

Introduction

The EU INSPIRE directive lays down a general framework for the establishment of a Spatial Data Infrastructure (SDI) for Europe.

Its primary objective is to facilitate data exchange, data sharing and data re-use, for the purposes of effective governance and policy making purposes. It is based on an infrastructure for spatial information, established and operated by the Member States (MS), and requires full implementation by 2019.

INSPIRE is European legislation which was enacted into UK Law December 2009. Regulatory details are contained in a set of Implementing Rules (IR) that are being drafted. UK plans for the implementation of INSPIRE are included in the UK Location Programme under the auspices of the UK Location Council.

What is a Spatial Data Infrastructure?

An SDI can be defined as a framework for coordinating the collection, use and implementation of spatial information. The UK Location Programme refers to the UK's SDI as the Location Information Infrastructure (LII). INSPIRE seeks to create a European SDI and the INSPIRE Directive defines it thus: “'infrastructure for spatial information' means metadata, spatial data sets and spatial data services; network services and technologies; agreements on sharing, access and use; and coordination and monitoring mechanisms, processes and procedures, established, operated or made available in accordance with this Directive”.

Who will benefit from INSPIRE?

The ability to share and use interoperable spatial data ultimately benefits everyone even if they are not direct users. However a number of particular sectors can be identified:

- Governments at all levels (EU, National, Regional and Local) will all benefit from a better infrastructure for policy-making, implementation and monitoring. Although the datasets have an environmental bias, the inclusion of the vital underlying reference information, means that many other organisations will effectively benefit from INSPIRE. Almost all government systems have an element of spatial data and they may benefit from adaptation to INSPIRE rules making them more interoperable.
- Businesses will exploit the information for commercial use and as part of services that they provide to the public sector. INSPIRE provides an opportunity for suitable SMEs in the software, data and other fields to develop products which are targeted at niche markets.

- Academics and researchers in a wide range of fields are also likely to make use of data made interoperable in compliance with the Directive. The ability to make seamless connections across the wide range of data types will gradually open up new opportunities for understanding all kinds of change processes and will also enable much easier international comparisons.
- The public is already making much more use of spatial information, especially through various viewing services, as also are non-governmental and community organisations. The wider availability of interoperable datasets will better inform democracy and decision making at all levels and also contribute to economic savings and growth.

Why is spatial information important to European legislators and administrators?

Spatial data can answer ‘what if?’ questions, especially if the datasets are made interoperable across different systems. It can therefore help to underpin good governance including the protection of the environment; economic and social development; and properly informed public participation. The initial motivation for creating a European SDI was to enhance the formulation, implementation and monitoring of environmental policies, in the context of cross border environmental impacts and climate change. This environmental orientation has been a main driving force for the Directive and the themes to be covered are listed below.

To help manage the environment more effectively the EU needs better provision of spatial data to support policy making; better spatial data flows between systems to support these policies; and better sharing of this data between governments, agencies and citizens. Currently Europe lacks standards for the provision of spatial data and there have been no pan-EU directives for sharing or coordinating of such data. Hence the need for INSPIRE. The infrastructure <http://prezi.com/n8ui3umrjxfh/e> created by INSPIRE for environmental monitoring should also prove suitable for many other purposes across the EU.

What does INSPIRE aim to achieve?

The Directive creates the framework for spatial information covered by the themes listed below to be collected, stored, manipulated and made available in a more standardized electronic environment to facilitate sharing of information by public sector organisations, commercial enterprises and citizens. In a nutshell, the Directive mandates an overriding obligation on Member States to make sure that data is accessible, that it can be shared and used for public tasks that may have an impact on the environment.

It should enable data from one Member State to be seamlessly combined, cross-border, with data from all other States. The Directive aims to make it relatively easy to find spatial data using the web through a discovery service (a UK example is the AGI’s gigateway metadata service), and enable it to be used for a variety of ‘value added’ purposes such as ‘view’, ‘download’ and ‘transformation’. The Directive deals with a number of related issues, such as safeguarding privacy and upholding intellectual property rights.

As for data charging and licencing - a pertinent topic in the UK - whilst Member States may permit it, the Directive makes clear that spatial data charges and licences should be compatible with the principle aim of sharing spatial data and services between public bodies. Should charging and or licencing be proved to be a major obstacle to this principle aim, then Member States are to find a solution to remove this obstacle. Failure to do so, when there are justified reasons to do so, would be an infringement of the INSPIRE Directive.

What types of spatial information will be made available?

Thirty four “spatial data themes” have been defined in three Annexes in order of priority. Annex I datasets cover the ‘basic’ spatial building blocks.

Annex I: Coordinate reference & grid systems, geographical names, administrative units, addresses, cadastral parcels, transport networks, hydrography, protected sites

Annex II: elevation, land cover, ortho-imagery, geology,

Annex III: statistical units, buildings, soil, land use, human health and safety, utility government services, environmental monitoring facilities, production and industrial facilities, agricultural and aquaculture facilities, population & demography, area management/ restriction/regulation zones and reporting units, natural risk zones, atmospheric conditions, meteorological geographical features, oceanographic geographical features, sea regions, bio-geographical regions, habitats and biotypes, species distribution, energy resources, mineral resources.

Newly acquired Annex I datasets will be made available from 2011, with existing datasets and datasets covered by the other Annexes at later dates.

Will we need to collect more spatial information?

The Directive specifically states that no new data will need to be collected. However it does require that two years after adoption of the relevant Data Specifications each Member State should ensure that all newly collected spatial data sets covered by the Annexes are made available in conformity with the IR. Existing data sets must conform to the Rules within seven years of their adoption.

Who will be affected by the INSPIRE Directive?

Potentially all users and prospective users of spatial information will be affected. All public bodies will be required to create metadata (descriptions of the spatial data they make available i.e. 'data about data'), and to provide access to datasets that they have collected or created, in standard form through 'network services'. This will require much greater openness and, in some cases, more expertise than may be currently available. Commercial users and the general public should get better and more consistent access, though not necessarily free of charge, to a set of products and services that they will find useful in themselves or as resources to which value can be added.

How will INSPIRE Work?

Five sets of Implementing Rules are being drafted - Metadata (completed); Network services (in progress); Data specifications (in progress); Data and service sharing ; Monitoring and reporting (completed). The Drafting Teams working on these IRs are composed of international experts and the process is proceeding with very open consultation - particularly with Spatial Data Interest Communities (such as the Association for Geographic Information) and Legally Mandated Organisations (such as National Mapping Organisations).

What is the implementation time-scale?

The Directive was published in 2007 and should be transposed into most Member States' laws by the end of 2009. Implementing Rules are being adopted according to a phased 'roadmap' between 2008 and 2012 with compliance required between 2010 and 2019. It is expected that the infrastructure will be fully in place by 2019.

Where is more information about INSPIRE available?

1. The EC Joint Research Centre web site <http://inspire.jrc.ec.europa.eu/index.cfm> provides background and up-to-date information regarding INSPIRE
2. Official UK Government activity on INSPIRE is documented on the UK Location Programme website: <http://www.defra.gov.uk/location/>
3. AGI also publish news and maintain an up to date list of contacts and activities on its own website: www.agi.org.uk

References

1. 'Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007, Establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)', available from <http://inspire.jrc.ec.europa.eu/index.cfm>
2. The timetable for INSPIRE is shown at <http://inspire.jrc.ec.europa.eu/index.cfm/pageid/44>
3. <http://www.defra.gov.uk/location/>