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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 Slovakia. More detailed information is available on the INSPIRE knowledge base.

Coordination

National Contact Point

Name of Public Authority: Ministry of Environment of the Slovak Republic
Postal Address: Tajovského 28

　　　　　　　975 90 Banská Bystrica

　　　　　　　Slovakia

Contact Email: Click to email
Telephone Number: +421 048 4374 523
National INSPIRE Website: http://inspire.gov.sk
MIG Contacts: Contact Person: Martin Tuchyňa
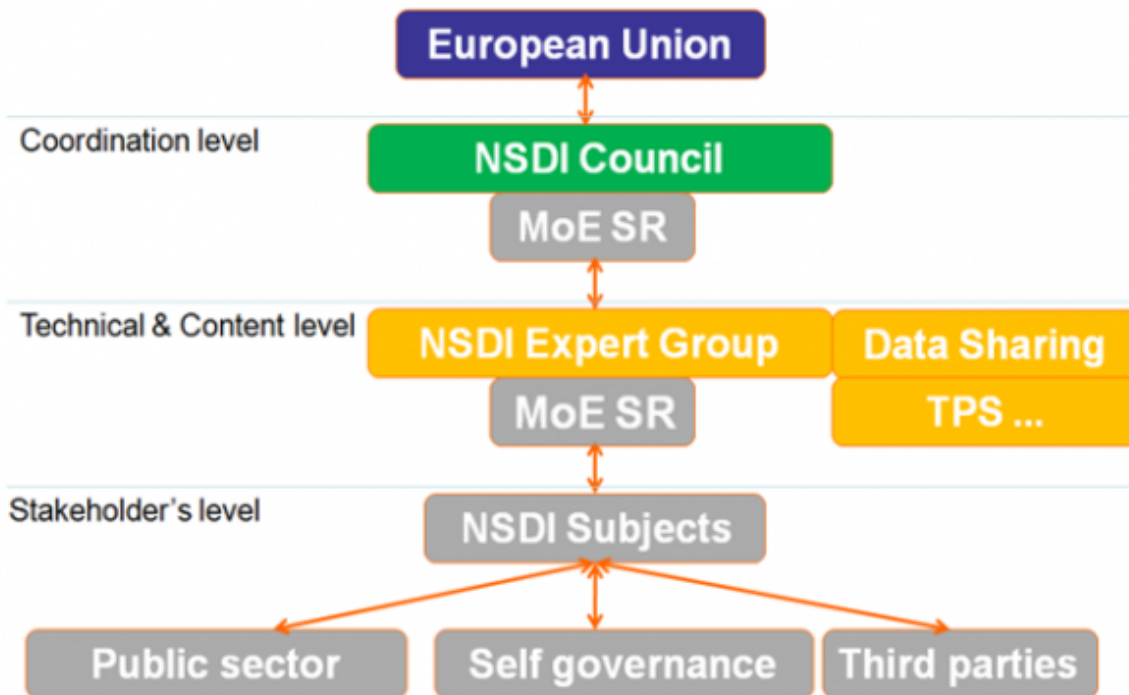　　　　　　**Email:** martin.tuchyna@enviro.gov.sk
MIG T Contacts: Contact Person: Martin Tuchyňa

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SK NSDI Coordination

Coordination Structure & Progress:

- Coordination Structure
    - Coordination of the relevant stakeholders in Slovakia is facilitated on two main levels:
        - Strategy / Main public sector stakeholders' level represented by **Coordination Committee of NSDI (NSDI Council / KR-NIPI)**
        - Technical / implementation level represented by **Expert Group of NSDI (NSDI Expert Group / ES NIPI)**. The ES NIPI coordinates the work of ad hoc Technical Working Groups).
        - Based on experience the plan is to merge KR and ES NIPI into the one joint Coordination group (Figure 1.).
    - Main responsibility for the INSPIRE implementation and coordination was assigned to the Ministry of Environment of the Slovak Republic, supported with the Coordination Council (KR NIPI). KR NIPI is representing the main central public authorities, including the representation of local governance.
    - Ministry of Environment of the Slovak Republic is also in charge of National Geoportal, Spatial Data Registry as well as National INSPIRE website maintenance, communication with the Slovakian stakeholders, communication with European Commission, and provides the primary contacts in both Maintenance and Implementation Groups: MIG (policy) and MIG-T (technical).
    - From the 2020 INSPIRE implementation process is supported with the NSDI Data Office, established with the mission to ensure support for the coordination of the establishment and maintenance of NSDI, including utilising the activities of national ESPUS project.
    - By the end of the 2022, initial efforts for coordination with Open Data / HVD community has started. Main responsibility for the eGov / Open Data agenda remains with Ministry of investment, regional development and informatization of the Slovak Republic (MIRRI) (Figure 1.).
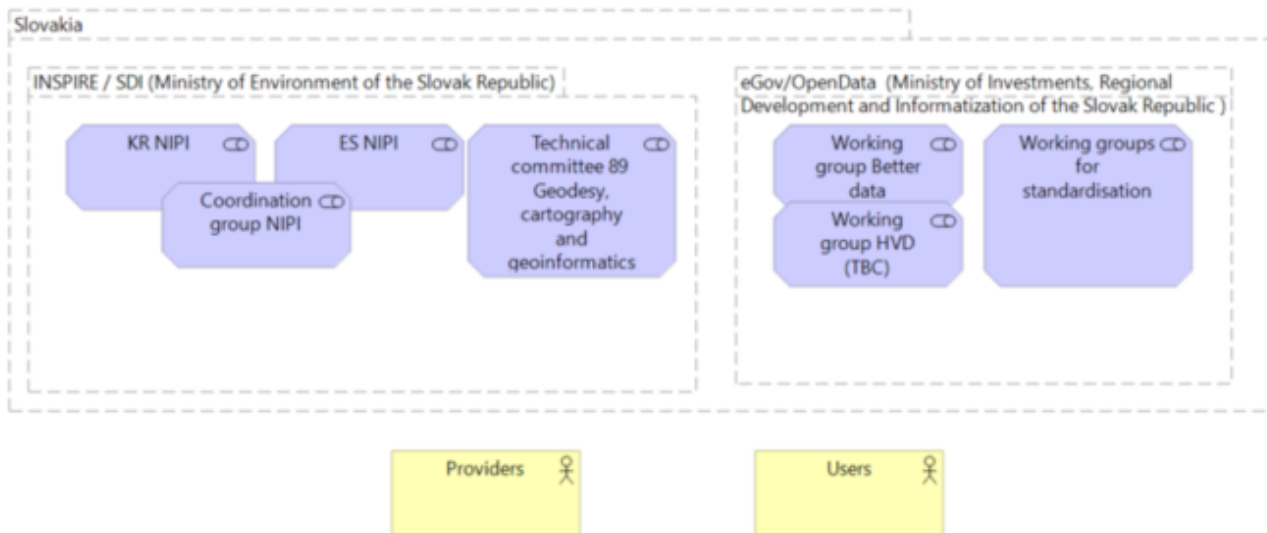
Figure1: Overview of the Slovakian NSDI coordination

- Progress
  - **In summary, INSPIRE implementation and maintenance in Slovakia during 20212 mainly focused on strengthen of awareness raising and Annex III datasets availability. At the same time initial efforts to establish synergy with Open Data / HVD community has started.**
  - In connection http://INSPIRE Monitoring and Reporting 2021, 2022to the awareness raising, 2 conferences (one online and one physical), 8 worskhops and 25 trainings were organised with the support of the ESPUS project aiming to promote SDI, identify potential and challenges and create connections to other domains.
  - In the domain of interoperability, new INSPIRE annex III datasets has been identified and made available.
  - At the same time, developments of new versions of National Geoportal, Spatial Data Registry as well as National INSPIRE website took place with the plan to get operational during the 2023.Main challenges remains with the conformity of spatial data sets as well as with the conformity of some types of network services. Complexity of the INSPIRE requirements as well as limited capacities on the side of data providers still creates significant limitations. This is even more tangible towards the regional and local SDIs.

Functioning and coordination of the infrastructure

- Coordination of the NSDI during the 2022 took place as via NSDI council and NSDI Expert Group meetings, as well as via above mentioned ESPUS specific events and direct communication with the stakeholders. In order to support further coordination and reflect the changes, taking place on European level, Methodical framework for an effective management and monitoring of spatial data and services has been prepared.
- In connection the results of the INSPIRE monitoring 2022, there has been substantial increase in metadata availability as for datasets as well as for services, comparing previous year.

- Concerning the conformance of the metadata, although in case of dataset metadata conformance, new 59 conformant results was documented, surprisingly in case of service metadata increased amount of non-conformant records was identified.

The date of harvest metadata: 2022-12-19, 17:40:38

Overview statistics of the harvested metadata

Dataset: 272	Series: 2	Services: 430

Results of evaluation using INSPIRE Reference Validator ☑

Metadata Dataset		Metadata Services	
Conformant: 271	NOT Conformant: 3	Conformant: 196	NOT Conformant: 234
	Click to download the test reports of failed records		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)

The date of harvest metadata: Sun, 19 Dec 2021 08:10:02 GMT

Overview statistics of the harvested metadata

Dataset: 211	Series: 2	Services: 367

Results of evaluation using INSPIRE Reference Validator ☑

Metadata Dataset		Metadata Services	
Conformant: 212	NOT Conformant: 1	Conformant: 360	NOT Conformant: 7
	Click to download the test reports of failed records		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)
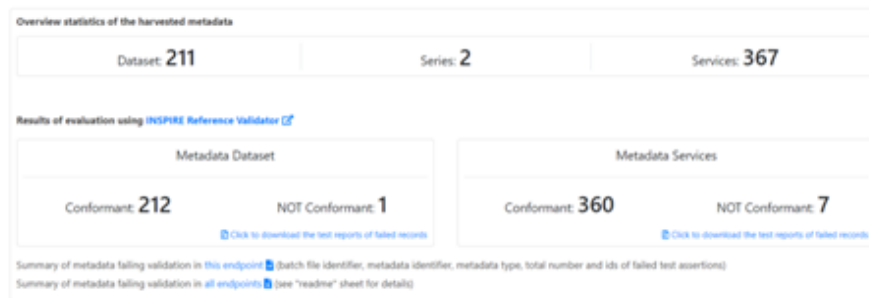Summary of metadata failing validation in all endpoints 🗎 (see "readme" sheet for details)

Figure 2: SK INSPIRE monitoring indicators 2022 (Source INSPIRE Monitoring and Reporting 2022)

- Comparing overall availability and conformity status there are no significant changes, aside reduction of the performance in accessibility of the spatial data sets through view and download.
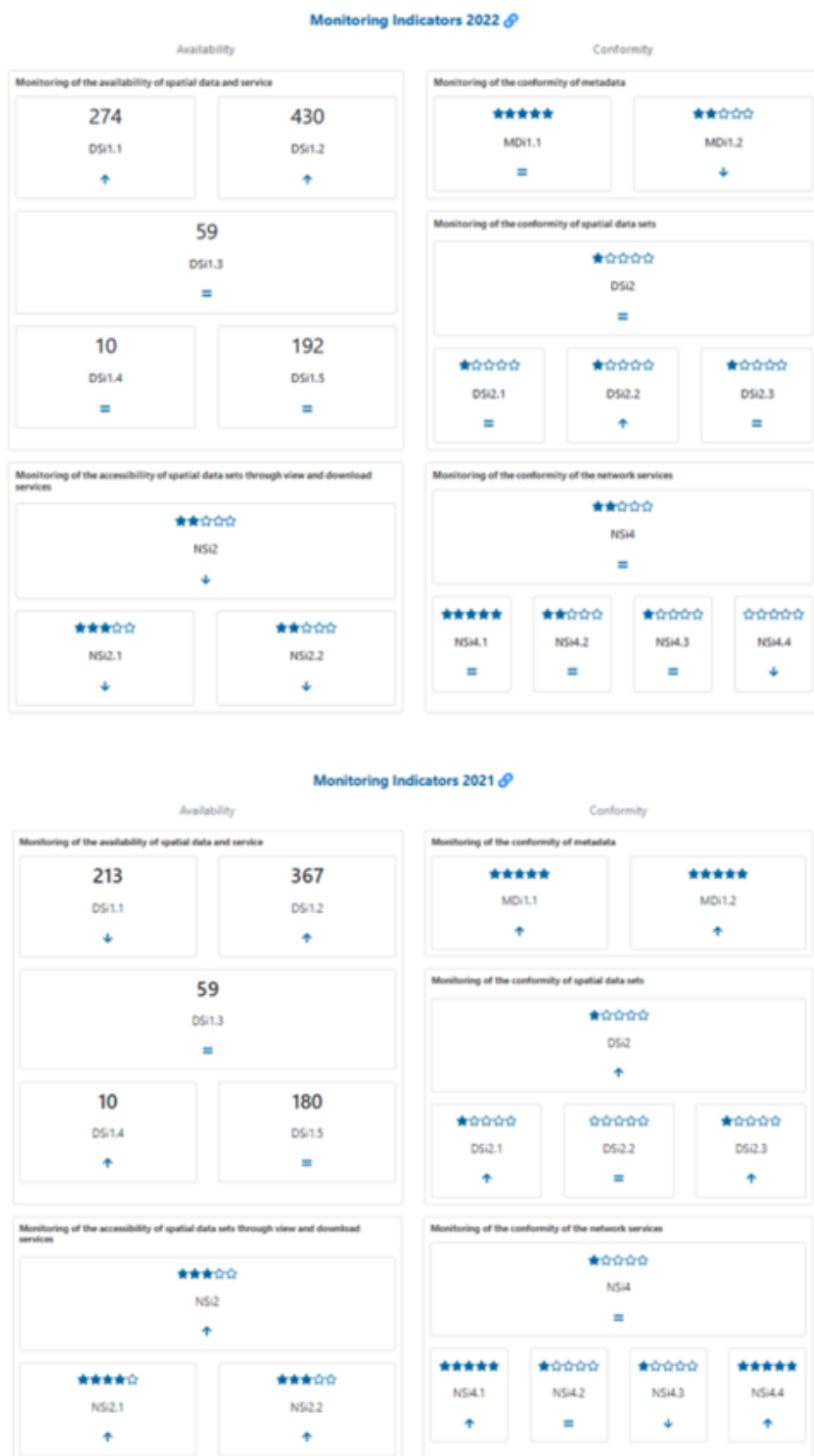
Figure 3:SK INSPIRE monitoring indicators 2021/2022 (Source:INSPIRE Monitoring and Reporting 2021, 2022)

- With regards to the issue with filtering of Non – INSPIRE and AsIs INSPIRE datasets, reported in last 2021 report, even this year it was not possible to apply the intended filter, in connection to the changes on the central EC INSPIRE geoportal infrastructure.
- Reduction of some network service related indicators might be related with possible outage of national discovery service occurred in January 2023, when validation of the metadata took place as communicated with EC.
- From the content point of view, it can be concluded, that by the end of the 2022 Slovakia has managed:
  - To provide data and services, documented with metadata for 26 INSPIRE themes

- - Similarly identify and share 30 INSPIRE priority datasets
- In order to strengthen the support for INSPIRE validation, SK national instance of INSPIRE refrerence validator has been deployed.
- Additional information/communication channels:
  - inspire.gov.sk Facebook Page
  - INSPIRE INFO Newsletter sharing related updates on monthly basis.
  - Inspire.gov.sk YouTube channel providing video recordings from meetings, conferences, workshops, trainings and other related events.
  - GitLab project representing collaboration platform for spatial data and service providers as well as users.

Usage of the infrastructure for spatial information

- There is available only limited type of quantifiable evidence of the infrastructure use from Google analytics statistics related to the INSPIRE related websites for 2022:
  - geoportal.gov.sk: 11 892 users, 22 575 relations, 60 318 pageviews;
  - rpi.gov.sk: 1 907 users, 3 848 relations, 6 413 pageviews;
  - inspire.gov.sk: 1862 users, 4 117 relations, 5 647 pageviews.

Audience
146 Facebook followers

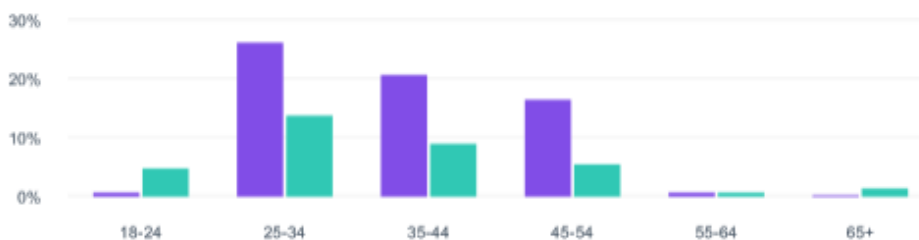Age and gender
- Men   64.80%
- Women 35.20%

Figure 4: inspire.gov.sk Facebook page audience (Source: https://www.facebook.com/inspiresk)

- New outcomes from the User perspective interaction collected during Tatra workshop 2022.
- Set of pilot use cases has been also supported by the ESPUS project.
- There is significant gap also on EU level with guidance, how to systematically monitor infrastructure usage in comparative way across the Europe.
- Monitoring of the selected INSPIRE services is foreseen in order to increase and overview about their availability.
- New concept of metadata for applications might also provide an input to the usage measurement.

Data sharing arrangements

- Adoption of HVD regulation initiated discussion about the geospatial datasets to be made available under Open Data license and in synergy with INSPIRE.
- SK deed versions of Creative commons licenses were published from creativecommons.org with the support from ESPUS project.
- In connection to update of the Spatial data registry, there are foreseen activities focused on revision of existing dataset metadata records to ensure proper license citation to support better Open data filtering.
- Based on the further EU guidance for HVD, as well as developments on National open data portal managed by the the Ministry of Investments, Regional Development and Informatization of the Slovak Republic, further activities on integration of the open spatial data will take place.

Costs and benefits

- The cost and benefits evaluation is based on the information collected in the structured tabular information from the representatives of the NSDI council.
- The total indicative costs related with the INSPIRE implementation: **1 056 487 €** and **397 person days**.
- From the Benefits perspective, these were identified mainly as:
    - Uniform access to spatial data (priority/harmonized datasets)
    - More efficient management and functionality of internal spatial data and services
    - Elimination of duplication of spatial data sharing in synergy with Open data and HVD
    - Developing pressure to identify the benefits and potential of using spatial data
    - Improving the availability of spatial data
    - Support for reuse
    - Strengthening communication with external domains and communities
    - Increasing pressure on machine delivery of digital data
    - Improving the provision of information on the environment not only for the needs of EU monitoring and reporting
    - Increasing pressure on the quality of spatial data and services and their documentation with metadata
    - Analytical use (environment, healthcare and other areas)
    - Raising awareness of the potential of spatial data and services
    - Ensuring the availability of forest data to a wide range of users without restrictions
    - Processing requests for the provision of data through services
    - Published metadata and spatial data and services
- Detailed information about the costs and benefits can be accessed via this summary table. Details, based on the information provided by the organisations.
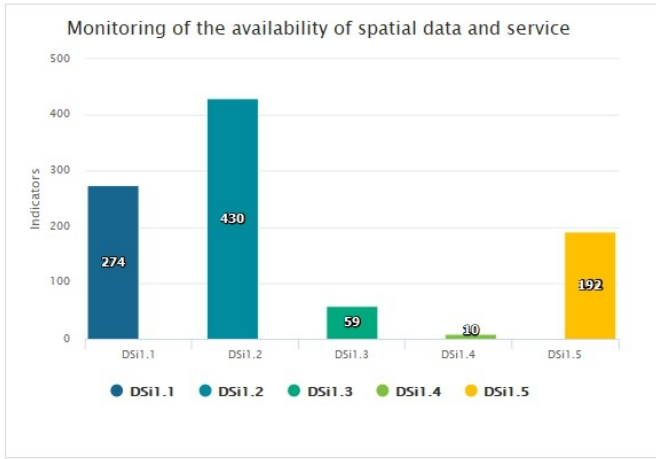

Key facts and figures

Slovakia (Slovak 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/mr2022_details.html?country=sk
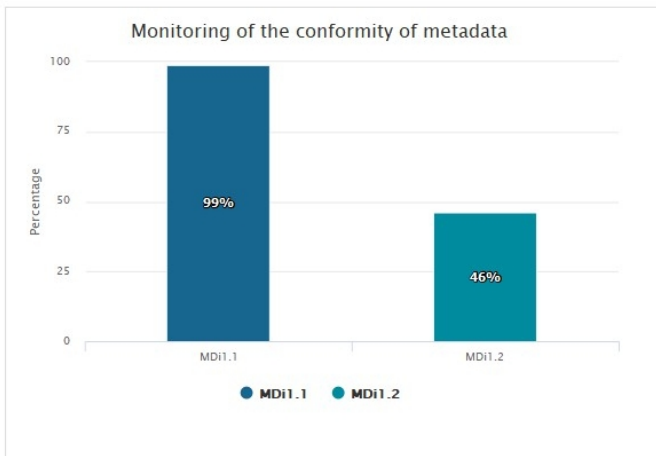
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The date of harvest metadata: 2022-12-19, 17:40:38

Endpoint: 1f8aac63-304d-4618-b18e-1ff28627e051
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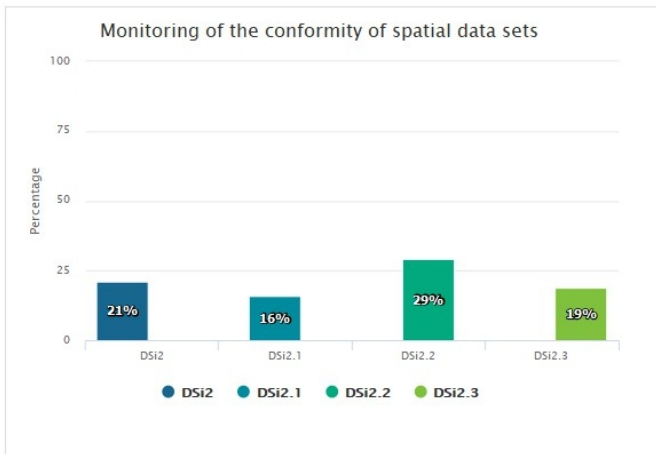
Monitoring of the availability of spatial data and service

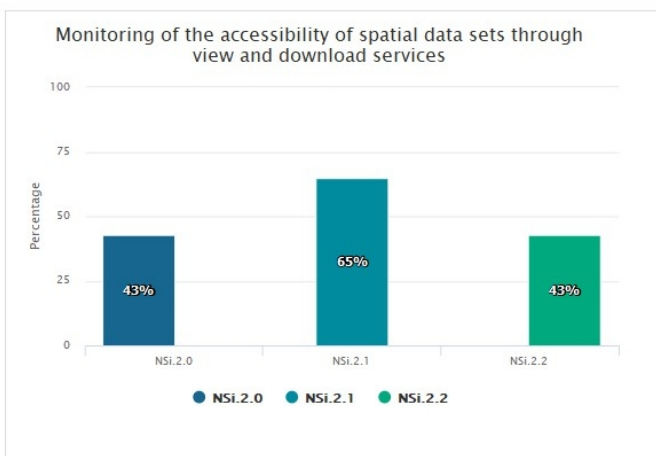| Legend	
Indicator	**Definition**
● DSi1.1	The number of spatial data sets for which metadata exist
● DSi1.2	The number of spatial data services for which metadata exist
● DSi1.3	The number of spatial data sets for which the metadata contains one ormore keywords from a register provided by the Commission 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 national territory

Monitoring of the conformity of metadata

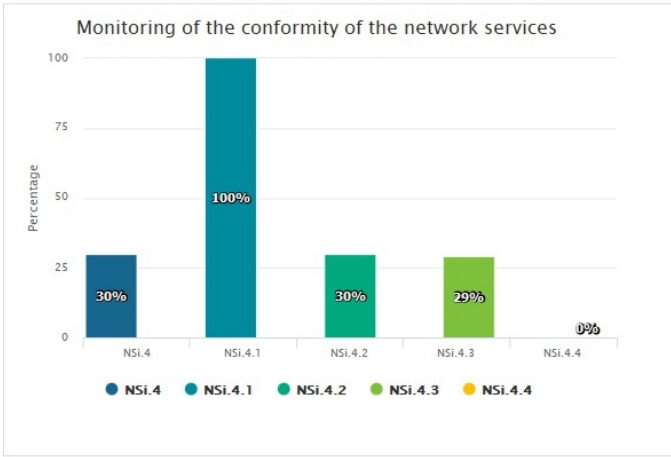| Legend	
Indicator	**Definition**
● MDi1.1	Percentage of metadata for spatial data sets conformant with Commission Regulation (EC) No 1205/2008 as regards metadata
● MDi1.2	Percentage of metadata for spatial data services conformant with Commission Regulation (EC) No 1205/2008 as regards metadata

Monitoring of the conformity of spatial data sets

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 1089/2010as 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

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

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

Monitoring of the conformity of the network 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	