



INSPIRE Geoportals: Status update

JRC INSPIRE Team

72nd MIG-T, November 25th 2022

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INSPIRE Geoportal

Objectives

Renew the INSPIRE Geoportal

- **Geoportal Backend:**
 - Migration to a GeoNetwork-based architecture.
 - Maintain functionality of the current Geoportal.
 - Improve Harvesting processes: performance (use of micro-services).
 - Migration to a cloud environment: assure system availability / scalability.
- **Geoportal Frontend:**
 - New UI filtering INSPIRE datasets according to High-Value Datasets.
 - To be launched with the adoption of the HVDs Implementing Act.

INSPIRE Geoportal Revamp

<https://inspire-geoportal.ec.europa.eu>

Main access point to INSPIRE Infrastructure tools and resources.

- Based on own development.
- Main focus: INSPIRE M&R.
- Being revamped using a GeoNetwork-based backend.

The screenshot shows the INSPIRE Geoportal interface. 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 is a breadcrumb trail: 'European Commission > INSPIRE > Geoportal'. A secondary navigation bar contains links for 'Home', 'Priority Data Sets Viewer', 'Thematic Viewer', 'Harvesting status', and 'Find out more about'. The main content area is titled 'INSPIRE Data Sets - EU & EFTA Country overview'. It features a map of Europe with a 'Hover over a country' tooltip. To the right of the map is a 'Statistics' panel with three yellow and blue boxes: '84729 Metadata records', '57494 Downloadable Data Sets', and '57704 Viewable Data Sets'. Below the statistics is a 'Spatial scope' section with radio buttons for 'National coverage' and 'Regional'. At the bottom of the map area is a 'Select a COUNTRY' section with a grid of country names, flags, and icons representing data set counts. A 'Download stats' button is located at the bottom right of the page. The footer contains 'INSPIRE Geoportal' and 'Version: 1.6.2'.

INSPIRE GEOPORTAL
Enhancing access to European spatial data

European Commission > INSPIRE > Geoportal

Home Priority Data Sets Viewer Thematic Viewer Harvesting status Find out more about

INSPIRE Data Sets - EU & EFTA Country overview

INSPIRE Geoportal Data Set Statistics

84729 Metadata records

57494 Downloadable Data Sets

57704 Viewable Data Sets

Spatial scope: National coverage Regional

Select a COUNTRY

Austria	692 461 447	Finland	651 263 238	Latvia	157 99 96	Portugal	503 257 272
Belgium	593 521 525	France	218 75 17	Liechtenstein	70 11 12	Romania	108 38 39
Bulgaria	305 110 103	Germany	71854 53004 53644	Lithuania	132 132 60	Slovakia	257 164 167
Croatia	147 42 95	Greece	45 43 44	Luxembourg	309 288 277	Slovenia	98 48 59
Cyprus	42 32 34	Hungary	121 23 20	Malta	150 145 148	Spain	242 183 186
Czech Republic	91 74 79	Iceland	95 47 0	Netherlands	217 131 135	Sweden	243 191 200
Denmark	202 95 98	Ireland	80 52 51	Norway	161 71 28	Switzerland	218 2 4
Estonia	88 54 59	Italy	6498 755 487	Poland	147 83 80		

Select the whole EUROPE

Download stats

INSPIRE Geoportal Version: 1.6.2

INSPIRE Geoportal

Revamp – User interface

User interface

- **Available** – Filtering by High Value Datasets (HVDs).

To be launched when the Implementing Act on HVDs is entering into force.

- **Ready to be launch** – Additional developments to integrate the new user interface with the new backend: GeoNetwork.

The screenshot displays the INSPIRE Geoportal website. At the top, there is the European Commission logo and the text 'European Commission'. A navigation bar includes 'European Commission > INSPIRE > INSPIRE Geoportal > HOME'. Below this, a dark blue header contains the text 'ENHANCING ACCESS TO EUROPEAN SPATIAL DATA' and 'INSPIRE GEOPORTAL'. A secondary navigation bar lists 'Home', 'High-Value Data Sets', 'Thematic Data', 'Harvesting status', and 'Find out more about'. The main content area features a 'Welcome to the INSPIRE Geoportal' section with a brief introduction and a bulleted list of capabilities: monitoring data set availability, discovering data sets based on metadata, and accessing data sets. Below this, there are two main sections: 'High-Value Data Sets' and 'INSPIRE Thematic Data'. Each section includes a map-based graphic, a descriptive paragraph, and a 'Browse' button. The 'High-Value Data Sets' section mentions 'priority data sets for eReporting'. The 'INSPIRE Thematic Data' section mentions 'Annex I, II and III'. At the bottom, there is a section for the 'INSPIRE Reference Validator' with a 'Go to INSPIRE Reference Validator' button.

INSPIRE Geoportal

Revamp – Backend: GeoNetwork (AWS cloud)



- Prototype:
Available and revised
- Working system:
Delivered
JRC Testing finished
Rollout on-going

The screenshot displays the 'My GeoNetwork catalogue' interface. On the left, a sidebar shows 'Catalog harvesters' and 'Catalog harvester report'. The main area is titled 'Harvester' and lists several harvesters, each with a status indicator and 'Last run : Invalid date'. The 'BE-GEOBRU' harvester is highlighted in blue. On the right, the configuration page for 'BE-GEOBRU' is shown, including sections for 'Identification', 'Schedule', 'Group', 'User', and 'Configuration for protocol OGC CSW 2.0.2 (remote harvester)'. The 'Service URL' is set to 'https://geobru-geonetwork.irisnet.be/geonetwork/inspire/fre/csw'. The 'Number of records to retrieve per request' is set to 20.

INSPIRE Geoportal revamp

Working steps

- **70 MIG-T – Beta-testing plan announcement.**
7th July 2022
- **1st Training session - Revamped INSPIRE Geoportal backend.**
15th July 2022
- **Ad-hoc Online Survey (beta-testing feedback).**
22nd July 2022 - 15th October 2002
- **2nd Q&A Training session - Revamped INSPIRE Geoportal backend.**
5th October
- **INSPIRE Geoportal revamp. – ROLLOUT ON-GOING**
~~End November 2022~~
- **3rd Training session – Revamped INSPIRE Geoportal (backend + frontend/UI).**
~~Beginning November 2022~~ – **AFTER THE ROLLOUT**
- **M&R round 2022.**
15th December 2022

INSPIRE Geoportal Trainings

- 1st short training session (~1 hour) to allow them use the harvester, explore and test it.
 - Using GeoNetwork Sandbox instance.
 - 15th July 2022 - Video recording:
<https://jrcbox.jrc.ec.europa.eu/index.php/s/VaJ6kfOpFpLqNQO>
- 2nd Training session (~2 hours) – Overview and analysis of survey results + Q/A session.
 - Using the new INSPIRE Geoportal AWS cloud instance.
 - 5th October 2022 - Video recording:
<https://jrcbox.jrc.ec.europa.eu/index.php/s/Yen3R5fRxYignEu>
- 3rd Training session (~1 hours) – Full training on revamped INSPIRE Geoportal.
 - Using the new INSPIRE Geoportal AWS cloud instance.
 - Including: Backend + Geoportal UI & Publication System.
 - ~~TBD~~ ~~Beginning November 2022~~ - **AFTER THE ROLLOUT**

INSPIRE Geoportal UI Demonstration

- Demonstration

- UI Ready for rollout.
- Working in final rollout, including integration with the revamped backend (GeoNetwork) in AWS instance.

The screenshot displays the INSPIRE Geoportal UI. At the top, there is a header with the European Commission logo, a 'Log in' button, a language selector set to 'English', and a search bar. Below the header is a dark blue navigation bar with the text 'My GeoNetwork catalogue' and a menu with items: 'Home', 'Priority Data Sets Viewer', 'Thematic Data', 'Harvesting status', and 'Find out more about'. A breadcrumb trail shows the path: 'European Commission > INSPIRE > Geoportal > Home'.

The main content area features a 'Welcome to the INSPIRE Geoportal' section. It explains that the portal is the central European access point to data provided by EU Member States and several EFTA countries under the INSPIRE Directive. The portal allows for:

- monitoring the availability of INSPIRE data sets;
- discovering suitable data sets based on their descriptions (metadata);
- accessing the selected data sets through their view or download services.

The metadata used in the Geoportal are regularly harvested from the discovery services of EU Member States and EFTA countries. The status of harvesting is available [here](#). Feedback regarding the functionality as well as data set availability is welcome [here](#).

Below the welcome message are three main sections:

- Priority Datasets:** Features a map with a circular overlay containing a fan of colored cards. The text below states: 'The application provides an overview and access to geospatial high-value datasets and other core data (including priority datasets for eReporting)'. A 'Browse' button is located at the bottom.
- INSPIRE Thematic Data:** Features a map with a circular overlay containing a bar chart. The text below states: 'The application displays the availability and provides access to all EU MS datasets falling under the scope of INSPIRE Directive filtered by data themes and countries (i.e. Annex I, II and III)'. A 'Browse' button is located at the bottom.
- INSPIRE Reference Validator:** The text below states: 'The validator application is to help data providers, solution providers and national coordinators to check whether their datasets, network services and metadata meet the requirements defined in the INSPIRE Technical Guidelines. The validation tests are based on the Abstract Test Suites agreed between Member States and the Commission in the INSPIRE Maintenance and Implementation Group.' A 'Go to INSPIRE Reference Validator' button is located at the bottom.

The footer is a dark blue bar with three columns of links:

- My GeoNetwork catalogue:** This application is managed by the European Commission Joint Research Centre B6 Unit.
- Contact:** Contact us
- Geoportal:** Home, Priority Data Sets Viewer, INSPIRE Thematic Viewer
- Related sites:** Knowledge Base, Validator, Registry

INSPIRE Geoportal backend beta-testing

Participation and scope

- The JRC harvested all national endpoints, obtaining global results (34 endpoints).
- Countries that requested participation in beta-testing:
AT, BE (4), CH, CZ, DE, EE, EL, ES, FI, HR, IS, IT, LU, MT, NL, PL, PT, SE, SK (22 endpoints).
- MS / EFTA countries testing representativeness: 65%

Preliminary results

04/10/2022

	Participant in beta-testing & survey
	Requested participation in beta-testing

	Improved result
	Equal result
	Decreased result
	Non successful harvest

COUNTRY	OLD GEOPORTAL						NEW GEOPORTAL (AWS)						
	Harvest date	N. dataset metadata	N. series metadata	N. service metadata	N. viewable datasets	N. downloadable datasets	Harvest date	N. metadata records	N. dataset metadata	N. series metadata	N. service metadata	N. viewable datasets	N. downloadable datasets
AT	29/09/2022	713	0	617	500	482	23/09/2022	1329	712	0	617	486	671
BG	20/09/2022	175	0	38	20	85	23/09/2022	219	176	0	38	79	79
CH	20/09/2022	207	3	34	4	0	23/09/2022	255	209	3	34	4	EMPTY
CY	16/09/2022	42	0	61	36	35	23/09/2022	103	42	0	61	37	37
CZ	15/09/2022	66	25	195	78	74	23/09/2022	286	66	25	195	77	60
DK	22/09/2022	203	0	246	100	96	23/09/2022	451	205	0	246	93	100
EE	05/09/2022	87	1	113	55	54	23/09/2022	208	88	1	119	59	59
EL	19/09/2022	45	0	98	39	42	23/09/2022	143	45	0	98	44	43
ES	16/09/2022	240	1	302	170	174	23/09/2022	543	240	1	302	200	164
FI	19/09/2022	567	67	218	230	258	23/09/2022	855	567	67	218	232	267
FR	20/09/2022	167	54	54	13	49	23/09/2022	275	167	54	54	39	3
HR	19/09/2022	134	17	235	94	38	04/10/2022	386	134	17	215	99	38
HU	19/09/2022	119	0	63	12	16	23/09/2022	189	110	0	59	17	19
IE	26/09/2022	74	0	21	45	51	23/09/2022	103	80	0	23	51	60
IS	16/09/2022	95	0	27	0	16	30/09/2022	123	95	0	28	EMPTY	EMPTY
LT	10/08/2022	132	0	122	60	92	23/09/2022						
LV	21/09/2022	156	1	240	96	99	23/09/2022	397	156	1	240	93	88
LU	20/09/2022	308	0	59	257	259	23/09/2022	367	308	0	59	270	289
LI	19/09/2022	72	0	3	12	11	23/09/2022	74	71	0	3	11	11
MT	16/09/2022	150	0	150	148	145	04/10/2022	300	150	0	150	148	143
NL	08/09/2022	206	1	350	130	124	23/09/2022	568	205	1	362	136	122
NO	20/09/2022	138	5	240	28	72	23/09/2022	383	138	5	240	28	59
PL	16/09/2022	143	4	246	81	87	04/10/2022						
PT	03/10/2022	496	5	524	273	243	23/09/2022	1025	496	5	524	363	317
RO	17/03/2022	102	1	76	33	35	04/10/2022	183	106	1	76	34	35
SE	23/09/2022	243	0	220	182	196	23/09/2022	464	243	0	221	181	186
SI	12/06/2022	98	0	131	57	47	23/09/2022	229	94	0	131	50	48
SK	16/09/2022	124	2	97	29	18	23/09/2022	683	265	2	416	172	119
DE	27/09/2022	79191	697	142000	62115	61364	27/09/2022	221990	79110	696	142178	53804	12990
BE 1 (Federal)	19/09/2022	89	0	47	72	74	29/09/2022	136	89	0	47	72	74
BE 2 (Geobru)	27/09/2022	56	0	50	44	38	29/09/2022	106	56	0	50	44	56
BE 3 (Wallonie)	20/09/2022	122	40	43	157	145	23/09/2022	204	122	39	43	157	159
BE 4 (MD Vlaan.)	20/09/2022	251	20	96	236	87	04/10/2022	374	258	20	96	247	163
IT	20/09/2022	6524	143	2076	523	780	24/09/2022	8743	6524	143	2076	565	480

INSPIRE Geoportal backend beta-testing

Preliminary results

- Legend:

	Participant in beta-testing & survey
	Requested participation in beta-testing
	Rate >= 1.05
	1.00 <= Rate < 1.05
	0.95 <= Rate < 1.00
	Rate <= 0.95
	Data equal to zero or not available.

COUNTRY	NEW INS-GPT / OLD INS-GPT				
	dsMD	srMD	sMD	vS	dS
Austria (AT)	1.00		1.00	0.97	1.39
Bulgaria (BG)	1.01		1.00	3.95	0.93
Switzerland (CH)	1.01	1.00	1.00	1.00	
Cyprus (CY)	1.00		1.00	1.03	1.06
Czech Republic (CZ)	1.00	1.00	1.00	0.99	0.81
Denmark (DK)	1.01		1.00	0.93	1.04
Estonia (EE)	1.01	1.00	1.05	1.07	1.09
Greece (EL)	1.00		1.00	1.13	1.02
Spain (ES)	1.00	1.00	1.00	1.18	0.94
Finland (FI)	1.00	1.00	1.00	1.01	1.03
France (FR)	1.00	1.00	1.00	3.00	0.06
Croatia (HR)	1.00	1.00	0.91	1.05	1.00
Hungary (HU)	0.92		0.94	1.42	1.19
Ireland (IE)	1.08		1.10	1.13	1.18
Iceland (IS)	1.00		1.04		
Lithuania (LT)	0.00		0.00	0.00	0.00
Latvia (LV)	1.00	1.00	1.00	0.97	0.89
Luxembourg (LU)	1.00		1.00	1.05	1.12
Liechtenstein (LI)	0.99		1.00	0.92	1.00
Malta (MT)	1.00		1.00	1.00	0.99
Netherlands (NL)	1.00	1.00	1.03	1.05	0.98
Norway (NO)	1.00	1.00	1.00	1.00	0.82
Poland (PL)	0.00	0.00	0.00	0.00	0.00
Portugal (PT)	1.00	1.00	1.00	1.33	1.30
Romania (RO)	1.04	1.00	1.00	1.03	1.00
Sweden (SE)	1.00		1.00	0.99	0.95
Slovenia (SI)	0.96		1.00	0.88	1.02
Slovakia (SK)	2.14	1.00	4.29	5.93	6.61
Germany (DE)	1.00	1.00	1.00	0.87	0.21
Belgium 1 (Federal)	1.00		1.00	1.00	1.00
Belgium 2 (Geobru)	1.00		1.00	1.00	1.47
Belgium 3 (Wallonie)	1.00	0.98	1.00	1.00	1.10
Belgium 4 (MD Vlaanderen)	1.03	1.00	1.00	1.05	1.87
Italy (IT)	1.00	1.00	1.00	1.08	0.62

INSPIRE Geoportal backend beta-testing

Conclusions & Status

- Slovakia: obtained unrealistic results due to coincidence of a unfortunate harvest with the Old Geoportal.
- Lithuania and Poland harvest were not running due to particular specificities in the national infrastructures.
- Bilateral meetings already held with Lithuania (25th Oct), Germany (27th Oct) and Poland (28th Oct).
- Anomaly detected on indicators for download services (e.g. FR, DE, IT) – Need to jointly improve the system.
- Other bilaterals will be offered to MS/countries to focus improvement.

INSPIRE Geoportal backend beta-testing

Survey

- Survey URL:
<https://ec.europa.eu/eusurvey/runner/INS-GPT-Backend-Beta-testing>
- Participants: 12 endpoints until 15th October 2022.
AT, BE, DE, EL, FI, HR, IS, NL, PL, PT, SE, SK.
- Started:
22nd July 2022
- Finished:
15th October 2022

INSPIRE Geoportal backend beta-testing

Survey results

- Evaluation

		Evaluation			
		Functionality	Usability	Performance	Improvement
NL	the Netherlands	Enough	Low	Enough	Roughly the same
NE	Belgium	Enough	Enough	Enough	No, slightly worse
AT	Austria	Enough	High	High	No, slightly worse
SK	Slovakia	Good	Enough	Enough	Yes, slightly better
FI	Finland	Good	Enough	Enough	Yes, slightly better
EL	GREECE	Good	Low	Very high	No, slightly worse
HR	Croatia	Enough	Enough	Enough	Roughly the same
DE	Germany	Good	High	Enough	Yes, a lot better
PT	Portugal	Good	High	Very high	Yes, a lot better
PL	Poland	Good	High	High	Yes, slightly better

INSPIRE Geoportal backend beta-testing

Improvements needed

- GeoNetwork UI – Refreshing and better integration with the new INSPIRE tools already developed.
- Mitigate indicators anomalies (accessibility of downloadable and viewable datasets), affecting mainly the large catalogues – Need to fine tune the code of the link checking component.
- Resolution of some vulnerabilities identified during the ongoing security assessment – Rollout in process.
- Upgrade the (AWS) cloud server to address performance issues (affects service availability).

INSPIRE Geoportal evolution

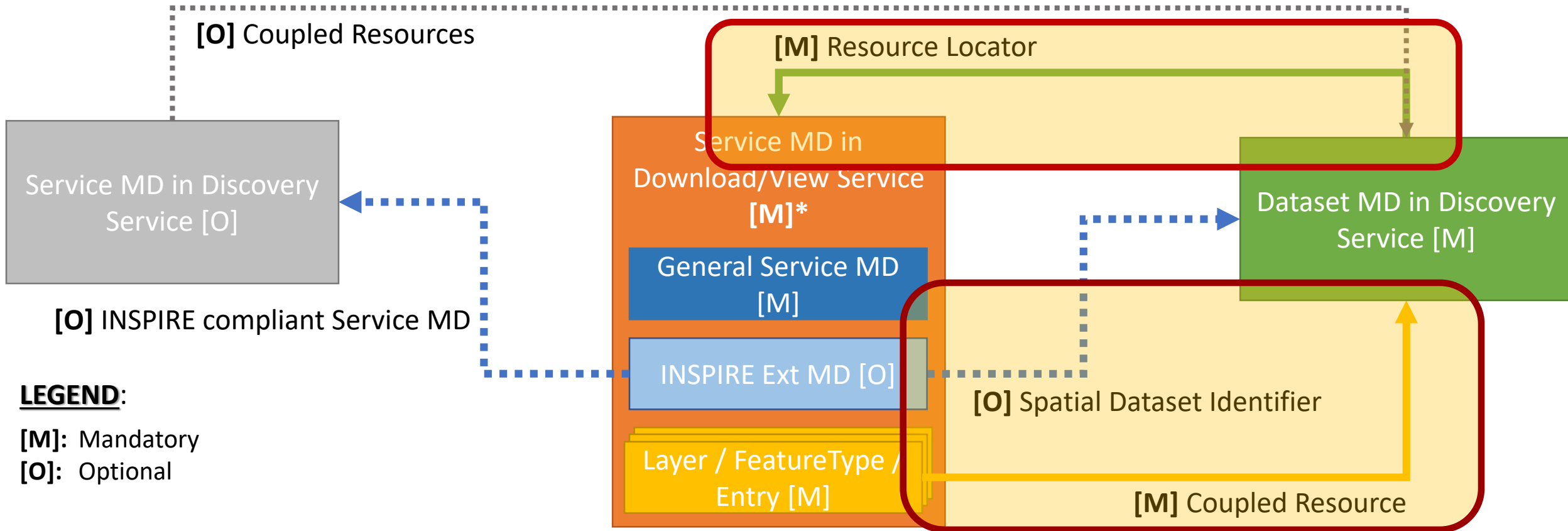
Potential improvements

- Potential development of new features:
 - Link checking tool to help MS/countries in checking the data-service linking in advance - Allow data providers to improve their metadata.
 - Bulk metadata downloader – To download all metadata files harvested from a MS/country endpoint.
 - Increased options for filtering (national and EU-level) discovery services, as requested by some MS/countries (e.g. SK).
- Implementation of Data-Service Linking Simplification good practice:
 - Outreach webinar (21.11.2022):
<https://inspire.ec.europa.eu/events/inspire-good-practice-data-service-linking-simplification-webinar>
 - Potential endorsement: 16th MIG + 72nd MIG-T (25.11.2022)

Revamped INSPIRE Geoportal (GeoNetwork)

Data-Service Linking Simplification Implementation

INSPIRE Model: Simplified



LEGEND:

[M]: Mandatory

[O]: Optional

Revamped INSPIRE Geoportal (GeoNetwork)

Data-Service Linking Simplification Implementation

- Implementation of the Data-Service Simplification good practice Part A has been taken into account in the current developments for the GeoNetwork backend.
- Not completed. Lack of a final good practice specification (not achieved till now, end November 2022).
- Further tests of the revamped INSPIRE Geoportal are needed to check which is the current functionality achieved.
- Part B pending.
- Implementation of the good practice will need future developments. Funding options to be explored from end 2023.
- Meanwhile, are any MS/countries interested in co-funding?

INSPIRE Geoportal evolution

Further high-level improvements

- Improving accessibility of datasets and services from MS/countries, including a technical simplification of the the INSPIRE Geoportal software components.
- Harvesting of EU-level catalogues, offering European datasets in the INSPIRE Geoportal.
- Explore the opportunities brought by the future OGC API-Records standard, and synergies with SpatioTemporal Asset Catalogs (STAC).

GeoNetwork and INSPIRE event

Feedback

- GeoNetwork and INSPIRE side event – 24.11.2022
 - approximately 35 people attending, including GeoCat, MIG-T members & people responsible for national catalogues.
 - beneficial for GeoNetwork integration in the INSPIRE Geoportal.
- Discussion on potential aspects for improvement.
- MS/countries are welcome to find synergies and explore together potential funding opportunities to improve the system.
- Proposal to make a poll during the next MIG-T meeting to find common interests.

INSPIRE Geoportal status

Conclusions

- The current revamped INSPIRE Geoportal based on GeoNetwork open source brings transparency to the system.
- We just put the first brick of the new system - It is the first step!
- Complexity was underestimated. Huge effort from both, GeoCat + JRC.
- Existing INSPIRE tools and their integration with GeoNetwork needs further improvements.
- The new GeoNetwork-based backend will be used for the Monitoring and Reporting process - 2022 is a transitional year.
- Future evolution of the INSPIRE Geoportal shall be community-driven.

Keep in touch



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Thank you!



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