

## Table of Contents

- Introduction
- State of Play
  - Coordination
  - Functioning and coordination of the infrastructure
  - Usage of the infrastructure for spatial information
  - Data Sharing Arrangements
  - Costs and Benefits
- Key Facts and Figures.
  - Monitoring Indicators

## 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 2022 acquired in December 2022 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

#### National Contact Point

**Name of Public Authority:** Direção-Geral do Território (DGT) | Directorate-General for the Territory

**Postal Address:** Rua da Artilharia Um, 107

1099-052 Lisboa PORTUGAL

**Contact Email:** [Click to email](#)

**Telephone Number:** (+351) 21 381 96 00

**Telefax Number:** (+351) 21 381 96 93

**National INSPIRE Website:** <https://snig.dgterritorio.gov.pt/>

**MIG Contacts: Contact Person:** Alexandra Fonseca

**Email:** [afonseca@dgterritorio.pt](mailto:afonseca@dgterritorio.pt)

**Contact Person:** Paulo Patrício

**Email:** [ppatricio@dgterritorio.pt](mailto:ppatricio@dgterritorio.pt)

**Contact Person:** Mário Caetano

**Email:** [mario.caetano@dgterritorio.pt](mailto:mario.caetano@dgterritorio.pt)

**Contact Person:** Joaquim Pinto da Costa

**Email:** [joaquim.costa@apambiente.pt](mailto:joaquim.costa@apambiente.pt)

**MIG T Contacts: Contact Person:** Danilo Furtado

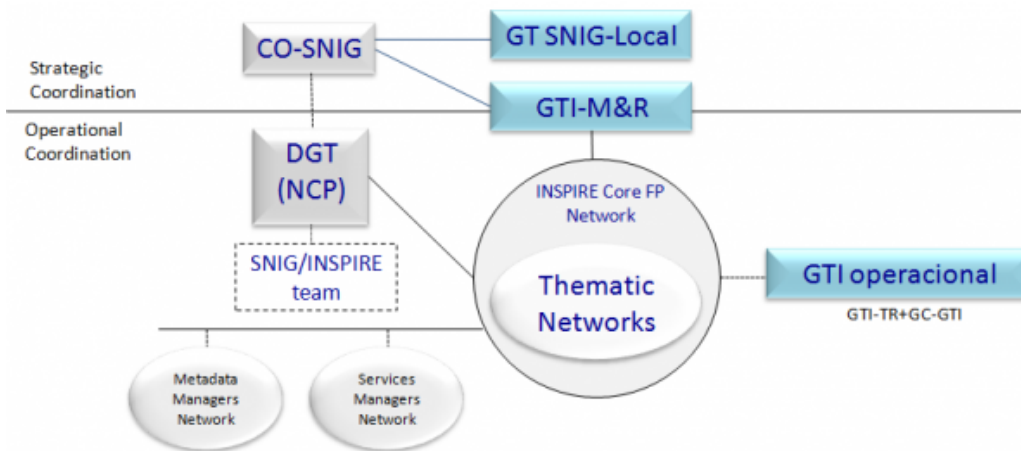
**Email:** [dfurtado@dgterritorio.pt](mailto:dfurtado@dgterritorio.pt)

**Contact Person:** Henrique Silva

**Email:** [hsilva@dgterritorio.pt](mailto:hsilva@dgterritorio.pt)

**Contact Person:** Paulo Patrício

**Email:** ppatricio@dgterritorio.pt  
**Contact Person:** Marta Medeiros  
**Email:** marta.ip.medeiros@azores.gov.pt  
**Contact Person:** Francisco Caldeira  
**Email:** francisco.caldeira@ine.pt



### 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 GI and 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, created more recently, involving the inter-municipality’s communities (CIM), aiming to better integrate the local level within the national SDI.
- The Portuguese Hydrographic Institute is participating in a national working group led by DGPM and FCT for OCDE public consultation study on the value chains in public marine data in Portugal, data collection by questionnaire open to public in link: <https://survey.oecd.org/index.php?r=survey/index&sid=262566&lang=pt>.
- Hydrographic Institute (IH) is actively involved in the International Hydrographic Organization Marine Spatial Data Infrastructures Working Group (MSDIWG) more information: [https://iho.int/uploads/user/Inter-Regional%20Coordination/MSDIWG/MSDIWG14/MSDIWG14\\_05F\\_Report\\_PT\\_IH.pdf](https://iho.int/uploads/user/Inter-Regional%20Coordination/MSDIWG/MSDIWG14/MSDIWG14_05F_Report_PT_IH.pdf). It is also chairing the International Hydrographic Organization Eastern Atlantic Hydrographic Commission (EAthC) Marine Spatial Data Infrastructures (MSDI) Working Group More information on: [https://iho.int/uploads/user/Inter-Regional%20Coordination/MSDIWG/MSDIWG14/MSDIWG14\\_06E\\_EAtHC\\_Report.pdf](https://iho.int/uploads/user/Inter-Regional%20Coordination/MSDIWG/MSDIWG14/MSDIWG14_06E_EAtHC_Report.pdf). Moreover is actively involved in the UN-GGIM Working Group on Marine Geospatial Information more information: <https://ggim.un.org/UNGGIM-wg8>

### 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.
- European events and meetings on SDI and INSPIRE (e.g. MIG and MIG-T meetings as well as in some of the sub-groups) continued to be followed counting, as in previous years, with the involvement of some of the INSPIRE Core Focal Points Network entities, that were nominated as representatives.
- Some surveys were answered, promoted by Eurogeographics, UNGGIM, euroSDR or the EC (e.g. Academia-Business cooperation requirements towards establishment of efficient SDI (euroSDR); INSPIRE Geoportail Backend Beta-testing survey for Member States and EFTA countries (EC/INSPIRE)).

- In terms of High Value Datasets, DGT kept CO-SNIG informed on the issues around the EC Implementing Act, which ended-up being finalized in December 2022 and published in January 2023. The public consultation that took place in June was disseminated through CO-SNIG and the focal points network.
- GTI-Op meetings did not occur during 2022. Nevertheless, DGT held throughout 2022, several technical meetings (mostly bilateral) with the various entities that report Metadata and Spatial Data Services (SDS) to INSPIRE.
- Organization of ENiiG, 2022 - *Encontro Nacional de Infraestruturas de Informação Geográfica* (<http://eniig.dgterritorio.pt/>), the annual national event on SDI, which took place on December 16, 2022. This edition was dedicated exclusively to the official and homologated topographic cartography, which includes multi-purpose core cartography used for various purposes, among which stands out the support to public policies and activities at the national and local level, as well as the support for the development of projects and studies in various socio-economic sectors. With this 7th edition of ENiiG the idea was to carry out a diagnosis of the use of CartTop model in Portugal, from the perspective of: a) DGT, as the entity responsible for the elaboration of this model and for the certification of the cartography; b) the producing companies, as entities responsible for the application of these technical specifications in the production of cartographic data and c) the users, as those who exploit the information obtained with the model CartTop. In this ENiiG edition, DGT announced the aim of carrying out the full acquisition of topographic cartography for mainland Portugal. About 150 people attended the event.
- The assessment of SNIG 2020 vision objectives accomplishment, validated in December 2020 at CO-SNIG meeting (R25), continued to be considered within 2022 developed activities.
- Accordingly, some of the developed activities included: 1) analysis of SNIG catalogue contents focused on the use of data for public policies, aiming to contribute to the identification of relevance criteria; 2) critical assessment and revision of metadata content identifying inconsistencies and errors; 3) Definition of guidelines for the strategic evolution of SNIG.
- A document on *SNIG Evolution Strategy*, which aimed to identify the main guidelines for the future development of SNIG, was produced and approved at CO-SNIG, in December 2022. The guidelines identified in this document were the following:
  - Renewal of the National Geographic Data Registry (RNDG): inventory and systematization of existing metadata, definition of criteria to be fulfilled so that the data can be registered in SNIG, update the RNDG in collaboration with the producing entities and based on the defined criteria;
  - Ensure the quality of metadata: identify and correct inconsistencies, detect gaps and harmonize criteria for filling in the descriptive fields;
  - Improve data search tools on the geoportal: namely through the introduction of additional classification features, ordering the search results by relevance, for which it is necessary to establish criteria (e.g. most important data for public policies, most searched data, most downloaded data, more recent data, data with greater geographic coverage);
  - Increase the number of geographic datasets available through open data policies, highlighting its value;
  - Progress in articulating SNIG with the data.gov portal, so that access to open geographic information through this portal is guaranteed by SNIG;
  - Reinforce the development of SNIG, promoting the distinction of this system in relation to EC INSPIRE Directive requirements, but maintaining the good practices of this directive and others (e.g. Open Data Directive);
  - Intensify the relationship with the producing entities, reinforcing the relationship with the Local Public Administration and creating thematic working areas;
  - Promote the identification and availability of High Value Datasets (HVD), according to the thematic categories established by the Open Data Directive and its delegated act;
  - Disseminate, spread and create capacity, through the diversification of: the communication media used (e.g. newsletters, social networks, ideas contests); the target audiences (e.g. school communities, universities) thus contributing to increase the number of SNIG users;
  - Engage academia by promoting research and innovation in SNIG development;
  - Continue to orient SNIG towards the user, promoting the application of co-creation processes involving the users, with the aim of enabling a more in-depth study on the lines of action for SNIG development and its main components: Governance, National Geographic Data Registry, Geoportal, Technology and Innovation, Communication and Dissemination.

The production of these guidelines included a collaborative session within CO-SNIG where several ideas were proposed, while answering a set of specific questions presented to a number of groups created for this session, within this coordination council.

- Several capacity-building activities, provided at the European level, were internally followed by the members of PT INSPIRE structures (e.g. Eurogeographics Workshop - Geodata Discoverability, Geoportals and HVD: draft implementing Regulation).
- Cooperation with Spain: the collaboration around the organization of the Iberian SDI event, JIIDE, continued; bi-lateral meetings on cartography production (e.g. land cover/land use cartography, LiDAR data) occurred in the context of the Action 2019-2-31: Fostering cooperation between Spain and Portugal in the Copernicus land domain.
- JIIDE 2022 (<https://www.jiide.org/pt/inicio>), the XIII edition of this event, took place from 24 to 26 October 2022, in Sevilha, organized by CNIG from Spain with the collaboration of the Portuguese DGT and was focused on the topic " Experience

and technological evolution: bringing SDI closer to citizens". The event included 18 Sessions, with around 82 presentations, with Portuguese and Spanish speakers, two invited keynote speakers, one round table and seven workshops. 279 participants have attended this Conference.

- Guarantying the articulation of SNIG with thematic and regional SDIs (e.g. SNIAMB, IDEIA RAA, IRIG RAM, SNIT, ICNF, IH and LNEG metadata catalogues harvesting process) proceeded during 2022, being a routine task for SNIG.
- Efforts for the articulation of SNIG with the open data portal, <https://dados.gov.pt/pt/> were proceeded.
- The collaboration of DGT staff in activities developed with universities continued, e.g. teaching SDI issues in Master degrees (e.g. Masters on Geospatial Information from University of Lisbon). An effort is being made to sign collaboration protocols with different academic organizations on SNIG and other issues.
- The new technical specifications for the Portuguese reference cartography, published in 2019, now used in a regular basis, continued to be updated and improved in 2022.
- The two projects approved in 2020 by the SAMA 2020 programme, proceeded in 2022:
  - 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. SMOS was conceived and developed by DGT with the aim of continuously producing basic and thematic cartographic information on land use and land cover (*Despacho n. 291 /2023, Diário da República of January 6*). It is a collaborative and multifunctional system that involves the Public Administration, the national scientific and technological system, the private sector and the citizen, guided by user needs and with an open data policy. SMOS produces reliable, updated and open information on the dynamics of land cover/land use, which can be translated into strategic knowledge and has been organizing courses and seminars to present the system involving a large number of potential users.
  - *Território Digital – Modernização, Cocriação e Partilha de Informação Geográfica, Cadastral e Territorial* is a system focused on the modernization, co-creation and sharing of Geographic, Cadastral and Territorial Information.

The results of these two projects continue to have a positive impact on the INSPIRE and SNIG implementation as they promote the use of more spatial data by all users, and the involvement of more and new users.

- In 2022, the activities defined in the Portuguese Recovery and Resilience Plan (PRR) started. In the next years, this investment programme will continue financing more activities relevant for SDI development, focused on application development, spatial data acquisition and spatial data access and dissemination.

#### Functioning and coordination of the infrastructure

- The *Plano de Ação INSPIRE.PT 2022* (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 2022 the INSPIRE Core Focal Points Network (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 (e.g. data policy).
  - Increasing the spatial data services for the reported metadata.
  - Validating the spatial datasets and services using the INSPIRE Reference Validator.
  - Validating interoperability (Resource linkages checker tool).
- Some evolution occurred at the regional SDI level, namely IRIG RAM (*Região Autónoma da Madeira*), with the publication of a new legal act ruling the cartographic production specifications.
- Hydrographic Institute (IH) had launch the portal <https://geonavnet.hidrografico.pt> and is testing the OCG Open API standard in order to start publishing geospatial information as REST Services in Open API Standard.
- IH and the Portuguese Sea and Atmosphere Institute (IPMA) are working together to develop the Portuguese National Oceanographic Data Center (NODC) for the program "International Oceanographic Data and Information Exchange" (IODE) of the "Intergovernmental Oceanographic Commission" (IOC) of UNESCO.
- INSPIRE monitoring process in 2022 – The process automatically based on the information obtained from the SNIG INSPIRECORE metadata, occurred in December 19, 2022. The INSPIRE monitoring results are available here: [https://inspire-geoportal.ec.europa.eu/mr2022\\_details.html?country=pt](https://inspire-geoportal.ec.europa.eu/mr2022_details.html?country=pt)). Some problems, that negatively influenced the final results. were detected with RAA entity (Azores Autonomous Region) metadata, in the field related to SRS, that didn't appear in previous Monitoring and that INSPIRE Validation (Conformance Class 2b. 'INSPIRE data sets and data set series metadata for Monitoring') didn't detect,
- The discussion on ways to promote SNIG within different audiences proceeded (SNIG & the public administration; SNIG & academia; SNIG & citizen/citizens associations). These efforts reinforce the need to guaranty that SNIG includes the most important spatial data required by public policies and that these data are effectively visible for the users, when accessing the catalogue search results.
- Accordingly, the study for Mainland Portugal, focused on the identification of the most relevant data for national and international Public Policies continued under the wider scope activity "Evolution Strategy for SNIG", allowing also the identification of spatial data gaps. The implementation of the collaborative activity for the involvement of the different users on the definition of SNIG evolution strategy using the living labs approach (SNIGcolab), previously designed was

postpone to 2023.

- The organization of JIIDE 2022 (<https://www.jiide.org/pt/inicio>), the XIII edition of this event, was performed and occurred from 25 to 27 October 2022 in Sevilha. Promoted by CNIG from Spain with the collaboration of the Portuguese DGT, the event was focused on the topic "Experience and technological evolution: bringing SDI closer to citizens". This topic was chosen, aiming to give more importance to users and promote the sharing of experiences through the dissemination of use cases. Considering SNIG participation in JIIDE 2022, DGT presented 3 communications related to SNIG and GI: "Sistema Nacional de Informação Geográfica: Rumo a uma infraestrutura de informação geográfica aberta" D. Furtado, DGT; "Plano plurianual da Direção-Geral do Território para a aquisição de cartografia topográfica e temática", P. Patricio, DGT and "The Portuguese Land Cover Monitoring System (SMOS): From research and development (R&D) to operations", H. Costa, DGT. Other Portuguese entities presented their work: Agência Portuguesa do Ambiente (APA) with a presentation on Volunteered Geographic Information ("Informação Geográfica Voluntária", L. Baltazar, APA) and other on noise data sharing ("Ruído ambiente Integração e partilha de Conjuntos de Dados Geográficos", S. Cunha, APA); Instituto Hidrográfico (IH) with a communication on open data (Hydrographic Open Data for Society, P. Nunes, IH); Comissão de Coordenação e Desenvolvimento Regional do Norte (CCDR-NORTE) focused on the CCDR-Norte SDI ("IDE da Comissão de Coordenação e Desenvolvimento Regional do Norte (CCDR-NORTE)", R. Pinho, CCDR-NORTE); CCDR do Alentejo focused on the GIS platform from CCDR Alentejo ("Plataforma SIG da CCDR Alentejo", J. Condeça, CCDR Alentejo); DROT RAMadeira presented the regional SDI ("iRIG-Madeira -Presente e Futuro. D. Costa, Recursos Naturais e Alterações Climáticas/DROT).
- The organization of SMOS event "SMOS - Sistema de Monitorização da Ocupação do Solo. Informação com valor para um território inteligente." took place at DGT in September 19, 2022 (<https://www.dgterritorio.gov.pt/SMOS-Sistema-de-Monitorizacao-da-Ocupacao-do-Solo>) and involved several users of the portuguese SDI, more interested on the data related to Land use/Land cover. SMOS produces reliable, updated and open information on the dynamics of land cover/land use, which can be translated into strategic knowledge with application in the areas of land use planning, agriculture, forestry, water resources, civil protection, education, scientific research and all public and private activities that need access to up-to-date data on land use and land cover information.

Technical constraints:

SDI development and INSPIRE implementation in Portugal in 2022 continue to evidence the same technical constraints mentioned in previous years, namely the problems resulting from articulation between the technical implementation departments and the head offices which sometimes affect the development of the required activities. Nevertheless, a positive evolution was registered due to continuing awareness efforts. In addition, the lack of qualified human resources in the public entities to cope with all the technical requirements involved in SDI & INSPIRE implementation (metadata creation, spatial data services development, data harmonization) continues to influence and constrain the activities. Data harmonization was not a strong development effort during 2022, but the complexity of this task cannot be ignored as one of the technical constraints for the continuing development of the SDI, considering the INSPIRE goals. Also without a relevant expression during 2022, the difficulties around INSPIRE and environmental reporting remains an issue that needs to be tackled.

Planned actions include:

- Define and implement INSPIRE-PT 2023 Action Plan;
- Continue to improve SNIG geoportal, considering technological evolution and user's feedback;
- Proceed with the implementation of SNIG Guidelines for its future evolution which include among others the following actions:
  - 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;
  - The organization and promotion of capacity building and promotion activities around SNIG, reaching as much users as possible;
  - The operational articulation of SNIG with dados.gov, also regarding the activities related with geographical HVD;
  - The identification of the most relevant spatial data for public policies and the consideration of other criteria to improve SNIG's catalogue search results presentation;
  - The promotion of collaborative activities for the involvement of the different users on the definition of SNIG evolution needs.
- Interoperability with the INSPIRE Geoportal must be guaranteed so efforts must continue to be devoted to interoperable spatial data services availability;
- Continue to follow-up MIWP 2020-2024 actions and disseminate relevant issues through Portuguese networks and working groups;
- Participate in the organization of JIIDE 2023, XIV *Jornadas Ibéricas de Infraestruturas de Dados Espaciais* (JIIDE), in cooperation with the Spanish SDI team;
- Organize ENIIG, the national event for NSDI users;
- PRR activities will continue during 2023 focused on application development, spatial data acquisition and spatial data access and dissemination.

## Usage of the infrastructure for spatial information

- The national SDI data producers/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....). Efforts have been developed during 2022 to identify improvements in the RNDG in terms of the quality of the metadata contents: revision and identification of errors and inconsistencies.
- SNIG entities, through CO-SNIG, were involved in the process of identifying actions for the future development of SNIG, which were specially focused on user needs.
- 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 and SMOS are examples of those uses.
- SMOS involves several producers/users of the Portuguese SDI, more interested on the exploration of data related to Land use/Land cover (<https://smos.dgterritorio.gov.pt/>).
- SMOS includes one module devoted to the citizen, COScid, which aims to function as a powerful tool that allows the user to know dynamics and obtain statistics and various information, in the form of graphs and tables, on Mainland Portugal territory or administrative units, based on the Land Use and Land cover cartography (COS) produced in SMOS.
- Another SMOS module which is also relevant in terms of the user is COSvgi, which aims to allow specialized technicians from municipalities and also the citizen to identify, based on their local knowledge, errors/changes in the land use/land cover cartography and submit its proposals to further verification/updating. This can be made through the proposal of new classes for cartography polygons/pixels or of new geometry through the use of simple drawing tools.

### Planned actions include:

- Continue the efforts to promote the use of INSPIRE spatial data sets for eReporting, through the increase of communication between the INSPIRE and environmental reporting communities;
- Promote SNIG within different audiences following the results achieved within the activity “Evolution Strategy for SNIG” (e.g. academy, primary and secondary school's communities; journalists);
- Continue to promote the use of the national SDI by specific users and projects, namely to support public policies and environmental directives application;
- Promote capacity building sessions on SNIG for different audiences (central, regional and local public administration, academia, ...) to promote the use of the National SDI, besides the organization of the national event on SDI (ENiIG);
- 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 (e.g. Education, Media, ...);
- Promote the LiDAR data acquisition planned to be obtained in 2023 and 2024;
- Users' needs are a central concern for SMOS: DGT has been organizing courses and seminars to present the system to potential users and will continue to do so. In these courses and seminars, SMOS products, viewers, visualization and download services, examples of system applications and other topics related to land use/land cover are presented. All courses and seminars are free of charge;
- Cross-border cooperation which also expands the user community continued to be promoted, such as JIIDE and other initiatives, namely the bi-lateral meetings on cartography production (e.g. land cover/land use cartography, LiDAR data) occurred in the context of the Action 2019-2-31: Fostering cooperation between Spain and Portugal in the Copernicus land domain;
- ENiIG 2022, focused on the topic “Official and homologated topographic cartography,”, counted with 10 speakers and registered a high number of participants (150), which reflects the interest of users in this specific issue which can increase the availability of spatial data through the NSDI;
- The platform “Portugal Visto do Céu”, launched in December 2022, aiming to provide the user with a way to perform a comparative visual analysis of the different aerial coverages (e.g. aerial photographs and satellite images) which have been obtained over the last decades (<https://geo2.dgterritorio.gov.pt/portugal-visto-ceu>) is another initiative which promotes the use of the infrastructure.

## Data sharing arrangements

- Data policy good practices continued to be disseminated in 2022 aiming to promote its clear definition in SNIG catalogue, by public data producers.
- The promotion of the open data approach was followed during 2022, 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 proceeds the signing of 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 COSc, MIAEV (*Mapas Intra-Anuais do Estado da Vegetação*) and the Mosaicos de imagens increases the demand on these data.

- Promotion of data sharing arrangements with the local public administration for the implementation of the 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 projects SMOS and *Território Digital* continued to provide valuable human and material resources to support the required developments.

Planned actions include:

- 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 2023, specially now with the publication of the HVD act;
- 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;
- Promote the establishment of protocols with academia which include also data sharing;
- Continue the efforts for data sharing at the local level.

### Costs and benefits

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

The previously referred issues remain actual:

- 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, strengthened now by the Open data directive, already transposed and its legal act on the HVD.
- 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 identified.
- Spatial data continues to became available free of charge. Besides the data mentioned last year, provided 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 2022, such as COSc and MIAEV, produced within the SMOS project.
- An increased effort needs to be developed to obtain financing resources to support SDI development, namely the financial support from PRR, mainly focused on application development, spatial data acquisition and spatial data access and dissemination.
- Hydrographic Institute (IH) is developing the project funded by AMA to promote the development of spatial data infrastructures and to foster INSPIRE implementation. During 2022, IH converted nautical routes information from paper to digital format and published it as OGC services; also published Maritime Safety information and Notices to mariners - in OGC services format.

Planned actions include:

- Maintain the effort to promote capacity building mainly for the local public administration, thus contributing to better be able to assess data production and availability and its costs and benefits;
- Following INSPIRE final evaluation report, released in July 2022, promote the performance of assessments of SNIG considering INSPIRE and non-INSPIRE issues;
- Follow the development of the INSPIRE MIG good-practices document for the open data/HVD alignment, foreseen for the end of 2023;
- Continue to use Portuguese Recovery and Resilience Plan (PRR) financial support for application development, spatial data acquisition and spatial data access and dissemination.

### Key facts and figures

# Portugal, Portuguese Republic

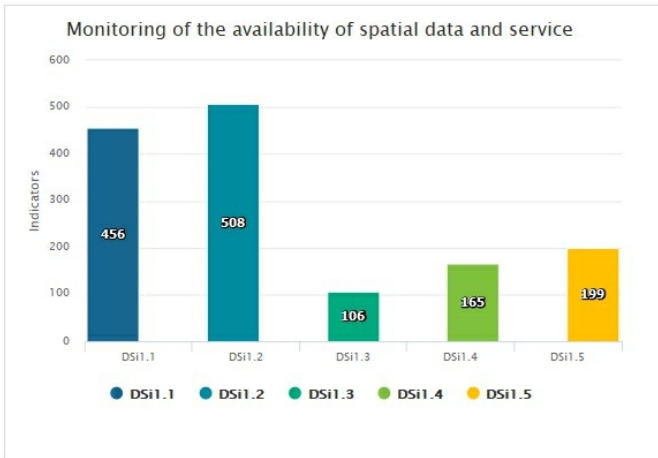
Indicators in support of [Commission Decision \(EU\) 2019/1372](#) implementing Directive 2007/2/EC

# (INSPIRE) as regards to monitoring and reporting

Graphs generated with data taken from: [https://inspire-geoportal.ec.europa.eu/mr2022\\_details.html?country=pt](https://inspire-geoportal.ec.europa.eu/mr2022_details.html?country=pt)

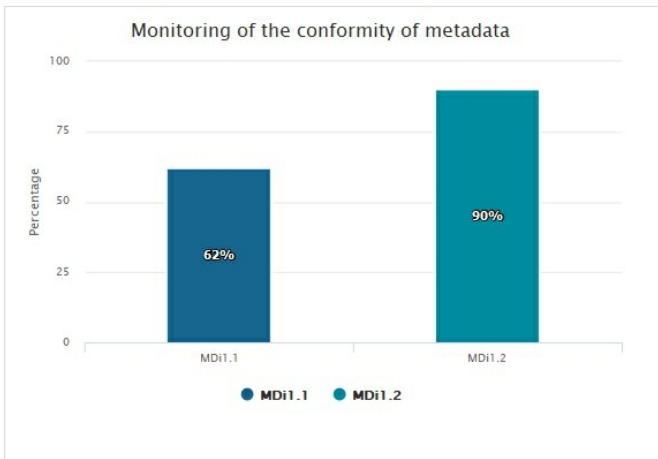
The date of harvest metadata: 2022-12-19, 19:15:41

Endpoint: e5584907-90de-424d-8d40-7f7a418e569b



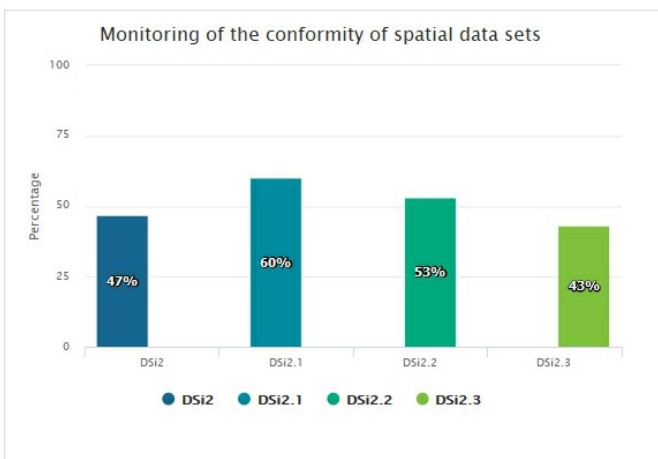
### Legend

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

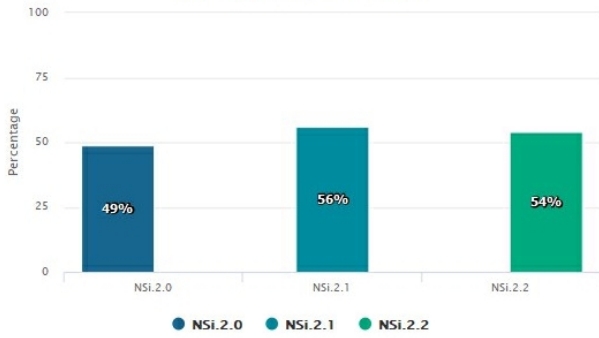


### Legend

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



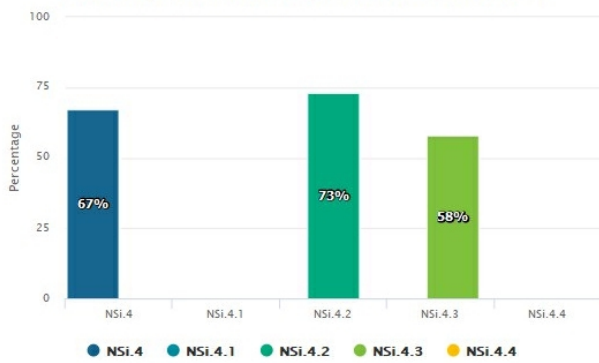
### Monitoring of the accessibility of spatial data sets through view and download services



### 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