SPATIAL DATA INFRASTRUCTURES (SDI)

THE INSPIRE DIRECTIVE

Curricular Unit Description

MODULES	TEACHING STAFF	DATES	SW
CURRICULAR UNIT PRESENTATION	Ana Navarro, FCUL	20 sep	
INTRODUCTION TO SDI	Ana Navarro, FCUL	27 sep	GEMA/QGIS
METADATA	Henrique Silva, DGT	4 oct/11 oct	GEMA
SPATIAL DATA SERVICES	Danilo Furtado, DGT	18 oct/25 oct	GeoServer / QGIS
SPATIAL DATA HARMONIZATION	André Serronha, DGT	8 nov/15 nov	QGIS / hale STUDIO/GAIA
DATA POLICY	Alexandra Fonseca, DGT	22 nov	
PROJECT DEVELOPMENT	Ana Navarro and DGT researchers	29 nov/6 dec	
PROJECT PRESENTATION	Ana Navarro and DGT researchers	13 dec	

Ciências ULisboa

d.gTerritório
Direção-Geral do Território

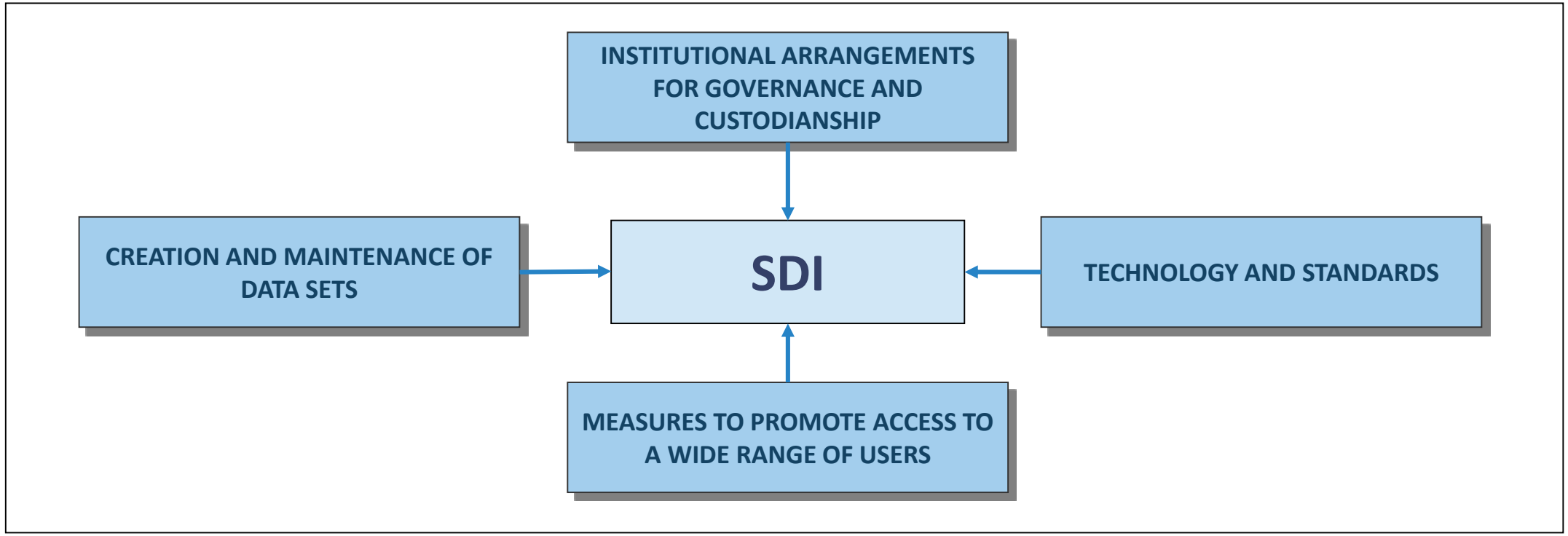
SDI Definition

- According to the Global Spatial Data Infrastructure (GSDI) Association´s Cookbook (Nebert, D.D. (editor), 2004) an SDI hosts geographic data and attibutes, sufficient documentation (metadata), a means to discover, visualize, and evaluate the data (catalogues and web mapping), and some method to provide access to the geographic data.
- Beyond this are additional services or software to support applications of the data.
- To make an SDI functional, it must also include the organisational agreements needed to coordinate and administer it on a local, regional, national, and or trans-national scale.

SDI Definition

- The description of GSDI classifies SDI components as data, metadata, services (technology), and organisational agreements.
- According to Craglia *et al*. (2003), SDI encapsulate policies, institutional and legal arrangements, technologies, and data that enable sharing and effective usage of geographic information.
- This definition adds an aspect of utmost importance – the effective usage of geographic data, which sets the requirement of interoperability.

SDI Components



Masser & Crompvoets (2015)

INSPIRE Directive

- The INSPIRE Directive aims to create a European Union spatial data infrastructure for the purposes of EU environmental policies and policies or activities which may have an impact on the environment.
- This European Spatial Data Infrastructure will enable the sharing of environmental spatial information among public sector organisations, facilitate public access to spatial information across Europe and assist in policy-making across boundaries.

INSPIRE Directive

- INSPIRE is based on the infrastructures for spatial information established and operated by the Member States of the European Union. The Directive addresses 34 spatial data themes needed for environmental applications.
- The Directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2021.

INSPIRE Themes

ANNEX: 1

- Addresses
- Cadastral parcels
- Geographical grid systems
- Hydrography
- Transport networks
- Administrative units
- Coordinate reference systems
- Geographical names
- Protected sites

ANNEX: 2

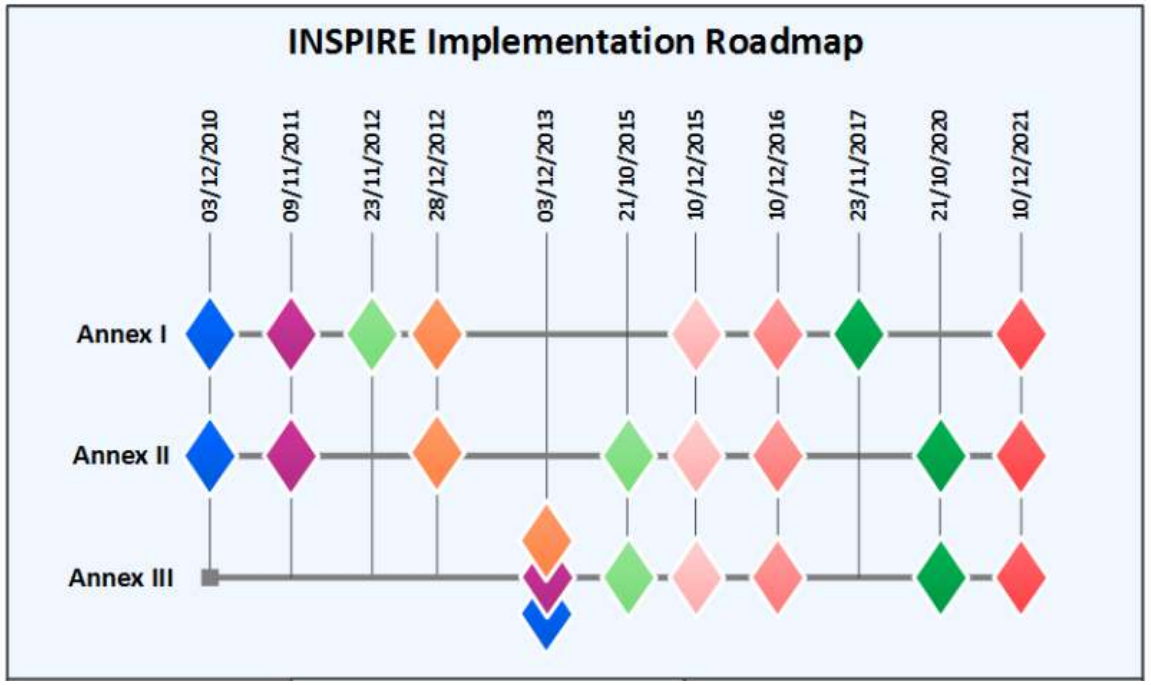
- Elevation
- Land cover
- Geology
- Orthoimagery

INSPIRE Themes

ANNEX: 3

- Agricultural and aquaculture facilities
- Atmospheric conditions
- Buildings
- Environmental monitoring Facilities
- Human health and safety
- Meteorological geographical features
- Area management / restriction / regulation zones & reporting units
- Bio-geographical regions
- Energy Resources
- Habitats and biotopes
- Land use
- Mineral Resources
- Natural risk zones
- Population distribution and demography
- Sea regions
- Species distribution
- Utility and governmental services
- Oceanographic geographical features
- Production and industrial facilities
- Soil
- Statistical units

INSPIRE Roadmap



Discovery metadata shall be available for spatial data sets and services

Spatial data sets shall be available for **discovery and view** from the INSPIRE geo-portal (data does not yet need to be conformant to IR-ISDSS)

Spatial data sets shall be available for **download and transformation** (whenever applicable[1]) from the INSPIRE geo-portal (data does not yet need to be conformant to IR-ISDSS[2])

Newly collected and extensively restructured spatial data sets shall be **conformant** to IR-ISDSS (incl. **metadata for interoperability**) and available through network services

All spatial data sets shall be **conformant** to IR-ISDSS (incl. **metadata for interoperability**) and available through network services

All invocable spatial data services shall be **conformant to Annex V of IR-ISDSS** (incl. **metadata**)

Invocable spatial data services related to newly collected and extensively restructured spatial data sets shall be **conformant to Annexes VI and** (where practicable) **VII of IR-ISDSS** (incl. **metadata**)

All invocable spatial data services shall be **conformant to Annexes VI and** (where practicable) **VII of IR-ISDSS** (incl. **metadata**)

IR-ISDSS = Implementing Rules on interoperability of spatial data sets and services (Commission Regulation (EU) No. 1089/2010), including its amendments Regulations (EU) No. 102/2011, 1253/2013 and 1312/2014

[1] Transformation Services only need to be provided if data sets are not made conformant with the IR-ISDSS by some other means (see Art. 7(3) of the INSPIRE Directive)

[2] With the exception of newly collected and extensively restructured Annex I data sets, which already have to be compliant with the IR-ISDSS by 23/11/2012

INSPIRE Principles

- Data should be collected only once and kept where it can be maintained most effectively.
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
- Geographic information needed for good governance at all levels should be readily and transparently available.
- Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.

INSPIRE Legislation

- The INSPIRE Directive was published in the Official Journal of the European Union on the 25th April 2007 and entered into force on the 15th May 2007.

Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

- To ensure that the spatial data infrastructures of the Member States were compatible and usable in a Community and transboundary context, the INSPIRE Directive required that common Implementing Rules (IR) were adopted in a number of specific areas.

INSPIRE Legislation

- These Implementing Rules were adopted as Commission Decisions or Regulations and are binding in their entirety.
- The Commission was assisted in the process of adopting such rules by a regulatory committee composed by representatives of the Member States and chaired by a representative of the Commission (known as the Comitology procedure).

INSPIRE Implementing Rules

METADATA	
DATA SPECIFICATIONS - INTEROPERABILITY OF SPATIAL DATA SETS AND SERVICES	
NETWORK SERVICES	DISCOVERY AND VIEW SERVICES
	DOWNLOAD AND TRANSFORMATION SERVICES
SPATIAL DATA SERVICES	
DATA AND SERVICE SHARING	
MONITORING AND REPORTING	

INSPIRE Technical Guidance

- In addition to the Implementing Rules, non-binding Technical Guidance documents describe detailed implementation aspects and relations with existing standards, technologies, and practices.
- The figure in the next slide illustrates the relationship between the INSPIRE Regulations containing Implementing Rules and their corresponding Technical Guidance documents.

INSPIRE Technical Guidance

COMMISSION REGULATION (EC) No 1205/2008

of 3 December 2008

implementing Directive 2007/2/EC of the European Parliament and of the Council as regards metadata

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) [1], and in particular Article 5(4) thereof,

Whereas:

(1) Directive 2007/2/EC lays down general rules for the establishment of the Infrastructure for Spatial Information in the European Community. Since, for the proper functioning of that infrastructure, it is necessary for a user to be able to find spatial data sets and services and to establish whether they may be used and for what purpose, Member States should provide descriptions in the form of metadata for those spatial data sets and services. Since such metadata should be compatible and usable in a Community and trans-boundary context, it is necessary to lay down rules concerning the metadata used to describe the spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC.

(2) The definition of a set of metadata elements is necessary in order to allow identification of the information elements necessary to comply with Directive 2007/2/EC and does not preclude the possibility for organisations to document the information resources more extensively with additional elements derived from international standards or working practices in their community of interest. Nor does it preclude the possibility to adopt guidelines established and kept up to date by the Commission, in particular when it is necessary to ensure the interoperability of metadata.

(3) Interactions are necessary for the validation of metadata in accordance with Directive 2007/2/EC with regard to the conditions and expected multiplicity of such metadata element, that is to say, whether values for such element are always to be expected in the metadata record, can occur only once, or can occur more than once.

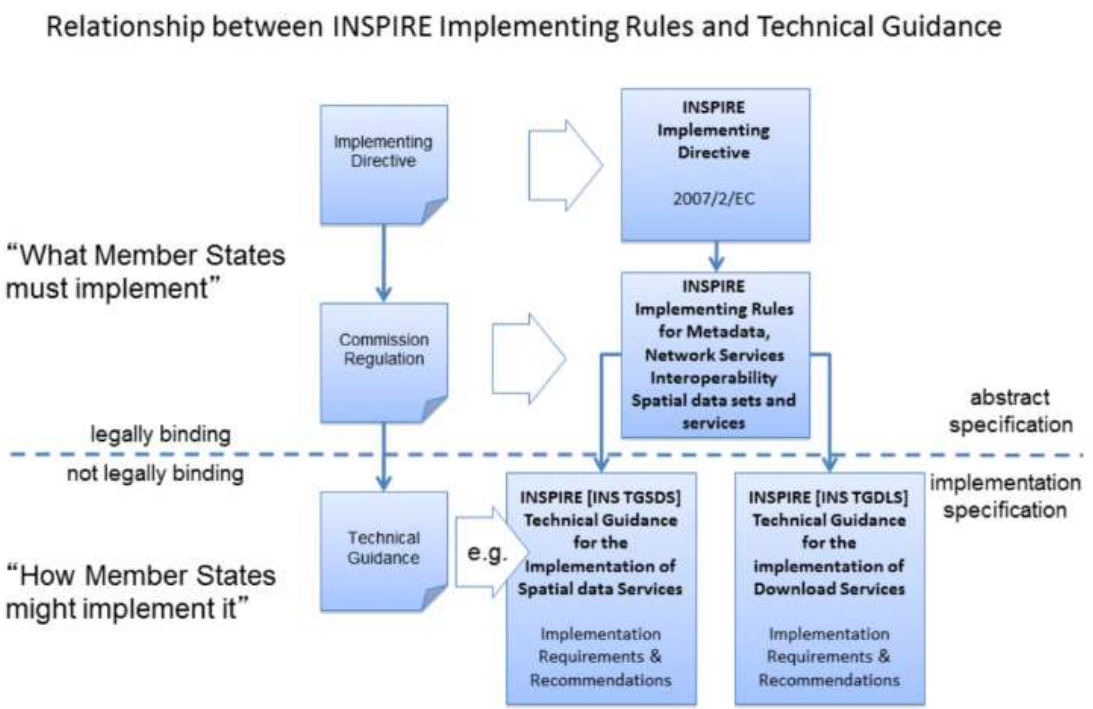
(4) The value domain of each metadata element is necessary to ensure interoperability of metadata in a multilingual context and that value domain should be able to take the form of free text, dates, codes derived from international standards, such as language codes, keywords derived from controlled lists or thesauri, or character strings.

(5) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 22 of Directive 2007/2/EC.

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter



INSPIRE

Infrastructure for Spatial Information in Europe

Technical Guidance for the implementation of INSPIRE dataset and service metadata based on ISO/TS 19139:2007

Title	Technical Guidelines for implementing dataset and service metadata based on ISO/TS 19139:2007
Creator	Temporary MIG subgroup for action MWP-8
Date of publication	2017-03-02
Subject	Technical Guidance for INSPIRE metadata for datasets and services
Status	Version 2.0.1 This document has been endorsed by the INSPIRE maintenance and implementation group (MIG) in its meeting on 30/11-1/12/2016 (see meeting minutes at https://ies-svn.jrc.ec.europa.eu/projects/mig-pwg/wiki/3th_MIG-P_meeting)
Publisher	INSPIRE Maintenance and Implementation Group (MIG)
Type	Text
Description	Implementation specification for defining metadata for INSPIRE datasets and services in ISO/TS 19139 based XML format in compliance with the INSPIRE Implementing Rules for metadata.
Format	PDF
Licence	Creative Commons Attribution (cc-by) 4.0 (https://creativecommons.org/licenses/by/4.0/)
Identifier	http://inspire.ec.europa.eu/tg/metadata-iso19139/2.0 (latest bugfix version of v2.0) http://inspire.ec.europa.eu/tg/metadata-iso19139/2.0.1 (this bugfix version)
Corrigenda	http://inspire.ec.europa.eu/tg/metadata-iso19139/2.0/corrigenda
Language	EN

INSPIRE Directive Articles

In the INSPIRE Directive transposition to the Portuguese law (Decree-Law 180/2009, August 7th), Portuguese public institutions and local authorities that produce spatial data corresponding to the themes in the 3 annexes of the Directive should focus on:

METADATA CREATION AND MAINTENANCE

INTEROPERABILITY OF SPATIAL DATA SETS AND SERVICES

NETWORK SERVICES

SPATIAL DATA AND SERVICES SHARING

Article 5

METADA

“Member States shall ensure that metadata are created for the spatial data sets and services corresponding to the themes listed in Annexes I, II and III, and that those metadata are kept up to date”.

Article 7

INTEROPERABILITY OF SPATIAL DATA SETS AND SERVICES

“Member States shall ensure that all newly collected and extensively restructured spatial data sets and the corresponding spatial data services are available in conformity with the implementing rules within 2 years of their adoption, and that other spatial data sets and services still in use are available in conformity with the implementing rules within 7 years of their adoption.”

“Spatial data sets shall be made available in conformity with the implementing rules either through the adaptation of existing spatial data sets or through transformation services.”

Article 11

NETWORK SERVICES

“Member States shall establish and operate a network of the following services for the spatial data sets and services for which metadata have been created in accordance with the Directive: (a) discovery services; (b) view services; (c) download services; (d) transformation services; (e) services allowing spatial data services to be invoked.”

Article 17

DATA-SHARING

“Each Member State shall adopt measures for the sharing of spatial data sets and services between its public authorities.”

“Those measures shall enable those public authorities to gain access to spatial data sets and services, and to exchange and use those sets and services, for the purposes of public tasks that may have an impact on the environment.”

INSPIRE Geoportal

The INSPIRE Geoportal is the central European access point to the data provided by EU Member States and several EFTA countries under the INSPIRE Directive. The Geoportal allows:

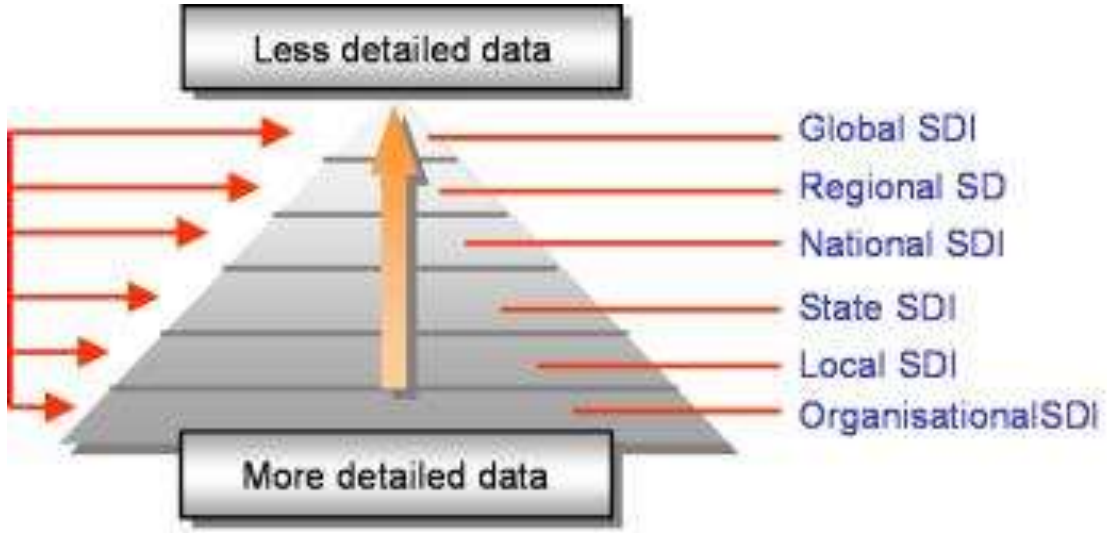
- monitoring the availability of INSPIRE data sets;
- discovering suitable data sets based on their descriptions (metadata);
- accessing the selected data sets through their view or download services.

The metadata used in the Geoportal are regularly harvested from the discovery services of EU Member States and EFTA countries.

SDI Hierarchy

An SDI can be established at global, supranational, national, regional, cross-border, or local levels.

In an ideal case, these levels are interconnected, accomodating each other´s relevant components.



SNIG Geoportal

The *Sistema Nacional de Informação Geográfica* (SNIG) is the National Spatial Data Infrastructure that allows the registration and search of spatial data and data services produced by public and private entities in Portugal.

The SNIG geoportal, coordinated by the Directorate-General for the Territory (*Direção-Geral do Território* - DGT), allows the search, exploration and visualization of spatial data through OGC (Open Geospatial Consortium) data services.

Catálogo de pesquisa

snig.dgterritorio.pt/portal/index.php?option=com_wrapper&view=wrapper&Itemid=239&lang=pt

snig Sistema Nacional de Informação Geográfica

Catalog Search

SNIG
- Início
- Apresentação
- SNIG2020
- Evolução
- Edição e Publicação de Metadados
- Catálogo de pesquisa
  - Entidades Responsáveis Anexos INSPIRE
  - Temas INSPIRE Anexo I
  - Temas INSPIRE Anexo II
  - Temas INSPIRE Anexo III
  - Informação Geográfica de Base
  - Serviços de Mapas
  - CDG Prioritários
  - Serviços de Catálogo
  - Últimos Metadados Publicados
- Visualizador
- Outras IIG

INSPIRE.PT
- A diretiva
- Consultas
- Transposição
- Calendário
- Disposições de execução
- Documentos técnicos
- Arquivo documental
- INSPIRE EU
- Geoportal INSPIRE
- Comités, grupos e redes
- Monitorização da implementação
- Perguntas frequentes

Catálogo de pesquisa

CATÁLOGO | NAVEGAR | QUESTÕES

» Palavra(s) a Pesquisar

Sentinel-2 Pesquisar

Limpar Ajuda

» Critérios Alfanuméricos

CATÁLOGOS

Resultados de: Geoportal SNIG
Clique para seleccionar catálogos diferentes ou configurar a pesquisa.

TIPO/FORMATO ☑ Serviços de Mapas

ESCALA de 1: a 1:

RESOLUÇÃO de: a: (metros)

DATA DE REFERÊNCIA

Data Criação | Data Publicação | Data Revisão | Extensão

De: (aaaa-mm-dd)

Até: (aaaa-mm-dd)

Opções adicionais para Pesquisa Avançada

» Critérios Geográficos

Qualquer | Intersectados pela extensão | Contidos na extensão

Ir para:

(Ex: Rua Julieta Ferrão, Lisboa)

Pesquisar

Resultados 1-2 de 2 registos(s)

Expandir resultados Aproximar aos resultados Aproximar à área de pesquisa

Mosaico de imagens Sentinel-2 de Portugal continental com resolução de 10 m, setembro de 2016 - WMS

Serviço de descarregamento do Mosaico de imagens do sensor multiespectral Sentinel 2 (S2A), adquiridas sobre o território de Portugal continental, com uma resolução espacial de 10 m, com quatro bandas espectrais (R+G+B+NIR). As imagens correspondem ao dia...

Abrir Pré-visualizar Adicionar ao Mapa Detalhes Detalhes (Impr.) XML Aproximar

Mosaico de imagens Sentinel-2 de Portugal Continental com resolução de 10 m - WMS

Ver resultados através de REST
API: GEORSS ATOM HTML FRAGMENT KML JSON CSV

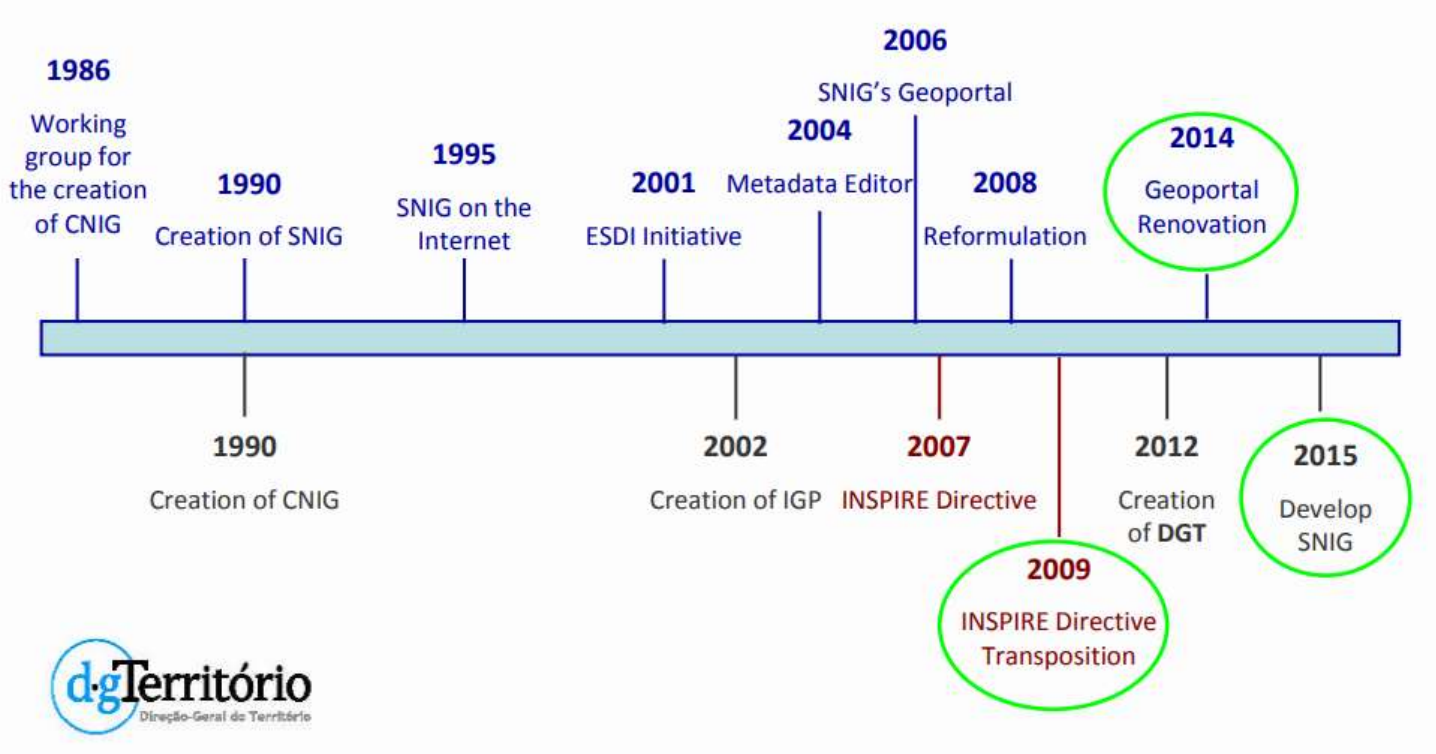
15:43
22/09/2017

SNIG Geoportal

SNIG was created more than 20 years ago by the Decree-Law 53/90, February 13th, and was the first SDI developed in Europe and the first to be made available on the Internet in 1995. In 2009, this degree-law was amended by the Decree-Law 180/2009, August 7th, reviewing SNIG and transposing the INSPIRE Directive into national law.

Two more amendments were added more recently, Decree-Law 84/2015, May 21th (modifies the composition of the SNIG advisory board (CO-SNIG)) and Decree-Law 29/2017, March 16th (proceeds to the second amendment to Decree-Law 180/2009, August 7th).

SNIG Evolution



iGEO Geoportal

DGT also coordinates the iGEO geoportal - a platform created in 2014 to provide spatial data through spatial data services.

IGEO is an open data geoportal and can be considered as a complement to the SNIG geoportal, providing easy access to a subset of SNIG's spatial data services, namely those that are free to at least Public Administration and academia, through a simple user interface.

SNIG, on the other hand, has spatial data sets and services metadata with all kinds of data policies (constraints related to access and use), being a very complete metadata catalog, allowing more advanced and complex searches for spatial data.

Other SDI in Portugal

REGIONAL	IDEiA - Infra-estrutura de Dados Espaciais Interactiva dos Açores IDEAlg - Infraestrutura de Dados Espaciais do Algarve
LOCAL	IDEAgueda- Infraestrutura de Dados Espaciais de Águeda IIG de Vale de Cambra
THEMATIC	Sistema Nacional de Informação do Mar (SNIMar) Sistema de Administração do Recurso Litoral (SIARL) Sistema de Informação de Metadados Ambientais (SNIAmb) Sistema Nacional de Informação Territorial (SNIT) IPSentinel - Infraestrutura portuguesa para armazenamento e disponibilização de imagens dos satélites Sentinel

SNIMar Geoportal

The SNIMar geoportal is a central point to gather, search and display spatial data on the Portuguese marine environment. This infrastructure enhances public access to information provided by the partners and entities that participate in the project.

SNIMar, that is the marine data branch of SNIG, includes information that is totally or partially related to marine and coastal areas as well as historical records related to the Portuguese marine environment.

IPSentinel Geoportal

The IPSentinel geoportal is the Portuguese infrastructure for storing and providing images of the Sentinel satellites that allows free and open access to data from Sentinel-1, Sentinel-2 and future Sentinel-3 satellites obtained for the Portuguese territory including the area of responsibility for search and rescue in the Atlantic.

The Sentinel satellites are the result of the latest Earth Observation missions developed by ESA under the Copernicus program in its Space Component.

International Standards for SDI

A standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.

International standards for geographic information have been developed and maintained by the International Organization for Standardization Technical Committee 211 (ISO/TC 211) and by the Open Geospatial Consortium (OGC) since 1994 when both organizations were created.

International Standards for SDI

A co-operative agreement between ISO/TC 211 and OGC formalizes their intention to co-operate and to enable the development of a series of agreed Industry Implementation Specifications based on ISO 15046 and other related standards.

OGC produces publicly available Industry Implementation Specifications through an open, consensus based process among its members. ISO/TC 211 produces ISO International Standards for Geographical information/Geomatics through a national body balloting process.

This agreement facilitates the Industry Implementation Specifications produced by OGC to formally go through the process of becoming an ISO International Standard.

International Standards for SDI

	STANDARDS	ORGANIZATION
METADATA	ISO 19115 (Metadata formal description) ISO 19139 (Metadata technical implementation) ISO 19119 (Metadata about services) OGC Catalogue service	International Organization for Standardization (ISO) Open Geospatial Consortium (OGC)
REFERENCE MODEL	ISO 19101 (reference model) ISO 19107 (Spatial schema) ISO 19108 (Temporal schema) ISO 19109 (Application schema) ISO 19111 (Spatial referencing by coordinates) ISO 19112 (Spatial referencing by geographic identifiers)	International Organization for Standardization (ISO)
SERVICES	OGC Web map service (WMS) OGC Web feature service (WFS) OGC Web coverage service (WCS)	Open Geospatial Consortium (OGC)

ISO

ISO is an independent, non-governmental international organization with a membership of 162 national standards bodies.

Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges.

ISO has published 22342 International Standards and related documents, covering almost every industry, from technology, to food safety, to agriculture and healthcare.

OGC

OGC is an international not for profit organization committed to making quality open standards for the global geospatial community. These standards are made through a consensus process and are freely available for anyone to use to improve sharing of the world's geospatial data.

OGC standards are used in a wide variety of domains and has more than 500 members coming from across government, commercial organizations, NGOs, academic, and research institutes.

Metadata

A metadata record is a file of information, usually presented as an XML (Extensible Markup Language) document, which captures the basic characteristics of a data or information resource.

Metadata must be compliant with ISO 19115:2013 (Geographic Information - Metadata) from ISO/TC 211. This standard provides information about the identification, the extent, the quality, the spatial and temporal aspects, the content, the spatial reference, the portrayal, distribution, and other properties of digital geographic data and services.

snig.dgterritorio.pt/geoportal/rest/document?id=%7B9D769DE7-0EBC-4500-AE6B-8180989BA4D2%7D

snig.dgterritorio.pt/geoportal/rest/document?id=%7B9D769DE7-0EBC-4500-AE6B-8180989BA4D2%7D

This XML file does not appear to have any style information associated with it. The document tree is shown below.


```
▼<gmd:MD_Metadata xmlns:gml="http://www.opengis.net/gml" xmlns:xsi="http://www.w3.org/2001/XMLSchema-in
 xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gsr="http://www.isotc211.org/2005/gsr" xmlns:gco="htt
 xmlns:srv="http://www.isotc211.org/2005/srv" xmlns:gts="http://www.isotc211.org/2005/gts" xmlns:gmd="h
 xsi:schemaLocation="http://www.isotc211.org/2005/srv http://schemas.opengis.net/iso/19139/20060504/srv
  ▼<gmd:fileIdentifier>
     <gco:CharacterString>15db9e18fe8141a8a85d45049f871351</gco:CharacterString>
   </gmd:fileIdentifier>
  ▼<gmd:language>
     <gmd:LanguageCode
     codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/code
     codeListValue="por">Português</gmd:LanguageCode>
   </gmd:language>
  ▼<gmd:hierarchyLevel>
     <gmd:MD_ScopeCode
     codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/code
     codeListValue="service">Serviço</gmd:MD_ScopeCode>
   </gmd:hierarchyLevel>
  ▼<gmd:contact>
    ▼<gmd:CI_ResponsibleParty>
      ▼<gmd:individualName>
        ▼<gco:CharacterString>
            Direção de Serviços de Geodesia, Cartografia e Informação Geográfica
          </gco:CharacterString>
       </gmd:individualName>
      ▼<gmd:organisationName>
         <gco:CharacterString>Direção-Geral do Território</gco:CharacterString>
       </gmd:organisationName>
      ▼<gmd:contactInfo>
        ▼<gmd:CI_Contact>
          ▼<gmd:phone>
            ▼<gmd:CI_Telephone>
              ▼<gmd:voice>
                 <gco:CharacterString>213819600</gco:CharacterString>
               </gmd:voice>
              ▼<gmd:facsimile>
                 <gco:CharacterString>213819699</gco:CharacterString>
               </gmd:facsimile>
             </gmd:CI_Telephone>
           </gmd:phone>
          ▼<gmd:address>
            ▼<gmd:CI_Address>
              ▼<gmd:deliveryPoint>
                 <gco:CharacterString>Rua Artilharia Um, 107</gco:CharacterString>
               </gmd:deliveryPoint>
              ▼<gmd:city>
                 <gco:CharacterString>Lisboa</gco:CharacterString>
               </gmd:city>
              ▼<gmd:postalCode>
                 <gco:CharacterString>1099-052 LISBOA</gco:CharacterString>
               </gmd:postalCode>
              ▼<gmd:country>
                 <gco:CharacterString>Portugal</gco:CharacterString>
               </gmd:country>
              ▼<gmd:electronicMailAddress>
```


Geoportal - Google Chrome

snig.dgterritorio.pt/geoportal/catalog/search/resource/details.page?uuid=%7B9D769DE7-0EBC-4500-AE6B-8180989BA4D2%7D

SNIG - Detalhes dos Metadados

Detalhes | Rever | Relações

Carta Administrativa Oficial de Portugal - CAOP (RAA, Grupo Central) - WFS

Metametadados

Identificador dos Metadados: 15db9e18fe8141a8a85d45049f871351
Idioma dos Metadados: Português
Tipo de Recurso: Serviço
Contacto do Responsável pelos Metadados:
Nome do Responsável: Direção de Serviços de Geodesia, Cartografia e Informação Geográfica
Nome da Organização: Direção-Geral do Território
Função: Contacto
Informação do Contacto:
Telefone: 213819600
Fax: 213819699
Morada: Rua Artilharia Um, 107
Cidade: Lisboa
Código Postal: 1099-052 LISBOA
País: Portugal
Correio Eletrónico: caop@dgterritorio.pt
Data dos Metadados: 2016-08-17
Designação da Norma e Perfil de Metadados: ISO 19115 Sistema de Metadados dos Açores

Identificação

Resumo: Serviço WFS da CAOP2016 - RAA. Limites Administrativos Oficiais (NUT1, NUT2, NUT3, Ilha, Município, Freguesia, Áreas Admi
dos Açores (Grupo Central). A esta informação está associada a toponímia, bem como outra informação descritiva como seja a área ofic
serviço contém a versão da CAOP2016.
Objectivo: Disponibilização de um serviço WFS.
Citação:
Título: Carta Administrativa Oficial de Portugal - CAOP (RAA, Grupo Central) - WFS
Data:
Data: 2016-08-19
Tipo de Data: Data de Publicação
Edição:
Data de Edição:
Identificador Único do Recurso: PT_DGT_CAOP2016-RAA-GCentral_WFS
Organizações Responsáveis:
Nome do Responsável: Direção de Serviços de Geodesia, Cartograifa e Informação Geográfica
Nome da Organização: Direção-Geral do Território

Metadata Editor

A metadata editor is a tool that facilitates the documentation of resources, focusing on the description of geographic information resources.

The actual metadata editor adopted by DGT is GeMA (Gestor de Metadados dos Açores) that creates, edits, converts formats, views and validates metadata, according with INSPIRE rules.

INSPIRE metadata editor is also available.