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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 2020](#) acquired in December 2020 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](#).

Spain transposed INSPIRE Directive into national law since 2010, called [LISIGE "Law about Infrastructures and Services about Geographic information in Spain"](#), and has been implemented and maintained the national INSPIRE nodes and regional INSPIRE nodes since then.

All Annex I dataset have been harmonised from the beginning and the harmonisazion of Annex II and III data has been planned in following years road map which is being transposed. All priority datasets have identified and published through view and download services.

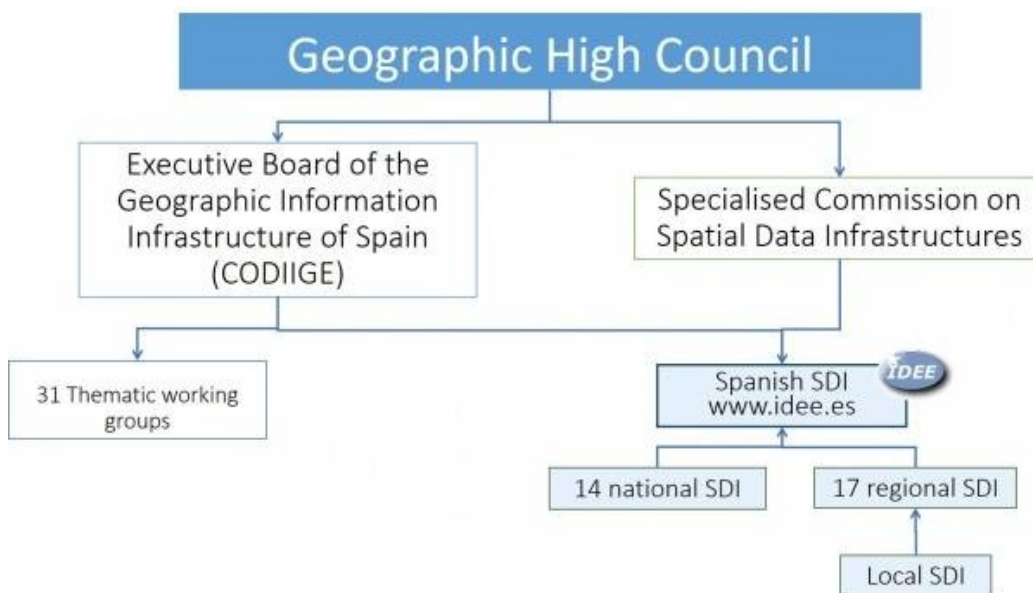
The URL Spanish SDI geoportal is [www.ideo.es](http://www.ideo.es) and each national SDI and region SDI have a geoportal, tools, catalogues and publishes their information thought view and download services. <https://www.ideo.es/en/ideo>.

The screenshot shows the IDEE website interface. At the top, there is a navigation bar with links for IDEE, LEGISLATION, SERVICES DIRECTORY, RESOURCES, NEWS, and IDEE PLATFORM. The main header features a 'Service Monitoring' banner with the text 'It is now possible to check if the services published in CODSI are working.' Below this, there are six main service tiles: 'Catalogue of Data and Services', 'IDE Nodes', 'IDEE Platform', 'IDEE Viewer', 'Services Directory', and 'Download Websites'. At the bottom of the page, there are logos for INSPIRE, snig (Sistema Nacional de Informacion Geografica), geoportail, and ide ANDORRA.

## Coordination

### National Contact Point

**Name of Public Authority:** National Geographic Institute  
**Postal Address:** C/ General Ibáñez de Ibero 3, 28003 Madrid - España  
**Contact Email:** [Click to email](#)  
**Telephone Number:** 034915979646  
**Telefax Number:** 034915979764  
**National INSPIRE Website:** <http://www.idee.es>  
**MIG Contacts: Contact Person:** Emilio López Romero  
**Email:** [Emilio.lopez@cnig.es](mailto:Emilio.lopez@cnig.es)  
**MIG T Contacts: Contact Person:** Paloma Abad Power  
**Email:** [paloma.abad@cnig.es](mailto:paloma.abad@cnig.es)  
**Contact Person:** María Soledad Gómez Andrés  
**Email:** [msgomez@mapa.es](mailto:msgomez@mapa.es)



### Coordination Structure & Progress: Coordination Structure

- Geographic High Council is the director body of the [National Cartographic System \(SCN\)](#), having consultation and planning role for the official geographic information and cartography. Geographic High Council is the National Contact Point for INSPIRE and the coordination and direction for the Spanish SDI.
- Geographic High Council created the [Executive Board of the Geographic Information Infrastructure of Spain \(CODIIGE\)](#)

for managing and controlling IDEE. It took responsibility for creation a national SDI, and immediately began to define the Technical WGs with the objective of analysing the application of the implementing rules of INSPIRE by the Spanish Public Administrations and helping their bodies and Organizations to achieve compliance. Furthermore, it is the body responsible for coordination and management of the SDI of Spain, owing to which it is responsible for its constitution and maintenance, being responsible for:

1. Proposing to the competent Authorities the actions to be performed by the Administrations or Organizations of the public sector for the establishment of the IIGE.
  2. Guaranteeing its accessibility and interoperability.
  3. Integrating the contributions of other producers or suppliers.
- Spanish's spatial data infrastructure (*Infraestructura de Información Geográfica de España (IDEE)*) is coordinated by [Executive Board of the Geographic Information Infrastructure of Spain \(CODIIGE\)](#).
  - The [CODIIGE](#) deal with interinstitutional coordination the organization of Spanish SDI (IDEE) is based on 14 national and 17 regional nodes; each regional node establishes the necessary coordination with the local administration and other agents.
  - Depending on [CODIIGE](#):
    - There are some [Thematic Working Groups \(GTT\)](#), (one per INSPIRE Theme although some themes are grouped) with representation of all institutions with responsibility for data and/ or services under scope of INSPIRE. These [Thematic Working Groups \(GTT\)](#) have translated INSPIRE Technical Guidelines (Data Specifications) and have adapted to the case of Spain. These technical documents are available [here](#).
    - Identification of priority data through environment ministries: The [Ministry of Agriculture, Fisheries and Food \(MAPA\)](#) and the [Ministry for the Ecological Transition and the Demographic Challenge \(MITECO\)](#).
    - Furthermore, there are four transversal Working Groups (Metadata and catalogue; Network services; Monitoring and reporting; Data and services policy).
    - Finally, there is a [Working Group for the NSDI \(GTIDEE\)](#) with representatives from public and private sector and academia. This "GTIDEE" meets 2 times a year to discuss different aspects of the standards, Technical Guidance, open data and new technologies for the implementation of INSPIRE, [Iberian Conference SDI](#) and to coordinate the experts work on INSPIRE.
    - CODIIGE is responsible for [Spanish SDI Geoportal](#) and their catalogues.
  - The [National Cartographic System](#), defined in Royal Decree 1545/2007 and promoted by Law 14/2010, which establishes the coordination of data production via the National Cartographic Plan and the sharing of data between the Autonomous Communities that sign the generic agreement and the General State Administration. The Geographic High Council is the management body of the [National Cartographic System](#).
    - Examples: Cadastral Parcels, Addresses and Buildings data are coordinated by the Directorate General for Cadastre, Basque Government and Government of Navarre in Spain. These organizations publish the data on internet with network services (WMS, WFS and ATOM Feed) of INSPIRE Directive. For example: [Directorate General for Cadastre online site](#) that offers the data of cadastral parcels, addresses and buildings. (See [www.sedecatastro.gob.es/](http://www.sedecatastro.gob.es/))

## Progress

- Set up of coordination structure (CODIIGE and GTT- Working groups technical) to generate long term cohesion of thematic communities.
- A Geographic Information Inter-ministerial Group (GIIG) is composed the [Ministry of Agriculture, Fisheries and Food \(MAPA\)](#) and The [Ministry for the Ecological Transition and the Demographic Challenge \(MITECO\)](#). units working with GI and one of its responsibilities is to coordinate INSPIRE activities like the identification of priority data.
  - The GIIG and [CODIIGE](#) coordinate sub group environment thematic like Hydrography, Protected sites, Species distribution, Meteorological geographical features, Habitats and biotopes, Environmental monitoring facilities, Agricultural and aquaculture facilities, Area management/restriction/regulation zones and reporting units, Atmospheric conditions, Bio-geographical regions, Energy resources, Production and industrial facilities and Natural risk zones.
  - Unified coordination of inventory of data sets related with INSPIRE themes & their obligations regarding the EEA.
- Geographic High Council's new projects (These projects are in line with the objectives of Geographic High Council which seeks to increase the harmonization and integration of official digital data in Spain. Both projects should complete before the end of the year 2021):
  - Creation of national geocoder service that will be the result of the harmonization and integration of official addresses the main suppliers of information about addresses at national (National Statistics Institute, Directorate General for Cadastre, Post Office Group, National Geographic Institute), regional (Basque Government and Government of Navarre...) and local government organizations.
  - Creation of official base map multiscale from official sources national, regional and local. Its technology is based on vector tile services like Open Street Map.
- The Spanish Law 13/2015 implements an effective coordination of transactions executed by Cadastre and the Property Rights Registry. These institutions are two separate organizations with differentiated mandates and competences, both working in the domain of land administration. The Cadastre, registries and notaries have worked together to design a

technologically advanced model of institutional interaction for this coordination purpose based in the INSPIRE GML of the Cadastral Parcel and the position of the Building.

- A new geoportal of [Territorial Information System and Spatial Data Infrastructure of Asturias \(SITPA--IDEAS\)](#). SITPA-IDEAS is a SDI node of Spanish SDI.
- Most INSPIRE datasets are open data. This is reflected in [Open Data Maturity Report 2020](#), which measures the progress made by the different European countries in the field of open data. In 2020, Spain has increased its overall score by 5% and remains in the leading positions, as a prescriber in the field of open data. Spain is in second position.
- The [X Iberian Conference on Spatial Data Infrastructures 2020](#) was held in virtual from 26 to 30 October under the slogan "Contributions to the development of a low-carbon economy" with a participation of 300 attendees from Spain and Portugal.
- The Spanish Association for Standardization (AENOR) has published [Spanish Standard UNE 148004: 2018 "Open Geographic Data"](#). This Standard was defined and approved by the Technical Standardization Committee 148 "Digital geographic information", after a process of public hearing, with the aim of providing a standardized definition of geographic open data that allows generating certification mechanisms.

### Functioning and coordination of the infrastructure

- To facilitate data and service sharing and use has been developed:
  - [Spanish SDI Geoportal](#) (IDEE) provides access to around 46 metadata catalogues from national, regional and local nodes.
  - [Official Catalogue of Inspire Data and Services \(CODSI\)](#) provides access INSPIRE data sets and network services. 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.
  - [Spanish Registry](#)
- 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.
- Big effort on training, seminars, events at regional and local levels; twitter @IDEESpain, electronic monthly bulletin "SobreIDES" <http://www.idee.es/boletin-sobre-ides> and Spanish SDI Blog "[Blog IDEE](#)".
- [Thematic Working Groups \(GTT\)](#), was asked to produce Guides about how to make compliant with INSPIRE the identified datasets and the already implemented view and download services. These [Thematic Working Groups \(GTT\)](#) have translated INSPIRE Technical Guidelines (Data Specifications) and have adapted to the case of Spain. These technical documents are available [here](#).

### INSPIRE priority data

- Identification of priority data through environment ministries: The [Ministry of Agriculture, Fisheries and Food \(MAPA\)](#) and the [Ministry for the Ecological Transition and the Demographic Challenge \(MITECO\)](#).
- The [MAPA and MITECO SDI Geoportal](#) is the central access point to the INSPIRE priority data set provided for environmental reporting

### Cadastral Parcels, Addresses and buildings

- INSPIRE GML used as exchange format of Cadastral Parcels, Addresses and buildings in the real estate traffic in Spain. These themes are downloaded through **ATOM service of General Directorate for Cadastre, Government of Navarre and Basque government**. These services allow the completed download by municipality of the INSPIRE data set.
- The Spanish Mortgage Law and the revised text of the Law of Real Estate Cadastre, following its reform by Law 13/2015, of 24 June, establish a system of coordination between the Cadastre and the Property Rights Registry, so that Property Rights Registry incorporates the georeferenced graphic description of the registered properties, using the cadastral cartography as a basis.

### Addresses

- Extent to which the use datasets and network services is used to create collaborative services.
  - Creation of national geocoder service to publish official addresses that will be the result of the harmonization and integration of official addresses the main suppliers of information about addresses at national, regional and local government organizations. In this project involves Directorate General for Cadastre, Basque Government, Government of Navarre and another regions like Valencia, Madrid, Andalucía... All of them are supported with the Postal Codes provided by the [Post Office Group](#), names of streets of National Statistics Institute together with the official settlements of [National Geographic Institute \(IGN Spain\)](#).
  - [CartoCity project](#) is based on the road network and addresses of the [National Cartographic System \(Directorate General for Cadastre, Basque Government and Government of Navarre mainly\)](#), and it is supported with the Postal Codes provided by the Post Office Group, name of streets of National Statistics Institute together with the official settlements of [National Geographic Institute \(IGN Spain\)](#). It is led and coordinated by the [National Center of Geographic Information \(CNIG\)](#). CartoCity publishes the addresses, geographical names through view and download services (WMS/WMTS/WFS) according to INSPIRE and geocoder.



## Mineral Resources and Energy Resources

- Mining Cadastre: Article 4 of Law 6/1977, of 4 January, on the Promotion of Mining, establishes that the Ministry of Industry, currently the [Ministry for the Ecological Transition and the Demographic Challenge \(MITECO\)](#), will have a Mining Register, which will consist of a permanently updated public archive of all existing mining rights in the national territory, territorial sea and continental shelf, with their corresponding map. The competence over mining rights lies with the Autonomous Communities, which manage the data in their respective mining cadastres.
- [Petrol Stations Geoportal](#): The Petrol Stations Geoportal is based on the information submitted on the basis of Order ITC/2308/2007, which determines the form of submission of information to the Ministry of Industry, Tourism and Trade, on the supply activities of petroleum products, which involves the development of Art. 5 of Royal Decree Law 6/2000 of 23 June, on urgent measures to intensify competition in goods and services markets. Geoportal is a collaborative project between different administrations (National Geographic Institute, General Directorate for Cadastre, Ministry of industry, trade and tourism, National Energy Regulator (CNE) and Competition Authority (CDC) in Spain ) and enterprises of the energy sector (operators in gas stations businesses: Repsol, Cepsa, BP, etc.).
- Hydrocarbon Technical Archive: This archive is regulated in Article 12 of Law 34/1998, of 7 October, on the hydrocarbon sector and in section 2.3 of Article 11 of Royal Decree 2362/1976, of 30 July, approving the Regulations for the application of the Law on hydrocarbon research and exploitation of 27 June 1974, applicable in accordance with the Second Transitional Provision of Law 34/1998, of 7 October. The infrastructure associated with the archive also makes it possible to comply with the provisions of Article 3 of Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and exercising authorisations for the prospection, exploration and production of hydrocarbons, with information on geographical areas subject to applications and available areas being permanently available and up to date.

## Usage of the infrastructure for spatial information

- The COVID-19 pandemic has shown how important geolocation of people is in detecting outbreaks or focus of infection and SDIs useful. In Spain all regional SDIs published viewers or dashboards where these resources let show COVID-19 situation update in Spain. See website: <http://www.idee.es/Recursos-COVID-19>.
- 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>).
- Most dataset and network service have minimum restrictions like CC BY 4.0
- Spanish SDI has 2 national catalogues and both catalogues have increased in the number of records:
  - IDEE Catalogue has 11461 records of all SDI nodes and 10500 records last year. European Data Portal has federated [IDEE catalogue](#).
  - [Official Catalogue of Inspire Data and Services \(CODSI\)](#) has 527 records, more records than in 2019.
- There are hundreds of visualizers in Spain that use the WMS/WMTS of national orthoimages according with Regulation N° 976/2009 as regards the Network Services. These aerial images are co-financed by the autonomous administrations and national organizations.
- Mobiles are using increasingly WMTS. In 2020, apps for searching, locating, viewing... produces approximately half of request traffic of Spanish SDI node web services.

## Some figures on the use of services:

- The number of service request always has been greater than in 2019.
- For example: Total number of a sample of network services requests (annually - 2020):
  - The **central Spanish SDI-node** which is coordinated by the [National Center of Geographic Information \(CNIG\)](#) which provides and publishes many of the core geospatial datasets of the [National Cartographic System \(SCN\)](#) used by many user organizations (annually - 2020 and 2019):
    - Total number of requests - WMS, WMTS, WFS: 14.314.782.727 (2020) and 10.316.789.948 (2019).
      - Some examples: Orthoimagery WMTS: 6.172.695.458 (2020), 5.006.315.444 (2019), Orthoimagery WMS: 359.227.999 (2020), 278.618.280 (2019), MDT WMS: 3.802.367 (2020), 2.876.048, (2019), Transport network, hydrography, building, administrative units...WMTS: 6.149.213.927 (2020), 4.596.328.242 (2019), Administrative units WMS: 154.411.665 (2020), 109.179.792 (2019), Administrative units WFS: 532.906 (2020), 376.367 (2019), Addresses WFS: 28.722.339 (2020), 24.956.455 (2019)
  - [National Geographic Institute node](#), (annually - 2020):
    - Total number of requests - WMS, WMTS, WFS: 5.903.085.809
  - [Ministry of Agriculture, Fisheries and Food \(MAPA\) and the Ministry for the Ecological Transition and the Demographic Challenge \(MITECO\) SDI](#) (annually - 2020):
    - Total number of requests - WMS, WMTS, WFS: 145.258.168
    - Total number of requests - WMTS: 19.639.568
    - Total number of requests - CSW: 76.731

- **Catalunya SDI** (annually - 2020):
  - Total number of requests - WMS: 1.410.216.276
  - Total number of requests - WMTS: 26.474.960
  - Total number of requests - WFS: 884.806
  - Total number of requests - CSW: 332,721
- **Extremadura SDI** (annually – 2020):
  - Total number of requests – WMS, WMTS, WFS: 136.903.721
  - Total number of requests - CSW: 381.936
  - Total number of GB download (WMS, WFS): 12.014,57 GB
- There is a [website](#), on Spanish SDI geoportal, to know if 281 spanish network services are available twice a day. These [281 network services](#) are reported to Geoportal INSPIRE.

Although view services (WMS/WMTS) are used by many users and, the key is web mapping applications. It is complicated to know more about the individual end-users of those applications, it says something about how the value is generated. In some cases the applications are general web mapping viewers, in other cases they support dedicated work processes of public authorities.

### Data sharing arrangements

There are hundreds agreements or conventions co-financed by the autonomous administrations and national organizations. These agreements usually are collaboration and institutional between national, regional and local organizations. Many of these agreements are reflected in the [National Cartographic System \(SCN\)](#). Another good example is agreements between environmental organisations and departments of MAPA and MITECO ( for example, ARBARIA project),

### National Cartographic System (SCN)

- 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](#) 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.
  - For example: The following national and regional organisations have collaborated in the capture of the orthoimagery: [National Geographic Institute](#), [Spanish Agrarian Guarantee Fund \(FEGA\)](#), [General Direction of Cadastre](#), Autonomous Communities of Aragon, Canary Islands, Catalonia, Valencian Community, Andalusia, Extremadura, Murcia, Galicia, Castile and León, Castile La Mancha, Asturias, Cantabria, Rioja, Navarre, Basque Country, Balearic Islands and Madrid.
- 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 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/MapaBaselGO/>
- 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 2020, 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.

### Property and land administration:

- In Spain, the Cadastre and the Property Rights Registry are two separate institutions with differentiated mandates and competences, both working in the domain of land administration. The Spanish Law 13/2015 implements an effective coordination of transactions executed by both institutions. The Cadastre, registries and notaries have worked together to design a technologically advanced model of institutional interaction for this coordination purpose based in the INSPIRE GML of the Cadastral Parcel and the position of the Buildings.

Any modification of the physical characteristics of the cadastral parcels must be done taking as reference the Cadastral Cartography, that it is the unique official geographic representation of the cadastral parcels. Therefore the cadastre offers freely the INSPIRE GML of the parcels in several ways :WFS, ATOMS, embedded in the cadastral certificates or even

through interactive tools in the [Electronic Office of the Cadastre](#) that provides, between other tools, cartographic viewer that allows access to all cadastral information and the parcel edition (INSPIRE GML) or a “Cadastral Editor” to use for the modification of the parcels.

The citizens and the public authorities that work in the territory have the duty to communicate to the Cadastre any change of the parcel (segregation, union, new construction, etc..) or when the cadastral cartography does not sufficiently reflect the physical reality, procedures have been defined for updating the graphic data of the parcel involved through the use of alternative georeferenced graphic representations. These alternative representations are expressed also in the INSPIRE GML Cadastral Parcel format and are validated in the system providing a graphic validation report with the INSPIRE GML of the new parcels.

In order to register a building in the Property Rights Registry, the georeferenced of its position is also required by the law 13/2015 and therefore we have done a step further, creating the mechanism to use for that the INSPIRE GML BU too.

The INSPIRE GML of the graphic situation of the cadastral parcel as certified by the Directorate General for Cadastre is embedded in the cadastral certification and the graphic validation report. The Directorate ensures the authenticity and integrity of its contents. Both products are electronic documents, signed using a secure 16-digit verification code (CSV). This code unequivocally identifies the document in the Directorate General for Cadastre’s catalogue. The exchange between the various stakeholders requires only the 16-digit barcodes. This avoids the need to physically exchange computer files, allows the visualisation of the new representation without GIS tools and enables the automated capture of its contents, thus preventing possible transcription errors.

The georeferencing of the parcels, expressed through the INSPIRE GML format of a cadastral parcel, is now widely used by all agents involved in property transactions in Spain. This is intended to give greater security to the data on the location, delimitation and surface area of the registered properties that are the subject of legal transactions. In this way we are enhancing interoperability between Directorate General for Cadastre and Property Rights Registry, simplifying administrative procedures and reducing costs.

#### References to INSPIRE or other relevant standards in procurement documents

- More and more national, regional and local organizations have realised that INSPIRE play a key role in the standardized way publication and their benefits, therefore more and more procurement documents in recent years, where references to INSPIRE or other relevant standards are made. These procurement documents are for national, regional and local organizations. (See <https://contrataciondelestado.es>).

#### Costs and benefits

##### Costs:

- 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 €, 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.
- It’s important to note that there are diversity and heterogeneity on costs from node to node. For example:
  - The cost of constructing, maintenance and licensing the new geoportal [Territorial Information System and Spatial Data Infrastructure of Asturias \(SITPA--IDEAS\)](#) has been approximately 600,000 €.
  - The cost of constructing, developing and maintenance of a new [Open Source API](#) and viewers to National Geographic Institute has been put at roughly 400,000 €.
  - The cost of construction and design of new [Spanish SDI geoportal](#) has been approximately 50,000 €.
  - The [MAPA and MITECO SDI Geoportal](#) is the central access point to the INSPIRE priority data set provided for environmental reporting.
    - Estimated total annual cost (including maintenance of geoportals, clients and services, developments, operation, etc.): 1.020.016,46 €.
    - Estimated annual cost per web service. 1047, 24 €
  - The [Ministry of Industry, Trade and Tourism \(MINCOTUR\)](#)
    - Their annual maintenance cost is around 100,000 € and maintenance cost per service, 8000 €.
    - Hydrocarbons Geoportal of the Ministry for the Ecological Transition, Commerce and Tourism allows to citizens savings of 60 million €/year.
- 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 approximately 4,000 € and its maintenance in 550 €/year.

##### Benefits:

- Benefits are:
  - Improving the access to geographic information, establishing core reference data, providing society with the skills and knowledge necessary for handling geographic information, transparency, transversality, be combined with other

datasets.

- Identify where official geographic information can be localised.
- Official geographic information integrate with broader public data infrastructures and external data sources.
- Adopt an open and collaborative methodology to design and improve digital public services.
- Allow to reuse existing official data sets, networks services and relevant technical solutions where possible.
- Facilitate the use official datasets and network services by non-governmental actors to stimulate innovation in products and services and enable job creation and growth.
- Adopt an open and collaborative methodology to design and improve network services.
- The balance cost/benefits are positive although in many cases the benefits are difficult or impossible to quantify.
- Spanish network 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.

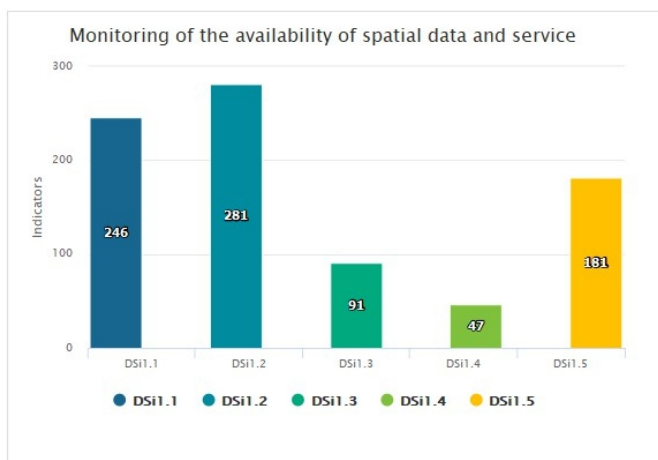
## Key facts and figures

# Spain

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

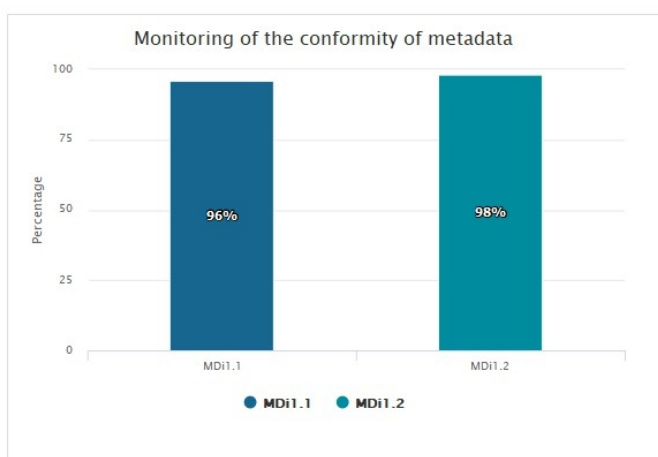
Graphs generated with data taken from: [https://inspire-geoportal.ec.europa.eu/mr2020\\_details.html?country=es](https://inspire-geoportal.ec.europa.eu/mr2020_details.html?country=es)

The date of harvest metadata: 16/12/2020



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

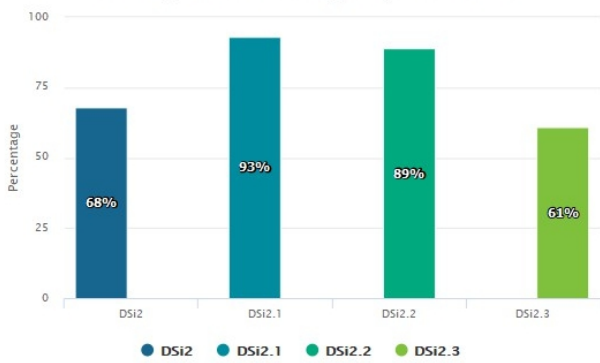


Legend

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



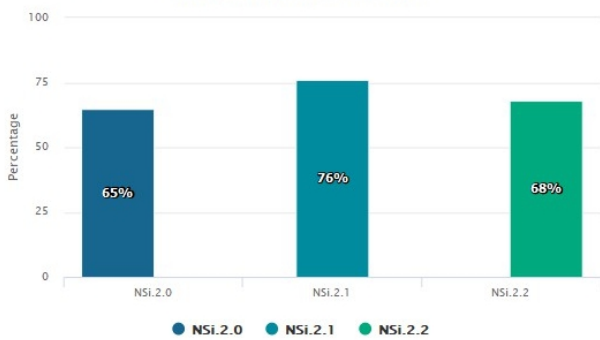
Monitoring of the conformity of spatial data sets



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

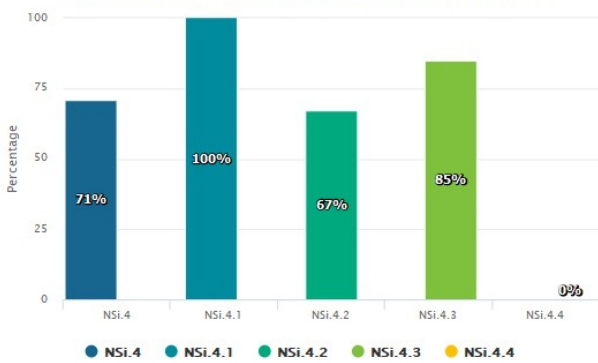
Monitoring of the accessibility of spatial data sets through view and download services



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