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Introduction

The INSPIRE Directive sets the minimum conditions for interoperable sharing and exchange of spatial data across Europe as part of a larger European Interoperability Framework and the e-Government Action Plan that contributes to the Digital Single Market Agenda. Article 21 of INSPIRE Directive defines the basic principles for monitoring and reporting. More detailed implementing rules regarding INSPIRE monitoring and reporting have been adopted as Commission Implementing Decision (EU) 2019/1372 on the 19th August 2019.

This country fiche highlights the progress in the various areas of INSPIRE implementation. It includes information on monitoring 2021 acquired in December 2021 and Member States update.

State Of Play

A high-level view on the governance, use and impact of the INSPIRE Directive in Czech Republic. More detailed information is available on the INSPIRE knowledge base.

Coordination

National Contact Point

Name of Public Authority: Czech Environmental Information Agency (CENIA)

Postal Address: Czech Environmenal Information Agency

Moskevská 63 Praha 10, 101 00

Czech Republic

Contact Email: Click to email

National INSPIRE Website: http://inspire.gov.cz/
MIG Contacts: Contact Person: Eva Kubátová
Email: Eva.kubatova@mvcr.cz

Contact Person: Jitka Faugnerová
Email: Jitka.Faugnerova@cenia.cz
MIG T Contacts: Contact Person: Lenka Rejentova

Email: lenka.rejentova@cenia.cz Contact Person: Jiří Poláček Email: jiri.polacek@cuzk.cz

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METADATA DATA SERVICES, GEOPORTALS MONITOR./REPORTING, FINANCE DATA SHARING, LEGISLATION EDUCATION

TECHNICAL WORKING GROUPS

Name of the public authority	Czech Environmental Information Agency (CENIA)
Contact information:	
	Czech Environmenal Information Agency
Mailing address	Moskevská 63
Walling address	Praha 10, 101 00
	Czech Republic
Telephone number	+ 420 267 225 226
Email address	inspire@cenia.cz, info@cenia.cz
Organisation's website URL	www.cenia.cz, http://inspire.gov.cz/
Contact person (if available)	Jitka Faugnerová
Telephone number	+ 420 725 549 970
Email address	inspire@cenia.cz
Contact person - substitute (if available)	Lenka Rejentová
Telephone number	+ 420 267 225 294
Email address	inspire@cenia.cz

STRATEGY

Coordination Structure:

- Ministry of the Environment (MoE) is responsible for the INSPIRE implementation in the Czech Republic. MoE coordinates
 the infrastructure using the INSPIRE Coordination Committee established in 2010. Members of Coordination Committee
 are representatives of all the central bodies (Ministries) of the Czech Republic (19 members), 2 representatives of
 associations for regional and local authorities and one representative of the national GI association joining stakeholders
 from private sector, users, and universities
- In agreement with MoE, Czech Environmental Information Agency (CENIA) is responsible for: National INSPIRE
 Geoportal (SW and HW maintenance and development, administration, updates, and support to users), communication
 with data providers, communication with DG ENV and JRC, secretariat of Coordination Committee and National Contact
 Point and primary contacts in both, Maintenance and Implementation Groups (MIG) political and technical.

Progress:

Year 2021 was a year of a progress in both aspects of the INSPIRE implementation – technical and non-technical.

In technical part – the challenges with transfer to new version of metadata were successfully overcome. Czech data providers, supported by CENIA, were focused on **data harmonisation** and **making data available using valid view and download services**. In October 2021 during the evaluation of the indicators and preparing for monitoring on 15th December, it was identified that many of the data sets are evaluated as "not available", because the existing view and download services contained many errors. These errors were removed, which helped to increase the percentage of this indicator.

For the long-lasting data harmonisation CENIA has dedicated one full time expert to support the data providers in "reading" the obligations from data specification, helping them in using the reference validator and in publication fully harmonised data sets. The percentage of harmonised data has increased, in line with the efforts of the data providers and complexity of data specifications. There is still quite a lot of non-harmonised data sets, however the progress can be observed.

In non-technical part – the legislative process was interrupted for several months in 2021 due to the elections. The process was "restarted" before the end of the year and the version of the law for the government was successfully finalized. The amendment is supposed to enter into force in late 2022 or early 2023.

On top of the INSPIRE legislation an umbrella law covering the obligations within the national geospatial data infrastructure is under development. A dedicated WG is preparing the text of the law – to be presented to the government by the end of 2022.

Functioning and coordination of the infrastructure

- Coordination Committee is chaired by Deputy Minister of the Environment, co-chaired by Director of the department for the e-government of the Ministry of Interior and by vice-chair of Czech Office for Surveying, Mapping and Cadastre. Due to the personal changes and changes in the structure of the office of the Ministry of the Environment after elections in October 2021, the Coordination Committee is now lead by the Secretary of the Committee the director of CENIA. This situation will not influence the nearest tasks, neither the implementation of INSPIRE in the Czech Republic. Practical implementation issues are solved in dedicated Technical Working Groups. Currently the WG for services is preparing a "handbook" for implementing the scales of the national tile services. Results from the Technical Working Groups are approved by the Coordination Committee and implemented by each of the data providers. There were three online meetings of the Coordination Committee in 2021.
- In accordance with the INSPIRE Implementation Strategy the concept of identification and development of National INSPIRE Datasets has concluded by identification of coordinators of INSPIRE themes. These organizations are responsible for fulfilment of the scope of the INSPIRE theme within the extent of the whole country and for all the spatial objects and their attributes required by the data specifications, if possible. In many cases cooperation of more data providers is needed to cover one INSPIRE theme, either because of the limited coverage of their data sets or because the management of the specific spatial data objects or attributes are responsibility of various organizations. For the monitoring in 2021 some of the data sets made available to the EU geoportal were re-organised to be more comprehensive for the EU users. Therefore, the number of data sets decreased, although their quality is much higher.
- The process of amendment of the law 123/1998 Coll. on access to environmental information (INSPIRE transposition) was stopped for six months in year 2021. By the end of the year the version for the Government was almost finalised. Next steps were foreseen for beginning of 2022. The amendment also contains the transposition of the Regulation (EU) 2019/1010 and Decision (EU) 2019/1372 whose have not been transposed until now. This delay is monitored by the Ministry of Foreign Affairs. Amendment should enter into force at the end of 2022 or early 2023.
- Continual increase of the quality of metadata, services and data sets can be observed. Even thou there is a limited possibility for many Czech data providers to work continuously on INSPIRE (due to lack of financial and human resources), their effort is proven by the monitoring indicators. The EU geoportal is still well appreciated as a metadata catalogue. Data and services from other EU countries can be found easily. But, there is a significant number of non hamonised data, tagged as harmonised. Czech experts sometimes need to consult harmonised data sets from other EU countries. It has been noted that it is almost impossible to find data tagged as harmonised that would pass the validation without errors. Therefore, at this advanced stage of implementation, European Commission should check the data tagged as "harmonised" and evaluate it. As the manual validation is extremely time consuming, a tool enabling the automatic validation should be put in place. On top of all that checks of content, pan European maps presenting data of the INSPIRE themes should be published at the EU geoportal. There is a demand for pan European data accessible at one place even on national level.
- The project focusing on making available harmonised data of the theme Utilities and Governmental services under the lead of the Ministry of Interior is delayed due ongoing public procurement process. Harmonised data is expected to be delivered by the end of the year 2022.
- National geoportal of urban planning, under coordination of the Ministry for Regional Development, that is supposed to deliver among many other functionalities also harmonised data for the theme Land use (III.4, specifically data for planned

land use) is in the public procurement procedure. First results are expected at the end of 2023, further functionality of the geoportal in 2024.

- The situation in the theme Health and Security remains an issue, weak involvement from the Ministry of Health is believed to be overcome by the legal obligation that will be given to the Ministry by the amendment of the Czech INSPIRE law which is now in the legislative process. The ministry will become responsible coordinator of the theme Health and Security.
- Czech Republic has successfully implemented metadata 2.0. It has been proved that gathering the information about the status of the infrastructure from metadata is the right approach. However, despite the great efforts of CENIA and the data providers made between October and 15th December 2021, and many reminders made to the data providers to keep their infrastructure stable in the week of monitoring, a failure of a server on 16th December of one data provider caused a drop of percentage of available services of the Czech Republic. This situation led to a discussion about the actual reporting value of the monitoring "exercise" made at one moment, once a year. The data providers can have their services unavailable 1% of the time of the year, which means that if this 1% of the time is on the day of the monitoring, they still fulfill their legal obligation regarding the service availability. On contrary, if the services of the data providers are up and running throughout all the year and only at this one day they are not available, it is not the actual situation/picture of availability of the services in the country. Therefore, we suggest to the European Commission to consider another system for the monitoring that would show the real situation. E.g., the harvesting for monitoring and evaluation of the indicators could be done four times a year, including the legal deadline 15th December. For the country fiche presented for each year, average numbers could be used. This approach would present the availability of the view and download services better, also the data providers would not focus only on their obligations during last three months of the year.
- The issue with harvesting metadata of dataset series instead of thousands of data sets of Czech Office for Surveying, Mapping and Cadastre is ongoing. Czech Office for Surveying, Mapping and Cadastre would prefer to have individual data sets harvested rather than the data sets series as this approach of the EU geoportal may cause some data does not appear downloadable.
- Czech-Slovak INSPIRE conference was held in the Centre for Architecture of the City of Prague on 5th -6th October 2021. Due to the expected COVID restrictions the event was planned as "hybrid" from the very beginning. This allowed the audience as well as the speakers to decide about their online or on site participation. At the end some 90 people participated physically and 50 were connected online, 16 presentations were held on site and 13 online. Thanks to the experienced team of technicians of the city of Prague a professional record was made. Full program with presentations and videos is available at the conference website: https://inspirujmese.cz/program-1/
- Some of the functionalities of the National INSPIRE geoportal, not affecting the availability for INSPIRE, were stopped in 2021. Despite that the Ministry of the Environment (owner of the geoportal) did not make any steps to overcome this situation. Documents supporting decision about new geoportal were not presented to the minister, elections in October 2021 interrupted any activity regarding new geoportal.

Usage of the infrastructure for spatial information

- In general, use of spatial data and services is continuously increasing. The access to the data sources is not provided only via central portals with national relevance (e.g. National INSPIRE Geoportal https://geoportal.gov.cz or National Open data portal http://opendata.gov.cz or geoportal of Czech Office for Surveying Mapping and Cadastre https://geoportal.cuzk.cz), but there are also many other sources. Domain specific geoportals exist and provide source geodata and services and are successfully in use mostly by the domain users. List of these geoportals is available via National INSPIRE geoportal at: https://geoportal.gov.cz/web/guest/other-portals.
- Three new portals/systems with high relevance for INSPIRE are planned or already under development. These portals should solve issues of a specific domain and at the same time the INSPIRE obligations
 - Information system for Utilities and Governmental services under coordination of the Ministry of the Interior
 - National geoportal of urban planning, under coordination of Ministry for Regional Development
 - Digital Technical Map of the Czech Republic, coordination shared among Ministry for Regional Development,
 Czech Office for Surveying Mapping and Cadastre and Regional Authorities
 - Only the project of the Digital Technical Map of the Czech Republic is running according to the time plan without delays.
- The National MD / data harvesting is functioning well therefore users have usually several options to find and use published spatial data
- The use of National INSPIRE services (registered on EU Geoportal) is due to the limited data content often lower than of the services providing more detailed data required for national e-Government agendas (e.g., via Base Register of Territorial Identification, Addresses and Real Estates).

- Data providers are being pushed more and more into opening their data. Some data providers are working on changes of
 the legislation prescribing limited access and fees for their data and services. This all align with the principles of the Open
 Data directive. CC 4.0 is considering to be the maximum required by the data providers, however there are still data
 providers whose conditions of use are very limited.
- CENIA in cooperation with the Ministry of Interior supports the data providers in technical aspects of opening their spatial data. Many data providers publish their INSPIRE data also in the National Open Data Catalogue: (https://opendata.gov.cz/). CENIA promised to investigate what is the relation between the Czech open data portal and the EU version of open data catalogue (https://data.europa.eu/en). Outdated data sets and wrong resource catalogues has been found. A presentation about this portal would be welcome at some of the next MIG-P meetings.

Costs and benefits

- Missing funds for finalisation of the harmonisation have been discussed recently with the Ministry of the Finance. The
 ministry have promised to assess the needs for new funds and personnel during the negotiations about the budget for
 upcoming years. This reassurance supported the smooth legislative process and a common agreement before presenting
 the amendment of the "INSPIRE law" (aw 123/1998 Coll. on access to environmental information) to the government.
- Benefits have not been financially quantified; however, among major benefits are:
 - Better accessibility of data
 - Data available in open format (GML)
 - Ability to carry out analysis on up-to-date, reliable data (in this case payments for data seemed not to be an issue that big as analyses published using outdated data)
 - Existence of new jobs because spatial data is used more and more in official agendas of public organizations
 - Innovation potential (new services, apps) stems from the availability of standardized services, open data and ICT development.
 - Contribution to cross-border and/or EU projects and services
 - Smooth cooperation among all the data providers across the sectors

Key facts and figures

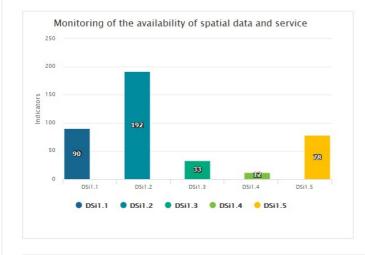
Czech Republic

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

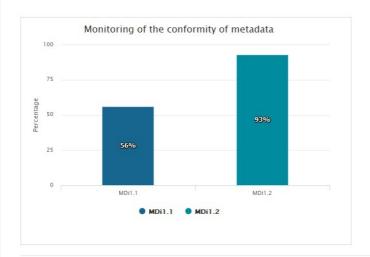
Graphs generated with data taken from: https://inspire-geoportal.ec.europa.eu/mr2021_details.html?country=cz

The date of harvest metadata: 17/12/2021

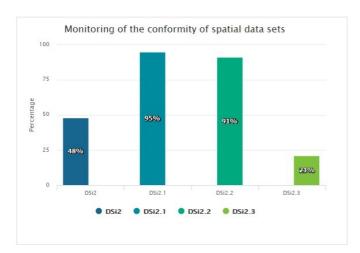
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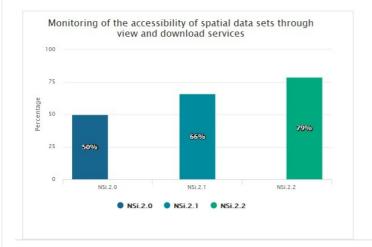
Indicator	Definition
● DSi1.1	The number of spatial data sets for which metadata exist
DSi1.2	The number of spatial data services for which metadata exist
• DSi1.3	The number of spatial data sets for which the metadata contains on or more keywords from a register provided by the Commission indicating 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
OSi1.5	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 national territory



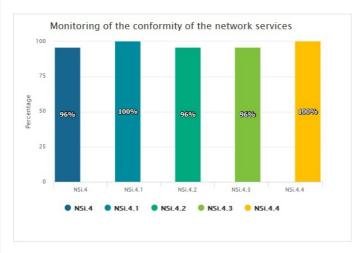
	Legend		
Indicator	Definition		
● MDi1.1	Percentage of metadata for spatial data sets conformant with Commission Regulation (EC) No 1205/2008 as regards metadata		
MDi1.2	Percentage of metadata for spatial data services conformant with Commission Regulation (EC) No 1205/2008 as regards metadata		



Legend	
Indicator	Definition
● DSi2	Percentage of spatial data sets that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets
● 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
● 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
● 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



Legend		
Indicator	Definition	
• NSi.2.0	The Percentage of spatial data sets that are accessible through view and the download services	
• NSi.2.1	The Percentage of spatial data sets that are accessible through view services	
• NSi.2.2	The Percentage of spatial data sets that are accessible through download services	



Legend		
Indicator	Definition	
NSi.4	Percentage of the network services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services	
● NSi.4.1	Percentage of the discovery services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services	
● NSi.4.2	Percentage of the view services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services	
NSi.4.3	Percentage of the download services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services	
NSi.4.4	Percentage of the transformation services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services	

