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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

Due to lack of resources INSPIRE has not yet been fully implemented in Iceland. The National spatial Data Infrastructure (NSDI) has the focus but INSPIRE has been especially key factor in creating the infrastructure.

Due to the adoption of the INSPIRE directive through the EFTA, Iceland has a three-years delay for all the deadlines of the directive regarding implementation. According to the INSPIRE roadmap, the implementation of the INSPIRE directive ended in December 2021, i.e. 2024 in Iceland. We aim to finish the implimentation by our deadline.

Data defined in the INSPIRE directive are registered in the metadata portal [GeoINSPIRE](#), which provides data into the annual INSPIRE reporting (monitoring) process. It lists 103 datasets and metadata records for 28 download and viewing services. Each metadata registration is for one download or viewing service of the relevant institution, and within each service more than one data set is therefore accessible. Viewing services provide access to 98 data sets and download services provide access to 79 data sets.

According to INSPIRE's timeline, the registration of metadata for Annexes I, II and III was to be completed in December 2016, i.e. 2019 in Iceland. Judging from the numerical information retrieved from GeoINSPIRE, services are still missing for several datasets. Subsequent dates and targets on the INSPIRE timeline have not been systematically followed up.

Coordination

National Contact Point

Name of Public Authority: National Land Survey of Iceland

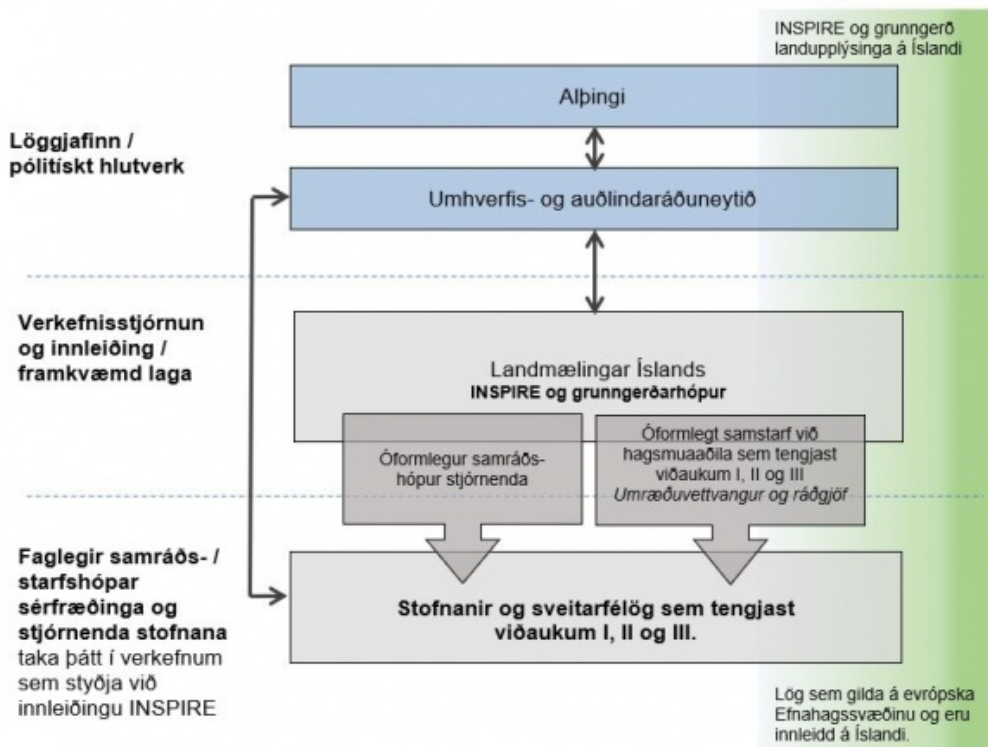
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Coordination Structure & Progress:

Roles and responsibilities

The picture is a simplification of the roles and organized cooperation of public bodies in the INSPIRE project, and also in the NSDI project. The cooperation between public bodies involved in the NSDI in Iceland and INSPIRE is managed by the National Land Survey through informal collaboration groups as well as close cooperation with institutions and their experts in the field of digital spatial information. The National Land Survey of Iceland encourages stakeholders to contribute to the implementation of the NSDI and thus support the implementation of the INSPIRE directive. The public bodies are data producers, service providers, and users.

The legislature / political role

Ministry of Environment, Energy and Climate: National Land Survey of Iceland (NLSI) has the role of implementing the national Act on building a national spatial infrastructure (í. 44/2011 Lög um grunngerð fyrir starfrænar landupplýsingar) on behalf of the Ministry of Environment, Energy and Climate. There is a direct connection from the Ministry to the implementation of INSPIRE through the Ministry's lawyer who acts as the MIG-P member on strategic issues.

Project management and Act implementation

National Land Survey of Iceland: Oversees the implementation of the INSPIRE directive and the implementation of National Spatial Data Infrastructure in Iceland.

In addition, other main activities of the NLSI are defined in the Act on Land Surveying and Basic Mapping (í. 103/2006 Lög um landmælingar og grunnkortagerð), and that is to ensure the availability and reliability of topographical and of geographical basic information about Iceland. The main functions of LMI are the following:

- Assist the Ministry of Environment, Energy, and Climate in the professional areas of the institution.
- Development and maintenance of a reference and height system for Iceland.
- Creation, maintenance, and dissemination of digital maps at a scale of 1:50.000.
- Registration and dissemination of information on geographic datasets.
- Creation and use of standards in the field of geographic information.
- To provide access to data held by the organization.
- Have professional cooperation with universities, institutions, municipalities, companies, and international organizations.

In Article 5 the Act on Building a national spatial infrastructure, includes, among other things that the NLSI shall operate a portal for geospatial data to provide access to geospatial information and information about them... It is also listed that web services must be accessible through the geoportal, e.g. metadata service, view service, download service, transformation service and invoke service.

National metadata register along with the National Geoportal and now GeoINSPIRE (since 2021) meet the INSPIRE and NSDI requirements for the most part. The NLSI takes care of the operation, maintenance, and technical development, as well as advising the government to fulfil the obligations of the Act. In 2021, it was decided to separate data that falls under the INSPIRE directive from the data in the National Geoportal by creating a special metadata portal called GeoINSPIRE to harvest data from the National Geoportal to the INSPIRE geoportal. That way we got a better overview of data which provides data into the annual INSPIRE reporting and monitoring process.

INSPIRE and the NSDI Group have the task of promoting the implementation of the INSPIRE Directive. An important aspect of the implementation of INSPIRE is the development of a network and cooperation through informal and formal consultation and working groups. The groups consist of experts and managers of institutions related to Annexes I, II, and III as well as other none INSPIRE data. This cooperation has been key to promoting the SDIs.

Experts of the INSPIRE / NSDI Group of stakeholders observe the flow of information in the INSPIRE MIG-T group but do not directly participate in the work of the group due to a lack of resources.

Functioning and coordination of the infrastructure

Here we will talk about the general measures that have been taken to encourage public bodies to make their data available and share it, as well as to provide view and download services. It also tells about how cooperation is carried out.

A description of the relationship with third parties

Third parties have access to free-of-charge geographic information data from most public institutions and can use the data in different projects for example planning, assessments, or innovation. They can also view the data together from many sources in the national geoportal and have access to metadata with links to services. Third parties can download data using in most cases download services, but some institutions provide bulk downloads. Not all institutions have the resources to provide services according to the requirements, but the NLSI in some cases hosts and makes the data accessible on behalf of those institutions. Some data is unfortunately not available yet but the government has published a [document](#) in October 2022 on **data security classification** (Í. Öryggisflokkun gagna ríkisins) where data are classified into 4 categories:

1. **Open data:** Non-personally identifiable data or data that is open and accessible for use and reuse. For data to be considered open, it must be available without applications/requests and be accessible regardless of time.
2. **Protected data:** All data other than open data that are part of the day-to-day operations of government entities. Protected data may, however, be of varying sensitivity and require customized security measures in accordance with the results of a risk assessment.
3. **Private data:** Data that, due to the sensitive status of timing or content may cause widespread and long-term damage to groups of individuals, legal entities, or government entities.
4. **Delimited data:** Data that are sensitive to society as a whole or the nation's position on the international stage.

This document along with other acts and lists like one of the High-value datasets that encourage or legalize openness of data help make data available for the use of third parties.

An overview of the working practices and procedures of the coordinating body

Acts and regulations define the framework around the project. The employees of the NSDI group regularly point out to public bodies their role according to the Act and remind them that public bodies should take part in building an NSDI that supports the implementation of INSPIRE.

INSPIRE Directive is the bases for implementing INSPIRE in Iceland. **Act on building a national spatial infrastructure** (í. 44/2011 Lög um grunngerð fyrir starfrænar landupplýsingar) is mainly built on the INSPIRE Directive, but in that Act the role of the NLSI is defined. The Institutions should operate and maintain a national geoportal. Web services should be accessible to all through the geoportal (metadata service, view service, download service, and projection service). It is further stated that the National Land Survey of Iceland should propose an action plan for five years at the time for further developing digital spatial data infrastructure for Iceland. A draft for a new action plan was handed to the Ministry of Environment, Energy, and Climate in 2019 and is still waiting for approval. The draft was built on a former plan but this time build on the experience of running an NSDI. In the draft action plan the idea is to have fewer goals and clearer action to reach the goals. The action plan is based on the INSPIRE Roadmap and follows the timeline for the next 5 years.

Regulation on digital spatial information (í. Reglugerð nr. 414/2014 um stafrænar landupplýsingar) was made to implement the INSPIRE Directive and support Act no. 44/2011. The role of the NLSI is also defined in the regulation as its implementer on behalf of the Environment, Energy, and Climate Minister.

Regulation on metadata for digital spatial information (í. Reglugerð um lýsigögn fyrir stafrænar landupplýsingar nr. 390/2012) Supports the build-up and maintenance of the NSDI. It ensures access for the government and the public to spatial data for Iceland. The regulation also stipulates requirements for the registration and maintenance of metadata for digital spatial information and spatial information services.

The national geo- and the metadata portals play an important role in the INSPIRE project since you can find data from all the institutions and municipalities participating in the NSDI. The Geoportal is based on our own system written by the developers at the NLSI, but Geonetwork is used as the metadata portal. There is a link between datasets and metadata records so it is easy for the user to find more info on the data and services that they are viewing.

Cooperation and dissemination of information to stakeholders (NSDI group) is an important part of the implementation of INSPIRE. A joint meeting with all stakeholders in 2021 takes place two times a year. But the INSPIRE/NSDI team at the NLSI also keeps good individual contact with each stakeholder via e-mails, phone calls, and meetings. The power of synergy of data from different stakeholders is emphasized which comes to life in thematic web map applications such as for ocean, agriculture, areal photographs, and statistic. The collaboration also prevents the collection of the same data in different organizations, which is a great benefit for all stakeholders and society. In general, a major shift in attitude has taken place over the last twelve years and the stakeholders have adapted to the philosophy behind NSDI.

Information on the NSDI on the National Land Survey's home page is updated regularly. On the [site](#), the implementation of the NSDI and INSPIRE is described.

The statutory coordination committee created the first action plan for the development, operation, and maintenance of NSDI from 2011 - 2013, and the committee concluded its work with the publication of an action plan that was published on December 12, 2013, and lasted for five years. The action plan was confirmed by the Minister of Environment and Natural Resources in December 2013. The action plan expired at the end of 2018, and subsequently a draft of a new action plan was drawn up by the National Land Survey. The draft was submitted to the NSDI group of stakeholders and after that sent to the Ministry of the Environment and Natural Resources for reading and comment in mid-2019. The action plan has not yet been approved.

The nordic INSPIRE network group that the NLSI takes part in has been a great knowledge exchange. The combined human resources of the Nordic countries invested in the implementation of the directive have helped us follow different tasks of the INSPIRE directive and helped us to get an overview of what is expected of us to fulfill the implementation.

[Usage of the infrastructure for spatial information](#)

The metadata portal **GeoINSPIRE** is only to harvest data yearly into the INSPIRE geoportal for the monitoring process. I detailed inspection is made of all the metadata records to try to enhance the performance of Iceland in the project.

[The access to the national geoportal and the metadata catalog is open. The number of visits is monitored:](#)

- Total number of guests that visited the metadata catalog was around 84.000 and these guests looked at 202.000 records.
- Total number of guests that visited the geoportal was around 55.000 and these guests looked at 1.320.200 datasets. [Data](#)

Data sharing arrangements

With the Act on building a national spatial infrastructure that was forced in 2011 (in connection with the INSPIRE Directive), there was an increased pressure to enable the exchange of official spatial information free of charge. At the end of 2012, a decision was made by the then Minister of Environment and Natural Resources, in consultation with the parliament's budget committee, to make the NLSI data available free of charge. The goal was to ensure better access to data on the environment and nature for the public and public bodies in Iceland. The hope was also to increase the use of data e.g. for tourism, public administration, and education. The data has now been free of charge since January 23, 2013. Now data from many other institutions have also been made free of charge, in fact, most of the data in the NSDI.

The Act on Reuse of Public Information (45/2018 Lög um endurnot opinberra upplýsinga) was force in May 2018. The aim of the legislation is to encourage everyone to use and reuse public information in any way. The owner of the information/data gives indefinite authorization for the permanent use of the information/data anywhere, free of charge.

The [general terms and conditions](#) apply to the data from the NLSI. Disclaimer for the data that appear on the institution's web map applications. The data is published according to [Creative Commons Attribution 4.0 International License](#). Not all institutions have defined terms, but the NLSI has encouraged the institutions to do so.

In the NSDI it is emphasized that the data sharing should be directly from its source through web services. But as a small nation with small institutions, few specialists but many projects it can be harder said than done. Most institutions are positive toward the project and want to share their data but they don't have the resources. The NLSI has tried to help these institutions by providing them with access to a schema (one for each institution) where the institution can store and work on data. The data is then shared with a separate workspace on Geoserver, one for each institution that needs help.

Costs and benefits

The estimated cost of implementing Directive 207/2/EC is estimated to be around 23 million ISK. The cost consists of NLSI putting about 2 man-years into the project (although now 4 persons work in NSDI/INSPIRE group at the institute, all only partially with INSPIRE). There were no costs due to meetings abroad in the last three years due to Covid 19. The main benefits of the implementation of the Act on building a national spatial infrastructure and the INSPIRE Directive are being easy to access everyone to data. However, it will not be ignored that the free-of-charge data from the NLSI is partly due to this Act. By opening the data by making it free of charge and using a more approachable license CC-by 4.0 the use of the data multiplied many times. The benefit lies not least in the increased awareness of accessibility and the overview that has been gained in the project over the years. It is also worth mentioning that increased technical knowledge has been gained through the requirements of INSPIRE, especially in terms of web services and their importance.

Key facts and figures

Iceland

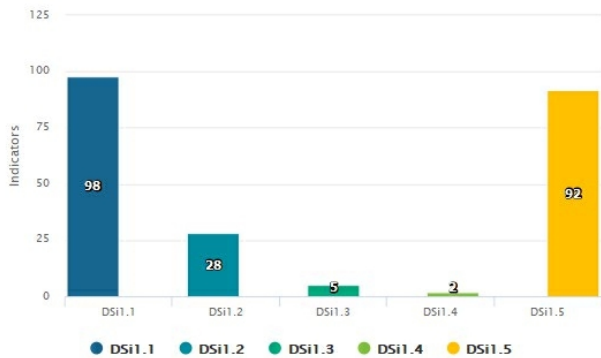
Indicators in support of [Commission Decision \(EU\) 2019/1372](#) implementing Directive 2007/2/EC (INSPIRE) as regards to monitoring and reporting

Graphs generated with data taken from: https://inspire-geoportal.ec.europa.eu/mr2022_details.html?country=is

The date of harvest metadata: 2022-12-16, 19:57:54

Endpoint: 0f15a1d5-3ae5-4169-8cd0-1e9f14cf8baf

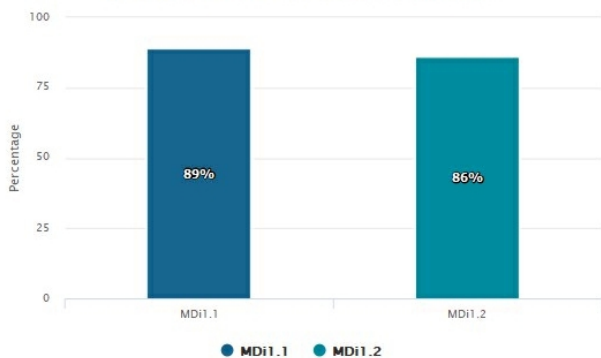
Monitoring of the availability of spatial data and service



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 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 national territory

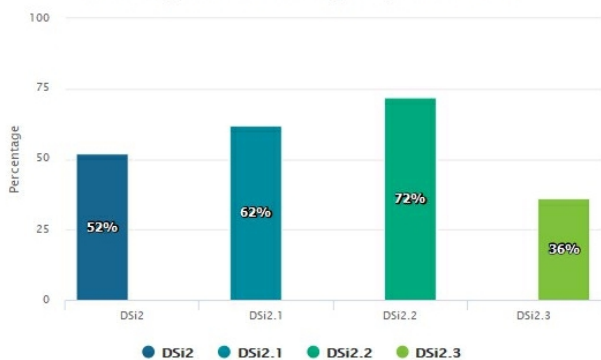
Monitoring of the conformity of metadata



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

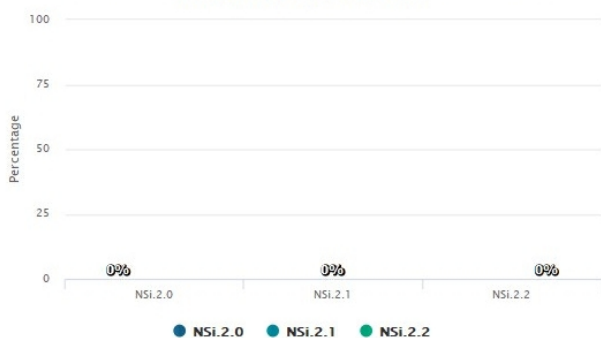
Monitoring of the conformity of spatial data sets



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 1089/2010 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

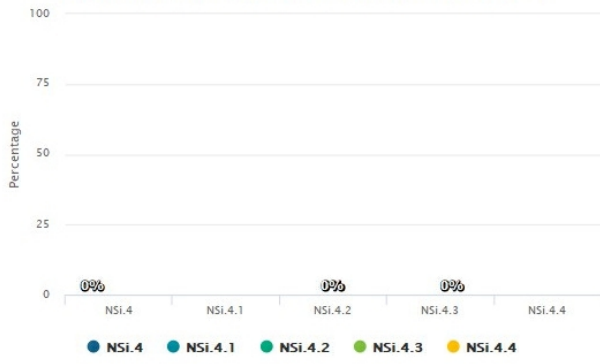
Monitoring of the accessibility of spatial data sets through view and download services



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