

EU Spatial Data Infrastructure INSPIRE “State of the play”

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EU&EEA INSPIRE Coordination Team

2019 Den s INSPIRE,
12 June 2019, Pruhonice, Czech
Republic

Joint Research Centre

The European Commission's science and knowledge service



INSPIRE Directive – Where are we in 2019?

in force since 2007



- Coherent legal framework is in place
- New Geoportal – single access point to EU SDI is in place
- Implementation by Member States is still fragmented and incomplete

The INSPIRE case in theory is still more convincing than in practice!!

2005 - 2014



draft

2007 - 2021

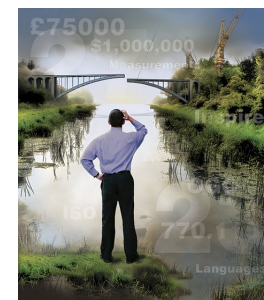


implement

2014 - ...



use



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

INSPIRE Directive – Better regulation, Refit, Mid-term evaluation (2014-2016)



Main results from “Commission stock taking exercise”:

- MS data access & use **simplification = New INSPIRE GEOPORTAL, Tools, Pilots**
- Better Regulation in e-reporting = **re-use** of INSPIRE = **Priority data sets for e-reporting**
- Revision of Monitoring and Reporting Decision
- Revision of EC Regulation on spatial data and service interoperability

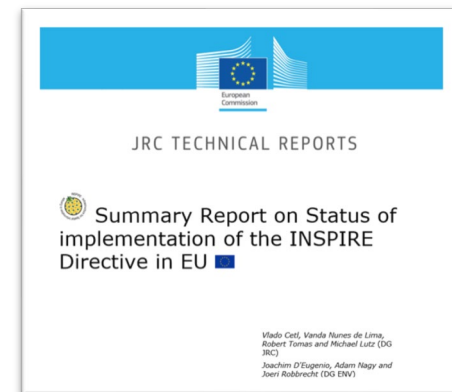


Hiding complexity



More flexibility

**New Maintenance and Implementation Work Plan
MIWP2016-2020**



INSPIRE – State of Play

in force since 2007

Agenda

- INSPIRE Data accessibility & usability
 - MIWPs 2019.2, 2017.2, 2017.3
- Priority data sets for eReporting
 - MIWP 2016.5
- New INSPIRE Monitoring & Reporting
 - MIWP 2018.1
- Capacity building, Community Forum, Conferences
 - MIWP 2016.4
- Short, long term INSPIRE activity, visions



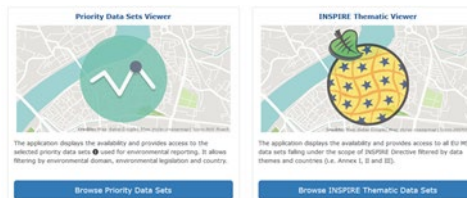
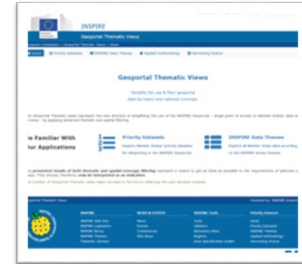
<http://inspire-geoportal.ec.europa.eu/>



New INSPIRE GEOPORTAL

Officially launched 18.9. 2018 during the INSPIRE Conference 2018

- **Single access point** to EU Spatial Data Infrastructure
 - Harvests data (Metadata) from 36 national catalogues
 - 150 000+ data sets described (by Metadata)
 - 23 000 + data sets viewable (by View services)
 - 13 000 + data sets downloadable (by Download services)
- Based on the concept of “**THEMATIC VIEWS**”:
 - **User-centric** = easy to use – set of predefined thematic views.
 - **Data sets-centric** = main goal is to get the data!!
 - **Provide clear & reliable overviews** of INSPIRE data sets availability.



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

New INSPIRE GEOPORTAL

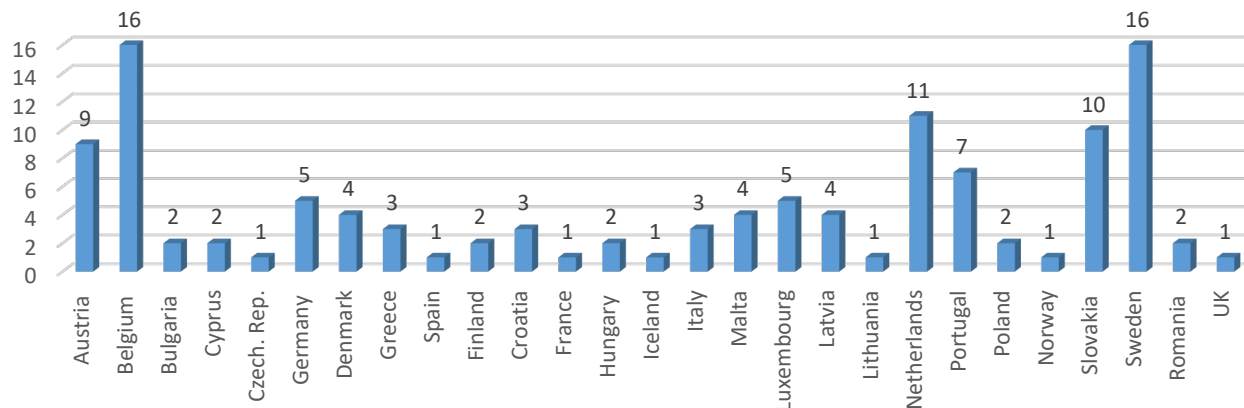
Officially launched 18.9. 2018 during the INSPIRE Conference 2018

Major new Geoportal functionality (v1.2.0 2019-06-03):

- Support to provided and automated translations (EU Translation service) of metadata (title, abstract)
- European level filtering options
- New search functionality in the results list page
- Added the Priority dataset keywords in the metadata detail page
- New view service URL copy functionality

Use of Geoportal Helpdesk 2019

Nr. of issues - 120



Improving MS data accessibility and usability

in force since 2007

Activity summary:

- INSPIRE Geoportal WS (Ispra 23-24.1)
 - Mobilizing the MS MD catalogue admins. (common planning)
 - Common understanding of Geoportal (backend, frontend systems + National SW environments)
- New system for harvesting of MS data (launched 31.3.)
 - MS in full control of the harvesting process
 - From “pull” to “push” method
- INSPIRE Resource Linkage Checker (beta version from 3.6.)
 - Checking linkages for MD (not yet harvested, harvested)
- Simplification of data x service linking – test (on-going)



More info:

<https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/Action+2019.2%3A+Improving+accessibility+of+data+sets+through+network+services>

Improving MS data accessibility and usability

in force since 2007

Activity summary:



- Improving MS data usability (on-going)
- Two WSs with MS representatives / experts organized (Geoportal, MIG-T)



3 categories of issues selected:

- Organization of data for distribution in the INSPIRE infrastructure (View and Download services)
- Protection to data access (authentication layer)
- Identification MS data sets published on the Geoportal under an open access license

More info:

<https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/Action+2019.2%3A+Improving+accessibility+of+data+sets+through+network+services>

Alternative encodings for INSPIRE data – MIWP 2017.2

in force since 2007

Activity summary:

Objectives:

- Define alternative encoding rules
- Emphasis on viewing/analysis in mainstream GIS
- Submit results as good practice

Results - the work of the sub-group is being completed

Outcomes:

- GeoJSON encoding rules (generic)
- Several model transformation rules
- GeoJSON encoding rules for simplified AD and EF (incl. observations)
- Glossary
- Examples
- Template for further encoding rules

Follow the [webinar recording](#) for further information

More info: <https://github.com/INSPIRE-MIF/2017.2>

Improved client support for INSPIRE data – MIWP 2017.3

in force since 2007

Activity summary:

Objectives:

- Identify usability issues
- Analyse issues
- Event with Vendors
- Roadmap



Outcomes:

- Preparation of test data
 - extended, enriched GML for AD, EMF
- Preparation of 9 ETL Tests
- Testing / Results of tests

Follow-up

- Continue with tests
 - ArcGIS Desktop
 - GeoJSON
- Meeting with vendors in 8-9 July 2019

More info: <https://inspire-mif.github.io/caniuse/>

Search for features..

1. Geography Markup Language (GML)

This section contains information on usability tests with INSPIRE GML data. The source data and overview of the individual test suits is available on [GitHub](#).

gml_file_load						
QGIS	ArcGIS Online	hale studio	OpenLayers	FME Desktop	Leaflet	
2.18.24-Las Palmas						
3.4.4-Madeira	December 2018 update	3.4.1	5.3.0	2018.1	1.4.0	

gml_file_display						
QGIS	ArcGIS Online	hale studio	OpenLayers	FME Desktop	Leaflet	
2.18.24-Las Palmas						
3.4.4-Madeira	December 2018 update	3.4.1	5.3.0	2018.1	1.4.0	

gml_WFS2_load						
QGIS	ArcGIS Online	hale studio	OpenLayers	FME Desktop	Leaflet	
2.18.24-Las Palmas						
3.4.4-Madeira	December 2018 update	3.4.1	5.3.0	2018.1	1.4.0	

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Priority List of eReporting data sets

MIWP 2016.5. Action

Rationale:

- Result of Refit activities (env. Reporting, INSPIRE)
- Commission strategy for filling the implementation gaps and showcase the benefits
- Giving MS clear guidance on prioritisation
- Instrument to bring communities (e.g. Eionet – env. Reporting x INSPIRE) together



Priority List of eReporting data sets

MIWP 2016.5. Action

Work Programme 2016-2020

4 Core Tasks:

T1: Manage and update the priority list of eReporting datasets

T2: Make **data available as-is**: identify datasets, document metadata, make metadata and data available on the **EU geoportal** by providing network services

T3: Common and **interoperable European data models** per reporting obligation/data flow that are fit for purpose for the envisaged use case.

T4: Monitor the availability of **pan-European data sets**

<https://webgate.ec.europa.eu/fpfis/wikis/display/InspireMIG/Action+2016.5%3A+Priority+list+of+datasets+for+e-Reporting>



Priority List of eReporting data sets

MIWP 2016.5. Action

Number	Name of spatial data set	Required by environmental legislation
1	AQ management zones & agglomerations	Directive 2008/50/EC
2	AQ model areas (incl. assessment methods - models)	Directive 2008/50/EC
3	AQ monitoring stations (incl. assessment methods - measurements)	Directive 2008/50/EC
4	AQ data	Directive 2008/50/EC
5	Major roads	Directive 2002/49/EC
6	Major railways	Directive 2002/49/EC
7	Major air transport	Directive 2002/49/EC
8	Noise agglomerations	Directive 2002/49/EC
9	Population	Directive 2002/49/EC
10	Population - densely populated built-up areas	Directive 2002/49/EC
11	Noise contour map for major roads - Lden	Directive 2002/49/EC
12	Noise contour map for major roads - Lnight	Directive 2002/49/EC
13	Noise contour map for major railways - Lden	Directive 2002/49/EC
14	Noise contour map for major railways - Lnight	Directive 2002/49/EC
15	Noise contour map for major airports - Lden	Directive 2002/49/EC
16	Noise contour map for major airports - Lnight	Directive 2002/49/EC
17	Noise contour map for road noise in agglomerations -Lden	Directive 2002/49/EC
18	Noise contour map for road noise in agglomerations -Lnight	Directive 2002/49/EC
19	Noise contour map for railway noise in agglomerations -Lden	Directive 2002/49/EC
20	Noise contour map for railway noise in agglomerations -Lnight	Directive 2002/49/EC
21	Noise contour map for aircraft noise in agglomerations -Lden	Directive 2002/49/EC
22	Noise contour map for aircraft noise in agglomerations -Lnight	Directive 2002/49/EC
23	Noise contour map for industrial noise in agglomerations -Lden	Directive 2002/49/EC
24	Noise contour map for industrial noise in agglomerations -Lnight	Directive 2002/49/EC
25	Noise contour map in agglomerations -Lden	Directive 2002/49/EC
26	Noise contour map in agglomerations -Lnight	Directive 2002/49/EC
27	River basin district	Directive 2000/60/EC
28	River basin district sub-units	Directive 2000/60/EC
29	WFD surface water body lake	Directive 2000/60/EC
30	WFD surface water body river	Directive 2000/60/EC
31	WFD surface water body transitional water	Directive 2000/60/EC
32	WFD surface water body coastal water	Directive 2000/60/EC
33	WFD groundwater body	Directive 2000/60/EC
34	River network	Directive 2000/60/EC
35	Drinking water protected areas	Directive 2000/60/EC

36	WFD protected areas not reported under other directives - shellfish designated waters	Directive 2000/60/EC
37	WFD protected areas not reported under other directives - freshwater fish designated waters	Directive 2000/60/EC
38	WFD protected areas not reported under other directives - other protected areas	Directive 2000/60/EC
39	WFD monitoring stations	Directive 2000/60/EC
40	FD areas of potential significant flood risk	Directive 2007/60/EC
41	FD PFRA observed events	Directive 2007/60/EC
42	FD PFRA potential future events	Directive 2007/60/EC
43	FD hazard areas low probability scenario	Directive 2007/60/EC
44	FD hazard areas medium probability scenario	Directive 2007/60/EC
45	FD hazard area high probability scenario	Directive 2007/60/EC
46	FD flood risk zones low probability scenario	Directive 2007/60/EC
47	FD flood risk zones medium probability scenario	Directive 2007/60/EC
48	FD flood risk zones high probability scenario	Directive 2007/60/EC
49	FD units of management	Directive 2007/60/EC
50	MSFD marine reporting units	Directive 2008/56/EC
51	MSFD marine monitoring stations	Directive 2008/56/EC
52	Drinking water protection areas, supply zones, safeguard zones	Directive 98/83/EC
53	Small water supply zones (WSZ)	Directive 98/83/EC
54	Drinking water abstraction points	Directive 98/83/EC
55	BWD bathing sites	Directive 2000/60/EC Directive 2006/7/EC
56	Biogeographical regions (pan-European dataset)	Directive 92/43/EEC Directive 2009/147/EC
57	Habitat types distribution	Directive 92/43/EEC
58	Habitat types range	Directive 92/43/EEC
59	Species distribution	Directive 92/43/EEC
60	Species range	Directive 92/43/EEC
61	Habitat types distribution sensitive (including BIRDS distribution)	Directive 92/43/EEC Directive 2009/147/EC
62	Species distribution sensitive (including BIRDS distribution sensitive)	Directive 92/43/EEC Directive 2009/147/EC
63	BIRDS range	Directive 2009/147/EC
64	BIRDS range sensitive	Directive 2009/147/EC
65	Natura 2000 sites	Directive 2000/60/EC Directive 92/43/EEC Directive 2009/147/EC
66	Alien species distribution	Regulation (EU) 1143/2014
67	E-PRTR sites & facilities	Regulation (EC) 166/2006
68	E-PRTR emission data	Regulation (EC) 166/2006
69	IED installations	Directive 2010/75/EU
70	Combustion plants	Directive 2010/75/EU
71	UWWTD agglomerations	Directive 91/271/EEC
72	UWWTD plants	Directive 91/271/EEC

73	UWWTD discharge points	Directive 91/271/EEC
74	UWWTD sensitive areas	Directive 2000/60/EC Directive 91/271/EEC
75	NiD monitoring stations	Directive 91/676/EEC
76	NiD nitrate vulnerable zones	Directive 2000/60/EC Directive 91/676/EEC
77	Areas exempted from permission of dumping waste	Directive 1999/31/EC
78	Extractive waste facilities	Directive 2006/21/EC
79	Seveso III location of establishment	Directive 2012/18/EU
80	Boreholes for hydraulic fracturing	Recommendation 2014/70/EU
81	Agricultural sludge receiving facilities	Directive 86/278/EEC
82	Agricultural sludge deposit sites	Directive 86/278/EEC
83	Mercury storage facilities	Regulation (EU) 2017/852
84	Nationally designated areas (CDDA)	linked to Directive 92/43/EEC and 2008/56/EC
85	Biogeographical regions (national datasets)	National legislation
86	IED/LCP emission data	Directive 2010/75/EU
87	Location of landfill of waste sites	Directive 1999/31/EC

87 unique reporting data sets
49 regulatory rep. obligations
20 different legal env. acts

Priority List of eReporting data sets

MIWP 2016.5. Action

Follow up on implementation

- December 2017 - Commission sent the 1st letter to invite MS to implement the list of priority data sets.
- July 2018 - Commission sent two type of letters to MS to follow-up and to further stimulate the implementation of the list of environmental priority data sets:
 - frontrunners: BE,ES,AT,MT,FI,LU,NL,SK,CZ,CY,RO,PT (12)
 - laggards: EE,DK,BG,HR,FR,DE,EL,HU,IE,IT,LV,LT,PL,SE,SI,UK (16)

Enforcement

- March 2019 – Commission sent a Letter of Formal Notice to 4 MSs (BG, LT, LV, PL). Compliance issues were identified concerning the list of spatial data sets which are a priority for the implementation of environmental legislation on:
 - the availability of metadata
 - the availability of services to ensure access to the data
 - linking the infrastructure to the EU-geoportal

Leaders and laggards



Group	Country	27-05-2019		29-03-2019		Trend	
		# Metadata	# Downloadable	# Metadata	# Downloadable	MD	DW
	Switzerland	0	0	0	0		
	Liechtenstein	0	0	0	0		
2	United Kingdom	0	0	0	0		
2	Ireland	9	0	9	0		
2	Hungary	13	0	13	0		
2	Italy	17	0	16	0		
2	France	117	0	117	0		
1	Bulgaria	146	0	0	0		
2	Slovenia	4	1	4	1		
2	Croatia	15	1	14	1		
	Norway	16	1	12	1		
1	Latvia	20	1	0	0		
	Iceland	2	2	2	2		
1	Poland	5	2	1	0		
2	Estonia	21	2	21	1		
2	Greece	54	2	38	31		
1	Lithuania	3	3	3	3		
2	Cyprus	5	5	5	0		
3	Denmark	49	7	41	6		
3	Sweden	33	8	30	8		
3	Slovakia	34	9	12	2		
3	Romania	21	10	21	10		
3	Czech Republic	38	10	38	6		
3	Finland	20	19	20	14		
4	Germany	64	27	70	20		
4	Portugal	125	27	134	26		
4	Netherlands	51	29	50	23		
4	Belgium	113	42	102	33		
4	Malta	54	52	54	48		
4	Luxembourg	61	59	62	62		
4	Austria	74	62	74	56		
4	Spain	81	80	80	80		

1	Infringements
2	Laggards
3	Middle ground
4	Front runners

- Frontrunners (>20 downloadable data sets) are moving towards full implementation of the list
- Middle ground (5<x<20) shows steady progress
- Laggards (0<x<=5) show little or no progress on the data access
- Work is ongoing on the development of a more detailed and balanced progress indicator

MIWP 2018.1 - Streamlining the monitoring and reporting for 2019

Policy context

- A proposal for a EC Regulation on the “*alignment of reporting obligations in the field of environment policy*” was adopted on 31 May 2018
 - The adoption of the alignment proposal is replacing the tri-annual implementation report by an annual update of the summary report (country fiche)
- New *INSPIRE Reporting Decision* (positive opinion by the INSPIRE Committee on 27 November 2018)
 - The aim is to simplify & streamline monitoring and reporting, support better comparison of the implementation progress across Member States
 - To be published in Official Journal (<https://eur-lex.europa.eu/>)
 - Reduces the amount of indicators from 48 to 19 calculated based on the metadata for spatial data sets and spatial data services already created and published by Member States
 - the Member States and the Commission can agree on the use of a centralised common infrastructure to limit the administrative burden for calculating indicators and publishing the monitoring results



MIWp 2018.1 - Streamlining the monitoring and reporting for 2019

2019 – Transition year

by 15 May 2019 (deadline for M&R exercise)

- all Member States had submitted monitoring files through EEA ROD
- Member States that updated country fiches: BE, BG, CZ, DK, DE, EE, IE, EL, ES, HR, LV, LT, LU, HU, MT, NL, AT, PL, OT, RO, SI, SK, FI, SE, UK.
- Member States without updated country fiches: FR and IT
- Member States that provided full Report: CY

INSPIRE KNOWLEDGE BASE
Infrastructure for spatial information in Europe

European Commission > INSPIRE > Select Country Fiches

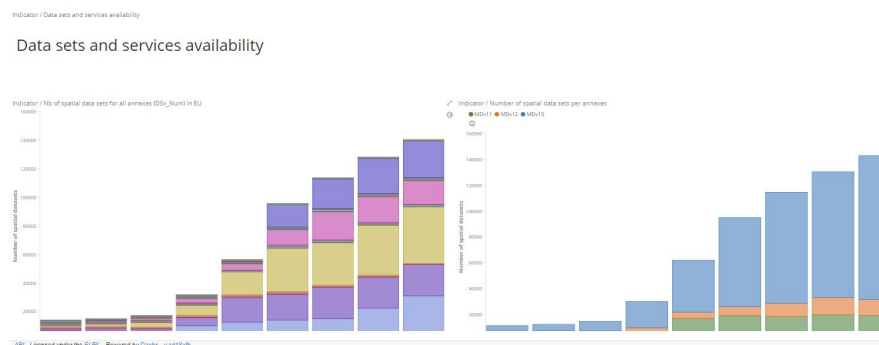
Home Learn Implement Participate Use Toolkit

Select Country Fiches [Log out My account](#)

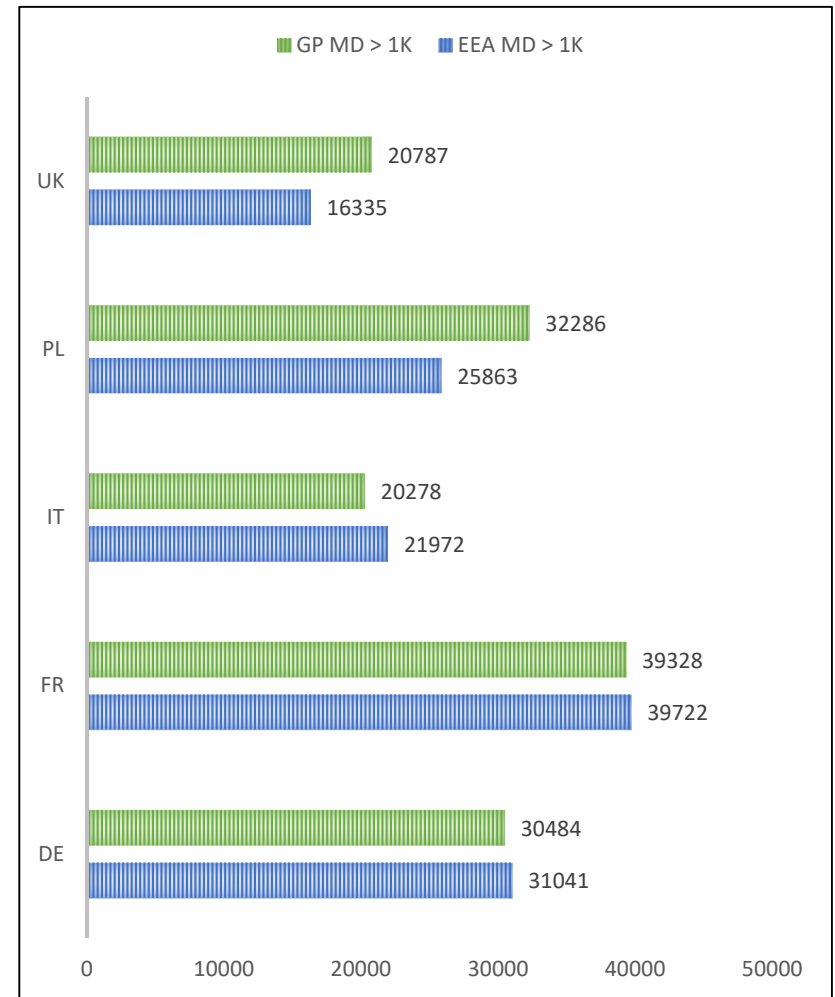
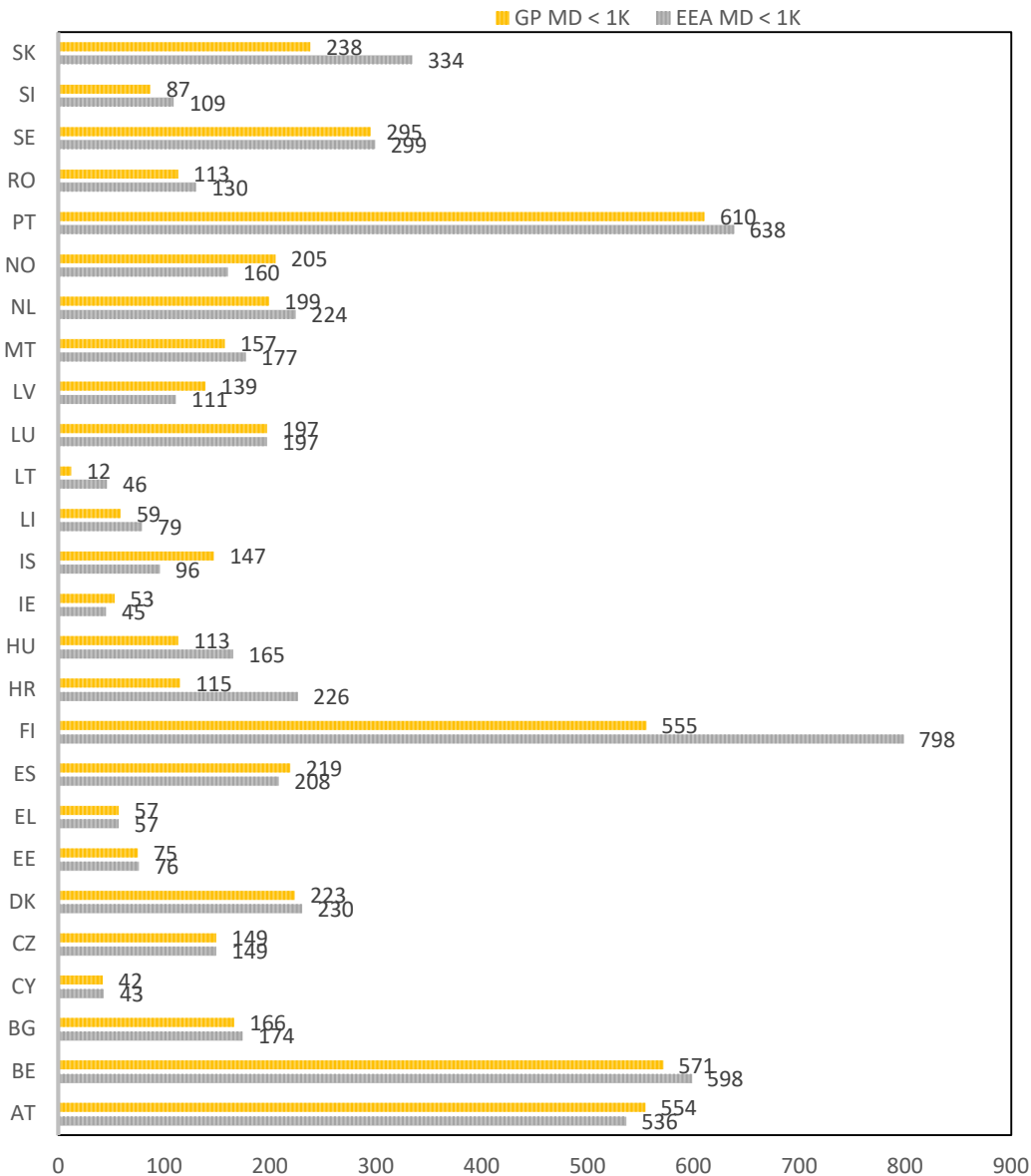
Sort by **Order** [Apply](#)

Updated date
 Asc
 Desc
 Country
 Desc

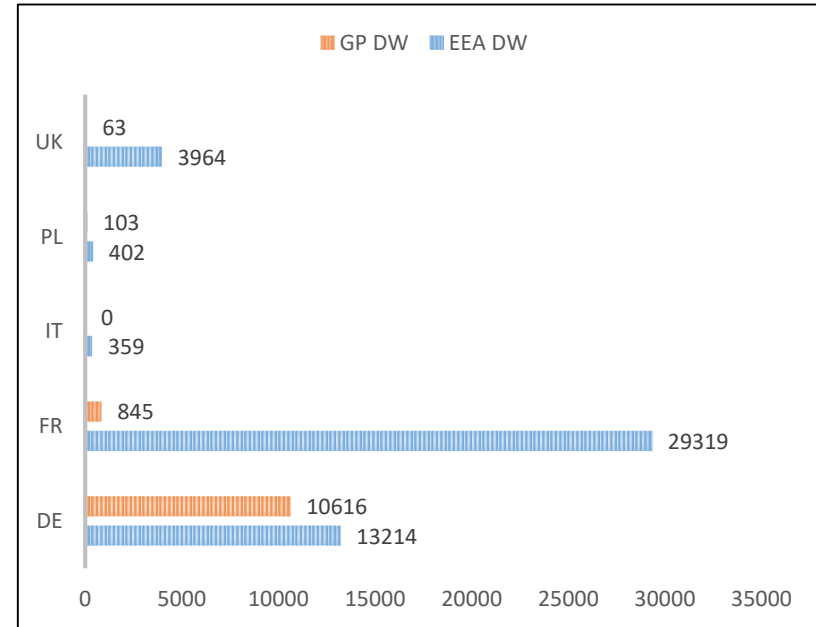
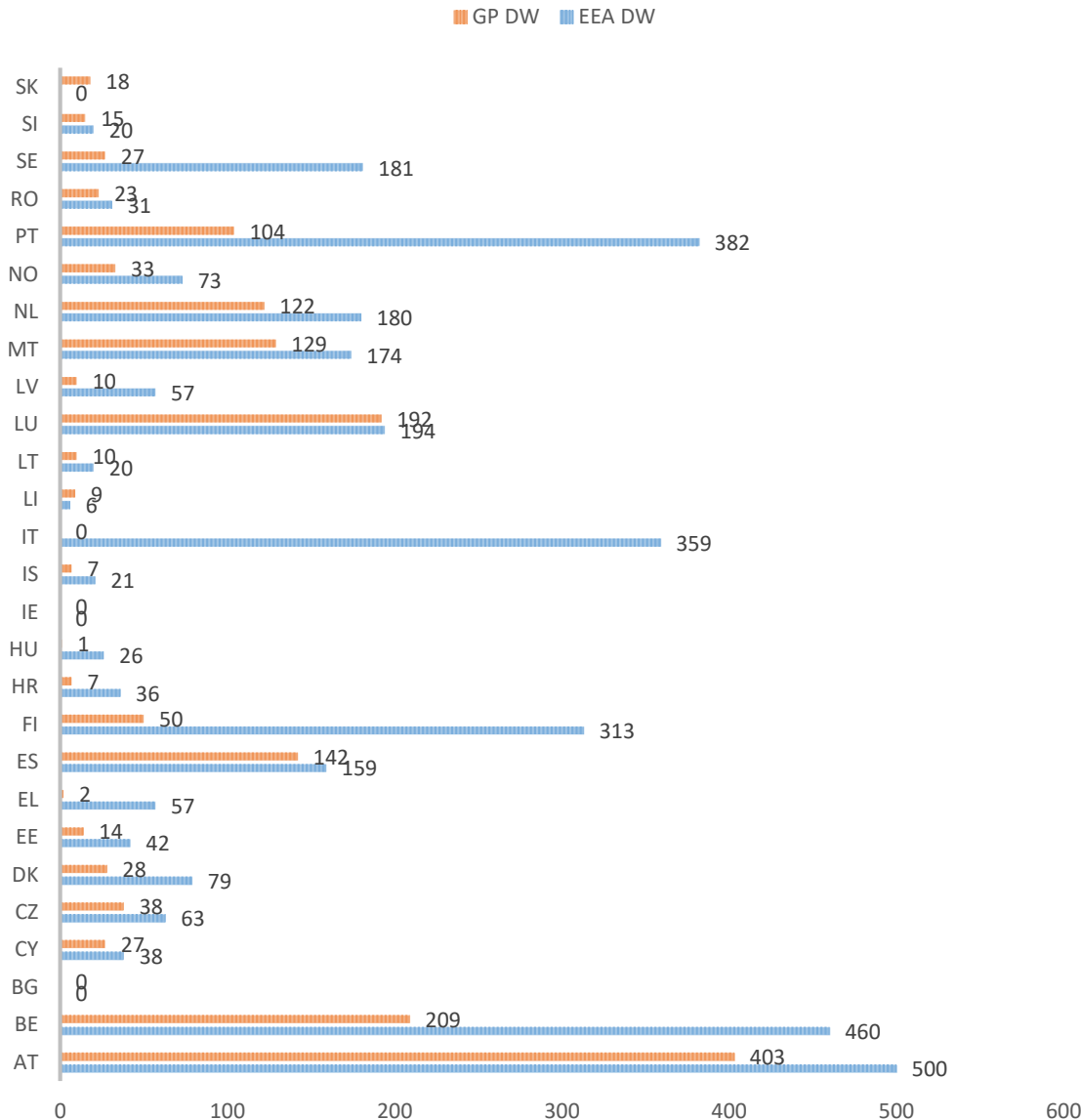
Country	Edit link	Moderation history	Year	Created By	Last Update	Published	Status
Austria 2018:	Edit	View moderation history	2018	cecivl	09/05/2019 - 13:09	No	Needs EC Evaluation
Belgium 2018:	Edit	View moderation history	2018	cecivl	14/05/2019 - 14:26	No	Needs EC Evaluation
Bulgaria 2018:	Edit	View moderation history	2018	cecivl	15/05/2019 - 10:41	No	Needs EC Evaluation
Croatia 2018:	Edit	View moderation history	2018	cecivl	15/05/2019 - 13:26	No	Needs EC Evaluation
Cyprus 2018:	Edit	View moderation history	2018	cecivl	22/03/2019 - 10:03	No	Draft
Czech Republic 2018:	Edit	View moderation history	2018	cecivl	15/05/2019 - 16:42	No	Needs EC Evaluation



Meta Data - comparison between EU Geoportal & EEA Dashboard



Downloadable data - comparison between EU Geoportal & EEA Dashboard



Capacity building, collaboration platforms, conferences

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

• On-line collaborations

- INSPIRE Community Forum / Thematic Clusters:
<http://inspire.ec.europa.eu/forum>
- Good practises, implementation examples:
<https://inspire.ec.europa.eu/inspire-tools>

• Free SDI trainings

- Geospatial Knowledge Base (GKB) Training Platform: <https://www.geo-train.eu/>
- INSPIRE web site / knowledge base:
<https://inspire.ec.europa.eu/>




New INSPIRE Community Forum

<http://inspire.ec.europa.eu/forum>

since 3.6.2019

Commission and its priorities **Policies, information and services**

 European Commission

European Commission > INSPIRE > INSPIRE Community Forum

INSPIRE Community Forum




Supporting the implementation and use of INSPIRE



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search the site



Welcome to the INSPIRE Community Forum

This collaborative platform is built upon 11 discussion groups. The three sections below group together content from these groups related to: Software & Tools, Thematic Domains and INSPIRE & Environmental Policy. For more specific queries you can use the "Search by Tag" tool.

Software & Tools	Thematic Domains	INSPIRE & Environmental Policy
		
Facing technical issues? Doubts on which software to use?	Questions about INSPIRE Data Specifications? Using INSPIRE Data in your domain?	Interested in the INSPIRE Working Plan 2016-2020? Looking for synergies with INSPIRE?

 Selected Highlights. Discussion conclusions, interesting posts and other content provided by our Forum facilitators.	 Search by Tag Search and retrieve content using our curated tag list.
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INSPIRE
INSPIRE Geoportals



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INSPIRE Knowledge base

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

Inspire Helsinki 2019

22–24 October, Finland



<https://www.inspire-helsinki-2019.fi/>

Technical INSPIRE event organized around:

- Technology workshops and hands on
- 4 selected data challenges
- Forward looking – inspiring invited talks

Team sign up now open!

A screenshot of the INSPIRE Knowledge Base website. The header includes the European Commission logo, the text 'INSPIRE KNOWLEDGE BASE Infrastructure for spatial information in Europe', and a search bar. The main content area features a large image of a coastal town with a rainbow over the sea, with the text '“Bringing sustainability and digitalisation together” INSPIRE CONFERENCE 2020'. Below this, the dates '12-15 May 2020 Dubrovnik, Croatia' are displayed, along with a 'Save the Date!' button. The INSPIRE CONFERENCE 2020 logo is also present, along with the local organizers: University North and University of Dubrovnik.

For the 2020 conference, we propose a focus on sustainable digitalisation (digital transition) and digital sustainability (social, economic and environment) – in line with the Towards a Sustainable Europe by 2030. The idea is to address both, how digitalisation could help towards a more sustainable Europe, but also what are the environmental issues and risks with digitalisation. [More...](#)

Join us at INSPIRE 2020 Conference: Bringing sustainability and digitalisation together. We are just at the right moment to look to the future and pave the sustainable way for the future.

<https://inspire.ec.europa.eu/conference2020>

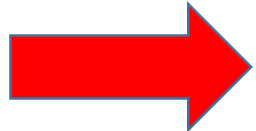
INSPIRE

2019-2022



Short term:

Build a basic EU capacity for sharing spatial data to build on



Finalise on-going work on:

- IR updates (Interoperability, M&R)
- Geoportal & validation tools – improving MS data usability
- Simplification of network services to support existing and emerging technology
- Showcase the usage of priority data sets and wider core data sets in European and National use cases
- Data sharing and licensing

INSPIRE

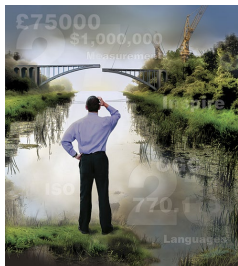
2022-2030



Long term:

INSPIRE 2030 - towards a spatial data ecosystem for sustainability

- 2022 – INSPIRE Directive evaluation activity
 - Explore options to align/merge with other digital initiatives/legal acts (e.g. Access to environmental information Directive, Open data and PSDI) **2022 – EU SDI evaluation – opportunity to catch!!**
 - Enlarge INSPIRE (EUROPEAN COMMISSION, GROW, DIGIT).
 - Create a package of measures (legal and non-legal) and a new multi-annual work programme to implement them.



Thank you



Questions?

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Make it work together



"INSPIRE has been a pioneer of European digital society and economy"
- by Roberto Viola, Director General DG CONNECT – during INSPIRE Conference 2017 (6-8.9.2017)