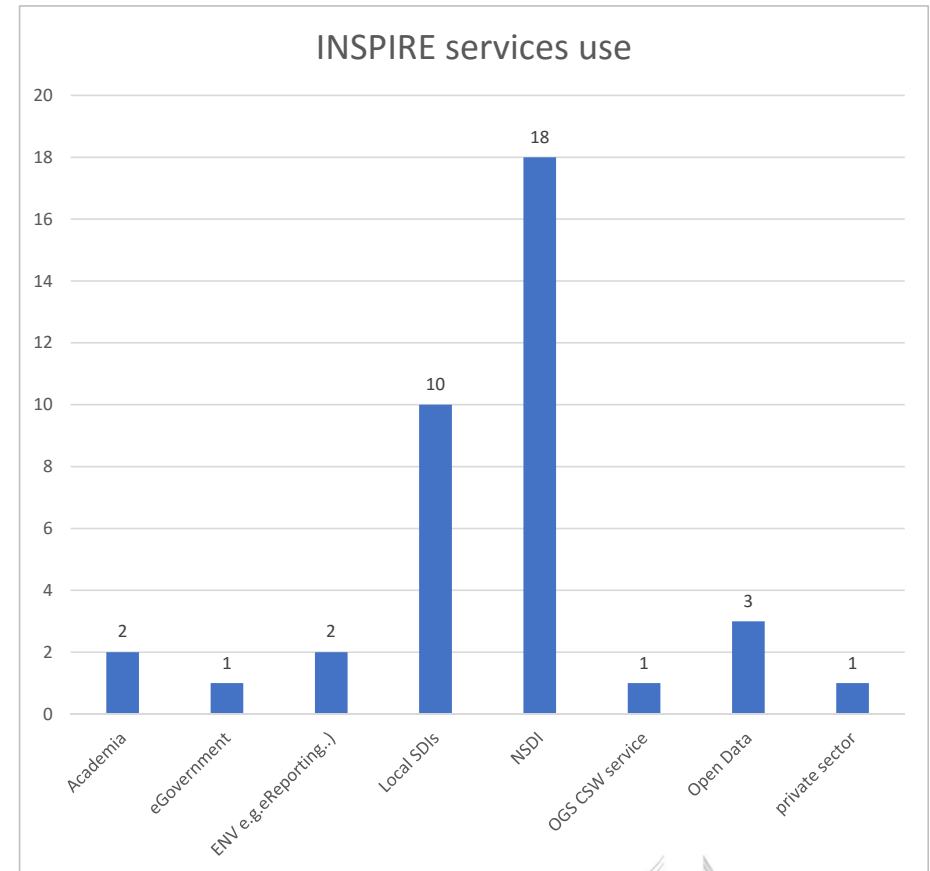
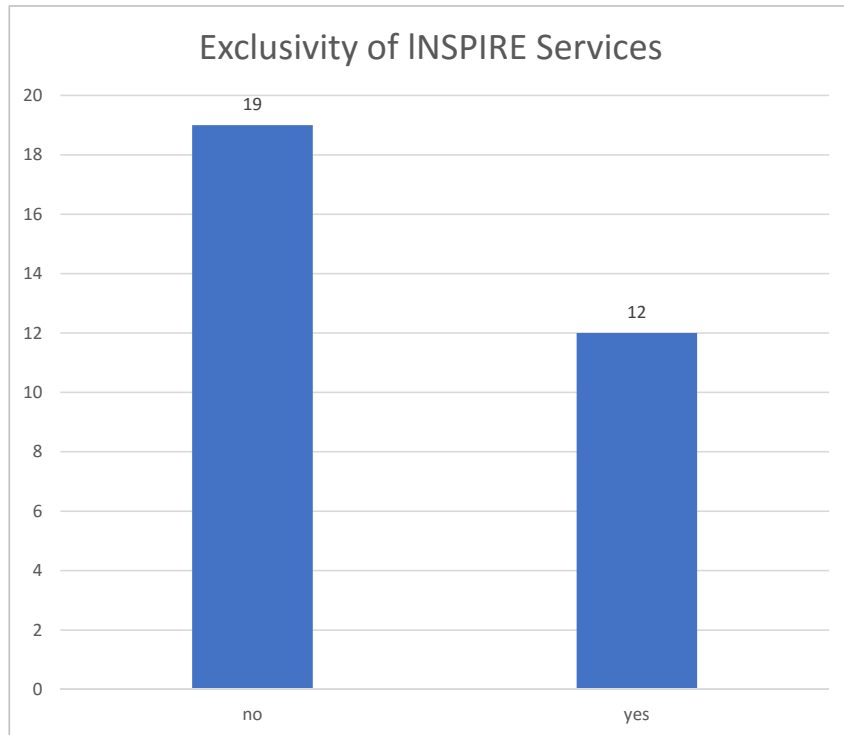
- Dataset / dataset series

Common recommendations on various types of aggregations?

Is there a functional National system for provision of big data (Orthophotos, elevation model..)?

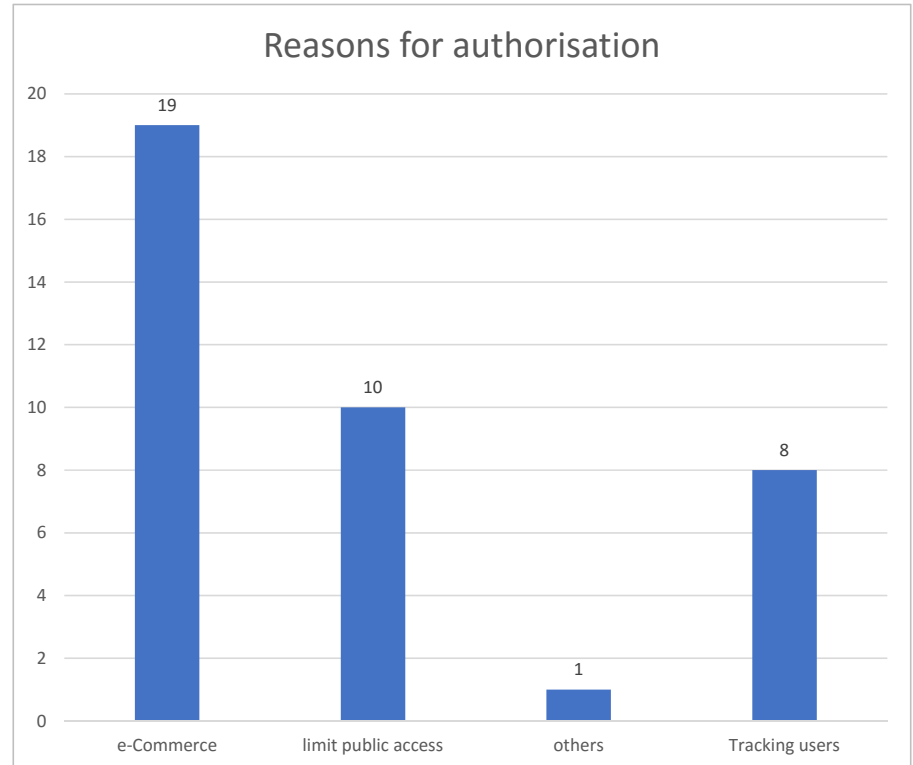
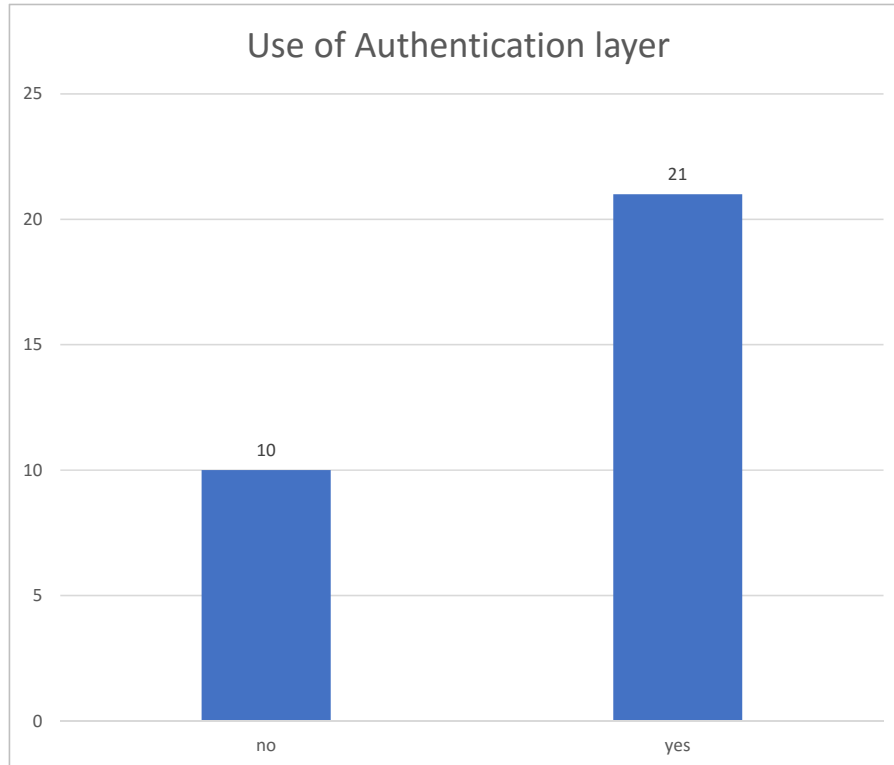


# Exclusivity of MS INSPIRE services



Why INSPIRE services are not used for e.g. NSDI?  
How to distinguish open data from the rest?

# Use of authentication layers

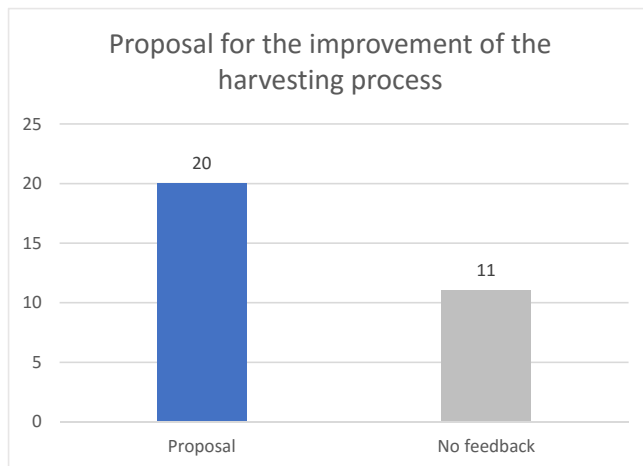


Use of Authentication layer for INSPIRE View services?  
Availability of Service capabilities docs without the authentication?

# 4

## Improvement proposals - **Suggestions for the harvesting process**

# Harvesting process



Most popular proposals	Mentioned
<b>Request / schedule harvesting on demand</b> ( <i>Instant trigger</i> )	10
<b>Respect frequency settings</b> ( <i>daily</i> )	7
<b>Improve issues/warning documentation</b>	5
<b>Notification of harvesting status</b> ( <i>email for completed harvest and summary of results</i> )	4
<b>Improve harvesting report</b> ( <i>Simplified version, provide UUID and/or link of the resources; Could metadata files be grouped by themes instead of in groups of 20; Option to download it in PDF and make it available in the harvesting Status section</i> )	3
<b>Provide Harvesting history</b>	2
<b>Change test methods</b> ( <i>If file too large, the test outcome should be "unverified" instead of "missing"; Review summing up scores when a test is not performed this should not negatively; Validation results from ETF validator</i> )	5

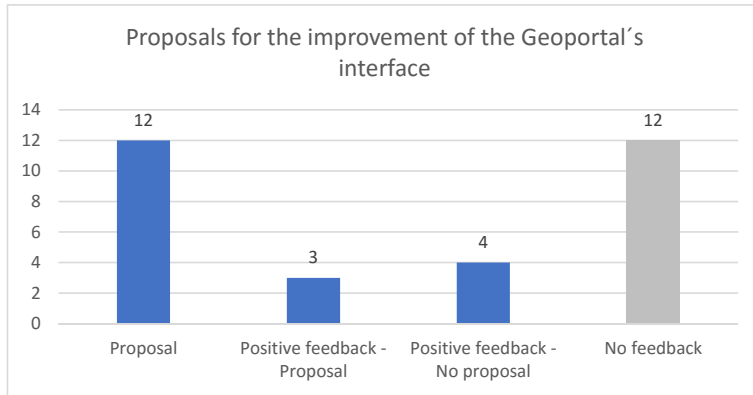
## • Other proposals:

- **testing environment** of the INSPIRE Geoportal to run the harvesting process ourselves or provide the to deploy and used in our SDI (as the ETF Validator)
- Use **incremental harvesting** instead of all metadata records to reduce server load
- **Accept INSPIRE extensions.** Spatial object types which are not directly from INSPIRE schemas does not appear in "Get Download service metadata response".
- Geoportal should be able to link data with **Web Coverage Service (WCS)**. It can be done via inspire\_dls:SpatialdatasetIdentifier in GetCapabilities
- Geoportal should be able to harvest **metadata in version 2.0**.
- Geoportal should be able to **handle big data sets**. Alternatively, missing aspect INSPIRE\_SPATIAL\_OBJECT\_IS\_AVAILABLE should not decrease percentage of interoperability in case of DOWNLOAD\_FILE\_TOO\_BIG.
- *We look forward to the realisation of the simplification proposal where ISO-metadata for services no longer is required.*
- **Do less on-the-fly checks when harvesting**, because we have a huge amount of metadata, and the process is so slow that it times out before completing properly.
- the **harvesting-filter should be adjusted**, that only INSPIRE identified metadata with the keyword (apiso:subject) "inspireidentified" (not "any text") can be found in the INSPIRE Geoportal.

# 5

Improvement proposals -  
**Suggestions for Geoportal new  
functionality/improvements**

# User interface - improvement proposals



Most popular proposals	Mentioned
<b>Search</b> <i>(by keyword, full text)</i>	6
<b>Filter</b> <i>(by title, by data provider, by region, by layer name - by feature type name, harmonised/unharmonised data)</i>	5
<b>Improve issues/warning documentation</b> <i>(ex: Propose different levels of errors: for example distinguish missing links from incorrect links)</i>	4
<b>Sort</b> <i>(alphabetically, metadata timestamp)</i>	3
<b>Metadata displayed in English when available</b>	2

## • Other proposals:

- Align the layout of the **resource browser to the interface of the new geoportal** even improving the UX.
- Make Geoportal resources **indexable by search engines**
- Remove the information icon for each environmental domain / eReporting legislation and add the link to the information page at the top of the pages of Environmental domains and eReporting Legislations
- Only the **domains/theme/legislation for which data sets in the selected Country are available should be showed in the list.**
- **Add title of the service metadata in Download section**
- **Speed gauge** should be included in each metadata as the last version to check the compliance and the interoperability(?)
- Remove **Coordinate reference systems** and **Geographical grid systems** in the theme list
- Availability to select the **wished style in the View Service preview**
- Include **monitoring info**
- Geographical viewer with options **to see different layers and query them**



# Thank you



Questions?

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***Make it work together***