

Analysis of On-Line Availability and Access Conditions in EEA39 Countries of the Essential Reference Data Required by Copernicus Services



European Environment Agency







PROJECT OBJECTIVE



- European Environment Agency (EEA)- Copernicus
- Scenario in order to plan the incorporation of data sources into the Copernicus platform (CORDA).
- June and November 2014

RESULTS EXPECTED

- Free of charge datasets
- Online accessible datasets
- Quality datasets
- Access conditions



INDEX

[BACKGROUND]

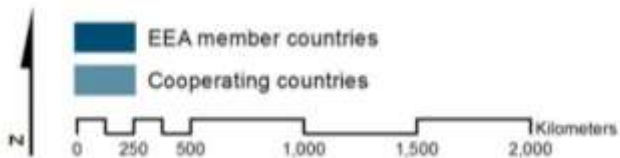
- METHODOLOGY
- RESULTS
- CONCLUSIONS

[NEXT STEPS]

METHODOLOGY

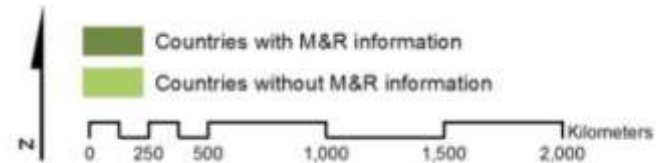
- INITIAL CONSIDERATIONS
- DATA SELECTION
- URL CHECKING
- DATA VALIDATION

[INITIAL CONSIDERATIONS]



EEA39 countries:

- 33 EEA member countries
- 6 Cooperating countries



1 Transport networks: scale 1:25 000-1:50 000, preferably WFS (I.7)

2 DEM: resolution <10m, preferably WMS or download (II.1)

3 Land cover/use: scale 1:50 000 or larger, preferably WFS (II.2/III.4)

4 Ortho-imagery: accuracy <0,5m, preferably WMS or download (II.3)

5 Buildings: scale 1:10.000 – 1:50.000, preferably WFS (III.2)

[METHODOLOGY] DATA SELECTION

INSPIRE themes of interest:

- I.7 Transport network
- II.1 Elevation
- II.2 Land Cover
- II.3 Orthoimagery
- III.2 Buildings
- III.4 Land use

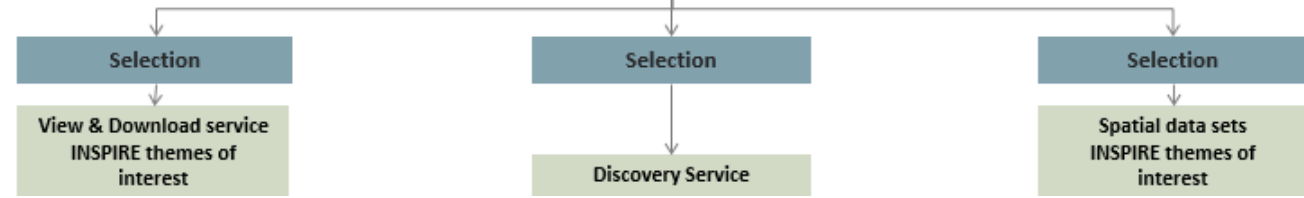


Original info and requirements

Performed process

Obtained product

Monitoring & Reporting (MR)



[METHODOLOGY]

URL CHECKING

INSPIRE themes of interest:

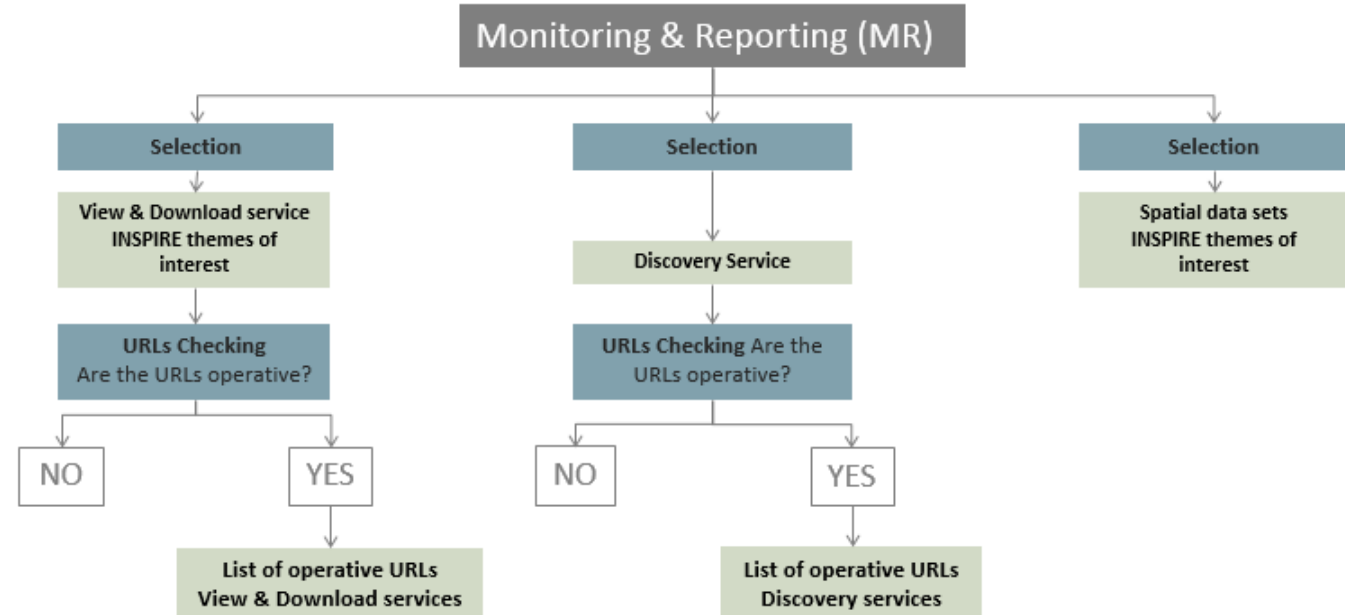
- I.7 Transport network
- II.1 Elevation
- II.2 Land Cover
- II.3 Orthoimagery
- III.2 Buildings
- III.4 Land use



Original info and requirements

Performed process

Obtained product



[METHODOLOGY]

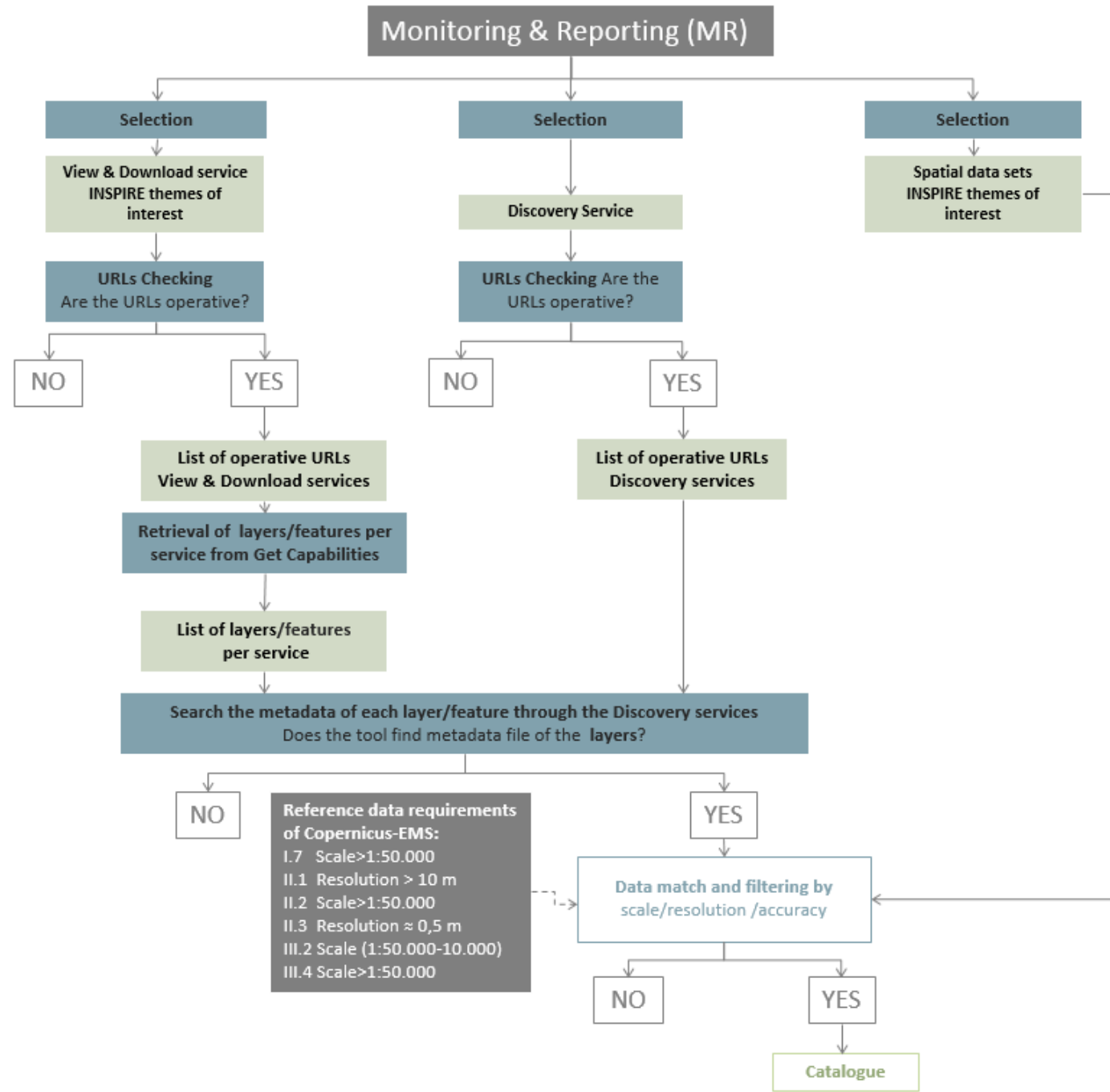
DATA VALIDATION

- INSPIRE themes of interest:**
- I.7 Transport network
 - II.1 Elevation
 - II.2 Land Cover
 - II.3 Orthoimagery
 - III.2 Buildings
 - III.4 Land use

Original info and requirements

Performed process

Obtained product



RESULTS

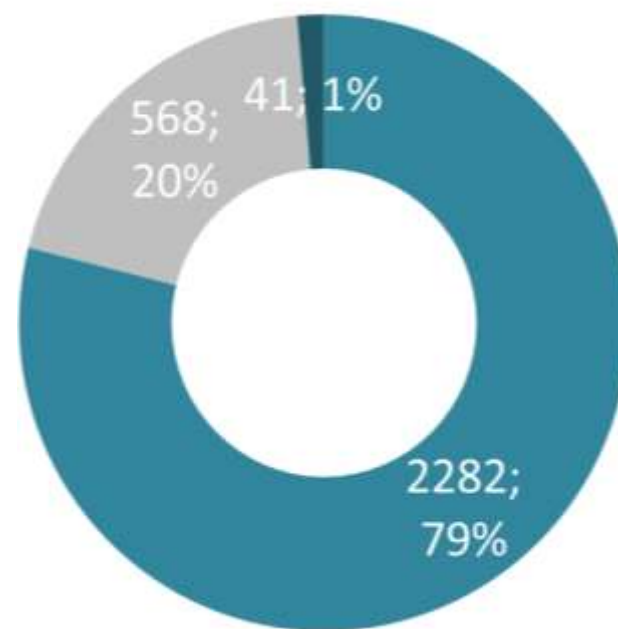
- GLOBAL RESULTS
- RESULTS PER THEME
- RESULTS PER THEME AND PER COUNTRY
- RESULTS PER COUNTRY
- GLOBAL SCENARIO PER THEME AND PER COUNTRY
- METADATA ANALYSIS

[FINDINGS & RESULTS]

GLOBAL RESULTS

CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints



Nearly **3000** URLs checked

80% operative URLs

20% non-operative URLs

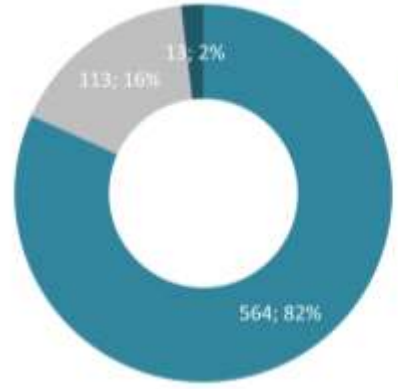
41 services access constraints

It should be taken into account that:

- These are operative services not necessarily compliant with Copernicus requirements
- Results are variable because service availability and access conditions can change constantly.
- Currently organizations have different ways of publishing services. This lack of standardization perverts results.
- Spain reported 1330 services.
- 2 Countries without M&R input (no services related to data themes)
- 5 countries without operative M&R services related to themes.

[FINDINGS & RESULTS]

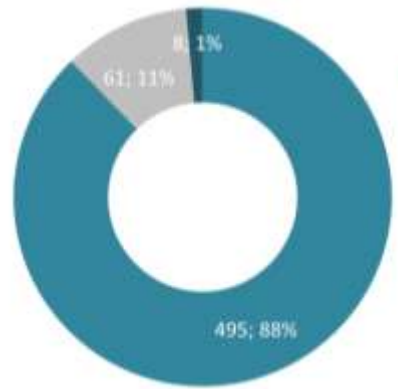
RESULTS PER THEME



TRANSPORT NETWORKS

TN

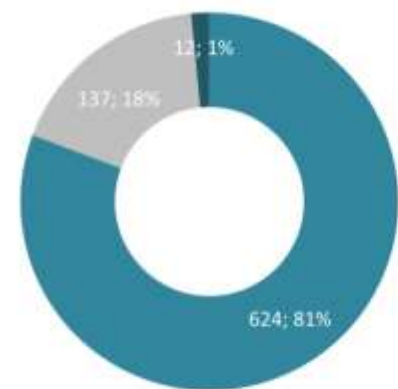
564
13
113



ELEVATION_DEM

EL

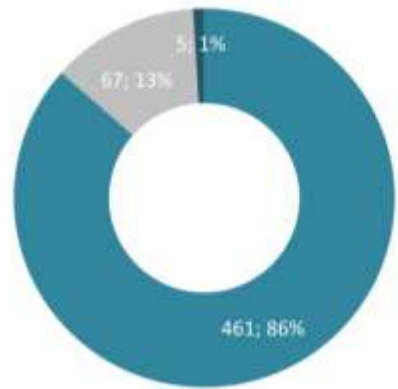
495
8
61



LAND USE/COVER

LU **LC**

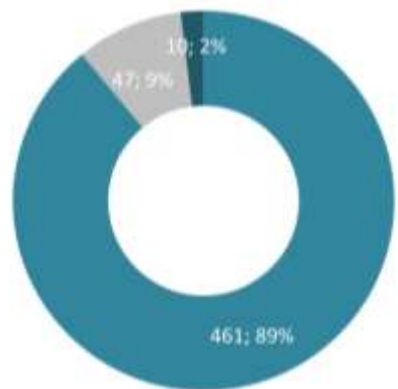
624
12
137



ORTHOIMAGERY

OI

462
5
67



BUILDING BLOCKS

BU

461
10
47

CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints

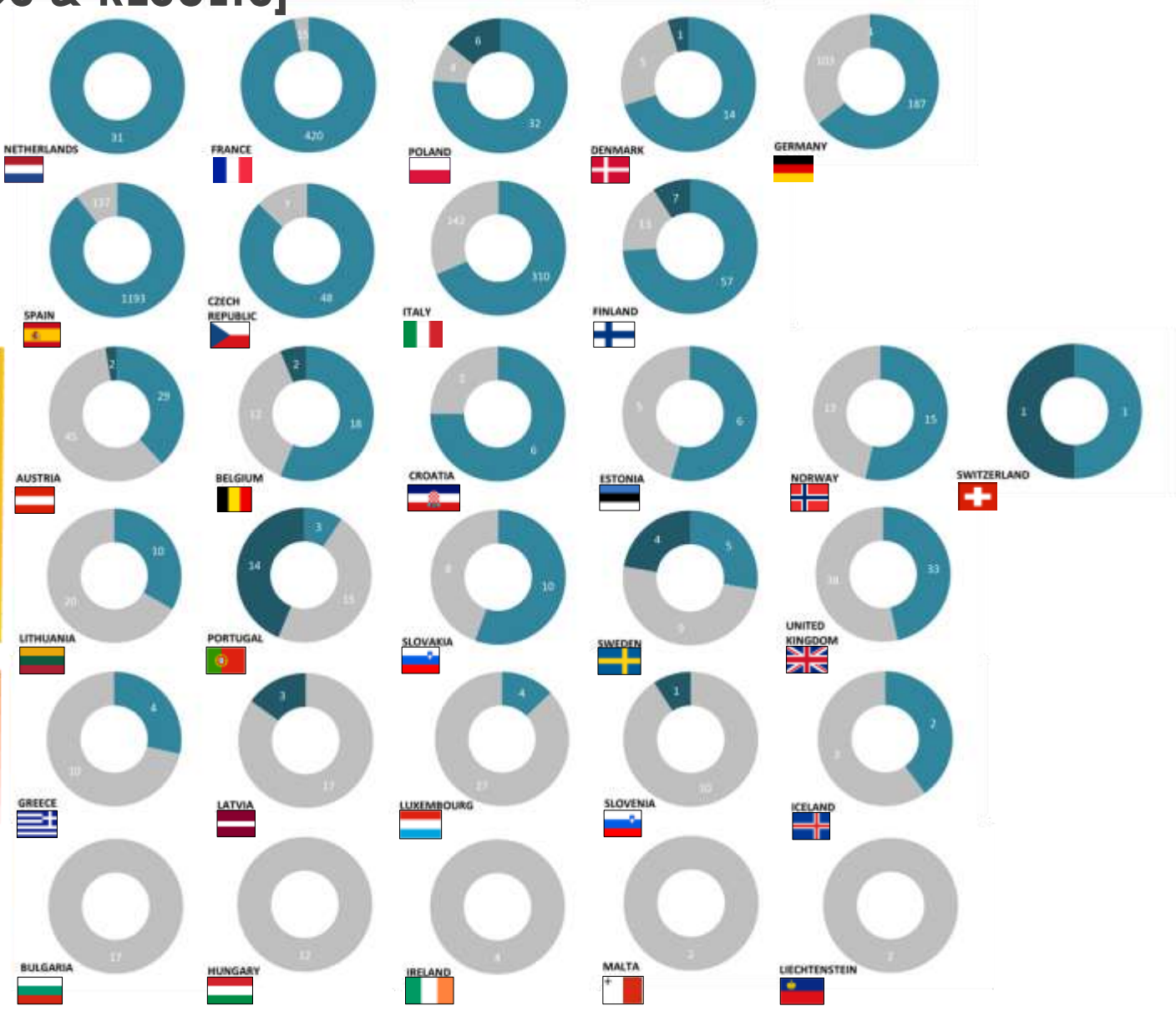
[FINDINGS & RESULTS]

HIGH % OPERATIVE URLs

MEDIUM % OPERATIVE URLs

LOW % OPERATIVE URLs

NO INPUT URLs



CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints

GLOBAL RESULTS PER COUNTRY

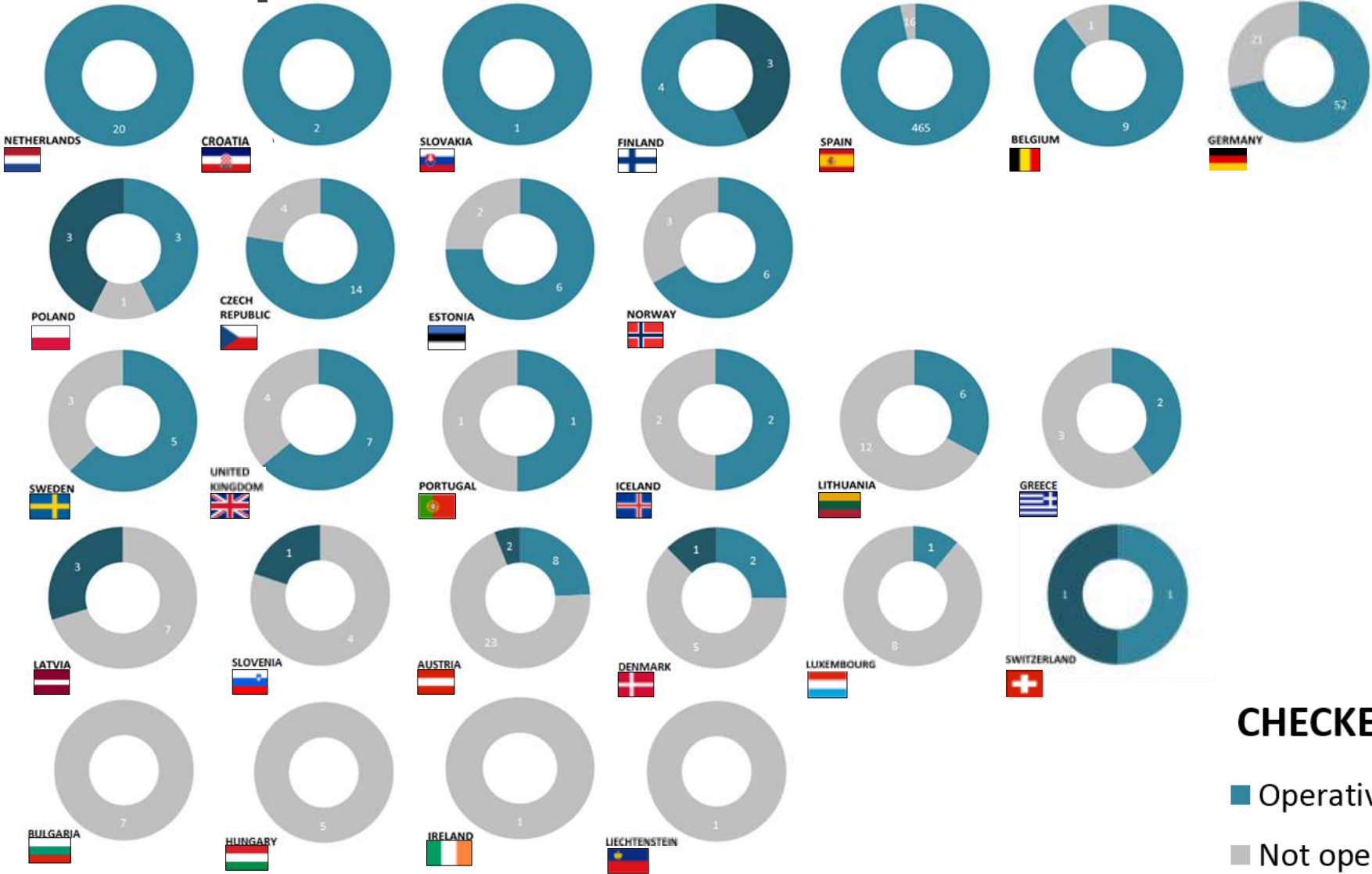
[FINDINGS & RESULTS]

HIGH % OPERATIVE URLs

MEDIUM % OPERATIVE URLs

LOW % OPERATIVE URLs

NO INPUT URLs



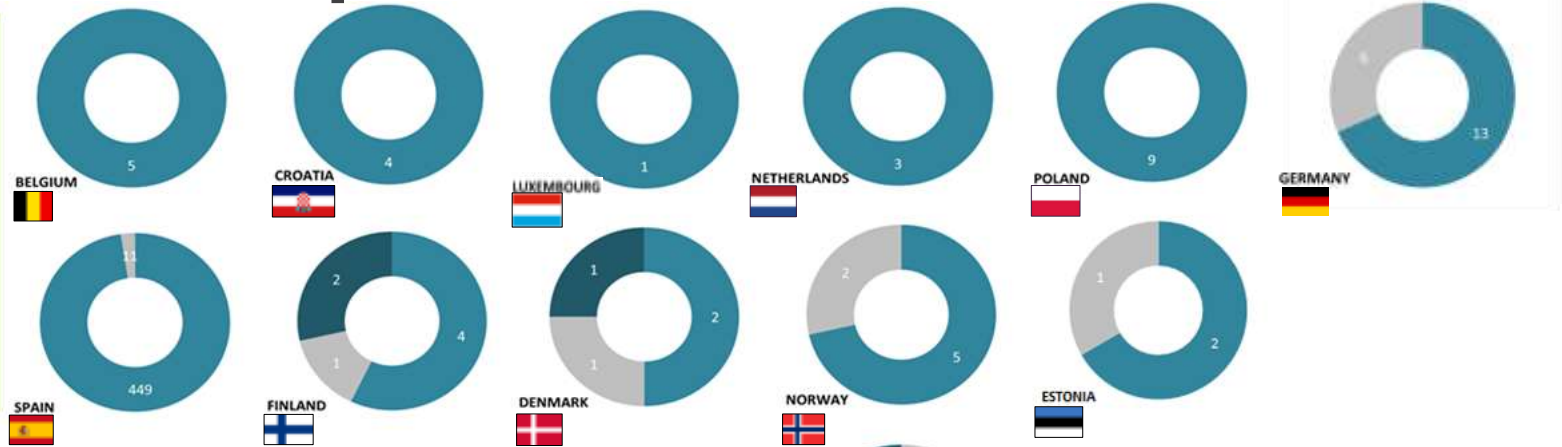
CYPRUS
 MALTA
 ROMANIA

CHECKED URLs

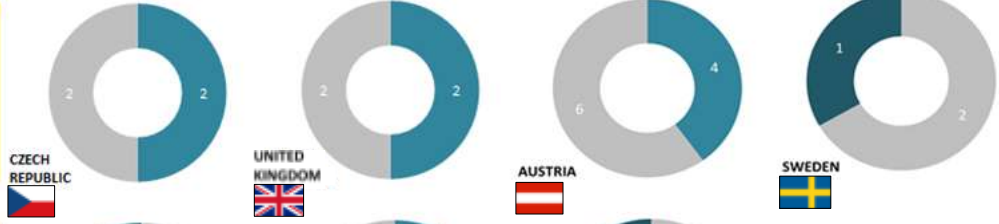
- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints

[FINDINGS & RESULTS]

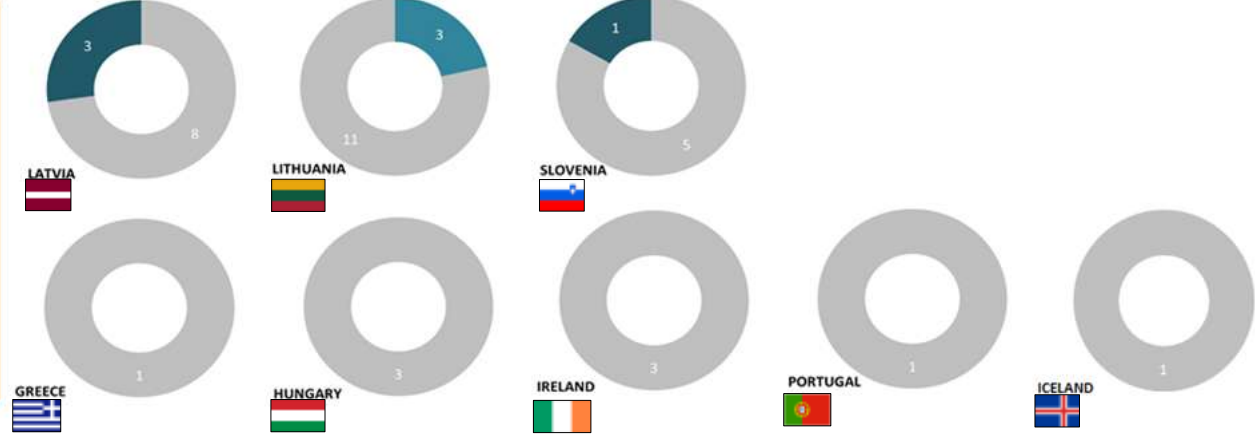
HIGH % OPERATIVE URLs



MEDIUM % OPERATIVE URLs



LOW % OPERATIVE URLs



NO INPUT URLs

- BULGARIA
- CYPRUS
- MALTA
- ROMANIA
- SLOVAKIA
- LIECHTENSTEIN
- SWITZERLAND

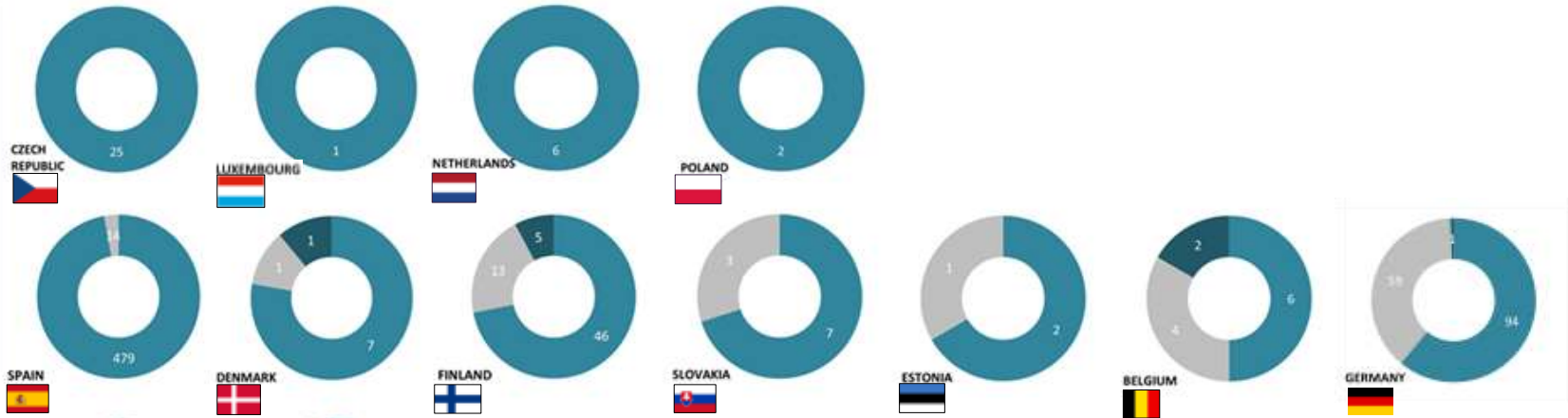
CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints

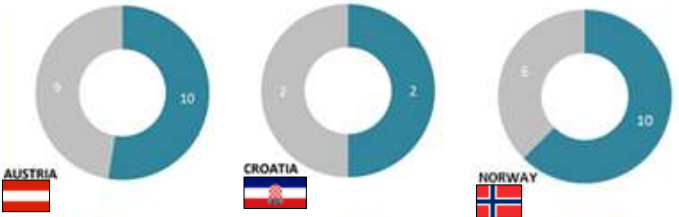


[FINDINGS & RESULTS]

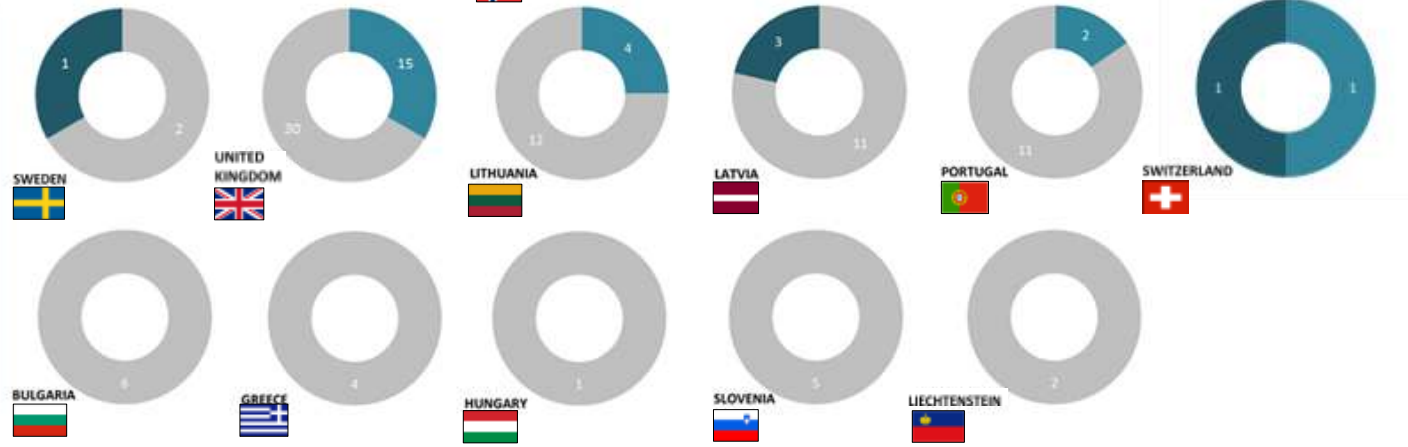
HIGH % OPERATIVE URLs



MEDIUM % OPERATIVE URLs



LOW % OPERATIVE URLs



NO INPUT URLs

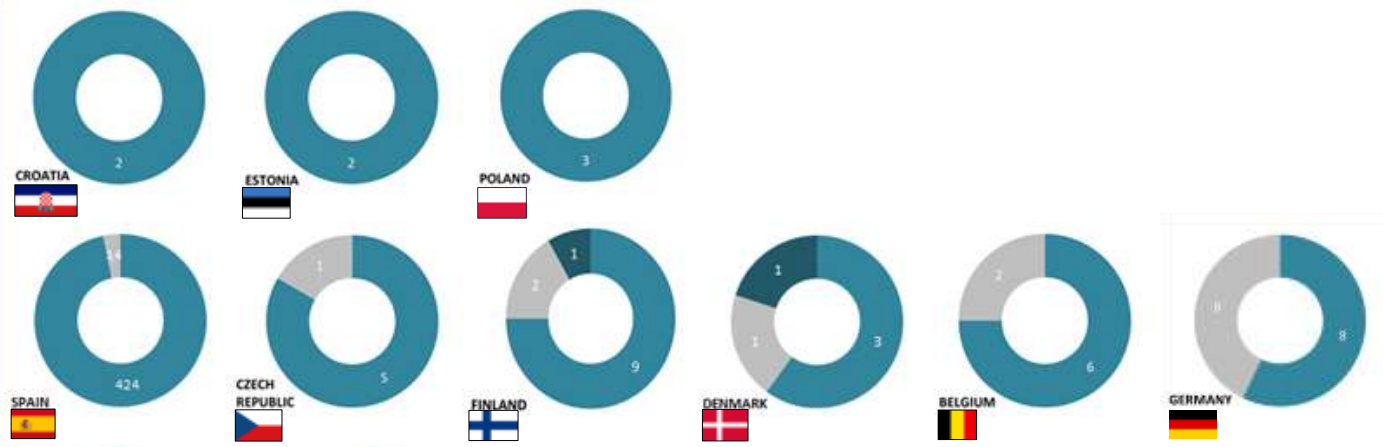
- CYPRUS
- IRELAND
- MALTA
- ROMANIA
- ICELAND

CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints

[FINDINGS & RESULTS]

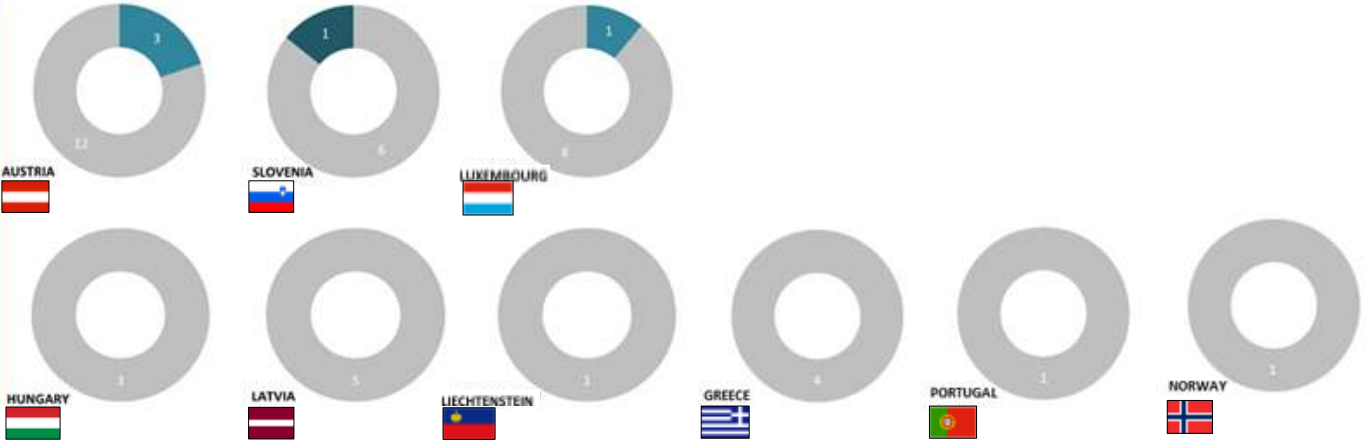
HIGH % OPERATIVE URLs



MEDIUM % OPERATIVE URLs



LOW % OPERATIVE URLs



NO INPUT URLs

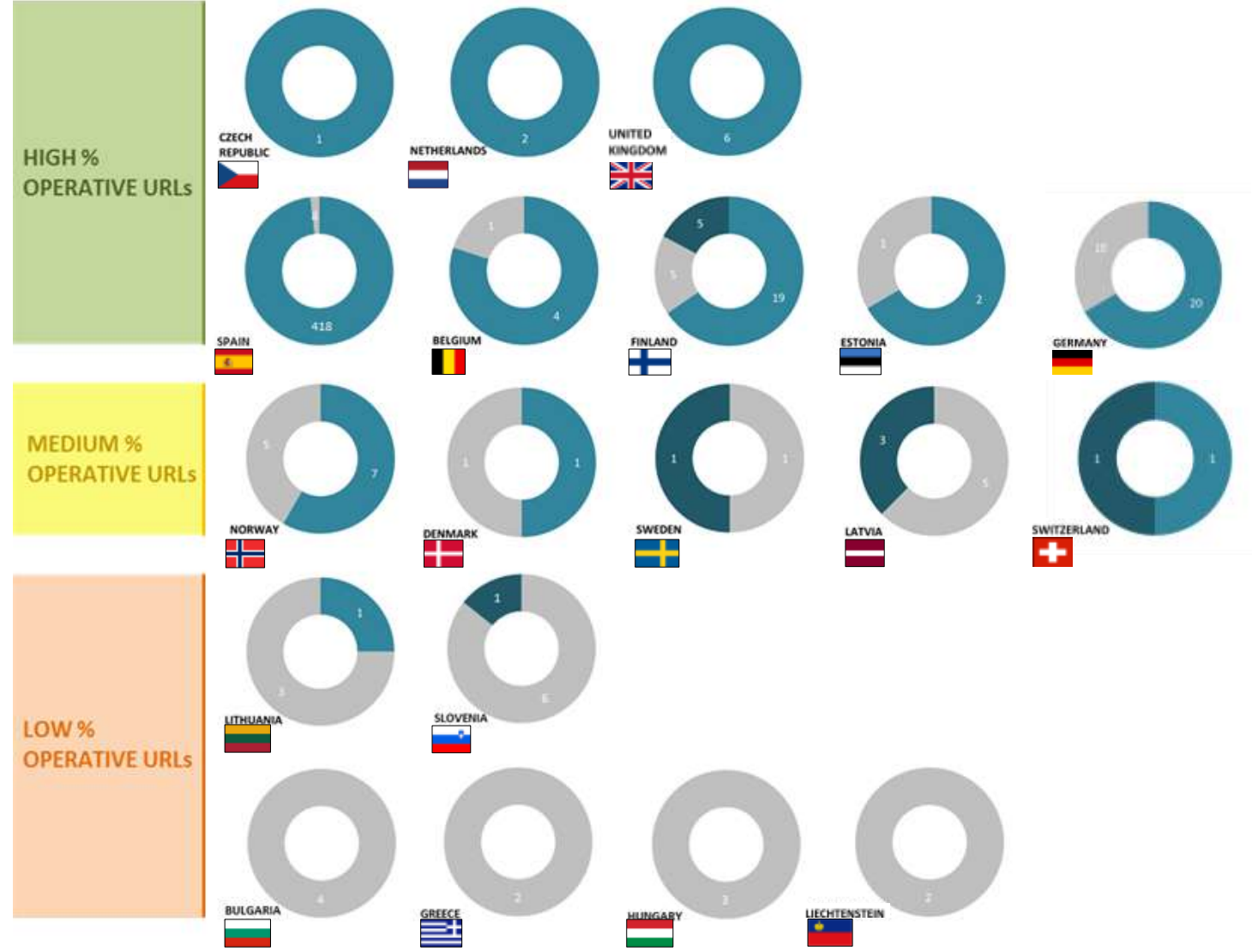
- BULGARIA
- CYPRUS
- IRELAND
- MALTA
- NETHERLANDS
- ROMANIA
- SLOVAKIA
- UNITED KINGDOM
- ICELAND
- SWITZERLAND

CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints



[FINDINGS & RESULTS]



- NO INPUT URLs (Grey background):**
- AUSTRIA
 - CROATIA
 - CYPRUS
 - IRELAND
 - LUXEMBOURG
 - MALTA
 - POLAND
 - PORTUGAL
 - ROMANIA
 - SLOVAKIA
 - ICELAND

CHECKED URLs

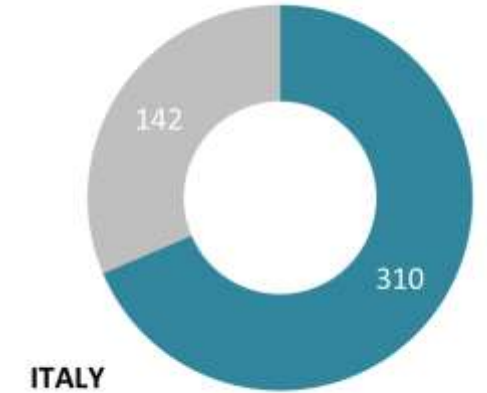
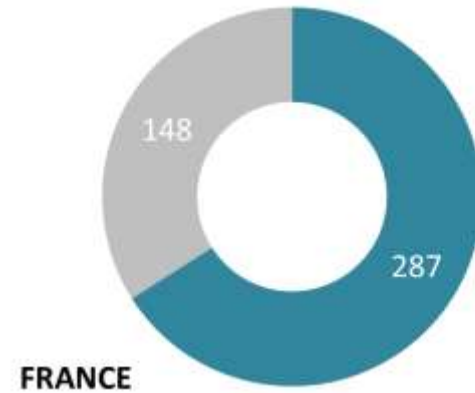
- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints

[FINDINGS & RESULTS]

RESULTS PER COUNTRY

CHECKED URLs

- Operative URLs
- Not operative URLs
- Operative URLs _Access constraints



1 Number and percentage of operative services

435 services related to the INSPIRE themes were checked
 287 services were operative (66%)
 148 services were inoperative

452 services related to the INSPIRE themes were checked
 310 services were operative (69%)
 142 services were inoperative

2 Number of operative services per theme and type of service

	TOTAL	TYPE OF SERVICE				
	No. of services	WMS	WMTS	WFS	ATOM	ESRI
Transport networks	19	√	-	-	-	-
DEM	3	√	-	-	-	-
Land cover/use	13	√	-	-	-	-
Ortho-imagery	11	√	-	-	-	-
Building blocks	7	√	-	-	-	-

	TOTAL	TYPE OF SERVICE				
	No. of services	WMS	WMTS	WFS	ATOM	ESRI
Transport networks	21	√	√	√	-	-
DEM	10	√	-	-	-	-
Land cover/use	81	√	-	√	-	√
Ortho-imagery	65	√	√	-	-	√
Building blocks	9	√	-	√	-	-

3 Number of layers offered

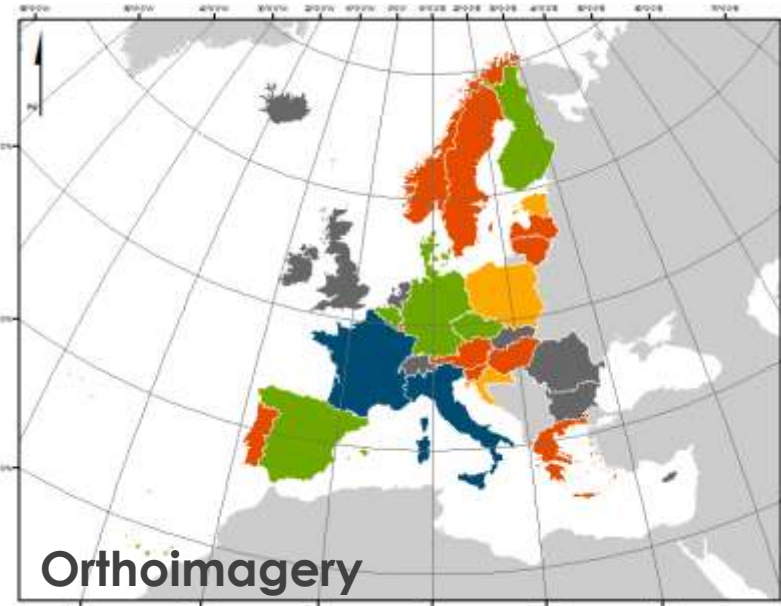
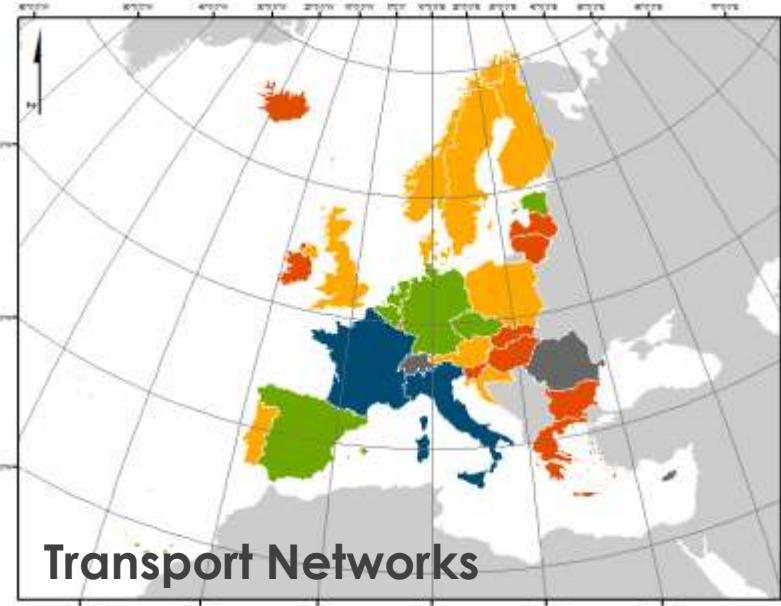
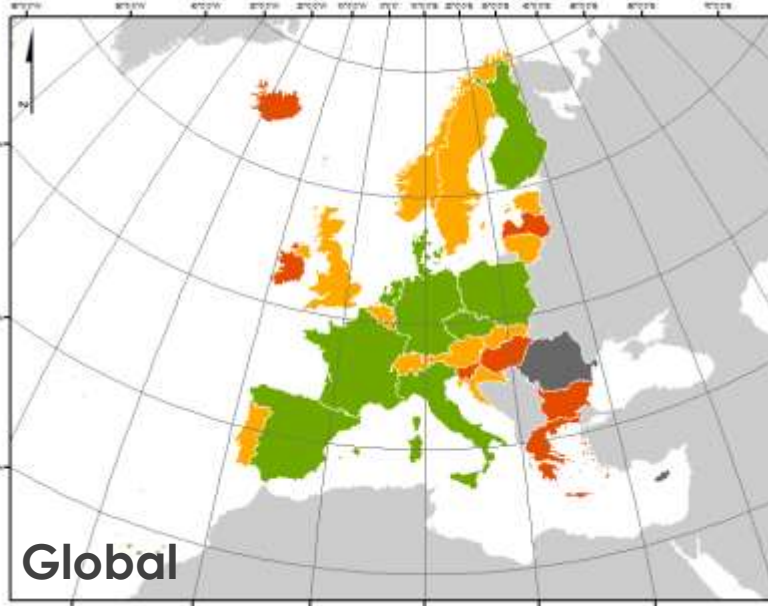
8735 layers /spatial data sets
 8693 layers WMS operative services
 37 layers WFS operative services
 1 layers ATOM operative services

6552 layers /spatial data sets
 1776 layers WMS operative services
 15 layers WMTS operative services
 95 layers WFS operative services
 4666 layers ESRI operative services

4 Access constraints

[FINDINGS & RESULTS]

GLOBAL SCENARIO PER THEME AND PER COUNTRY



[FINDINGS & RESULTS]

METADATA ANALYSIS

14.27% operative layers where scale/resolution/accuracy could be retrieved.

- Not mandatory for metadata to include a link to data and the other way round.
- Generally layers/features from services cannot be found in the available discovery services.
- The CWS standard cannot guarantee that metadata will be retrieved.
- Considerable amount of layers with scale or resolution within their titles or names.

CONCLUSIONS

- M&R : main information resource
does not link spatial data sets to services
- 20% of the URLs are inoperative
- Web services standardization
- 14.27% operative layers with scale/resolution/accuracy

NEXT STEPS

REAL ONLINE AVAILABILITY (20%)



WEB SERVICES STANDARDIZATION



METADATA ↔ SERVICES



[THANK YOU]

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