

Towards spatial and open data discoverability for European Data Spaces



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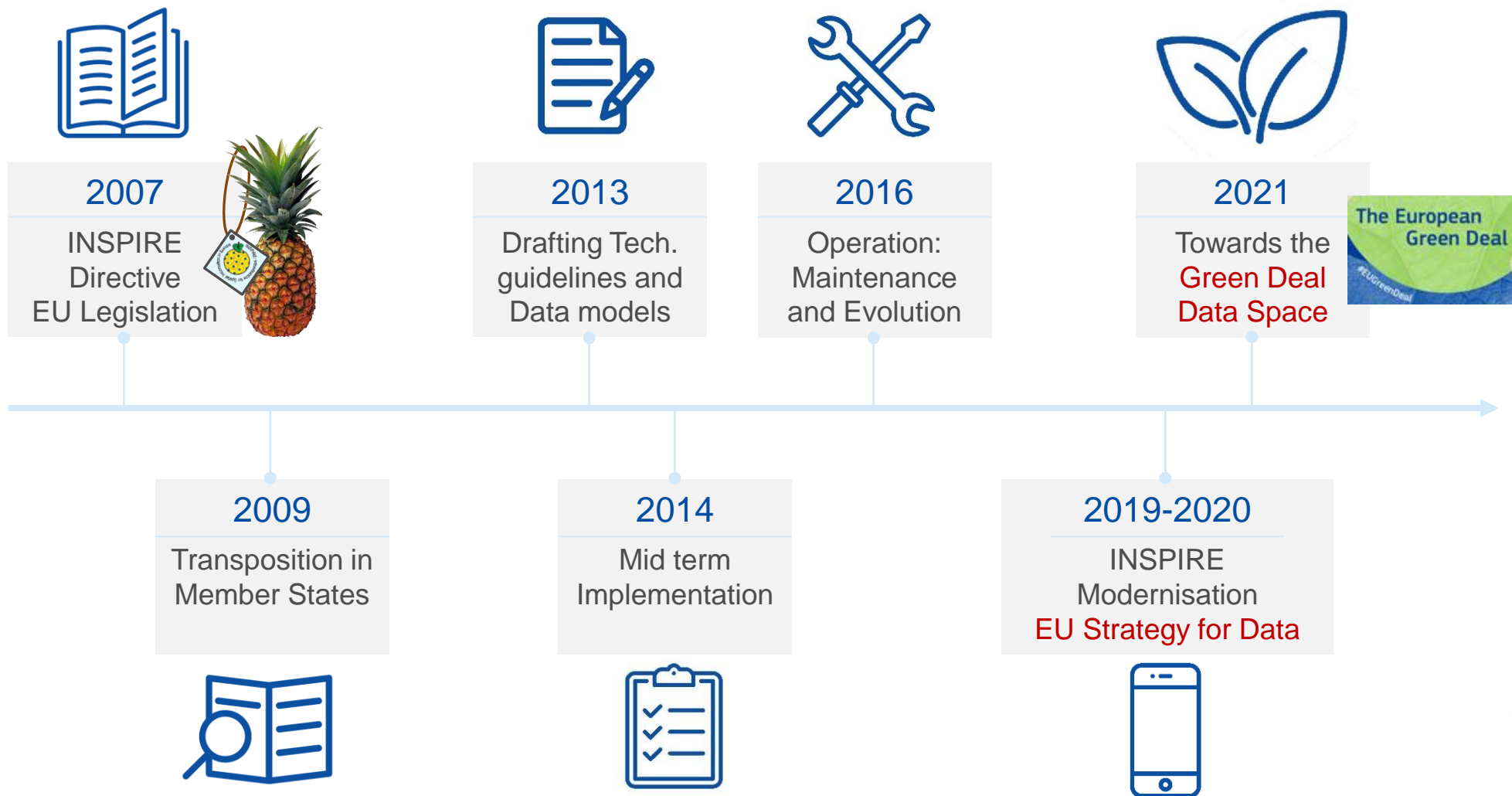
*EuroGeographics & EuroSDR Virtual Workshop on
Geodata Discoverability, 16-17 January 2024*

Revamped INSPIRE Geoportals

High-value Open Datasets for INSPIRE & EU Green Deal Data Space

INSPIRE

Status of implementation



Status of implementation:

Lights and shadows.

- Objectives partially achieved.
- Heterogeneity of implementations across EU.
- Pan European coverage yet do be achieved.

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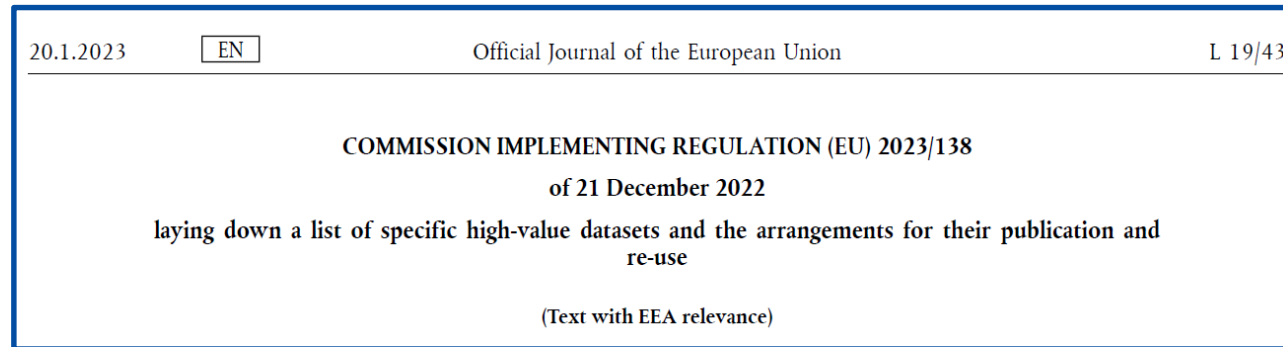
- The Directive entered into force in 2007 / Roadmap finished by December 2021.

Implementing Act on High-Value Datasets

Boosting open data in the EU strategy for data



20/01/2023



https://eur-lex.europa.eu/eli/reg_impl/2023/138/oj

- High-value datasets (HVD)
 - Datasets the re-use of which is associated with important socio-economic benefits.
- To be made available:
 - For free, under open access licenses (CC BY 4.0 or less restrictive).
 - In machine-readable formats, via APIs and (when relevant) as a bulk download.
- The Implementing Act defines:
 - The list of High-value datasets for each thematic category.
 - The requirements for their provision: key attributes, granularity, formats, license, etc.

Geospatial

Earth
observation and
environment

Meteorological

Statistics

Companies and
company
ownership

Mobility

HVDs & INSPIRE Alignment Revamped Geoportal

- Includes HVD browsing

INSPIRE Geoportal

Home Priority Datasets High-Value Datasets Thematic Data Find out more

European Commission > INSPIRE > Geoportal

Enabling access to European geospatial data for the Green Deal

The INSPIRE Geoportal is the central European access point to the data provided by EU Member States and EFTA countries under the INSPIRE Directive. The Geoportal allows:

- monitoring the availability of datasets in scope;
- discovering suitable datasets based on their descriptions (metadata);
- accessing the selected datasets 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. Feedback regarding the functionality as well as dataset availability is welcome here.

High-Value Datasets

Application providing an overview and access to geospatial high-value datasets and other core datasets (including priority datasets for eReporting).

[Browse](#)

INSPIRE Thematic Data

Application displaying the availability and providing access to all EU Member States and EFTA countries datasets falling under the scope of INSPIRE Directive filtered by data themes (i.e. Annex I, II and III) and countries.

[Browse](#)

Online
2023.11.24

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

INSPIRE Geoportal

Home Priority Datasets High-Value Datasets Thematic Data Find out more

European Commission > INSPIRE > Geoportal

High-Value Datasets

Application providing an overview and accessing to geospatial high-value datasets and other core datasets (including priority datasets for eReporting), which fall under the scope of the [Open Data Directive](#) according to the related [Implementing Act](#).

Please select a thematic category:

- Geospatial** (Show Less >)
- Earth Observation and Environment** (Show More >)
- Mobility** (Show More >)

Agricultural parcels

This section includes spatial datasets inserted in the systems and subsystems as defined in Art. 68 of [Regulation \(EU\) No 1306/2013](#). The Integrated Administration and Control System (IACS) consists of computerised databases of the subsystems. The Identification System for Agricultural Parcels (better known as LPIS - Land Parcel Identification System) and the Aid Applications and Payments Claims subsystems of IACS contain the spatial data components.

- GSAA**
Geospatial aid application as part of the Aid applications subsystem of IACS, defined by Art. 68 of Regulation 1306/2013.
80 | 45 | 45
- LPIS**
Land Parcel Identification System, a subsystem of Integrated Administration and Control System (IACS) as defined by Art. 68 of Regulation 1306/2013.
75 | 56 | 59

Other Core reference datasets

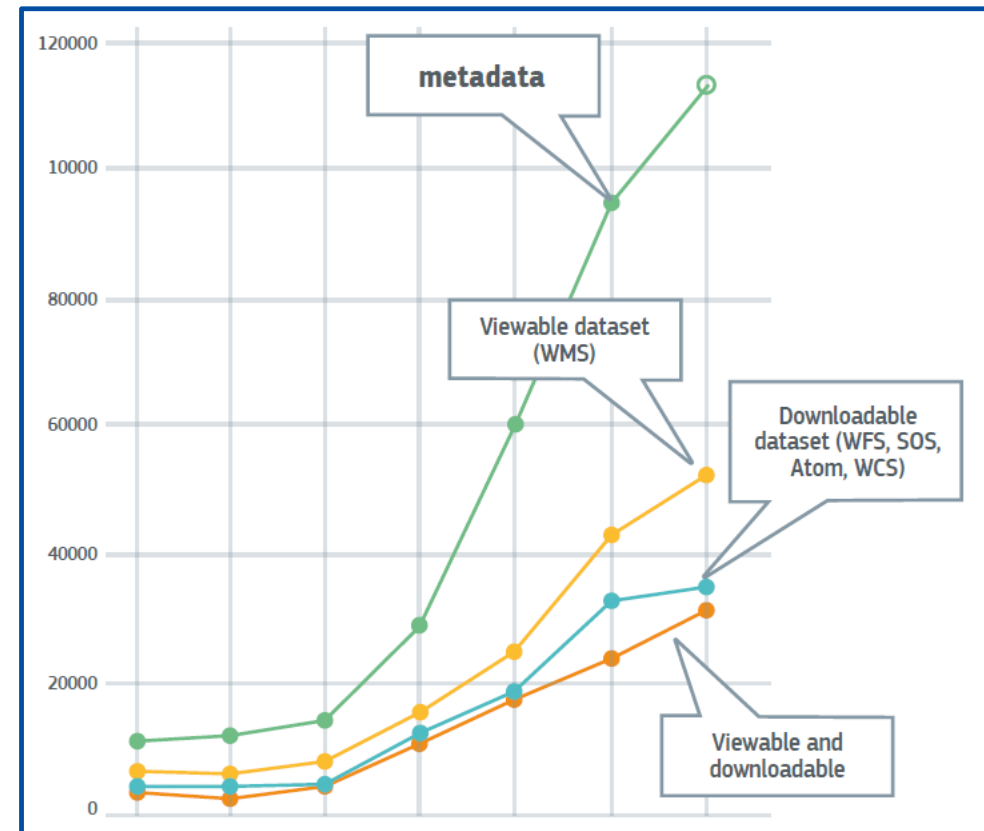
- Addresses**
Location of properties based on address identifiers, usually by road name,....
223 | 41 | 39
- Administrative units**
Units of administration, dividing areas where Member States have and/or...
570 | 68 | 72
- Cadastral parcels**
Areas defined by cadastral registers or equivalent....
196 | 28 | 32
- Geographical names**
Names of areas, regions, localities, cities, suburbs, towns or settlements,....
514 | 44 | 41
- Buildings**
Geographical location of buildings....
849 | 67 | 66

INSPIRE

Why High-Value Datasets?

- The amount of datasets made available through INSPIRE is gradually growing.
- However, their **availability and accessibility is clearly improvable**.
- **Granularity** of data available is **many times insufficient** for key use cases.
- **Licensing** standards used across EU are **highly heterogeneous**, unclear or missing.

Improved data availability in the INSPIRE infrastructure between 2007 and 2018



HVDs IA & INSPIRE Alignment

HVDs categories and Data themes



Geospatial

- **INSPIRE data themes:**

Administrative units
Geographical names
Addresses
Buildings
Cadastral parcels

- **Reference & Agricultural parcels (IACS)**

- Single or multiple datasets that shall cover the entire Member State when combined.
- Datasets to be published in their most up-to-date version.

Statistics



Earth observation and environment

- **INSPIRE data themes:**

Hydrography	Environmental monitoring facilities
Protected sites	Habitats and biotopes
Elevation	Land use
Geology	Mineral resources
Land cover	Natural risk zones
Orthoimagery	Oceanographic geographical features
Area management / restriction / regulation zones & reporting units	Production and industrial facilities
Bio-geographical regions	Sea regions
Energy resources	Soil
	Species distribution

Companies and company ownership

Meteorological

The implementation of INSPIRE alone does not satisfy all the requirements of the HVD Implementing Act

Additional requirements

- Granularity, Geospatial coverage, Key attributes.

Specific arrangements.

- **INSPIRE data themes:**

Transport networks



Mobility

INSPIRE

Bringing High-value datasets

HI!
WHO YOU
ARE??

INSPIRE
as we know it



**INSPIRE &
High-Value Datasets**



CIAO!
**I'M YOUR BEST
VERSION...**
**OPEN, FREE &
EASILY
ACCESSIBLE**

**LET'S BUILD
TOGETHER THE
GREEN DEAL
DATA SPACE**

Alignments between the Geospatial and the Open Data communities

Integration of data catalogues: ISO 19139 - DCAT, Geo-DCAT-AP

Community alignments

Metadata & Catalogues

GeoDCAT-AP - Version 2.0.0

A geospatial extension for the DCAT application profile for data portals in Europe



- **DCAT-AP for HVDs** - Profile extending DCAT metadata including HVDs requirements.

<https://semiceu.github.io/DCAT-AP/releases/2.2.0-hvd>

- **New WG led by the SEMIC Group** (DIGIT) dealing with the **update of GeoDCAT-AP** aligning to:

- DCAT3.0
- DCAT-AP for HVDs

SEMIC agreed to provide specific guidance for the INSPIRE community.

Target: 1st draft available by Spring 2024 / Subsequently: Update of INSPIRE Good Practice:

<https://inspire.ec.europa.eu/good-practice/geodcat-ap>

- This will boost:
 - **Metadata exchange** (Open Data vs. Geospatial ISO 19139 Metadata).
 - **Potential integration of Open Data and Geospatial catalogues.**

Community alignments

Data Accessibility

- **Commission IR (EU) 2023/138** on High-Value Datasets:
 - Datasets to be made available through:
Application Programming Interfaces (API) AND Bulk download.

INSPIRed Network Service	API	Bulk download
OWS: WFS, WCS, SOS	X	X
OGC APIs: STA and OGC API-Features	X	X
ATOM Feeds		X

- **API terms of use** shall be **accompanied by API documentation** in a Union or internationally recognised open, human-readable and machine-readable format.
 - OWS: GetCapabilities responses
 - OGC APIs: Open API Documentation, landing pages, conformance declarations.
- **Additional alignment** is expected as part of the **GreenData4All** initiative.

Research studies

Looking at the future of data discoverability and accessibility for Data Spaces

Research studies

Future of data discoverability and accessibility

- How the future of data discoverability and accessibility (F&A*) should look like in data sharing through European Data Spaces, and data ecosystems in general.
- Analysis and evaluation on:
 - How relevant existing and upcoming data sharing initiatives (GAIA-X, IDSA Ref. Architecture, FIWARE, SOLID, CEF Building Blocks, OCEAN Protocol, INSPIRE, SIMPL, Open Data portals) deals with F&A.
 - How emerging and disruptive technologies (APIs, STAC, GraphQL, OGC Rainbow, Artificial Intelligence...) may influence and change F&A in the future.
- Identify potential pathways or testing scenarios for F&A evolution in EU data spaces.
- Specific recommendations for the Green Deal Data Space.

* Findability & Accessibility from the Go FAIR initiative
<https://www.go-fair.org/fair-principles>

Conclusions

At a glance

Bringing High-value datasets to INSPIRE

Conclusions

- Commission Implementing Regulation (EU) 2023/138 is expected to **boost availability and accessibility** of **High-Value Datasets** for the Green Deal Data Space (and also for other Data Spaces).
- With **better granularity** (in general, up to 1:5K scale), under **open licensing**.
- **Cooperation of Open Data and Geospatial communities** is on-going. Multiple alignment activities are already in place.
- This could thread **potential synergies** in the future.
- **INSPIRE** is immersed in a huge process of **modernisation and adaptation**, which also includes these alignments.
- The Green Data For All initiative will culminate this process, paving the floor for INSPIRE to become the Green Deal Data Space in the next years.

Thank you!



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