

# INSPIRE-Monitoring 2022

Pornpak Khunatorn | iStock / Getty Images Plus | Getty Images

## INSPIRE-Infoveranstaltung, 20.04.2023

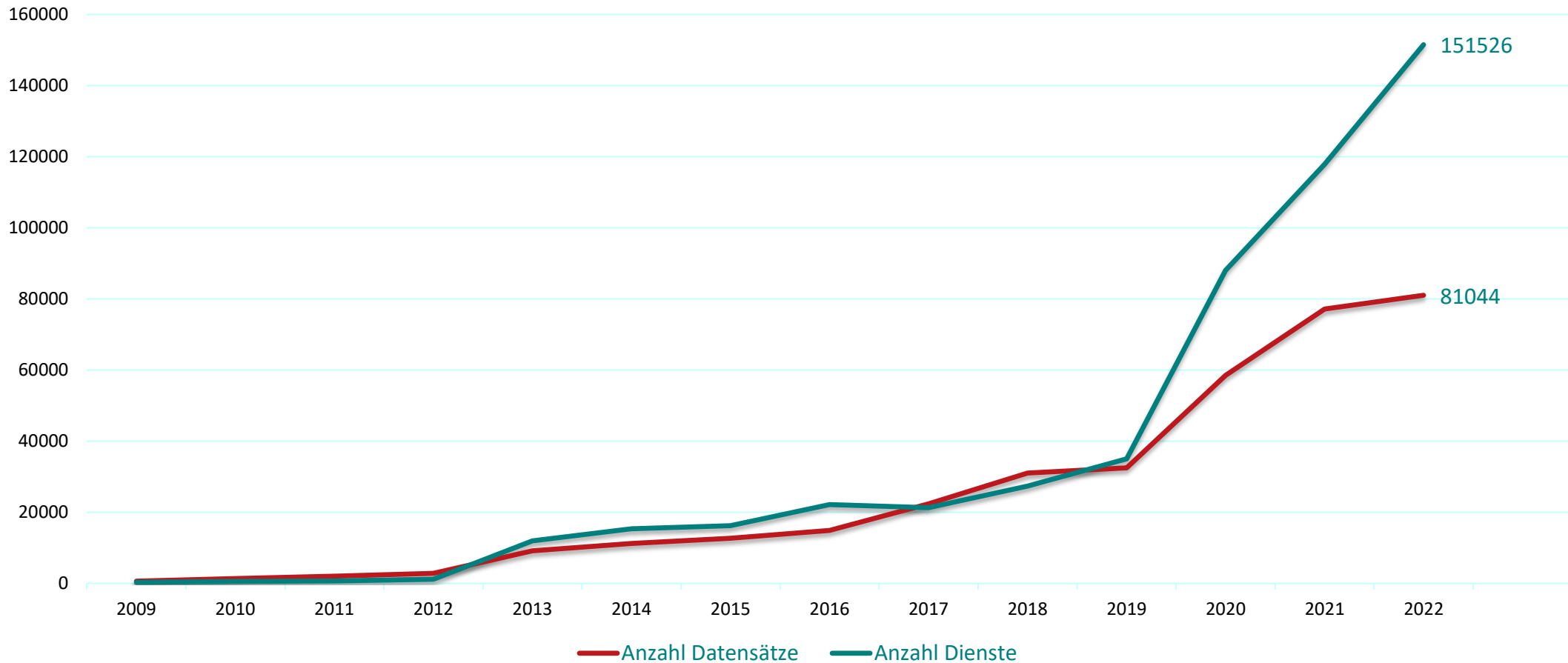
Koordinierungsstelle GDI-DE

[www.gdi-de.org](http://www.gdi-de.org) | [www.geoportal.de](http://www.geoportal.de) | [https://twitter.com/GDI\\_DE](https://twitter.com/GDI_DE)

# Entwicklung

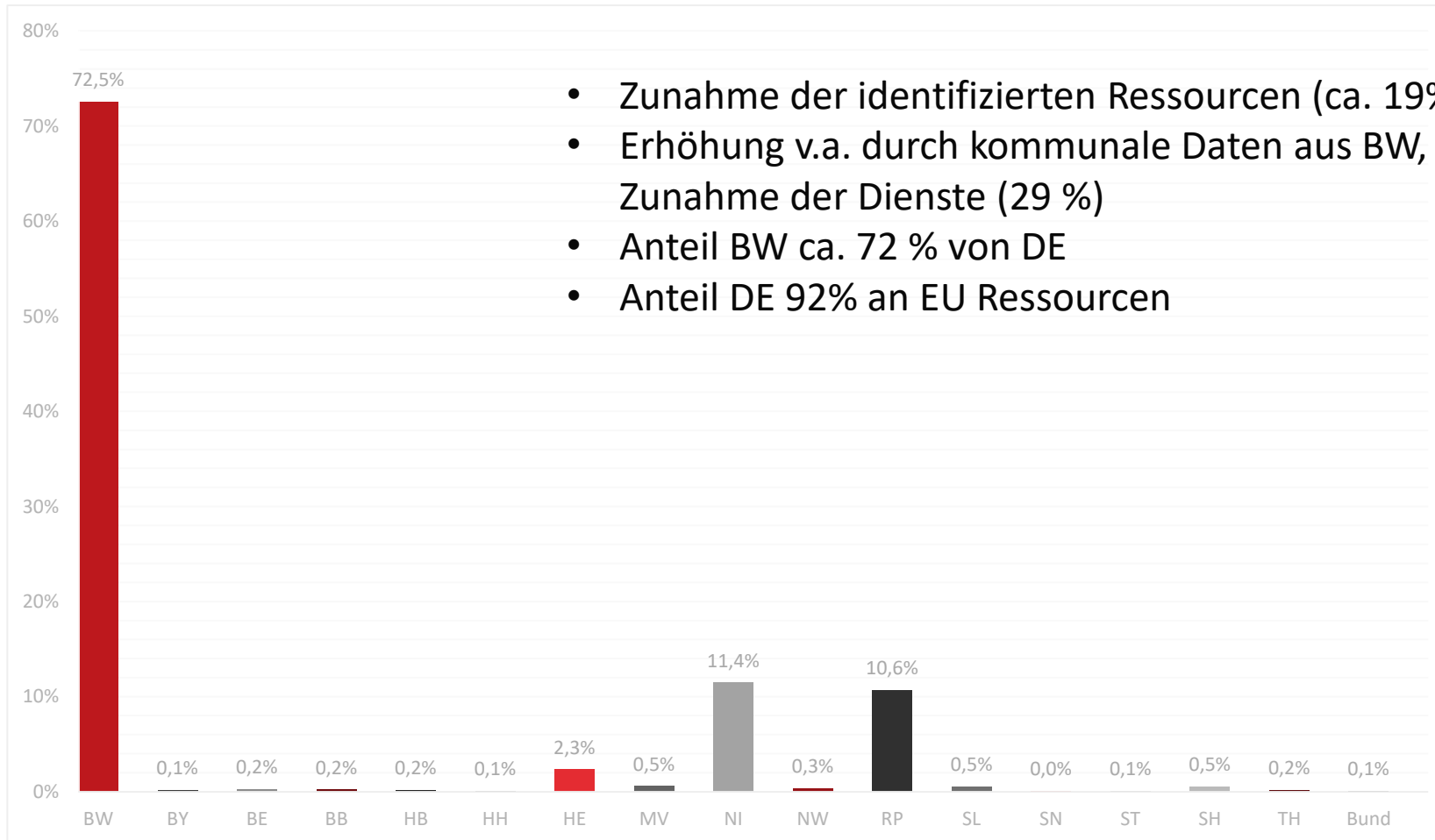


Anzahl Datensätze und Dienste 2009-2022





## Identifizierungsprozess



- Zunahme der identifizierten Ressourcen (ca. 19%)
- Erhöhung v.a. durch kommunale Daten aus BW, insbesondere Zunahme der Dienste (29 %)
- Anteil BW ca. 72 % von DE
- Anteil DE 92% an EU Ressourcen

## Verfügbarkeit von Geodatenätzen und Geodatendiensten



Indikator	Beschreibung	2019	2020	2021	2022
DSi1.1	Anzahl Datensätze	32.518	58.505	77.193	81.044
DSi1.2	Anzahl Dienste	35.046	88.068	117.891	151.526
DSi1.3	Anzahl Priority Data Sets	108	144	209	258
DSi1.4	Anzahl regionale Datensätze	10.975	2.098	2.879	2.650
DSi1.5	Anzahl nationale Datensätze	156	135	167	212

Durchschnittswerte  
EU Mitgliedstaaten

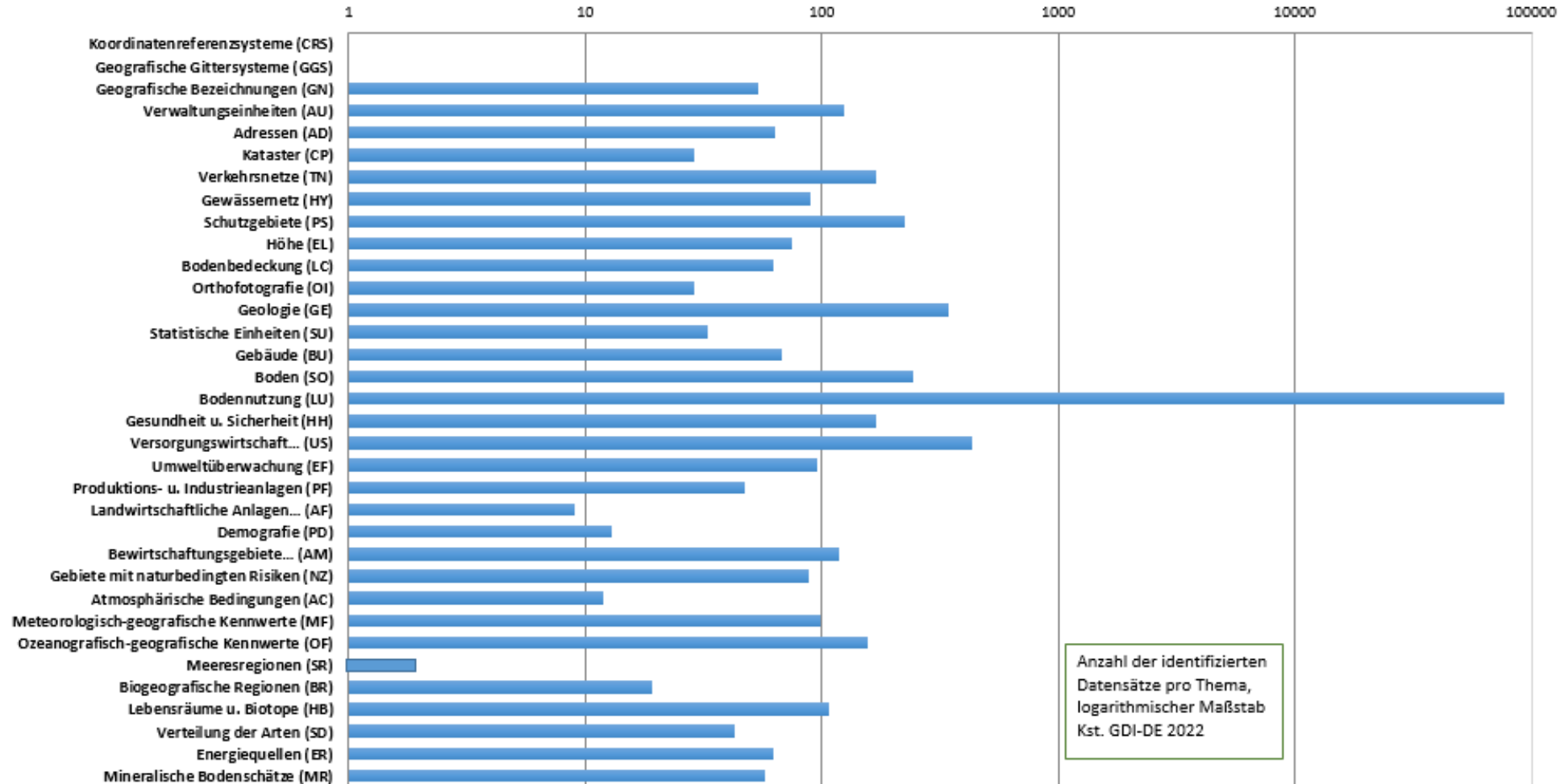
YEAR	DSi1.1	DSi1.2	DSi1.3	DSi1.4	DSi1.5
2019	164	142	47	0	74
2020	161	182	51	0	94
2021	167	192	55	2	109
2022	157	193	58	0	101

availability of  
spatial data and  
services



Quelle: JRC, 17 Feb. 2023

## Anzahl der identifizierten Datensätze pro Thema (DE)



## Konformität der Metadaten



Indikator	Beschreibung	2019	2020	2021	2022
MDi1.1	Konformität Metadaten zu Datensätzen	65,4%	19,0%	71,0%	93,0%
MDi1.2	Konformität Metadaten zu Diensten	91,7%	80,0%	94,0%	96,0%

- Ergebnisse deutlich verbessert !
- Viele strukturelle Fehler aus 2020/ 2021 bereinigt  
→ Umstellung auf TG 2.0 größtenteils erfolgt




**calculated  
automatically  
(Validator)**

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

conformity of  
metadata

Quelle: JRC, 17 Feb. 2023



**INSPIRE**  
Infrastructure for Spatial Information in Europe

**MD TG 2.0**

**Technical Guidance for the implementation of INSPIRE dataset and service metadata based on ISO/TS 19139:2007**

**Title:** Technical Guidelines for implementing dataset and service metadata based on ISO/TS 19139:2007

**Creator:** Temporary MG subgroup for action MISP-6

**Date of publication:** 2017-03-02

**Subject:** Technical Guidance for INSPIRE metadata for datasets and services

**Status:** Version 2.0.1  
This document has been endorsed by the INSPIRE maintenance and implementation group (MIG) in its meeting on 30/11-1/12/2016 (see meeting minutes at [http://inspire.ec.europa.eu/spatialmetadata/mig/2016/30\\_11\\_2016\\_mig\\_maintenance](http://inspire.ec.europa.eu/spatialmetadata/mig/2016/30_11_2016_mig_maintenance))

**Publisher:** INSPIRE Maintenance and Implementation Group (MIG)

**Type:** Text

**Description:** Implementation specification for defining metadata for INSPIRE datasets and services in ISO/TS 19139 based XML format in compliance with the INSPIRE Implementing Rules for metadata.

**Format:** PDF

**License:** Creative Commons Attribution (cc-by) 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

**Identifier:** <http://inspire.ec.europa.eu/informations/metadata/mg/19139/2.0> (latest English version of 2.0)  
<http://inspire.ec.europa.eu/informations/metadata/mg/19139/2.1> (this English version)

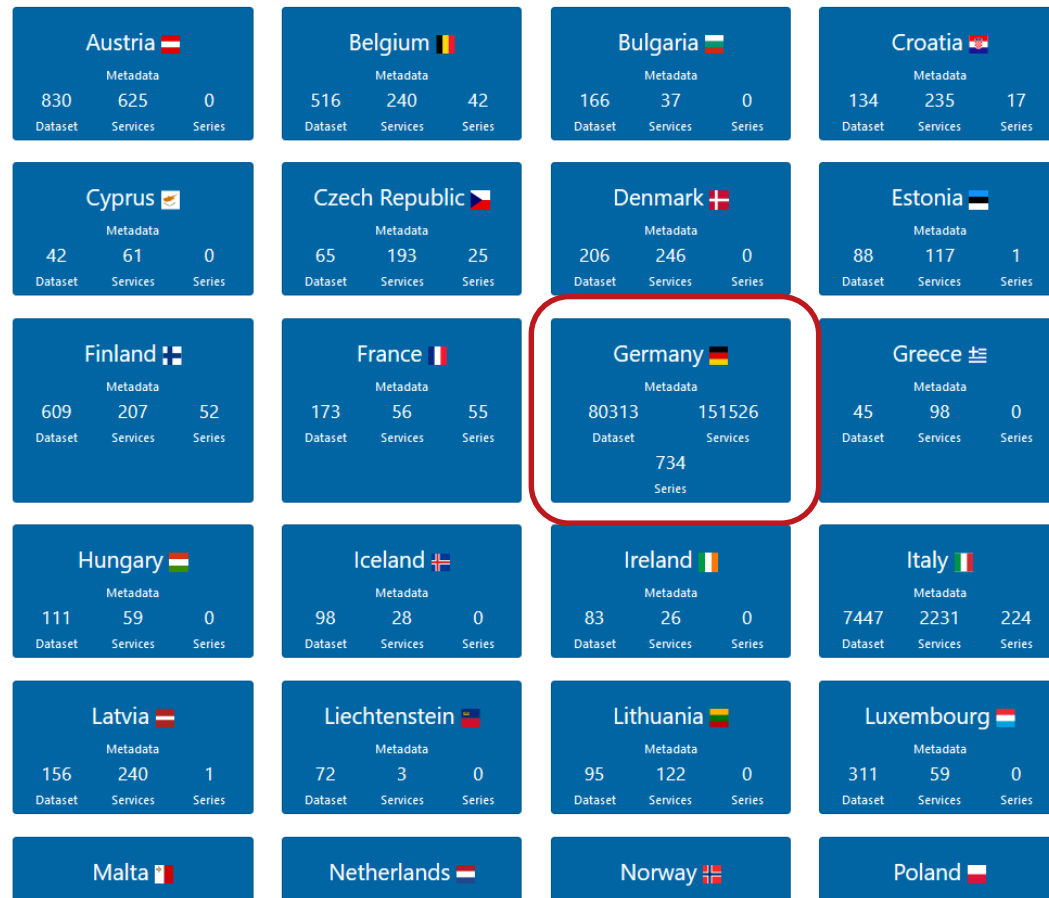
**Corrigenda:** <http://inspire.ec.europa.eu/informations/metadata/mg/19139/2.0/corrigenda>

**Language:** EN



# Ergebnisse

## INSPIRE Monitoring and Reporting 2022



[https://inspire-geoportal.ec.europa.eu/mr2022\\_details.html?country=de](https://inspire-geoportal.ec.europa.eu/mr2022_details.html?country=de)

**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

### Indicators in support of Commission Decision (EU) 2019/1372 implementing Directive 2007/2/EC (INSPIRE) as regards to monitoring and reporting

**Germany**

711a39f4-880f-4704-b005-51798adb4a3d

**MD Catalogue URL:** <http://gdk-inspire-1.ffm.gdi-de.org/geonetwork/srv/ger/csw>  
**Endpoint ID:** 711a39f4-880f-4704-b005-51798adb4a3d  
**The date of harvest metadata:** 2022-12-22, 00:00:00

**Overview statistics of the harvested metadata**

Dataset: 80313	Series: 734	Services: 151526
----------------	-------------	------------------

**Results of evaluation using INSPIRE Reference Validator**

Metadata Dataset		Metadata Services	
Conformant: 74972	NOT Conformant: 6075	Conformant: 145439	NOT Conformant: 6087

[Click to download the test reports of failed records](#) (for Dataset)

[Click to download the test reports of failed records](#) (for Services)

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)

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

# Fehlerreports

Quelle: JRC



## Results from the metadata validation

Results of evaluation using [INSPIRE Reference Validator](#)

Metadata Dataset

---

Conformant: **74972**      NOT Conformant: **6075**

[Click to download the test reports of failed records](#)

Metadata Services

---

Conformant: **145439**      NOT Conformant: **6087**

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Results of evaluation using [INSPIRE Reference Validator](#)

Metadata Dataset

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Metadata Services

---

Conformant: **145439**      NOT Conformant: **6087**

[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)

	A	B	C	D	E	F
1	file_id	md_id	type	error_count	errors	
2	121-140/1	59630bde-6361-4175-8f7b-1791ecfa78cf	dataset	1	1.4	
3	281-300/17	e02e7c33-818a-463e-a565-3847f2b8cb30	dataset	1	2.5	
4	341-360/14	aac1ad8b-4fb3-4bea-803c-64c8a22b33fc	dataset	1	C.16	
5	341-360/2	326ef9d6-78fb-496e-9215-07ae1d96afec	dataset	2	C.1 C.16	
6	361-371/5	eeeba0a6-0fe8-4be3-8392-39851d3f98c3	service	1	C.16	
7	361-371/8	f62e9051-5374-4d1d-89db-522f71839a7f	service	1	C.16	

[https://inspire-geoportal.ec.europa.eu/mr2021\\_details.html?country=de](https://inspire-geoportal.ec.europa.eu/mr2021_details.html?country=de)



# Fehlerreports

Quelle: JRC



## Results from the metadata validation

Results of evaluation using [INSPIRE Reference Validator](#)

Metadata Dataset

Conformant: **74972**      NOT Conformant: **6075**

[Click to download the test reports of failed records](#)

Metadata Services

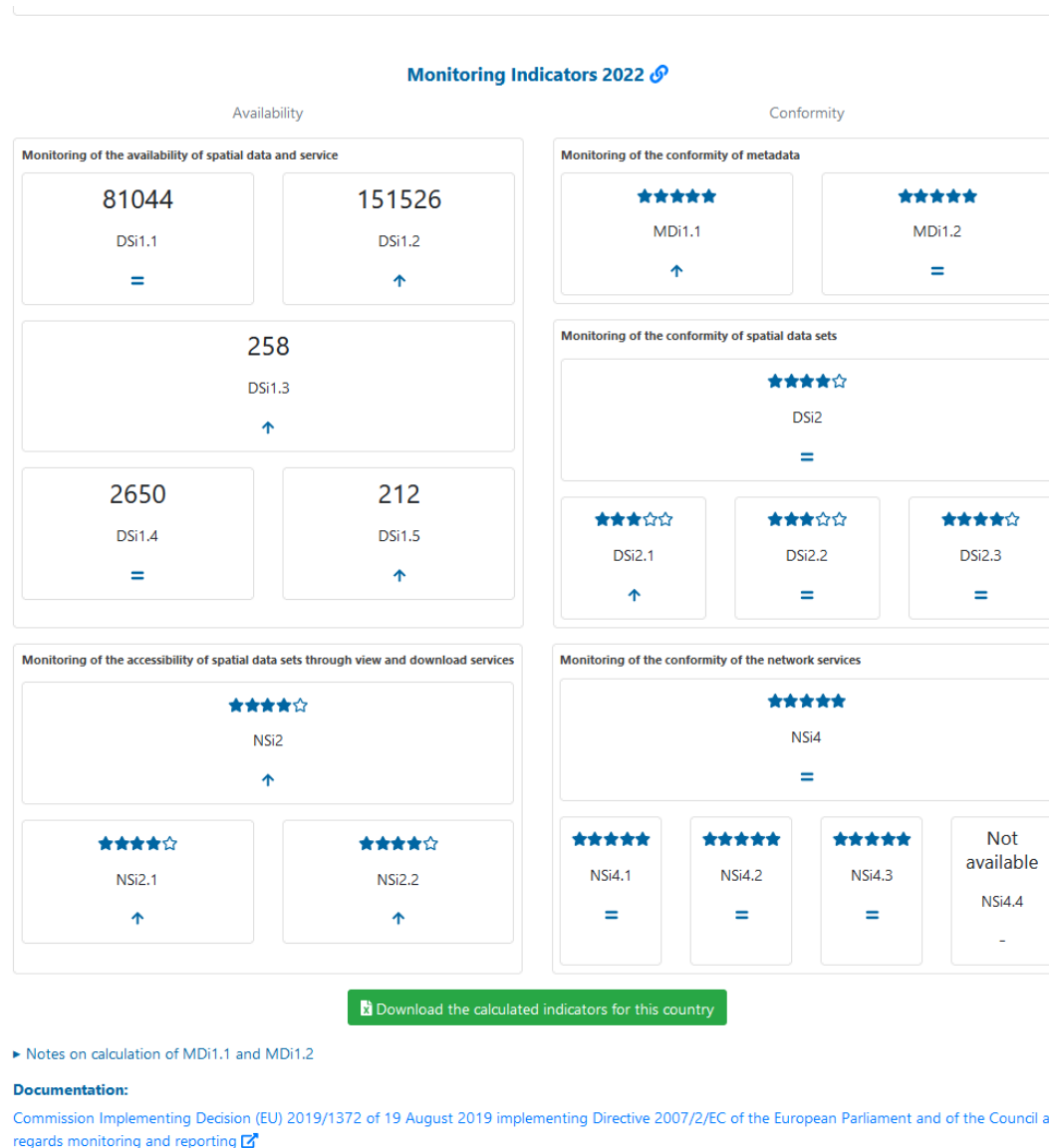
Conformant: **145439**      NOT Conformant: **6087**

[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)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
1	Country	endpoint	md_failed	md_unknown	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	C.1	C.2	C.5	C.6	C.7	C.8	C.9	C.10	C.11	C.12	C.13	C.14	C.15	C.16
2	AT	8d8e666a-	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3	BE-GEO	07041901-	19	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0
4	BE-GEOBRU	fcdb6e24-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5	BE-VLAANDEREN	16ef7cb3-	4	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6	BE-WALLONIE	46372588-	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7	BG	0513916a-	104	3	5	0	11	13	0	8	5	0	5	11	52	34	0	3	29	0	0	0	42	1	0	0	24	0	0
8	CH	864dd8d5-	207	0	11	0	74	89	0	0	3	3	122	215	123	0	0	0	41	0	0	0	25	28	0	5	0	0	25
9	CY	0ebf78d5-	42	0	0	0	1	0	0	42	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0
10	CZ	8b722540-	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	DE	711a394-	6075	5	6	0	17	492	453	1672	15	287	262	372	266	0	0	647	96	0	0	0	180	23	0	9	184	6	650
12	DK	76edce98-	76	0	0	0	0	3	0	0	0	63	2	5	10	15	0	0	0	0	0	0	0	2	0	0	3	0	4
13	EE	02c2748f-	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	EL	d6c7bb79-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	ES	917ecef2-	17	0	0	0	3	1	1	0	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
16	FI	b0259e81-	162	0	1	0	17	30	0	4	5	14	2	8	17	5	0	3	11	0	0	0	5	0	1	2	74	0	1
17	FR	e44416c9-	223	0	0	0	0	178	0	104	5	0	4	44	0	24	0	89	18	0	0	0	14	32	0	1	43	104	87
18	HR	b50f8b12-	7	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	3



## • 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%

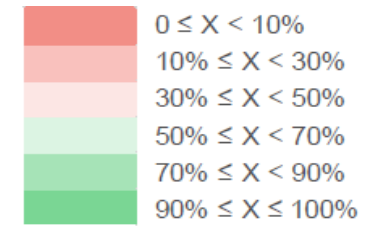
- for absolute number indicators:

same rule but considering 10% of the 2021 values

[https://inspire-geoportal.ec.europa.eu/mr2022\\_details.html?country=de](https://inspire-geoportal.ec.europa.eu/mr2022_details.html?country=de)



Quelle: JRC



# 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	030	625	90	260	563	99%	99%	06%	08%	90%	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
DE	81044	151526	258	2650	212	93%	96%	81%	68%	51%	82%	72%	76%	76%	99%	100%	99%	99%	#N/A
DK	266	246	58	0	266	68%	67%	68%	65%	74%	57%	48%	48%	46%	65%	100%	64%	66%	#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%



## Konformität der Geodatensätze

Indikator	Beschreibung	2019	2020	2021	2022
DSi2	Konformität Geodatensätze	56,0%	55,3%	74,0%	81,0%
DSi2.1	Konformität Anhang-I-Geodatensätze	40,0%	58,3%	57,0%	68,0%
DSi2.2	Konformität Anhang-II-Geodatensätze	33,0%	50,1%	60,0%	51,0%
DSi2.3	Konformität Anhang-III-Geodatensätze	57,1%	55,4%	74,0%	82,0%

- Deutliche Verbesserung der Konformität für die Geodatensätze gesamt sowie zu den Anhang I und III-Themen
- Rückgang der Konformität der Geodatensätze zu den Anhang II-Themen
- Indikatorberechnung basierend auf Selbstauskunft in den Metadaten



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

Quelle: JRC, 17 Feb. 2023



## Konformität der Netzdienste

Indikator	Beschreibung	2019	2020	2021	2022
NSi4	Konformität Netzdienste	82,4%	98,5%	99,0%	99,0%
NSi4.1	Konformität Suchdienste	100,0%	100,0%	100,0%	100,0%
NSi4.2	Konformität Darstellungsdienste	84,6%	98,4%	98,0%	99,0%
NSi4.3	Konformität Downloaddienste	79,1%	98,5%	99,0%	99,0%
NSi4.4	Konformität Transformationsdienste	n.a.	n.a.	n.a.	n.a.

- Werte konstant hoch
- Indikatorberechnung basierend auf Selbstauskunft in den Metadaten



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

Quelle: JRC, 17 Feb. 2023

# Conformity of datasets and services

## Self-declared conformity

- A random, manual QC of conformity was performed on a small sample of datasets and services from these countries using the INSPIRE Reference Validator.
  - The overall result of the JRC manual conformity check was very low:
    - Almost equal to 0%!
  - Despite no conclusions could be derived, we proved that the calculated values for the conformity indicators are not reliable:
    - Conformity of spatial data sets: DSi1.1, DSi1.2, DSi1.3, DSi1.4, DSi1.5
    - Conformity of network services: NSi4, NSi4.1, NSi4.2, NSi4.3, NSi4.4
  - The INSPIRE Reference Validator was probably not used to check the conformity in many cases.





## Zugänglichkeit von Datensätzen über Darstellungs- und Downloaddienste

Indikator	Beschreibung	2019	2020	2021	2022
NSi2	Zugänglichkeit über Darstellungs- und Downloaddienste	34,7%	61,1%	60,0%	72,0%
NSi2.1	Zugänglichkeit über Darstellungsdienste	39,5%	64,4%	66,0%	76,0%
NSi2.2	Zugänglichkeit über Downloaddienste	37,9%	63,2%	63,0%	76,0%

- 72 % aller Datensätze sind über einen Darstellungs- **und** Downloaddienst erreichbar
- Wesentliche Verbesserung bei allen Werten !
- Deutlich über EU Durchschnitt



**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

## Fazit:

- Erneute Steigerung der identifizierten Ressourcen um 19 %.
- Die Ergebnisse des INSPIRE Monitoring 2022 haben sich deutlich verbessert, insbesondere
  - die Indikatorwerte zur Konformität der Datensatz-/Serien-Metadaten (MDi1.1) und Dienst-Metadaten (MDi1.2) sowie
  - die Zugänglichkeit der Datensätze über Darstellungs- und Downloaddienste.
- JRC vermutet unverlässliche Indikatorwerte zur Konformität von Datensätzen und Diensten.



## To Do's:

- Korrektur der Fehler
  - Verbesserung der Zugänglichkeit
- Bereitstellung der aktualisierten Metadaten in den **originären** (Bund-/Länder-) Katalogen bis

**17. November 2023**

- Ab 20.11.2023 erfolgt das Harvesting der Bund-/Länderkataloge in den Geodatenkatalog

## Qualitätssicherung

- Liste der verfügbaren Werkzeuge im Wiki:  
<https://wiki.gdi-de.org/pages/viewpage.action?pageId=639762475>
- Neu seit 2022: **GDI-DE Monitor**
  - Bietet schon vor dem Monitoring-Stichtag eine Prognose der Indikatoren
  - Eignet sich zur „Nachkontrolle“ der Konformität von großen Mengen Metadaten (1000+), die bereits im Geodatenkatalog vorliegen
  - Weitere Informationen im Wiki
- Für neue Metadaten nutzen Sie gleich beim Erstellen die **GDI-DE Testsuite**



# Kompetenz durch Kooperation

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## **Koordinierungsstelle GDI-DE**

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