

Status of INSPIRE inspired OGC Web Services

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Q.: Why is important
to measure (nearly on real time)
how many OGC Web services
are publicly available in Europe?



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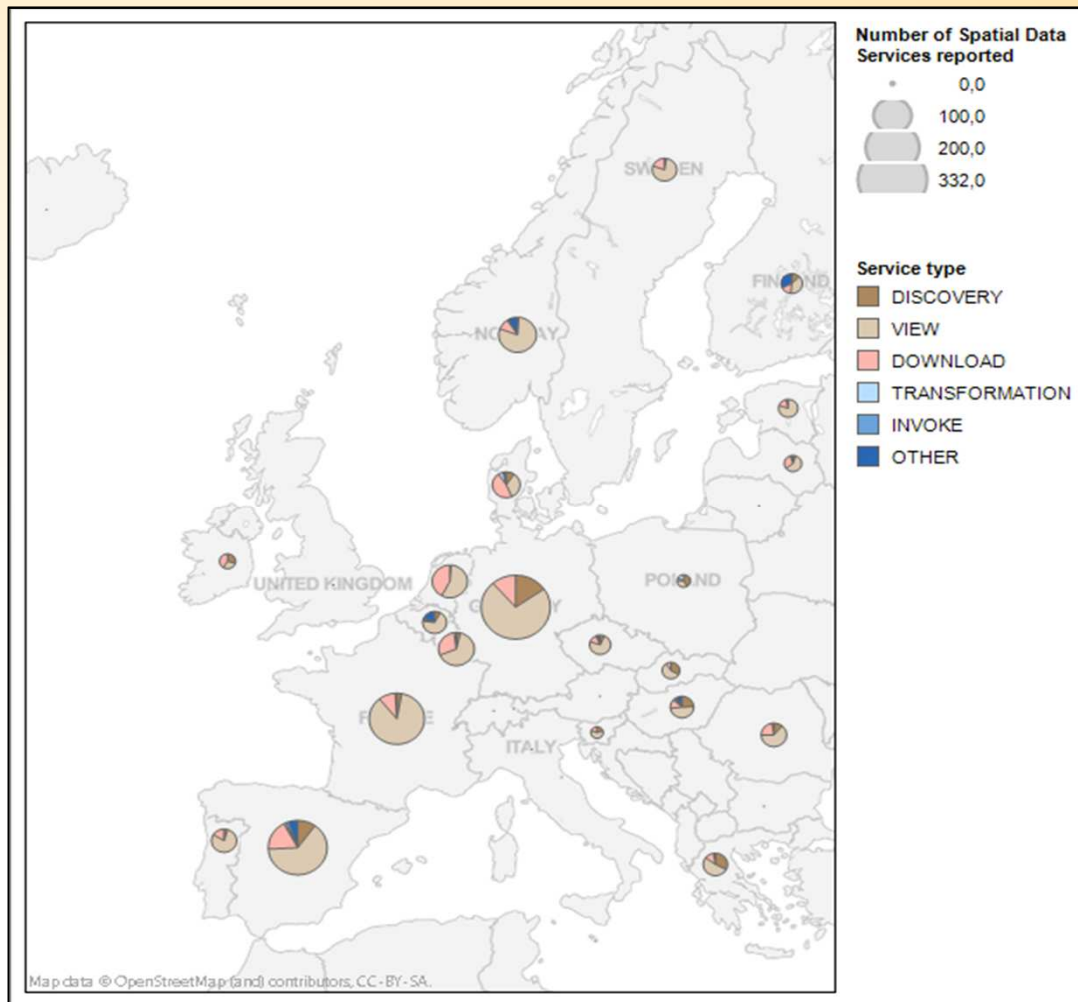


A.: INSPIRE

- Need to assess NSDIs' spatial data services
 - View are very well developed
 - Discovery, download, invoking ...?
- Uncertainty
 - There are more and more services available in Europe
 - The metadata for services are not developed sufficiently
- Catalogue based discovery is not feasible in Europe yet
 - SoP 2010: 3 countries +70%, 4 countries 50-70%, 13 countries < 35%
- Questionary based approach is challenging
 - Slow process
 - Possible partial report
 - Unclear definitions



Example: INSPIRE SoP study 2010



- Qualitative analysis
 - +1500 services
 - 2009 data
- Main challenge
 - *“It should be noted however, that the situation might be better overall, since many countries did not report on the services part, or only partially”* pg. 53.

Our approach: to crawl the (Geo) Web



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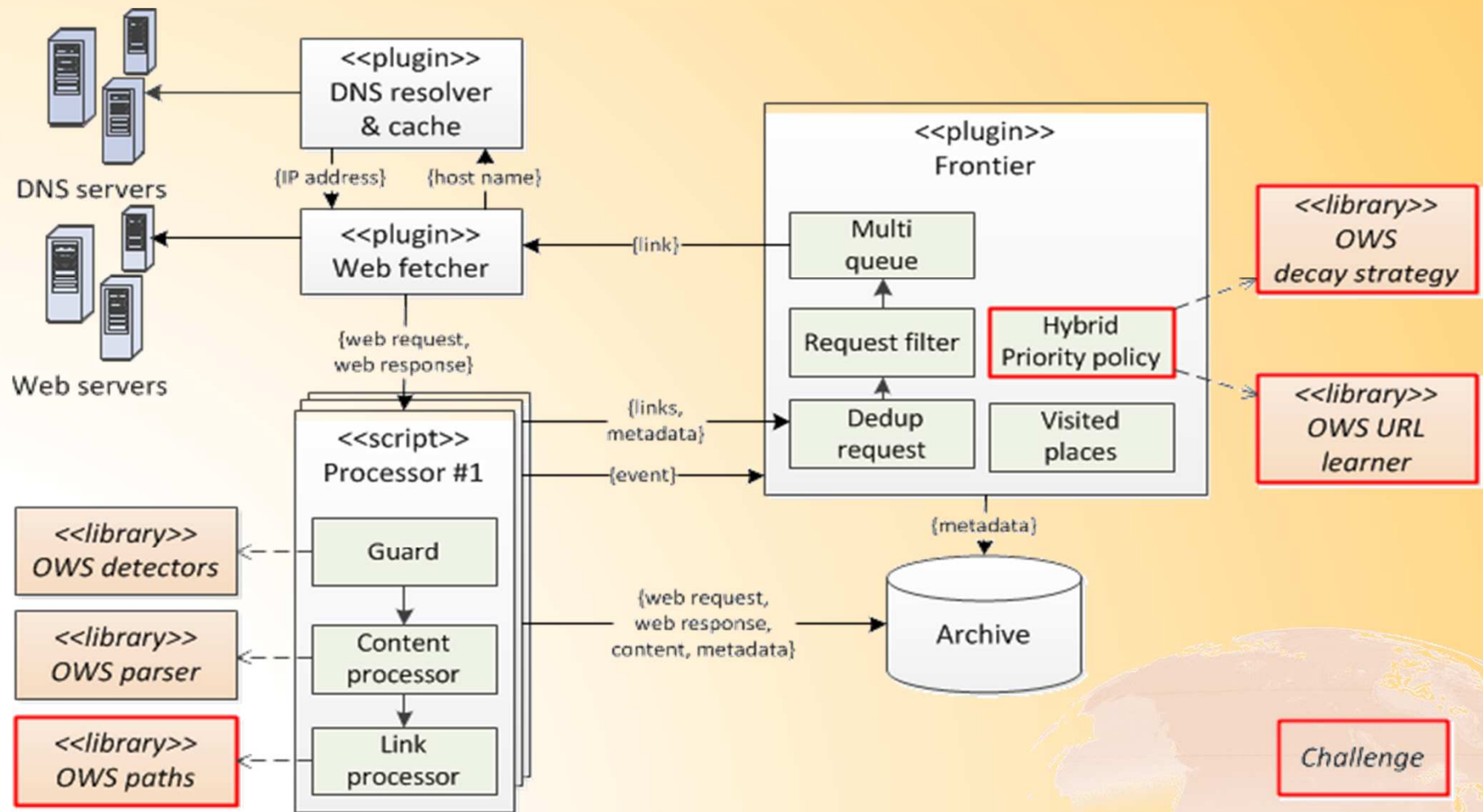


A Geo-Focused crawler

- Develop a focused crawler for geospatial resources
 - In particular, OGC Web Services (OWS)
- Evolution:
 - 2010 Monolithic focused crawler + WARC backend
 - 2011 Scripted focused crawler + deep web query + RDF backend
- Challenges
 - Search engine results as seeds: which is the best query strategy?
 - Lopez-Pellicer et al., “Discovering Geographic Web Services in Search Engines” Online Information Review, to appear end 2011.
 - OWS deployment patterns
 - OWS “hidden” behind Web applications



Design overview

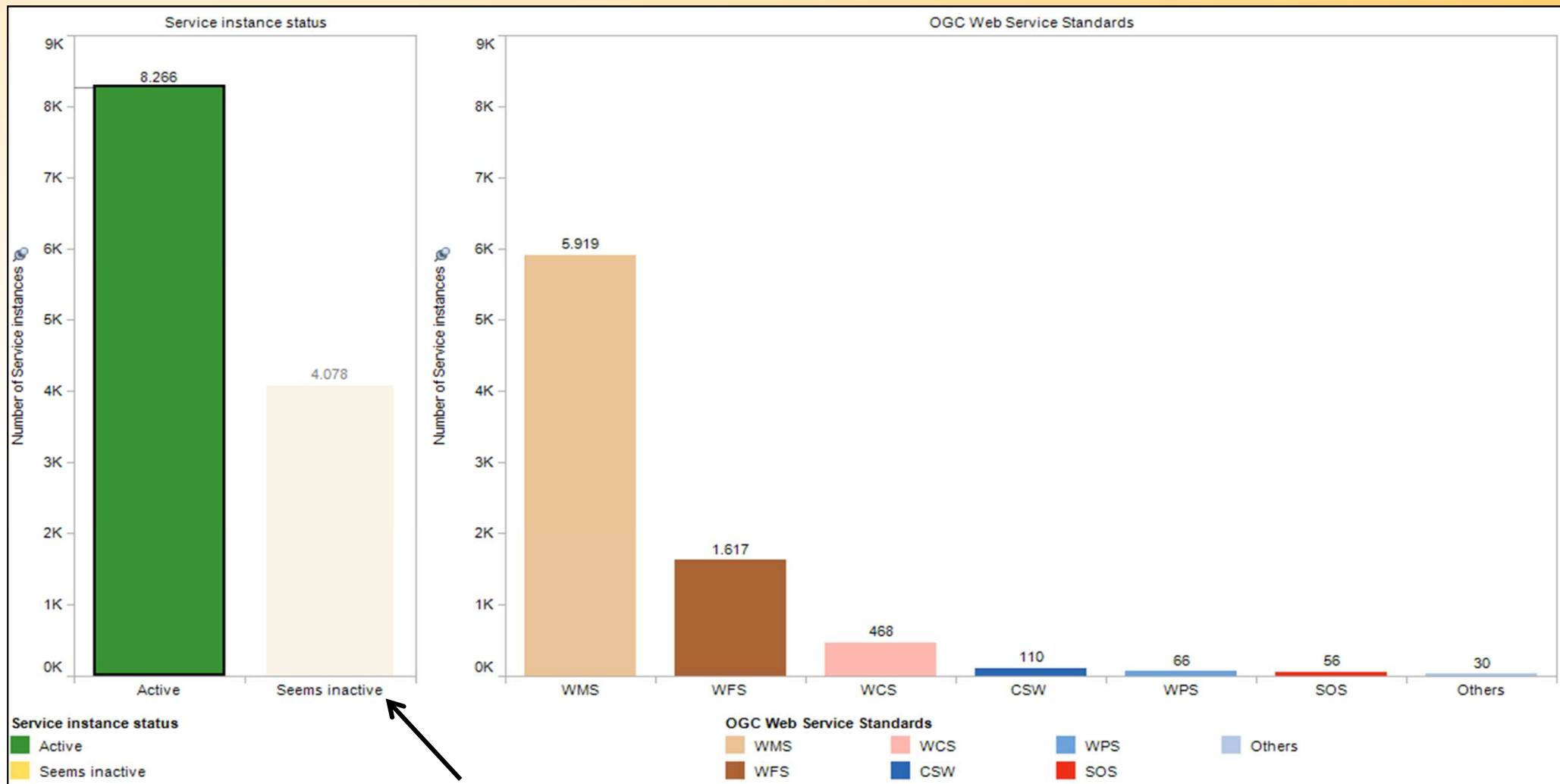


June 2011 crawl (focused on OGC WS)

- Global SDI findings
- Europe SDI findings
- Comparative 2010-2011 (only Europe)



Global SDI - 12344 services found

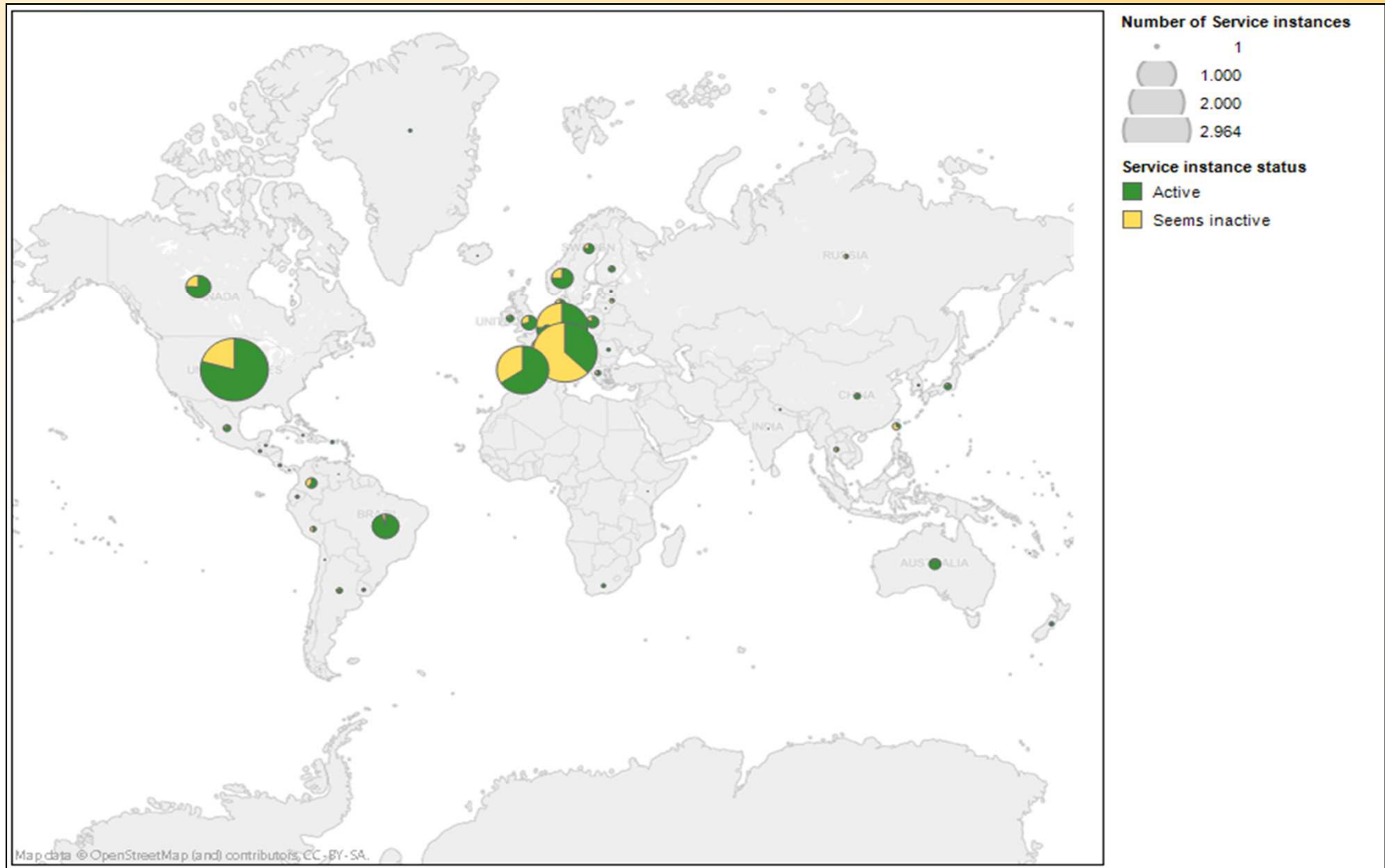


Seems Inactive

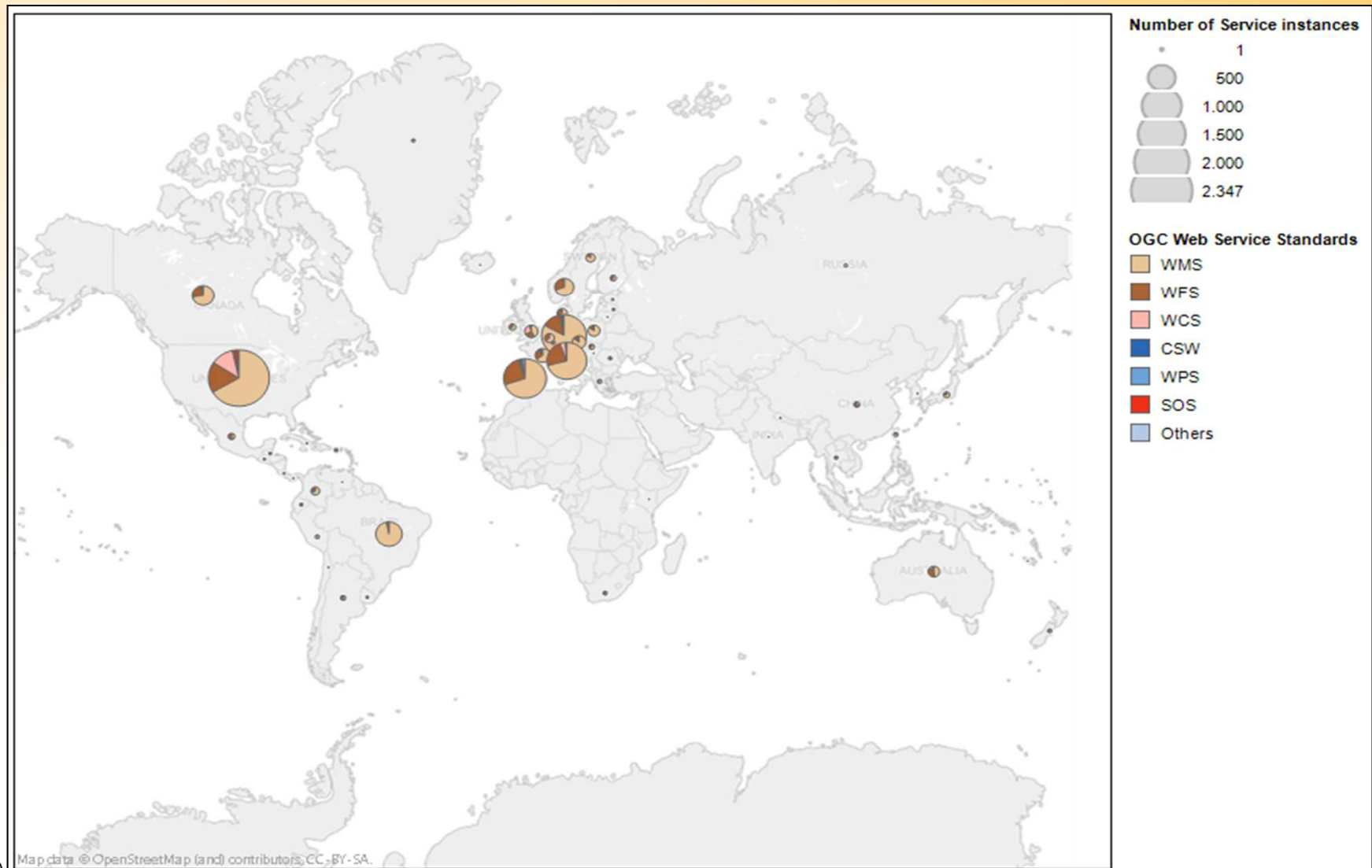
If and only if:

- parsing errors or,
- no explicit offerings

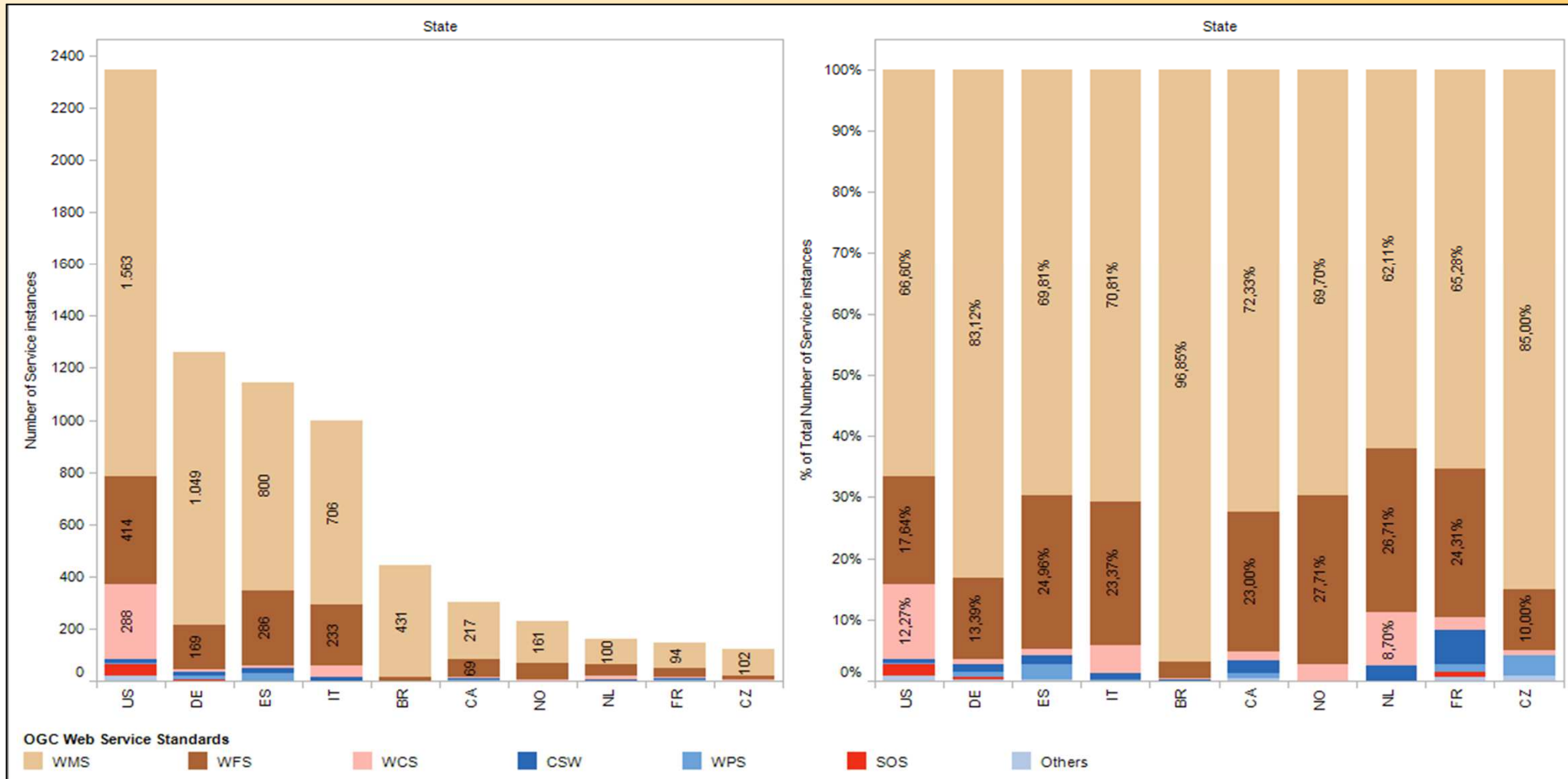
Global SDI - distribution



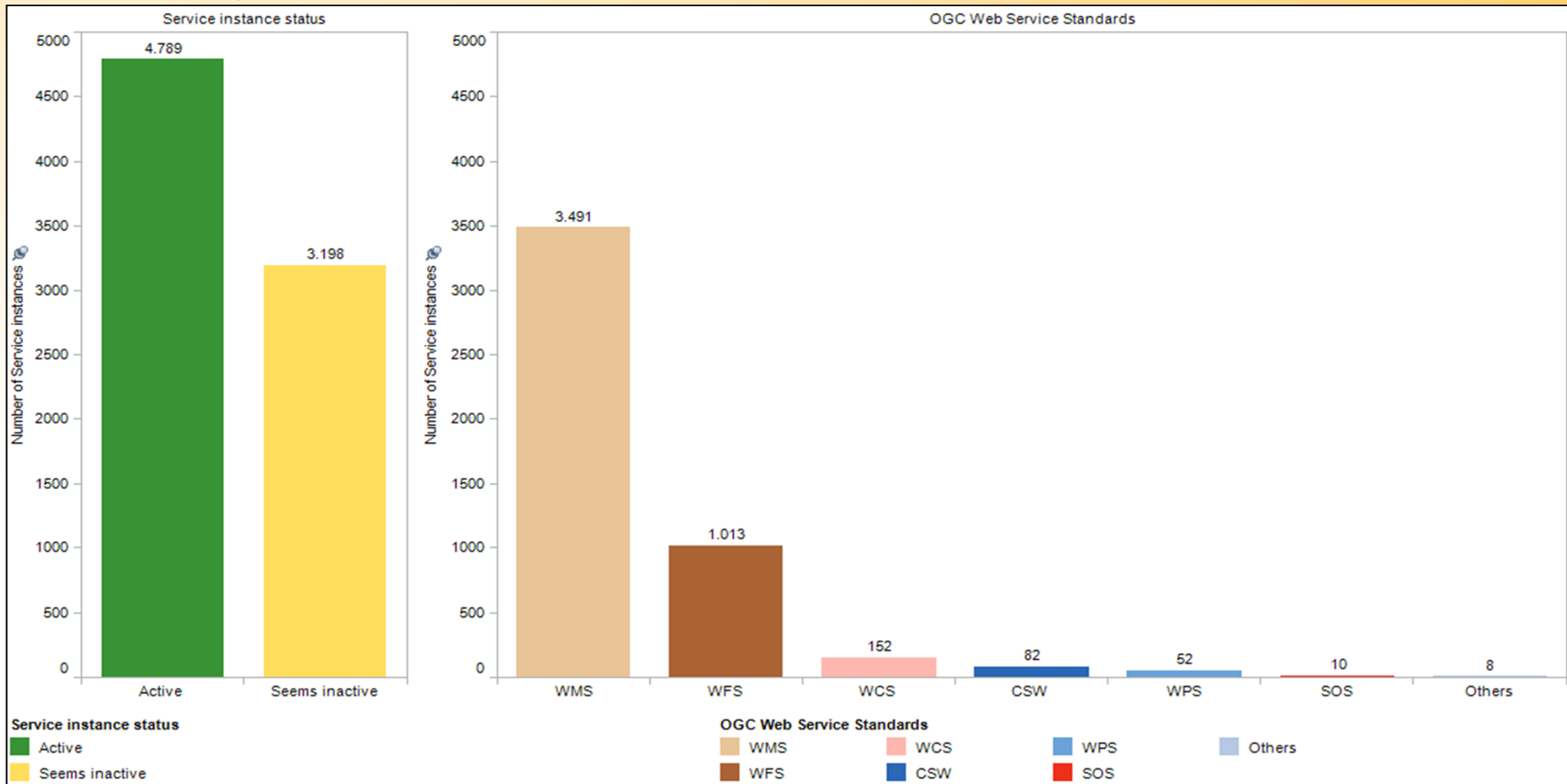
Global SDI - distribution (active)



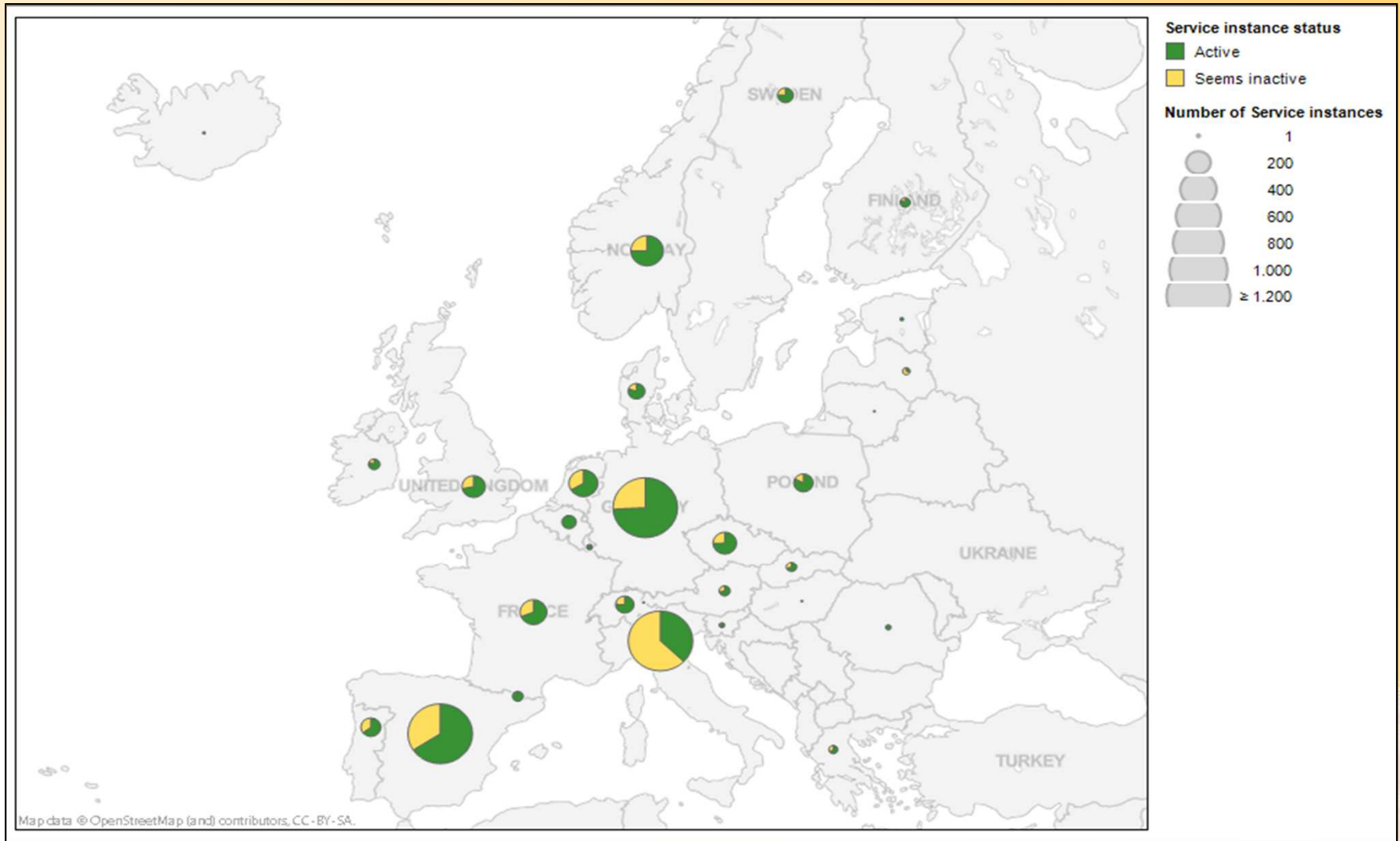
Global SDI – Top 10 (active)



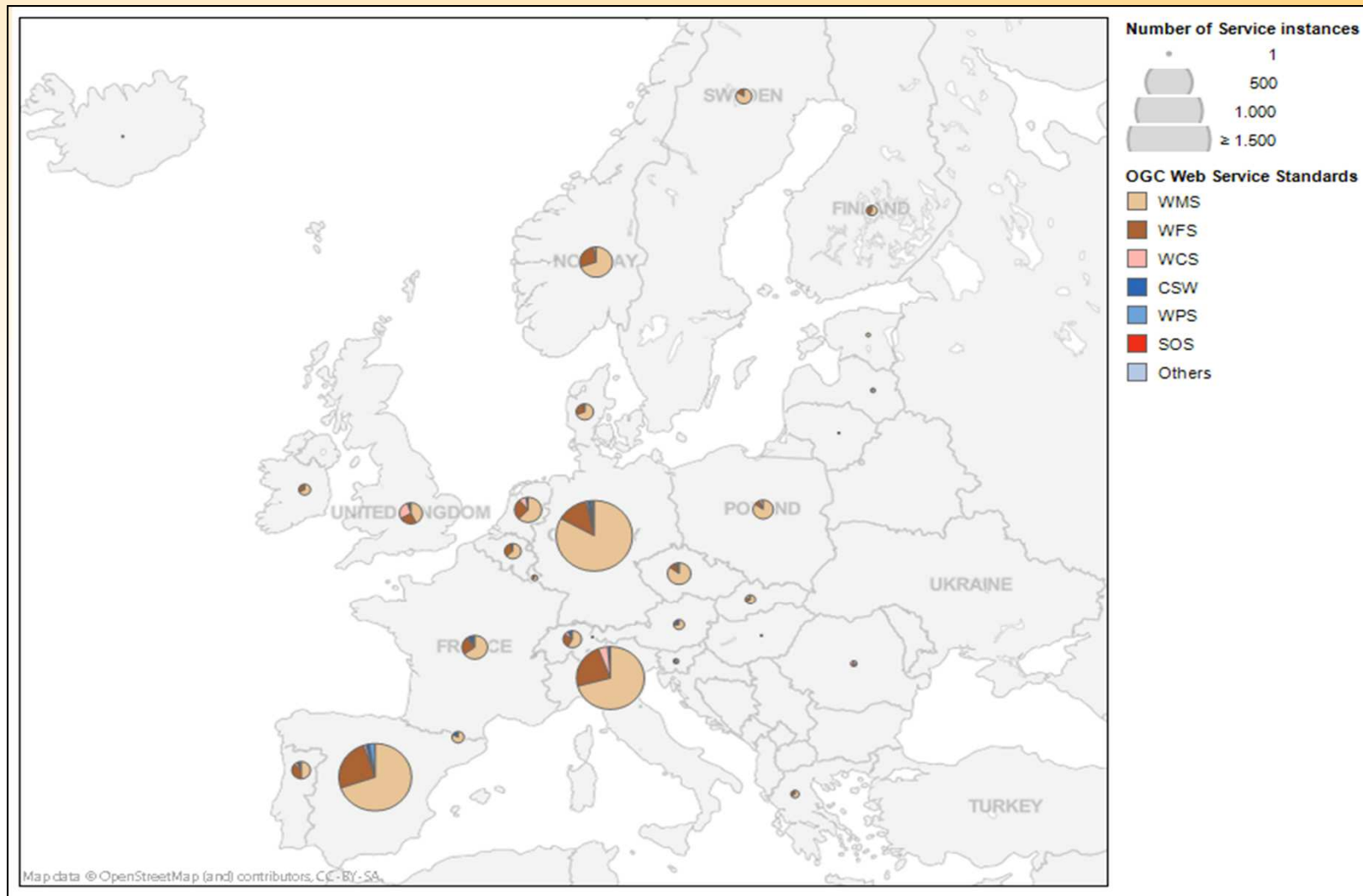
European SDI - 7987 services found



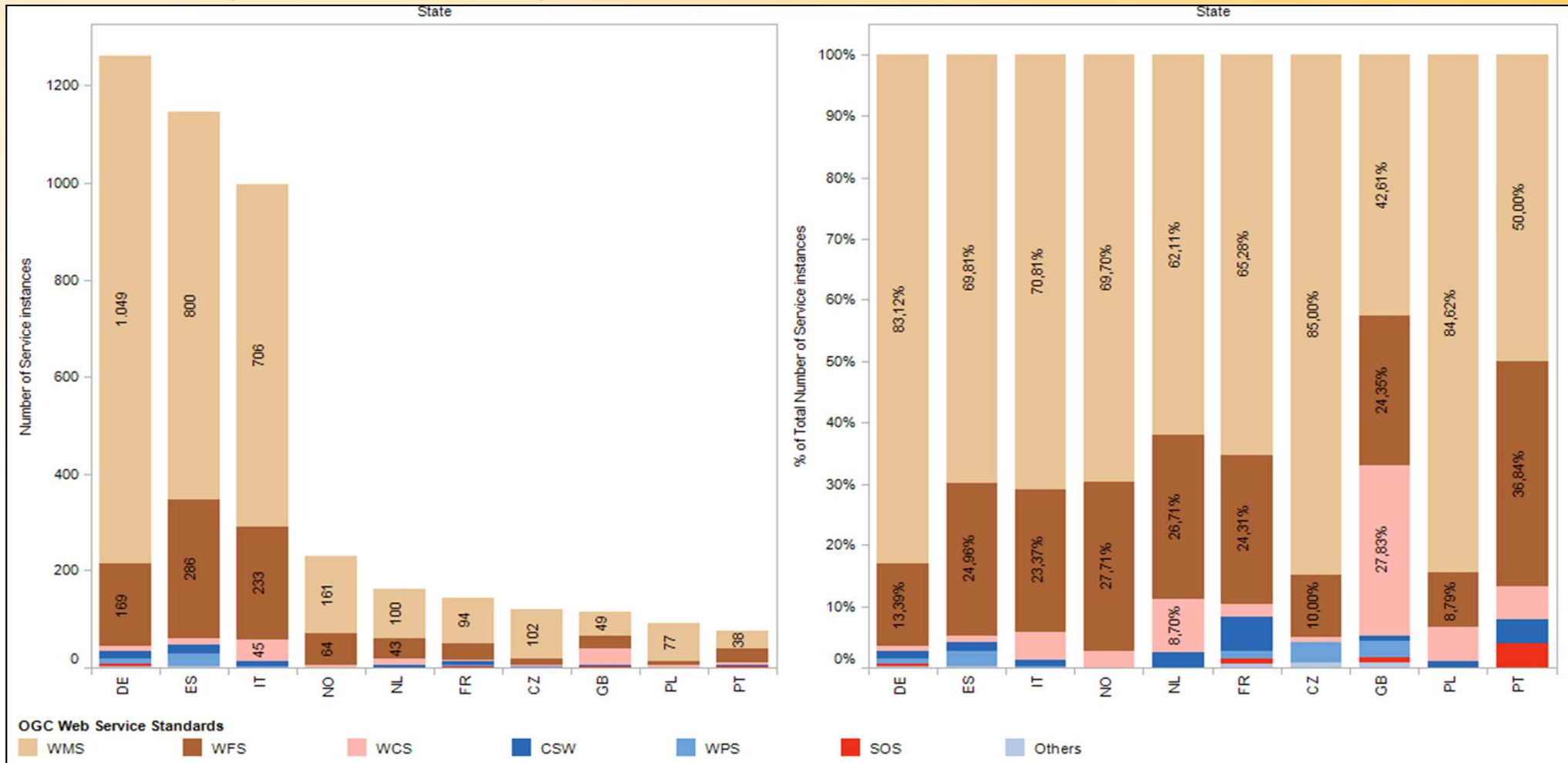
European SDI - distribution



European SDI - distribution (active)



European SDI - Top 10 (active)



Comparative 2010-2011

- Data 2010 presented @ INSPIRE 2010 Krakow
- Findings
 - 7987 found (+22%)
 - 4789 relevant (+3%)
- State trends
 - ↑↑ IT (+95%)
 - ↑ DE (+29%)
 - ↓ ES (-11%)
 - ↑ NO, NL, PT, DK, SE, ...
 - ↓ CZ, FR, GB, FI, BE, ...
- Standard trends
 - ↓ WMS (-6%)
 - ↑ WFS (+38%)
 - ↓ WCS (-13%)
 - ↑↑ CSW (+134%)
 - ↑↑ WPS (+206%)
- Entries
 - SOS – 10
 - Others – 8
 - WMTS, SPS, SAS, WSS

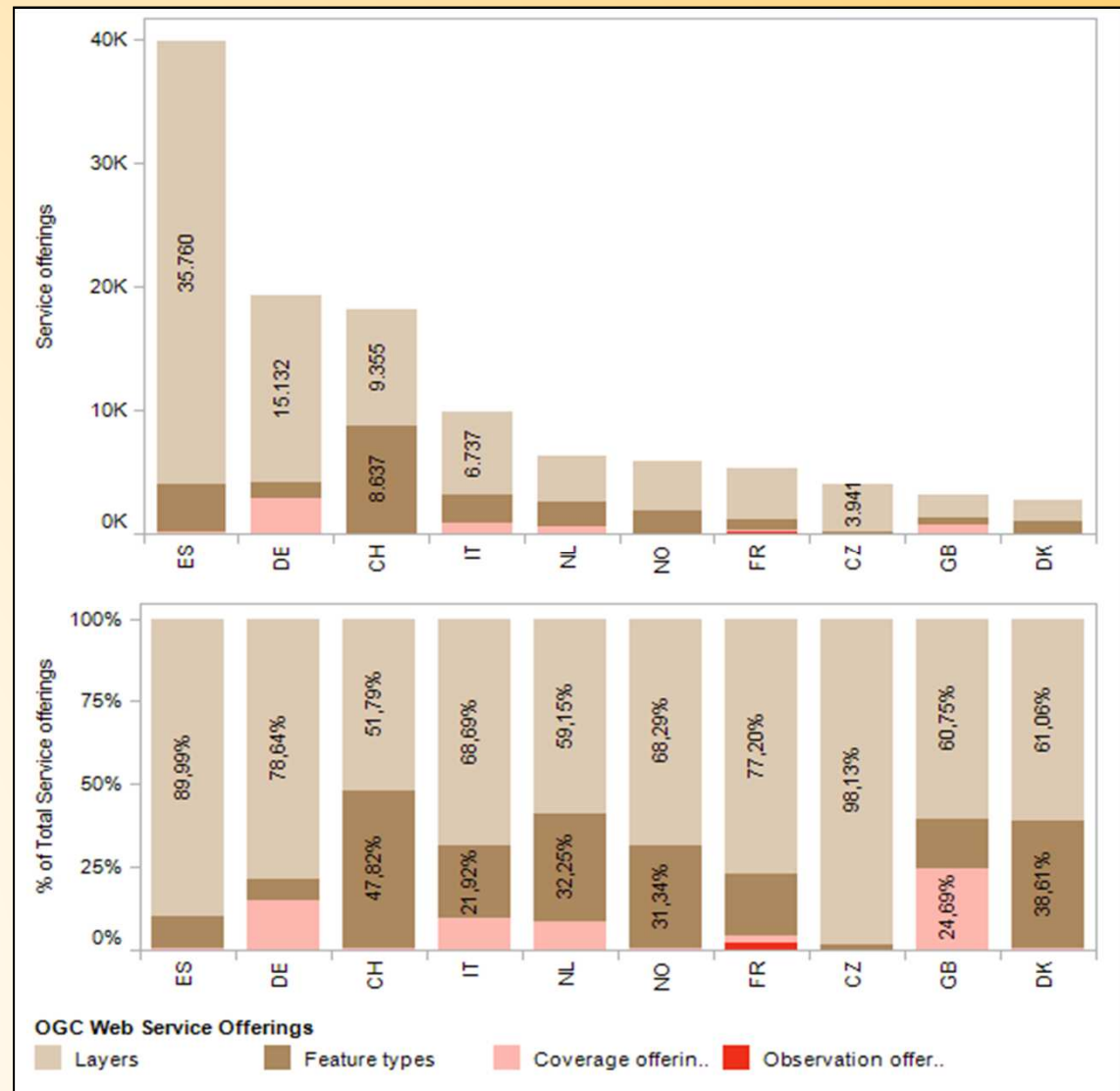
Examples of potential uses of crawl data for assessment:

- Analysis of NSDI offerings structure
- Characterization of NSDI service providers

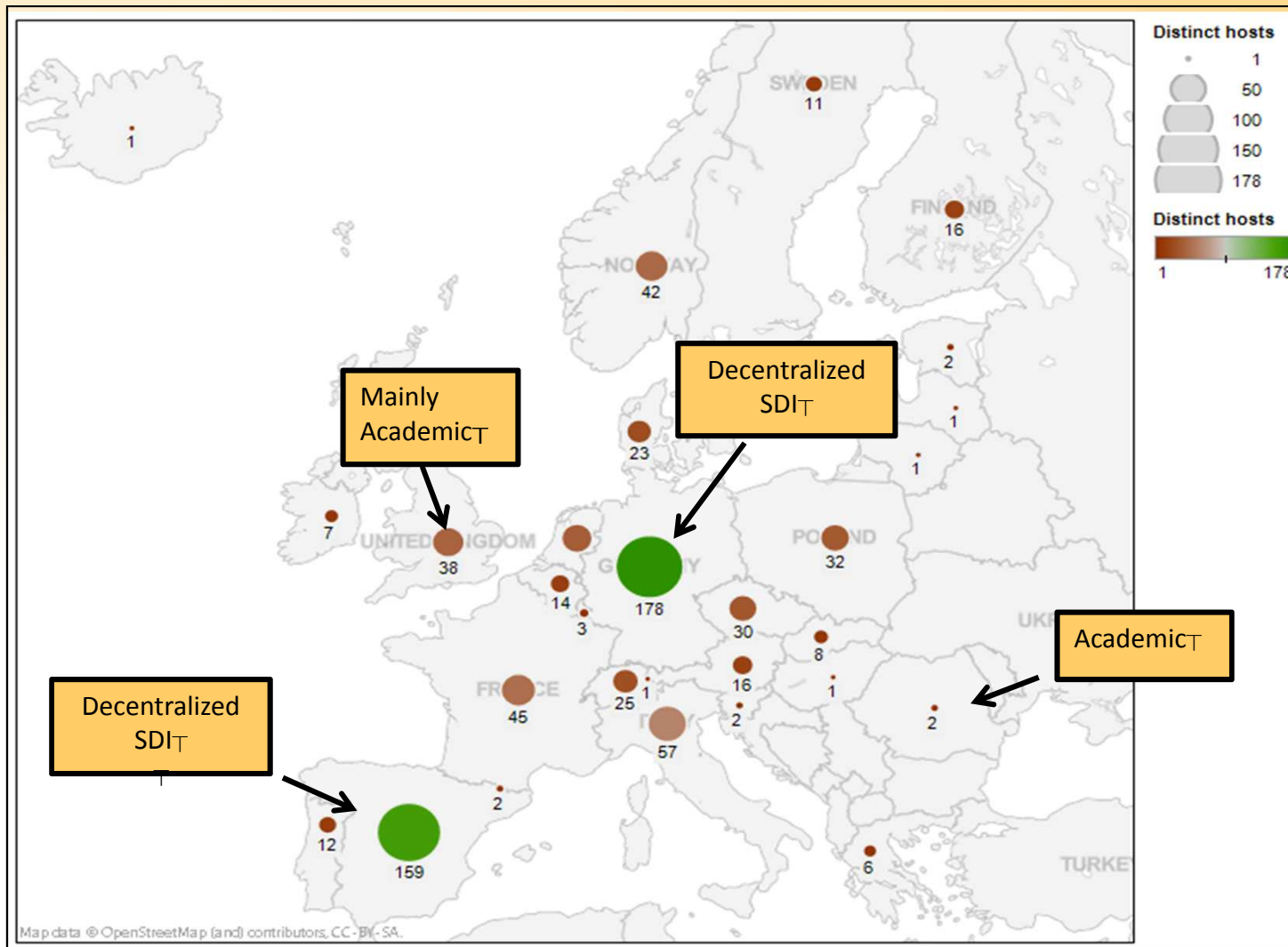


Analysis of NSDI offerings structure

- Heavily focused on portrayal (+75%)
 - ES, DE, CZ, FR
- Processable geo web (+40%)
 - CH, NL, GB, DK
- Intensive use of services
 - ES, CH, NL, NO



Characterization of NSDI service providers



Conclusions

- Network services are dynamic
 - Assessment on network services should be dynamic too!
- Focused crawl approaches can ...
 - Complement metadata/questionnaire based approaches
 - Provide near real-time data for SDI government bodies
 - Are applicable to other issues (e.g. check data and metadata accessibility)
- Crawl June 2011 identified
 - World: 12344 services (8266 active)
 - Europe: 7987 services (4789 active)
 - Details available under request at
 - <http://iaaa.cps.unizar.es/>
 - <mailto:fjlopez@unizar.es>





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IAAA is currently a partner in the
EuroGeoSource project

<http://www.eurogeosource.eu>

