



Geospatial data sharing in the EU: from INSPIRE to common European data spaces

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Presentation Outline

01 EU policy context

02 JRC activities on data spaces

03 INSPIRE & the Green Deal data space

04 Discussion

01

EU policy context



European Commission priorities 2019-2024

- **Twin green & digital transition** at the top of the policy agenda



A European Green Deal

Europe aims to be the first climate-neutral continent by becoming a modern, resource-efficient economy.



A stronger Europe in the world

The EU will strengthen its voice in the world by championing multilateralism and a rules-based global order.



A Europe fit for the digital age

The EU's digital strategy will empower people with a new generation of technologies.



Promoting our European way of life

Europe must protect the rule of law if it is to stand up for justice and the EU's core values.



An economy that works for people

The EU must create a more attractive investment environment, and growth that creates quality jobs, especially for young people and small businesses.



A new push for European democracy

We need to give Europeans a bigger say and protect our democracy from external interference such as disinformation and online hate messages.

European data spaces – Context

01 European Strategy for Data & horizontal legal framework



02 Investments in data spaces



03 Governance

- Data Spaces Support Centre
- Coordination and Support Actions
- European Data Innovation Board

European Strategy for data – Horizontal legal framework

“Europe fit for the Digital Age”

1. Data Governance Act

- Build trust in data sharing
- Data interoperability

2. Digital Markets Act

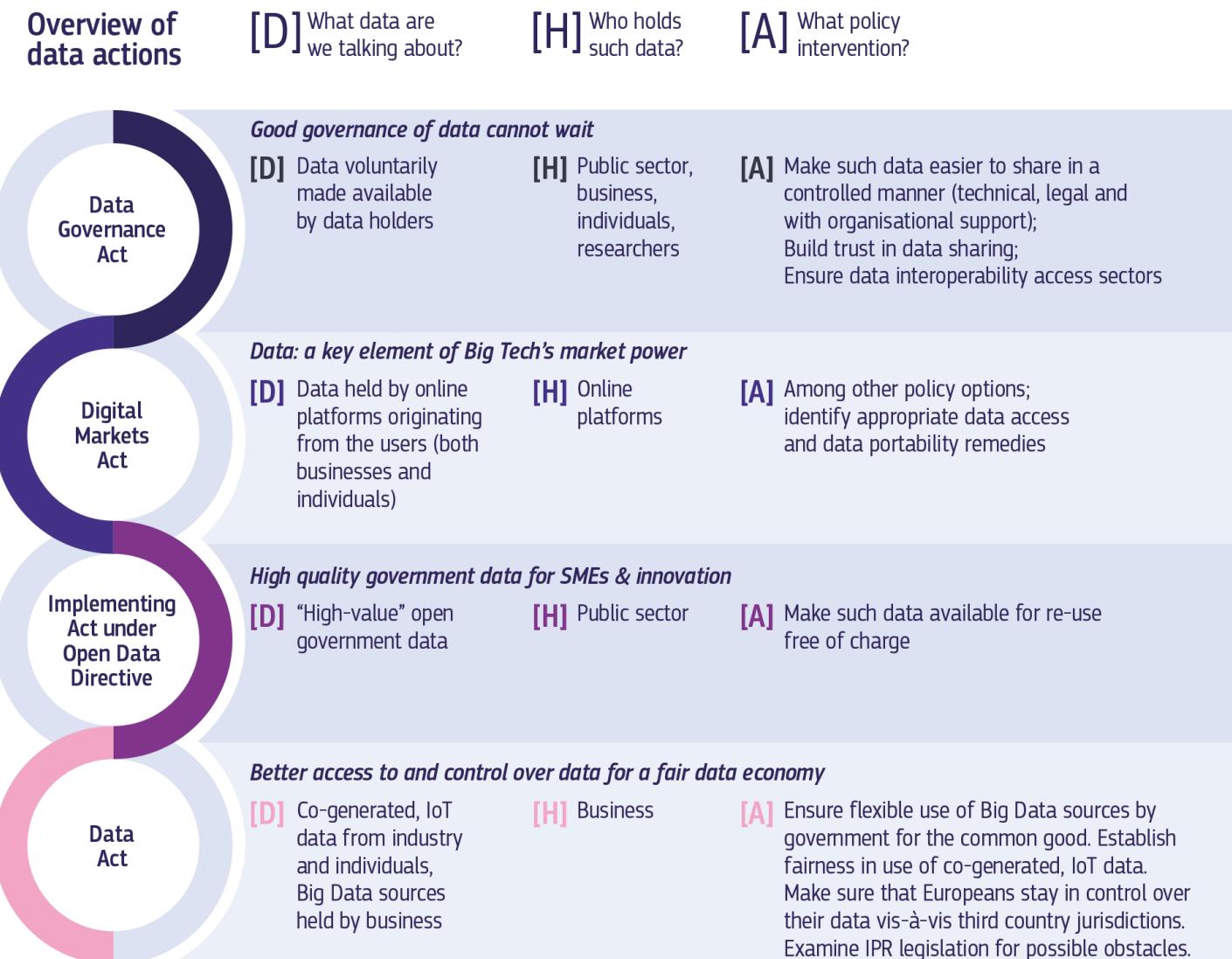
- Data portability
- Assure fair practices by ‘gatekeepers’

3. Implementing Act - Open Data Directive

- Increase data availability and access
- Reduce heterogeneity in licensing

4. Data Act

- Increase data availability to foster innovation / Incentivize data generation
- Fair access to and use of data
- Data sovereignty



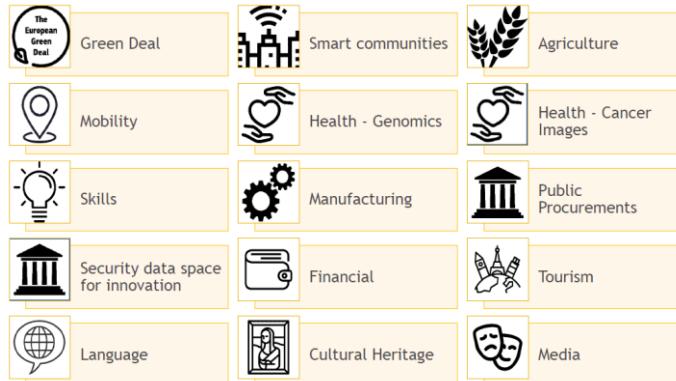
Source: adapted from [European Commission](#)

Common European data spaces

The European Common Data Space

The European single market for the exchange, provision and use of data.
A network of stakeholders, tech, rules, and agreements.
All who provide or use data are part of the data space

Sectoral data spaces



Data applications and services

Applications and services using data from and share data to the dataspace, and abide by its agreements.



Stakeholder single market interaction

All stakeholders sharing, using and exchanging data are de facto part of the data space. Building on the underlying interoperability, standards and aligned rules.



Sectoral data spaces

Standards and common practices within sectors



General data space governance

Generic data governance, interoperability and standards



Networked Technology

Federated cloud services



02

JRC activities on data spaces



Joint Research Centre (JRC)

- **Science and knowledge service** of the European Commission
- Mission to **support policies** with independent evidence throughout the whole policy cycle



Why the JRC?

- JRC is a **provider** and **consumer** of data space data
- Own **data assets**

- Science for policy mandate
- 3000+ datasets
- 500+ publications on data sharing
- Own Big Data infrastructure (BDAP)

- Corporate data-sharing culture incl. dedicated DG data strategy
- Prominent role in standardisation initiatives
- Coordinating Member State working groups

The screenshot shows the European Commission's Joint Research Centre Data Catalogue. The top navigation bar includes links for Home, Datasets, Collections, and About. Below the navigation, a search bar is followed by a 'Filter by' section with dropdown menus for Collections (CEMS-RM, EPLCA, ODIN-PTT-INTEGRITY, GMIS, JRC-FOREST, CEMS-RRM, EMIS, LUISA, ODIN-PE-EPERC), Last updated (dropdown), and Recent visits (dropdown). A yellow box highlights the 'Datasets (3147)' section, which displays results 1 to 20. The first result is 'Floods in Pakistan (2022-08-29)', with details: Activation time (UTC) 2022-08-29 10:50:00, Event time (UTC) 2022-08-25 19:00:00, Event type: Flood (Riverine flood), Activation reason: Pakistan is experiencing abnormal monsoon rainfall nearly ten times higher than usual, resulting in uncontrollable urban flooding. The second result is 'Flood in Pakistan (2022-09-10)', with similar details.

The screenshot shows the JRC Publications Repository. The top navigation bar includes links for Home, Search, and Help. Below the navigation, a search bar is followed by a 'Search options' section with dropdown menus for Science area (All science areas), Publication group (All groups), Publication year (All publication years), and Author (dropdown). A yellow box highlights the 'Search results (522)' section, which displays results 1 to 20. The first result is 'Sharing and using geospatial data across borders', with details: Spatial Data Infrastructures (SDIs) are key for effective cross-border data-sharing. A Spatial Data Infrastructure is 'a framework of policies, institutional arrangements, technology...' by VYRNUK Lex, O'NEILL George, HERNANDEZ QUIROS Lorena, VRECAR Simon. The second result is 'Data Infrastructures in Support of Macro-Regional Development: Experiences and Lessons Learned from the Danube Region', with details: The European Union Strategy for the Danube Region (EUDR) aims to address the challenges and priorities of the region in an integrated manner, leading to concrete results and a... by DUSART Jean, KOTSEV Alexander, SMITH Robin, CETL Vlad, TAPSALL Brooke, DVJAK Dragana.





JRC SCIENCE FOR POLICY REPORT

EUROPEAN DATA SPACES

Scientific insights into data sharing and utilisation at scale

2023

Farrell, Eimear; Minghini, Marco;
Kotsev, Alexander; Soler-Garrido, Josep;
Tapsell, Brooke; Michell, Marina;
Posada, Monica; Signorelli, Serena;
Tartaro, Alessio; Bernal, Jaime;
Vespe, Michele; Di Leo, Margherita;
Carbella-Silichowski, Bruno;
Smith, Robin; Schade, Sven;
Katarzyna Pogozelska;
Gabrielli, Lorenzo; De Marchi, Davide



JRC Science for Policy report



<https://europa.eu/RBQXmx>

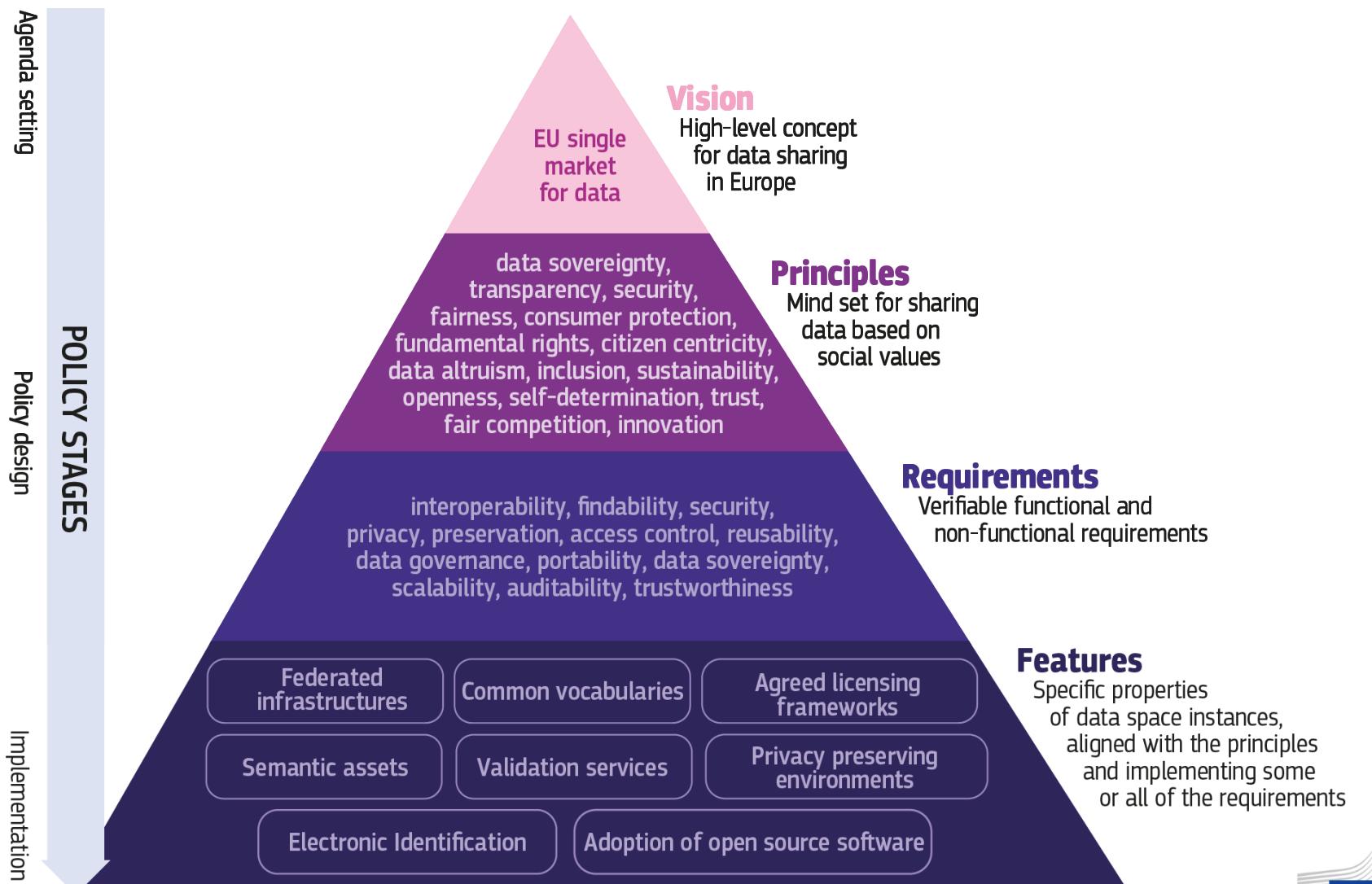
What?

- Scientific **techno-socio-economic perspective**
- Non-binding **recommendations/good practices**
- **Complementary** to other data space resources

How?

- Input by **18 co-authors**
- **Co-creation** and **validation**
 - Within JRC
 - With policy DGs
 - Other stakeholders

Analytical lens





Multi-level considerations on the governance of European data spaces

- Horizontal legal frameworks (*EU, international, national*)
- Sectoral legislation and sectoral data space-related legislation
- Data-related legislation and data governance
- Principles and requirements elicited from EU policy documents
- Individual data space governance frameworks (including organisational aspects)
- Institutional mechanisms

How-to's on technical and organisational aspects of data sharing

How-to Information Sheets		Data Space Theme
1	How can stakeholders benefit from synthetic data in a data space?	Synthetic data
2	How to choose the best software stack for a data space?	Software stacks
3	How to ensure clear access and use conditions for a dataset in a data space?	Licensing
4	How to ensure that datasets shared by different actors in a data space can be used together?	Interoperability
5	How to ensure that technical requirements and standards are being followed?	Data validation
6	How to facilitate the discovery of data in a data space?	Data discoverability
7	How to select the most appropriate standards for a data space?	Data standards
8	How to ensure that digital resources and data are uniquely referenced in a data space?	Data registers
9	How to provide access to data in a data space?	APIs for data access
10	How to preserve privacy and protect personal data and sensitive business data in a data space?	Privacy enhancing technologies
1	Which actors are providing what types of data in scope of a data space?	Data Actors
2	How to foster a people-centred approach to data in a data space?	Citizen data
3	How can business benefit from sharing data in a data space?	Benefits to business in data spaces
4	How can governments access private sector data of public interest?	Accessing data (B2G)
5	How can data transparency for AI systems be increased in a data space?	Transparency – AI data in data spaces
6	How to leverage voluntary data sharing in a data space?	Voluntary data sharing
7	Which legal aspects should be considered when creating, providing or using novel data-driven solutions in data spaces?	Legal



TECHNICAL

ORGANISATIONAL

The document is a whitepaper from the European Commission, dated 2022. It features a blue header with the European Commission logo and a purple decorative background. The title is prominently displayed in the center. Below the title, there is a 'Problem statement' section which discusses the challenges of ensuring unique referencing of digital resources and data across different platforms. It includes a diagram showing a laptop connected to a server and various data formats. The 'Recommendations to stakeholders (indicators)' section provides guidance for providers, data users, and authorities. Providers are advised to use machine-readable licenses and consider licensing information for data reuse. Data users are encouraged to use datasets and generate new products. Authorities are recommended to prevent the use of licenses that limit data reuse. The document also lists 'Additional resources (JRC)' and a 'Contact' section. At the bottom, there is a small note about the document's license.

WHAT IS THE BEST WAY TO ENSURE THAT DIGITAL RESOURCES AND DATA ARE UNIQUELY REFERENCED IN A DATA SPACE?

Problem statement

The INSPIRE Directive aims to create a European Union spatial data infrastructure for the purposes of EU environmental policies and pan-European spatial data infrastructure. To support the achievement of these objectives, the INSPIRE Infrastructure involves a number of items, which require clear identification and the possibility to refer to them. These items include themes, themes, code lists and application schemas. The INSPIRE Registry provides a central access point for these items. The INSPIRE Registry contains registers, which contain descriptions of these items (including labels, definitions and other relevant properties) in different languages. The INSPIRE Registry also links these registers to them. The content of the registers is based on the INSPIRE Directives, Implementing Rules and Technical Guidelines.

Recommendations to stakeholders (indicators)

- Providers**
 - Above all, provide licensing information together with datasets and APIs
 - Consider changing system licenses to make them more machine-readable
 - Adopt machine-readable licenses in order to facilitate the automated use of the data
 - Use alternative licenses maximising the benefits and opportunities for data reuse
- Data users**
 - Consider licensing information when using datasets and generating new products
- Authorities**
 - Prevent the use of licenses that would minimise the benefit generated from the reuse of the datasets
 - Explicitly require licensing information when procuring data

Additional resources (JRC)

INSPIRE Registry

Pergea A, Lutz M. Interoperable Registers and Registers in the EU: Perspectives from INSPIRE, in Conference Proceedings Joint W3C/OGC Workshop on Linking Geospatial Data, World Wide Web Consortium, 2014. JWC00979

Contact

European Union, 2022. INSPIRE: A reference document for the use of INSPIRE. No part of this document may be reproduced without the written permission of the European Union. This document is available online at <http://inspire.ec.europa.eu>. File ID: JWC00979. File version: 0.1. File date: 2022-05-10. File type: PDF. File size: 1.0 MB. File format: PDF. File version: 0.1. File date: 2022-05-10. File type: PDF. File size: 1.0 MB. File format: PDF.

An example: How to select the most appropriate standards for a data space?



What is the problem?

- Standards are enablers of interoperability
- Often they are chosen blindly without the necessary considerations
- Poor/immature standards that are not supported by clients and communities can do more harm than good

Scenario

- A business company needs to perform machine-learning analyses to evaluate the accessibility of green areas located across districts within a city.
- Collected data show a high degree of fragmentation:
 - data encodings are different, including non-standard formats & standard formats historically used by different communities and following different data models
 - ETL conversion is hard or impossible
 - some standards are new and software tools to retrieve and consume the data do not exist yet

1



Proposed solution(s)

- Prioritise well-known standards adopted by global communities
- Give preference to standards developed by international SDOs
- Consider the existence of a community behind standards
- Prioritise standards developed in a participative, agile and collaborative way
- Choose mature standards, avoiding standards in draft or not yet published

Recommendations

- Data providers
- Data Users
- Intermediaries

2

Additional Resources



Open
Geospatial
Consortium



W3C®



3

Dashboard: JRC resources mapped to requirements for European data spaces

JRC Resources Relevant to Data Spaces

Created by S.4, T.1, T.4 BDAP European Commission

Data Transfer & Exchange	Identity, Authentication, Access Control	Data Publication & Discovery	Privacy preserving mechanisms / Data protection
Data Interoperability	Usage Control Policies	Data Compliance and Auditing	Data Federation, Orchestration and Portability
Data Processing & Analytics	Data Pooling and Collaboration	Data Governance	Data Storage

Retrieve publications

Related terms:

- Related terms
- data governance
- fair data
- private sector data
- public sector data
- data protection impact ...
- dpia
- data policy
- data governance
- data management
- data security
- data sharing
- risk governance

INDEX	TITLE	YEAR
1	Event-specific Method for the Quantification of Maize Line MON 88017 Using Real-time PCR - Validation Report, Validated Method and DNA Extraction	2017
2	Forest Fires and Adaptation Options in Europe	2016
3	Assessment of Mixtures - Review of Regulatory Requirements and Guidance	2017
4	Integrating Network Analysis with the Production Function Approach to Study the Spillover Effects of Transport Infrastructure	2016
5	An indicator framework for assessing ecosystem services in support of the EU Biodiversity Strategy to 2020	2016
6	Smart Cities Governance: the need for a holistic approach to assessing urban participatory policy making	2016
7	Urban public transport	2016
8	A knowledge-based approach to estimating the magnitude and spatial patterns of potential threats to soil biodiversity	2016
9	The global Landsat archive: Status, consolidation, and direction	2016
10	Future Internet technologies for environmental applications	2016
11	NORMAN interlaboratory study (ILS) on passive sampling of emerging pollutants;	2016
12	The role of forest certification for biodiversity conservation: Lithuania as a case study	2016
13	Reply to "The new assessment of soil loss by water erosion in Europe. Panagos P. et al., 2015 Environ. Sci. Policy 54, 438–447—A response" by Evans and Boardman [Environ. Sci. Policy 58, 11–15]	2016
14	Behavioural Insights Applied to Policy - European Report 2016	2016
15	Nanomaterials as a potential environmental pollutant: Overview of existing risk assessment methodologies	2016
16	Mapping regional patterns of large forest fires in the Wildland-Urban Interface areas in Europe	2016
17	Stakeholders' engagement beyond the EDP: The working-groups on governance and human resources in Eastern Macedonia and Thrace	2016
18	Institutions on the verge: Working at the science policy interface	2016
19	Covenant of Mayors: Monitoring Indicators	2016
20	Reports of the Scientific, Technical and Economic Committee for Fisheries (STECF) – Merging of the BT1 and BT2 gear categories in the North Sea (STECF-16-02).	2016
21	Next Generation Air Quality Platform: Openness and Interoperability for the Internet of Things	2016

Publications: 1435
Filter by match and by years:
Title
Keywords
Abstract

Occurrences per year:

2016 2019 2020
2022 2017 2016
2018 2021

1 236

03

INSPIRE & the Green Deal data space



Scoping of the legal framework for the European Green Deal data space

INSPIRE Directive
(2007)

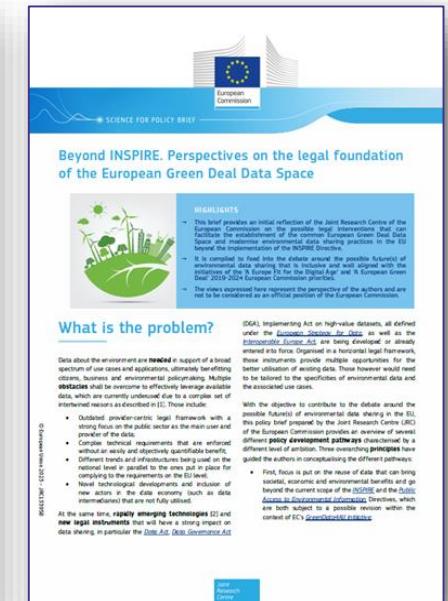


European Green
Deal data space

- INSPIRE: Directive establishing a pan-European **Spatial Data Infrastructure (SDI)** for environmental policies
 - the largest geospatial data sharing effort ever
 - JRC as the technical coordinator
- **Lessons learnt** from implementation & **vision**
- **Policy development pathways**
- Input for **INSPIRE evaluation** (2022) and upcoming **revision** (GreenData4All initiative)



<https://europa.eu/!8qH67V>



<https://europa.eu/!Hyf3mf>

The possible future of INSPIRE – Vision

- Data sharing is **not a goal in itself**. To remain fit for purpose, INSPIRE should support data-driven decision-making and innovation.
- To be sustainable, INSPIRE should '**blend in' with the broader ecosystem** of spatial and non-spatial data, infrastructures, technologies and policies.
- This will mean **opening up to a broader community** of implementers and users and to a wider range of applications and use cases.
- Making the INSPIRE framework more **flexible and agile** will significantly lower the entry level to the sharing and utilisation of data.
- **Technical approaches need to be simplified** by reusing well-adopted standards and technologies.

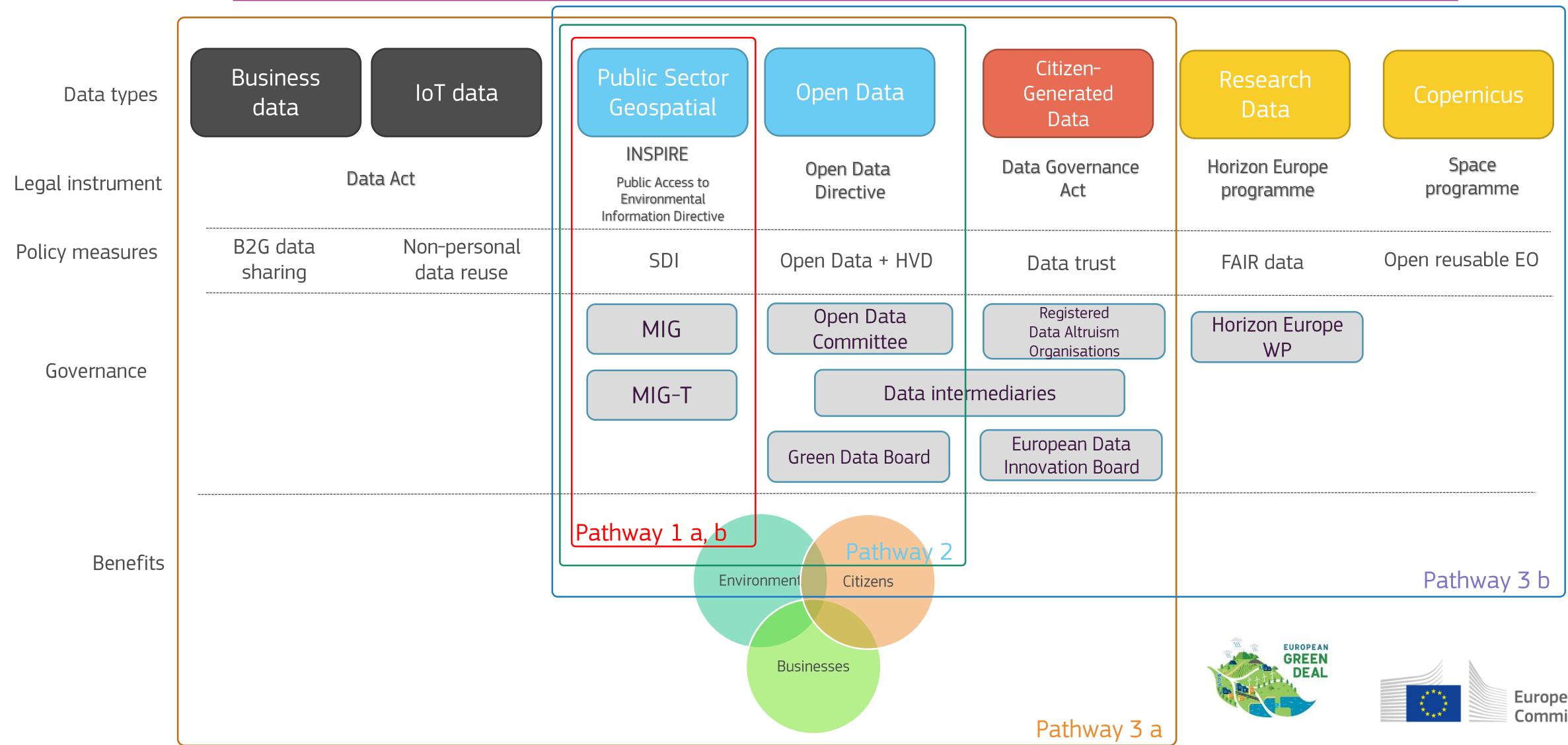


The possible future of INSPIRE – Actions

- Legal
 - 1. Avoid **overspecification** in legislation
 - 2. Use a **simple licensing framework**
- Organisational
 - 1. Embrace **co-design** by default
 - 2. Rethink the existing **governance** structures
 - 3. Adopt an **ecosystem** approach
- Technological
 - 1. Continue to improve the **discoverability** and **accessibility** of data
 - 2. Ensure **neutrality** and embrace well-adopted standards and technologies
 - 3. Avoid **custom extensions**
 - 4. Embrace well-documented, **standard-based APIs**
 - 5. Leverage on the developments of **federated European cloud infrastructure**



Scoping of the legal framework for the European Green Deal data space



Support to Implementing Act on high-value datasets under the Open Data Directive

- High-value datasets
 - datasets the **re-use** of which is associated with important **socio-economic benefits**
 - to be made available **for free**, under **open license** (CC BY 4.0 or less restrictive), in **machine-readable formats**, via **APIs** and (when relevant) as bulk downloads
- Categories of high-values datasets:



Geospatial



*Earth
observation and
environment*

Meteorological

Statistics

*Companies and
company
ownership*



Mobility



Support to Implementing Act on high-value datasets under the Open Data Directive

- Support to drafting the Implementing Act for **(geospatial) high-value datasets**:
 - list of datasets, granularity, geographical coverage, key attributes, licenses, formats

1. GEOSPATIAL

1.1. Datasets in scope

The geospatial thematic category includes datasets within the scope of the INSPIRE data themes Administrative units, Geographical names, Addresses, Buildings and Cadastral parcels as defined in Annex I and Annex III to Directive 2007/2/EC of the European Parliament and of the Council (¹). In addition, it includes Reference parcels and Agricultural parcels as defined in Regulation (EU) No 1306/2013 of the European Parliament and of the Council (²) and of Regulation (EU) No 1307/2013 of the European Parliament and of the Council (³) and the related delegated and implementing acts (⁴). Their granularity, geographical coverage and the key attributes are listed in the table below. If datasets are not available at the scale indicated in the table below, but are available at higher spatial resolution(s) (⁵), they shall be provided at the available spatial resolution.

Datasets	Administrative units	Geographical names	Addresses	Buildings	Cadastral parcels	Reference parcels	Agricultural parcels
Granularity	All levels of generalisation available with a granularity up to the scale of 1:5 000. From municipalities to countries; maritime units.	N/A	N/A	All levels of generalisation available with a granularity up to the scale of 1:5 000.	All levels of generalisation available with a granularity up to the scale of 1:5 000.	A level of accuracy that is at least equivalent to that of cartography at a scale of 1:10 000 and, as from 2016, at a scale of 1:5 000, as referred to in Article 70(1) of Regulation (EU) 1306/2013.	A level of accuracy that is at least equivalent to that of cartography at a scale of 1:10 000 and, as from 2016, at a scale of 1:5 000, as referred to in Article 70(1) of Regulation (EU) 1306/2013.
Geographical coverage	Single or multiple datasets that shall cover the entire Member State when combined.						

(¹) Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1).

High-value datasets in the INSPIRE Geoportal

INSPIRE GEOPORTAL

Home High-Value Datasets Thematic Data Harvesting status Find out more about

Welcome to the INSPIRE Geoportal

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

- monitoring the availability of INSPIRE datasets;
- 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. The status of harvesting is available [here](#).

Feedback regarding the functionality as well as dataset availability is welcome [here](#).

High-Value Datasets



The application provides an overview and access to geospatial high-value datasets and other core data (including priority datasets for eReporting).

INSPIRE Thematic Data



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).

[Browse](#)

[Browse](#)

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

European Commission > INSPIRE > INSPIRE Geoportal > HOME

ENHANCING ACCESS TO EUROPEAN SPATIAL DATA

INSPIRE GEOPORTAL

Home High-Value Datasets Thematic Data Harvesting status Find out more about

High-Value Datasets

The application provides an overview and access to geospatial high-value datasets and other core data (including priority datasets for eReporting), that fall into the scope of the Open Data Directive.

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 1305/2013.

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.

GSA



Geospatial aid application as part of the Aid applications subsystem of IACS, defined by Art. 68 of Regulation 1305/2013.

82 | 44 | 42

LPIS



Land Parcel Identification System, a subsystem of Integrated Administration and Control System (IACS) as defined by Art. 68 of Regulation 1305/2013.

82 | 65 | 63

Other Core reference data

Addresses



217 | 60 | 107

Administrative units



599 | 131 | 240

Cadastral parcels



128 | 46 | 59

Geographical names



519 | 90 | 92

Buildings



657 | 150 | 125

Evaluation of new standards & technologies for the Green Deal data space

- **Standards** for data encoding & data sharing
- **Open source** technology as enabler for innovation
- Collaboration & **agreements**



The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XLVIII-4/W1-2022
Free and Open Source Software for Geospatial (FOSS4G) 2022 – Academic Track, 22–28 August 2022, Florence, Italy

GEOSPATIAL DATA EXCHANGE USING BINARY DATA SERIALIZATION APPROACHES

P. Mooney , M. Minghini

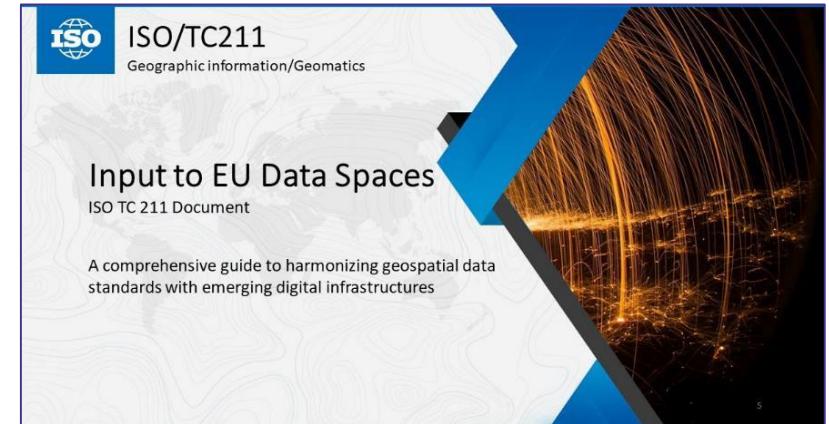
The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XLVI-4/W2-2021
FOSS4G 2021 – Academic Track, 27 September–2 October 2021, Buenos Aires, Argentina

TOWARDS THE INTEGRATION OF AUTHORITATIVE AND OPENSTREETMAP GEOSPATIAL DATASETS IN SUPPORT OF THE EUROPEAN STRATEGY FOR DATA

A. Sarretta^{a,*}, M. Minghini^b

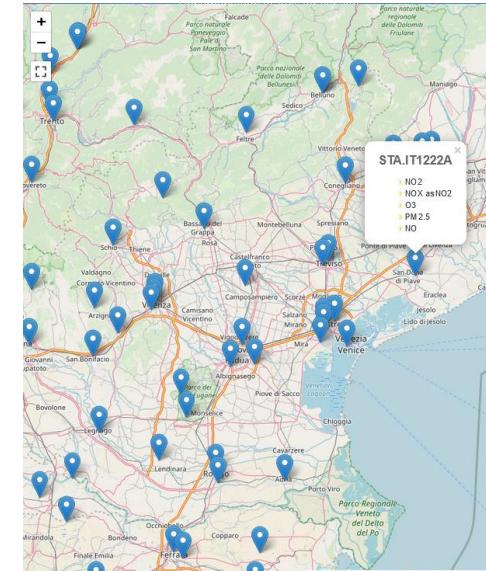
^a National Research Council, Research Institute for Geo-hydrological Protection, Padua, Italy - alessandro.sarretta@irpi.cnr.it

^b European Commission, Joint Research Centre (JRC), Ispra, Italy - marco.minghini@ec.europa.eu



Good Practice documents

Candidate	Endorsed
	GeoJSON encoding of INSPIRE datasets
	GeoDCAT-AP
	SDMX for Human Health and Population Distribution
	GeoPackage encoding of INSPIRE datasets
	Data-Service Linking Simplification
	OGC compliant INSPIRE coverage data and service implementation
	Guidance for the integration of dispersed WMS sources
	Guidelines for making spatial data downloadable via WMS services
	Setting up an INSPIRE Download service based on the OGC API-Features standard
	INSPIRE download services based on OGC SensorThings API



Privacy-preserving data analysis and sharing

- Evaluation of **privacy-preserving technologies**
 - fit for **data spaces** and **digital twins**
 - handling **sensitive data** (personal and business)
 - **data intermediaries** as potential trusted parties
- Experimental work on **Federated Learning** with **Differential Privacy**
 - data never leave the source (**privacy**)
 - privacy vs **utility** (accuracy) tradeoff

	no FL / DP	Federated Learning	Differential Privacy	
			fixed	adaptive
Data never leave the source	✗	✓	✓	✓
Privacy	✗	➡	⬆	⬆
Accuracy	⬆	➡	⬇	➡



<https://europa.eu/!8qH67V>

Comparison of non-governmental pan-European open building datasets

- Non-governmental data are an increasingly interesting source to:
 - complement/update official data
 - create pan-European products
- Analysis of new **building datasets**
 - OpenStreetMap
 - EUBUCCO
 - Digital Building Stock Model (JRC)
 - Microsoft Open Building Footprints
 - Google Open Buildings
 - Overture Maps



Foresight

• Synthetic data

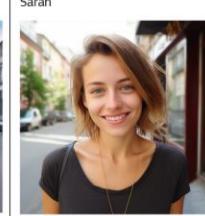
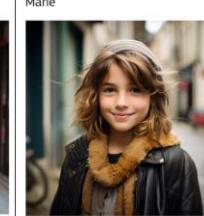
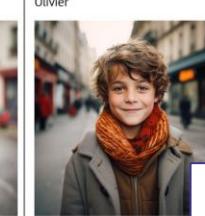
- synthetic replicas, generative AI (LLMs), from exact to probabilistic

• Emotional AI agents

- Agent-Based Model simulator of data space population
- behaviour-generating and modelling
- ethics-heavy / multi-stress cross-cutting policy scenarios (e.g. floods), multiverse

LLM-Driven Agents

Your profile:
29 years old unmarried man born in 1986 in the département Val-de-Marne sharing the household with 3 other person(s). You are the household reference person. The household can be described as a main family made up of a couple of two workers with a job. You live in a household as a member of a couple with children. You live in Taverny in the department of Val-d'Oise, France, in a residential building with 2 or more apartments and you are the tenant or sub-tenant of an empty HLM rented accommodation. You are employed with a single job in job without time limit, permanent contract or as a public service holder. You work full time in Taverny among the police and military in security and investigation activities, specifically as one of the guard and security agents. To get to work you use public transport. You have finished vocational school.

			
a modern street photo portrait of 29 years old smiling French policeman from Taverny.	a modern street photo portrait of 27 years old smiling French female teacher from Taverny.	a modern street photo portrait of 10 years old smiling French female student from Taverny.	a modern street photo portrait of 10 years old smiling French student from Taverny.

ISBN 978-94-924

 IRG TECHNICAL REPORT

FABLES: Framework for Autonomous Behaviour-rich Language-driven Emotion-enabled Synthetic populations

Modelling autonomous emotional AI-driven agents in their spatiotemporal context

Haddad, J., Olfertender, N., Benoit, A.

2023



<https://europa.eu/itMtthh>



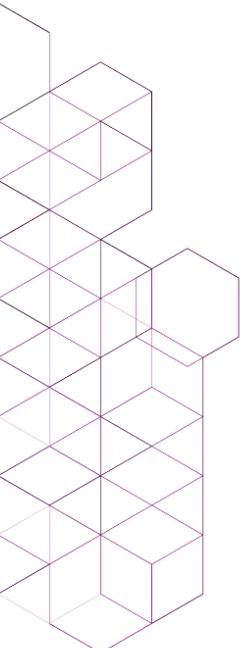
04

Discussion



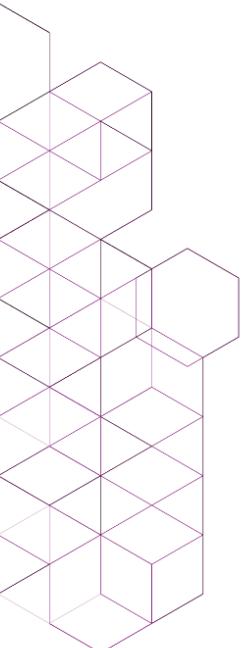
What's in it for all of us?

- **Lessons learnt** from (geospatial) data sharing in INSPIRE and common European data spaces can inform and support UN Maps' objectives
- The development of common European data spaces creates the legal and organisational context for **interconnecting UN Maps with other prominent sources**
- **Innovation potential increases** based on the availability of new data
- From data infrastructures to self-sustainable, **data-driven ecosystems**
- Opportunity to **rethink data governance** and be more user-centric
- Data space development can **leverage on the good practices** and lessons learned from UN Maps in a meaningful way



Possible collaboration with the JRC

- Partnership in **technology watch/evaluation**
- Research on **data-driven innovation**
 - emerging **technical enablers** for data sharing
 - privacy-preserving technologies, federation of data platforms, data interoperability
 - LLM-reinforced synthetic data
 - Inclusive **data governance**
 - Economic implications of data spaces
 - Experimentation & sandboxes



Special Issue on common European data spaces

CALL FOR PAPERS

Common European Data Spaces

Enabling data-driven innovation at scale

DEADLINE FOR SUBMISSION
20 December 2024

Special Issue
Data in Brief

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European Commission

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