

Irish Spatial Data Infrastructure



Implementing the INSPIRE Directive regulations in public bodies

**Department of Environment, Community
And Local Government
2011**



Comhshaol, Pobal agus Rialtas Áitiúil
Environment, Community and Local Government



Contents

1	Introduction	5
1.1	INSPIRE Directive overview	5
1.2	Statutory Instrument	5
1.3	Governance	5
1.3.1	Irish Spatial Data Infrastructure (ISDI).....	6
1.3.2	INSPIRE Directive implementation programme.....	6
1.3.3	Technical guidance.....	6
1.3.4	INSPIRE Implementation deadlines.....	6
2	Does your organisation hold INSPIRE data?	7
2.1	Audit checklist for INSPIRE spatial datasets.....	7
2.2	Register your INSPIRE datasets with ISDI.....	8
2.3	Nominate an INSPIRE contact person for your organization.....	8
3	Who can access and reuse INSPIRE data?	9
3.1	Public access	9
3.2	Sharing with other public bodies.....	10
3.3	Access by EU Institutions and bodies.....	10
3.4	Other information regulations to be considered.....	11
3.5	Licensing and charging for INSPIRE data.....	11
4	How to publish INSPIRE Data.....	13
4.1	Overview	13
4.2	INSPIRE publishing deliverables	13
4.3	INSPIRE publishing deadlines.....	13
5	Metadata.....	14
5.1	Overview.....	14
5.2	Implementing INSPIRE metadata.....	14
5.3	ISDI Metadata Profile.....	14
5.4	Authoring ISDI metadata.....	15
5.5	Publishing INSPIRE metadata to a Discovery Service.....	15
6	Network Services.....	16
6.1	Overview	16
4.2	Network service types	16
4.3	Implementing network services	17
7	Data Specifications.....	18
5.1	Overview	18
5.2	Implementing data specifications	18

8	Data and Service Sharing	20
8.1	Overview	20
8.2	Implementing data and service sharing	20
9	INSPIRE Data Management	21
9.1	Overview	21
9.2	Implementing INSPIRE data management	21
9.2.1	Managing INSPIRE metadata	21
9.2.2	Managing INSPIRE data changes.....	21
10	INSPIRE Monitoring and Reporting.....	22
10.1	Overview.....	22
10.2	Implementing Monitoring and Reporting.....	22
10.2.1	The monitoring process.....	22
10.2.2	The reporting process.....	23
	Appendix 1 – INSPIRE spatial data themes.....	24
	Appendix 2 – INSPIRE deliverables deadlines.....	28

Document Control

Change summary

Version	Author	Description	Date
1.0	DECLG	Version 1.0 for public release	01/07/2011

Glossary of terms

spatial data

Any data with a direct or indirect reference to a specific location or geographic area [INSPIRE Directive]

spatial data set

Identifiable collection of spatial data [INSPIRE Directive]

metadata

Information describing **spatial data sets** and spatial data services and making it possible to discover, inventory and use them [INSPIRE Directive]

spatial data service

The operations which may be performed, by invoking a computer application, on the spatial data contained in spatial data sets or on the related metadata [INSPIRE Directive]

Network services

INSPIRE-compliant spatial data services, which satisfy the requirements outlined in the Implementing Rules and INSPIRE technical guidance for: Discovery, View, Download, Transformation and Invoke services.

Spatial Data Infrastructure

A formal definition of a SDI which has often been quoted in the SDI literature states that an SDI is "*the technology, policies, standards, human resources, and related activities necessary to acquire, process, distribute, use, maintain, and preserve spatial data.*"¹ Put simply, an SDI is the 'ground rules' and arrangements which are put in place to enable spatial data from separate digital databases and services to be combined seamlessly without undue difficulty and for such data to be widely available and used.²

Interoperability

Means the possibility for spatial data and services to be combined from different sources in a consistent manner, and for services to interact, without manual intervention, in such a way that the result is coherent and the added value of the data sets and services is enhanced. [INSPIRE Directive]

Data (product) Specification

A detailed description of a data set or data set series together with additional information that will enable it to be created, supplied to and used by another party [ISO 19131³]

Data Harmonisation

Providing access to spatial data through network services in a representation that allows for combining it with other harmonised data in a coherent way by using a common set of data product specifications. This includes agreements about coordinate reference systems, classification systems, application schemas, etc. (INSPIRE Registry – Glossary)

¹ US Federal Government circular issued on 19 August 2002, can be found online at:

http://www.whitehouse.gov/omb/circulars/a016/print/a016_rev.html

² Irish Spatial Data Infrastructure Consultation document – National Spatial Strategy, can be found online at:

<http://www.irishspatialstrategy.ie/isdi/Part2ISDIBackgroundIssues/1WhatisaSpatialDataInfrastructure/>

³ ISO 19131:2007 Geographic information - Data product specifications

http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=36760

1 Introduction

1.1 INSPIRE Directive overview

The INSPIRE⁴ Directive entered into force on the 15th May 2007 and sets the legal framework for the establishment of the Infrastructure for Spatial Information in the European Community, for the purposes of Community environmental policies and policies or activities which may have an impact on the environment.

The guiding principles of INSPIRE are that the infrastructures for spatial information in the Member States will be designed to ensure that spatial data are stored, made available and maintained at the most appropriate level; that it is possible to combine spatial data and services from different sources across the Community in a consistent way and share them between several users and applications; that it is possible for spatial data collected at one level of public authority to be shared between all the different levels of public authorities; that spatial data and services are made available under conditions that do not restrict their extensive use; that it is easy to discover available spatial data, to evaluate their fitness for purpose and to know the conditions applicable to their use.

1.2 Statutory Instrument

On 1 August 2010, the INSPIRE Directive was transposed into Irish law through Statutory Instrument No. 382 of 2010⁵. This regulation gives legal effect to the Directive in Ireland and outlines how the principles of the INSPIRE Directive are to be embedded and implemented across the different levels of government in the State and across the public, private and voluntary sectors. The regulations will also ensure more rigorous compliance with both the requirements and spirit of the Directive.

1.3 Governance

The Department of Environment, Community and Local Government (DECLG) is responsible for the implementation of the INSPIRE Directive in Ireland. DECLG is charged with organizing, delivering and monitoring an INSPIRE compliant Irish Spatial Data Infrastructure (ISDI). The development of data and service sharing agreements, and the Monitoring and Reporting function are also the responsibility of DECLG.

⁴ The full text of the INSPIRE Directive is available online at:
<http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2007:108:SOM:EN:HTML>

⁵ The full text of Statutory Instrument No.382 of 2010 is available online at:
<http://www.irishstatutebook.ie/2010/en/si/0382.html>

1.3.1 Irish Spatial Data Infrastructure (ISDI)

The Irish regulations have been prepared following extensive consultation with key stakeholders who are the custodians of the spatial data sets referred to in the Annexes of the Directive. To this end, and also to frame INSPIRE implementation within an overall Irish Spatial Data Infrastructure (ISDI) policy framework, an ISDI/INSPIRE Steering Committee was been established by DECLG, comprising representatives of the main public service organisations who hold spatial data. Academic and research organisations have also been consulted.

1.3.2 INSPIRE Directive Implementation Programme

In conjunction with the Regulations, an Irish INSPIRE Directive Implementation Programme⁶ is being prepared by DECLG through the ISDI/INSPIRE Steering Committee, which addresses key strategic and implementation issues which are crucial to the successful implementation of INSPIRE.

1.3.3 Technical guidance

In order to address the technical architecture required, an ISDI/INSPIRE Technical Sub-committee has been established to provide guidance on the technical issues arising from the various INSPIRE Implementing Rules and regulations.

Technical guidance documentation will be provided to public bodies by DECLG through the ISDI/INSPIRE Steering Committee. This is an identified work package under the Irish INSPIRE Directive Implementation Programme.

1.3.4 INSPIRE implementation deadlines

It is important to note that the INSPIRE Directive sets member states and public bodies that own INSPIRE data a set of specific deadlines to deliver components of the INSPIRE infrastructure. The key dates are outlined in Appendix 2 and the deliverables themselves are outlined further in this document.

2 Does your organisation hold INSPIRE data?

2.1 Audit checklist for INSPIRE spatial datasets

The Irish INSPIRE regulations cover spatial datasets which fulfill the following conditions:

- they are held by or on behalf of: a public body, having been produced or received by a public body, or being managed or updated by that body and falling within the scopes of its public tasks.

Under the terms of the Irish regulations, “public body” is interpreted as:

(a) any government or other public administration, including public advisory bodies, at national, regional or local level, and shall include a Government Department, Regional Authority, Local Authority, Office or Agency or Authority of the State;

(b) any natural or legal person performing public administrative functions under national law, including specific duties, activities or services in relation to the environment; and

(c) any natural or legal person having public responsibilities or functions, or providing public services relating to the environment under the control of a body or person falling within (a) or (b).

When bodies or institutions are acting in a judicial or legislative capacity, they are not to be regarded as a public body for the purposes of these Regulations⁷;

- they relate to an area within the jurisdiction of the Republic of Ireland;
- they already exist in electronic format;
- they relate to one or more of the spatial data themes listed in Annex I, II, or III of the directive (see Appendix 1 of this document)

More detailed information on the data covered by the INSPIRE Spatial Data Themes can be found in the following INSPIRE advisory documentation:

- Definition of Annex Themes and Scope⁸ (D 2.3, Version 3.0)
- The Data Specification documentation for the Spatial Data Themes⁹

⁷ Regulation 3(1) of Statutory Instrument No.382 of 2010

⁸ Definition of Annex Themes and Scope (D 2.3, Version 3.0)

http://inspire.jrc.ec.europa.eu/reports/ImplementingRules/DataSpecifications/D2.3_Definition_of_Annex_Themes_and_scope_v3.0.pdf

2.2 Register your INSPIRE data with the Irish Spatial Data Infrastructure

If your organisation holds INSPIRE relevant data, you are asked to contact the Planning and Spatial Policy Unit of DECLG to register your datasets as part of the Irish Spatial Data Infrastructure (ISDI). This action will also include the dataset in the INSPIRE Monitoring and Reporting process with the Commission.

2.3 Nominate an INSPIRE contact person for your organisation

Owners of INSPIRE data are also asked to nominate an INSPIRE contact person to liaise with DECLG and the ISDI project. They should also be available in the case of a request being made to their organization for access to data under the terms of the INSPIRE Directive and national regulations. In this case, further advice may also be sought from DECLG.

⁹ Annex 1 Data Specifications are only available at time of writing - <http://inspire.jrc.ec.europa.eu/index.cfm/pageid/2>

3 Who can access and reuse INSPIRE data?

The ownership of INSPIRE data puts certain obligations on public bodies under the Irish regulations. Data owners must try to make the data as available as possible for publication and subsequent reuse. However certain terms and conditions regarding access and reuse must be observed. This section explains the relevant issues involved.

3.1 Public access

The INSPIRE Directive states that “in every particular case, the public interest served by disclosure shall be weighed against the interest served by limiting or condition the access.”¹⁰

However, spatial datasets, series or services covered by the INSPIRE directive do not have to be made available to the public if any of the following conditions apply:

- it is not in electronic format;
- the Intellectual Property Rights or copyright of the data, or part thereof, belongs to a third party that has not given permission for its re-use;
- the protection of the environment to which such information relates, such as the location of rare species;
- it effects the confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of that information to the public;
- the interests or protection of any person who supplied the information on a voluntary basis without a legal obligation to do so, and who also has not given permission to disclose this information;
- it is sensitive to international relations, public security or national defence;
- the confidentiality of commercial or industrial information, where such confidentiality is provided for by national or Community law to protect a legitimate economic interest, including the public interest in maintaining statistical confidentiality and tax secrecy;
- the confidentiality of the proceedings of public authorities, where such confidentiality is provided for by law;
- the course of justice, the ability of any person to receive a fair trial or the ability of a public authority to conduct an enquiry of a criminal nature.

¹⁰ Article 13 (2) of the INSPIRE Directive

NOTE:

- ❖ Member states may not limit access to information on emissions into the environment.
- ❖ INSPIRE digital spatial datasets and services which are not publicly accessible for reuse must still have an ISDI metadata record authored and maintained for reference within the infrastructure. The metadata record must acknowledge the existence of the data resource and outline the relevant restrictions on its reuse and access.

3.2 Sharing with other public bodies

The Irish INSPIRE regulations require that:

- *Public bodies shall adopt measures for the sharing of spatial data sets and services between the public bodies...*
- *These measures shall enable the public bodies to gain access to spatial data sets and services, and to exchange those sets and services, for the purposes of public tasks that may have an impact on the environment.*
- *The measures...shall preclude any restrictions likely to create practical obstacles, occurring at the point of use, to the sharing of spatial data sets and services.¹¹*

These required measures may be addressed by public bodies by participating in the Irish Spatial Data Infrastructure project and signing up to the ISDI Data Sharing Agreement.

3.3 Access by EU Institutions and bodies

The arrangements for the sharing of spatial data sets and services, for the purposes of public tasks that may have an impact on the environment, may extend to include:

- public bodies of other member states;
- the institutions and bodies of the Community;
- to bodies established by international agreements to which the Community and Ireland are parties.

NOTE:

- ❖ These arrangements may be accompanied by requirements under Irish law conditioning their use.

¹¹ Regulation 7(1) and (2) of Statutory Instrument No.382 of 2010

- ❖ Metadata must include the conditions applying to access and use of the data resource by Community institutions and bodies (see sections on Metadata, and Data and Service Sharing in this document).

3.4 Other information regulations to be considered

Data owners should note that access to environmental information in public bodies is also determined by other complimentary European directives and national legislation, namely:

- European Communities (Access to Information on the Environment regulations) 2007¹²
- European Communities (Re-Use of Public Sector Information) Regulations 2005, 2008¹³
- Freedom of Information Act 2007¹⁴
- Data Protection Act¹⁵

The INSPIRE Directive and Irish regulations aim to operate in a complimentary fashion to these data access regulations.

3.5.1 Licensing and Charging for INSPIRE data

The Irish INSPIRE regulations give direction on the issue of licensing and charging on INSPIRE datasets, the following provisions should be noted where applicable:

- Public bodies that supply INSPIRE datasets and services may license them to, and/or require payment from, other public bodies or institutions and bodies of the Community that use these spatial datasets and services.
- Charges and licenses must be fully compatible with the general aim of facilitating the sharing of spatial data sets and services between public bodies.

¹² Statutory Instrument No. 133 of 2007 is available on line at:

<http://www.irishstatutebook.ie/2007/en/si/0133.html>

¹³ Statutory Instrument No. 279 of 2005 and Statutory Instrument No. 103 of 2008

¹⁴ <http://www.irishstatutebook.ie/1997/en/act/pub/0013/index.html>

¹⁵ Data Protection Acts 1988 and 2003

<http://www.irishstatutebook.ie/2003/en/act/pub/0006/index.html>

- Where charges are made, these shall be kept to the minimum required to ensure the necessary quality and supply of spatial data sets and services together with a reasonable return on investment, while respecting the self-financing requirements of public bodies supplying spatial data sets and services.
- Spatial data sets and services provided to Community institutions and bodies in order to fulfill reporting obligations under Community legislation relating to the environment shall not be subject to any charging.¹⁶

¹⁶ Regulation 7(3) of Statutory Instrument No.382 of 2010

4 How to Publish INSPIRE Data

4.1 Overview

The INSPIRE Directive requires Irish public bodies to make their INSPIRE data available via the Irish Spatial Data Infrastructure into the wider European INSPIRE network.

To achieve this objective, public bodies will have to work in partnership with the Irish Spatial data Infrastructure project and DECLG to build the necessary components of this infrastructure. Public bodies holding INSPIRE data will have to contribute to the Irish Spatial Data Infrastructure by establishing a number of web data services and spatial data publishing workflows.

It should be noted that these web data services (referred to in INSPIRE as Network services) and publishing workflows will require a commitment of staff time and budget by public bodies to establish and to maintain into the future.

4.2 INSPIRE publishing deliverables

The main areas of concern for public bodies are:

- Metadata
- Network Services
- Data Specifications
- Data and Service Sharing
- INSPIRE Data Management

These deliverables are guided by technical guidance documents and common Implementing Rules published by the Commission. The Implementing Rules are published for consultation before being finalized as binding EU regulations or decisions.

This document addresses each of these areas in succession and provides an overview of each of the deliverables. DECLG will be issuing ISDI technical guidance documents on each of these deliverables through the Irish INSPIRE Directive Implementation Programme which is being managed by the INSPIRE/ISDI Steering Committee.

4.3 INSPIRE publishing deadlines

There are a number of INSPIRE publishing deadlines set by the Commission that public bodies must meet. These deadlines are outlined in Appendix 2 and will be managed by DECLG through the Irish Monitoring and Reporting process.

5 Metadata

5.1 Overview

Metadata, put simply, is a detailed description of the content and quality of a data resource. Metadata is an important building block in the INSPIRE spatial data infrastructure. Each metadata record should include sufficient detail about a spatial information resource so as to allow a user to make an accurate judgment on its content, quality, currency and conditions of access and re-use.

The INSPIRE metadata regulation entered into force on the 24th December 2008. It covers three different types of spatial data resources: spatial dataset; spatial dataset series; spatial data service.

5.2 Implementing INSPIRE Metadata

The following steps are suggested for organisations that must prepare metadata for INSPIRE data resources:

1. Review the ISDI Metadata Profile and the INSPIRE metadata regulation¹⁷
2. Author metadata for spatial datasets, series and services using an ISDI approved metadata editor
3. Publish metadata into an ISDI associated Discovery Service (online Metadata Catalogue)

5.3 ISDI Metadata Profile

The ISDI Metadata Profile has evolved from the Irish Spatial Data Exchange (ISDE) project which was developed by the Marine Institute. The ISDE community metadata profile is designed to be compliant with the ISO 19115 standard and shall follow the INSPIRE metadata regulation and Implementing Rules. It has been adopted by the ISDI/INSPIRE Steering Committee as the official national metadata profile for ISDI and INSPIRE data publishing.

¹⁷ The INSPIRE metadata regulation may be found online at:
<http://inspire.jrc.ec.europa.eu/index.cfm/pageid/101>

5.4 Authoring ISDI Metadata

The ISDI Metadata Profile is available through the Irish Spatial Data Exchange metadata editor, which is currently based on open source software. Access to the editor can be arranged by contacting DECLG and by registering with ISDI as a participating organisation.

NOTE:

Metadata must include the conditions applying to access and use for Community institutions and bodies; this will allow access and reuse conditions for the European level to be transparent at the discovery stage. (See section on Data and Service Sharing in this document)

5.5 Publishing INSPIRE metadata to a Discovery Service (on-line metadata catalogue)

Formally registering your dataset in the Irish Spatial Data Infrastructure will give you access to the ISDI geoportal website and its discovery service which will publish your INSPIRE metadata records at a national level. This will allow your dataset to be discovered at European level through the INSPIRE Geoportal¹⁸.

Data providers are encouraged to go beyond their INSPIRE obligations and to use the national discovery service to advertise additional spatial information that is available for re-use by third parties.

¹⁸ The INSPIRE Geoportal website can be viewed at: <http://www.inspire-geoportal.eu/>

6 Network Services

6.1 Overview

The Irish INSPIRE regulations require public bodies to:

- To make metadata and spatial datasets and services accessible through Network Services as defined by the INSPIRE Directive.
- To input into national Network Services hosted by ISDI which publish the data for the INSPIRE spatial data themes according to the data specifications.
- These services must take into account relevant user requirements and should be easy to use, available to the public and accessible via the internet or any other appropriate means of telecommunication.

The requirements and functionality needed are detailed in the INSPIRE Network Service regulation and the technical guidance documents that cover the implementation of these Network Services¹⁹

6.2 Network service types

The main types of Network Service relevant to the Directive are:

- Discovery Service: these consist of online metadata catalogue services which are interoperable over the internet. They make it possible to search for spatial data and services on the basis of the content of their metadata.
- View Service: these make data viewable as live layers over the internet. The base specification of an INSPIRE View Service is ISO 19128:2005(E) international standard. Although this specification lays down the basic behaviour of an INSPIRE View Service, some aspects need to be extended or profiled with respect to the requirements of the INSPIRE Directive and the Implementing Rules for View services. Detailed information on the additional requirements is available in the INSPIRE Technical Guidance document for View Services.
- Download Service: these allow copies of spatial datasets, or parts of such sets, to be downloaded and, where practicable, accessed directly.

¹⁹ The Network Services regulation and supporting guidance documentation can be found online at: <http://inspire.jrc.ec.europa.eu/index.cfm/pageid/5>

- Transformation Service: these enable spatial datasets to be transformed with a view to achieving interoperability. This is to allow datasets to be transformed into a schema that is conformant with its relevant INSPIRE Data Specification (see section on INSPIRE Data Specifications).
- Invoke Service: these allow spatial data services to be invoked. The Implementing Rules for this service type are not yet available.

6.3 Implementing network services

The Irish INSPIRE Implementation Programme is producing a series of guidance documents for public bodies on each of these Network Services. These will be produced when the technical guidance has been finalised by the Commission. The ISDI guidance material will be made available to organisations when they register as participants in the Irish Spatial Data Infrastructure.

7 Data Specifications

7.1 Overview

Interoperability in INSPIRE means the possibility to combine spatial data and services from different sources across the European Community in a consistent manner. It is important to note that “interoperability” is understood as providing access to harmonized spatial data sets through network services, typically via the Internet. Interoperability may be achieved by either changing (harmonising) and storing existing data sets or transforming them via future ISDI services for publication in the INSPIRE infrastructure.

The INSPIRE directive classifies spatial data into 34 spatial data themes, which are listed in Annexes 1, 2 and 3 of the directive (See Appendix 1 of this document). Each of the spatial data themes has its own **Data Specification** associated with it. The Data Specification documentation aims to harmonise datasets according to the INSPIRE spatial data theme models; this will ensure their interoperability between public organizations and the wider European INSPIRE network

7.2 Implementing Data Specifications

Existing datasets held by public bodies will have to be harmonised into the relevant Data Specification model for each INSPIRE spatial data theme.

Many of the INSPIRE spatial data theme specifications will require data to be compiled from two or more different public bodies, and this will require significant coordination between public bodies and their publishing workflows. This will result in a national view of each INSPIRE spatial data theme that conforms to the schema of the relevant Data Specification.

There are different methods available to public bodies to achieve this deliverable and they are currently being examined by the ISDI Technical Sub-committee.

Option 1: Public bodies publish their own spatial data to INSPIRE schema

This involves public bodies transforming their spatial data into the relevant INSPIRE Data Specification schema themselves for publication. Integration into the national version of the INSPIRE spatial data theme will occur through web services and will be presented through the national ISDI Geoportal website.

Option 2: Public bodies publish spatial data via a central ISDI transformation service to INSPIRE Schema

This involves public bodies supplying their data in its native format to a central resource, either through on-line services or offline means. The data is then transformed either automatically or manually into the relevant national view of the INSPIRE spatial data theme and published into the INSPIRE network.

The INSPIRE Data Specification and transformation processes will be covered fully in a separate technical guidance document which is to be delivered as part of the INSPIRE Implementation Programme.

8 Data and Service Sharing

8.1 Overview

Public bodies holding INSPIRE data will be required to sign up to an ISDI Data and Service Sharing Agreement. The agreement will be based on existing Irish data sharing agreements and will be adapted, where necessary, to ensure compliance with the requirements of the INSPIRE Data and Service Sharing regulation.²⁰

The main points of the Regulation can be summarised as the following:

- Metadata must include the conditions applying to access and use for Community institutions and bodies; this will facilitate their evaluation of the available specific conditions already at the discovery stage.
- Member States are requested to provide access to spatial data sets and services without delay and at the latest within 20 days after receipt of a written request; mutual agreements may allow an extension of this standard deadline.
- If data or services can be accessed under payment, Community institutions and bodies have the possibility to request Member States to provide information on how charges have been calculated.
- While fully safe-guarding the right of Member States to limit sharing when this would compromise the course of justice, public security, national defence or international relations Member States are encouraged to find the means to still give access to sensitive data under restricted conditions, (e.g. providing generalized datasets) Upon request, Member States should give reasons for these limitations to sharing.

8.2 Implementing a Data and Service Sharing Agreement

The proposed ISDI Data and Service sharing Agreement will cover the obligations of public bodies in terms of the INSPIRE Data and Service Sharing regulation.

Data owners should also note that there is a requirement to document the conditions applying to access and use for Community institutions and bodies in the metadata of their INSPIRE datasets and services. The ISDI project will produce guidance on the standard licenses for public bodies to use for this purpose, and also for cases where charging is applicable.

²⁰ The INSPIRE Data and Service Sharing regulation can be found online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32010R0268:EN:NOT>

9 INSPIRE Data Management

9.1 Overview

INSPIRE data owners are obliged by the Irish regulations and the INSPIRE Directive to maintain their INSPIRE data resources, metadata and network services. They must manage changes made to the source datasets and make certain that they are reflected in the national INSPIRE network services for the relevant Data Specification.

9.2 Implementing INSPIRE Data Management

Public bodies should establish clear policies for the management of INSPIRE data resources and services. An INSPIRE publishing process with a clear outline of roles, responsibilities, and publishing workflows should be agreed and documented. This process should be integrated into data management strategies that exist in public bodies.

9.2.1 Managing INSPIRE Metadata

The Irish INSPIRE regulations require that the metadata for INSPIRE data resources are kept up to date.²¹ Data updates should not be issued (or received) for INSPIRE data resources unless it is accompanied by a reference to an accurate and compliant ISDI metadata record.

NOTE:

Metadata is best maintained as close to the source of data creation as possible. The author of the metadata should ideally be the person with the most knowledge of the dataset and is responsible for its content, e.g. a Planner should author and publish metadata for the update of a Development Plan zoning dataset.

9.2.2 Managing INSPIRE data changes

Updates to source INSPIRE datasets should be reflected in the national INSPIRE data specification network services as soon as the change is published by the data owner.

²¹ Regulation 4(1) of Statutory Instrument No.382 of 2010

10 INSPIRE Monitoring and Reporting

10.1 Overview

The INSPIRE Directive requires Member States to monitor the implementation and use of their infrastructures for spatial information and to report on the implementation of the Directive back to the Commission.²² DECLG is the Legally Mandated Organisation responsible for the INSPIRE Monitoring and Reporting for the Irish Spatial Data Infrastructure.

10.2 Implementing INSPIRE Monitoring and Reporting

DECLG has already taken the first step in the monitoring process by establishing a list of the spatial data sets and services corresponding to the themes listed in Annexes I, II and III of the directive.

Irish public bodies are required to monitor their own ongoing compliance with the INSPIRE regulations. They must respond to an annual DECLG Monitoring survey on the INSPIRE compliance of their datasets and services. The results of this survey are published on the DECLG website and also on the European INSPIRE website.

10.2.1 The monitoring process

The Monitoring process is based on a quantitative approach. The list of spatial datasets and services should basically reflect the Member State's plans for the implementation of INSPIRE. Based on the information collected for all the items of the list, indicators can be calculated to evaluate:

- Existence of metadata for spatial data sets and services
- Conformity of metadata for spatial data sets and services with the implementing rules on metadata
- Geographical coverage of spatial data sets
- Conformity of spatial data sets with the data specifications and of their metadata with the implementing rules on metadata

²² The Commission decision on INSPIRE Monitoring and Reporting can be found online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009D0442R%2801%29:EN:NOT>

- Accessibility of metadata for spatial data sets and services through discovery services
- Accessibility of spatial data sets through view and download services
- Use of network services
- Conformity of network services to the implementing rules on network services

These indicators are used in the annual survey carried out by DECLG

10.2.2 The reporting process

The reporting process is based on a qualitative approach. Member states will provide information on five main areas:

- Coordination and quality assurance, including information on the Member State contact point and the coordination structure, as well as a description and evaluation of the quality assurance procedure, including measures taken to improve it
- Contribution to the functioning and coordination of the infrastructure, including an overview of the stakeholders and of their roles, the measures taken to facilitate sharing and a description on how they cooperate
- Use of the infrastructure for spatial information, in general and by public authorities in particular; examples of cross border use and efforts made to improve it
- Data sharing arrangements between public authorities of the Member State, between public authorities and Community institutions and bodies as well as barriers to sharing
- Cost and benefit aspects; an estimate of the costs related to INSPIRE Directive and examples of the observed benefits.

Appendix 1

List of Spatial Data Themes defined in the INSPIRE Directive:

ANNEX I

Coordinate reference systems

Systems for uniquely referencing spatial information in space as a set of coordinates (x,y,z) and/or latitude and longitude and height, based on a geodetic horizontal and vertical datum.

Geographical grid systems

Harmonised multi-resolution grid with a common point of origin and standardised location and size of grid cells.

Geographical names

Names of areas, regions, localities, cities, suburbs, towns or settlements, or any geographical or topographical feature of public or historical interest.

Administrative units

Units of administration, dividing areas where Member States have and/or exercise jurisdictional rights, for local, regional and national governance, separated by administrative boundaries.

Addresses

Location of properties based on address identifiers, usually by road name, house number, postal code.

Cadastral parcels

Areas defined by cadastral registers or equivalent.

Transport networks

Road, rail, air and water transport networks and related infrastructure. Includes links between different networks.

Hydrography

Hydrographic elements, including marine areas and all other water bodies and items related to them, including river basins and sub-basins.

Protected sites

Area designated or managed within a framework of international, Community and Member States' legislation to achieve specific conservation objectives.

ANNEX II

Elevation

Digital elevation models for land, ice and ocean surface. Includes terrestrial elevation, bathymetry and shoreline.

Land cover

Physical and biological cover of the earth's surface including artificial surfaces, agricultural areas, forests, (semi-)natural areas, wetlands, water bodies.

Orthoimagery

Geo-referenced image data of the Earth's surface, from either satellite or airborne sensors.

Geology

Geology characterised according to composition and structure. Includes bedrock, aquifers and geomorphology.

ANNEX III**Statistical units**

Units for dissemination or use of statistical information.

Buildings

Geographical location of buildings.

Soil

Soils and subsoil characterised according to depth, texture, structure and content of particles and organic material, stoniness, erosion, where appropriate mean slope and anticipated water storage capacity.

Land use

Territory characterised according to its current and future planned functional dimension or socio-economic purpose (e.g. residential, industrial, commercial, agricultural, forestry, recreational).

Human health and safety

Geographical distribution of dominance of pathologies (allergies, cancers, respiratory diseases, etc.), information indicating the effect on health (biomarkers, decline of fertility, epidemics) or well-being of humans (fatigue, stress, etc.) linked directly (air pollution, chemicals, depletion of the ozone layer, noise, etc.) or indirectly (food, genetically modified organisms, etc.) to the quality of the environment.

Utility and governmental services

Includes utility facilities such as sewage, waste management, energy supply and water supply, administrative and social governmental services such as public administrations, civil protection sites, schools and hospitals.

Environmental monitoring facilities

Location and operation of environmental monitoring facilities includes observation and measurement of emissions, of the state of environmental media and of other ecosystem parameters (biodiversity, ecological conditions of vegetation, etc.) by or on behalf of public authorities.

Production and industrial facilities

Industrial production sites, including installations covered by Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control and water abstraction facilities, mining, storage sites.

Agricultural and aquaculture facilities

Farming equipment and production facilities (including irrigation systems, greenhouses and stables).

Population distribution – demography

Geographical distribution of people, including population characteristics and activity levels, aggregated by grid, region, administrative unit or other analytical unit.

Area management/restriction/regulation zones and reporting units

Areas managed, regulated or used for reporting at international, European, national, regional and local levels. Includes dumping sites, restricted areas around drinking water sources, nitrate-vulnerable zones, regulated fairways at sea or large inland waters, areas for the dumping of waste, noise restriction zones, prospecting and mining permit areas, river basin districts, relevant reporting units and coastal zone management areas.

Natural risk zones

Vulnerable areas characterised according to natural hazards (all atmospheric, hydrologic, seismic, volcanic and wildfire phenomena that, because of their location, severity, and frequency, have the potential to seriously affect society), e.g. floods, landslides and subsidence, avalanches, forest fires, earthquakes, volcanic eruptions.

Atmospheric conditions

Physical conditions in the atmosphere. Includes spatial data based on measurements, on models or on a combination thereof and includes measurement locations.

Meteorological geographical features

Weather conditions and their measurements; precipitation, temperature, evapotranspiration, wind speed and direction.

Oceanographic geographical features

Physical conditions of oceans (currents, salinity, wave heights, etc.).

Sea regions

Physical conditions of seas and saline water bodies divided into regions and sub-regions with common characteristics.

Bio-geographical regions

Areas of relatively homogeneous ecological conditions with common characteristics.

Habitats and biotopes

Geographical areas characterised by specific ecological conditions, processes, structure, and (life support) functions that physically support the organisms that live there. Includes terrestrial and aquatic areas distinguished by geographical, abiotic and biotic features, whether entirely natural or semi-natural.

Species distribution

Geographical distribution of occurrence of animal and plant species aggregated by grid, region, administrative unit or other analytical unit.

Energy resources

Energy resources including hydrocarbons, hydropower, bio-energy, solar, wind, etc.,

where relevant including depth/height information on the extent of the resource.

Mineral resources

Mineral resources including metal ores, industrial minerals, etc., where relevant including depth/height information on the extent of the resource.

Appendix 2

The tables below summarise the deadlines for INSPIRE deliverables.

2010 to 2011 deliverables

Deadline	Deliverable
May 2010	Implementation of provisions for monitoring and reporting
Dec 2010	Metadata available for spatial data corresponding to Annex I and II
May 2011	Discovery and View Services operational with Initial Operating Capability.
Oct 2011	Implementation of Data Sharing Agreement for access to data and services of the Member States by Community institutions and bodies under harmonised conditions for new arrangements
Nov 2011	Discovery and View Services operational in conformity with the INSPIRE Network Services Regulation.

2012-2013 deliverables

Deadline	Deliverable
Nov 2012	Newly collected and extensively restructured Annex I spatial data sets available in accordance with Data Specifications IRs
December 2012	Transformation services operational
December 2012	Download services operational
April 2013	Implementation of Data Sharing Agreement for access to data and services of the Member States by Community institutions and bodies under harmonised conditions for new arrangements
December 2013	Metadata available for spatial data corresponding to Annex III

2014-2019 deliverables

Deadline	Deliverable
Dec 2014	Newly collected and extensively restructured Annex II and III spatial data sets available in accordance with Data Specifications IRs
Feb 2018	Other Annex I spatial data sets available in accordance with Data Specification IRs
Oct 2019	Other Annex II and III spatial data sets available in accordance with Data Specification IRs