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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 2019](#) acquired in December 2019 and Member States update.

State Of Play

A high-level view on the governance, use and impact of the INSPIRE Directive in Spain. More detailed information is available on the [INSPIRE knowledge base](#).

Coordination

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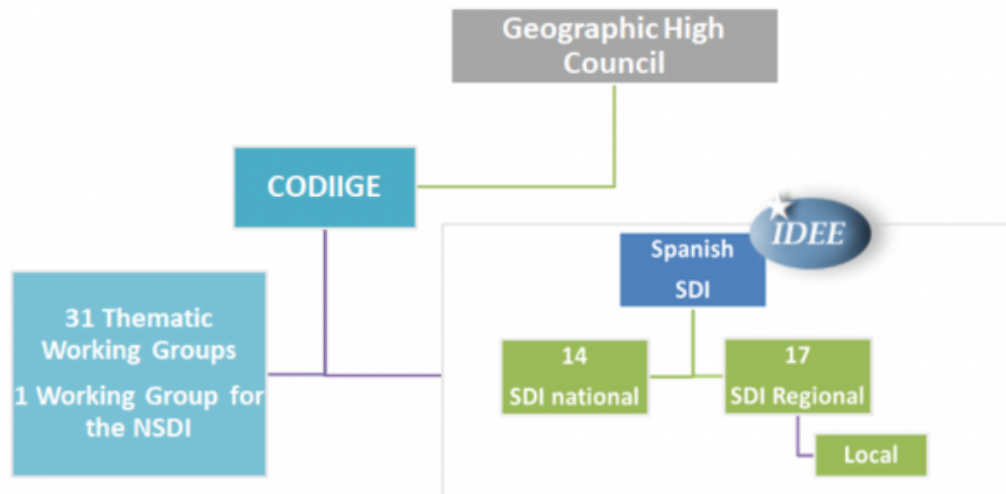
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Coordination Structure & Progress: Coordination Structure

- Geographic High Council (CSG) is the director body of the National Cartographic System (SCN), having consultation and planning role for the official geographic information and cartography. CSG is the National Contact Point for INSPIRE and the coordination and direction for the National SDI - *Infraestructura de Información Geográfica de España (IDEE)*;
- CSG created the Executive Board of the Geographic Information Infrastructure of Spain (CODIIGE) for managing and controlling IDEE. It has executive power;
- Depending on CODIIGE, there are 31 Thematic Working Groups (GTT), (one per INSPIRE Theme although some are grouped) with representation of all institutions with responsibility for data and/ or services under scope of INSPIRE. Furthermore, there are four transversal Working Groups (Metadata and catalogue; Architecture, standards and web services; Monitoring and reporting; Data and services policy);
- The CODIIGE deal with interinstitutional coordination: the organization of National SDI (IDEE) is based on 14 national nodes and 17 regional nodes; each regional node establishes the necessary coordination with the local administration and other agents. The coordination structures of the nodes have different typologies;
- Finally, there is a Working Group for the NSDI (GTIDEE) with representatives from public and private sector and academia.

Progress

- Set up of coordination structure (CODIIGE and GTT- Working groups technical) to generate long term cohesion of thematic communities.
- Big effort on training, seminars, events at regional and local levels; twitter @IDEESpain, electronic monthly bulletin "SobreIDEs" <http://www.idee.es/boletin-sobre-ides>
- The **X Iberian Conference on Spatial Data Infrastructures 2019** was held in Cáceres on 23, 24 and 25 October under the slogan "Local SDIs, bringing digital information closer to citizens".
- Further development & implementation of the corporative SIG (geographic information system) of Ministry of Ecological Transition, MITECO, and Ministry of Agriculture, Fishing and Food, MAPA using INSPIRE standard technologies and the SDI MITECO a geoportal & web services.
- A Geographic Information Inter-ministerial Group (GIIG) has been created. It is composed the MITECO and MAPA units working with GI and one of its responsibilities is to coordinate INSPIRE activities.
- Unified coordination of inventory of data sets related with INSPIRE themes & their obligations regarding the EEA.

Functioning and coordination of the infrastructure

- Spanish SDI Geoportal, called IDEE. (See www.idee.es)
- Each Autonomous Community (Region) has at least one reference geoportal. (<https://www.idee.es/web/guest/proyectos-idee>)
- Spanish SDI Geoportal (IDEE) provides access to around 46 metadata catalogues from national, regional and local nodes.
- There is an Official Catalogue for INSPIRE dataset & services (CODSI), (see <http://www.idee.es/csw-codsi-idee/srv/spa/catalog.search#/home>) This catalogue is connected via harvesting or file interchange with the catalogues of national and regional SDI nodes, is the base for the monitoring process and for feeding the INSPIRE Geoportal.
- All INSPIRE compliant services available in Spain are available in European INSPIRE Geoportal.
- Much more OGC services are available but not all are INSPIRE compliant services.
- The list of key spatial data sets required for other environmental policies is already identified.
- The GTT (Technical Groups) was asked to produce Guides about how to make compliant with INSPIRE the identified datasets and the already implemented OGC standard services. There are already some Guides available on IDEE Geoportal. (<http://www.idee.es/web/guest/guias-implementacion>)

Usage of the infrastructure for spatial information

- Network services and OGC services are using increasingly often on official viewers of national portals like **National Open Data Portal** (<http://datos.gob.es/>), **Cadastral Electronic site.** (<https://www.sedecatastro.gob.es/>) or **Hydrocarbons Geoportal** of the Ministry for the Ecological Transition (<https://geoportalgasolineras.es>).
- European Data Portal has federated IDEE catalogue. This catalogue has about 10500 resources of all SDI nodes. (<http://www.idee.es/csw-inspire-idee/srv/spa/catalog.search#/home>)
- Use of the services increased and generalised: during 2019, the web services of 13 SDI nodes reporting statistics have received a total of 19 651 M of requests.
- Mobiles are using more and more WMTS. In 2019 mobiles produces more or less half of data traffic of IGN web services.
- **Iberian Conferences on Spatial Data Infrastructures** have representatives of PT, ES and Andorra are held each year. Iberian Conference on Spatial Data Infrastructures 2019 was held Cáceres and had about 70 summaries about SDI. Its assistance was high, about 300 participants like developers, professionals or students.
- National geoportal has links with the geoportals of PT, FR and Andorra and it has versions in FR and PT
- Cadastral Parcels, Addresses and buildings only are downloaded though **ATOM service of General Directorate for cadastre and Govern of Navarre.** These services allow the completed download by municipality of the INSPIRE data set.
- Other examples of European projects with Spanish NSDi contributions: ELF, OpenELS, EUREF, Copernicus, HLANDATA, SIGPAC, Red EIONET, EAGLE, INGENIO, GBIF Spain,

Data sharing arrangements

- Existence of big projects of collaborative data production and harmonisation under the umbrella of **National Cartographic System (SCN)**, which include sharing of resulting data; the on-going production of georeferenced reference data increased the sharing of data between public admin. The web site of SCN (<http://www.scne.es/>) has a list of public bodies collaborating in the production of geographic data products each year as a result of collaboration agreements with IGN Spain. Final products are shared and published on NSDI network services under a CC BY 4.0 license.
 - Some examples of Spanish collaborative projects aimed at obtaining a full coverage of products considered as basic reference data and represent “Geospatial Reference Information Data Base (GRI)”: Aerial Orthophoto National Plan, PNOA - High resolution coverage of aerial orthophotos, digital elevation models, Spanish Land Cover Information System, SIOSE - Land cover information system, Transport networks, Hydrography..
- **Official Geographic Information (IGO) basemap**, for use in displays with vector tiles technology is a project to develop an official vector tile service of the Spanish national territory will be offered based on official geographic information are generated by all Public Administrations, gathered in the Spanish National Cartographic System. The objective is to produce a distributed collection of multi-scale vector tiles services containing the geographical elements necessary for the representation of different cartographic products in of the Spanish territory and also in the global scope. <https://sgtmapabaseigo.github.io/MapaBaseIGO/>
- Some regions have signed collaboration agreements with all the municipalities in their territory.
- There is a wide sharing and reusing data culture. Some public bodies use to share geodata among them without any formal agreement.
- Sharing data for the public: in 2019, in a sampling of 90 public organisations, 28 % publish open data, 8 % publish semi-open data (not allowing commercial uses), 6 % closed data and 58 % do not declare the use conditions.
- For the data set that can be downloaded, only 400 % use a Creative Commons license or any other type license. A core reference data produced collaboratively can be downloaded under a CC BY 4.0 license in CNIG Download Centre web page.

Costs and benefits

- A study performed in 2019 has roughly evaluated the annual cost of the national node of Spanish SDI in 120,000 € and the social benefits provide society with publishing viewing services in 1 M €, taking as a reference the Google cost of a published map tile using its API. An approximated not very accurate estimation of cost-benefits ratio gives a result of at least 1:8 which must be only considered as an idea of the order of magnitude.
- In 2019, CODIIGE has completed an estimated calculation for creating network services and metadata according to INSPIRE regulation because cost evaluations are needed to plan SDI investments. The estimated cost of creation and implementation of a metadata register for an INSPIRE dataset/service is about 550 euros and for the implementation of an INSPIRE network service is about 4,000 euros.
- It's important to note that there are diversity and heterogeneity on costs from node to node.
- The balance cost/benefits is positive although in many cases the benefits are difficult or impossible to quantify.
- For example, Hydrocarbons Geoportal of the Ministry for the Ecological Transition, Commerce and Tourism allows to citizens savings of 60 million €/year.
- In a consultation made on 2018, annual costs estimation for a geoportal (from 13,000 to 100,000 €) and for a SDI node (from 37,000 to 270,000 €) varies a lot. Implementation costs of a single web service was estimated in more or less 4,000 € and its maintenance in 550 €/year.
- SDI (IDE) and web services becoming daily working tools in many public administration and private companies.

Generalised culture of sharing data and information, increasing of open data available in the web, and a strong incentive to regularly and collaboratively to produce very expensive data (like the national coverage of LiDAR and orthophoto) are among the benefits.

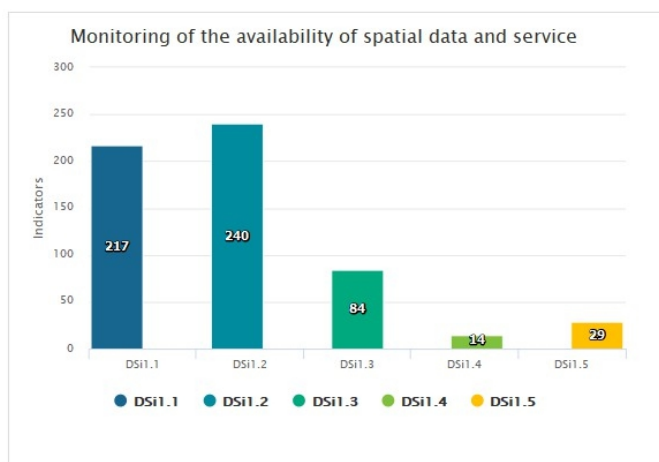
Key facts and figures

Spain

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

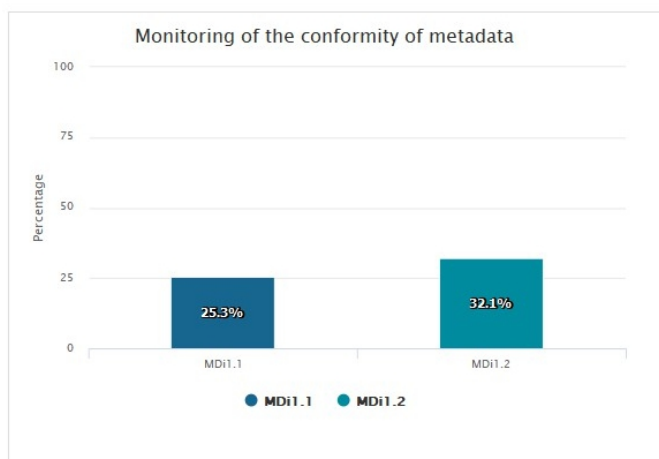
Graphs generated with data taken from: https://inspire-geoportal.ec.europa.eu/mr2019_details.html?country=es

The date of harvest metadata: 16/12/2019



Legend

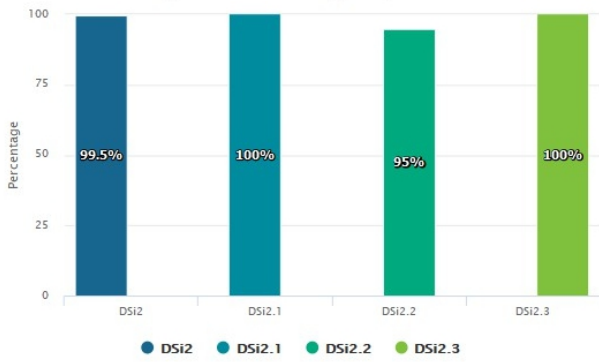
Indicator	Definition
DSi1.1	The number of spatial data sets for which metadata exist
DSi1.2	The number of spatial data services for which metadata exist
DSi1.3	The number of spatial data sets for which the metadata contains one or more keywords from a register provided by the Commission indicating that 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



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

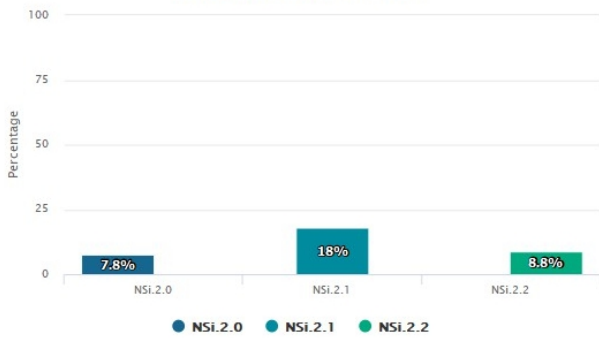
Monitoring of the conformity of spatial data sets



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

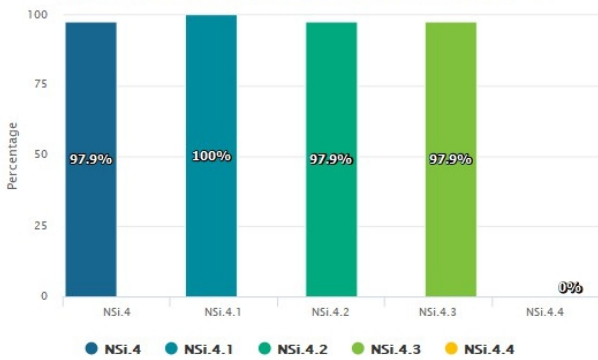
Monitoring of the accessibility of spatial data sets through view and download services



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