



INSPIRE Monitoring and Reporting 2022

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17th MIG meeting – April 27, 2023

Context

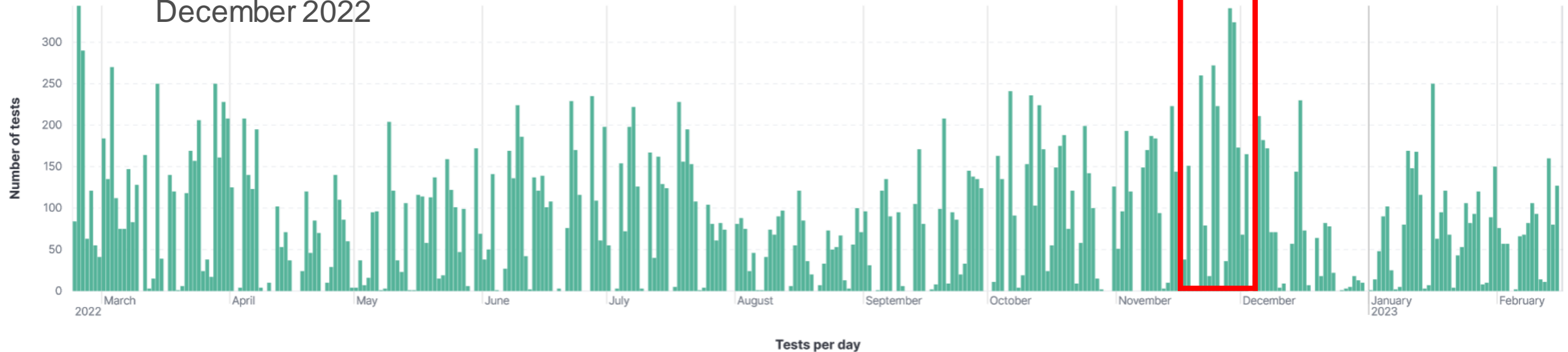
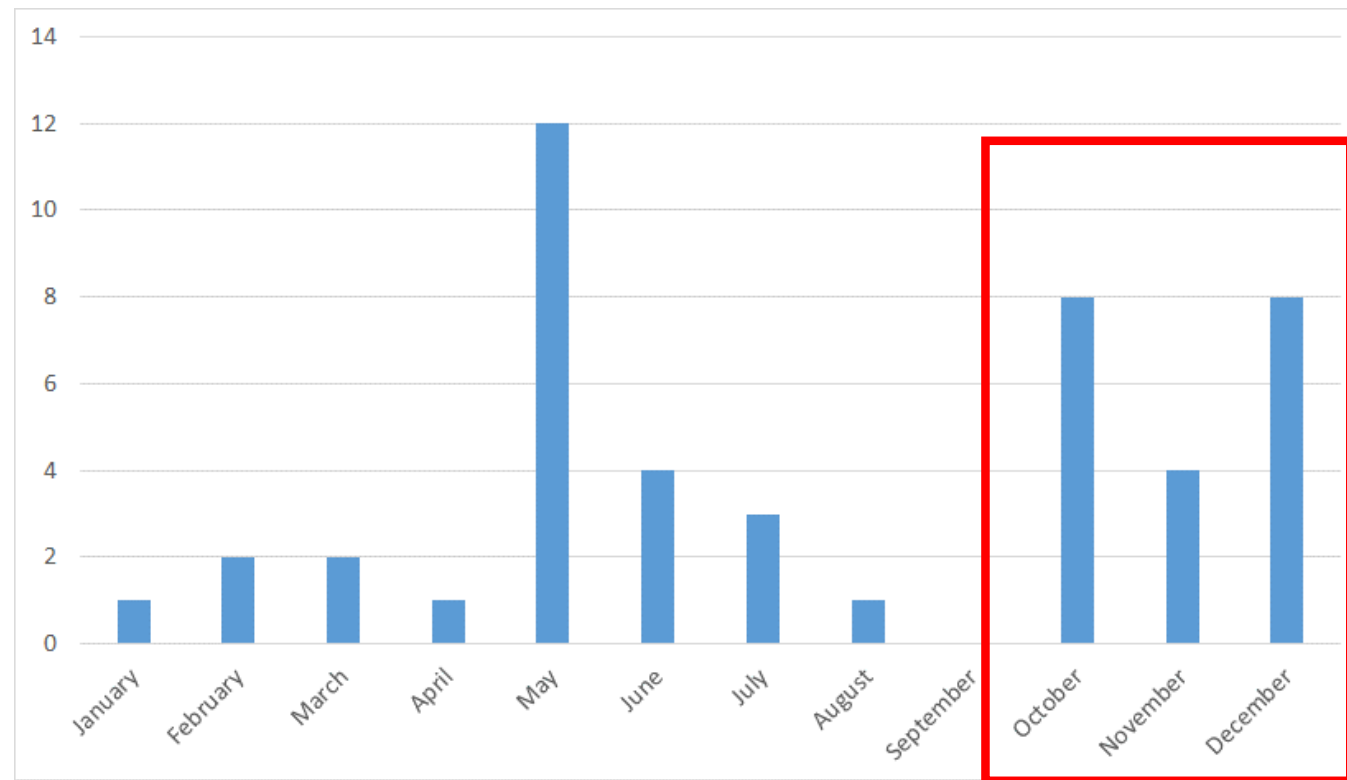
Context

- Strategic decision to go ahead with **open source** technology
 - part of 'mainstreaming' and **simplification** agenda for the central INSPIRE infrastructure
 - improved **transparency and reproducibility** of the results by the MS
- **Transition year**: from home-made Geoportal to GeoNetwork
 - **migration** tougher than anticipated – more than one year of development, testing & training
 - one of the **first real test cases** for the new GeoNetwork 4.0 based on micro-services
 - very **complex architecture** and unprecedentedly high number of metadata records
 - migration to the cloud with impressive resources needed



Context

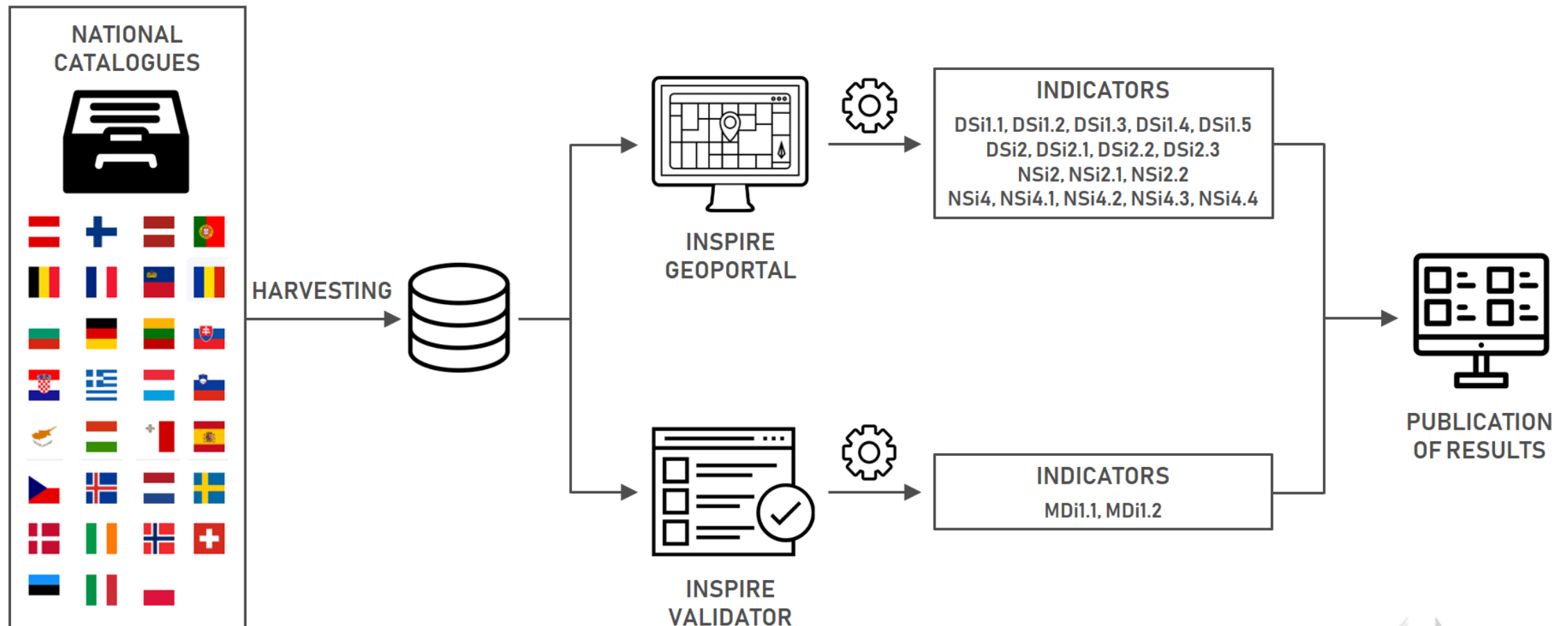
- Issues opened in the **Geoportal helpdesk** in 2022
 - Opened by 17 MS (thank you!)
 - 46 issues in total
- Tests run in the **INSPIRE Reference Validator**
 - clear peak between November and December 2022



Results

Monitoring and Reporting 2022 – Process

- Overall process:



Monitoring and Reporting 2022 – Indicators

- Indicators grouped into 5 categories:

- availability of spatial data and services

- DSi1.1, DSi1.2, DSi1.3, DSi1.4, DSi1.5

- conformity of metadata

- MDi1.1, MDi1.2

- conformity of spatial data sets

- DSi2, DSi2.1, DSi2.2, DSi2.3

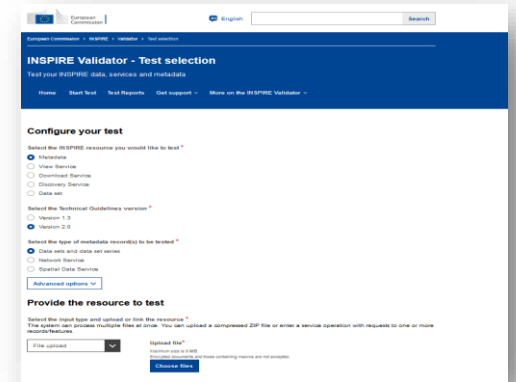
- accessibility of spatial data sets

- NSi2, NSi2.1, NSi2.2

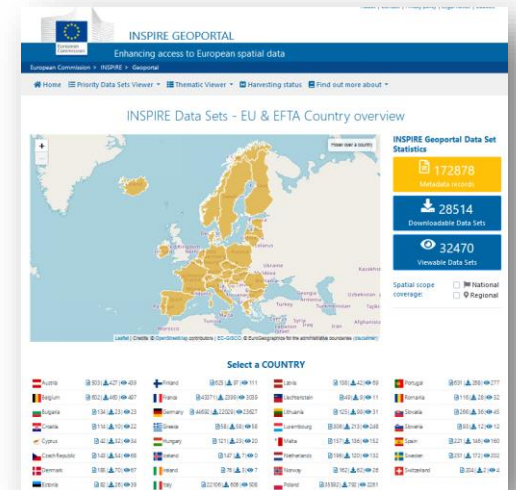
- conformity of network services

- NSi4, NSi4.1, NSi4.2, NSi4.3, NSi4.4

**INSPIRE
Reference
Validator**
(metadata
validation)



**INSPIRE
Geoportal**
(linkages check)



Monitoring and Reporting 2022 – Indicators

- Indicators grouped into 5 categories:

- availability of spatial data and services

- DSi1.1, DSi1.2, DSi1.3, DSi1.4, DSi1.5

absolute values

- conformity of metadata

- MDi1.1, MDi1.2

- conformity of spatial data sets

- DSi2, DSi2.1, DSi2.2, DSi2.3

- accessibility of spatial data sets

- NSi2, NSi2.1, NSi2.2

- conformity of network services

- NSi4, NSi4.1, NSi4.2, NSi4.3, NSi4.4

relative values

(percentages)

Monitoring and Reporting 2022 – Results

- Median values of all indicators in the years 2019-2022:
 - overall: slow but continuous improvement

calculated automatically (Validator)

YEAR	DSi1.1	DSi1.2	DSi1.3	DSi1.4	DSi1.5
2019	164	142	47	0	74
2020	161	182	51	0	94
2021	167	192	55	2	109
2022	157	193	58	0	101

availability of spatial data and services

YEAR	MDi1.1	MDi1.2
2019	38%	38%
2020	55%	67%
2021	78%	92%
2022	89%	90%

conformity of metadata

YEAR	DSi2	DSi2.1	DSi2.2	DSi2.3
2019	38%	73%	33%	35%
2020	43%	75%	47%	38%
2021	70%	87%	67%	62%
2022	73%	91%	71%	70%

conformity of spatial data sets

calculated automatically (Geoportal)

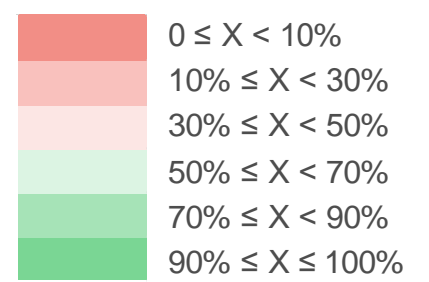
YEAR	NSi2	NSi2.1	NSi2.2
2019	16%	32%	20%
2020	32%	44%	42%
2021	45%	57%	54%
2022	50%	62%	56%

accessibility of spatial data sets

YEAR	NSi4	NSi4.1	NSi4.2	NSi4.3	NSi4.4
2019	49%	50%	46%	51%	0%
2020	71%	67%	67%	83%	0%
2021	92%	100%	94%	92%	100%
2022	92%	100%	93%	91%	0%

conformity of network services

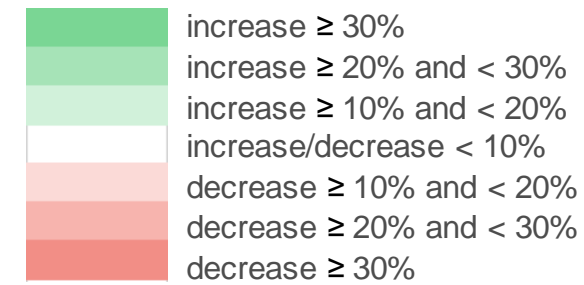
Overall results – 2022 performance



country	DSi1.1	DSi1.2	DSi1.3	DSi1.4	DSi1.5	MDi1.1	MDi1.2	DSi2	DSi2.1	DSi2.2	DSi2.3	NSi2	NSi2.1	NSi2.2	NSi4	NSi4.1	NSi4.2	NSi4.3	NSi4.4
AT	830	625	90	260	563	99%	99%	86%	88%	98%	70%	60%	61%	97%	97%	100%	96%	98%	#N/A
BE	558	240	281	467	78	95%	63%	73%	96%	71%	71%	79%	93%	80%	92%	83%	93%	91%	#N/A
BG	166	37	101	56	81	37%	51%	96%	100%	100%	98%	34%	46%	34%	0%	0%	0%	0%	#N/A
CH	207	35	0	0	4	0%	0%	2%	7%	0%	0%	0%	2%	0%	0%	0%	0%	0%	#N/A
CY	42	61	10	0	0	0%	0%	2%	0%	25%	0%	81%	93%	88%	0%	#N/A	0%	0%	#N/A
CZ	90	193	33	12	78	93%	98%	48%	100%	91%	21%	78%	93%	83%	96%	100%	95%	97%	100%
DE	81044	151526	258	2650	212	93%	96%	81%	68%	51%	82%	72%	76%	76%	99%	100%	99%	99%	#N/A
DK	206	246	59	0	202	63%	97%	63%	95%	71%	57%	42%	48%	46%	95%	100%	94%	96%	#N/A
EE	89	117	25	0	89	97%	95%	98%	100%	90%	100%	66%	67%	66%	97%	100%	95%	98%	#N/A
EL	45	98	43	0	45	100%	100%	100%	100%	#N/A	100%	96%	98%	98%	0%	0%	0%	0%	#N/A
ES	245	321	75	43	188	93%	99%	100%	100%	100%	99%	70%	89%	71%	100%	100%	100%	100%	#N/A
FI	661	207	34	232	178	75%	86%	19%	9%	21%	22%	32%	34%	38%	54%	0%	56%	53%	#N/A
FR	228	56	146	11	103	2%	4%	76%	81%	92%	74%	1%	18%	1%	7%	0%	9%	0%	#N/A
HR	151	216	18	22	101	95%	90%	98%	100%	100%	97%	27%	67%	29%	93%	100%	90%	99%	#N/A
HU	111	59	13	0	8	1%	0%	36%	48%	45%	33%	14%	14%	16%	32%	60%	26%	33%	#N/A
IE	83	26	41	0	83	100%	100%	100%	100%	100%	100%	63%	63%	75%	100%	100%	100%	100%	#N/A
IS	98	28	5	2	92	89%	86%	52%	62%	72%	36%	0%	0%	0%	0%	#N/A	0%	0%	#N/A
IT	7671	2231	583	4383	960	99%	96%	31%	34%	20%	27%	6%	10%	6%	5%	14%	6%	2%	0%
LI	72	3	0	0	53	78%	33%	11%	8%	16%	6%	0%	17%	0%	50%	#N/A	100%	0%	#N/A
LT	95	122	72	0	95	93%	100%	98%	97%	100%	99%	63%	63%	100%	100%	100%	100%	100%	#N/A
LU	311	59	96	0	311	100%	100%	73%	100%	94%	62%	90%	90%	98%	100%	100%	100%	100%	#N/A
LV	157	240	72	0	0	0%	0%	76%	83%	55%	81%	54%	59%	56%	0%	#N/A	0%	0%	#N/A
MT	150	150	40	0	148	99%	99%	100%	100%	100%	100%	95%	99%	95%	99%	100%	100%	99%	#N/A
NL	214	352	63	0	192	77%	91%	53%	91%	33%	70%	50%	64%	57%	93%	100%	93%	93%	#N/A
NO	144	239	14	3	140	84%	79%	36%	38%	28%	38%	15%	19%	42%	16%	100%	15%	15%	#N/A
PL	156	258	58	0	155	99%	89%	94%	100%	50%	93%	56%	62%	63%	97%	100%	95%	99%	#N/A
PT	456	508	106	165	199	62%	90%	47%	60%	53%	43%	49%	56%	54%	67%	#N/A	73%	58%	#N/A
RO	107	76	29	15	92	52%	84%	40%	70%	27%	32%	33%	34%	35%	90%	100%	94%	85%	#N/A
SE	248	227	64	0	237	83%	83%	100%	100%	100%	100%	83%	86%	88%	100%	100%	100%	100%	#N/A
SI	98	131	9	0	84	64%	90%	82%	100%	81%	90%	40%	60%	50%	100%	#N/A	100%	100%	#N/A
SK	274	430	59	10	192	99%	46%	21%	16%	29%	19%	43%	65%	43%	30%	100%	30%	29%	0%

Absolute number indicators

Comparison vs. 2021, 2020, 2019



country	DSi1.1	DSi1.2	DSi1.3	DSi1.4	DSi1.5
AT	830	625	90	260	563
BE	558	240	281	467	78
BG	166	37	101	56	81
CH	207	35	0	0	4
CY	42	61	10	0	0
CZ	90	193	33	12	78
DE	81044	151526	258	2650	212
DK	206	246	59	0	202
EE	89	117	25	0	89
EL	45	98	43	0	45
ES	245	321	75	43	188
FI	661	207	34	232	178
FR	228	56	146	11	103
HR	151	216	18	22	101
HU	111	59	13	0	8
IE	83	26	41	0	83
IS	98	28	5	2	92
IT	7671	2231	583	4383	960
LI	72	3	0	0	53
LT	95	122	72	0	95
LU	311	59	96	0	311
LV	157	240	72	0	0
MT	150	150	40	0	148
NL	214	352	63	0	192
NO	144	239	14	3	140
PL	156	258	58	0	155
PT	456	508	106	165	199
RO	107	76	29	15	92
SE	248	227	64	0	237
SI	98	131	9	0	84
SK	274	430	59	10	192

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BG	166	37	101	56	81
CH	207	35	0	0	4
CY	42	61	10	0	0
CZ	90	193	33	12	78
DE	81044	151526	258	2650	212
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EE	89	117	25	0	89
EL	45	98	43	0	45
ES	245	321	75	43	188
FI	661	207	34	232	178
FR	228	56	146	11	103
HR	151	216	18	22	101
HU	111	59	13	0	8
IE	83	26	41	0	83
IS	98	28	5	2	92
IT	7671	2231	583	4383	960
LI	72	3	0	0	53
LT	95	122	72	0	95
LU	311	59	96	0	311
LV	157	240	72	0	0
MT	150	150	40	0	148
NL	214	352	63	0	192
NO	144	239	14	3	140
PL	156	258	58	0	155
PT	456	508	106	165	199
RO	107	76	29	15	92
SE	248	227	64	0	237
SI	98	131	9	0	84
SK	274	430	59	10	192

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AT	830	625	90	260	563
BE	558	240	281	467	78
BG	166	37	101	56	81
CH	207	35	0	0	4
CY	42	61	10	0	0
CZ	90	193	33	12	78
DE	81044	151526	258	2650	212
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EL	45	98	43	0	45
ES	245	321	75	43	188
FI	661	207	34	232	178
FR	228	56	146	11	103
HR	151	216	18	22	101
HU	111	59	13	0	8
IE	83	26	41	0	83
IS	98	28	5	2	92
IT	7671	2231	583	4383	960
LI	72	3	0	0	53
LT	95	122	72	0	95
LU	311	59	96	0	311
LV	157	240	72	0	0
MT	150	150	40	0	148
NL	214	352	63	0	192
NO	144	239	14	3	140
PL	156	258	58	0	155
PT	456	508	106	165	199
RO	107	76	29	15	92
SE	248	227	64	0	237
SI	98	131	9	0	84
SK	274	430	59	10	192

Relative number indicators Comparison vs. 2021

increase of more than 10 percentage points compared to 2021
 increase/decrease of less than 10 percentage points compared to 2021
 decrease of more than 10 percentage points compared to 2021

country	MDi1.1	MDi1.2	DSi2	DSi2.1	DSi2.2	DSi2.3	NSi2	NSi2.1	NSi2.2	NSi4	NSi4.1	NSi4.2	NSi4.3	NSi4.4
AT	99%	99%	86%	88%	98%	70%	60%	61%	97%	97%	100%	96%	98%	#N/A
BE	95%	63%	73%	96%	71%	71%	79%	93%	80%	92%	83%	93%	91%	#N/A
BG	37%	51%	96%	100%	100%	98%	34%	46%	34%	0%	0%	0%	0%	#N/A
CH	0%	0%	2%	7%	0%	0%	0%	2%	0%	0%	0%	0%	0%	#N/A
CY	0%	0%	2%	0%	25%	0%	81%	93%	88%	0%	#N/A	0%	0%	#N/A
CZ	93%	98%	48%	100%	91%	21%	78%	93%	83%	96%	100%	95%	97%	100%
DE	93%	96%	81%	68%	51%	82%	72%	76%	76%	99%	100%	99%	99%	#N/A
DK	63%	97%	63%	95%	71%	57%	42%	48%	46%	95%	100%	94%	96%	#N/A
EE	97%	95%	98%	100%	90%	100%	66%	67%	66%	97%	100%	95%	98%	#N/A
EL	100%	100%	100%	100%	#N/A	100%	96%	98%	98%	0%	0%	0%	0%	#N/A
ES	93%	99%	100%	100%	100%	99%	70%	89%	71%	100%	100%	100%	100%	#N/A
FI	75%	86%	19%	9%	21%	22%	32%	34%	38%	54%	0%	56%	53%	#N/A
FR	2%	4%	76%	81%	92%	74%	1%	18%	1%	7%	0%	9%	0%	#N/A
HR	95%	90%	98%	100%	100%	97%	27%	67%	29%	93%	100%	90%	99%	#N/A
HU	1%	0%	36%	48%	45%	33%	14%	14%	16%	32%	60%	26%	33%	#N/A
IE	100%	100%	100%	100%	100%	100%	63%	63%	75%	100%	100%	100%	100%	#N/A
IS	89%	86%	52%	62%	72%	36%	0%	0%	0%	0%	#N/A	0%	0%	#N/A
IT	99%	96%	31%	34%	20%	27%	6%	10%	6%	5%	14%	6%	2%	0%
LI	78%	33%	11%	8%	16%	6%	0%	17%	0%	50%	#N/A	100%	0%	#N/A
LT	93%	100%	98%	97%	100%	99%	63%	63%	100%	100%	100%	100%	100%	#N/A
LU	100%	100%	73%	100%	94%	62%	90%	90%	98%	100%	100%	100%	100%	#N/A
LV	0%	0%	76%	83%	55%	81%	54%	59%	56%	0%	#N/A	0%	0%	#N/A
MT	99%	99%	100%	100%	100%	100%	95%	99%	95%	99%	100%	100%	99%	#N/A
NL	77%	91%	53%	91%	33%	70%	50%	64%	57%	93%	100%	93%	93%	#N/A
NO	84%	79%	36%	38%	28%	38%	15%	19%	42%	16%	100%	15%	15%	#N/A
PL	99%	89%	94%	100%	50%	93%	56%	62%	63%	97%	100%	95%	99%	#N/A
PT	62%	90%	47%	60%	53%	43%	49%	56%	54%	67%	#N/A	73%	58%	#N/A
RO	52%	84%	40%	70%	27%	32%	33%	34%	35%	90%	100%	94%	85%	#N/A
SE	83%	83%	100%	100%	100%	100%	83%	86%	88%	100%	100%	100%	100%	#N/A
SI	64%	90%	82%	100%	81%	90%	40%	60%	50%	100%	#N/A	100%	100%	#N/A
SK	99%	46%	21%	16%	29%	19%	43%	65%	43%	30%	100%	30%	29%	0%

Relative number indicators Comparison vs. 2020

increase of more than 10 percentage points compared to 2020
 increase/decrease of less than 10 percentage points compared to 2020
 decrease of more than 10 percentage points compared to 2020

country	MDi1.1	MDi1.2	DSi2	DSi2.1	DSi2.2	DSi2.3	NSi2	NSi2.1	NSi2.2	NSi4	NSi4.1	NSi4.2	NSi4.3	NSi4.4
AT	99%	99%	86%	88%	98%	70%	60%	61%	97%	97%	100%	96%	98%	#N/A
BE	95%	63%	73%	96%	71%	71%	79%	93%	80%	92%	83%	93%	91%	#N/A
BG	37%	51%	96%	100%	100%	98%	34%	46%	34%	0%	0%	0%	0%	#N/A
CH	0%	0%	2%	7%	0%	0%	0%	2%	0%	0%	0%	0%	0%	#N/A
CY	0%	0%	2%	0%	25%	0%	81%	93%	88%	0%	#N/A	0%	0%	#N/A
CZ	93%	98%	48%	100%	91%	21%	78%	93%	83%	96%	100%	95%	97%	100%
DE	93%	96%	81%	68%	51%	82%	72%	76%	76%	99%	100%	99%	99%	#N/A
DK	63%	97%	63%	95%	71%	57%	42%	48%	46%	95%	100%	94%	96%	#N/A
EE	97%	95%	98%	100%	90%	100%	66%	67%	66%	97%	100%	95%	98%	#N/A
EL	100%	100%	100%	100%	#N/A	100%	96%	98%	98%	0%	0%	0%	0%	#N/A
ES	93%	99%	100%	100%	100%	99%	70%	89%	71%	100%	100%	100%	100%	#N/A
FI	75%	86%	19%	9%	21%	22%	32%	34%	38%	54%	0%	56%	53%	#N/A
FR	2%	4%	76%	81%	92%	74%	1%	18%	1%	7%	0%	9%	0%	#N/A
HR	95%	90%	98%	100%	100%	97%	27%	67%	29%	93%	100%	90%	99%	#N/A
HU	1%	0%	36%	48%	45%	33%	14%	14%	16%	32%	60%	26%	33%	#N/A
IE	100%	100%	100%	100%	100%	100%	63%	63%	75%	100%	100%	100%	100%	#N/A
IS	89%	86%	52%	62%	72%	36%	0%	0%	0%	0%	#N/A	0%	0%	#N/A
IT	99%	96%	31%	34%	20%	27%	6%	10%	6%	5%	14%	6%	2%	0%
LI	78%	33%	11%	8%	16%	6%	0%	17%	0%	50%	#N/A	100%	0%	#N/A
LT	93%	100%	98%	97%	100%	99%	63%	63%	100%	100%	100%	100%	100%	#N/A
LU	100%	100%	73%	100%	94%	62%	90%	90%	98%	100%	100%	100%	100%	#N/A
LV	0%	0%	76%	83%	55%	81%	54%	59%	56%	0%	#N/A	0%	0%	#N/A
MT	99%	99%	100%	100%	100%	100%	95%	99%	95%	99%	100%	100%	99%	#N/A
NL	77%	91%	53%	91%	33%	70%	50%	64%	57%	93%	100%	93%	93%	#N/A
NO	84%	79%	36%	38%	28%	38%	15%	19%	42%	16%	100%	15%	15%	#N/A
PL	99%	89%	94%	100%	50%	93%	56%	62%	63%	97%	100%	95%	99%	#N/A
PT	62%	90%	47%	60%	53%	43%	49%	56%	54%	67%	#N/A	73%	58%	#N/A
RO	52%	84%	40%	70%	27%	32%	33%	34%	35%	90%	100%	94%	85%	#N/A
SE	83%	83%	100%	100%	100%	100%	83%	86%	88%	100%	100%	100%	100%	#N/A
SI	64%	90%	82%	100%	81%	90%	40%	60%	50%	100%	#N/A	100%	100%	#N/A
SK	99%	46%	21%	16%	29%	19%	43%	65%	43%	30%	100%	30%	29%	0%

Relative number indicators Comparison vs. 2019

increase of more than 10 percentage points compared to 2019
 increase/decrease of less than 10 percentage points compared to 2019
 decrease of more than 10 percentage points compared to 2019

country	MDi1.1	MDi1.2	DSi2	DSi2.1	DSi2.2	DSi2.3	NSi2	NSi2.1	NSi2.2	NSi4	NSi4.1	NSi4.2	NSi4.3	NSi4.4
AT	99%	99%	86%	88%	98%	70%	60%	61%	97%	97%	100%	96%	98%	#N/A
BE	95%	63%	73%	96%	71%	71%	79%	93%	80%	92%	83%	93%	91%	#N/A
BG	37%	51%	96%	100%	100%	98%	34%	46%	34%	0%	0%	0%	0%	#N/A
CH	0%	0%	2%	7%	0%	0%	0%	2%	0%	0%	0%	0%	0%	#N/A
CY	0%	0%	2%	0%	25%	0%	81%	93%	88%	0%	#N/A	0%	0%	#N/A
CZ	93%	98%	48%	100%	91%	21%	78%	93%	83%	96%	100%	95%	97%	100%
DE	93%	96%	81%	68%	51%	82%	72%	76%	76%	99%	100%	99%	99%	#N/A
DK	63%	97%	63%	95%	71%	57%	42%	48%	46%	95%	100%	94%	96%	#N/A
EE	97%	95%	98%	100%	90%	100%	66%	67%	66%	97%	100%	95%	98%	#N/A
EL	100%	100%	100%	100%	#N/A	100%	96%	98%	98%	0%	0%	0%	0%	#N/A
ES	93%	99%	100%	100%	100%	99%	70%	89%	71%	100%	100%	100%	100%	#N/A
FI	75%	86%	19%	9%	21%	22%	32%	34%	38%	54%	0%	56%	53%	#N/A
FR	2%	4%	76%	81%	92%	74%	1%	18%	1%	7%	0%	9%	0%	#N/A
HR	95%	90%	98%	100%	100%	97%	27%	67%	29%	93%	100%	90%	99%	#N/A
HU	1%	0%	36%	48%	45%	33%	14%	14%	16%	32%	60%	26%	33%	#N/A
IE	100%	100%	100%	100%	100%	100%	63%	63%	75%	100%	100%	100%	100%	#N/A
IS	89%	86%	52%	62%	72%	36%	0%	0%	0%	0%	#N/A	0%	0%	#N/A
IT	99%	96%	31%	34%	20%	27%	6%	10%	6%	5%	14%	6%	2%	0%
LI	78%	33%	11%	8%	16%	6%	0%	17%	0%	50%	#N/A	100%	0%	#N/A
LT	93%	100%	98%	97%	100%	99%	63%	63%	100%	100%	100%	100%	100%	#N/A
LU	100%	100%	73%	100%	94%	62%	90%	90%	98%	100%	100%	100%	100%	#N/A
LV	0%	0%	76%	83%	55%	81%	54%	59%	56%	0%	#N/A	0%	0%	#N/A
MT	99%	99%	100%	100%	100%	100%	95%	99%	95%	99%	100%	100%	99%	#N/A
NL	77%	91%	53%	91%	33%	70%	50%	64%	57%	93%	100%	93%	93%	#N/A
NO	84%	79%	36%	38%	28%	38%	15%	19%	42%	16%	100%	15%	15%	#N/A
PL	99%	89%	94%	100%	50%	93%	56%	62%	63%	97%	100%	95%	99%	#N/A
PT	62%	90%	47%	60%	53%	43%	49%	56%	54%	67%	#N/A	73%	58%	#N/A
RO	52%	84%	40%	70%	27%	32%	33%	34%	35%	90%	100%	94%	85%	#N/A
SE	83%	83%	100%	100%	100%	100%	83%	86%	88%	100%	100%	100%	100%	#N/A
SI	64%	90%	82%	100%	81%	90%	40%	60%	50%	100%	#N/A	100%	100%	#N/A
SK	99%	46%	21%	16%	29%	19%	43%	65%	43%	30%	100%	30%	29%	0%

Monitoring and Reporting 2022 – Dashboard

- Landing page:
 - number of data sets, data set series & services for all countries
 - **documentation** to help understand the results

<https://inspire-geoportal.ec.europa.eu/mr2022.html>



Monitoring and Reporting 2022 – Dashboard

- Country-specific page:
 - overview statistics: number of data sets, data set series & services, number of conformant & non conformant metadata
 - values of Monitoring and Reporting 2022 indicators

<https://inspire-geoportal.ec.europa.eu/mr2022.html>

Poland

85a23ec3-62d5-4c15-875d-b6802485b629

MD Catalogue URL: <http://mapy.geoportal.gov.pl/wss/service/CSWINSP/guest/CSWStartup>

Endpoint ID: 85a23ec3-62d5-4c15-875d-b6802485b629

The date of harvest metadata: 2022-12-16, 20:41:11

Overview statistics of the harvested metadata

Dataset: 152	Series: 4	Services: 258
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Results of evaluation using [INSPIRE Reference Validator](#)

Metadata Dataset		Metadata Services	
Conformant: 155	NOT Conformant: 1	Conformant: 230	NOT Conformant: 28
Click to download the test reports of failed records		Click to download the test reports of failed records	

Summary of metadata failing validation in [this endpoint](#) (batch file identifier, metadata identifier, metadata type, total number and ids of failed test assertions)
 Summary of metadata failing validation in [all endpoints](#) (see "readme" sheet for details)

Monitoring Indicators 2022

Availability		Conformity	
Monitoring of the availability of spatial data and service			
156 DSi1.1 =	258 DSi1.2 =	Monitoring of the conformity of metadata	
58 DSi1.3 =		★★★★★ MDi1.1 =	★★★★☆ MDi1.2 ↓
0 DSi1.4 =	155 DSi1.5 =	Monitoring of the conformity of spatial data sets	
Monitoring of the accessibility of spatial data sets through view and download services		★★★★★ DSi2 =	
★★★★☆ NSi2 =	★★★★★ NSi2.1 =	★★★★★ DSi2.1 =	★★★★☆ DSi2.2 =
★★★★☆ NSi2.1 =	★★★★☆ NSi2.2 =	★★★★★ DSi2.3 =	★★★★★ NSi4 =
Monitoring of the conformity of the network services		★★★★★ NSi4.1 =	★★★★★ NSi4.2 =
		★★★★★ NSi4.3 =	Not available NSi4.4 -

Download the calculated indicators for this country

Monitoring and Reporting 2022 – Dashboard

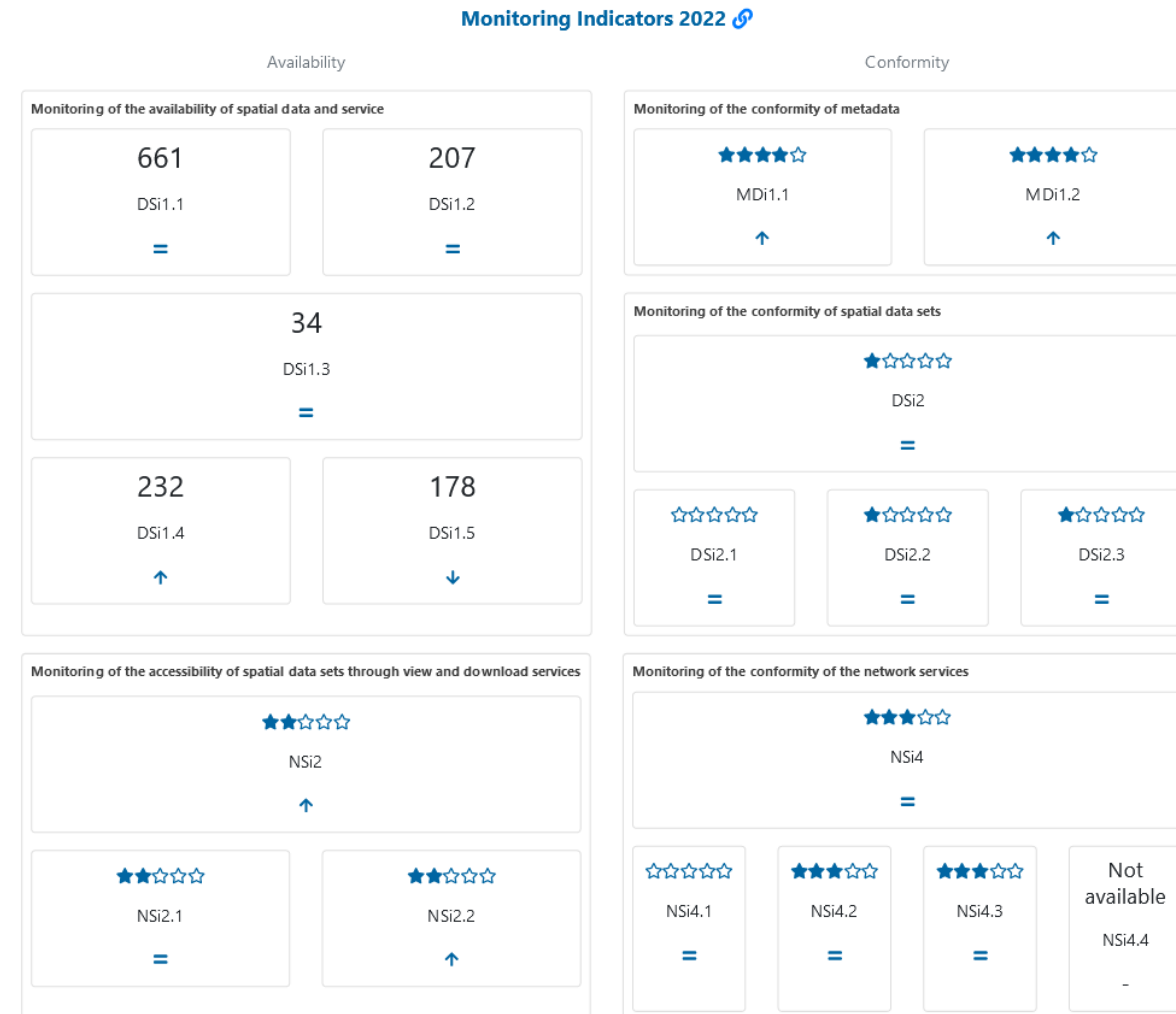
- Visualization of indicators
 - star-based scoring system (for percentage indicators):

- ☆☆☆☆☆ $0 \leq X < 10\%$
- ★☆☆☆☆ $10\% \leq X < 30\%$
- ★★☆☆☆ $30\% \leq X < 50\%$
- ★★★☆☆ $50\% \leq X < 70\%$
- ★★★★☆ $70\% \leq X < 90\%$
- ★★★★★ $90\% \leq X \leq 100\%$

- comparison against 2021 results:

- for relative number indicators:
 - ↑ increase of at least 10%
 - ↓ decrease of at least 10%
 - = increase or decrease of less than 10%
- for absolute number indicators:

same rule but considering 10% of the 2021 values



Monitoring and Reporting 2022 – Dashboard

- Documentation

- ▼ Notes on calculation of MDi1.1 and MDi1.2

The evaluation of these indicators involves a validation of the collected metadata through the [INSPIRE Reference Validator](#) (v2021.3.1).

All metadata records are validated against the Conformance Classes corresponding to the [INSPIRE MD TG v2.0](#):

- ✓ if the recognized INSPIRE Resource Type is "**dataset**" or "**series**", the applied executable test suites are "**Conformance Class 2: INSPIRE data sets and data set series interoperability metadata**" and "**Conformance Class 2b: INSPIRE data sets and data set series metadata for Monitoring**";
- ✓ if the recognized INSPIRE Resource Type is "**service**", the applied executable test suite is:
 - ✓ "**Conformance Class 4: INSPIRE Network Services metadata**", if the service is a Network Service (service type equal to "view", "download", "discovery" or "transformation")
 - ✓ "**Conformance Class 5: INSPIRE Invocable Spatial Data Services metadata**", if the service is an Invocable Spatial Data Service (service type equal to "other")

Documentation:

[Commission Implementing Decision \(EU\) 2019/1372 of 19 August 2019 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards monitoring and reporting](#)

[Technical Report including guidance for the calculation of indicators and description of the Monitoring process \(Chapter 2\)](#)

[Indicators calculation](#)

[Guidance on indicator visualisation in the dashboard](#)

[Information on the software used to calculate the indicators](#)

Implementing Decision

Technical Report on M&R

explanation of how indicators are calculated

explanation of indicator visualisation

info on the versions of Geoportal & Validator used

Lessons learnt

Monitoring and Reporting 2022 – Conclusions

- Overall: slight improvement of results when compared to the 2021 exercise, significant improvement of results when compared to 2020 to 2019.
- Heterogeneity in performance of the different countries still remains.
- Concerns about the reliability of indicators on the conformity of datasets and services (self-declarations).
- Several issues were identified in the INSPIRE infrastructure during the M&R process, which may turn into opportunities for future improvement.
- But also good practices!

Self-declared conformity of datasets and services

- Many countries (the same as in 2021) declared values equal or close to 100% for all the indicators on the conformity of datasets and services.
- A manual validation was performed on a small sample of datasets and services from these countries using the INSPIRE Reference Validator

country	MDi1.1	MDi1.2	DSi2	DSi2.1	DSi2.2	DSi2.3	NSi2	NSi2.1	NSi2.2	NSi4	NSi4.1	NSi4.2	NSi4.3	NSi4.4
AT	99%	99%	86%	88%	98%	70%	60%	61%	97%	97%	100%	96%	98%	#N/A
BE	95%	63%	73%	96%	71%	71%	79%	93%	80%	92%	83%	93%	91%	#N/A
BG	37%	51%	96%	100%	100%	98%	34%	46%	34%	0%	0%	0%	0%	#N/A
CH	0%	0%	2%	7%	0%	0%	0%	2%	0%	0%	0%	0%	0%	#N/A
CY	0%	0%	2%	0%	25%	0%	81%	93%	88%	0%	#N/A	0%	0%	#N/A
CZ	93%	98%	48%	100%	91%	21%	78%	93%	83%	96%	100%	95%	97%	100%
DE	93%	96%	81%	68%	51%	82%	72%	76%	76%	99%	100%	99%	99%	#N/A
DK	63%	97%	63%	95%	71%	57%	42%	48%	46%	95%	100%	94%	96%	#N/A
EE	97%	95%	98%	100%	90%	100%	66%	67%	66%	97%	100%	95%	98%	#N/A
EL	100%	100%	100%	100%	#N/A	100%	96%	98%	98%	0%	0%	0%	0%	#N/A
ES	93%	99%	100%	100%	100%	99%	70%	89%	71%	100%	100%	100%	100%	#N/A
FI	75%	86%	19%	9%	21%	22%	32%	34%	38%	54%	0%	56%	53%	#N/A
FR	2%	4%	76%	81%	92%	74%	1%	18%	1%	7%	0%	9%	0%	#N/A
HR	95%	90%	98%	100%	100%	97%	27%	67%	29%	93%	100%	90%	99%	#N/A
HU	1%	0%	36%	48%	45%	33%	14%	14%	16%	32%	60%	26%	33%	#N/A
IE	100%	100%	100%	100%	100%	100%	63%	63%	75%	100%	100%	100%	100%	#N/A
IS	89%	86%	52%	62%	72%	36%	0%	0%	0%	0%	#N/A	0%	0%	#N/A
IT	99%	96%	31%	34%	20%	27%	6%	10%	6%	5%	14%	6%	2%	0%
LI	78%	33%	11%	8%	16%	6%	0%	17%	0%	50%	#N/A	100%	0%	#N/A
LT	93%	100%	98%	97%	100%	99%	63%	63%	100%	100%	100%	100%	100%	#N/A
LU	100%	100%	73%	100%	94%	62%	90%	90%	98%	100%	100%	100%	100%	#N/A
LV	0%	0%	76%	83%	55%	81%	54%	59%	56%	0%	#N/A	0%	0%	#N/A
MT	99%	99%	100%	100%	100%	100%	95%	99%	95%	99%	100%	100%	99%	#N/A
NL	77%	91%	53%	91%	33%	70%	50%	64%	57%	93%	100%	93%	93%	#N/A
NO	84%	79%	36%	38%	28%	38%	15%	19%	42%	16%	100%	15%	15%	#N/A
PL	99%	89%	94%	100%	50%	93%	56%	62%	63%	97%	100%	95%	99%	#N/A
PT	62%	90%	47%	60%	53%	43%	49%	56%	54%	67%	#N/A	73%	58%	#N/A
RO	52%	84%	40%	70%	27%	32%	33%	34%	35%	90%	100%	94%	85%	#N/A
SE	83%	83%	100%	100%	100%	100%	83%	86%	88%	100%	100%	100%	100%	#N/A
SI	64%	90%	82%	100%	81%	90%	40%	60%	50%	100%	#N/A	100%	100%	#N/A
SK	99%	46%	21%	16%	29%	19%	43%	65%	43%	30%	100%	30%	29%	0%

- very low conformity (close to 0%) – indicator values are not reliable
- Validator was probably not used to check the conformity

Issues & good practices identified

- Issues
 - metadata records with XML (ISO 19139) **encoding errors** – failed to be indexed by GeoNetwork
 - **non-INSPIRE metadata records** present in national catalogues
 - services serving thousands of datasets
 - incorrect declarations of conformity
- Good practices
 - several countries **effectively using the INSPIRE Reference Validator**
 - some countries achieving **full dataset accessibility**
 - several countries with **significant improvements of all indicators** compared to 2021
 - Some countries showing proactive attitude and providing continuous feedback to the INSPIRE team

Thank you!



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- The Consortium supporting the operation of the INSPIRE infrastructure

