

Introduction to SDIs

A **Spatial Data Infrastructure (SDI, IDE in its Spanish acronym)** is the virtual network structure integrating georeferenced data and interoperable geographic information services distributed across different information systems. Georeferenced data must be accessible over the Internet with a minimum of standardised protocols and specifications that allow:

- Data to be located through its published metadata by means of CSW discovery services.
- To view the data through view services such as WMS/WMTS.
- To access or consult data through download services such as WFS/ATOM Feed/WCS.



To ensure that geographic information created by the institutions is shared and its use promoted among citizens and society in general, the following is necessary:

1) Establish a **legal framework**.

The European Union establishes a **common Spatial Data Infrastructure** based on the geographic information infrastructures created by the Member States. The legal framework governing this infrastructure is Directive 2007/2/EC of 14 March 2007 establishing a spatial information infrastructure in the European Community ([INSPIRE](#)). The **transposition of INSPIRE** into the Spanish legal framework is done by means of Law 14/2010 of 5 July on infrastructures and geographic information services in Spain ([LISIGE](#)), which provides the foundation for constitution of the [Spanish Geographic Information Infrastructure](#).

The creation of network services (view, download, and discovery), metadata, and the structure and characteristics of geographic data are regulated by the following INSPIRE Directive regulations.

- Regulation (EU) No. 1089/2010 as regards the interoperability of spatial data sets and services.
- Regulation as amended (EC) No. 976/2009 as regards network services.
- Regulation (EC) No. 1205/2008 as regards metadata.

2) Implement a **geoportal** to make the SDI accessible.

3) Develop clients or web applications, such as viewers and catalogues, that allow the viewing of data and use of other web services the SDI makes available to the user, and to provide access to all these developments, for example, through a **platform**.

4) Publish a **geographic information catalogue** that makes it possible to search for data sets and services through the metadata content.

One of the most important features to be able to offer this is the **Interoperability**, as this is what makes it easy for a user to locate and share the information, services, and applications they need regardless of the platform they use or their geographic location.

Standardisation of digital geographic information from the SDIs is done through Regulation (EU) No. 1089/2010 concerning the interoperability of spatial data sets and services and the following standardisation bodies that adopt the ISO 19100 series:

- Internationally, ISO (International Organization for Standardization), with its international committee [ISO/TC211-Geographic Information](#).
- On the European level, CEN (European Committee for Standardization), through the Committee's **CEN/TC 287**.
- In Spain, collaboration with European and international standardisation bodies is carried out through the technical committee [AEN/CTN 148](#) from AENOR (Spanish Association for Standardisation and Certification).