



**INSPIRE** Conference 2017



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# Towards a Methodology to evaluate the quality of SDI Geoportals

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*«The face is the mirror of the soul».*  
Old saying

- **Justification and purpose**
- **Methodology**
- **Set of indicators**
- **Results**
- **Conclusions**



## ❖ Justification and purpose



- SDIs based on client/server model
- Standardization and quality assurance efforts
  - Big on the server part
  - A very few activities on the client part
- Purpose
  - To define and apply
  - A set of indicators
  - About usability and interoperability
  - Of geoportals (for us, similar to store windows of resources)

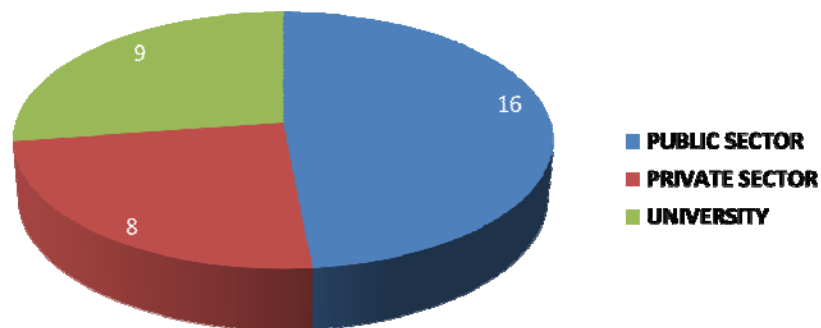


## ❖ Methodology

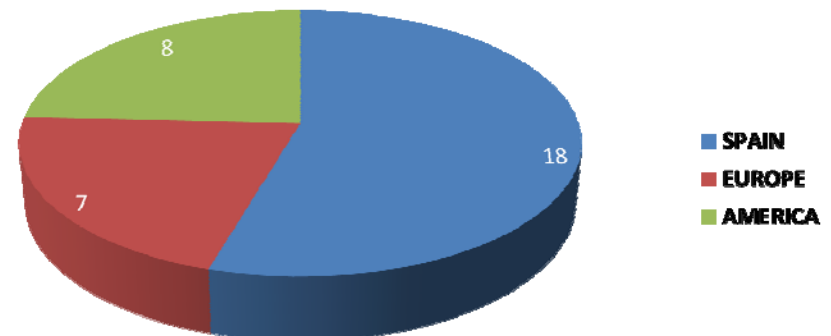


- **CNIG experience on America, Spain and Europe geoportals quality assesment since 2008 in courses**
- **We have defined 19 indicators and have launched an enquiry among 33 SDI experts to get feedback (1 indicator more) and weights for the indicators**

**EXPERTS BY SECTOR**



**EXPERTS BY REGION**



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## ❖ Evaluation



- We have evaluated 35 European NSDI Geoportals with 20 (19 +1) indicators (points 0 to 10)
  - Inspire Geoportal: Internet site providing access to Inspire services
  
- **First problem:** Where are the NSDI Inspire geoportals?
  - INSPIRE monitoring & reporting archive shows info about 35 countries
    - 1 Dead link, 9 countries without URL, 9 URL of administrative portals
  - eurogeoinfo.org includes NSDI, Inspire and geoportal links for each country, but it's not fully updated
  
- There is no website describing the E NSDI geoportals network



## ❖ 35 NSDI Geoportals considered



<a href="http://www.inspire.gv.at/">http://www.inspire.gv.at/</a>	<a href="http://geodaten.llv.li/">http://geodaten.llv.li/</a>
<a href="http://geo.be">http://geo.be</a>	<a href="https://geolatvija.lv/geo/#/">https://geolatvija.lv/geo/#/</a>
<a href="http://bsdi.asde-bg.org">http://bsdi.asde-bg.org</a>	<a href="http://www.geoportal.lt/geoportal/en/web/en">http://www.geoportal.lt/geoportal/en/web/en</a>
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<a href="http://geodata.gov.gr/en/">http://geodata.gov.gr/en/</a>	<a href="http://inspire.enviroportal.sk/">http://inspire.enviroportal.sk/</a>
<a href="http://geoportal.nipp.hr/en">http://geoportal.nipp.hr/en</a>	<a href="http://inspire-geoportal.ec.europa.eu/">http://inspire-geoportal.ec.europa.eu/</a>
<a href="https://inspire.gov.hu">https://inspire.gov.hu</a>	<a href="http://www.cartografia.ad/">http://www.cartografia.ad/</a>
<a href="http://www.lmi.is/">http://www.lmi.is/</a>	<a href="https://www.geoportail.lu/en/">https://www.geoportail.lu/en/</a>
<a href="http://www.geoportal.ie">http://www.geoportal.ie</a>	<a href="http://www.geosrbija.rs/">http://www.geosrbija.rs/</a>
<a href="http://www.pcn.minambiente.it/mattm/en/">http://www.pcn.minambiente.it/mattm/en/</a>	







## ■ Second problem

### ● Sometimes

- No English version
- Lack of usability
- More than one portal

## ■ Makes very difficult to complete such study





## ❖ Indicators



<b>OGC Standardization:</b> Use of OGC standards, especially WMS, WMTS	<b>Three services:</b> Give access to viewing, discovery and gazetteer services
<b>Availability:</b> Probability of being up	<b>Findability:</b> To be easily founded in search engines
<b>Openess:</b> To be accesible whitout registration, plugins or other conditions	<b>Dissemination:</b> To be referenced in Wikipedia, GSDI, UN-GGIM...
<b>Performance:</b> Good time response (< 3 s)	<b>Responsiveness:</b> Working in all kind of devices
<b>Identity:</b> To declare the body responsible for the geoportal	<b>Autodefinition:</b> To self define as a national or Inspire geoportal
<b>Resources visibility:</b> To give visibility to the services in the domain of the geoportal	<b>Accesibility:</b> To be accesible (WAI standards)
<b>Legal info:</b> About the usage conditions of the geoportal and its resources	<b>Multilinguism:</b> Multilingual interface
<b>Browsers:</b> Work on the most used browsers	<b>Web domain:</b> Meaningful web domain
<b>Feedback:</b> To have some feedback channel	<b>Social Networks:</b> Links to social networks
<b>Usability:</b> To be easily usable (ISO 9241)	<b>No logo:</b> No commercial brands easily visible

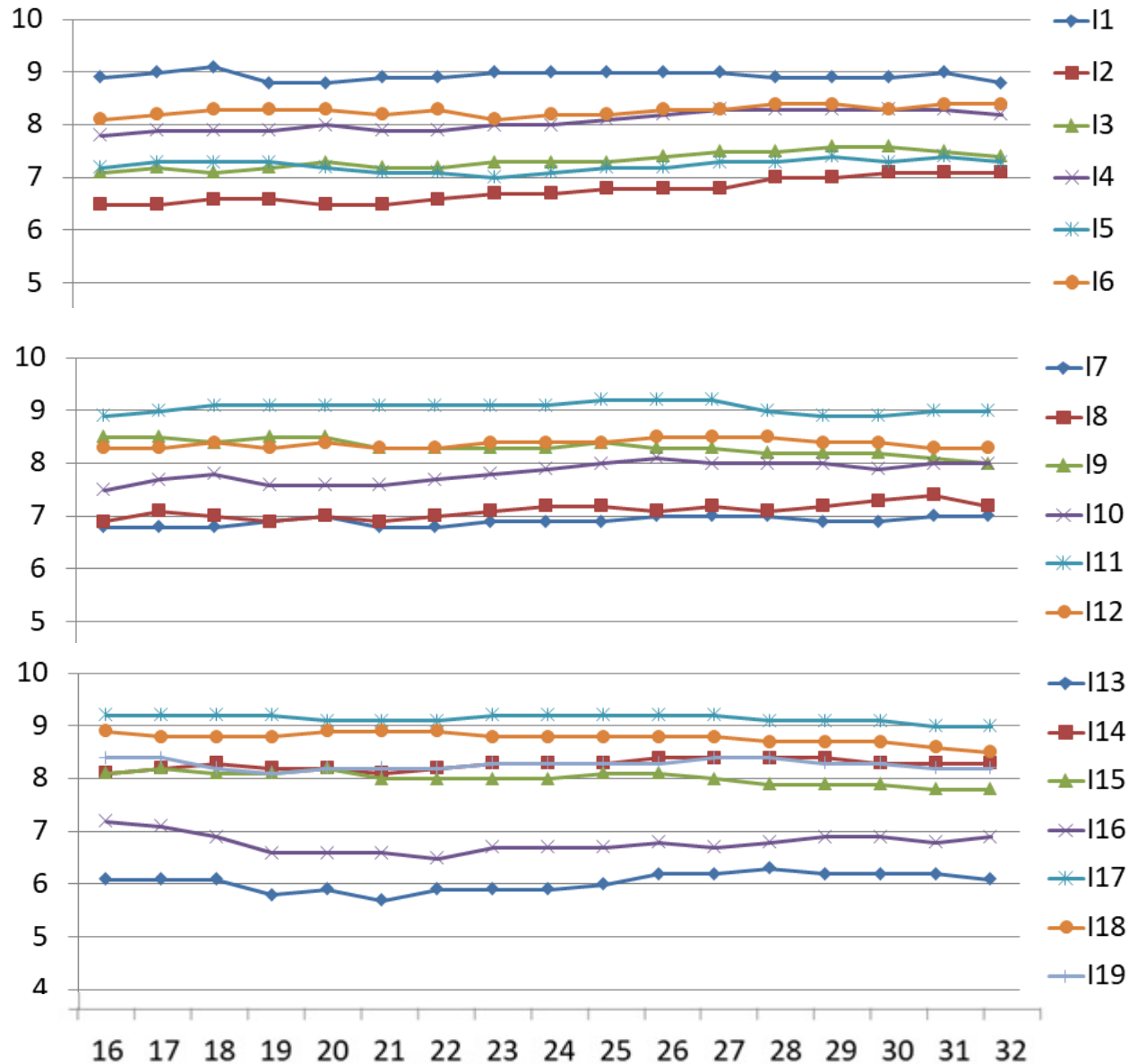
## ❖ Indicators weights ordered



11 OGC Standardization	9	20 Findability	7.9
17 Availability	9	15 Dissemination	7.8
1 Openess	8.8	3 Responsiveness	7.4
18 Performance	8.5	5 Autodefinition	7.3
6 Identity	8.4	8 Accesibility	7.2
14 Resources visibility	8.3	2 Multilinguism	7.1
12 Legal info	8.3	7 Web domain	7
4 Browsers	8.2	16 Social networks	6.9
19 Feedback	8.2	13 No logo	6.1
9 Usability	8		
10 Three services	8		



# ❖ Average weight for each indicator



# ❖ Simple evaluation methodology



## ■ Some examples:

### ■ 2) Multilinguism

- UK, EI and Inspire geoportals => no evaluation
- Correct English interface => 10
- English interface, problems in the first page => 3
- No English interface => 0

### ■ 4) Browsers

- Open geoportal and viewer/cat. client using Firefox, Explorer, Chrome, Edge and Safari
- 2 points each

### ■ 9) Usability

- To publish the result of a Usability Study and a sitemap 10
- To have a sitemap 5
- Nothing 0

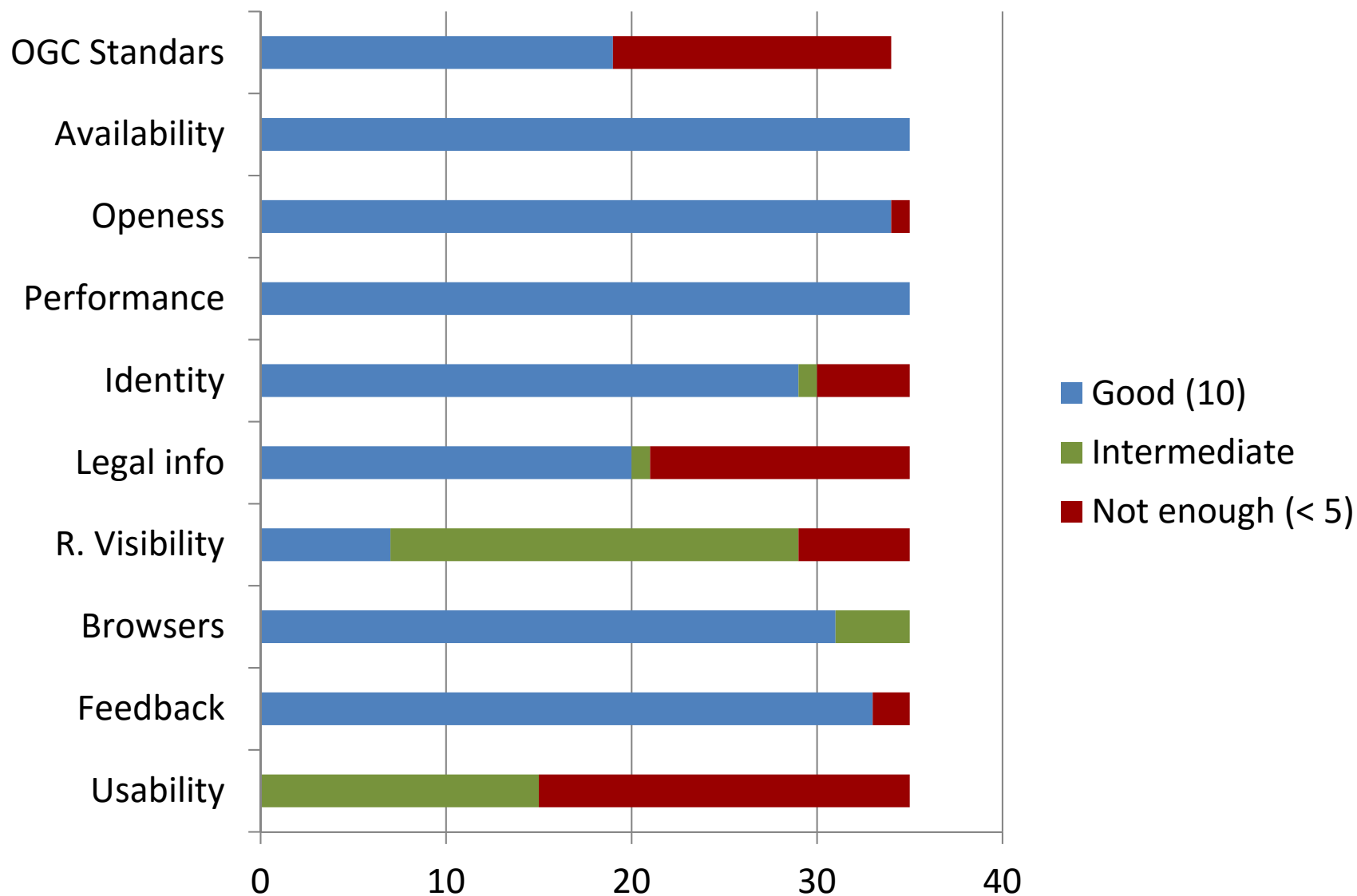


# ❖ Evaluation methodology

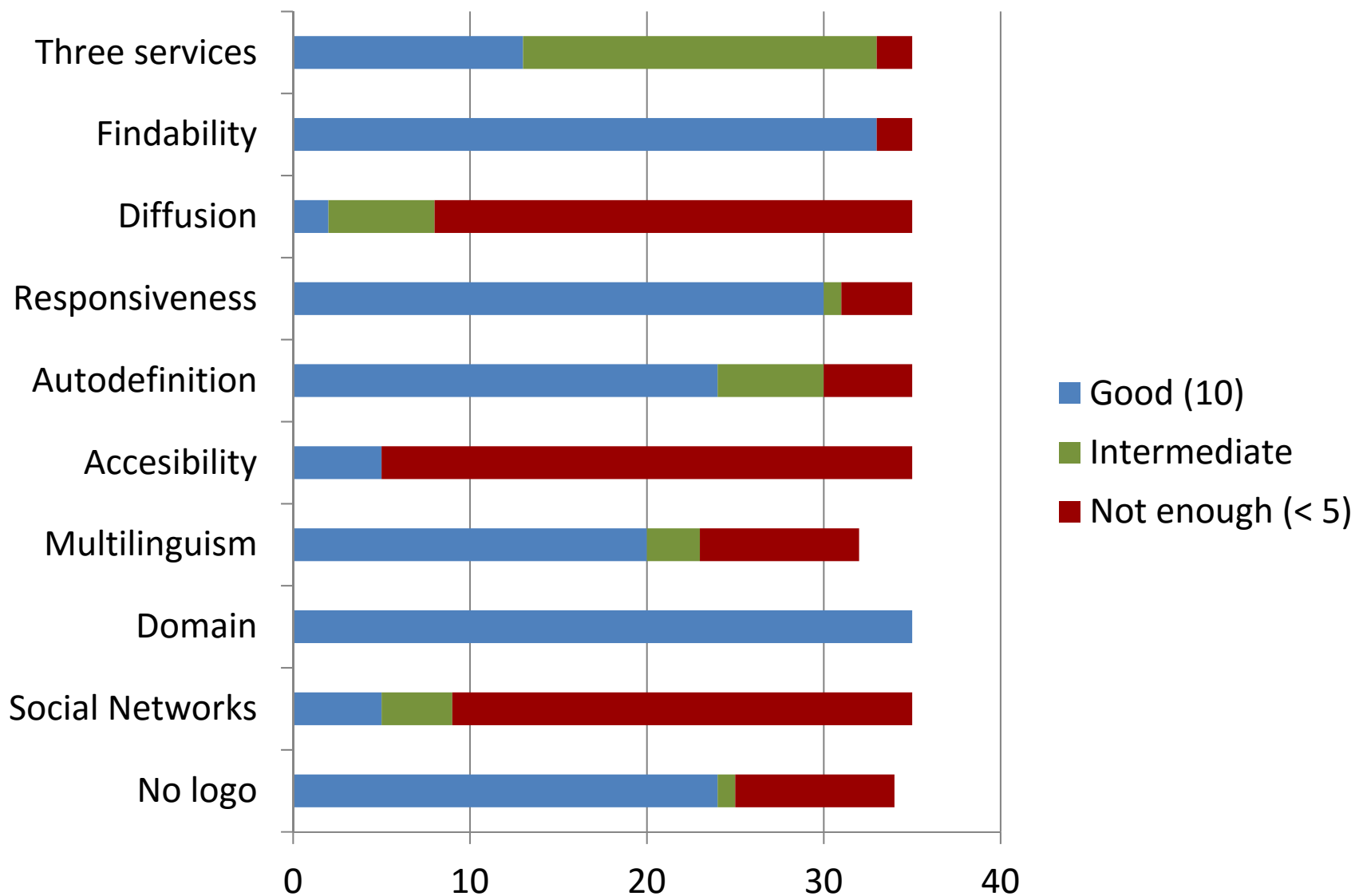


Openess	To access and open the geoportal 10 No requirements, registration or plugins 0 Some of them	OGC standards	10 OGC Standard interface WMS/WMTS in the viewer 0 Non standard/other standard
Multilinguism	UK, Ireland, INSPIRE: no valoration. 10 English interface without problems 3 English interface, but problems in the first page 0 Monolinguisim	Legal notice	10 There are some information about use conditions of the geoportal and its resources 5 Some information but incomplete/unclear 0 No information
Responsivines	Open geoportal and viewer/catalogue in Android and IoS. 10 No problem in both 5 Only one or uncomplete functionality 0 Problems in both	No logo	10 No brand in URLs nor in the viewer 0 Yes
Browsers	To open the geoportal and the viewer/catalogue in Explorer, Firefox, Chrome, Edge and Safari. 2 points/browsers.	Resources visibility	10 List and catalogue of available services in the scope of the SDI node 5 List or catalogue of services 0 Nothing
Autodefinition	See the first page of the Geoportal 10 Defined as NSDI, National/Inspire geoportal or synonyms 5 Not clear definition 0 No definition or definition as a GIS	Dissemination	Looking in: <a href="https://en.wikipedia.org/wiki/Geoportal">https://en.wikipedia.org/wiki/Geoportal</a> , <a href="https://en.wikipedia.org/wiki/Spatial_data_infrastructure">https://en.wikipedia.org/wiki/Spatial_data_infrastructure</a> <a href="http://gsdiassociation.org/index.php/publications/sdi-links.html">http://gsdiassociation.org/index.php/publications/sdi-links.html</a> , <a href="http://ggim.un.org/sdi.html">http://ggim.un.org/sdi.html</a> 10 for 4 occurrences, 7 for 3, 5 for 2, 2 for 1 and 0 for 0
Identity	10 Clearly identified the body responsible for the geoportal 5 Not clearly identified 0 Not identified at all	Social networks	10 Google, Twitter, Facebook and Instagram (three at least) 5 Two Social Network 3 One 0 No Social Network activity
Web domain	The first segment of the url goes to a body or project? 10 Yes 0 No	Avaiability	Response during the week of tests.
Accesibility	10 To have the logo of having passed an official and standard test 0 No	Performance	10 Response time less than 3 s (Tamper data) 0 Slower behaviour
Usability	10 To have a sitemap and a usability test passed 5 Only sitemap 0 Nothing	Feedback	10 Some feedback channel available 0 No feedback channel
Three services	4 Access to discovering service 3 Access to viewing service 3 Access to gazetteer (not only for addresses)	Findability	Searching in Google <country> + geoportal/ national geoportal/ Inspire geoportal/ spatial data infrastructure If it is possible to reach the geoportal in the first page (10), if not (0)

# ❖ Ordered Results 1



## ❖ Ordered Results 2





## ❖ Some conclusions



- Please, have an English version
- It is a good idea to pay attention to Safari
- Test your geoportal using http and https
- Declare clearly the body responsible for the geoportal
- Implement a gazetteer (not only for Ad. Units)
- Promote your geoportal in Wikipedia, GSDI...
- Consider to use Twitter and social networks
- Use OGC standard in your geoportal
- Explain use conditions
- Look for your geoportal in searching engines
- Make your resources visibles
  
- NSDI geoportal as a store windows of resources



## ❖ Feedback from the experts



- Introduce *findability* as a new indicator (4 experts)
- More detailed evaluation for some indicators (usability)
- It is very important to use Social Networks
- Consider also as minimum download services (WFS and Atom)
- Split and join the indicators. Some reorganizations have been proposed
- Variety of opinions (not unanimity)
- Some people think a NSDI geoportal is for advanced users, others for naïf users



## ❖ Recommendations



### ■ National

- To have a unique NSDI geoportal in each country
- Giving easy access to services and resources in the NSDI scope
- With an English version and maximized usability
- NSDI website= NSDI geoportal + NSDI info
  - Two coupled websites

### ■ European

- To have a NSDI Geoportals Directory in INSPIRE website
- To guarantee the visibility and navegability of the resources network

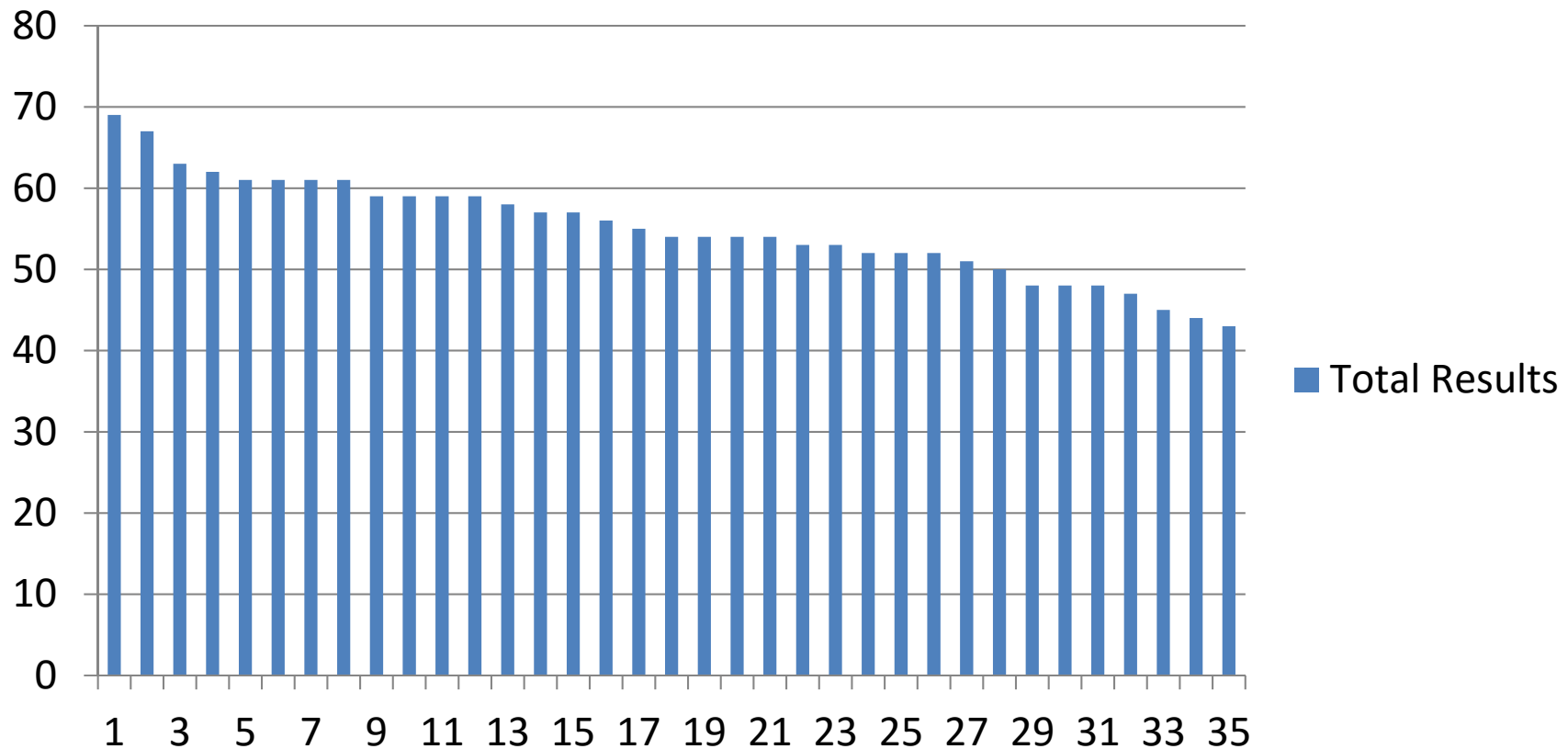


## ❖ A total indicator



- Applying weights to the indicators evaluated 0 to 10

Total Results



## ❖ Conclusions



- **General Quality of Inspire geoportals is quite good**
  - **Good Availability, Performance, Responsiveness...**
  - **Easy to improve:**
    - **OGC standars, Identity, Legal info, Resources visibility, Usability, Autodefinition, Feedback**
  - **Also recommendable**
    - **To consider the rest of aspects**
  - **All are important**





*Thanks a lot for your attention!*

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