



Past, present and future of INSPIRE

INSPIRE ESPUS Conference

30 September 2021, online

Evaluation of the INSPIRE Directive

- The INSPIRE Directive 2007/2/EC was amended by way of [Regulation \(2019/1010\)](#) on the alignment of reporting obligations in the field of legislation related to the environment, pursuant to which the Commission shall, no later than 1 January 2022 carry out an evaluation of the Directive, and of its implementation, and make it publicly available.
- The INSPIRE Directive was already subject to an evaluation in 2016, see Commission Report (COM(2016)478/2) and Staff Working Document on the REFIT evaluation of the INSPIRE Directive (SWD(2016)273). The previous evaluation was taken as the baseline for the new evaluation. The new evaluation will identify and where possible quantify progress since 2014.

Links to the Green/Digital agenda

- The evaluation of the INSPIRE Directive was timely because its provisions and those of the Public Access to Environmental Information Directive date back more than a decade.
- We needed to consider the potential of INSPIRE in the context the recent European policy developments with its priorities for a [European Green Deal](#), its needs for better information, and the European [Digital strategy](#) initiative, that is also meant to enable delivering on Europe's goals for sustainability set out in the European Green deal.
- Europe's digital strategy package includes a [European Strategy for Data](#) covering i.a. the development of a legal governance framework for digital data of both the public and private sector in Europe and the establishment European Common data spaces.
 - Opportunities to strengthen the coherence and synergies with the recently revised European legislation on Open Data (specifically on aligning provisions on data sharing and re-use, INSPIRE Directive Art. 17).
 - The European Data Strategy announces a 'GreenData4All' initiative that includes as the starting point the assessment of the interaction between INSPIRE Directive 2007/2/EC and Directive 2003/4/EC on public access to environmental information.
 - The study will also contribute to the wider assessments that will be required for the 'GreenData4All' initiative. as part of the European Data Strategy in support the European Green Deal at a later stage outside of the scope of this study.

Supporting study - Overview

Aim of the supporting study






























Study to support the evaluation of Directive 2007/2/EC on infrastructure for spatial information in the European Community (INSPIRE).

- With the objective to examine:
 - how well the INSPIRE Directive has achieved its objectives,
 - whether it continues to deliver in terms of effectiveness, efficiency, relevance, coherence and EU added value,
 - as well as identify the areas for future improvement.

Work carried out

- Current status of implementation / country forms
- Review of available literature / desk study
- Consultation activities
- Draft final evaluation study submitted in July 2021
- Final evaluation study submitted in September 2021
- Workshop on 7 September to
 - validate preliminary conclusions and recommendations of the evaluation study,
 - and give participants an opportunity to provide feedback

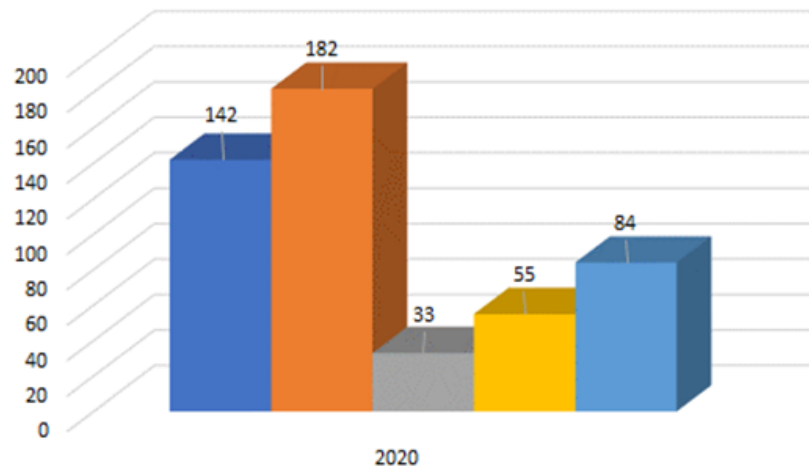
Country Forms – Overall performance

						
	2016	2020	2016	2020	Legend	
Effective coordination and data sharing						
Ensure effective coordination					 Implementation of this provision is well advanced or (nearly) completed. Outstanding issues are minor and can be addressed easily. Percentage: >89%  Implementation of this provision has started and made some or substantial progress but is still not close to be complete. Percentage: 31–89%  Implementation of this provision is falling significantly behind. Serious efforts are necessary to close implementation gap. Percentage: <31%	
Data sharing without obstacle						
INSPIRE performance indicators						
i. Conformity of metadata						
ii. Conformity of spatial data sets *						
iii. Accessibility of spatial data sets through view and download services						
iv. Conformity of network services **						

Country Forms – available data and services



Monitoring of the availability of spatial data and services

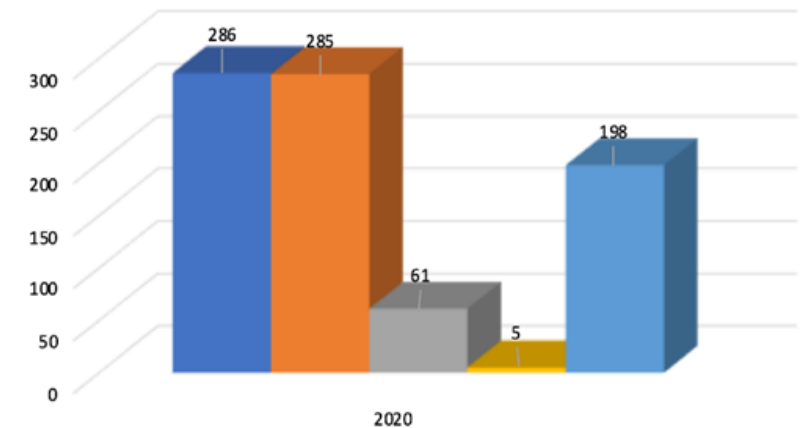


Legend

DSi1.1	The number of spatial data sets for which metadata exist
DSi1.2	The number of spatial data services for which metadata exist
DSi1.3	The number of spatial data sets for which the metadata contains one or more keywords from a register provided by the Commission indicating that the spatial data set is used for reporting under the environmental legislation
DSi1.4	The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers regional territory
DSi1.5	The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers the national territory



Monitoring of the availability of spatial data and services



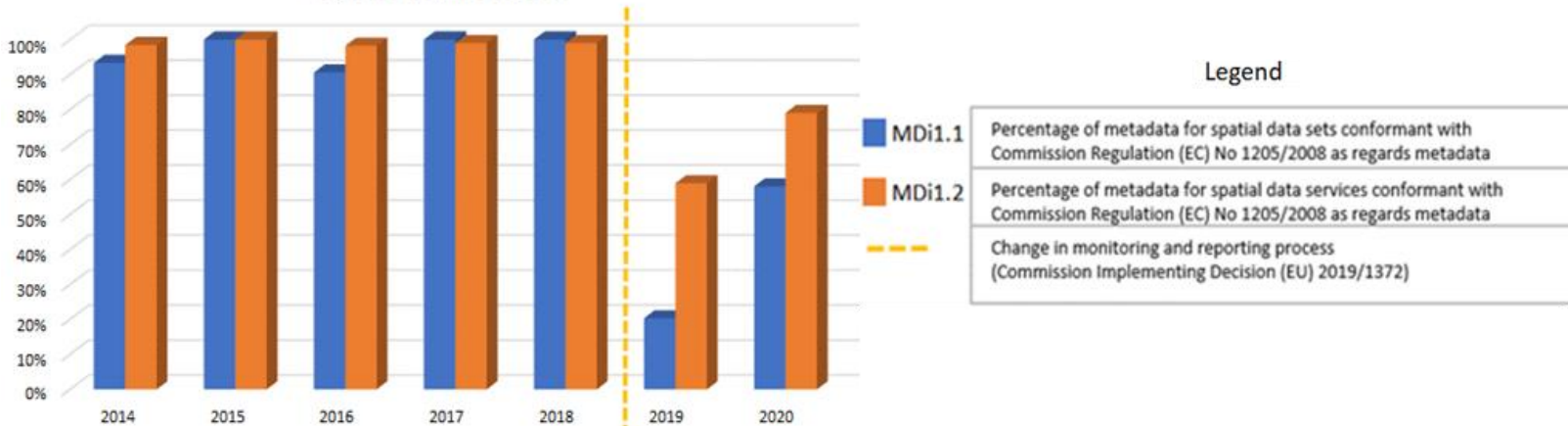
- 324 data sets and services with metadata
- 142 data sets and 182 spatial data services.
- 33 priority data sets
- 55 regional data sets
- 84 national data sets

- 571 data sets and services with metadata
- 286 data sets and 285 spatial data services
- 61 priority data sets
- 5 regional data sets
- 198 national data sets

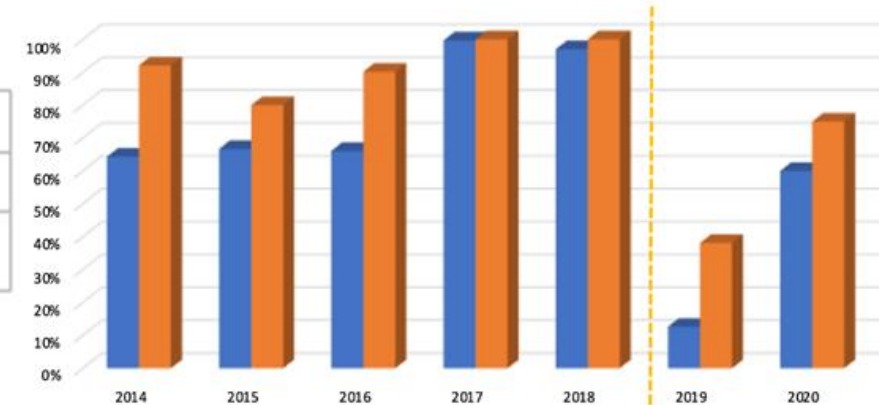
Country Forms – metadata conformity



Monitoring of the conformity of metadata with Regulation (EC) No 1205/2008



Monitoring of the conformity of metadata with Regulation (EC) No 1205/2008



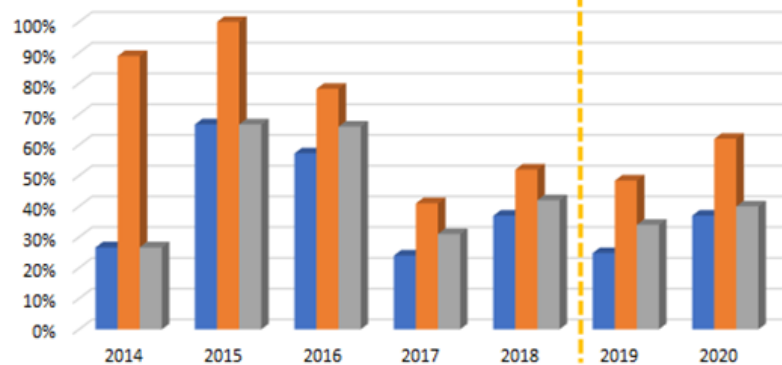
- Over 90% conformity prior to 2019 (automated calculation + metadata TG V2.0)
- In 2019, 20% conformity for data sets and 59% for data services.
- Conformity of metadata for spatial data sets increased from 20% in 2019 to 60% in 2020,
- Conformity of metadata for spatial data services increased from 59% in 2019 to 79% in 2020.

- 100% conformity in 2017
- In 2019, performance dramatically dropped
- Conformity of metadata for spatial data sets increased from 13% in 2019 to 60% in 2020.
- Conformity of meta data for spatial data services increased from 38% in 2019 to 75% in 2020.

Country Forms – data accessibility



Monitoring of the accessibility of spatial data sets through view and download services

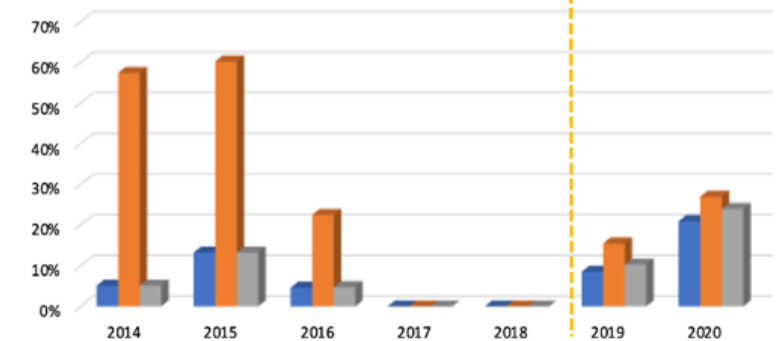


- NSi2
- NSi2.1
- NSi2.2

Legend	
■	The percentage of spatial data sets that are accessible through view and download services
■	The percentage of spatial data sets that are accessible through view services
■	The percentage of spatial data sets that are accessible through download services
---	Change in monitoring and reporting process (Commission Implementing Decision (EU) 2019/1372)



Monitoring of the accessibility of spatial data sets through view and download services



- In 2020, 37% of data sets were accessible through view and download services.
- 62% were accessible through view services and 40% through download services.
- Overall, spatial data sets in the Czech Republic are more accessible via view services than download services.

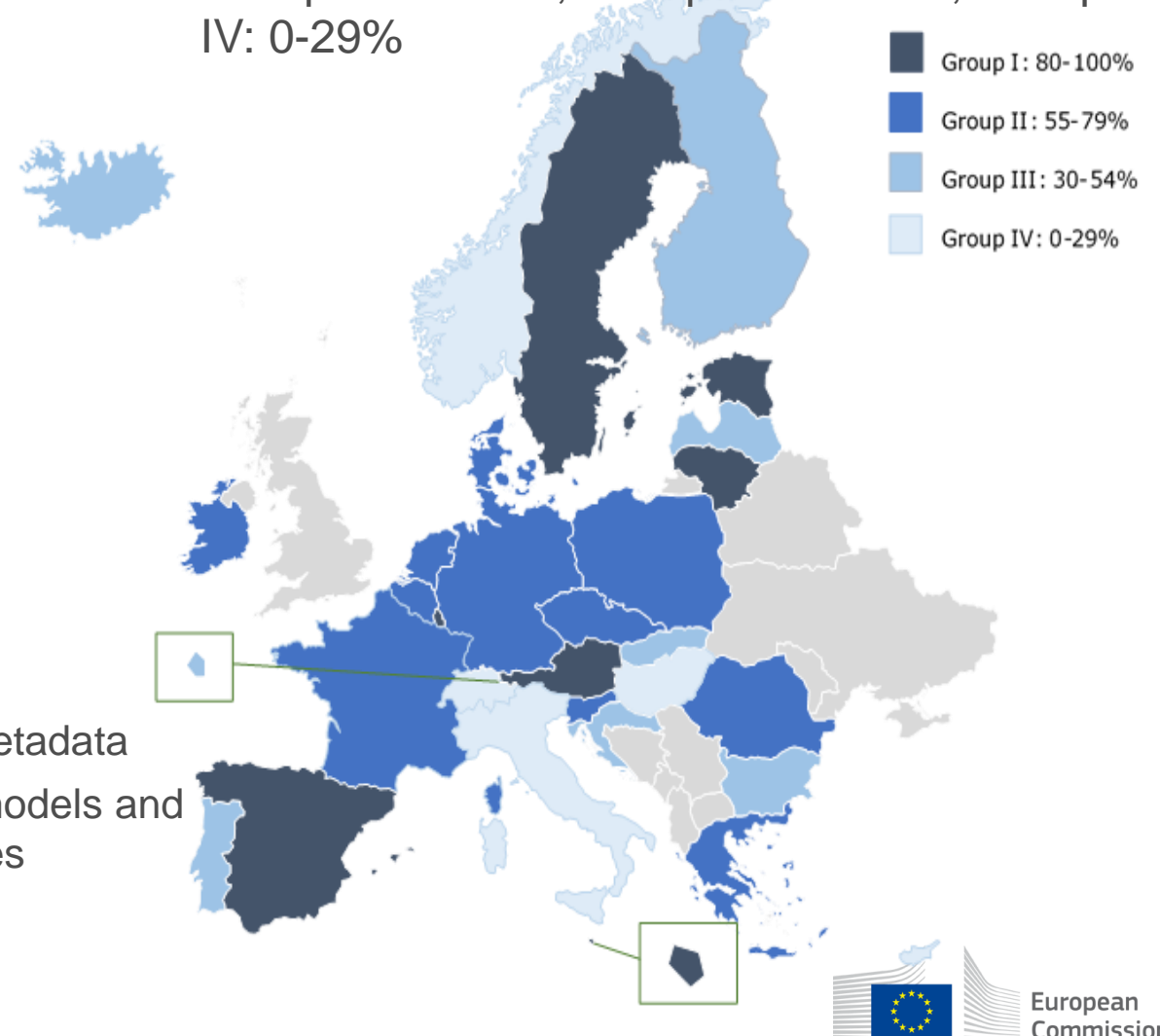
- In 2020, 21% of data sets were accessible through view and download services.
- 27% were accessible through view services, and 24% accessible through download services.
- In 2017 and 2018, none of the data sets were accessible through view and download services.
- Slovakia reported an increase from 0% in 2018 to 9% in 2019. The results further improved in 2020 compared to 2019.

EU State of Play

Based on

- reported information
 - Coordination (governance)
 - Functioning & coordination of the infrastructure
 - Usage of the infrastructure
 - Data sharing
 - Costs and benefits
- monitoring indicators
 - needed spatial data is identified
 - identified spatial data is documented through metadata
 - spatial data is organised in interoperable data models and made online accessible through network services
 - network services are interoperable

four distinct implementation maturity groups of countries have been used: Group I: 80-100%, Group II: 55-79%, Group III: 30-54%, Group IV: 0-29%



State of Play

Envisaged outputs according the intervention logic

Coordination structures on spatial information at Member States	Average performance
<i>Measures of data sharing are that allow data access and reuse over administrative and national borders. Measures of data sharing are that allow data access and reuse over administrative and national borders.</i>	
Effective coordination	😊
Data sharing arrangements and usage of the infrastructure	😊
Identification of spatial data needed	Total amount
DSi1.1: The number of spatial data sets for which metadata exist	83,805
DSi1.2: The number of spatial data services for which metadata exist	95,381
DSi1.3: The number of spatial data sets for which the metadata contains one or more keywords from a register provided by the Commission indicating that the spatial data set is used for reporting under the environmental legislation	2,068
DSi1.4: The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers regional territory	12,917
DSi1.5: The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers the national territory	4,456

Documentation of identified spatial data through metadata	Average performance
MDi1.1: Percentage of metadata for spatial data sets conformant with Commission Regulation (EC) No 1205/2008 as regards metadata	59%
MDi1.2: Percentage of metadata for spatial data services conformant with Commission Regulation (EC) No 1205/2008 as regards metadata	55%
Organise the documented spatial data in interoperable data models with a common vocabulary and online accessible through the IT services.	Average performance
DSi2: Percentage of spatial data sets that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets	50%
DSi2.1: Percentage of spatial data sets, corresponding to the themes listed in Annex I, that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets	65%
DSi2.2: Percentage of spatial data sets, corresponding to the themes listed in Annex II, that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets	52%
DSi2.3: Percentage of spatial data sets, corresponding to the themes listed in Annex III, that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets	50%
NSi2: The percentage of spatial data sets that are accessible through view and download services	42%
NSi2.1: The percentage of spatial data sets that are accessible through view services	50%
NSi2.2: The percentage of spatial data sets that are accessible through download services	50%
Ensure that the documented spatial data is accessible online through data services allowing its discovery, view and download and, where needed transformation.	Average performance
NSi4: The percentage of the network services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the network services	63%
NSi4.1: The percentage of the discovery services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the network services	65%
NSi4.2: The percentage of the view services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the network services	65%
NSi4.3: The percentage of the download services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the network services	62%
NSi4.4: The percentage of the transformation services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the network services	25%

Findings of the evaluation

- Overall, the **implementation** of the INSPIRE Directive **has matured** compared to 2014 and has led to an increased availability and better access to spatial data and services. **However, still the implementation is incomplete.**
- While the INSPIRE Directive is **still largely fit for purpose**, the objective of harmonisation and interoperability within the INSPIRE framework entails **technical specificities for standards that are too rigid to be fit-for-the-future** in the context of evolving standards and technologies.
- INSPIRE has **facilitated the work of the stakeholders** in the area of spatial data provision through improved discoverability, availability and accessibility to spatial data. There is a **simplification potential** of the implementation by addressing the requirement for interoperability.

Findings of the evaluation

- INSPIRE is **legally coherent** with environmental legislation with geospatial reporting obligations and with other relevant areas of EU policy. The INSPIRE Directive has been **designed to be consistent with the EU legal framework on data/information sharing and dissemination** and can **support implementation of Public Access to Environmental Information Directive** (managed by unit E4) and the Open Data Directive. Synergies between the three Directives could however be better exploited.
- The **added value** of the Directive mainly consisted of promoting data sharing as a common principle, the establishment of governance structures, achieving interoperability in a broader scope (EU-wide), unlocking public data, improving transparency and creating a pool of EU level expertise. Important EU added value of the Directive can be maintained and further enhanced through its effective positioning in the emerging European data governance landscape and to become one of the key drivers of the upcoming Green Deal data space.

Recommendations

- A number of issues that hamper the full implementation of the Directive have been identified and show the **need for a revision** to make the INSPIRE Directive fully coherent and complementary in support of more recent digital and data legislation.
- Remaining **implementation gaps in Member States need to be closed** to optimise the reuse of spatial data and facilitate its pan-European use.
- **New data sources should be included** (3D, linked data, sensor data, citizen science ...) beyond the current spatial data scope to better address information needs of a larger stakeholder community and to better help meeting the objectives of the European Green Deal.
- The further implementation (data and services availability, accessibility and interoperability) of the INSPIRE Directive should be **user-driven** by a common demand across administrative levels and use cases to improve the EU added value of the infrastructure and its cost-benefit balance.

Lessons learned

- The **legal framework should be technology neutral**. Implementers should have the option and the freedom to deploy cost-effective off-the-shelf tools that apply state of the art technology to share data in a user-friendly way.
- **More work is needed**
 - on standardising data reuse conditions and licensing
 - on increased flexibility of the legal framework to make it future and technology proof
 - on further simplification of the minimal interoperability mechanisms to strike a cost-effectiveness balance.

Next Steps

- Adoption/publication of the evaluation Staff Working Document in February 2022
- When politically validated the findings of the evaluation may lead to further EU action. Possible actions are subject to the results of a possible impact assessment
 - Align the legal framework with more recent and emerging data legislation under the European strategy for data, such as the data reuse provisions of the Open Data Directive, the related [initiative for an Implementing Act on High Value Datasets](#) and the Proposal for a regulation on European data governance ([Data Governance Act](#));
 - Modernise the data regime in line with technological and innovation opportunities - principle of technology neutrality
 - Extending the data scope of the INSPIRE Directive to also include non-spatial, citizen science and business data building on the mechanisms of data altruism foreseen in the proposal for a Data Governance Act.
 - ...

Revision of the INSPIRE Directive (indicative)

- Politically validated by ENV Director-General Fink-Hooijer / CAB Commissioner Sinkevičius / CAB Vice-President Timmermans
- November 2021 – Publication of the Inception Impact Assessment roadmap for public consultation
- January 2022 – Start Impact Assessment study
- March 2022 – Public consultation
- ...

Thank you



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