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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 2021](#) acquired in December 2021 and Member States update.

State Of Play

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

Coordination

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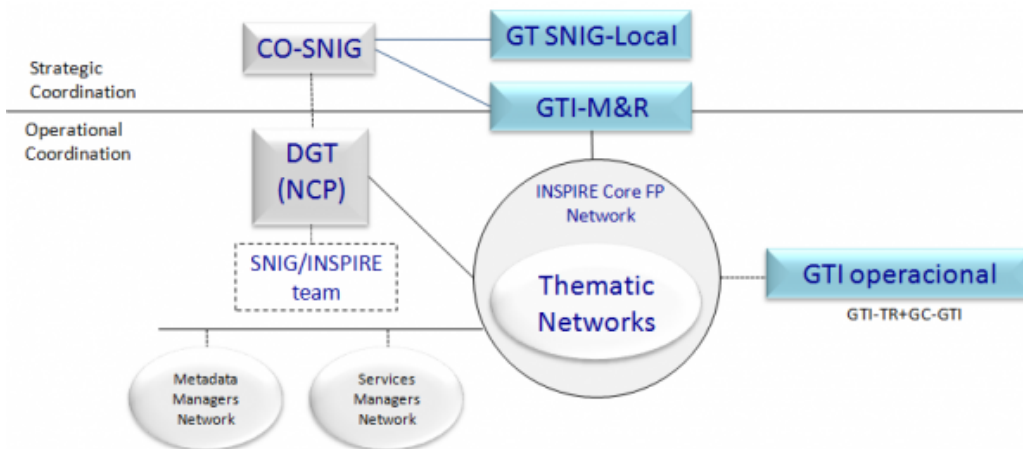
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Coordination Structure & Progress:

- DGT represents Portugal at IC, MIG and MIG-T since the beginning but since 2018 these representations were enlarged to some other public authorities, namely Portuguese Environmental Agency (APA), in MIG, National Statistics Institute (INE) and Azores Autonomous Region (RAA), in MIG-T.
- During 2020, National Institute for Statistics (INE) was nominated as representative in the Action 2017.4 (validation and conformity testing) and the Hydrographic Institute (IH) was nominated as representative in the Action 2020.1 (INSPIRE Download Services based on the “OGC API – Features” standard).
- CO-SNIG (*Conselho de Orientação do SNIG*) is responsible for the strategic coordination of the National Spatial Data Infrastructure (NSDI), i.e. *Sistema Nacional de Informação Geográfica* (SNIG). This committee is chaired by DGT and co-chaired by APA and includes all the entities identified as responsible for the datasets embraced by INSPIRE Directive.
- Networks: SNIG Network (the SNIG Network covers all public and private entities that produce and provide geographic data sets and services.); INSPIRE Focal Points Network (public authorities producing national data sets and services); INSPIRE Core Focal Points Network (a sub-set of the previous one with the public authorities formally responsible for producing national datasets and services regarding the themes of the three INSPIRE Annexes); Network of Metadata Managers and Network of Spatial Data Services Managers.
- Working Groups (WG): M&R WG, a CO-SNIG sub-group dedicated to support INSPIRE monitoring and reporting, since 2010. GTI-Op, operational group that includes technicians from various entities with extensive experience in technical and thematic matters related to the INSPIRE directive, as well as the coordinator of the M&R WG. 9 Thematic Networks associated with the INSPIRE Themes clusters (the previous 9 GTI-TE).
- GT SNIG-Local, the most recent working group, involving the inter-municipality's communities (CIM).
- The Portuguese Hydrographic Institute is participating in a national working group lead by DGPM and FCT for a OCDE public consultation study in the value chains in public marine data in Portugal.

Progress

- Annual Action Plans for implementing SNIG 2020 vision – during this year, entities continued to be dedicated to the creation and improvement of their metadata and creation/validation of spatial data services.
- Continue to follow the European events and meetings on SDI and INSPIRE (e.g. MIG and MIG-T meetings as well as in some of the sub-groups), counting with the involvement of some of the INSPIRE Core Focal Points Network entities, that were nominated as representatives. The two MIG surveys “Harmonised and non-harmonised data sets in INSPIRE” and “The future of INSPIRE (revisited): EU common data spaces, high-value data sets, evidence-based policy develop” were analysed and filled.
- DGT and CO-SNIG followed the issues related to the evaluation of INSPIRE Directive, namely the “Targeted consultation as part of the evaluation of Directive 2007/2/EC on infrastructure for spatial information in the European Community (INSPIRE): Survey of the spatial data community”.
- The revision of INSPIRE Evaluation-Country Form for Portugal was performed by DGT.
- DGT provided comments on the transposition of the Open Data Directive (Directive 1024/2019) to national legislation, which was published as Lei 68/2021 on August 26.
- DGT presented the High Value Datasets issue in CO-SNIG meetings and established contacts with *Agência para a Modernização Administrativa* (AMA) to obtain more information on their implementation, namely the EC Implementing Act which ended-up not being published yet.
- GTI-Op meetings did not occur during 2021. Nevertheless, information received by INSPIRE NCP was disseminated to

GTI-Op and DGT held throughout 2021 several technical meetings (mostly bilateral) with the various entities that report Spatial Data Services (SDS) to INSPIRE.

- Organization of ENiIG 2021 - *Encontro Nacional de Infraestruturas de Informação Geográfica* (<http://eniig.dgterritorio.pt/>), the annual event on SDI, which took place on December, 16, 2021, as a videoconference, addressing the topic "Management and exploitation of geographic information acquired with LiDAR technology". This edition of ENiIG was based on the presentation of projects related to the management and exploitation of information acquired with LiDAR technology. The event included the participation of 12 invited speakers. Several projects were presented that use LiDAR data evidencing the diversified applications in which this information can be used. This edition of ENiIG presented the LiDAR Survey project that is intended to be carried out in the coming years for mainland Portugal and also the current situation in this field in Spain, with the presentation of the LiDAR project that is being developed in this country during the last few years. The information acquired with LiDAR technology is already widely used in multiple sectors of activity. Considering the versatility of LiDAR data, ENiIG 2021 presented, among others, projects that use this technology for the detection of archaeological sites, urban management, mapping infrastructures, forest management and delimitation of floodable areas. About 350 people attended the event, approximately 300 through the Zoom platform where this conference was held and 50 through DGT's YouTube channel, which broadcasted the event live.
- The assessment of SNIG 2020 vision objectives accomplishment validated in December 2020 at CO-SNIG meeting (R25) was considered within 2021 developed activities. Almost all the objectives of SNIG 2020 were attained. A remaining effort is being devoted to the usability and data content issues including the definition of relevance criteria to be used in the presentation of SNIG catalogue search results. Also the articulation with the open data platform (dados.gov.pt) needs attention as well as the promotion of access to academia spatial data. The articulation of SNIG with the National Strategy for Geographic Information was also identified as one of the objectives requiring developments.
- During 2021 an activity centered in the definition of the SNIG evolution Strategy, after 2020, was started, including an analysis of SNIG catalogue contents focused on the use of data for public policies, aiming to identify relevance criteria. Moreover, a critical assessment and revision of metadata content was performed.
- Capacity building activities provided at the European level were internally followed by PT INSPIRE structures members namely: EUROGI: Towards a Sustainable Ecosystem beyond Spatial Data Infrastructures; FIG; GeoSolutions: From Esri Geodatabase to PostGIS and GeoServer, tips and tricks, Cross-Forest Final event, EuroGeographics workshops related to the production and use of spatial data.
- Cooperation with Spain: the collaboration around the organization of the Iberian SDI event, JIIDE, continued as well as the participation in cross-border projects and initiatives (e.g. Cross-Forest project).
- JIIDE 2021 (<https://www.dgterritorio.gov.pt/JIIDE-2021>), the XII edition of this event, took place from 15 to 19 November 2021, organized as a videoconference, by CNIG from Spain, this year, with the collaboration of the Portuguese DGT and was focused on the topic "Digital Ecosystems and Interoperability". The event included 12 Sessions, with around 70 presentations, with Portuguese and Spanish speakers, an invited speaker, one round table and four workshops. In each session an average of 300 participants have attended.
- Guaranty the articulation of SNIG with thematic and regional SDIs (e.g. SNIG-SNIAMB, and SNIG-IDEIA, IRIG RAM, SNIT, ICNF and LNEG metadata catalogues harvesting process) proceeded during 2021.
- Promoting the involvement of the Local data producers/Local SDIs in INSPIRE implementation and national SDI development - the Working Group involving the municipality's communities, GT SNIG-Local, endorsed by CO-SNIG in 2019 and formally constituted, registered 2 meetings in 2021.
- Efforts for the articulation of SNIG with the open data portal, <https://dados.gov.pt/pt/> continued. During 2021, DGT interacted with AMA in the context of the open data directive and at CO-SNIG it was decided to contact AMA to discuss the articulation at SNIG level. At the 26th CO-SNIG meeting, the interoperability of the SNIG with the public administration's open data portal, the data.gov portal, was discussed. To establish this procedure and link the SNIG with the data.gov, a commission was proposed, represented by various CO-SNIG entities that will interact with the AMA.
- The collaboration of DGT staff in activities with universities continued, e.g. teaching SDI issues in Master degrees (e.g. Masters on Geospatial Information from University of Lisbon).
- The new technical specifications for the Portuguese reference cartography, approved in 2019, are now being used on a regular basis by private companies.
- In 2021 the two projects approved in 2020 by the SAMA 2020 programme (SAMA: *Sistema de apoio à modernização e capacitação da Administração Pública*) proceeded: (1) SMOS – *Sistema de Monitorização de Ocupação do Solo*, a Land Use Land Cover monitoring System based on new digital Space Technologies and Artificial Intelligence aiming to support the integrated management of rural fires; (2) *Território Digital – Modernização, Cocriação e Partilha de Informação Geográfica, Cadastral e Territorial*, a system that is focused on the modernization, co-creation and sharing of Geographic, Cadastral and Territorial Information. Main developments included implementation and development of the Land Cover Monitoring System and the National Cartography Database. The results of these two projects will have a positive impact in the INSPIRE and SNIG implementation as they will promote the use of more spatial data by all users.

Functioning and coordination of the infrastructure

- The *Plano de Ação INSPIRE.PT 2021* (action plan for INSPIRE in Portugal), maintained the same priority areas: (1) Make available, through visualization and download services, all reported SDS (starting by the PDS); (2) Ensure interoperability of the viewing and the download services; (3) Harmonize SDS (according to the capacity of each entity).

- During 2021 the INSPIRE Core Focal Points Network entities (INSPIRE CFPN entities) have been working on the same activities, namely:
 - Proceeding with metadata revision to improve search and access to the GI through the geoportal and to complete metadata with missing information.
 - Making their spatial datasets metadata and spatial services metadata compliant with Metadata 2.0 and inserting the spatial scope keyword.
 - Increasing the spatial data services for the reported metadata.
 - Validating their spatial datasets and services using the INSPIRE Reference Validator
 - Validating interoperability (Resource linkages checker tool)
- The results achieved evidence the considerable investment in the conversion of metadata to version 2.0 (using the support document produced by DGT “Guide for converting metadata from 1.3 to 2.0 using GeMA and INSPIRE validation”) and in the production of services. Almost all metadata is already compliant with the Metadata 2.0.
- INSPIRE CFPN entities continued working on priority datasets (PDS), although no global meetings on this issue took place. PDS identified in the INSPIRE Geoportal are not yet all available through interoperable download services due to interoperability issues.
- In order to assist entities in the validation process, The INSPIRE RAA team published a user-friendly guide about how to use the tools of “INSPIRE Validation” and “Resource Linkage Checker”.
- Portuguese Hydrographic Institute has launched a new MSDI Portal available at <https://geomar.hidrografico.pt>. This portal is the frontend for several view and download web services OGC Compliant.
- The importance of Marine Spatial Data Infrastructures (MSDI) has been recognized by the International Hydrographic Organization (IHO) through the creation of a MSDI Working Group (WG) at the Inter-regional Coordination Committee (IRCC) level and the establishment of specific MSDI related goals and targets in the 2021-2026 Strategic Plan. Portugal and the Hydrographic Institute (IH), while leading the Eastern Atlantic Hydrographic Commission (EAtHC), also established and currently chairs a WG at the EAtHC level, seeking further developments and cooperation between EAtHC member states regarding MSDI issues. The IHO MSDI initiative has a strong relation with the INSPIRE and marine spatial information management (for example: INSPIRE has the Maritime Administrative Units data models and IHO the S-121 standard (http://www.s-121.com/w/index.php/Main_Page) – two models for the same data objects)
- MSDI role has also been recognized as crucial and a game-changer for the success of several global marine data initiatives, such as the Global Bathymetric Chart of the Oceans (GEBCO) and the SEABED 2030 project. To this purpose, IH participated at the 2021 Map the Gaps Symposium with a presentation on mapping efforts and data compilation in Africa.
- INSPIRE monitoring process in 2021 – The process automatically based on the information taken from the SNIG INSPIRECORE metadata, occurred in December 17, 2021. Entities have been working on metadata conversion to Metadata 2.0 and on the creation and validation of spatial data services to allow improvement of monitoring results. Interactions with the entities occurred until the dead-line to support their efforts towards metadata compliance and data and service interoperability. The INSPIRE monitoring results reflect this effort with a significant improvement in the metadata indicators (https://inspire-geoportal.ec.europa.eu/mr2021_details.html?country=pt).
- GT SNIG-Local, the working group involving the municipality’s communities, met 2 times during 2021, around issues related to the use by the local authorities of the National Cartography Database and the Land Cover Monitoring System, it was also discussed the role of the municipalities in the Census 2021 process.
- During 2021, the connections with AMA have been mainly associated to the open data directive and its transposition.
- Following ISA (Interoperability solutions for public administrations, businesses and citizens) developments to support the efforts for connecting with eGovernment proceeded.
- The discussion on ways to promote SNIG within different audiences proceeded (SNIG & the public administration; SNIG & academia; SNIG & citizens/citizens associations). These efforts conducted to a major requirement: the need to guaranty that SNIG includes the most important spatial data required by public policies and that these data is effectively visible for the users, when accessing the catalogue search results. A study for mainland Portugal, focused on the identification of the most relevant data for national and international Public Policies was developed integrated in the wider scope activity “Evolution Strategy for SNIG”, allowing also to identify spatial data gaps. A collaborative activity for the involvement of the different users on the definition of SNIG evolution strategy using the living labs approach (SNIGcolab) was also designed to be further implemented.
- Organization of JIIDE 2021 (<https://www.dgterritorio.gov.pt/JIIDE-2021>), the XII edition of this event, from 15 to 19 November 2021, as a videoconference, by CNIG from Spain with the collaboration of the Portuguese DGT focusing on the topic “Digital Ecosystems and Interoperability”. Considering the participation on SNIG in JIIDE 2021, DGT presented three communications related to SNIG and GI: “Monitorização INSPIRE 2020 Procedimentos de implementação e resultados de Portugal”, “Análise à aplicação das novas normas e especificações técnicas de cartografia topográfica” and “Sistema de Monitorização da Ocupação de solo (SMOS). Um sistema em construção.”. DGT was responsible for the workshop “Aplicações informáticas para validação e exploração da informação geográfica” and participated also in some of the round tables. Instituto Hidrográfico presented two communications “Catálogo de metainformação do portal Hidrográfico +” and “O sistema de gestão de Campanhas do Hidrográfico +”. DGT presented also the initial developments of SMOSA presentation on the Cross-Forest project and its main achievements was also prepared and presented by DGT

project team (Cross-Forest Project: CROSS Harmonization & HPC modelization of FOREST Datasets Global approach and main results).

- Portuguese Hydrographic Institute did a presentation about Maritime Administrative Units in the Webinar series on INSPIRE themes implementation in NMCAs: Administrative Units, on 8 of July of 2021.
- DGT participated in the Cross-Forest Project final event with the communication “Portuguese National Spatial data Infrastructure (SNIG) and the open data approach”.

Technical constraints

SDI development and INSPIRE implementation in Portugal in 2021 continue to show the same type of technical constraints namely:

- Articulation between the entities technical implementation departments and the entities Head Offices is not easy - awareness was and is still needed;
- The lack of qualified human resources in the public entities needing to cope with all the technical requirements involved in SDI & INSPIRE implementation: metadata creation, spatial data services development, data harmonization;
- Complexity of data harmonization specifications generate difficulties on using data harmonization tools to obtain validated harmonized datasets;
- The lack of articulation among EC DGs and with the European Environmental Agency (EEA) around INSPIRE issues, creates additional difficulties for INSPIRE implementation at the Member State level.

Planned actions include:

- Define and implement INSPIRE-PT 2022 Action Plan.
- Continue to improve SNIG geoportal, considering technological evolution and user’s feedback, according to the results obtained in the activity “Evolution Strategy for SNIG” which includes the identification of the most relevant spatial data for public policies, the criteria do improve SNIG’s catalogue search results presentation and the collaborative activity for the involvement of the different users on the definition of SNIG evolution strategy, using the living labs approach (SNIGcolab).
- The revision of the National Register for Geographic Data (RNDG) records, to evaluate data and thematic gaps or unsuitable data will continue and will use the results of the study on the “Evolution Strategy for SNIG”, namely the identification of the most relevant data for national and international Public Policies.
- Interoperability with the INSPIRE Geoportal must be guaranteed so efforts must continue to be devoted to interoperable spatial data services availability.
- PDS identification and publication is a continuing process.
- Results on SNIG Usability testing obtained from SNIGcolab should be processed and implemented in the geoportal;
- Improve the level of effort devoted to data harmonization according to INSPIRE data specifications;
- Follow-up MIWP 2020-2024 actions and disseminate relevant issues through portuguese networks and working groups;
- Participate in JIIDE 2022, XIII *Jornadas Ibéricas de Infraestruturas de Dados Espaciais* (JIIDE).

Usage of the infrastructure for spatial information

- The national SDI data producers and users continued to collaborate in the NSDI development resulting on an increased number of metadata on officially approved cartography and territorial management instruments (IGT).
- SNIG geoportal interface facilitates the search and access to spatial data in Portugal and SNIG site is used to provide different types of information to SNIG users and GI community (e.g. news on events, documents, technical sessions...). Nevertheless some problems remained and the results of SNIGcolab will feed the design of the changes to implement in SNIG geoportal to fulfil user's expectations.
- Regional and local public administration modernization is facilitating the production of data and metadata according to INSPIRE specifications, the improvement of the technological infrastructures (e.g. hardware, communication) available and the increase of capacity building. This evolution can increase the data available through SNIG and attract more users for the SDI.
- Spatial data services kept registering significant increases, promoting the access to more spatial data usable for different applications. The number of accesses evidences this. The National Program for Spatial Planning Policy (PNPOT) development and monitoring activities is one example of those uses.
- Usability might have also benefited from the participation in European projects related to SDI including the participation in cross-border projects: Cross-Forest (CEF-Telecom) involving DSI, linked-open data approaches and INSPIRE specifications.
- Practical examples of cross-border cooperation with the neighbouring country continued to be carried in different scopes (e.g. JIIDE and other initiatives).
- Promote the use of the national SDI by specific users and projects, namely to support public policies and environmental directives application. Meetings with people involved in such policies took place to promote the use of SNIG in the access to relevant spatial data.
- ENIIG 2021, focused on the topic “Management and exploitation of geographic information acquired with LiDAR technology”, counted with 12 speakers and registered a high number of participants (350 participants, 300 through the Zoom platform and 50 through DGT’s YouTube channel) which reflects the interest of users in this specific issue that can

increase the availability of spatial data through the NSDI.

Planned actions include:

- Support the use of INSPIRE spatial data sets for eReporting, continuing to increase the communication between the INSPIRE and environmental reporting communities;
- Promote SNIG within different audiences evidencing the results achieved within the activity "Evolution Strategy for SNIG", namely the ones from SNIGcolab;
- Continue to promote the use of the national SDI by specific users and projects, namely to support public policies and environmental directives application;
- After the implementation of the changes resulting from the activity "Evolution Strategy for SNIG", specific sessions on SNIG for different audiences should be performed to promote the use of the National SDI;
- Promote the collaboration between public entities around the use of SNIG and its data, through specific activities of common interest;
- Support/promote the use of INSPIRE spatial data sets for other uses and communities.
- Promote the use of LiDAR data planned to be obtained in 2022 and 2023.

Data sharing arrangements

- Data policy good practices continued to be disseminated in 2021 aiming to promote its clear definition in SNIG catalogue (metadata), by public data producers.
- The promotion of the open data approach was followed during 2021, as well as the delivery of data through spatial data services;
- Promotion of the open availability of datasets free of charge was performed every time it was possible.
- DGT is signing several protocols with the Local Public Administration to ensure that the majority of the spatial data to be obtained in the future will have an "Open data policy" and will be completely open to all users.
- DGT open data such as COSsim, and the Mosaicos de imagens increased the demand on these data.
- In 2019, DGT defined the requirements for the implementation of a National Cartographic Database which will integrate all core spatial data produced at scales 1:10 000 and higher in Portugal. This database, defined in DL 130/2019, is part of a strategy for the development of a national infrastructure to assemble all core spatial information (e.g. hydrography, altimetry, transports, orthophotos) produced in Portugal in one single spot. Besides the partnership with all national entities which produce core spatial data, mainly the local public administration, that guaranties a shared governance of this infrastructure, the new projects SMOS and *Território Digital*, submitted and approved in 2020, will provide human and material resources to support the required developments.

Planned actions

- Continue to promote the open access to GI data free of charge.
- A licensing model for SNIG to support the definition of a simplified license model for data sharing within SNIG continues to be an activity in 2022.
- Proceed with the development of the National Cartographic Database which integrates all core spatial data produced at scales 1:10 000 and higher in Portugal.

Costs and benefits

No significant evolution occurred on cost/benefit analysis: obtaining comparable and coherent values from different public entities is still not possible.

- Set-up and implementation costs, as well costs for compliancy assessment of each component - metadata production, data interoperability, services, coordination and horizontal measures, continue to be difficult to evaluate due to its heterogeneity; maintenance costs are more homogeneous but there is still no global study on this issue.
- Although it is not yet possible to present quantitative benefits, INSPIRE continues to have an important role on the increased availability of spatial data and on the development/use of open data policies which are being promoted at CO-SNIG and through the INSPIRE Core Focal Points Network.
- Benefits on accessing/sharing duly documented data, between public administrations at all levels and across sectors, and also with Universities, Private sector & Citizens continue to be registered.
- Spatial data continues to become available free of charge. Besides the data mentioned last year by DGT and other entities (e.g. three Sentinel-2 satellite images mosaics referring to Mainland Portugal with 10 m resolution (DGT)) some other data was made available, during 2021, such as COSsim and COScid.
- An increased effort must be done to obtain financing resources to support SDI development and some new projects are being used to provide this support.
- Project DIPiGeo, funded by the Portuguese Agency for the Administrative Modernization (AMA), continued to support SNIG & INSPIRE activities at DGT in 2021, together with some specific developments performed within SMOS and Território Digital.
- Hydrographic Institute (IH) and Azores Autonomous Region (RAA) are also developing projects funded by AMA to promote the development of spatial data infrastructures and to foster INSPIRE implementation.

Planned actions include:

- Maintain in 2022 the effort to organize procedures, in cooperation with the data producers, to obtain financial support for the implementation of SNIG and for the activities of the network entities;
- Design and discuss the framework to assess costs and benefits of SDI implementation & maintenance and start to implement it (both at horizontal and entities level);
- Continue to use the support of SMOS and *Território Digital*.

Key facts and figures

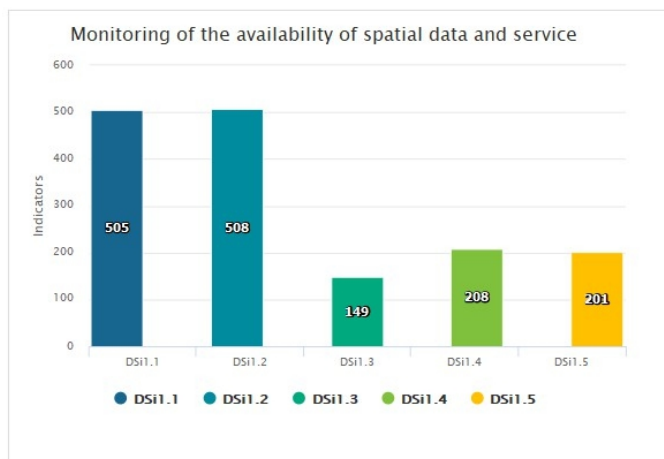
Portugal, Portuguese Republic

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/mr2021_details.html?country=pt

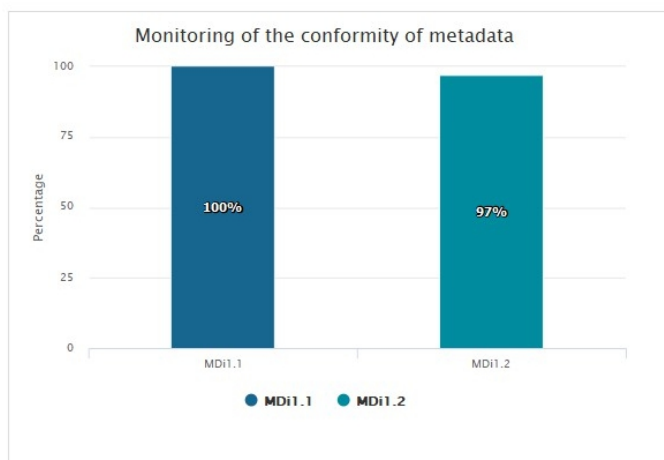
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Legend

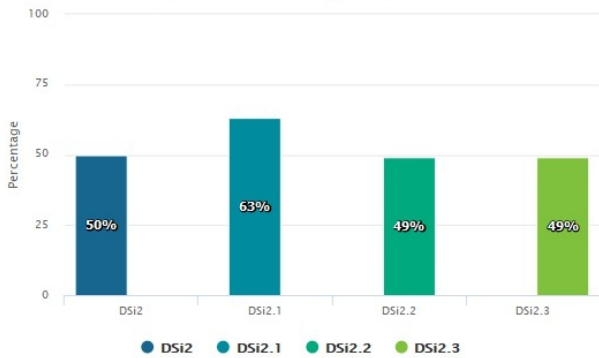
Indicator	Definition
DSi1.1	The number of spatial data sets for which metadata exist
DSi1.2	The number of spatial data services for which metadata exist
DSi1.3	The number of spatial data sets for which the metadata contains one or more keywords from a register provided by the Commission indicating that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

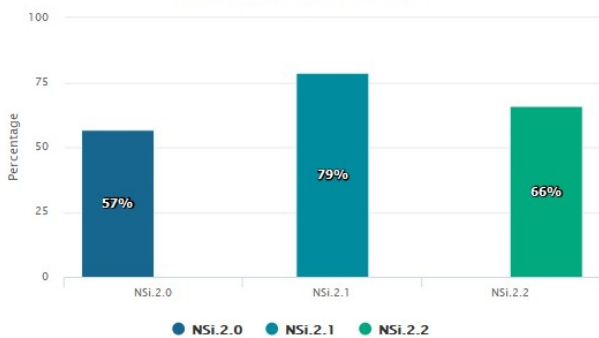
Monitoring of the conformity of spatial data sets



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

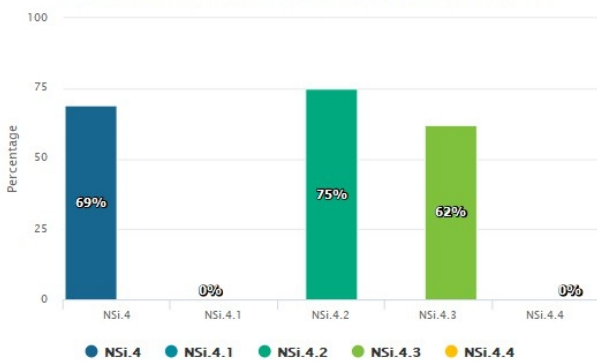
Monitoring of the accessibility of spatial data sets through view and download services



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