



INSPIRE
Infrastructure for Spatial Information in Europe

Member State Report: Portugal, 2013

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1 INSPIRE Reporting – Overview of requirements

There are five topics addressed in the Reporting chapter of the IR:

1. Organisation, co-ordination and quality assurance

The first part of this section is concerned with the way in which the contact point and co-ordinating structure for the infrastructure for spatial information are organised – the body responsible, its associated co-ordinating structure and some information about how this works. The second part offers the MS the opportunity to report on quality assurance processes within the infrastructure for spatial information (as required by Art 21 of the Directive).

2. Contribution to the functioning and coordination of the infrastructure

The second section asks for information about the stakeholders involved in the infrastructure for spatial information – including a description of their roles, how they co-operate, how they share data/services and how access is made to services via the INSPIRE geo-portal.

3. Usage of the infrastructure for spatial information

Having some or all of the various components of the infrastructure for spatial information in place is important, but equally important is if, or how much, the infrastructure is being used. This part of the report is intended to give MS the opportunity to comment and explain the results of the indicators on the usage of the different services, and to describe how spatial data and services are being used by public bodies and if possible (because it is recognised that this is difficult to observe) how they are being used by members of the general public. Because of the environmental emphasis of the Directive MS are particularly encouraged to find and describe examples of use within the field of environmental policy. The report should also describe examples of cross-border usage, efforts to improve cross-border consistency and examples of the use of transformation services.

4. Data sharing arrangements

Chapter 5 of the INSPIRE Directive is concerned with data sharing. It has not been possible to derive adequate indicators to monitor data sharing – the subject does not lend itself to quantitative methods in a way that would provide meaningful output. It is a major part of the Directive however and so this Chapter is dealt with, in terms of monitoring and reporting, by asking MS to describe data sharing arrangements in their 3 yearly reports.

MS are required to provide an “*overview*” of data sharing arrangements i.e. not all such agreements have to be listed and described (which would be very difficult and extremely onerous) – but MS are encouraged to provide sufficient description to enable readers to understand the main type or types of agreement that are used – both for sharing of data between public bodies in the MS and between those public bodies and the institutions of the EU. An important section also required is a description of known barriers that may be inhibiting the sharing of spatial data and services, and what steps the MS are taking to overcome those barriers.

5. Cost and benefit aspects

Finally, the Directive requires MS to quantify the costs and benefits involved in the establishment and maintenance of the infrastructure for spatial information *that are directly attributable to the implementation of the Directive*. The report should attempt to estimate the costs and to provide examples of benefits as described in the IR. As with other aspects of the report MS are responsible for deciding the depth/level of reporting that they find appropriate to satisfy the IR and to provide a suitable level of information for stakeholders.

2 How to use this template

This template provides a structure Member States can use to collect and transmit the reporting information to the EC.

This template mainly reflects the list of elements required by Commission Decision 2009/442/EC on monitoring and reporting. These are the mandatory elements. For every chapter the relevant article of the implementing rules on monitoring and reporting will be reported.

Also some optional features, not strictly required by the relevant legislation, are included. These features can either contain a suggestion on what elements can be grouped under a certain topic foreseen by the legislation or they can contain additional elements that enhance the readability of the document. These features are optional.

You have full rights to deliver this report in your own language, we will then translate it internally. Of course if the report will be already in English, or accompanied by its English translation, that will be welcome.

3 Executive summary

This document is the second report after the transposition process and the initial implementation of the requirements of the INSPIRE Directive in Portugal, in strict compliance with the provisions of Article 21.

The INSPIRE National Contact Point (INSPIRE NCP) in Portugal, which until March 2012 was the Portuguese Geographic Institute (IGP), was transferred to the responsibility of a new institution, the Directorate-General for Spatial Planning (DGT), which was formed by the merger of the IGP with the Directorate-General for Spatial Planning and Urban Development (DGOTDU). The DGT is also responsible for coordinating the National Spatial Information System (SNIG).

The SNIG is the national spatial data infrastructure (SDI) and aims to provide, from the various access points, facilities for searching, viewing and exploring spatial information on Portuguese territory. It is also a contact space that helps to foster, connect and organise activities related to this topic in Portugal and also in the context of the EU INSPIRE Directive (INfrastructure for SPatial InfoRmation in Europe). The strategic coordination of infrastructure is assigned to the Steering Committee of the National Spatial Information System (CO-SNIG), a structure formally established by Decree-Law No 180/2009 of 7 August 2009.

This report describes the national SDI and INSPIRE activities and the present situation based on the information gathered from the key stakeholders in the process (public authorities covered by the INSPIRE Directive) and also using the documents produced over the past three years within the framework of the activities of the National Contact Point which, since 2012, has been Prof. Maria José Lucena e Vale.

Similarly to the monitoring and drafting process for the 2010 report, the public authorities covered by the INSPIRE Directive (Core Focal Point Network or Core FPN) were asked to fill in an online form to validate the data submitted in previous years and identify new spatial data sets (SDSs) and services for which they were responsible, associated with the themes in the Annexes to the Directive, and describe them in terms of the existence and compliance of metadata, coverage and compliance of SDSs and the existence of services, accessibility through metadata and their use.

The information submitted by the institutions on an online form based on the themes identified by the European Commission contributed to the report and also facilitated the collection of some of the information relating to the monitoring indicators.

The INSPIRE report was prepared based on information available on the SNIG and activities under the Action Plan for the implementation of the INSPIRE Directive in Portugal, in conjunction with the data collected from the member institutions of the CORE FPN, and was approved at the CO-SNIG meeting held on 10 May 2013.

4 Abbreviations and Acronyms

AFN	National Forestry Authority
ANPC	National Civil Protection Authority
APA	Portuguese Environment Agency
ArcIMS	Arc Internet Map Server
ARH	Regional Water Authority
BGRI	Spatial Information Reference Base
CAOP	Official Administrative Map of Portugal
CCDR	Regional Development Coordination Committee
CDDA	Common Database on Designated Areas
CEAI	Iberian Birdlife Study Centre
CELPA	Paper Industry Association
CHAM/UNL	Overseas History Centre/Universidade Nova de Lisboa
CM	Municipal council
CNIG	National Spatial Information Centre
CO-SNIG	National Spatial Information System Steering Committee
CO-SNIG M&R WG	Monitoring and Reporting Working Group of the SNIG Steering Committee
CPC	Cadastre Standing Committee
CSW	Catalog Service for Web
CTT	Correios de Portugal, S.A. [Portuguese Postal Service]
DGADR	Directorate-General for Agriculture and Rural Development
DGAE	Directorate-General for Economic Activities
DGAI	Directorate-General for Internal Administration
DGCI	Directorate-General for Taxation
DGEEC	Directorate-General for Statistics on Education and Science
DGEG	Directorate-General for Energy and Geology
DGOTDU	Directorate-General for Spatial Planning and Urban Development
DGPA	Directorate-General for Fisheries and Aquaculture
DGPC	Directorate-General for Cultural Heritage
DGRF	Directorate-General for Forest Resources (now the National Forestry Authority)
DGS	Directorate-General for Health
DGT	Directorate-General for Spatial Planning
DRAC	Regional Directorate for Cultural Affairs - Regional Government of Madeira
DRAP	Regional Directorate for Agriculture and Fisheries
DRCIE	Regional Directorate for Trade, Industry and Energy - Regional Government of Madeira
DRF	Regional Directorate for Forestry - Regional Government of Madeira
DRIGOT	Regional Directorate of Spatial Information and Regional Planning - Regional Government of Madeira
DROTA	Regional Directorate for Regional Planning and Environment - Regional Government of Madeira
DRP	Regional Directorate for Heritage - Regional Government of Madeira
DRRF	Regional Directorate for Forestry - Regional Government of the Azores
DRT	Regional Directorate for Tourism - Regional Government of Madeira
DSIGC - Madeira	
DSIGIG	Directorate for Research and Management of Spatial Information
EBM	EuroBoundaryMap
EC	European Commission
ECDDA	European Common Database on Nationally Designated Areas
EDIA	Empresa de Desenvolvimento e Infra-estruturas do Alqueva, SA [Alqueva Enterprise and Infrastructure Development Company]
EDP	Energias de Portugal, S.A.
EEA	European Environment Agency
EFFIS	European Forest Fire Information System
EIONET	European Environment Information and Observation Network

EP	Estradas de Portugal, S.A. [Portuguese highways department]
EPRL	Project structure for restoring legality
ERM	EuroRegionalMap
ESAB	Escola Superior Agrária de Bragança [Agricultural College of Bragança]
ETRS89	European Terrestrial Reference System 1989
EU	European Union
EuroGeographics	Association of National Mapping, Land Registry and Cadastral Agencies
EUROGOOS	European Global Ocean Observing System
EUROSTAT	Statistical Office of the European Union
FPN	Focal Point Network
GeMA	Azores metadata editor
GeoALEX	Geographic model of environmental and spatial management for low-density rural areas
GEP	Strategy and Planning Bureau (<i>Ministry of Labour and Social Solidarity</i>)
GEPE	Educational Statistics and Planning Bureau (<i>Ministry of Education</i>)
GI	Geographic Information
GI	Portuguese Geographic Institute
GIS	Geographic Information System
GM	Metadata manager
GML	Geography Markup Language
GPERI	<i>Planning, Strategy and International Relations Bureau (Ministry of Public Works, Transport and Communications)</i>
HUMBOLDT	Development of a Framework for Data Harmonisation and Service Integration
ICNB	Institute for Conservation of Nature and Biodiversity (Public Institution)
ICNF	Institute for the Conservation of Nature and Forests
IDEiA	Interactive Spatial Data Infrastructure of the Azores
IFAP	Institute for the Financing of Agriculture and Fisheries (Public Institution)
IGeoE	Geographic Institute of the Army
IGESPAR	Institute for Management of the Architectural and Archaeological Heritage (Public Institution)
IH	Hydrographic Institute
IHRU	Institute for Housing and Urban Renewal (Public Institution)
IICT	Institute for Scientific and Tropical Research (Public Institution)
IM	Institute of Meteorology (Public Institution)
IMTT	Institute of Mobility and Land Transport
INAC	National Institute of Civil Aviation
INAG	Institute for Water (Public Institution)
INE	National Institute of Statistics (Public Institution)
INEM	National Medical Emergency Institute (Public Institution)
INIR	National Institute of Road Infrastructure
INRB	National Institute for Biological Resources (Public Institution)
INSA	Dr Ricardo Jorge National Institute of Health (Public Institution)
INSPIRE	Infrastructure for Spatial Information in the European Community
INSPIRE WG	INSPIRE working group
IP	Implementing provisions
IPTM	Institute for Ports and Maritime Transport (Public Institution)
IRIG	Regional Spatial Information Infrastructure
ISO	International Organization for Standardization
ITRF93	<i>International Terrestrial Reference Frame 1993</i>
IVBAM	Institute of Wine, Embroidery and Handicrafts of Madeira
IVV	Institute of Wine-Growing (Public Institution)
LIFE	Financial Instrument for the Environment
LNEC	National Civil Engineering Laboratory (Public Institution)
LNEG	National Energy and Geology Laboratory (Public Institution)
M&R	Monitoring and Reporting
MADRP	Ministry of Agriculture, Rural Development and Fisheries
MAMAOT	Ministry of Agriculture, the Sea, the Environment and Spatial Planning
MARBIS	Marine Biodiversity Information System
MIG	Spatial information metadata
MOPTC	Ministry of Public Works, Transport and Communications

MS	Member State
NCP	National Contact Point
OGC	Open Geospatial Consortium
OneGeology	Making Geological Map Data for the Earth Accessible
OTALEX	Alentejo-Extremadura Regional Observatory
PA	Protected areas
PCT-MAC	Transnational Cooperation Programme - Madeira-Azores-Canaries
PGF	Forest Management Plans
PNM	Madeira Nature Park - Madeira Regional Government
POEM	Maritime Spatial Management Plan
POLIS	Programme for Urban Renewal and Environmental Enhancement of Cities
PREMAC	Central Administration Streamlining and Improvement Plan
PRODER	Continental Portugal Rural Development Programme
PT	Portugal
PT-TM06/ETRS89	<i>European Terrestrial Reference System 1989</i>
RA	Autonomous Region
RAA	The Azores
RAM	Madeira
REFER	National Railway System
REPRAA	Network of permanent stations of the Azores
REST	<i>Representational State Transfer</i>
SALB	<i>Second Administrative Level Boundaries</i>
SDI	Spatial Data Infrastructure
SDIC	<i>Spatial Data Interest Community</i>
SDS	Spatial data set
SEIS	<i>Shared Environmental Information System</i>
SGIF	Forest Fire Information Management System
SIARL	Restoration of Legality Support Information System
SIGAF	Geographical Information System for Border Support
SiNERGIC	National Cadastral Information Use and Management System
SIPA	Architectural Heritage Information System
SIPNAT	Natural Heritage Information System
SNIAmb	National Environmental Information System
SNIG	National Spatial Information System
SNIG	National Spatial Information System
SNIRF	National Forest Resource Information System
SNIT	National Regional Information System
SOA	<i>Service Oriented Architecture</i>
SPEA	Portuguese Society for the Study of Birds
SRA	Regional Secretariat for the Environment - Regional Government of Madeira
SRCTE Açores	Regional Secretariat for Science, Technology and Equipment - Regional Government of the Azores
SRPC	Regional Civil Protection Service - Regional Government of Madeira
T&C WG	Thematic and cross-cutting working groups
URL	<i>Uniform Resource Locator</i>
UTAD	University of Tras-os-Montes and Alto Douro
WCS	<i>Web Coverage Service</i>
WEB	<i>World Wide Web</i>
WFS	<i>Web Feature Service</i>
WG	Working group
WISE	<i>Water Information System for Europe</i>
WMS	<i>Web Map Service</i>
XML	<i>eXtensible Markup Language</i>
ZIF	Forest Intervention Areas

5 Introduction

During the reporting period, the Portuguese Public Administration was reorganised under the Central Administration Streamlining and Improvement Plan (PREMAC), which brought about several changes to the organisational structure supporting the implementation of the INSPIRE Directive. These changes took place in 2012, so the INSPIRE report which we are now submitting, covers two distinct periods:

- (1) before the reorganisation, from May 2010 to March 2012;
- (2) after the reorganisation, from March 2012.

As a result of this reorganisation of the public administration, the INSPIRE National Contact Point (INSPIRE NCP) in Portugal, which had been the Portuguese Geographic Institute (IGP), fell under the responsibility of a new institution, the Directorate-General for Spatial Planning (DGT) which resulted from the merger of the IGP with the Directorate-General for Spatial Planning and Urban Development (DGOTDU).

The DGT organisation chart was published in Implementing Decree No 30/2012 of 13 March 2012, which defines its mission as the pursuit of spatial and urban planning policies, and the creation and maintenance of spatial reference databases and data infrastructure under the responsibility of the two bodies involved in the merger process.

As INSPIRE NCP and in its role as coordinator of the national spatial information infrastructure, the National Spatial Information System (SNIG), DGT naturally inherits the responsibilities of the IGP.

The transposition of the Directive, by Decree-Law No 180/2009 of 7 August 2009 which also revised the previous Decree-Law on the SNIG (Decree-Law No 53/90 of 13 February 1990), is the legal basis for the strategic and operational definition of the SNIG and the implementation of the INSPIRE Directive in Portugal.

Since the strategy of the new institution in relation to the INSPIRE Directive and how it will play its role as NCP in the light of that act, which transposed into national law Directive 2007/2/EC (the INSPIRE Directive), is currently being defined, the methodology used in compiling the information for this report and in the monitoring process was much the same as for the previous report.

The main differences were due mainly to the constraints of the reorganisation of the Public Administration which, apart from the change in the INSPIRE NCP, also brought about a number of changes in the public authorities belonging to the networks of bodies supporting the implementation of the Directive in Portugal.

Many of the processes of administrative reorganisation of the institutions are not fully completed, so the bodies are going through a phase of redefining their missions and assignments and designating their representatives in the networks.

The National Spatial Information System Steering Committee (CO-SNIG) - formally established by Decree-Law No 180/2009 for the strategic coordination of the SNIG - was also affected by the administrative reorganisation, since its composition of 12 public institutions fell to 9 as a result of the mergers.

Working methods therefore had to be changed so as to be able to obtain information in a manner that was simpler and consistent with the time limits laid down by the Directive. For the preparation of the report, a form was created to collect the necessary information online, and DGT calculated the monitoring indicators and drafted the 2013 report based on the information gathered in this way.

Up to March 2012, the promotion of these activities was the responsibility of the IGP's Directorate for Research and Management of Spatial Information (DSIGIG). In the period 2012-

2013, the activities to implement the INSPIRE Directive in Portugal that were started in the previous period continued, though now with a reform of their implementation.

The activities previously carried out by the INSPIRE WG were incorporated into a plan of action for implementing INSPIRE in Portugal based on four main areas: (1) organisation, (2) content, (3) training and (4) dissemination.

In this context, several activities were devised, including the following:

- We continued setting up and maintaining networks of contacts, since cooperation and coordination between national public bodies is regarded as a key component of the strategy and operation of the SNIG and the application of the Directive.
- The National Metadata Profile was updated; institutions wishing to create and publish their metadata will have to abide by it;
- Thematic working groups were set up to clarify the formal responsibilities of the institutions involved in each theme for the production and maintenance of the respective SDSs and services, to support the preparation of the implementing rules for the specifications of data and services for each theme and to study their application to the SDSs and services that they are responsible for, in line with the time limits laid down in Directive.
- A cross-cutting group on Metadata and *Geo-Web Services* was set up, which has been working to support bodies producing and publishing metadata and developing services, in accordance with the implementing rules and time limits of the Directive.
- DGT's involvement in European projects related to INSPIRE has continued to play a highly important role in learning about best practice for implementing the Directive at various levels (metadata, harmonisation of spatial data and services). It has also helped to conduct some research work on the application of INSPIRE data specifications to national spatial data, including projects such as GIS4U Humboldt, NatureSDI, Briseide, and more recently the forthcoming eEnvPlus project.
- Training courses on metadata were run in response to requests and some measures for setting up services were also promoted.
- Specific presentations were given at conferences and seminars on some aspects of the implementation of the Directive.
- The organisational structure, action plan and methodologies adopted so far are being redefined as a result of the merger that occurred, creating a new institution with new powers in the context of spatial planning and geographic information.

This report is a response to the questions raised based not only on the information available on the SNIG and the activities carried out under the INSPIRE action plan but also on the data and contributions collected from the institutions involved in the national SDI.

6 Co-ordination and quality assurance (Article 12)

6.1 Coordination (Article 12.1.)

6.1.1 Member State contact point

Name and contact information

Member State Contact Point

Name of the public authority	Directorate-General for Spatial Planning (DGT) (*)
Mailing address	Rua da Artilharia Um, 107 1099-052 Lisbon
Telephone number	(+351) 21 381 96 00
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Director-General	Paulo V. D. Correia
Contact person – NCP/NFC	Maria José Lucena e Vale
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Contact person - substitute NFC	Rui Reis
Telephone number	21 381 96 00 ext 208
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Contact person – substitute NFC	Rui Cavaco
Telephone number	21 381 96 00 ext 315
Email address	ruicavaco@dgterritotio.pt

(*) Since 13 March 2012

Role and responsibilities

The INSPIRE NCP is the Directorate-General of Regional Planning and the national representative on the INSPIRE Committee is Prof. Dr Maria José Vale, Deputy Director-General of DGT, who was responsible for coordinating the preparation of this report.

In describing the role and responsibilities of the INSPIRE National Contact Point (NCP) in the reporting period (15 May 2010 to 15 May 2013), two phases need to be considered:

From January 2012 to the present (May 2013)

In which the Central Administration Streamlining and Improvement Plan (PREMAC) led to the merger of the IGP with the Directorate-General for Spatial Planning and Urban Development (DGOTDU) into the new Directorate-General for Spatial Planning (DGT). DGT became the INSPIRE NCP and Prof. Dr Maria José Vale, Deputy Director-General of DGT, became the national representative on the INSPIRE Committee.

From 2010 to January 2012

In which the Portuguese Geographic Institute (IGP) was the INSPIRE NCP, appointed by the Portuguese Government (Order of the Secretary of State for Spatial Planning and Towns of 22 June 2007) following the publication of the Directive. In that period, the national representation on the INSPIRE Committee was Prof. Rui Pedro Julião, Deputy Director-General of the IGP.

Since 2012

The merger of the IGP with the DGOTDU to create the DGT began on 13 March 2012.

On 10 May 2012, DGT held the fifth meeting of the CO-SNIG, and took stock of the status of development of the SNIG and the need to review the strategic approach to the implementation of the INSPIRE Directive in order to ensure that it was as effective as possible both nationally and in terms of its support for the implementation of the EU legal framework that the Directive aims to provide. However, it found itself obliged to postpone the review until after the completion of the merger of the institutions, which was still in progress in some of the bodies represented on the CO-SNIG.

At the same time, and as a result of the merger, the DGT became the INSPIRE NCP, and its organisation chart, resulting from the merger of the DGODTUDU and the IGP, was published by Implementing Decree No 30/2012 of 13 March 2012. The chart also incorporated the Coordinating Office of the FINISTERRA Programme. DGT's mission is to pursue Government spatial planning and urban development policy, as well as set up and maintain the spatial reference databases.

It has the following tasks (Article 2(2)):

- (a) to take part in determining national spatial planning and urban development policy, monitoring its implementation and fostering its assessment;
- (b) to foster the monitoring and assessment of the national spatial development policy programme and make proposals for amending or reviewing it;
- (c) to support the definition and pursuit of city policy, notably through the preparation, coordination and management of technical and financial cooperation programmes aimed at promoting good land management practice and enhancing spatial and urban management, monitoring and assessing the functioning of the spatial management system and proposing the necessary measures to improve it;
- (d) to coordinate, in conjunction with the Coordinating Office of the POLIS Programme, the measures necessary for the development, implementation and monitoring of the Programme for Urban Renewal and Environmental Enhancement of Cities (POLIS) and integrated operations for coastal redevelopment and enhancement (POLIS LITORAL) until completion;
- (e) to coordinate measures planned under the Coordinating Office of the FINISTERRA Programme, until completion;
- (f) to take part, in accordance with the law, in the environmental assessment procedures and the preparation, monitoring, implementation and harmonisation of spatial management tools, and deploy them accordingly;
- (g) to support the member of the Government responsible for spatial planning in the spatial management procedures and decisions for which they are responsible;
- (h) to stimulate, monitor, guide and provide technical support for spatial management practices at national, regional and local levels by promoting consultation on the applicable procedures and technical criteria and dissemination of best practice;
- (i) to ensure, in cooperation with other competent bodies, that spatial planning and urban development policies are coordinated with sectoral policies, and to take part in drafting legislation and sectoral regulation and to prepare and implement regional development policies, programmes and projects at national, sectoral and regional level;
- (j) to take the measures necessary to maintain and improve the national geodetic reference system;
- (k) to promote, in cooperation with other bodies, mapping coverage of Portuguese territory, the production and conservation of the official administrative map (CAOP), and the production, maintenance and renewal of the rural and urban land register;
- (l) to develop national technical standards for spatial planning and urban development and for map production and reproduction; to promote their adoption, supporting and assessing their implementation, and to regulate the pursuit of geodetic, cartographic and cadastral activities;
- (m) to promote, coordinate, support, perform, participate in and disseminate scientific research programmes and projects, as well as experimental development at national, EU and international level in the fields of spatial planning, urban development and geographic information;
- (n) to develop, coordinate and manage national spatial and geographic information systems and portals for spatial planning and urban development and geographic information;
- (o) to promote and coordinate, in cooperation with other bodies, the implementation of the European Landscape Convention in the country and participate in EU and international programmes to strengthen the sustainability, cohesion, competitiveness and good

governance of the territory and cities, and to represent the Portuguese Government on international bodies and committees relating to spatial planning, urban planning and geographic information;

- (p) to develop, promote and sell products and technical or application information within spatial planning, urban planning, cities policy and geographic information, providing the technical support necessary for their use.

Since the merger, completed in December 2012, the DGT naturally inherits the responsibilities of the IGP as INSPIRE NCP, and is now able to define the new approach to the implementation of the Directive in order to better respond to the challenges facing the management of information at both national and European levels, and is preparing this approach for the next three-year period.

To respond better to the demands of the INSPIRE Directive, the monitoring and reporting group was set up, with responsibility for preparing this report, in April 2013.

2010-2012

The IGP was the national authority for geodetics, cartography and the cadastre and was responsible for ensuring the implementation of the national policy on basic geographic information. It was tasked with regulating the exercise of those activities, the approval of products, the coordination and development of the National Geographic Information System and promotion of research in geographic information science and technology.

The IGP's mission and powers were set out in its organisation chart in Decree-Law No 133/2007 of 27 April 2007, and were described in detail in the previous report, together with the way the IGP was organised to play its role of NCP. Note that the INSPIRE Working Group (INSPIRE WG), set up in the Directorate for Research and Management of Spatial Information (DSIGIG) to provide technical and organisational support to the INSPIRE NCP in the start-up phase of the Directive (2008-2010), was later merged with the SNIG-INSPIRE Team.

The IGP was responsible, in cooperation with national public authorities involved in the implementation of the INSPIRE Directive, for drafting the first INSPIRE report submitted to the European Commission in 2010, and for the process of monitoring the implementation of the Directive, which have since been carried out annually.

Coordination structure

Name and contact information

Coordinating structure supporting the MSCP	
Name of the coordination structure	CO-SNIG - SNIG Steering Committee
Contact information:	
Mailing address	Rua Artilharia Um, 107 1099-052 Lisbon
Telephone number	(+351) 21 381 96 00
Telefax number	(+351) 21 381 96 99
Email address	inspire@igeo.pt
Organisation's website URL	snig.igeo.pt/inspire
Contact person	Maria José Lucena e Vale
Telephone number	(+351) 21 381 96 00
Email address	mvale@dgterritorio.pt
Contact person - substitute	Paulo Patrício
Email address	ppatricio@dgterritorio.pt
Contact person - substitute	Rui Reis
Email address	rreis@dgterritorio.pt

Role and responsibilities

The strategic coordination of the national spatial information infrastructure - The National Geographic Information System (SNIG) - is handled by the National Geographic Information System Steering Committee (CO-SNIG), a structure formally established by Decree-Law No 180/2009 of 7 August 2009, the act that transposed the INSPIRE Directive.

The public authorities represented on the CO-SNIG were defined in Article 5(2):

- (a) the Portuguese Geographic Institute, presiding;
- (b) the Portuguese Environment Agency;
- (c) the National Association of Portuguese Municipalities;
- (d) the National Forestry Authority;
- (e) the National Civil Protection Authority;
- (f) the Directorate-General for Spatial Planning and Urban Development;
- (g) the Institute for Conservation of Nature and Biodiversity;
- (h) the Geographic Institute of the Army;
- (i) the Hydrographic Institute;
- (j) the Institute for Water;
- (k) the National Institute of Statistics;
- (l) the National Energy and Geology Laboratory.

Some of those bodies were, however, involved in mergers as part of the above-mentioned reorganisation of the Public Administration conducted under PREMAC, giving rise to three new bodies:

- the Directorate-General for Spatial Planning, by a merger of the Portuguese Geographic Institute with the Directorate-General for Spatial Planning and Urban Development;
- the Portuguese Environment Agency, by a merger of the Portuguese Environment Agency with the Institute for Water;
- the Institute for the Conservation of Nature and Forests, by a merger of the National Forestry Authority with the Institute for Conservation of Nature and Biodiversity.

As a result, the CO-SNIG membership decreased from 12 to 9 public authorities, currently the following:

- (a) the Directorate-General for Spatial Planning, presiding;
- (b) the Portuguese Environment Agency;
- (c) the National Association of Portuguese Municipalities;
- (d) the National Civil Protection Authority;
- (e) the Institute for the Conservation of Nature and Forests;
- (f) the Geographic Institute of the Army;
- (g) the Hydrographic Institute;
- (h) the National Institute of Statistics;
- (i) the National Energy and Geology Laboratory.

The CO-SNIG has the following responsibilities (Article 5(1)):

- (a) to approve the strategic direction and the overall objectives of the SNIG;
- (b) to ensure that public authorities have the technical means to exchange their spatial data sets and services on the internet;
- (c) to promote proper coordination between members of the SNIG network; to assess and decide on any conflicts of interest;
- (d) to approve the work programme for the establishment and effective operation of the SNIG as well as the corresponding funding plans and cost-sharing by each participating service;
- (e) to deliver opinions on national technical standards on geographic information;
- (f) to deliver opinions on the setting of charges for data-sharing proposed by the public authorities involved;
- (g) to deliver opinions as requested under this Decree-Law.

DGT also inherited the IGP's responsibility for the establishment, development and maintenance of the SNIG, and accordingly has the following responsibilities (Article 6 of Decree-Law 180/2009 of 7 August 2009):

- (a) chairing the SNIG Steering Committee;
- (b) proposing to the SNIG Steering Committee measures to be taken by the public authorities involved in the SNIG, for the purposes of this Decree-Law, the planning of work and funding plans enabling the SNIG to be established and effectively operational and the establishment of and necessary specific cooperation agreements;
- (c) acting as contact point with the European Commission, as provided for by Article 19(2) of 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).

As noted in the 2010 report, the first CO-SNIG meeting held on 16 December 2009 set up the Monitoring and Reporting Working Group of the National Geographic Information System Steering Committee (M&R WG CO-SNIG) to support the National Contact Point for the INSPIRE Directive in obtaining the necessary information for monitoring and reporting on the implementation of the Directive in Portugal.

This group worked from the date of its inception until May 2012 and the following CO-SNIG bodies were represented in it:

- (a) the Portuguese Geographic Institute, as coordinator;
- (b) the Portuguese Environment Agency;
- (c) the National Forestry Authority;
- (d) the Institute for Conservation of Nature and Biodiversity;
- (e) the Geographic Institute of the Army;
- (f) the Hydrographic Institute;
- (g) the Institute for Water;
- (h) the National Institute of Statistics;
- (i) the National Energy and Geology Laboratory.

Organisation chart

The coordination structure up to 15 May 2012 is shown in Figure 1.

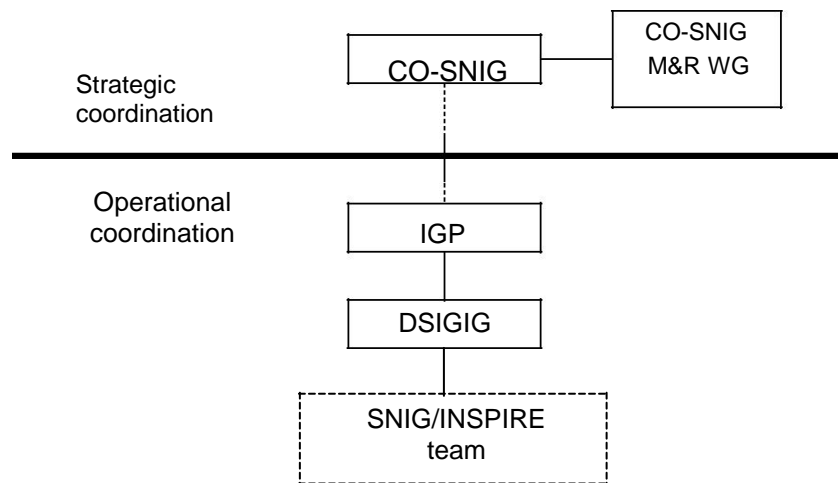


Figure 1 - Organisation chart of coordination structure (up to 15 May 2012).

Under the current approach there is a pressing need to re-orientate the SNIG strategy, the national infrastructure underlying the implementation of the Directive, which is in urgent need of an overhaul since it is inadequate to meet needs, and there is much work to be done in this area.

It has therefore proved necessary to review the coordination structure to ensure that DGT's responsibility regarding Portugal's compliance with the Directive is coherent with its strategic and operational responsibility in terms of the National Geographic Information System, the data infrastructure that is essential to support many public policies related to sustainable Portuguese development.

Since rethinking the approach involves a change in the law, the adjustment process is more complex, and it is much more difficult to make adjustments in the short term.

In order nevertheless to give effect to the EU requirements on monitoring and reporting under the INSPIRE Directive, and streamline procedures, a monitoring and reporting group was set up, and the current structure for that purpose is as shown in Figure 2.

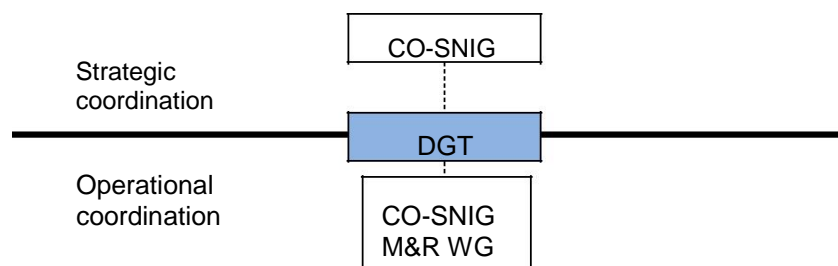


Figure 2 - Organisation chart of present coordination structure

Relations with third parties

Relations with third parties are handled primarily through CO-SNIG and a number of working groups associated with various themes listed in Annexes I, II and III to Directive.

The CO-SNIG is chaired by the DGT, the body responsible for operational coordination of the SNIG, and NCP for the INSPIRE Directive.

Overview of working practices and procedures

As NCP, DGT has devised an action plan for INSPIRE implementation in Portugal focusing on the following four main areas, developed based on the tasks defined and initiated by the INSPIRE WG (some of which were already mentioned in the previous report): (1) organisation, (2) content, (3) training and (4) dissemination.

1. Organisation

Contact networks have been established of the bodies considered vital to the development process and an application was developed to manage those networks. The networks are a key channel for providing information about the Directive, helping to stimulate discussions on the documents produced by the EC and disseminating international best practice while supporting the creation of working groups.

A methodology has also been developed for analysing the themes of the Directive and identifying the public authorities formally responsible for spatial data sets (SDSs) and services linked to those themes. The bodies were later organised into specific working groups around particular themes, and workspaces were set up in the INSPIRE Forum to support the groups.

Priority was also given to establishing procedures to monitor the implementation of the Directive. Specific organisational processes were defined to ensure proper implementation of the monitoring and reporting procedures.

2. Content

The availability of content focused mainly on publishing metadata based on the National Metadata Profile¹.

Furthermore, geographic information web services (*Geo Web Services*) were made available through the SNIG for some of the national SDSs.

3. Training

In the context of the training of the bodies, the SNIG geo-portal was redesigned to better respond to the INSPIRE requirements and two new tools were developed: one for producing and editing metadata - MIG Editor - made available to all authorities interested in producing and publishing metadata, and another to support the authorities in the monitoring process - the monitoring form.

Meetings were also held with some institutions producing SDSs and national services and training measures on metadata, and *Geo Web Services* were promoted.

Again in the field of training, some national institutions were involved in European projects related to INSPIRE, and European instructions or commitments that Portugal has to respond to include the following projects: eENVplus - Environmental services for advanced applications within INSPIRE (<http://www.eenvplus.eu/>); LANDYN - Changes of land use and cover in Continental Portugal: characterisation, drivers and future scenarios. (<http://landyn.isegi.unl.pt/>) closely related to the KYOTO Report and the implementation of the LUCAS network (Eurostat/INE); BRISEIDE: Bridging Services and Information for Europe (<http://www.briseide.eu/>); GIS4EU: Provision of interoperable datasets to open GI to EU communities (<http://www.gis4eu.eu/>); HUMBOLDT: Development of a Framework for Data Harmonisation and Service Integration (<http://www.esdi-humboldt.eu/>) and NATURE-SDIplus: Best practice Network for European SDI in Nature Conservation (<http://www.nature-sdi.eu/>).

¹ For information on the National Metadata Profile, see <http://snig.igeo.pt/migeditor/display/PerfilMIG/Perfil+MIG>.

4. Dissemination

Dissemination is based mainly on the INSPIRE PT site - <http://snig.igeo.pt/inspire> - available via the SNIG, at the networks of public authority contact points, and the initiatives included in the past or present projects involving the DGT. A number of activities were also carried to publicise INSPIRE²; conferences, seminars and workshops designed to raise bodies' awareness of the concept and principles of INSPIRE, disseminating information about the Directive, disseminate developments already achieved by European Spatial Data Infrastructure (SDI) projects in which Portugal has taken part, and share knowledge associated with good national and international practice³.

As part of the restructuring of the DGT, the entire SNIG site will be reviewed, and DGT is awaiting decision on the financial reprogramming of the IENIG project to undertake the necessary steps for this whole process.

6.1.2 Comments on the monitoring and reporting process

The monitoring processes relied on the following structures:

- CO-SNIG, responsible for approving the final document prior to its submission to the EC;
- DGT, as the coordinating body responsible for operational work, and the main body responsible for ensuring that the Directive is transposed in a useful and effective manner, has to take a more active role at strategic level;
- Core FPN, the network of public authorities covered by the INSPIRE Directive, which provides the information required to obtain the indicators on SDSs and services;
- CO-SNIG M&R WG, which supports the DGT in obtaining the necessary information for monitoring and reporting on the implementation of the Directive in Portugal.

The process of monitoring the implementation of the Directive includes the following main steps:

- updating the list of Core FPN bodies;
- posting on the internet the monitoring form for registering SDSs and services under the responsibility of the Core FPN bodies;
- collecting and summarising the information submitted and meeting with the CO-SNIG M&R WG to analyse and, if necessary, approve recommendations for compliance with the rules imposed by the Directive;
- reposting of the online form to enable the Core FPN institutions to make corrections, and meeting with the CO-SNIG M&R WG to finalise the list of SDSs and national services;
- calculating the monitoring indicators;
- review and approval of the indicators by the CO-SNIG;
- submission to the EC by 15 May each year.

The report was prepared by creating a form for online collection of the information required for the drafting of the report by the monitoring and reporting group. The FPN bodies were invited to fill in the 2013 monitoring and reporting forms, whereupon the DGT calculated the monitoring indicators and drafted the 2013 report based on information collected. Finally, the monitoring results and the draft report were submitted for discussion and approval by the CO-SNIG prior to submission to the EC.

² For dissemination activities, see the INSPIRE PT site at <http://snig.igeo.pt/Inspire/accoesDivulgacao.asp>.

³ For the history of the INSPIRE PT site, see <http://snig.igeo.pt/Inspire/historico.asp>.

Monitorização e Registo - Rede SNIG/ INSPIRE

Início Contactos CDG Serviços Relatório 2013 Alterar password Sair

Direcção Geral do Território

3. Acordos de Partilha de Dados

3.1 Acordos de partilha de dados entre autoridades públicas portuguesas. Destaque para os exemplos de acordos de partilha que permitam o livre acesso aos dados sem qualquer tipo de restrição ao uso e sem custos (designação, parceiro/s, datas, descrição)

Disponibilização sem restrições através dos serviços WFS e WMS da série cartográfica nacional à escala 1:500 000 e a CAOP.
Disponibilização de informação geo-espacial com vários organismos da administração central através dos serviços WMS (séries cartográficas nacionais, ortomagens e CAOP) e WFS (série cartográfica nacional à escala 1:500 000 e CAOP).

3.2 Acordos de partilha de dados com instituições e órgãos da Comunidade (designação, parceiro/s, datas, descrição, condições de acesso aos dados)

Acordo de partilha de dados com a EuroGeographics no âmbito do EuroRegionalMap e do EuroGlobalMap.
No âmbito da CAOP colaboração com instituições e projectos:
- Eurogeographics: base às estatísticas do EUROSTAT;
- Comité Permanente de Cadastro (CFC);
- EuroBoundaryMap (EBM);
- EuroRegionalMap (ERM);
- Second Administrative Level Boundaries (SALB);
- European Spatial Agency - Base de Dados EMITS;
- GIS4UE.

3.3 Conjuntos de dados geográficos e serviços disponibilizados a instituições e órgãos da Comunidade sem a necessidade de acordos de partilha

3.3

Figure 3 - Form used to collect the information need to prepare the 2013 INSPIRE report

The institutional reorganisation contributed to the change in the way the M&R process was organised in 2013 and affected the normal operation of the public authorities in Portugal, such as the NCP and many of the institutions involved in INSPIRE. The institutions were merged or dissolved and in many cases new institutions were created whose missions are not yet fully defined, making it difficult to identify all the SDSs and services for which they are responsible. On the other hand, many of the representatives of the institutions that had previously been appointed to respond to requests from the NCP no longer had functions in the institution they represented and, in many instances, new appointments have yet to be made.

Accordingly, working methods had to be changed to obtain the information by means of a more streamlined process and within the deadlines required by the Directive.

With regard to monitoring, the annual frequency helped somewhat to minimise the impact of such constraints, but for the report it was more difficult to obtain the information and to ensure that it was clear.

Again, the most serious problems were with cost estimates, not only because the institutions were not yet able to assess the costs associated with the various components of implementing the Directive, but also because these estimates were obtained in very different ways.

Although the monitoring process was already part of the annual routine of the public authorities producing data in Portugal, much more remains to be done to gather the information and validate it more efficiently, in particular by cross-referencing with SNIG metadata.

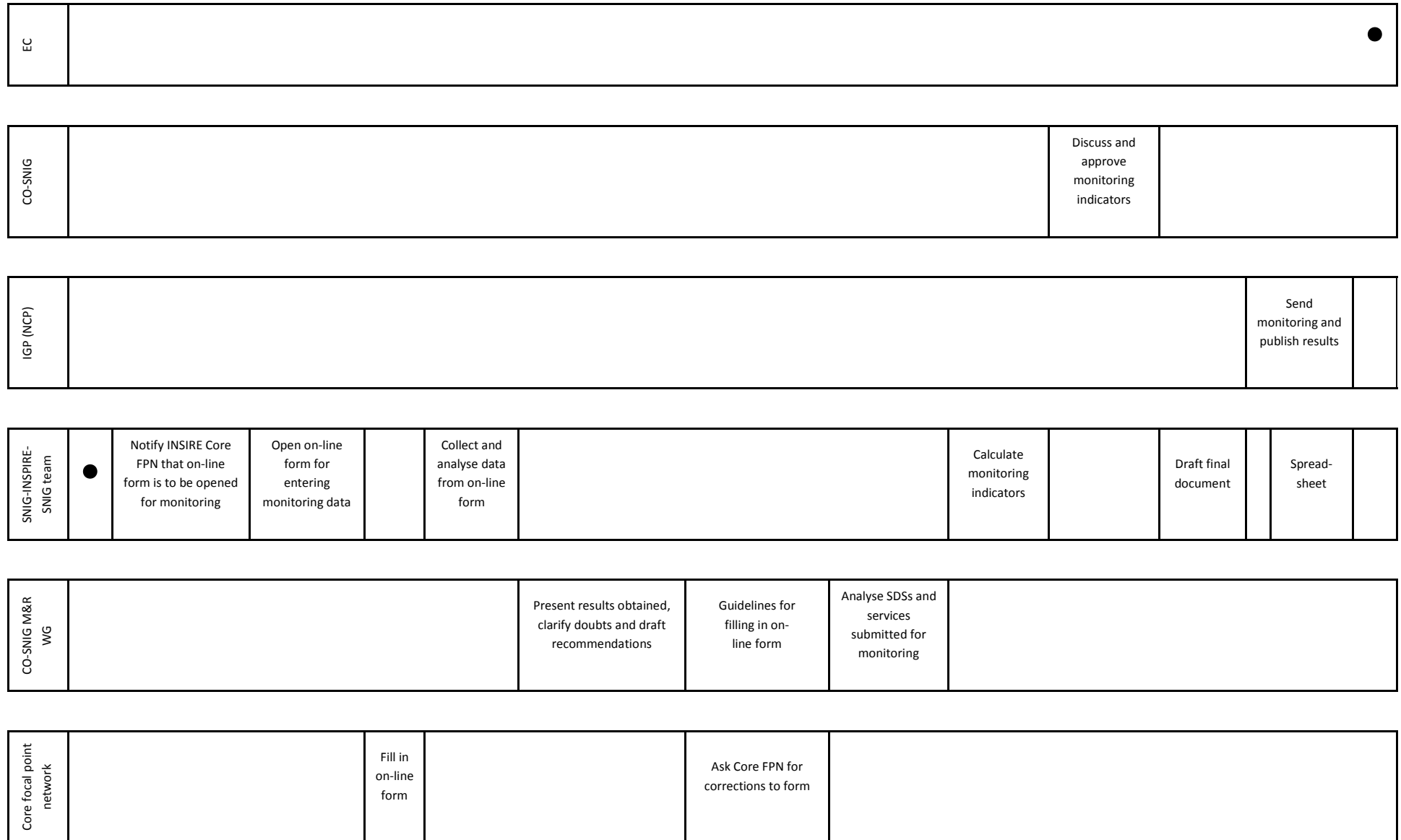


Figure 4 -Monitoring and reporting process.

6.2 Quality Assurance (Article 12.2)

6.2.1 Quality assurance procedures

The quality-assurance procedures for the SDI continue to focus on the existence of networks of contacts with assigned user name and password (the metadata managers and representatives of the bodies covered by INSPIRE) and promotion of capacity-building and dissemination initiatives in the institutions (e.g. training courses, study of the data specifications and contributions to the manual of best practice, providing an up-to-date national metadata profile, running information sessions and workshops). Prior approval of the metadata before publication in the SDI and the provision of validation mechanisms in the tools for producing and editing metadata and in the SDI itself are other important aspects in this context.

6.2.2 Analysis of quality assurance problems

There are some difficulties in contacts with the public authorities covered by the INSPIRE Directive. These shortcomings create problems in obtaining the information needed for monitoring and reporting as well the evolution of own national SDI.

The usefulness of the process of implementing the Directive should be reviewed over the next three years to ensure that it makes an effective contribution to improving the performance of the bodies involved and the user community, and supports an efficient policy of information management by public bodies.

6.2.3 Measures taken to improve the quality assurance

Training courses were given on metadata and *Geo Web Services*.

Training on MIG Editor aims to prepare the technicians of bodies producing or using geographic information for creating metadata in accordance with the current standards. It was initially provided on a regular basis, training some 262 metadata managers; it is now given at the request of the institutions.

Training on *Geo Web Services* aims to prepare the technicians of bodies producing or using geographic information for creating and using *Geo Web Services*. Despite the shortage of human resources, internal and external training courses were run for 66 trainees.

Little progress was made on the e-learning course on the introduction to INSPIRE owing to the cost and shortage of human resources to implement it.

DGT supports institutions regarding the implementation of the Directive in terms of describing metadata and creating services to ensure compliance, usually at the request of the institution,

Specific thematic working groups were also set up involving the public institutions responsible for those themes in the Annexes to the Directive, and a group on technology, serving all the thematic working groups was set up, covering the two cross-cutting components of INSPIRE, metadata and services.

This initiative was designed to ensure high quality in the infrastructure and in the results of the process described in this report.

Within the Portuguese regulatory framework, the implementation of the Directive is closely linked with the SNIG, which will be reviewed if it is found to be out of line with its objectives.

6.2.4 Quality certification mechanisms

The MIG editor complies with the ISO standard and meets the requirements of INSPIRE, so the quality of the metadata is certified to satisfy the requirements.

7 Functioning and coordination of the infrastructure (Article13)

7.1 General overview description of the SDI

The National Spatial Information System is the national spatial data infrastructure (SDI), operating as a network, which aims to provide, from a number of access points, search, view and exploration of metadata and spatial data sets and services produced or maintained by the public authorities or on their behalf and also by private individuals.

Created more than 20 years ago, under Decree-Law No 53/90 of 13 February 1990 (<http://dre.pt/pdf1s/1990/02/03700/05720578.pdf>), it was the first SDI developed in Europe and the first to be made available on the internet in 1995 (Masser, 1999).

The SNIG aims:

- to allow users to collect, organise, access and exploit the geographic information (GI) available in Portugal;
- to allow integrated manipulation of GI from different sources through view and downloading services;
- to promote the harmonisation of spatial data in accordance with common specifications and its maintenance, updating and easy of search and access;
- to be developed, operated and maintained by a number of bodies producing GI;
- to promote the sharing and availability of IG, thereby stimulating the IG user community and market;
- to be multilevel (local, regional and national) and multi-theme, encompassing and working in conjunction with thematic spatial data infrastructures;
- to respond to real needs since it is a tool to support the formulation, implementation and management of regional policies and measures by public and private players.

In 2009 the SNIG was revised by Decree-Law No 180/2009 of 7 August 2009, which also transposed the INSPIRE Directive into national law, repealing the previous Decree-Law of 1990.

Chapter II of Decree-Law 180/2009, refers specifically to the SNIG regime, assigning strategic coordination to CO-SNIG and operational coordination only to the DGT.

This operating model is currently under review and will be revised to improve the efficiency of the data infrastructure that underpins the SNIG.

7.2 INSPIRE Stakeholders

In the context of the development of the SNIG and the preparation for the implementation of the INSPIRE Directive, networks of contact points and metadata managers were created, which take part actively and in a coordinated manner to enable the harmonised national metadata database to be set up and the INSPIRE policy goals to be pursued.

The DGT is responsible for coordinating the SNIG network and is the national contact point for the INSPIRE Directive. In view of all these roles, it organised the following networks of contacts (Figure 6) with distinct objectives:

- The SNIG network covers all public authorities producing and supplying spatial data sets and spatial data services (Article 2 of Decree-Law No 180/2009 of 7 August 2009) and includes private bodies and registered geo-portal users (Table 12.1.1 in the Annex);
- The INSPIRE Focal Point Network (INSPIRE PT FPN or FPN) brings together the contact points in public institutions producing national spatial data sets and services. It was created in 2007 from the public institutions involved in the SNIG in order to provide

support for the implementation of the INSPIRE Directive and to promote the exchange of information and experience;

- The INSPIRE Core Focal Point Network (INSPIRE Core FPN or Core FPN) is a subset of the INSPIRE FPN and comprises the public authorities formally responsible for producing the national spatial data sets and services falling under the themes listed in the three Annexes to the Directive (Table 12.1.3 in the Annex). Some of the public authorities were already members of the SNIG network while others have been identified and included in the Core FPN for the first time.
- The Metadata Managers (GM) Network included representatives of the institutions certified to publish their institution's information in the SNIG (Table 12.1.4 in the Annex). The GM Network was formed in 2005 but formalised only in 2009, following the publication of Decree-Law No 180/2009 of 7 August 2009, which made it mandatory for public authorities and also some private authorities (identified in the act) to appoint a metadata manager responsible for creating and publishing, in accordance with the Directive, the metadata for the SDSs and services of the body represented by the GM.

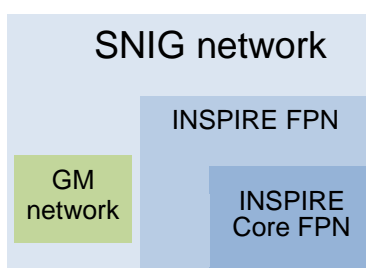


Figure 5 - Networks of SNIG bodies

In the Autonomous Regions of Madeira and the Azores, where each region has its own SDI and institutions similar to those in Continental Portugal and other autonomous bodies, there is still one representative per region, responsible for monitoring the implementation of the Directive who, on request, sends the information the NCP needs to meet Portugal's commitments. The regional representative is also responsible for identifying the public administrations in the Autonomous Regions that are formally responsible for producing regional SDSs and services.

The bodies that are now part of the SNIG network are divided into the following groups (Table 1)

Table 1 - Number of SNIG bodies

SNIG network bodies	286
INSPIRE FPN bodies	110
INSPIRE Core FPN bodies	34
Metadata managers	207

The experience gained in two years of monitoring associated with the stabilisation of the Core FPN and the approval of the first implementing provisions (IPs) of the INSPIRE Directive for metadata and network services and, more recently, the technical specifications for harmonisation of SDSs on the themes of Annex I, led to the need to set up specific working groups based on those IPs.

To that end, on 29 October 2010, the third meeting of the CO-SNIG approved the formation of 10 thematic working groups (WGs) and one cross-cutting working group (T&C WG).

The 2010 report included a table of producer and user public institutions involved in the SDI and which had appointed an INSPIRE focal point. It is not included in this report owing to the ongoing restructuring of the public administration.

7.3 Role of the various stakeholders

Cooperation and coordination between the various bodies and private players involved in producing and providing spatial information in Portugal are fundamental to the implementation of the national infrastructure, implementing standards and providing metadata and services.

Table 2 shows the stakeholders in the development of the national SDI, grouped by type and role.

Table 2 - Role of stakeholders in the development and maintenance of the national SDI.

Stakeholder	Role in the development and maintenance of the SNIG
DGT	INSPIRE NCP SNIG coordinator Public authority producing and using SDSs and services
CO-SNIG	Strategic coordination of the SNIG Support to the NCP in relation to the INSPIRE obligations.
SNIG network	Creation, editing and publication of metadata for the SDSs and services Creation, publication and maintenance of spatial data services Description of their SDSs and services.
INSPIRE FPN	Exchange of information and experience in order to provide support for the implementation of the INSPIRE Directive.
INSPIRE Core FPN	Identification of SDSs and services on the themes of the Annexes to the Directive. Creation, editing and publication of metadata for the SDSs and services covered by the Directive Creation, publication and maintenance of spatial data services Description of their SDSs and services. Participation in monitoring of the implementation of the INSPIRE Directive Report on issues for the INSPIRE report.
Metadata manager network	Creation, editing and publication in the SNIG of metadata for the SDSs and services that the bodies represent.
M&R WG and CO-SNIG bodies	Support the NCP in the task of monitoring and reporting on the Directive.
Thematic working groups	They aim to clarify the formal responsibilities of the institutions involved and support the preparation of the IPs for the data specifications for each theme, studying their application to SDSs and services under their responsibility.
Cross-cutting working group	Aims to provide coordinated support to the authorities producing and publishing metadata and developing Geo Web Services, in accordance with the dates set in the IPs.

Table 3 identifies the INSPIRE Core FPN institutions that have taken on SDI coordination roles (nationwide and autonomous regions) and provision of metadata, spatial data and services.

Table 3 - Core FPN bodies by type of role in the SDI (coordination or provision of metadata, spatial data and services).

Role of partners	Body
SDI coordination	DGT (National SDI), DROTA/DSGIC (Madeira SDI), SRTCE (Azores SDI)
Provision of metadata	All Core FPN bodies
Provision of spatial data	DGT; APA,I.P.
Provision of services	APA,I.P.; DGEEC; DGEG; DGPC; DGT; DROTA; ICNF,I.P.; IFAP,I.P.; IH; INE, I.P.; LNEG, I.P.

For the preparation of this report the 34 member institutions of the INSPIRE Core FPN were contacted. Their responses are given in Annex 12.3.

Table 12.3.1 gives an overview of these institutions. The information set out is taken from an application developed by the NCP for managing the networks of bodies⁴.

Table 12.3.2. describes each institution's relationship with the spatial information sector. The responses show that the institutions involved have been investing in setting up geo-referenced databases for the information that they use and/or manage.

7.4 Measures taken to facilitate sharing

Access to spatial data sets and services is an important basis for environmental policies and public authorities, and is therefore a central component of the European SDI. Therefore, since most EU institutions and bodies have to integrate and assess spatial information from all Member States, the INSPIRE Directive recognises the need to adopt harmonised measures for accessing and using spatial data and spatial data services.

The awareness measures taken in Portugal draw attention to this component. Furthermore, Chapter VI of Decree-Law No 180/2009 of 7 August 2009 governs the following aspects of access to and sharing of spatial data sets and services:

- access to spatial data services
- conditions of access to spatial data services provision of spatial data sets and services
- restrictions on public access to spatial data sets and services sharing of spatial data sets and services between public authorities
- sharing spatial data sets and services with EU institutions and bodies
- sharing spatial data sets and services with institutions and bodies of other Member States.

7.5 Stakeholder cooperation

Cooperation between partners in the field of spatial information occurs at various levels and takes a number of forms. Some examples were presented and highlighted in the previous report. Tables 12.3.3 (relations of the institution with the spatial data sector) and 12.3.4 (cooperation with other Portuguese institutions in the field of spatial data) include the answers given by the bodies that have responded now.

Each public institution cooperates with several bodies and the type of activity or information involved in this cooperation varies widely.

With regard to cooperation protocols, in particular the bodies report those aiming to transfer or make available spatial data between institutions, carry out common projects (e.g. building of spatial data systems) and jointly implement thematic mapping.

Another possible form of cooperation is through working groups, set up for a variety of reasons, but always related to the areas of responsibility of each institution and involving a varying number of national and international institutions. In some situations, they reported taking part in the thematic and cross-cutting working groups, which were set up by the CO-SNIG to support the bodies in making available their spatial data sets and services.

The basic objective of the thematic WGs has been to clarify the formal responsibilities of the institutions involved and to support the preparation of the implementing provisions for the data specifications of each theme, studying their application to the spatial data sets and services for which they are responsible. They were set up as a result of the grouping of the institutions responsible for the same Core FPN themes, also taking account of similar content between the themes (Table 4).

As its name suggests, the cross-cutting WG operates across all the thematic groups and covers the two cross-cutting components of INSPIRE: metadata and services. This group aims to give coordinated

⁴ The bodies are described with the information available in the State Organisation Information System (SIOE) (<http://www.sioe.dgaep.gov.pt/Default.aspx>).

support to the authorities for producing and publishing metadata and for developing Geo Web Services, in line with the dates set out in the implementing provisions. It consists of 11 bodies representing the diversity of technological solutions on the market, which indirectly allows consideration of the various platforms offered by the different service providers, thereby ensuring that the group is better able to act and is better informed on the issue. The bodies covered are:

- Portuguese Environment Agency (APA)
 - the Directorate-General for Spatial Planning and Urban Development (DGOTDU);
 - the Regional Directorate of Spatial Information and Regional Planning - Madeira (DRIGOT-RAM);
 - the Institute for Water (INAG);
 - the Geographic Institute of the Army (IGeoE);
 - the Portuguese Geographic Institute (IGP), as coordinator;
 - the Hydrographic Institute (IH);
 - the National Institute of Statistics (INE);
 - the National Energy and Geology Laboratory (LNEG);
 - the Regional Department of Science, Technology and Equipment of the Azores (SRCTE - RAA);
 - Other (Municipalities, Universities, SDICs) - Municipal Council of Cascais.
-

Table 4 - Current composition of thematic working groups

WG	Annex theme	Core FPN bodies	Coordinating body
WG01	I.1	Coordinate reference systems	IGP
	I.2	Geographical grid systems	
	I.3	Geographical names	
	II.1	Elevation	
WG02	I.4	Administrative units	INE
	I.5	Addresses	
	III.1	Statistical units	
	III.10	Population distribution - Demography	
WG03	I.6	Cadastral parcels	IGP
	III.2	Buildings	
WG04	I.8	Hydrography	ICNB
	II.4	Geology	
WG05	I.9	Protected sites	ICNB
	III.16	Sea regions	
	III.17	Bio-geographical regions	
	III.18	Habitats and biotopes	
	III.19	Species distribution	
WG06	II.2	Land cover	IGP
	II.3	Orthoimagery	
	III.3	Soil	
	III.4	Land use	
	III.9	Agricultural and aquaculture facilities	
WG07	III.8	Production and industrial facilities	LNEG
	III.20	Energy resources	
	III.21	Mineral resources	
WG08	III.5	Human health and safety	APA
	III.6	Utility and governmental services	
	III.7	Environmental monitoring facilities	
	III.11	Area management/restriction/ regulation zones and reporting units	
	III.12	Natural risk zones	
WG09	III.13	Atmospheric conditions	IM
	III.14	Meteorological geographical features	
	III.15	Oceanographic geographical features	
WG10	I.7	Transport networks	IGP

After the working groups had been set up, the NCP held the first coordination meeting and encouraged each group to hold its first individual meeting, with an item on the agenda on the designation of the body coordinating the group.

In an attempt to support the WGs, a workspace common to the 11 WGs and a space with restricted access for each of them was created on the INSPIRE Forum, in the expectation that the platform would be a useful means of communication between its users. The work of these groups is still very much in the early stages.

The cross-cutting WG had the highest level of activity. To date 11 meetings have been held in which the work going on in the bodies and relevant success stories was presented and discussed. Documents and information relevant to the work of the group were published and shared on the INSPIRE Forum.

The main contributions were the production of a guide for publishing INSPIRE view services, the development of the new version of the MIG 2.0 profile, the assessment of the Azores metadata editor - GeMa - with a proposal for its use at national level and a proposal for keeping the domain igeo.pt for the national geographic information identifier system.

Cooperation activities are also reported such as the production of articles and newsletters publicising the activities of the institutions and the systems that they are developing and managing.

Finally the spatial data geo-portals are mentioned and described: the spatial data infrastructure of national and cross-cutting scope, implemented in the SNIG, the regional infrastructures under the regional responsibility of Madeira and the Azores, and many other sectoral initiatives that need to be coordinated, such as thematic projects.

The main objective of the SNIG geo-portal (<http://snig.igeo.pt>) is to provide multiple access to spatial information, functioning as the main access point, based on distributed spatial information services, which are compliant with a large set of geographic information standards (ISO, OGC) and internet technologies such as XML, Web Services and new computing paradigms such as Service Oriented Architecture (SOA).

Based on this rationale, the SNIG geo-portal (Figure 7) allows users with metadata publishing and management privileges to register their services and resources by publishing metadata, allowing other users to search and assess services and resources through the metadata, and possibly to use these services and resources if available.



Figure 6 -The SNIG geo-portal.

Metadata catalogue

The catalogue is a database of standard metadata of national, regional and local scope since it consists of the metadata published by public authorities and even private entities that belong to the network of SNIG bodies.

The SNIG metadata catalogue complies with standards ISO 19115 (Geographic Information - Metadata), ISO 19139 (Metadata schema implementation) and ISO 19119 (extension of ISO 19115 for imagery and gridded data).

The metadata in the catalogue feed the search engine of the SNIG catalogue.

Metadata search

Catalogue searches are made using a form that allows combined searches of free text, geographical extent, temporal extent, thematic category, type of resource and contact point for the resource. Another way of searching the catalogue is through the resources indexed in the portal.

The SNIG metadata catalogue is still searchable by external applications that use both types of services available in the SNIG catalogue, one based on the REST protocol (REpresentational State Transfer) and another complying with the Catalogue Service for Web (CSW) specification.

Publishing metadata

There are several ways of publishing metadata in the catalogue: by using a form on the SNIG geo-portal, by uploading metadata files produced in MIG Editor or other editors compatible with ISO 19139 or by harvesting from other catalogues.

For publishing metadata you have to be authenticated by the system, in other words you must be a user with manager/metadata publisher credentials. Once published, metadata can have four statuses: submitted, incomplete, rejected or approved. Metadata are public only after approval by the system administrator. The metadata manager has an area in which to carry out metadata management and publishing operations.

Viewer

The SNIG map viewer is a tool for viewing and overlaying spatial data (thematic maps, orthophotos, etc.) so that new maps can be created. These data can have different formats and reference systems, and may be located on different servers, geographically distributed and belong to different organisations and institutions.

These data have to be served in accordance with the specifications of the Open Geospatial Consortium (OGC) as is the case of the Web Map Service (WMS), Web Feature Service (WFS) and Web Coverage Service (WCS) and also ArcIMS (ESRI's proprietary format). The generic name for these services is Geo Web Services.

Web Map Services (WMS) provide only images of spatial information and allow you to see the associated attributes (textual information). Web Feature Services (WFS) and Web Coverage Services (WCS) allow you not only to view the information but also to obtain the actual spatial information, in the first case in GML (Geography Markup Language) vector format and in the second case as grid type information.

Map services can be added, i.e. new maps in the viewer, using predefined servers or by typing the URL of the service hosting the required data, or through the metadata for those services. In the latter case, the available services can be searched through the catalogue and viewed immediately.

The SNIG geo-portal viewer only allows WMS to be added.

The viewer also has a system of locating place names with more than 30 000 records taken from the Administrative Map and the Geographical Information Referencing Base (BGRI). This system allows you to find the desired location quickly and efficiently.

The following SDIs have been reported for the autonomous regions:

- IRIG Madeira - Regional Spatial Data Infrastructure for Madeira (<http://www.irig-madeira.org.pt>), DROTA/DSIGC, the collaborative SDI portal of Madeira, which provides

access to the IRIG geo-portal, offering services for searching, viewing and sharing spatial information compliant with the standards of the OGC and the INSPIRE Directive;

- IDEiA - Interactive Spatial Data Infrastructure for the Azores (<http://www.ideia.azores.gov.pt>), SRCTE RAA, a project on Geographic Information Systems, with main objective of developing and managing reference spatial data infrastructure for the Azores region.

The responses identify the following initiatives on thematic geo-portals:

- SNIAmb - National Environmental Information System (<http://sniamb.apambiente.pt>), APA, IP;
- InterSIG (<http://intersig.inag.pt>), APA, IP;
- Schools Portal;
- (https://www.portaldasescolas.pt/portal/server.pt/community/01_escolas/240), DGEEC;
- national archaeological heritage (<http://arqueologia.igespar.pt/>), DGPC; Heritage classified and pending classification, protected areas and special protected areas (<http://www.igespar.pt/pt/patrimonio/pesquisa/georeferenciada/>), DGPC;
- SNIT - National Regional Information System (<http://www.dgotdu.pt/channel.aspx?channelID=144EE72D-18A4-4CCA-9ABA-7303CDEAA0C6>), DGT;
- SIARL - Restoration of Legality Support Information System (<http://www.siarl.igeo.pt>), DGT;
- SIPA (http://www.monumentos.pt/Site/APP_PagesUser/SitePageContents.aspx?id=916325a_c-dd50-4d0e-b0fc-218cd4fc2579), IHRU, I.P.;
- GeocidMadeira (<http://www.geocidmadeira.com>), DROTA/DSIGC;
- SIPNAT - Natural Heritage Information System (<http://sipnat.icnf.pt>), ICNF, I.P.; IGeoSIG
- (<http://www.igeoe.pt/igeoearcweb/igeoesig/default.asp>), (<http://www.igeoe.pt/igeoearcweb/acoeres/default.asp>), (<http://www.igeoe.pt/igeoearcweb/madeira/default.asp>), IGeoE;
- SIGAF - Geographical Information System for Border Support (<http://igeoe-wservices.igeoe.pt/Fronteira/>), IGeoE;
- <http://sig.inir.pt/INSPIRE/>, INIR, I.P.

7.6 Access to services through the INSPIRE Geoportal

Portugal provides search, view (WMS 1.1.1) and download (WFS 1.0.0) services, through the SNIG geo-portal, though these services do not yet comply with the implementing provisions for view and downloading services.

Meanwhile, a new catalogue service has been created for the search service, developed specifically for interoperability with European infrastructure.

This new service provides about 600 metadata records referring to SDSs and services on the themes of the INSPIRE Annexes. The new INSPIRE-PT catalogue service can search and view metadata for spatial data sets relating to Portugal in the INSPIRE geo-portal.

For view services and to support bodies providing the services they reported in the latest monitoring, the cross-cutting WG has produced and released the "Support guide for configuring and publishing INSPIRE-PT view services" (Furtado, D., 2013).

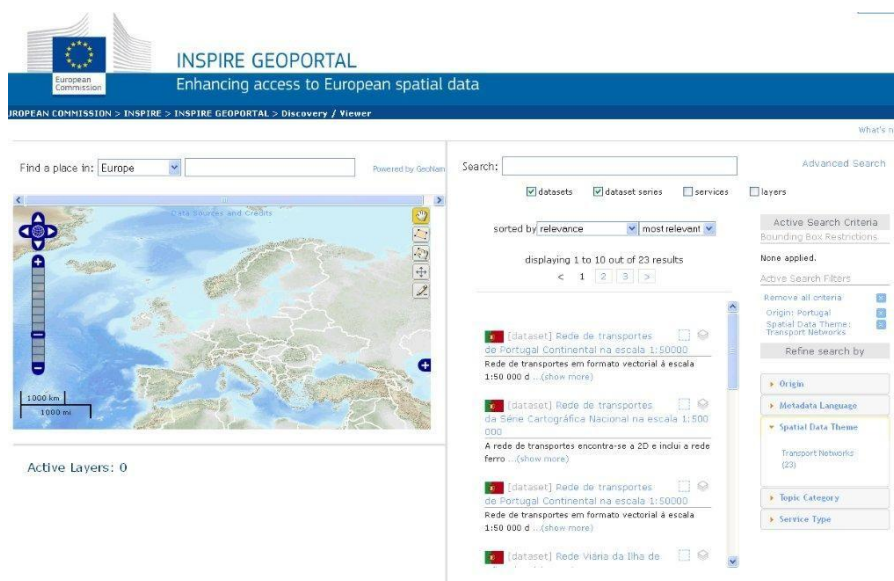


Figure 7 - INSPIRE geo-portal with national metadata

8 Usage of spatial information infrastructure (Article 14)

8.1 Use of spatial data services in the SDI

Using the data-gathering form for monitoring the implementation of the Directive, we were able to verify that services for some SDSs reported by the country on the themes listed in the Annexes to the Directive are accessible to any user.

There are 156 spatial data services: two search services, 13 download services and 141 view services. All services have metadata, 94% of which are compliant and 93% of the metadata are searchable.

The indicators obtained for the services indicate that in the 2013 monitoring campaign, 80% of the 930 metadata considered in the analysis are searchable and 11% of SDSs are downloadable (Figure 10).

	2010	2011	2012	2013
Metadata through discovery services (NSi1)	51%	79%	80%	80%
Spatial data sets through view and download services (NSi2)	19%	11%	11%	11%
Number of services	43	128	137	156

Figure 8 - Indicators for services, 2010-2013.

In addition to Geo Web Services, web mapping applications that allow viewing and/or downloading of SDSs were considered as spatial data services.

8.2 Use of spatial datasets

The SDSs associated with the themes in the Annexes to the Directive, that are used by public institutions, are identified in the Annex (Table 12.3.4). As in the previous report, they were identified by the institutions that responded to requests from the NCP for the INSPIRE report.

Thus, the responses once again indicate widespread use of the various themes of the three Annexes, with particular emphasis on the themes listed in Annex I.

According to the information collected, of the 774 spatial data sets reported in the 2013 monitoring campaign, it was found that 95% have metadata, 93% of which are compliant with the INSPIRE Directive (Figure 11).

	Total			
	2010	2011	2012	2013
Geographical coverage (DSi1)	96%	98%	97%	97%
Spatial data sets with metadata	68%	93%	94%	95%
Spatial data sets with compliant metadata	53%	91%	93%	93%
Number of spatial data sets	435	728	770	774

Figure 9 - Indicators for spatial data sets, 2010-2013.

8.3 Use of the SDI by the general public

The usage statistics of the SNIG geo-portal for the period March 2011 to April 2013 are shown in Table 5.

Table 5 - Statistics for the SNIG geo-portal

Total visits	85785
Unique visitors	65174
Number of page views	246464

Figure 10 shows visits to the geo-portal by month from March 2011 to April 2013.

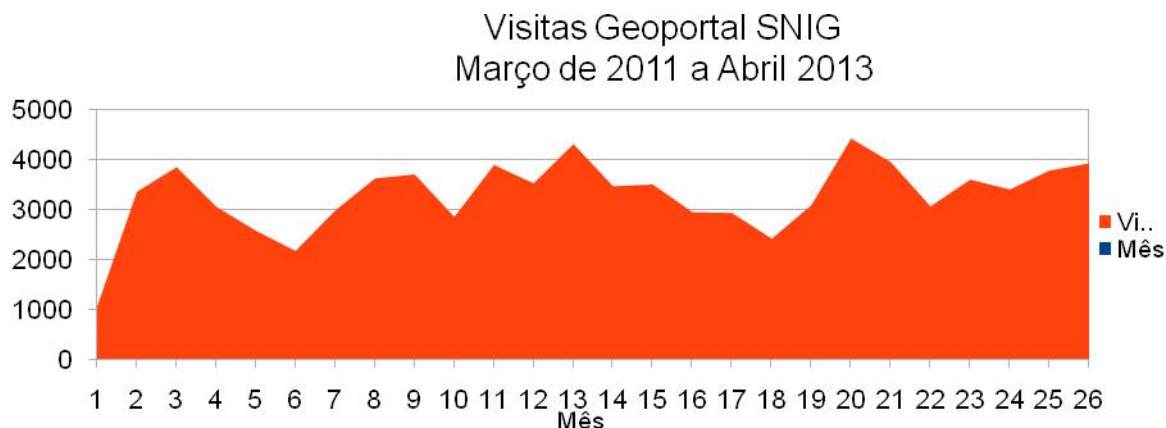


Figure 10 -Visits to the SNIG geo-portal.

For the regional SDIs, the coordinating bodies reported the use figures shown in Table 6:

Table 6 - Statistics for the Azores regional geo-portal.

SRCTE RAA (as at 30/04/2013)	
Total number of page views	21 114
Average number of page views per day	704
Total number of unique visitors per day	149
Average number of unique visitors per day	5
Total number of referrers	516
Average number of referrers per day	17
DROTA/DSIGC (2010 and 2012)	
Number of visits to the portal	26 572

8.4 Cross-border usage

Some examples of cross-border use and harmonisation of information were reported by the bodies contacted (Table 12.3.6.).

Projects like OTALEX I and II and GeoOTALEX - already mentioned in the previous report - and the OneGeology-Europe project, which aims to publish the first digital world geological map on the internet, are examples of cross-border use and harmonisation of spatial data reported by the institutions.

They also reported examples of spatial data systems produced for cross-border regions such as the GIS for the Gerês/Xurés cross-border biosphere reserve, which includes data on the distribution and ecology of flora and vertebrate fauna species, or the sharing of information with Spain on the Tagus International Natural Park, the Peneda-Geres National Park or the International Douro Natural Park, and the development of international research projects specifically orientated towards harmonisation and

exchange of experience at European level associated with the use of various data sets, such as Humboldt, NatureSDI or Briseide, described at the end of this document.

Another example of data harmonisation relates to the work carried out under projects associated with the Portuguese Carbon Fund and the Landyn national research project related to the harmonisation of data on land cover and use associated with LUCAS network. These initiatives are to be coordinated in the near future with the work carried out in this area by INE for Eurostat.

Among efforts undertaken to improve the consistency of spatial data sets in the context of cross-border use, some examples are mentioned ranging from the adoption of common reference systems, development of applications to support the transformation of coordinate systems, the use of international standards (e.g. EuroRegionalMap and EuroGlobalMap) or the adoption of forthcoming data models in the INSPIRE data specifications.

8.5 Use of transformation services

There are no transformation services in Portugal.

9 Data-sharing arrangements (Article15)

9.1 Data-sharing arrangements between public authorities

Data-sharing arrangements between public authorities identified by bodies responding to the NCP request for the report are presented in Table 12.3.7. in the Annex.

The above examples can be grouped into the following types:

- spatial data transfer agreements;
- agreements to share data through Geo Web Services;
- agreements to cooperate and share spatial data between public authorities;
- licences for use of information.

9.2 Data-sharing arrangements between public authorities and EU institutions and bodies

Data-Sharing arrangements between public authorities and EU institutions and bodies are listed in Table 12.3.8 in the Annex.

These types of arrangements are very similar to those identified in the previous section. Arrangements arise both within international projects and as mapping production activities or as part of the activity of committees, associations and international initiatives related to project development and related initiatives.

9.3 Barriers to sharing and action taken to overcome them

The public institutions responding identified the following barriers to the sharing of spatial data (Table 12.3.10.):

- the lack of metadata for some SDSs, which hinders access to and assessment of the suitability of the information (e.g. author, date, accuracy and methodology associated with spatial data);
- the costs associated with systematic information gathering and the associated financial policy for burden-sharing between user bodies.

Measures taken to overcome the barriers identified (Table 12.3.11. in the Annex) include:

- drafting a simplified model data-sharing contract;
- dissemination of knowledge on what is meant by best practice related to spatial-data projects for the purpose of data-sharing between public and private organisations (e.g. technical seminars under the IRIG Project, Azores);
- close technical monitoring of projects incorporating spatial information;
- definition of guidelines for organising and regulating the production and sharing of spatial data among public authorities so as to reduce costs and enhance the quality of the information;
- availability of spatial data free of charge wherever possible (e.g. ICNF, desertification, protected areas, Natura 2000, fire hazards, forest fires, forest health, DGT, Official Administrative Map of Portugal (CAOP), Corine Land Cover, COS 90, digital land models (MDT); data-harmonisation support tools, INE, Geographical Spatial Referencing Base (BGRE), among others);
- provision of spatial data through web services to facilitate the process of consulting and sharing data between institutions;

- use of information technology to reduce red tape.

In summary, the problem with data sharing relates to the model for funding the systematic gathering of information and the costs of maintaining an infrastructure for harmonised data that can be integrated in applications that offer an authoritative response to the needs of public bodies in carrying out their duties.

It is also related to the training of human resource and the dissemination of best practice for carrying out the work supporting efficient performance of the public administration, particularly in financial terms, ensuring the financial sustainability of the State in this area and efficient fulfilment of its assignments and in response to the implementation of public policies and the promotion of public or private investment.

10 Cost / Benefit aspects (Article16)

10.1 Costs of implementing the INSPIRE Directive

The institutions still find it hard to account for implementation costs and few responses were obtained.

For the current report we obtained responses broken down by the categories and subcategories suggested in the EC template.

Although few institutions responded, the responses identify the costs better than those obtained in 2010. The values relate to a variety of experiences, giving inconsistent figures for the same components.

Subdivided into the various components, the estimated costs to public institutions for this three-year period are shown in Tables 12.3.12 to 12.3.17 in the Annex.

Analysing the information collected it can easily be inferred that systematic data gathering and maintenance of a data infrastructure to meet the requirements of the INSPIRE Directive entail substantial costs for the Portuguese State.

Some institutions identified the financial costs inherent in the involvement of employees needed for the development and publication of metadata and the implementation of the services as undesirable effects. These costs are unavoidable in the field under consideration, and further efforts are needed to minimise them.

In view of the substantial sums involved, one can easily appreciate the need to promote efficiency in the approach proposed by the Portuguese State in the collection and organisation of information and in setting priorities for action at this level directly related to the definition and monitoring of public policy as a way of supporting effective governance strategies.

Stimulating the market for information associated with the private sector is undoubtedly an additional factor to consider when analysing the cost structure.

10.2 Benefits observed

Portugal still has a long way to go in identifying the benefits and deciding how to account for them.

An assessment of the responses to the survey clearly indicates that the bodies had difficulty in quantifying the benefits of implementing the Directive, and few bodies responded on these issues.

The qualitative benefits identified by the five national public institutions that submitted their responses to the form for the INSPIRE 2013 report (Table 12.3.18.) include references to the following areas to be analysed:

- improve the quantity and quality (compliance) of the shared information; improve compliance with statutory information-sharing obligations;
- greater visibility for spatial data produced through the publication of metadata in accordance with the Directive;
- systematic use of spatial data made available through the creation of services;
- effective data sharing between regional services through the use of a single spatial data base (e.g. Madeira);
- user registration facilitates data sharing (e.g. GPS);
- easier data sharing between institutions and with the public;
- better support for intervention decisions (e.g. action in protected areas, forest-fire prevention and fighting measures).

The following topics are to be examined and considered in more detail in future in terms of potential benefits for improving environmental policy:

- helping to stimulate and coordinate institutional relations, facilitating access, at both national and European Union levels, to high-quality and properly documented spatial data;
- providing spatial data services allows various public bodies, working in areas relating to the definition of environmental policy, to include in their production process regular consultation of such data services in support of their operations;
- more environmentally friendly intervention decisions (e.g. conservation of natural features in relation to development, forest-fire prevention);
access to official geo-referenced information of known quality.

The following co-lateral effects were identified:

- more systematic access to data by the various users; provision of information to the general public;
- greater interoperability between environmental information systems and those in other sectors, (e.g. interoperability of spatial data between national, regional and local civil-protection infrastructures).

Finally, the following main beneficiaries were identified:

- public administration at national, regional and local levels;
- public- and private-sector enterprises;
- the general public;
- educational institutions in research and development;
- non-governmental organisations.

11 Conclusions

This report describes the results of the monitoring and reporting process for 2013: it describes the national spatial data infrastructure, SNIG, and the implementation of the INSPIRE Directive in Portugal, describing and assessing the present situation as a result of the work done over the past three years.

This report was prepared based on information collected from the bodies involved in the process, using the documents and work done over the reference period, on the implementation of the INSPIRE Directive in Portugal, and the knowledge acquired by DGT staff throughout their working experience.

The implementation of the Directive in Portugal is closely related to the National Spatial Information System (SNIG), the national spatial data infrastructure set up by Decree-Law No 53/90 of 13 February 1990, and was the first SDI developed in Europe.

The approval of the INSPIRE Directive in 2007 led to the revision of the act, since the transposition into Portuguese law by Decree-Law No 180/2009 of 7 August 2009 clearly links the SNIG to INSPIRE implementation in Portugal.

During the reporting period, the Portuguese Public Administration was reorganised under the Central Administration Streamlining and Improvement Plan (PREMAC), which brought about several changes to the organisational structure supporting the implementation of the INSPIRE Directive. These changes took place in 2012, so this INSPIRE report covers two distinct periods: (1) before the reorganisation, from May 2010 to March 2012; (2) after the reorganisation, from March 2012.

As a result of this reorganisation of the public administration, the INSPIRE National Contact Point (INSPIRE NCP) for Portugal, which had been the Portuguese Geographic Institute (IGP), fell under the responsibility of a new body, the Directorate-General for Spatial Planning (DGT) which resulted from the merger of the IGP with the Directorate-General for Spatial Planning and Urban Development (DGOTDU).

In this reporting period, the reorganisation of the public administration, as well as changes in INSPIRE NCP, led to changes in the public authorities belonging to the networks of bodies supporting the implementation of the Directive in Portugal. Some of the institutions have not fully completed their administrative reorganisation, which led to some discontinuity in the assessment of implementation that this document addresses.

The methodology used to compile the information for this report, together with the monitoring of spatial data sets and spatial data services, is the same as for previous reports, plus online collection of contributions from entities with responsibility for the issues that are relevant at this point either at European or Portuguese level, notably the assessment of costs and benefits that the implementation of the Directive entails.

The indicators presented are calculated on the basis of information gathered from the institutions of the INSPIRE Core Focal Point Network (FPN) on the spatial data sets and service sets for which they are responsible, linked to the themes of the Annexes to the Directive. This involves describing them in terms of the existence of metadata, coverage and compliance, seeking to promote the accessibility of information through metadata and hence the use of that information.

Over the years, the results show growing institutional support for the provision of INSPIRE-compliant spatial data sets.

We hope in future to obtain more complete results for the universe that we aim to describe and to do so not only in quantitative terms but also evolve towards a qualitative analysis, assessing whether the available data are adequate to meet the requirements of the user community, with special emphasis on public bodies.

Finally, it is clear that the cost involved in the systematic gathering of information and making it available in the SDI has to be addressed using a rationale of return on investment. It is now time to

assess the usefulness of the information gathered, adapt this information gathering to existing needs and step up efforts on interinstitutional cooperation to put that into practice.

The next step must be to reassess public authorities' information needs, to ensure good governance and monitor and review the underlying national and European legal framework.

We will therefore strive to stimulate the markets in the field of information management applied to a wide range of business sectors, thus helping to give an effective boost to the economy and employment.

These are the basic guidelines to be applied to future work.

12 Annexes

12.1 List of organisations – names and contact details

Table 12.1.1. - Composition of the SNIG network

Acronym	Name
ACSS, I.P.	Central Administration of the Health System
ARH ALGARVE, I.P.	Administration of the Algarve river basin district
ARH CENTRO, I.P.	Administration of the Centre river basin district
ARH NORTE, I.P.	Administration of the North river basin district
ARH Tejo, I.P.	Administration of the Tagus river basin district
APRAM-RAM	Madeira Ports Authority
APA, I. P.	Portuguese Environment Agency
ANA, S.A.	Portuguese Airports Authority
AML	Lisbon Metropolitan Area
AMP	Porto Metropolitan Area
ADRAT	Alto Tâmega Regional Development Association
ADD	Dao Development Association
ADRITEM	Terras de Santa Maria Integrated Rural Development Association
AMRAM-RAM	Association of Municipalities of Madeira
AMTQT	Association of Municipalities of Terra Quente Transmontana
AMCVMP	Association of Municipalities of Castelo de Vide, Marvão and Portalegre
AMAT	Association of Municipalities of Alto Tâmega
AMBAAAL	Association of Municipalities of Baixo Alentejo and Alentejo Litoral
AMDSFE	Special Purpose Association of Municipalities of Douro Superior
VALSOUSA	Association of Municipalities of Vale de Sousa
AMAVE	Association of Municipalities of Vale do Ave
AMVDN	Association of Municipalities of Duoro Norte
AMCAL	Municipalities Association of Alentejo Central
ANMP	National Association of Portuguese Municipalities
APG	Portuguese Association of Geographers
CIM/AML/AMP	Associations of municipalities
ANPC	National Civil Protection Authority
CM AMADORA	Amadora Municipal Council
CM BATALHA	Municipal Council of Batalha
CM MAIA	Municipal Council of Maia
CM MARINHA GRANDE	Municipal Council of Marinha Grande
CM MEALHADA	Municipal Council of Mealhada
CM MOITA	Municipal Council of Moita
CM MURTOSA	Municipal Council of Murtosa
CM NAZARÉ	Municipal Council of Nazaré
CM ALBERGARIA-A-VELHA	Municipal Council of Albergaria-a-Velha
CM ALBUFEIRA	Municipal Council of Albufeira
CM ALCANENA	Municipal Council of Alcanena
CM ALCOBAÇA	Municipal Council of Alcobaca
CM ALCOCHETE	Municipal Council of Alcochete
CM ALCOUTIM	Municipal Council of Alcoutim
CM ALFÂNDEGA FÉ	Municipal Council of Alfândega da Fé
CM ALJUSTREL	Municipal Council of Aljustrel
CM ALVAIÁZERE	Municipal Council of Alvaiázere
CM ANSIÃO	Municipal Council of Ansião
CM AROUCA	Municipal Council of Arouca

Acronym	Name
CM ARRUDA VINHOS	Municipal Council of Arruda dos Vinhos
CM AVEIRO	Municipal Council of Aveiro
CM BAIÃO	Municipal Council of Baião
CM BARRANCOS	Municipal Council of Barrancos
CM BEJA	Municipal Council of Beja
CM BENAVENTE	Municipal Council of Benavente
CM BOTICAS	Municipal Council of Boticas
CM BRAGA	Municipal Council of Braga
CM CAMINHA	Municipal Council of Caminha
CM CANTANHEDE	Municipal Council of Cantanhede
CM CARREGAL SAL	Municipal Council of Carregal do Sal
CM CASCAIS	Municipal Council of Cascais
CM CASTANHEIRA PÊRA	Municipal Council of Castanheira de Pêra
CM CASTELO BRANCO	Municipal Council of Castelo Branco
CM CASTRO MARIM	Municipal Council of Castro Marim
CM CASTRO VERDE	Municipal Council of Castro Verde
CM CELORICO DA BEIRA	Municipal Council of Celorico da Beira
CM CELORICO DE BASTO	Municipal Council of Celorico de Basto
CM CHAVES	Municipal Council of Chaves
CM COIMBRA	Municipal Council of Coimbra
CM ESPINHO	Municipal Council of Espinho
CM ESPOSENDE	Municipal Council of Esposende
CM ESTARREJA	Municipal Council of Estarreja
CM ÉVORA	Municipal Council of Évora
CM FARO	Municipal Council of Faro
CM FELGUEIRAS	Municipal Council of Felgueiras
CM FERREIRA ZÊZERE	Municipal Council of Ferreira Zêzere
CM FIGUEIRÓ DOS VINHOS	Municipal Council of Figueiró dos Vinhos
CM FORNOS ALGODRES	Municipal Council of Fornos de Algodres
CM GONDOMAR	Municipal Council of Gondomar
CM GOUVEIA	Municipal Council of Gouveia
CM GRÂNDOLA	Municipal Council of Grândola
CM GUIMARÃES	Municipal Council of Guimarães
CM IDANHA-A-NOVA	Municipal Council of Idanha-a-Nova
CM ÍLHAVO	Municipal Council of Ílhavo
CM LEIRIA	Municipal Council of Leiria
CM LISBOA	Municipal Council of Lisbon
CM LOULÉ	Municipal Council of Loulé
CM LOURES	Municipal Council of Loures
CM MACEDO CAVALEIROS	Municipal Council of Macedo de Cavaleiros
CM MAFRA	Municipal Council of Mafra
CM MANGUALDE	Municipal Council of Mangualde
CM MATOSINHOS	Municipal Council of Matosinhos
CM MIRANDELA	Municipal Council of Mirandela
CM MONCHIQUE	Municipal Council of Monchique
CM MONTALEGRE	Municipal Council of Montalegre
CM MONTEMOR-O-VELHO	Municipal Council of Montemor-o-Velho
CM MORTÁGUA	Municipal Council of Mortágua
CM Moura	Municipal Council of Moura
CM NISA	Municipal Council of Nisa
CM ÓBIDOS	Municipal Council of Óbidos
CM ODEMIRA	Municipal Council of Odemira
CM ODIVELAS	Municipal Council of Odivelas
CM OEIRAS	Municipal Council of Oeiras
CM-OAZ	Municipal Council of Oliveira de Azeméis
CM OLIVEIRA FRADES	Municipal Council of Oliveira de Frades
CM OLIVEIRA DO BAIRRO	Municipal Council of Oliveira do Bairro

Acronym	Name
CM OUREM	Municipal Council of Ourém
CM OURIQUE	Municipal Council of Ourique
CM PALMELA	Municipal Council of Palmela
CM PAMPILHOSA SERRA	Municipal Council of Pampilhosa da Serra
CM PENAMACOR	Municipal Council of Penamacor
CM PG	Municipal Council of Peso da Régua
CM PINHEL	Municipal Council of Pinhel
CM POMBAL	Municipal Council of Pombal
CM PONTE DA BARCA	Municipal Council of Ponte da Barca
CM PONTE DE LIMA	Municipal Council of Ponte de Lima
CM PORTALEGRE	Municipal Council of Portalegre
CM PORTIMÃO	Municipal Council of Portimão
CM PORTO DE MÓS	Municipal Council of Porto de Mós
CM PÓVOA LANHOSO	Municipal Council of Póvoa de Lanhoso
CM PÓVOA VARZIM	Municipal Council of Póvoa de Varzim
CM PROENÇA-A-NOVA	Municipal Council of Proença-a-Nova
CM VILA RIBEIRA DE PENA	Municipal Council of Ribeira de Pena
CM RIBEIRA GRANDE	Municipal Council of Ribeira Grande
CM FEIRA	Municipal Council of Santa Maria da Feira
CM SANTARÉM	Municipal Council of Santarém
CM SANTO TIRSO	Municipal Council of Santo Tirso
CM S. JOÃO MADEIRA	Municipal Council of São João da Madeira
CM S. PEDRO DO SUL	Municipal Council of São Pedro do Sul
CM SRP	Municipal Council of São Roque do Pico
CM SEIA	Municipal Council of Seia
CM SERNANCELHE	Municipal Council of Sernancelhe
CM SERPA	Municipal Council of Serpa
CM SESIMBRA	Municipal Council of Sesimbra
CM SETÚBAL	Municipal Council of Setúbal
CM SEVER VOUGA	Municipal Council of Sever do Vouga
CM SILVES	Municipal Council of Silves
CM SINTRA	Municipal Council of Sintra
CM SOURE	Municipal Council of Soure
CM SOUSEL	Municipal Council of Sousel
CM TAROUCA	Municipal Council of Tarouca
CM TOMAR	Municipal Council of Tomar
CM TORRES VEDRAS	Municipal Council of Torres Vedras
CM TROFA	Municipal Council of Trofa
CM VAGOS	Municipal Council of Vagos
CM VALE CAMBRA	Municipal Council of Vale de Cambra
CM-VALENÇA	Municipal Council of Valença
CM VALPAÇOS	Municipal Council of Valpaços
CM VIANA CASTELO	Municipal Council of Viana do Castelo
CM V. F. XIRA	Municipal Council of Vila Franca de Xira
CM VILA FRANCA DO CAMPO	Municipal Council of Vila Franca do Campo
CM VILA NOVA CERVEIRA	Municipal Council of Vila Nova de Cerveira
CM VN FAMILICAO	Municipal Council of Vila Nova de Famalicão
CM VN GAIA	Municipal Council of Vila Nova de Gaia
CM VILA NOVA DE POIARES	Municipal Council of Vila Nova de Poiares
CM VILA POUÇA DE AGUIAR	Municipal Council of Vila Pouca de Aguiar
CM PRAIA VITÓRIA	Municipal Council of Vila Praia da Vitória
CM VILA REAL	Municipal Council of Vila Real
CM V. V. RODÃO	Municipal Council of Vila Velha de Rodão
CM VIMIOSO	Municipal Council of Vimioso
CM VIZELA	Municipal Council of Vizela
CM VOUZELA	Municipal Council of Vouzela
CM BARREIRO	Municipal Council of Barreiro

Acronym	Name
CM CADAVAL	Municipal Council of Cadaval
CM ENTRONCAMENTO	Municipal Council of Entroncamento
CM FUNCHAL	Municipal Council of Funchal
CM MACHICO	Municipal Council of Machico
CM MONTIJO	Municipal Council of Montijo
CM PORTO	Municipal Council of Porto
CM SABUGAL	Municipal Council of Sabugal
CM SEIXAL	Municipal Council of Seixal
CNC	National Centre for Culture
COTR	Irrigation Operations and Technology Centre
CCDR LVT	Lisbon and Vale do Tejo Regional Coordination and Development Committee
CCDR ALT	Alentejo Regional Development Coordination Committee
CCDR ALG	Algarve Regional Development Coordination Committee
CCDR CENTRO	Centre Region Development Coordination Committee
CCDRN	North Regional Development Coordination Committee
CIMAL	Alentejo Litoral Intermunicipal Community
CIMLT	Lezíria do Tejo Intermunicipal Community
CIRA	Aveiro - Baixo Vouga Regional Intermunicipal Community
CIMAC	Central Alentejo Intermunicipal Community
AMAL	Algarve Intermunicipal Community
CIMAA	Alto Alentejo Intermunicipal Community
CIM Cávado	Cávado Intermunicipal Community
CIMT	Médio Tejo Intermunicipal Community
CIMO	West Intermunicipal Community
CIMPL	Pinhal Litoral Intermunicipal Community
CIVM	Minho Valley Intermunicipal Community
Valimar ComUrb	Vale-e-Mar Urban Community
CTT,S.A.	Portuguese Postal Service
DATECH	DATEch, part of TD Tech Data Portugal, Lda
DROTA/DSIGC	Regional Directorate of Spatial Planning and Environment / Directorate for Geographic Information and Cadastre Services - Madeira
DGEEC	Directorate-General for Statistics on Education and Science
DGRM	Directorate-General for Natural Resources, Security and Maritime Services
DGPC	Directorate-General for Cultural Heritage
DGAE	Directorate-General for Economic Activities
DGAI	Directorate-General for Internal Administration
DGADR	Directorate-General for Agriculture and Rural Development
DGEG	Directorate-General for Energy and Geology
DGS	Directorate-General for Health
DGT	Directorate-General for Spatial Planning
DGCI	Directorate-General for Taxation
DRADR-RAM	Regional Directorate of Agriculture and Rural Development - Madeira
DRAPLVT	Regional Directorate for Agriculture and Fisheries of Lisbon and Vale do Tejo
DRAP ALENTEJO	Regional Directorate for Agriculture and Fisheries of Alentejo
DRAP ALG	Regional Directorate for Agriculture and Fisheries of Algarve
DRAPC	Regional Directorate for Agriculture and Fisheries of the Centre
DRAPN	Regional Directorate for Agriculture and Fisheries of the North
DRE ALGARVE	Regional Directorate for Economics of the Algarve
DRE-RAM	Regional Directorate for Education - Madeira
DREM-RAM	Regional Directorate for Statistics - Madeira
DRF-RAM	Regional Directorate for Forestry - Madeira
DRP-RAM	Regional Directorate for Fisheries - Madeira
DRCIE-RAM	Regional Directorate for Trade, Industry and Energy - Madeira

Acronym	Name
DRT-MADEIRA	Regional Directorate for Tourism - Madeira
DRAC-RAM	Regional Directorate for Cultural Affairs - Madeira
DRTT-MADEIRA	Regional Directorate for Land Transport - Madeira
EDIA	Empresa de Desenvolvimento e Infra-estruturas do Alqueva, SA [Alqueva Enterprise and Infrastructure Development Company]
EEM-RAM	Empresa de Electricidade da Madeira, S.A. - [Madeira Electricity Company]
ENSULMECI	Ensul Mecic - Engineering Project Management Company
ESA-IPVC	College of Agriculture - Polytechnic Institute of Viana do Castelo
ESAB-IPB	Bragança College of Agriculture - Bragança Polytechnic Institute
ESAPL	Ponte de Lima College of Agriculture
EDM-RAM	Estradas da Madeira, S.A. [Madeira Highways Department]
EP, S.A.	Estradas de Portugal, S.A. [Portuguese highways department]
EPRL	Project structure for restoring legality
FLUL	Faculty of Arts - University of Lisbon
FORTE INFLUENCIA	Forte Influencia, Mediação Imobiliária, Lda.
GEE	Office for Strategic Studies
GEP	Strategy and Planning and Bureau (MTSS)
GPRI	Planning, Strategy and International Relations Bureau (MOPTC)
GAIURB	Gaiurb - Urbanismo e Habitação, EEM
GEOLAYER	Geolayer - Regional Studies Company
GEOMETRAL	Geometral, Measurement Techniques and Computing Company
INFOPORTUGAL	HOUSE OF THE HOUSES - Sociedade Mediação Imobiliária, Lda.
INSPIRE-PT	InfoPortugal, Information Systems and Content Company
INSPIRE-PT	INSPIRE Portugal
ICNF, IP	Institute for the Conservation of Nature and Forests
INCI, I.P.	Institute of Building and Real Estate
IHRU, I.P.	Institute for Housing and Urban Renewal
IMTT, I.P.	Institute of Mobility and Land Transport
IVV, I.P.	Institute of Wine-Growing
IASaude-RAM	Institute of Health and Social Affairs Administration - Madeira
IFAP, I.P.	Institute for the Funding of Agriculture and Fisheries
IGOT-UL	Institute of Geography and Spatial Planning - University of Lisbon
InIR, I.P.	Institute of Road Infrastructure
IICT, I.P.	Institute for Scientific and Tropical Research
IVBAM-RAM	Institute of Wine, Embroidery and Handicrafts of Madeira - Madeira
IGEOE	Geographic Institute of the Army
IH	Hydrographic Institute
INAC, I.P.	National Institute of Civil Aviation
INEM, I.P.	National Medical Emergency Institute
INE, I.P.	National Institute of Statistics
INIAV, I.P.	National Institute of Agricultural and Veterinary Research
INSA, I.P.	Dr Ricardo Jorge National Institute of Health
IPMA, I.P.	Portuguese Institute of the Sea and the Atmosphere
IGA-RAM	Investimento e Gestão de Água, S.A. - Madeira
J. SERRA RAMOS	J. Sierra Ramos
LNEG, I.P.	National Energy and Geology Laboratory
LNEC, I.P.	National Civil Engineering Laboratory
LREC-RAM	Regional Laboratory of Civil Engineering - Madeira

Acronym	Name
MARETEC - IST	Maretec - Higher Technical Institute
MUNÍCIPIA	Municípios, SA
CM	Municipalities (represented by ANMP)
NAV PORTUGAL, E. P. E.	Air Navigation, Portugal
NOVAGEO	Novageo Solutions
PNM-RAM	Madeira Nature Park - Madeira
PERSPECTIVA	Perspectiva
REFER, E.P.E.	National Railway System
SRCTE RAA	Regional Department of Science, Technology and Equipment - Azores
SRA-RAM	Regional Department of Environment and Natural Resources - Madeira
SRPC-RAM	Regional Civil Protection Service - Madeira
TURISMO DE PORTUGAL, I.P.	Portuguese Tourist Board

Table 12.1.2. - Composition of INSPIRE (Core) Focal Point Network

Body	Acronym	Contact	E-mail:
Central Administration of the Health System	ACSS, I.P.	Dina Susana Santos	dcsantos@acss.min-saude.pt
Portuguese Environment Agency	APA, I. P.	Luís Baltazar	luis.baltazar@apambiente.pt
Portuguese Airports Authority	ANA, S.A.		
National Civil Protection Authority	ANPC	Giuseppe Cornaglia	giuseppe.cornaglia@prociiv.pt
Portuguese Postal Service	CTT, S.A.	José Pedro Rufino	jose.p.rufino@ctt.pt
Regional Directorate for Spatial Planning and Environment/ Directorate for Spatial Information Services and the Cadastre - Madeira	DROTA/ DSIGC	Duarte Costa	duartecosta.sra@gov-madeira.pt
Directorate-General for Statistics on Education and Science	DGEEC	Carina Oliveira	carina.oliveira@dgeec.mec.pt
Directorate-General for Natural Resources, Security and Maritime Services	DGRM		
Directorate-General for Cultural Heritage	DGPC		
Directorate-General for Agriculture and Rural Development	DGADR	António Perdigão	perdigao@dgadr.pt
Directorate-General for Energy and Geology DGEG		Cristina Antunes	cristina.antunes@dgeg.pt
Directorate-General for Health	DGS	José Nunes Martins	josemartins@dgs.pt
Directorate-General for Spatial Planning	DGT	Maria José Lucena Vale	mvale@dgterritorio.pt
Directorate-General for Taxation	DGCI	Carlos Melo	cfmelo@dgci.min-financas.pt
Portuguese highways department	EP,S.A.	Luis Alexandre Correia	luis.correia@estradas.pt
Strategy and Planning and Bureau (MTSS)	GEP	Dulce Beatriz	dulce.beatriz@gep.mtss.gov.pt
Institute for the Conservation of Nature and Forests	ICNF, IP	Teresa Pimenta	teresa.pimenta@icnf.pt
Institute for Housing and Urban Renewal	IHRU, I.P.	João Manuel Vieira	JSVieira@ihru.pt
Institute of Mobility and Land Transport	IMTT, I.P.	Catarina Marcelino	cmarcelino@imtt.pt
Institute of Wine-Growing	IVV, I.P.	João Carlos Leitão	JLeitao@ivv.min-agricultura.pt
Institute for the Funding of Agriculture and Fisheries	IFAP, I.P.	Rita Alexandra Araújo	rita.araujo@ifap.pt

Body	Acronym	Contact	E-mail:
Geographic Institute of the Army	IGEOE	Machado	cmachado@igeoe.pt
Hydrographic Institute	IH	Rui Reino Baptista	reino.baptista@hidrografico.pt
National Institute of Civil Aviation		Maria da Amaral	conceicao.amaral@inac.pt
National Medical Emergency Institute	INEM, I.P.	Paulo Renato Pinto	paulo.pinto@inem.pt
National Institute of Statistics	INE, I.P.	Ana Maria dos Santos	msantos@ine.pt
National Institute of Agricultural and Veterinary Research	INIAV, I.P.		
Portuguese Institute of the Sea and the Atmosphere	IPMA, I.P.		
National Energy and Geology Laboratory	LNEG, I.P.	Gabriel Luís	inspire.uig@lneg.pt
Aerial Navigation, Portugal	NAV PORTUGAL, E. P. E.		
National Railway System	REFER, E.P.E.	João Carlos Silva	jcsilva@refer.pt
Regional Department of Science, Technology and Equipment - Azores	SRCTE RAAM	Marlene Assis	marlene.cs.assis@azores.gov.pt

Table 12.1.3. - Composition of metadata managers network

Body	Name	E-mail:
Administration of the Algarve river basin district	Sandra Correia	scorreia@arhalgarve.pt
Administration of the Centre river basin district	Leonor Silva	leonor.silva@arhcentro.pt
Administration of the North river basin district	José João Mamede	joao.mamede@arhnorte.pt
Administration of the Tagus river basin district	Sónia Fernandes	sonia.fernandes@arhtejo.pt
Administration of the Tagus river basin district	Teresa Pimenta	teresa.pimenta@arhtejo.pt
Dão Development Association	Clara Magalhães	geral@cm-penalvadocastelo.pt
Association of Municipalities of Terra Quente Transmontana	Hélia Pineu	helia.pineu@amtqt.pt
Association of Municipalities of Alto Tâmega	Mário	sg@amat.pt
Special Purpose Association of Municipalities of Douro Superior	Daniela Cardoso	geral@amdourosuperior.pt
Association of Municipalities of Vale de Sousa	Nuno Jerónimo	nuno.jeronimo@valsousa.pt
Municipal Council of Amadora	GIS Bureau	deolinda.costa@cm-amadora.pt
Municipal Council of Batalha	Patricia Nascimento	patricia.nascimento@cm-batalha.pt
Municipal Council of Batalha	Rita Carmona	rita.carmona@cm-batalha.pt
Municipal Council of Mealhada	Sandra Lopes	dpu@cm-mealhada.pt
Municipal Council of Murtosa	António José Silva	antonio.silva@cm-murtosa.pt
Municipal Council of Nazaré	Sofia Fernandes	sofia.fernandes@cm-nazare.pt
Municipal Council of Albergaria-a-Velha	Ana Silva	ana.silva@cm-albergaria.pt
Municipal Council of Albufeira	Ricardo Sena	sig@cm-albufeira.pt
Municipal Council of Alcanena	Rosaria Castela	rosaria.castela@cm-alcanena.pt
Municipal Council of Alcobaça	Ricardo Azevedo	ricardo.azevedo@cm-alcobaca.pt
Municipal Council of Alcochete	Carlos Aniceto	sig@cm-alcochete.pt
Municipal Council of Alcoutim	Catarina Roxas	catarina.r@cm-alcoutim.pt
Municipal Council of Alfândega da Fé	António Constâncio	constancio@sapo.pt
Municipal Council of Alvaiázere	Hilário Simões	hilario.simoes@cm-alvaiazere.pt
Municipal Council of Ansião	Jorge Feio	jorge.feio@cm-ansiao.pt

Body	Name	E-mail:
Municipal Council of Arruda dos Vinhos	Saul de Matos	smatos@cm-arruda.pt
Municipal Council of Baião	João Barbosa	joaobarbosa@cm-baião.pt
Municipal Council of Barrancos	DOMA/SIG	cmb.sig@cm-barrancos.pt
Municipal Council of Benavente	António Neves	antonio.neves@cm-benavente.pt
Municipal Council of Benavente	Verónica Coelho	veronica.coelho@cm-benavente.pt
Municipal Council of Boticas	Susana Rodrigues	susana@cm-boticas.pt
Municipal Council of Braga	Teresa Pestana	teresa.pestana@cm-braga.pt
Municipal Council of Carregal do Sal	Ricardo Almeida	ricardo.almeida@carregal-digital.pt
Municipal Council of Castro Verde	Miguel Alinho	miguel.alinho@cm-castroverde.pt
Municipal Council of Celorico da Beira	Marisa Silva	geral@cm-celoricodabeira.pt
Municipal Council of Celorico de Basto	Ivone Silva	ivonesilva@mun-celoricodebasto.pt
Municipal Council of Chaves	Maria Monteiro	luz.monteiro@cm-chaves.pt
Municipal Council of Estarreja	Teresa Lima	teresa.lima@cm-estarreja.pt
Municipal Council of Évora	Carlos Borralho	carlosborralho@cm-evora.pt
Municipal Council of Faro	GIS	dsic@cm-faro.pt
Municipal Council of Ferreira Zêzere	Hugo Azevedo	hugo.azevedo@cm-ferreiradozezere.pt
Municipal Council of Figueiró dos Vinhos	Tiago Filipe Lopes	cartografia@cm-figueirodosvinhos.pt
Municipal Council of Fornos de Algodres	Pedro Bidarra	pedrommbidarra@gmail.com
Municipal Council of Grândola	Francisco Chainho	francisco.chainho@cm-grandola.pt
Municipal Council of Guimarães	Pedro Pereira	pedro.pereira@cm-guimaraes.pt
Municipal Council of Idanha-a-Nova	Pedro Dias	pedro.santos.dias@cm-idanhanova.pt
Municipal Council of Ilhavo	Juliana Lopes	dpup@cm-ilhavo.pt
Municipal Council of Leiria	Helder Leitão	hleitao@cm-leiria.pt
Municipal Council of Lisbon	Maria José Santos	maria.velho.santos@cm-lisboa.pt
Municipal Council of Lisbon	Margarida Silva	margarida.silva@cm-lisboa.pt
Municipal Council of Lisbon	Maria Lídia Caroco	lidia.caroco@cm-lisboa.pt
Municipal Council of Lisbon	Poeira	hugo.poeira@hotmail.com
Municipal Council of Lisbon	Laginha San-Payo	margarida.laginha@cm-lisboa.pt
Municipal Council of Loulé	Ana Matos Lima	alima@cm-loule.pt
Municipal Council of Loures	Paula Pereira	paula_pereira@cm-loures.pt
Municipal Council of Macedo de Cavaleiros	Alcino Loureiro	loureiro.alcino@gmail.com
Municipal Council of Mafra	Carla Romana	cromana@cm-mafra.pt
Municipal Council of Matosinhos	Ana Remelgado	ana.remelgado@cm-matosinhos.pt
Municipal Council of Mirandela	António Branco	antonio.branco@cm-mirandela.pt
Municipal Council of Mirandela	Maria Gouveia	maria.gouveia@cm-mirandela.pt
Municipal Council of Montalegre	Luís Francisco	gtflorestal@cm-montalegre.pt
Municipal Council of Montemor-o-Velho	Paulo Mendes	sig@cm-montemorvelho.pt
Municipal Council of Mortágua	Nuno Pereira	nuno.pereira@cm-mortagua.pt
Municipal Council of Moura	Rafael Reis	rafael.reis@cm-moura.pt
Municipal Council of Moura	Rafael Reis	rafael.reis@cm-moura.pt
Municipal Council of Nisa	Nuno Jorge	pdm@cm-nisa.pt
Municipal Council of Óbidos	Célia Martins	celia.martins@cm-obidos.pt
Municipal Council of Óbidos	Mara Santos	sig@cm-obidos.pt
Municipal Council of Odemira	Jónia Reis	jonias_reis@hotmail.com
Municipal Council of Odivelas	Lucília Gaspar	lucilia.gaspar@cm-odivelas.pt
Municipal Council of Odivelas	Rui Dias	ruis.dias@cm-odivelas.pt
Municipal Council of Oeiras	GIS Bureau	gsig@cm-oeiras.pt
Municipal Council of Oliveira de Azeméis	Carlos Ferreira	sig@cm-oaz.pt
Municipal Council of Oliveira de Frades	Maria Gonçalves	gracariogoncalves@gmail.com
Municipal Council of Oliveira do Bairro	João Sérgio Pinto	joao.pinto@cm-olb.pt
Municipal Council of Ourém	Jacinta Ferreira	jacinta.ferreira@mail.cm-ourem.pt
Municipal Council of Ourique	Sara Rodrigues	sara.rodrigues@cmourique.pt
Municipal Council of Palmela	Paulo Jorge	pjorge@cm-palmela.pt
Municipal Council of Pampilhosa da Serra	Fernando Alves	urbanismo@cm-pampilhosadaserra.pt

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Municipal Council of Pampilhosa da Serra	Mário Gigante	cmgs_cartosig@sapo.pt
Municipal Council of Penamacor	Olga Gonçalves	topografia@cm-penamacor.pt
Municipal Council of Peso da Régua	Sandra Fidalgo	sandrafidalgo@cmpr.pt
Municipal Council of Pinhel	Pedro Venâncio	pedro.venancio@cm-pinhel.pt
Municipal Council of Pombal	Armando Ferreira	sig@cm-pombal.pt
Municipal Council of Ponte da Barca	Cristina Azevedo	sig.dpu@cm-pontedabarca.pt
Municipal Council of Ponte de Lima	Carlos Pereira	sig@cm-pontedelima.pt
Municipal Council of Portimão	Spatial Info Divn.	dig@cm-portimao.pt
Municipal Council of Porto de Mós	Vitor Carvalho	sig@municipio-portodemos.pt
Municipal Council of Póvoa de Lanhoso	Henrique Martins	henrique.martins@mun-planhoso.pt
Municipal Council of Proença-a-Nova	Micael Silva	micaelsilva@cm-proencanova.pt
Municipal Council of Ribeira de Pena	José Bastos	josebastos@cm-rpena.pt
Municipal Council of Ribeira Grande	Catarina Vieira	catarinavieira@cm-ribeiragrande.pt
Municipal Council of Santa Maria da Feira	Sandra Resende	sandra.resende@urbanfeira.net
Municipal Council of Santarém	Inês Serafim	sesig@cm-santarem.pt
Municipal Council of Santo Tirso	Madalena Freitas	mfreitas@cm-stirso.pt
Municipal Council of São Roque do Pico	Nuno Monteiro	cmsrp.nunomonteiro@gmail.com
Municipal Council of Seia	Ricardo Mendes	popricardo@gmail.com
Municipal Council of Sernancelhe	Sónia Marisa Matos	gtf@cm-sernancelhe.pt
Municipal Council of Serpa	Pestana	spestana@cm-serpa.pt
Municipal Council of Sesimbra	Marta Bastos	marta.bastos@cm-sesimbra.pt
Municipal Council of Sever do Vouga	Ana Pinto	anapinto@cm-sever.pt
Municipal Council of Silves	José Fernandes	jose.fernandes@cm-silves.pt
Municipal Council of Sintra	GIS Division	dsig@cm-sintra.pt
Municipal Council of Soure	Rui Fernandes	rui.fernandes@cm-soure.pt
Municipal Council of Tarouca	Technical Forestry Office	gtf@cm-tarouca.pt
Municipal Council of Tomar	José Pedro da Silva	pedrosilva@cm-tomar.pt
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12.2.3 Links

Guia de apoio para a configuração e publicação de Serviços de Visualização INSPIRE-PT v1.0
http://snig.igeo.pt/Portal/docs/PT_INSPIRE_WMS_v1.0.pdf

This document aims to support the implementation and publication of INSPIRE view services in Portugal, in accordance with the implementation rules of the Open Geospatial Consortium and Technical Guidance for INSPIRE version 3.0 for view services.

The document was produced by the cross-cutting working group, which includes participants from various organisations, and aims to support the national bodies in implementing the Directive in the field of metadata and services.

Perfil Nacional de Metadados de Informação Geográfica (Perfil MIG) v. 2.0, January 2013 _
<http://snig.igeo.pt/migeditor/display/PerfilMIG/Perfil+MIG>

The National Geographic Information Metadata Profile (MIG profile) is based on standards ISO 19115 and ISO 19119 (extension for services) and the INSPIRE requirements.

The MIG profile defines and refines the application of standards in order to ensure that geographical resources are properly described and that infrastructures and applications are interoperable, particularly SNIG and INSPIRE.

It consists of a set of mandatory metadata and other optional and complementary metadata.

This version is based on version 1.2 of March 2010 of the MIG Profile and in several recent national and European publications, after being updated within the Cross-Cutting Working Group, in order to create a consensual national reference metadata database.

GeMA - Azores Metadata Manager

<http://www.ideia.azores.gov.pt/projetos/inspire/Paginas/GeMA.aspx>

This application was developed in the light of the need to create an editor compliant with the requirements of the INSPIRE Directive (Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007) and the respective provisions of the implementing

rules for metadata, established by Commission Regulation (EC) No 1205/2008 of 3 December 2008. More specifically, the Regulation lays down the requirements for the creation and maintenance of metadata for spatial data sets, series of spatial data sets and spatial data services corresponding to the themes listed in Annexes I, II and III of Directive 2007/2/EC of 14 March 2007, in accordance with ISO 19115:2003 (corrigendum 2003/Cor.1: 2006) and ISO 19119:2005.

To enable GeMA to become a more complete tool for entering metadata, and also to ensure that metadata are in line with the national metadata profile, GeMA has been updated to conform the two main aspects of metadata: INSPIRE and MIG profile

URLs of cited research projects:

eENVplus - Environmental services for advanced applications within INSPIRE. (<http://www.eenvplus.eu/>)

Objective: To create an open interoperable infrastructure capable of integrating existing infrastructure in accordance with the requirements of the INSPIRE Directive and existing international standards.

The DGT plans to conduct a pilot project with the aim of assessing the usefulness of various available official data sets to support urban zoning, to study the evolution of urban growth and to assess the sustainability of this growth in Portugal.

LANDYN - Changes of land use and cover in Continental Portugal: characterisation, drivers and future scenarios.

(<http://landyn.isegi.unl.pt/>)

Objectives:

- to identify changes in land use and cover in Portugal in the 1970s, 1980s, 1990s and 2010s from the maps of 1 278 sampling units that represent the country statistically;
- to identify the driving forces for the changes observed and to devise scenarios for changes in land use and cover up to 2040;
- to study energy demand and emissions and removals of greenhouse gases.

This project is conducted in close coordination with the work to be performed in the DGT as part of its responsibilities to support the Kyoto report, in the context of the Portuguese Carbon Fund, which is the responsibility of the APA.

BRISEIDE: Bridging Services and Information for Europe (<http://www.briseide.eu/>)

Objectives:

- to develop geo-webservices incorporating time series;
- to improve the integration of, access to and analysis of information describing the evolution of the spatial situation;
- to support, using the tools developed, the understanding of the problems associated with the integration of geo-webservices into the analysis of the evolution of the areas under study.

GIS4EU: Provision of interoperable datasets to open GI to EU communities (<http://www.gis4eu.eu/>)

Objectives:

- to transform producers' data models into INSPIRE data models for the three working themes (Administrative units, Hydrography, Transport networks);
- to create a common data model for the Elevation theme (since no INSPIRE data model is as yet available);
- to create rules and guidelines for the harmonisation, aggregation and mining of data for work at European, national, regional and local levels.

HUMBOLDT: Development of a Framework for Data Harmonisation and Service Integration (<http://www.esdi-humboldt.eu/>)

Objective:

- to develop an architecture for data harmonisation and service integration under the INSPIRE Directive ('Humboldt Framework'), taking account of the objectives of the Global Monitoring for Environment and Security (GMES) programme.

NATURE-SDIplus: Best practice Network for European SDI in Nature Conservation (<http://www.nature-sdi.eu/>)

Objective:

- to establish a best practice network on geographical information for the conservation of nature in order to encourage the community of people interested in nature conservation to improve harmonisation and use of and access to their data.

12.3 Replies by the Core FPN to the form for the 2013 report

12.3.1 Description of bodies

Table 12.3.1. Description of institutions - General

ACSS, I.P.

Central Administration of the Health System

Its mission is to manage the financial and human resources of the Ministry of Health (MS) and the National Health Service (SNS), and the facilities and equipment of the SNS, to devise and implement health policies, standards, regulations and planning, in its areas of responsibility, in coordination with the Regional Health Administrations, in the field of procurement of care services.

ANA, S.A.

Portuguese Airports Authority

Its mission is to efficiently manage the airport infrastructure under its responsibility, connecting Portugal to the world, and to contribute to the economic, social and cultural development of the regions in which it operates.

Its mission also includes offering its customers a high-quality service, creating value for shareholders and ensuring high levels of professional qualification and motivation among its employees.

ANPC

National Civil Protection Authority

Its mission is to plan, coordinate and implement the civil protection policy, particularly to prevent and respond to major accidents and disasters, protect and rescue populations and oversee the activities of firefighters, as well as plan and coordinate national needs in the field of civil emergency planning with a view to dealing with crisis situations or war.

APA, I. P.

Portuguese Environment Agency

Its mission is to propose, develop and monitor the integrated and participatory management of environmental and sustainable development policies, in coordination with other sectoral policies and in cooperation with public and private bodies working to the same end, aiming for a high level of protection and enhancement of the environment and the provision of high-quality services to citizens.

CTT,S.A.

Correios de Portugal, S.A. [Portuguese Postal Service]

National postal communication operator, currently involved in the following areas of business: mail, parcels, express/urgent courier services, financial services, philately/collecting.

DGADR

Directorate-General for Agriculture and Rural Development

Its mission is to contribute to the implementation of policies in the areas of regulating the activity of farms, agricultural genetic resources, qualification of rural actors and economic diversification of rural areas, sustainable land management and irrigation. It is the national irrigation authority.

DGCI

Directorate-General for Taxation

Administers taxes on income, property and consumption, and other taxes for which it has statutory responsibility, in accordance with government taxation policies.

DGEEC

15-May-13

Directorate-General for Statistics on Education and Science

Its mission is to produce and analyse statistics on education and science, providing technical support for policy-making and strategic and operational planning, to create and ensure the proper functioning of the Ministry of Education and Science's integrated information system, and to observe and assess the overall results achieved by the educational, science and technology systems, in coordination with the Ministry's other services.

DGEG**Directorate-General for Energy and Geology**

Its objective is to conceive, promote and assess policies related to energy and geological resources, in terms of sustainable development and security of supply.

DGPC**Directorate-General for Cultural Heritage**

Its mission is to manage, protect, enhance, conserve and restore property belonging to the country's immovable, movable and intangible cultural heritage, as well as to develop and implement the national museum policy.

DGRM**Directorate-General for Natural Resources, Security and Maritime Services**

Its mission is to implement policies to conserve and learn about natural marine resources, to implement policy on fishing, aquaculture, the processing industry and related activities, to develop maritime safety and services, including the maritime port sector, and to regulate, inspect, supervise, coordinate and control activities carried out under those policies.

DGS**Directorate-General for Health**

Its mission is to regulate, guide and coordinate the activities of health promotion and disease prevention, define the technical conditions for the proper provision of health care, plan and schedule national policy for quality in the health system, and prepare and implement the National Health Plan and also to coordinate the international relations of the Ministry of Health.

DGT**Directorate-General for Spatial Planning**

Its mission is to pursue Government spatial planning and urban development policy, and set up and maintain the spatial reference databases.

DROTA/DSIGC**Regional Directorate of Spatial Planning and Environment / Directorate for Geographic Information and Cadastre Services - Madeira**

Its mission, in close liaison with the Regional Secretary of Environment and Natural Resources, is to implement and coordinate the policy of spatial, urban and coastal planning and to manage environmental quality.

EP, S.A.**Portuguese highways department**

Provision of a public service, on an entrepreneurial basis, for the planning, management, development and implementation of the road infrastructure policy set out in the National Highways Plan.

GEP**Strategy and Planning Bureau**

Its mission is to provide technical support for policy formulation and strategic and operational planning, in coordination with financial programming, to handle, directly or under its coordination, international relations and cooperation with Portuguese-speaking countries, and to monitor and assess the implementation of policies, planning instruments and the results of organisational and management systems, in coordination with the other services of the Ministry of Solidarity and Social Security.

GEPE**Educational Statistics and Planning Bureau**

Its mission is to produce and analyse educational statistics, with a view to providing technical support for policy-making, strategic and operational planning, and proper coordination with financial planning, and to observe and make an overall assessment of results achieved by the educational system. It is also responsible for providing support for international relations and cooperation in the areas of activity of the Ministry of Education.

ICNF, I.P.**Institute for the Conservation of Nature and Forests**

Its mission is to propose, support and implement policies for the conservation of nature and forests, to promote the conservation, sustainable use, enhancement, enjoyment and public recognition of the natural heritage, promoting the sustainable development of woodland and associated resources, to foster the competitiveness of the forestry sectors, to ensure structural

prevention in the context of planning and concerted action in defence of forests and hunting and aquatic resources of inland waters and others directly associated with forests and forestry activities.

IFAP, I.P.

Institute for the Funding of Agriculture and Fisheries

Its mission is to validate and make payments arising from the funding of the implementation of various measures laid down at national and EU level, and to propose information technology and communication policies and strategies for the MADRP, in the field of agriculture, rural development, fisheries and related sectors. To oversee the planning, design, implementation and assessment of information and technological upgrade initiatives in the bodies, departments and agencies of the Ministry, ensuring that the available resources are properly managed.

IGeoE

Geographic Institute of the Army

Its mission is to provide the Army and other branches of the military and civil authorities with geographic information. To that end, it has to carry out activities related to geographical science, mapping technology and the promotion and carrying out of scientific and technological research in the field of geospatial technology.

IH

Hydrographic Institute

Its mission is to carry out activities related to marine science and technology, in support of military applications, and to contribute to the country's development in the science and defence of the marine environment.

IHRU, I.P.

Institute for Housing and Urban Renewal

Its mission is to put into effect Government policy in the areas of housing and urban regeneration, in coordination with the Cities Policy and other policies on social affairs and protection and enhancement of heritage, ensuring that architecture is remembered and can evolve.

IMTT, I.P.

Institute of Mobility and Land Transport

Its mission is to regulate, inspect, coordinate and plan the maritime port sector and supervise and regulate its activities.

INAC, I.P.

National Institute of Civil Aviation

The INAC is responsible for licencing, certifying, authorising and approving the activities and procedures, bodies, personnel, aircraft, infrastructure, equipment, systems and other resources allocated to civil aviation, and for laying down the technical requirements and assumptions underlying the issue of the respective documents.

INE, I.P.

National Institute of Statistics

Its mission is to produce and disseminate effectively, efficiently and free of charge, quality official statistical data, relevant to the whole of society.

INEM, I.P.

National Medical Emergency Institute

Its mission is to define, organise, coordinate, participate in and assess the activities and operation of the Integrated Medical Emergency System, to ensure that victims of accidents or sudden illness receive prompt and proper health care.

INIAV, I.P.

National Institute of Agricultural and Veterinary Research

Its mission is to pursue science policy, and conduct research to support Government policy for the enhancement of national biological resources in the defence of national interests and the pursuit and consolidation of European Union common policies.

InIR, I.P.

Institute of Road Infrastructure

Its main mission is to supervise and oversee the management and operation of the road system, checking compliance with laws and regulations and concession and sub-concession contracts, to ensure that the National Highways Plan is implemented and to safeguard the efficiency, equity, quality and safety of the infrastructure, as well as the rights of users.

IPMA, I.P.

Portuguese Institute of the Sea and the Atmosphere

Its mission is to promote and coordinate scientific research, technological development, innovation and the provision of services in the field of the sea and the atmosphere, implementing strategies and policies in its fields of operation, and contributing to economic and social development. It is the

designated national authority in the fields of meteorology, aeronautical meteorology, climate, seismology and geomagnetism.

IVV, I.P.

Institute of Wine-Growing

Its mission to coordinate and control the institutional organisation of the wine sector, audit the quality certification system, support EU policy, and prepare the rules for implementation, as well as take part in the coordination and supervision of the sale of wine products.

LNEG, I.P.

National Energy and Geology Laboratory

State Laboratory attached to the Ministry of Economic Affairs and Employment, whose mission focuses on the development of advanced research and development activities in energy and geology.

NAV PORTUGAL, E. P. E.

Air Navigation, Portugal

Its primary mission is the provision of air traffic services in the flight information regions (FIRs) under Portugal's responsibility - Lisbon and Santa Maria, ensuring compliance with national and international regulations on optimum safety conditions, optimising capacities, focusing on efficiency and without neglecting environmental concerns.

REFER, E.P.E.

National Railway System

Public company responsible for providing the public service of managing the infrastructure of the national rail system.

SRCTE RAA

Regional Department of Science, Technology and Equipment - Azores

Its mission is to support the member of the Regional Government.

Tabela 12.3.2. Description of institutions - Relations of the institution with the spatial data sector

Institution	Relations of the institution with the spatial data sector
APA, I. P.	<p>The mission of the Portuguese Environment Agency is to propose, develop and monitor the integrated and participatory management of environmental and sustainable development policies, in coordination with other sectoral policies and in cooperation with public and private bodies working to the same end, aiming for a high level of protection and enhancement of the environment and the provision of high-quality services to citizens.</p> <p>The Agency's activities aim to contribute to sustainable development in Portugal, based on high standards of protection and enhancement of environmental systems and integrated approaches to Government policy.</p>
DGEEC	<p>The Directorate-General for Statistics on Education and Science is responsible for managing information systems of the Ministry of Education and Science, and coordinating access to information with the various departments of the Ministry in accordance with their respective responsibilities. Accordingly, a need was identified to establish and maintain a geo-referenced database of the whole public and private educational network, serving as a source of data needed for studies, planning, statistics and other measures relating to educational institutions.</p>
DGPC	<p>The DGPC is a central service under the direct administration of the State, and its mission is to manage, protect, enhance, conserve and restore property belonging to the country's immovable, movable and intangible cultural heritage, as well as develop and implement the national museum policy.</p> <p>The DGPC is responsible for proposing a classification of properties of national and public interest, and establishing appropriate special protection areas, and as a consequence making a systematic and up-to-date inventory of the property and geo-referencing it.</p> <p>It is also responsible for promoting and implementing the overall inventory of cultural heritage and the georeferencing system of the archaeological cultural heritage, in conjunction with the registry ownership, and for promoting the coordination of the inventories of public and private property.</p>

The DGT's mission is to pursue Government spatial planning and urban development policy, and to set up and maintain the spatial reference databases. The DGT is the national body responsible for implementing the spatial information policy, coordinating and developing the National Spatial Information System (SNIG) and the National Regional Information System (SNIT), and also promoting scientific research in geographic information science and technology.

DROTA/
DSIGC

The Directorate for Spatial Information Services and the Cadastre of the Regional Directorate for Spatial Planning and Environment is the service of the Regional Government of Madeira responsible for promoting, developing and coordinating regional policy on geographic information. It promotes, coordinates and supports sectoral GI projects and programmes, as the regional centre for the promotion and dissemination of geographic, cartographic and cadastral information. Its responsibilities include maintaining and improving the regional geodetic network, and it is the regional body responsible for implementing, updating and maintaining the land register. It is also the body that regulates the standards for producing regional mapping.

ICNF, IP

The Institute for the Conservation of Nature and Forests is a public institute under the indirect administration of the State, with administrative and financial independence and its own assets.

The ICNF's mission is to propose, support and implement policies for the conservation of nature and forests, to promote the conservation, sustainable use, enhancement, enjoyment and public recognition of the natural heritage, promoting the sustainable development of woodland and associated resources, to foster the competitiveness of the forestry sectors, to ensure structural prevention in the context of planning and concerted action in defence of forests and hunting and aquatic resources of inland waters and others directly associated with forests and forestry activities.

The ICNF is responsible for:

Institution	Relations of the institution with the spatial data sector
	<ul style="list-style-type: none"> - Promoting the creation of the National Register of Classified Natural Values, incorporating the assessment of ecosystem services and the development of the Information System on Natural Heritage (SIPNAT) which can store and organise information on species, natural habitats, geological heritage, landscape and the Basic Nature Conservation Network, simultaneously making it available through a spatial data system interface accessible via the intranet and the web. - Ensuring that the National Forestry Resources Information System (SNIRF) is operational, including: <ul style="list-style-type: none"> i. the continuous updating and publication of the National Forest Inventory; ii. monitoring the implementation of development, management and action plans; iii. promoting information systems and monitoring associated with the universe of forest action zones (ZIFs); iv. developing thematic mapping in the implementation of the forestry regime, ZIFs and forest action plans (PGFs); v. developing techniques, processes and technologies for gathering and processing data and coordinating responses to statistical questionnaires, as part of forest management and inventory activities; vi. ensuring the integration/operability of the Forest Fire Information Management System (SGIF); vii. monitoring the ecological quality of water courses; viii. ensuring the availability of collected and analysed data relating to hunting and fishing in inland waters. - Managing the geographic information provided for in the implementation of the INSPIRE Directive, including cataloguing, standardising and publishing it. - Updating the European database on protected areas (European Common Database on Nationally Designated Areas - ECDDA) which incorporates the spatial information on the boundaries of protected areas in the country. - Submitting periodic reports, accompanied by geographical information required by the European Commission under the EU Directives on the conservation of biological diversity (Birds and Habitats Directives). Part of this information is also

made available to the general public on the website of the European Environment Agency (EEA) - Eionet Central Data Repository (<http://cdr.eionet.europa.eu/pt/eu>).

- Monitoring and assessing the policy measures and instruments, as part of the coordination of the National Desertification Observatory, which include the goal of combating desertification and monitoring the impact of measures on the environment, natural resources and territory, incorporating the compilation and organisation of the relevant information and the production of quantitative and qualitative indicators to enable an analysis of developments.

IGEOE To provide the Army and other branches of the military and civil authorities with geographic information. To that end, it has to carry out activities related to geographical science, mapping technology and the promotion and carrying out of scientific and technological research in the field of geospatial technology.

IH The Hydrographic Institute has the following responsibilities:

- to carry out and disseminate mapping coverage of inland and territorial waters and other mapping in the national interest, conducting surveys as required to create and update maps and compiling, as required, those produced by of other national or foreign bodies; [...]
- to contribute to the oceanographic knowledge of the coast and exclusive economic zone, particularly in the areas of physics, geology, chemistry and pollution;
- to promote and conduct research, studies and work, on its own initiative or at the request of other national or foreign bodies, in the field of hydrography, navigation, oceanography and the marine environment;

The IH is solely responsible for publishing, disseminating and deleting official hydrographic charts relating to the above areas and other national nautical documents.

Institution	Relations of the institution with the spatial data sector
IHRU, I.P.	Production of content on architectural, urban and landscape heritage for Portugal and of Portuguese origin in the world. Geo-referencing of historic maps and three-dimensional modelling of urban environments.
INE, I.P.	Decree-Law No 136/2012 (Official Gazette No 126, series 1, of 2 July 2012) - Organic Law of the INE, IP laying down the rules governing the National Statistics Institute. The INE is a public institute under a special regime, indirectly administered by the State, with administrative independence, with the mission to produce and disseminate effectively, efficiently and free of charge, quality official statistical data that is relevant to the whole of society. It is independent in the exercise of its official statistical business and, as the national statistical authority, may require information to be provided free of charge, safeguarding statistical confidentiality, in accordance with the law on the National Statistical System. In carrying out its business, the INE may access, create and manage files of geographic information to support the production and dissemination of geo-referenced statistical information.
InIR, I.P.	The InIR's main mission is to supervise and oversee the management and operation of the road system, checking compliance with laws and regulations and concession and sub-concession contracts, to ensure that the National Highways Plan is implemented and safeguard the efficiency, equity, quality and safety of the infrastructure, as well as the rights of users. Pursuant to the provisions of Article 2(j) of the Annex to the Order No 546/2007 of 27 April 2007, the InIR is responsible for policymaking and devising strategy for its information systems, particularly those relating to geographical information.
SRCTE RAA	Azores Regional Government authority with responsibility for geographic information, mapping and geodetics.
DGEG	The DGEG keeps geo-referenced information to assist and support the assessment, licensing and monitoring of projects relating to electricity infrastructure and renewable energy sources (wind, hydroelectric, photovoltaic); oil facilities and fuel prices; natural gas infrastructure; prospecting, surveying and exploration of mineral deposits and ore bodies; hydrogeological and geothermal resources and prospecting, surveying and exploration for oil.
LNEG, I.P.	The LNEG is a public producer and user of spatial data sets and services in the fields of geology and energy, and is a member of the INSPIRE Focal Points Network. The LNEG is responsible among other things for the National Geological Survey, and is accordingly responsible for producing, managing and disseminating official geological maps at various scales.

Table 12.3.3. Description of institutions - Cooperation with other Portuguese institutions in the field of spatial data

Institution	Cooperation with other Portuguese institutions in the field of spatial data
APA, I. P.	Cooperation agreements The former INAG, now merged into the APA, has a cooperation agreement with the former IGP, which is now merged into the Directorate-General for Spatial Planning (DGT), with a view to obtaining digital aerial photography coverage of the coastal zones and estuaries of the major rivers of continental Portugal, and acquiring the digital terrain model, producing orthophotos and maps of the same areas. Working groups The APA, which incorporated various public bodies, including the INAG and APA, took part in the thematic and cross-cutting working groups set up by the National Geographic Information System Steering Committee (CO-SNIG).

Institution	Cooperation with other Portuguese institutions in the field of spatial data
	Spatial data geo-portals (URLs) - the National Environmental Information System (SNIAmb) aims to optimise and streamline the procedures for gathering, assessing and communicating reliable

and relevant environmental information, to support the decision-making process and the formulation and implementation of environmental policies and strategies and to integrate them into sectoral policies.

The ultimate aim is to build a system compliant with the European Shared Environmental Information System (SEIS) initiative, based on access, sharing and interoperability.

The SNIAmb is a means of complying with the APA's legal obligations (national and EU), applicable to newly formed bodies, such as applications that allow compliance with the Directive on Infrastructure for Spatial Information in the European Community (INSPIRE).

- InterSIG - <http://intersig.inag.pt> - InterSIG is a geographic information manager developed by the former INAG, whose goal was to centralise and organise all spatial data existing at the former INAG, promoting its publication, both internally and for the general public, in accordance with access levels and using a common interface. The InterSIG was able to respond to the European Commission's demands in terms of both the Water Information System for Europe (WISE) and the INSPIRE Directive in that they share the goal of building spatial data infrastructures that promote the provision of spatial data that can be used to devise, implement and assess the environmental policies of the European Union. In the case of WISE this goal will contribute directly to the efficient management of information on water and easy access to water-related data.

DGEEC
Cooperation agreements

Description: Geographic Information System for Education - SIGE

Partners: Portuguese Geographic Institute and the Educational Statistics and Planning Bureau (GEPE), the current Directorate-General for Statistics on Education and Science

Date of signature: 10 December 2007 Expiry: 31 July 2010.

Description: Building a Geographic Information System for Education

Spatial data geo-portals (URLs)

- Schools guide: <http://roteiro.min-edu.pt>
Georeferenced database that includes information on public and private educational institutions in Continental Portugal, including the name of the institution, address, extra-curricular activities, secondary educational and vocational courses offered and number of pupils/students.
- Schools portal:
https://www.portaldasescolas.pt/portal/server.pt/community/01_escolas/240. The Schools portal includes all public and private schools in Continental Portugal, with relevant information for the public, such as their location, contacts and other data describing the courses offered.

DGPC
Cooperation agreements

In 2010-2012, 171 agreements were signed with various local authorities for a higher standard of geo-referencing information on heritage that is listed or pending listing, or areas subject to easements (protected areas, special protected areas, prohibited building areas), thereby contributing to integrated management of the built heritage, particularly in urban areas.

Working groups

2012 - The DGPC asked the IGeoE for contributions to help prepare documentation on standards and procedures to be laid down for geo-referencing the archaeological heritage.

Newsletters and other publications

The DGPC has some articles on the information systems, including geographic ones, that it has developed and currently manages:

- a) IPA INVENTORY DIVISION; Endovélico (2002) - Archaeological Information Management System in the Revista Portuguesa de Arqueologia, Vol 5,:1, pp.277-283.
http://www.igespar.pt/media/uploads/revistaportuguesadearqueologia/5_1/12.pdf

Institution	Cooperation with other Portuguese institutions in the field of spatial data
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- b) NETO, Filipa; CALDEIRA, Nuno; GOMES, Ana Sofia; BRAGANÇA, Filipa. (2007) – Sistemas de Informação e Gestão Arqueológica: Endovélico e SIG. In Conhecer o Património de Vila Franca de Xira – Prespectivas de Gestão de Bens Culturais. Vila Franca de Xira: Municipal Council of Vila Franca de Xira, pp. 117-124.
- c) Ana Sofia Gomes, Silvia Leite, Filipa Neto, Catarina Oliveira, Filipa Bragança (2012) - Inventariação e gestão do património imóvel na Direção-Geral do Património Cultural in DoCo 2012 – Documentazione e Conservazione del Patrimonio Architettonico ed Urbano. - <http://disegnarecon.unibo.it/article/view/3290/2669>

Spatial data geo-portals (URLs)

The DGPC website provides spatial information on the heritage sites for which it is responsible, including:

- a) 2012 - Archaeological heritage in Portugal - <http://arqueologia.igespar.pt/>
- b) 2007–2012 - Heritage listed and pending listing, protected areas and special protected areas <http://www.igespar.pt/pt/patrimonio/pesquisa/georeferenciada/>.

Other

2010-2012 – The DGPC provides working tools for geo-referencing and geographic data on cultural heritage to the Regional Directorates of Culture, under the division of powers between the two institutions regarding the protection and enhancement of the archaeological and architectural heritage that is listed or pending listing.

2010-2012 - The DGPC also cooperates with private bodies working in the field of protecting assets, providing spatial data for the properties that it has inventoried in the information system of the Directorate-General.

DGT

Cooperation agreements

As coordinator of the SNIG, the DGT draws up cooperation agreements with several public and private bodies for the development and commissioning of the infrastructure.

Working groups

WORKING GROUP (COORDINATION)

SPAA - Architectural and Archaeological Heritage Section of the National Council for Culture (IGESPAR)

CNA - National Water Council (MAMAOT),

National Sports Council (SEJD/PCM),

IHRU Advisory Council (IRHU)

Statistical Council (INE)

Presidency of the General Assembly of the Portuguese association for cooperation in the field of architecture in Europe (EUROPAN, EUROPAN PORTUGAL)

INIR Advisory Council (InIR)

Presidency of CNREN (DGT)

Coordination meetings (DGT-CCDR)

National Commission of the National Action Plan to Combat Desertification (AFN)

Network of Territorial Cohesion Contact Points - NTCCP (EU Pres)

Urban Development Group - UDG (EU Pres)

ESPO Monitoring Committee - ESPON MC (ESPO Coordination Unit) EIONET NRC for Spatial Planning (EEA + APA)

Committee of Senior Officials of CEMAT (Council of Europe)

European Landscape Convention (Council of Europe)

Steering Committee for Heritage and Landscape - CDPATEP (Council of Europe)

Committee on Housing and Land Management - CHLM (UN/ECE)

Territorial Development Policy Committee - TDPC (OECD)

Working Party on Territorial Policy in Urban Areas - WPURB (OECD)

CPLP Network for Spatial Planning and Urban Development (Pres CPLP)

Newsletters and other publications

The DGT publishes a monthly newsletter describing its activities. This publication contains information on the projects and activities in which it is involved, and which may be of interest to all bodies and individuals directly or indirectly involved in geographic information.

Institution	Cooperation with other Portuguese institutions in the field of spatial data
	<p>Spatial data geo-portals (URLs)</p> <ul style="list-style-type: none"> - SNIG - National Geographic Information System http://snig.igeo.pt/portal The SNIG is the national spatial data infrastructure, and its geo-portal can be used to search, view and explore spatial information about the country, produced by official bodies and also private individuals. It is also a contact space to foster, connect and organise activities related to this topic in Portugal and also in the context of the EU INSPIRE Directive (INfrastructure for SPatial InfoRmation in Europe). - SNIT - National Regional Information System http://www.dgotdu.pt/channel.aspx?channelID=144EE72D-18A4-4CCA-9ABA-7303CDEAA0C6 The SNIT is an official nationwide system information, developed and managed by the DGT, which is designed to be shared by public authorities with responsibility for land management and for monitoring and assessing spatial planning and urban development policy and information about spatial planning and its status. - SIARL - Restoration of Legality Support Information System http://www.siarl.igeo.pt The SIARL, despite its title Coastal Resources Administration System, is a cooperative platform developed with the aim of facilitating access to collective knowledge of the coast, in order to enhance decision-making in a sustainable development context. It was developed based on a partnership between various agencies of the Ministry with responsibility for the coast.
DROTA/ DSIGC	<p>Cooperation agreements</p> <p>The specific nature of integration in an island regional environment prompts the DSIGC to maintain close cooperation with several regional and local public administration bodies, involving agreements on sharing, transfer and technical support in the field of geographic information. The DSIGC is the coordinating body of the IRIG, which intensifies cooperation mechanisms with regional and local partners.</p> <p>The cooperation agreements with national bodies cover the following institutions: the Directorate-General for Spatial Planning (former IGP and DGOTDU), Geographic Institute of the Army, Hydrographic Institute, PT Communications. In the field of research, agreements have been signed with universities, allowing, for example, an agreement to transfer/exchange of geographic information on the SECOA project - Solutions for Environmental contrasts in Coastal Areas or Corine Land Cover - Madeira.</p>
	<p>Spatial data geo-portals (URLs)</p> <ul style="list-style-type: none"> - http://www.irig-madeira.org.pt is collaborative SDI portal of Madeira, providing access to the IRIG geoportal which offers search, view and sharing services for geographic information that are compliant with OGC standards and the INSPIRE Directive. Secure access for citizens and public and private bodies, including of course IRIG partners, offers knowledge and potential access to regional spatial data themes. - http://www.geocidmadeira.com - is the spatial data portal for citizens without specialist knowledge in the field. It includes access to a maps service which includes, among others, points of interest in Madeira, also satisfying demand for information from the tourist industry. - http://www.repgram.org.pt – is the portal for accessing geodetic information from Madeira's network of permanent GNSS stations. Its interface provides access to geographical information from the network and allows technical tasks to be carried out to correct GNSS positioning data.

Institution	Cooperation with other Portuguese institutions in the field of spatial data
ICNF, IP	<p>Cooperation agreements</p> <p>PRODER Managing Authority National Civil Protection Authority - forest mapping; operational mapping; forest fires; mapping forest fire risk. National Republican Guard - burnt areas, forest fires. Portuguese Institute of the Sea and the Atmosphere (IPMA) - Weather data, weather warnings; drought index. Portuguese Environment Agency (APA) - Drought index; Directorate-General for Agriculture and Rural Development (DGADR) - Soil mapping and irrigation areas;</p>

Regional Directorate of Agriculture and Fisheries of Entre-Douro and Minho (DRAPEDM)
 - Regional soil mapping;
 University of Trás-os-Montes and Alto Douro (UTAD) - Regional soil mapping;
 Directorate-General of Planning (DGT) - SNIT DesertWatch system;
 MADRP and INRB Planning and Policy Bureau - Organic carbon in forest and agricultural soils;
 Institute of Agronomy (ISA) - Forest fire risk mapping;
 Municipal councils - municipal plan to combat forest fires; municipal operational plan; forest fire fighters; burnt areas.
 Parish councils - Forest fire fighters.
 Forestry producers organisations - Pine wood nematode; Forest fire fighters
 Forest intervention areas
 Agreements under the national forest inventory project (APA, IFAP, CELPA, DGT)

Working groups

National Energy Systems Commission
 National Strategy for Adaptation to Climate Change
 Committee on Prevention, Monitoring and Adapting to the Effects of Drought and Climate Change
 National Environment and Health Action Plan
 National inventory system of emissions by sources and removal by air pollutant sinks (SNIERPA)
 Coastal Resource Administration System (SIARL)

Spatial data geo-portals (URLs)

Link under construction: <http://sipnat.icnf.pt> (available internally only)

IGEOE

Cooperation agreements

Directorate-General for Spatial Planning (DGT) (under review)

Spatial data geo-portals (URLs)

- IGeoSIG - allows viewing on the internet of geographic information produced by IGeoE for Continental Portugal (<http://www.igeoe.pt/igeoearcweb/igeoesig/default.asp>) and the islands (<http://www.igeoe.pt/igeoearcweb/aztec/default.asp>; <http://www.igeoe.pt/igeoearcweb/madeira/default.asp>)
- SIGAF - Geographic Information System for Frontier Support (reference systems) (<http://igeoe-wservices.igeoe.pt/Fronteira/>)

IH

Cooperation agreements

There are numerous formal agreements with other national and foreign institutions, notably: the International Hydrographic Organisation on the production of nautical charts, the Intergovernmental Oceanographic Commission and EuroGOOS on oceanography, the International Maritime Organisation on navigation and SeaDataNet - Marine Data Management Infrastructure on data management.

IHRU, I.P.

Cooperation agreements

Description: SIPA cooperation agreement.

Partners/Dates: Municipal Council of Évora, beginning in October 2009; Municipal Council of Guimarães, beginning in November 2012; Municipal Council of Loures, beginning in April 2010; Municipal Council of Odivelas, beginning in May 2010; Centre for the Study of Culture, History, Art and Heritage (CECHAP), beginning in September 2012; Centre for Overseas History (CHAM - New University of Lisbon and University of the Azores), February 2011; Diocese of Porto, beginning in January 2011; Institute of Labour and Business Science (ISTCE), beginning in February 2010; National Railway System - REFER, beginning in February 2012; Centre for the Study of Architecture, the City and Territory (CEPT - Universidade Autónoma de Lisboa), beginning in May 2010; União das Misericórdias Portuguesas (UMP), beginning in January 2011.

Institution	Cooperation with other Portuguese institutions in the field of spatial data
	<p>Description: Location of SIPA records by obtaining geographical coordinates.</p> <p>Spatial data geo-portals (URLs) http://www.monumentos.pt/Site/APP_PagesUser/SitePageContents.aspx?id=916325ac-dd50-4d0e-b0fc-218cd4fc2579</p>
INE, I.P.	<p>Cooperation agreements The INE has several agreements on national and European statistical systems.</p> <p>Working groups The INE takes part in several working groups within the European Statistical System, notably:</p> <ul style="list-style-type: none"> - Directors on Environment statistics and accounts (DIMESA) - Regional statistics working group - Geographical information systems for statistics - Regional and urban statistics / Rural development indicators - Land cover/use statistics Working Group - Demography and Census - Business registers <p>Newsletters and other publications http://mapas.ine.pt/map.phtml http://mapas.ine.pt/MapsPortal/default.aspx?VAR_CD=0000382&V_DIM_1=S7A2011&NIVEL=3&LINGUA=PT http://sig.ine.pt/</p> <p>Other http://www.efgs.info/</p>
InIR, I.P.	<p>Working groups WG10 - Transport networks - Working group on the implementation of the INSPIRE Directive in Portugal</p> <p>Spatial data geo-portals (URLs) http://sig.inir.pt/INSPIRE/</p>
SRCTE RAA	<p>Cooperation agreements</p> <ul style="list-style-type: none"> - Cooperation agreements under the REPRAA: Faculty of Sciences, University of Lisbon, University of Porto, Ministry of Defence; - Cooperation agreements under the PCT-MAC; Municipal councils and Association of Municipalities of the Azores; - Agreements made under the IDEiA. <p>Newsletters and other publications IDEiA newsletter, monthly online publication</p> <p>Spatial data geo-portals (URLs) www.ideia.azores.gov.pt www.repraa.azores.gov.pt</p>
DGEG	<p>Cooperation agreements State departments on the preparation of sectoral plans; municipal councils on the revision of the PDMs; universities on the preparation of studies on mineral and other deposits; Environment Agency on the analysis of environmental impacts.</p> <p>Newsletters and other publications Technical support site for the various sectors of the DGEG, available on the intranet. In future it will be adapted to provide geographic information on the internet as well.</p>
LNEG, I.P.	<p>Cooperation agreements The LNEG is a member of the National Spatial Information System Steering Committee (CO-SNIG).</p> <p>Working groups CO-SNIG M&R WG, C&T WG</p>

12.3.2 Use of the spatial data infrastructures

Table 12.3.4. Use of spatial data sets from other institutions (by Annex of the INSPIRE Directive)

Annex I to the INSPIRE Directive

Institution	Spatial data sets under Annex I
APA, I. P.	<p>1. Coordinate reference systems</p> <ul style="list-style-type: none"> - HG DATUM 73 / DGT / Geo-referencing of spatial data used in all APA projects - HG Datum Lisbon / DGT / Geo-referencing of spatial data used in all APA projects - Coordinate transformation parameters / DGT / Geo-referencing of spatial data used in all APA projects - PTRAO8-UTM/ITRF93 / DGT / Geo-referencing of spatial data used in all APA projects - PT-TM06/ETRS89 / DGT / Geo-referencing of spatial data used in all APA projects - National Geodetic System / DGT / Geo-referencing of spatial data used in all APA projects - National Network of Permanent Stations - RENEP / DGT / Geo-referencing of spatial data used in all APA projects <p>2. Geographical grid systems</p> <ul style="list-style-type: none"> - Lisbon datum Hayford Gauss geographical grid system M888 / IGeoE / Geographical map environment needed for easy access to certain sheets - WGS military datum Hayford Gauss geographical grid system M888 / IGeoE / Geographical map environment needed for easy access to certain sheets - National Orthophotocartographic grid series at 1:10 000 scale / DGT / Geographical map environment needed for easy access to certain sheets - Chorographic grip maps of Portugal at 1:50 000 scale / DGT / Geographical map environment needed for easy access to certain sheets <p>3. Geographical names</p> <ul style="list-style-type: none"> - M888 series geographical names / IGeoE / Used as context information for maps or information to support analysis of the process of licensing water resources <p>4. Administrative units</p> <ul style="list-style-type: none"> - Official Administrative Map of Portugal (CAOP) / DGT / Used as context information for maps or information to support analysis of the process of licensing water resources <p>8. Hydrography</p> <ul style="list-style-type: none"> - M888 series hydrography / IGeoE <p>9. Protected sites</p> <ul style="list-style-type: none"> - Boundary of Protected Areas / ICNF / Basic information for delimiting Protected Areas under the Water Act - Boundary of Special Protection Areas / ICNF / Basic information for delimiting Protected Areas under the Water Act - Boundary of Sites of Community Importance / ICNF / Basic information for delimiting Protected Areas under the Water Act
DGEG	<p>Reference systems, grid systems, administrative units, road system, protected sites. IGeoE, DGT, ICNF, APA. For analysis in the award of operating concessions and permits.</p>

Institution	Spatial data sets under Annex I
DGT	BGRI - Spatial Information Reference Base (INE)
DROTA/DSI	Transport network - Municipal main roads, municipal councils
GC	
ICNF, IP	<p>Coordinate reference systems</p> <ul style="list-style-type: none"> • Planimetric and altimetric (earth) - defined at national level by PGI; • Map series at scale 1:25 000 (IGeoE) <p>Administrative units</p> <ul style="list-style-type: none"> • Official Administrative Map of Portugal (DGT) <p>Transport networks</p> <p>Buildings (IFAP parcels)</p> <p>Hydrography</p>
IGEOE	<p>I.1. National Geodetic Network</p> <p>II.4. CAOP</p>
IH	Although the data used at the IH do not yet comply with the concept defined above, we should mention its basic official topographic mapping information and meteo-oceanic data.
IHRU, I.P.	<p>Environment Atlas (various SDSs) - Portuguese Environment Agency - Production of the Landscape Inventory in the SIPA context, production of thematic mapping;</p> <p>CAOP - Directorate-General for Regional Development - Production of the Landscape Inventory in the SIPA context, production of thematic mapping;</p> <p>Boundaries of Landscape Units - Directorate-General for Regional Development - Production of the Landscape Inventory in the SIPA context, production of thematic mapping;</p> <p>Road system - Portuguese Highways Department - Production of the Landscape Inventory in the SIPA context, production of thematic mapping;</p> <p>Protected Areas (various SDSs) - Institute for the Conservation of Nature and Forests - Production of the Inventory of Landscape and Urban Centres in the SIPA context, production of thematic mapping;</p> <p>BGRE and BGRI - National Institute of Statistics Production of the Inventory of Landscape and Urban Centres in the SIPA context, production of thematic mapping.</p>
INE, I.P.	<p>In the context of building spatial data infrastructure to support the production and dissemination of official statistics (IDESTAT - Spatial Data Infrastructure for Statistics), INE PT uses national reference and thematic database, notably:</p> <p>I 4. Administrative units</p> <p>I 2. Buildings</p> <p>I 6. Cadastral parcels (buildings)</p> <p>I 7. Transport networks</p> <p>For statistical projects, the following SDSs are the most relevant:</p> <p>I 8. Hydrography</p> <p>I 9. Protected sites</p>
SRCTE RAA	<p>Administrative Units - Directorate-General for Spatial Development - Official Administrative Map of Portugal - for internal use and publication.</p>
LNEG, I.P.	<p>Reference systems; Geographical grid systems; Geographical names; Administrative units; Transport networks; Hydrography, Protected sites.</p> <p>IgeoE; DGT; ICNF</p> <p>Production of basic and thematic geological mapping</p>

Annex II to the INSPIRE Directive

Institution	Spatial data sets under Annex II
APA, I. P.	<p>1. Elevation</p> <ul style="list-style-type: none"> - Geoid model - GeodPT08 / DGT / Coordinate transformation, for example in studies involving collection of points in the field using satellite positioning systems. - Altimetry Series M888 / IGeoE / Production of digital models of terrain, run-off, etc. <p>2. Land cover</p> <ul style="list-style-type: none"> - CORINE Land Cover Map 1990 for Continental Portugal / DGT / Information to support planning, development and licensing activities in the context of water resources - CORINE Land Cover Map 2000 for Continental Portugal / DGT / Information to support planning, development and licensing activities in the context of water resources - CORINE Land Cover Map 2006 for Continental Portugal / DGT / Information to support planning, development and licensing activities in the context of water resources - CORINE Land Cover Map of changes for 1990-2000 for Continental Portugal / DGT / Information to support planning, development and licensing activities in the context of water resources - CORINE Land Cover Map of changes for 2000-2006 for Continental Portugal / DGT / Information to support planning, development and licensing activities in the context of water resources <p>3. Orthoimagery</p> <ul style="list-style-type: none"> - Digital orthophotos of Continental Portugal - False colour - 1995 / DGT / Information to support planning, development and licensing activities in the context of water resources - IGP_DGRF Orthophotocartographic Series / DGT / Information to support planning, development and licensing activities in the context of water resources <p>4. Geology</p> <ul style="list-style-type: none"> - Geological map of Portugal at scale 1:1 000 000 / LNEG / Information to support the licensing in the context of water resources - Geological map of Portugal at scale 1:500 000 / LNEG / Information to support the licensing in the context of water resources
DGPC	Not applicable
DGEG	Orthoimages and geology. IGeoE, LNEG. For analysis in the award of operating concessions and permits.
DGT	National Forest Inventory (ICNF)
ICNF, IP	<p>Land cover</p> <ul style="list-style-type: none"> • Land cover map (DGT) • Corine Land Cover (APA - DGT) <p>Orthoimagery</p> <ul style="list-style-type: none"> • Orthophoto coverage of Continental Portugal (CNIG/DGRF, 1995) • Orthophoto coverage of Continental Portugal (IGP/DGRF, 2004-2006) • Orthophoto coverage of Continental Portugal (IGP/DGRF, 2010) <p>Soils</p> <ul style="list-style-type: none"> • Soil maps by DGADR at scale 1:25 000 and by DRAAM, UTAD and DGADR at scale 1:100 000 <p>Geology</p> <ul style="list-style-type: none"> • Geological map of Portugal at scale 1:500 000 (LNEG)
IGEOE	II.3. Aerial photograph transferred under the agreement under review with the DGT.
IHRU, I.P.	<p>Environment Atlas (various SDSs) - Portuguese Environment Agency - Production of the Landscape Inventory in the SIPA context, production of thematic mapping;</p> <p>Contour lines - Directorate-General for Regional Development - Production of the Landscape Inventory in the SIPA context, production of thematic mapping;</p> <p>Corine LandCover (2000/2006) - European Commission - Production of the Landscape Inventory in the SIPA context, production of thematic mapping.</p>
INE, I.P.	Scope of IDESTAT:

Institution	Spatial data sets under Annex II
	II.3. Orthoimagery
	Scope of statistical projects: II 1. Elevation II. 2. Land cover III 11. Area management/restriction/regulation zones and reporting units III 12. Natural risk zones
LNEG, I.P.	Elevation; Land cover; Orthoimages.
	IgeoE; DGT
	Production of basic and thematic geological mapping

Annex III to the INSPIRE Directive

Institution	Spatial data sets under Annex III
APA, I. P.	6. Utility and governmental services - National gas pipeline system / DGEG / Information to support the licensing in the context of water resources 11. Area management/restriction/regulation zones and reporting units - Protected areas and areas of servitude on account of geological resources / LNEG / Information to support the licensing in the context of water resources - Mining recovery areas / DGEG / Information to support the licensing in the context of water resources - Protected area for the national gas pipeline system / DGEG / Information to support the licensing in the context of water resources - Protection perimeters for natural mineral waters and spring waters / DGEG / Information to support the licensing in the context of water resources 21. Mineral resources - Location of spas in mining concession areas / DGEG / Information to support the licensing in the context of water resources - Spa concession areas; mining concession areas / DGEG / Information to support the licensing in the context of water resources - Mining concession areas / DGEG / Information to support the licensing in the context of water resources
DGEEC	GIRE - Geo-referencing of statistical information on the education system, for use by the whole Portuguese population.
DGPC	Not applicable
DGEG	Area management/restriction/regulation zones and reporting units APA. For analysis in the award of operating concessions and permits.
DGT	Nothing to report
ICNF, IP	Statistical units Spatial Information Reference Base (INE) Land use Land use map - latest versions (IGP) Atmospheric conditions (IPMA) Atmospheric parameters (IPMA)
IGEOE	----
INE, I.P.	Scope of IDESTAT: III 1. Statistical units III 6. Utility and governmental services Scope of statistical projects: III 3. Soil III 4. Land use III 9. Agricultural and aquaculture facilities
IHRU, I.P.	Buildings - Municipal Council of Bragança - Production of the Inventory of Urban Centres in the SIPA context, production of thematic mapping; Buildings - Municipal Council of Cascais - Production of the Inventory of Urban Centres in the SIPA context, production of thematic mapping;

Institution	Spatial data sets under Annex III
	Buildings - Municipal Council of Évora - Production of the Inventory of Urban Centres in the SIPA context, production of thematic mapping;
	Buildings - Municipal Council of Lisbon - Production of the Inventory of Urban Centres in the SIPA context, production of thematic mapping;
	Buildings - Municipal Council of Loures - Production of the Inventory of Urban Centres in the SIPA context, production of thematic mapping;
	Buildings - Municipal Council of Odivelas - Production of the Inventory of Urban Centres in the SIPA context, production of thematic mapping.
LNEG, I.P.	Soil; Land use; Production and industrial facilities; Natural risk zones; Meteorological geographical features; Atmospheric conditions; Oceanographic geographical features; Sea regions; Environmental monitoring facilities; Area management/restriction/regulation zones and reporting units; Energy resources.
	DGT; IPMA; APA I.P.; DGEG
	Production of basic and thematic geological mapping
	Drafting opinions on environmental impact studies and environmental impact measures

Table 12.3.5. Statistics on use of regional or thematic geo-portals by the general public

Institution	Usage statistics for geo-portals
DGPC	Nothing to report
DGT	Nothing to report
DROTA/ DSIGC	Between 2010 and 2012, 26 572 people visited the portal www.geocidmadeira.com .
ICNF, IP	Not applicable
IGEOE	Monthly average of 800 hits.
IHRU, I.P.	Nothing to report.
INE, I.P.	Thematic geo-portals: estimated 40 000 hits/year
SRCTE RAA	IDEiA portal statistics
	Data last updated: 30-04-2013
	Category Metrics Value (Previous) Traffic
	- Total number of page views 21 114
	- Average number of page views per day 704
	- Total number of unique visitors per day 149
	- Average number of unique visitors per day 5
	- Total number of referrers 516
	- Average number of referrers per day 17
	Inventory
	- Total number of sites 1
LNEG, I.P.	Not available

Table 12.3.6. Examples of cross-border use and efforts made to improve the consistency of the relevant spatial data sets

Institution	Examples
DGPC	Nothing to report
DGT	Adoption of the ETRS89 reference system for Continental Portugal and the ITRF93 system for the autonomous regions. In the context of the SiNErGIC (linkage of Cadastral parcel theme): Use of the forthcoming data models in the draft document of the Implementation rules theme. Use of formal data-modelling languages (e.g. UML) Use of international standards (examples: ISO 19110 - Methodology for feature cataloguing; ISO 19115 - Metadata)

Institution	Examples
	<p>Adoption of the PT-TM06/ETRS89 reference system, as laid down by the Directive</p> <p>Adoption of a GML scheme, in accordance with the OGC specifications, for transferring data between formats</p> <p>Under the CAOP (linkage of Administrative boundaries theme)</p> <p>Use of forthcoming data models for the EBM (EuroBoundaryMap) 3.0 project</p> <p>Use of formal data-modelling languages (e.g. UML)</p> <p>Use of international standards (examples: ISO 19110 - Methodology for feature cataloguing; ISO 19115 - Metadata)</p> <p>Adoption of the PT-TM06/ETRS89 reference system, as laid down by the Directive</p> <p>Creation of Web Services in accordance with the OGC specifications</p> <p>In the context of EuroRegionalMap and EuroGlobalMap</p> <p>Production of EuroRegionalMap and EuroGlobalMap in accordance with EuroGeographics standards</p> <p>GeoALEX OTALEX I and II projects - partnerships with the Government of Extremadura (Spain), the municipal council of Badajoz (Spain) and the Geographic Institute of Spain</p> <p>Harmonisation of mapping specifications</p> <p>Creation of a web portal</p>
DROTA/ DSIGC	Not applicable
ICNF, IP	<p>Participates with the IGP in the EU HUMBOLDT project and Nature-SDI. There is occasional sharing of spatial data in the context of cross-border protected areas. Within the Gerês/Xurés cross-border biosphere reserve, a small spatial data system was produced that includes data on the distribution and ecology of species of flora and vertebrate fauna. The Tagus International Natural Park also shares information about the presence of natural values with its Spanish opposite number (Parque Natural del Tajo). The same applies to the Peneda-Geres National Park and the International Douro Natural Park, among others.</p> <p>Maps of susceptibility to desertification and soil quality in the Iberian Peninsula.</p>
IGEOE	Participation in the International Boundaries Commission (CIL), carrying out joint maintenance and inspection of the placement of border markers in conjunction with Spain's Army Geographic Centre (CEGET).
IHRU, I.P.	Nothing to report.
LNEG, I.P.	<p>OneGeology-Europe project</p> <p>Iberian geological map 1:1 M</p>
SRCTE RAA	<ul style="list-style-type: none"> - Projects conducted in the field of mapping and geographic information - PCT-MAC - Spanish universities, Spanish municipal councils; - Standardisation of geographic information under the responsibility of the Regional Directorate in accordance with the technical specifications of the themes in Annex I to the Inspire Directive.

12.3.3 Data sharing agreements

Table 12.3.7. Data-sharing agreements between Portuguese public authorities

Institution	Agreements
DGPC	2012 - Directorate General of Internal Administration - transfer of geographic information on the built heritage, listed and pending listing and the relevant protected areas.
DGEG	DGT, LNEG and IGeoE
	<p>Unrestricted publication of the national cartographic series at scale 1:500 000 and the CAOP through the WFS and WMS services.</p> <p>Publication of geo-spatial information with various central government bodies through the WMS service (national cartographic series, orthoimages and the CAOP) and WFS service (national cartographic series at scale 1:500 000 and the CAOP).</p>
DGT	There are several partnerships and agreements between DROTA/DSIGC and other partners
DROTA/	

Institution	Agreements
DSIGC	National, regional and local. Practical examples: <ul style="list-style-type: none"> - IH: sharing of the spatial data under the responsibility of each body; - LNEG: Sharing reference data for each of the intuitions, as well as historical cartography of Madeira; - Portuguese Geographic Institute: Wherever basic geographic information is produced, it is transferred to the IGP.
ICNF, IP	National Civil Protection Authority - Pursuant to Decree-Law No 17/2009 of 14 January 2009. National Republican Guard. IPMA and APA on the production of the aridity index map 1960-1990 DGADR, DRAEDM and UTAD on soil mapping. Agreement on the use of orthophotomaps - agreement with the Institute for the Funding of Agriculture and Fisheries (IFAP) and CELPA/DGT. Agreement on the monitoring of the impacts of power lines on birds - with the Portuguese Society for the Study of Birds (SPEA), Quercus and EDP Distribution POEM - Maritime Spatial Planning Scheme Cooperation agreement with the DGT in the context of the SIARL (Coastal Resource Management System)
IGEOE	Agreement with DGT (under review).
IH	Nothing to report, as there are generic cooperation agreements.
IHRU, I.P.	-
INE, I.P.	The INE draws up cooperation agreements with several public and private bodies for the development and commissioning of spatial data infrastructure (IDESTAT) and statistical projects. The main ones are: <ul style="list-style-type: none"> - Tax and Customs Authority - Cooperation with the Directorate-General for Regional Development - Municipal councils - with a view to building and updating spatial infrastructure to support statistical data-gathering operations under the SEN.
LNEG, I.P.	CSW service - LNEG metadata catalogue WMS service - Geological map of Portugal at scale 1:500 000 WMS service - Geological map of Portugal at scale 1:1000 000 WMS service - Hydrogeological resource database WMS service - Portuguese Mineral Deposits and Resources Information System - SIORMINP GIS (ArcGIS) of the Geological Map of Portugal at scale 1:500 000 - DGEG Simplified Geological Map of Madeira at scale 1:80 000 - DRIGOT (Madeira)
SRCTE RAA	REPRAA - Data from permanent stations in the Azores - Faculty of Sciences, University of Lisbon, Faculty of Sciences, University of Porto, EUREF; DGT - Provision of WMS services for orthophotomaps of the Azores;

Table 12.3.8. Data-sharing agreements with EU institutions and bodies

Institution	Agreements
DGPC	2010 - 2012 - Portuguese Highways Department - transfer of geographic information on the built heritage, listed and pending listing, and the relevant protected areas and archaeological heritage.
DGT	Data-sharing agreement with EuroGeographics for EuroRegionalMap and EuroGlobalMap. Cooperation with institutions and projects on the CAOP: <ul style="list-style-type: none"> - Eurogeographics: Based on EUROSTAT statistics; - Cadastre Standing Committee (CPC); - EuroBoundaryMap (EBM); - EuroRegionalMap (ERM); - Second Administrative Level Boundaries (SALB); - European Space Agency - Emits database; - GIS4UE.

Institution	Agreements
DROTA/ DSIGC	<ul style="list-style-type: none"> - Municipal councils: definition by DROTA/DSIGC of the regional data model of road routes to be shared with the other partners of the IRIG project; - DRT, CM, DRCIE, DRAC: transfer of geographic application for updating Madeira POIs; - PNM: sharing of basic geographic information, delimitation of protected areas and location of species; - SRPC: transfer of tools and spatial data to support the location of fire hydrants and wells. In the future this information will be transferred to DROTA/DSIGC; - DRF: Transfer of orthophotomaps and other basic mapping by DROTA/DSIGC and transfer of forest inventory by the DRF. Whenever there is a mapping update the DRF updates the Madeira forest inventory. - Agreement with the Iberian Birdlife Study Centre (CEAI) under the LIFE-Nature project on the conservation of arboreal populations of Bonelli's Eagle in Portugal - MARBIS - Marine Biodiversity Information System - B&B - Business & biodiversity initiative - EFFIS (European Forest Fire Information System) – Completion of statistical data. - European Commission and the European Environment Agency, in particular within EIONET (European Information and Observation Network Environment) and SEIS (Shared Environmental Information System); - Experimental station on arid zones of Almeria (EEZA) to produce the Soil Quality Map and Aridity Index Maps for 1970-2000 and 1980-2010 - FAO and EUROSTAT for information relating to forests - Participation, as the representative of Portugal, in the Mediterranean Wetlands Committee (MedWet) and the RAMSAR Convention
ICNF, IP	
IGEOE	Nothing to report.
IH	Nothing to report.
IHRU, I.P.	Nothing to report.
LNEG, I.P.	<p>Geological Map of Portugal scale 1:1000 000 (WMS and WFS) - OneGeology-Europe database of hydrogeological resources (WMS) - OneGeology-Europe Portuguese Mineral Deposits and Resources Information System - SIORMINP (WMS) - OneGeology-Europe</p> <p>EuroGeosource GeoSeas data portal</p> <p>COMET Atlas 1.0 Iberia and Morocco CCS Atlas - COMET Transport system and geological infrastructures storing CO2 - Iberia and Morocco - COMET</p>

Table 12.3.9. Spatial data sets and services provided to EU institutions and bodies without the need for sharing agreements

Institution	Spatial data sets
APA, I. P.	All SDSs produced
DGEEC	Information contained in the Schools Guide and Schools Portal
DGPC	2010 - 2012 - Portuguese Highways Department - transfer of geographic information on the built heritage, listed and pending listing, and the relevant protected areas and archaeological heritage.
DGT	EuroGlobalMap; EuroRegionalMap and EuroBoundaryMap (EuroGeographics)
DROTA/DSI GC	Nothing to report.
IGEOE	Agreements for technical and military cooperation with: Spain, Italy, United Kingdom, Bulgaria, Czech Republic, Hungary and Romania.
IH	Nothing to report.

Institution	Spatial data sets
IHRU, I.P.	Nothing to report.
INE, I.P.	<p>I.3 Geographical names PT_INE_T103_LUGARES_2001</p> <p>I.3 Geographical names PT_INE_T103_LUGARES_1991</p> <p>I.3 Geographical names PT_INE_T103_LUGARES_2011</p> <p>III.1 Statistics units PT_INE_T11101_UNIDADES_ESTADISTICAS_2011</p> <p>III.1 Statistics units PT_INE_T11101_UNIDADES_ESTADISTICAS_1991</p> <p>III.1 Statistics units PT_INE_T11101_UNIDADES_ESTADISTICAS_2001</p> <p>- 2011 census results http://mapas.ine.pt/map.phtml</p> <p>- Territorial divisions http://sig.ine.pt</p> <p>- Spatial data download page http://mapas.ine.pt/download/index2011.phtml</p> <p>- Population http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_base_dados&menuBOUI=13707095&contexto=bd&selTab=tab2</p> <p>- Geographical names http://sig.ine.pt</p>
LNEG, I.P.	<p>LNEG geo-portal</p> <p>CSW service - LNEG metadata catalogue</p> <p>WMS service - Geological map of Portugal at scale 1:500 000</p> <p>WMS service - Geological map of Portugal at scale 1:1000 000</p> <p>WFS service - Geological map of Portugal at scale 1:1000 000</p> <p>WMS service - Hydrogeological resource database</p> <p>WMS service - Portuguese Mineral Deposits and Resources Information System - SIORMINP</p>

Table 12.3.10. Barriers to the sharing of spatial data between national public authorities and between them and EU institutions and bodies

Institution	Barriers
APA, I. P.	The main barrier to access to data between national public authorities is the cost that these bodies charge for data access.
DGPC	Nothing to report
DGT	Providing relevant information and access requirements; costs associated with the systematic collection of information and the respective financial policy of burden sharing.
DROTA/DSI GC	The provision of spatial data sets without metadata is a problem since it is often difficult to identify the author, date, quality and methodology associated with the spatial data.
ICNF, IP	<p>The main barrier to the use of the data is the high costs charged for obtaining spatial data between public institutions. The sharing of spatial data is crucial to ensure that we are working on the same basis and it is not obtained by different bodies using similar processes, i.e. duplicate work.</p> <p>There is a need for public authorities to define guidelines organising and regulating the production and sharing of spatial data in order to reduce costs and improve the quality of the data.</p> <p>The provision of spatial data sets without metadata is a problem since it is often difficult to identify the author, date, quality and methodology associated with the spatial data.</p>
IGEOE	Nothing to report.
IH	Nothing to report.
IHRU, I.P.	Nothing to report.
INE, I.P.	Confidentiality under the Law on the National Statistical System - No 22/2008 of 13 May 2008, Article 6.
LNEG, I.P.	<p>Cost of production;</p> <p>lack of human resources skilled in GIS for web;</p> <p>lack of sharing agreements and licensing of data;</p> <p>lack of an institutional and national data policy, etc.</p>

Institution	Barriers
SRCTE RAA	Bureaucracy

Table 12.3.11. Measures taken to overcome barriers to spatial data sharing

Institution	Measures
APA, I. P.	Owing to the organisational changes occurring in the public authorities over the past year, it has not yet been possible to establish contacts in order to overcome barriers to information sharing.
DGPC	2010-2012 - The DGPC website provides access to spatial data relating to buildings, complexes and sites that are listed and pending listing (N=1556), protected areas (N=1042), special protected areas (N=154) and prohibited building areas (N=66). 2012 - The DGPC website has implemented an information portal on archaeological heritage - 'Portal do Arqueologo' - which publishes the geographical location of archaeological features (N=23603); access to the information is restricted.
DGT	Nothing to report
DROTA/ DSIGC	- Drafting of a simplified model data-sharing contract. If the information is used for a specific purpose, once it has signed the contract the other regional or local service is bound to transfer the information. - Lecture illustrating examples of best practice in spatial data projects in the technical seminars for the IRIG project, referring to data sharing taking place between various public and private organisations in Madeira. - Technical maintenance by DROTA/DSIGC technicians in several projects by a number of bodies in Madeira.
ICNF, IP	Spatial data has started to be made available free of charge to all (Desertification, Protected Areas, Natura 2000 network, Fire Hazards, Forest Fires, Forest Health, etc.).
IGEOE	Nothing to report.
IH	Nothing to report.
IHRU, I.P.	Nothing to report.
LNEG, I.P.	Development and maintenance of the LNEG geo-portal and availability of spatial data services produced in the institution.
SRCTE RAA	The provision of spatial data through web services facilitates the process of sharing data between institutions. Efforts have been made to cut red tape through the use of information technologies.

12.3.4 Costs and Benefits

12.3.4.1 Estimates of costs involved in the implementation of the INSPIRE Directive, 2010-2012

Table 12.3.12. IT Infrastructure costs

Institution		Hardware (€)	Software (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
APA, I. P.	Set up costs	7 000	500 000	20 000	6 months	Approximate amount spent on both geo-portals
	Maintenance	1 000	90 000	10 000	3 months	Approximate amount spent on both geo-portals
DGEEC	Set up costs					
	Maintenance	5 000	32 000	1 000		The infrastructure is shared by several services, so we counted a share of the total costs.
DGEG	Set up costs	0	0	0	(
	Maintenance	0	0	0	(
DGT	Set up costs	45 000	60 000	20 000	3 months	The basic costs were incurred before the reporting period: 2010-2012. The itemised costs for software refer to the hiring of external specialists for the development of software for the SNIG.
	Maintenance			10 000	1 month	1 senior technician at 10% (2 days per month)
DROTA/DSIGC	Set up costs	139 895	363 526.	6 938	nil	nil
	Maintenance	34 722	113 620	nil	nil	nil
ICNF, IP	Set up costs	385 000	40 000	140 000	2 440	Based on 10 people over three years and all existing GIS licences that incurred maintenance costs.
	Maintenance	77 000	8 000	28 000	488	Based on 20% of the previous values
IGEOE	Set up costs	----	----	----	----	----
	Maintenance	----	----	----	----	----
IHRU, I.P.	Set up costs	0	0	0	0	-
	Maintenance	0	13 000	1 200	10 days	ESRI maintenance and IT support technician (amount net of VAT)
INE, I.P.	Set up costs	33 000				For database server and storage
	Maintenance		34 000	26 250	150 days	For Oracle, vware and GIS
LNEG, I.P.	Set up costs	4 000	25 000	4 800	60	Purchase of server: €4 000, ESRI technical support to build the LNEG geo-portal and 60 man-days/month for monitoring the work.
	Maintenance	2 800	2 500	1 600	20	Amount for external hosting of the LNEG geo-portal plus 20 man-days/month for maintaining it
SRCTE	Set up costs	0	300 000	0	0	Cost of providing the service
RAA	Maintenance					

Table 12.3.13. Metadata for data and services falling under INSPIRE Directive and that are indicated in the Monitoring Tables

Institution			Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
DGEEC	Set up costs	Software	0	300	150 days	MIG is used (free of charge). Staff costs and time include only time for training in the use of the software.
		Production	0	600	10 days	Entering metadata and learning MIG software.
	Maintenance	Software	0	0	0	
		Production	0	0	0	
DGEG	Set up costs	Software	0	0	0	
		Production	0	600	5 days	
	Maintenance	Software	0	0	0	
		Production	0	0	0	
DGT	Set up costs	Software	0	0	-	The costs of implementing the metadata record system were incurred prior to the reporting period: 2010-2012.
		Production	0	0	-	The costs of implementing the metadata record system were incurred prior to the reporting period: 2010-2012.
	Maintenance	Software	0	10 000	1 month	1 senior technician at 10% (2 days per month)
		Production	0	27 000	3 senior technicians at 10% (2 days per month)	The costs for the metadata record cover only the costs of the working time of the technicians who carry out these tasks.
ICNF, IP	Set up costs	Software	0	0	0	-
		Production	0	4 000	120.3	Based on 2 days of training + 5 days of work for 10 people over 3 years
	Maintenance	Software	0	0	0	-
		Production	0	800	0	Based on 20% of production amounts

Institution		Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained	
IGEOE	Set up costs	Software	----	----	----	
		Production	----	----	----	
	Maintenance	Software	----	----	----	
		Production	----	----	----	
IHRU, I.P.	Set up costs	Software	0	0	0	
		Production	0	3600	3 months	Preparation, production and technical support for geographic metadata for 2010-2012 (amount excluding VAT). 2 technicians with a total of 15 days per year/technician.
	Maintenance	Software	0	0	0	-
		Production	0	600	15 days	Maintenance of metadata. 1 technician for a total of 15 days/year.
INE, I.P.	Set up costs	Software				No costs. MIG is used.
		Production		1750	10 days	
	Maintenance	Software				No costs. MIG is used.
		Production		2625	15 days	
LNEG, I.P.	Set up costs	Software	2 500	8000	100	10% of the ArcGIS licence and 100 man-days/year
		Production	1 200	9600	132	The cost of 6 man-months/year plus the associated operating costs (€200/month)
	Maintenance	Software	2 500	1200	15	10% of the ArcGIS licence and 15 man-days/year
		Production	400	3200	40	The cost of 2 man-months/year plus the associated operating costs (€200/month)
SRCTE RAA	Set up costs	Software	100 000	0	0	Estimated value through provision of services.
		Production	150 000	0	0	Estimated value through provision of services.
	Maintenance	Software	25 000	0	0	Estimated value through provision of services.
		Production	0	0	0	

Table 12.3.14. Data interoperability/harmonisation for data falling under INSPIRE Directive and that are indicated in the Monitoring Tables

Institution		Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained	
APA, I. P.	Set up costs	Development				
		Software				
	Maintenance	Production	10 000		3 months	Approximate amount spent on both geo-portals
		Software for data transformation				
		Production	10 000		3 months	Approximate amount spent on both geo-portals
DGEG	Set up costs	Development	0	0	0	
		Software	0	0	0	
		Production	0	0	0	
	Maintenance	Software for data transformation	0	0	0	
		Software for data transformation				
	Production					
DGT	Set up costs	Development		15 000	3 months	5 senior technicians at 10% in 2012. So far no financial investments have been made to acquire external services to carry out this task. The itemised costs refer to the working time of DGT technicians on analysing SDS harmonisation strategies.
		Software		-	-	
	Maintenance	Production	10 000	10 000	1.5 months	1 IT specialist at 10%
		Software for data transformation		-	-	
		Production		-	-	
ICNF, IP	Set up costs	Development		-	-	
		Software		-	-	
		Production		-	-	
	Maintenance	Software for data transformation		-	-	
		Production		-	-	
IGEOE	Set up costs	Development		-	----	
		Software		----	----	

Institution			Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
	Maintenance	Production	----		----	----
		Software for data transformation	----		----	----
		Production	----		----	----
IHRU, I.P.	Set up costs	Development	0	600	15 days	Designing the architecture for recording geographical coordinates and metadata 1 technician for 15 days (amount net of VAT)
		Software	11 000	0	0	Creation of 13 fields in the SIPA database. Development of an application for recording geographical coordinates. (amount net of VAT).
		Production	0	14 400	12 months	Entering, updating and standardising the information in the SIPA database. One month per technician (amount net of VAT)
	Maintenance	Software for data transformation	0	0	0	-
		Production	0	600	15 days	Maintenance and quality control of the SIPA database (amount net of VAT).
INE, I.P.	Set up costs	Development		6 300	22 days	
		Software				
		Production		11 550	66 days	
	Maintenance	Software for data transformation				
		Production				
LNEG, I.P.	Set up costs	Development				There are as yet no INSPIRE data specifications for the themes under the LNEG's responsibility.
		Software				Do not yet exist
		Production				Do not yet exist
	Maintenance	Software for data transformation				Do not yet exist
		Production				Do not yet exist
SRCTE RAA	Set up costs	Development	50 000	0	0	Estimate based on the provision of services.
		Software	0	0	0	
		Production	0	0	0	
	Maintenance	Software for data transformation	0	0	0	
		Production	0	0	0	

Table 12.3.15. Network services falling under INSPIRE Directive and that are indicated in the Monitoring Tables

Institution			Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
DGEG	Set up costs	Development	0	0	0	
		Software	0	0	0	
		Maintenance of INSPIRE-compliant network service		0	0	0
DGT	Set up costs	Development		10 000	1.2 months	1 IT specialist at 10%. The remaining costs were incurred prior to the reporting period.
		Software				
		Production	-	-	-	
	Maintenance of INSPIRE-compliant network service		-	20 000	1 senior technician at 20%	The services are maintained solely by DGT technicians.
ICNF, IP	Set up costs	Development	0	0	0	
		Software				
		Production	0	0	0	
	Maintenance of INSPIRE-compliant network service		0	0	0	
IGEOE	Set up costs	Development	----	----	----	----
		Software				
		Production	----	----	----	----
	Maintenance of INSPIRE-compliant network service		----	----	----	----
IHRU, I.P.	Set up costs	Development	0	0	0	
		Software				
		Production	0	3 600	3 months	Production and testing of WMS services (amount net of VAT).
	Maintenance of INSPIRE-compliant network service		0	0	0	
INE, I.P.	Set up costs	Development				
		Software				
		Production				
	Maintenance of INSPIRE-compliant network service		36 000			for the services/applications
LNEG, I.P.	Set up costs	Development				
		Software	2 500			10% of ArcGIS licensing
		Production	200	1 600	20	The cost of 1 man-month/year plus the associated operating costs (€200/month) for setting up WMS and WFS services

Institution		Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained	
SRCTE RAA	Maintenance of INSPIRE-compliant network service	2 500	800	10		
	Set up costs	Development	50 000	0	0	Estimate based on the provision of services.
		Software				
		Production	0	0	0	
Maintenance of INSPIRE-compliant network service	0	0	0			

Table 12.3.16. Monitoring and reporting costs

Institution		Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
DGEG	Development	0	0	0	
	Production	0	0	0	
	Reporting	0	0	0	
DGT	Development				Not applicable. Development prior to 2010.
	Production		30 000	7 days a month	1 senior technician (4 days a month on average); 1 senior technician (two days a month on average); 1 senior technician (1 day a month on average)
	Reporting		20 000	4 days a month	2 researchers (2 days a month on average)
ICNF, IP	Development	0	25 000	244.11	Based on 10 people all year round, for 3 years
	Production	0	12 500	66.3	Based on 5 people all year round, for 3 years
	Reporting	-	-	-	Amounts reported under coordination
IGEOE	Development	----	----	----	----
	Production	----	----	----	----
	Reporting	----	----	----	----
IHRU, I.P.	Development	0	600	15 days	1 technician for 15 days for the period 2010-2012 (amount net of VAT)
	Production	0	0	0	-
	Reporting	0	0	0	-
INE, I.P.	Development				
	Production				
	Reporting		3 150	11 days	
LNEG, I.P.	Development				
	Production	300	2 400	30	The cost of 30 man-days/year plus the associated operating costs (€200/month)
	Reporting	300	2 400	30	The cost of 30 man-days/year plus the associated operating costs (€200/month)
SRCTE RAA	Development	0	0	0	Carried out by technicians of the Regional Directorate.
	Production	0	0	0	Carried out by technicians of the Regional Directorate.
	Reporting	0	0	0	Carried out by technicians of the Regional Directorate.

Table 12.3.17. Coordination and horizontal measures costs

Institution		Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
DGEEC	Setting up coordination structures, national contact point activities				
	Activities that relate to the data and service sharing obligations				
	Supporting activities	0	350	6	Participation in workshops / seminars.
DGEG	Setting up coordination Structures, national contact point activities	0	0	0	
	Activities that relate to the data and service sharing obligations	0	0	0	
	Supporting activities	0	0	0	
DGT	Setting up coordination Structures, national contact point activities	0	0	-	Not applicable. Implemented before 2010.
	Activities that relate to the data and service sharing obligations		10 000	1 senior technician at 10%	
	Supporting activities		20 000	2 senior technicians at 10%	
ICNF, IP	Setting up coordination Structures, national contact point activities	200	1 500	24,24	Based on 24 days over 24 months relating to working meetings; communications costs
	Activities that relate to the data and service sharing obligations				
	Supporting activities	40	300	5,24	Based on 20% for the item 'Setting up coordination structures'
IGEOE	Setting up coordination Structures, national contact point activities				
	Activities that relate to the data and service sharing obligations				
	Supporting activities				
IHRU, I.P.	Setting up coordination Structures, national contact point activities	0	0	0	
	Activities that relate to the data and service sharing obligations	0	0	0	
	Supporting activities	0	1 200	1 month	Production of spatial data standards and participation in technical support sessions for the implementation of the INSPIRE Directive (amount net of VAT).

Institution		Costs (€)	Staff (€)	Staff time	Explanatory note on how the estimate was obtained
INE, I.P	Setting up coordination Structures, national contact point activities		2 300	10 days	
	Activities that relate to the data and service sharing obligations				
	Supporting activities		850	3 days	
LNEG,I.P:	Setting up coordination Structures, national contact point activities	300	10 800	60	The cost of 60 man-days/year plus the associated operating costs (€200/month)
	Activities that relate to the data and service sharing obligations	100	1 800	10	The cost of 10 man-days/year plus the associated operating costs (€200/month)
	Supporting activities	300	2 400	30	The cost of 30 man-days/year plus the associated operating costs (€200/month)
SRCTE RAA	Setting up coordination Structures, national contact point activities	0	0	0	Carried out by technicians of the Regional Directorate.
	Activities that relate to the data and service sharing obligations	0	0	0	Carried out by technicians of the Regional Directorate.
	Supporting activities	0	0	0	

12.3.5 Benefits associated with the implementation of the INSPIRE Directive between 2010 and 2012

Table 12.3.18. Examples of benefits associated with the implementation of the INSPIRE Directive

Institution	Example	Quantitative measures	Core benefits for public authorities in improving environmental policies	Broader side effects	Main beneficiaries	Undesired side effects of implementing INSPIRE	Categories of benefits		
							efficiency	effectiveness	Broader Socio-economic benefits
APA, I. P.		Improvement in the quantity and quality of the shared information; Improved compliance with statutory information-sharing obligations.	Stimulates and coordinates institutional relations, facilitating access, at both national and European Union levels, to high-quality and properly documented spatial data.		Ease of access to information by the general public		X	X	X
DGT	Publication of metadata and services in compliance with the INSPIRE Directive	The publication of the metadata for the data produced helped to make the spatial data acquired by the DGT more visible. The services led to systematic use of the information provided.	The DGT's provision of spatial data services allowed various public bodies, working in areas relating to the definition of environmental policy (e.g. APA - Portuguese Environment Agency; DGGE - Directorate-General for Energy and Geology) to include in their production process regular consultation of such data services in support of their operations.	More systematic access to DGT data by the various users	National and international bodies. National and international citizens.	Financial costs inherent in involvement of DGT staff in development required for publication of metadata and implementation of services.	X	X	X

Institution	Example	Quantitative measures	Core benefits for public authorities in improving environmental policies	Broader side effects	Main beneficiaries	Undesired side effects of implementing INSPIRE	Categories of benefits		
							efficiency	effectiveness	Broader socio-economic benefits
DROTA/ DSIGC	Geocid	Effective sharing of data between regional services; Use of a single source of basic spatial data in Madeira.	Not applicable	Geocid is accessible to the general public.	Government, private sector and the general public.		X	X	
	Repgram	Sharing of GPS data with registered users.	Not applicable	Not applicable	Government, private sector and the general public.		X	X	0
ICNF, IP	SIPNAT	- Data sharing between institutions/ public. - Decision support for action in protected areas.	Promotes the conservation of natural values in relation to development.	Improved interoperability between information systems in the environmental and other sectors.	General public Educational institutions in research and development Business Regional and municipal administration		X	X	X

Institution	Example	Quantitative measures	Core benefits for public authorities in improving environmental policies	Broader side effects	Main beneficiaries	Undesired side effects of implementing INSPIRE	Categories of benefits		
							efficiency	effectiveness	Broader socio-economic benefits
	Occurrence of forest fires	<ul style="list-style-type: none"> - Data sharing between institutions/public. - Decision support for adopting fire prevention and fighting measures 	Prevention of fire risk	Interoperability of spatial data infrastructures with national, regional and local civil-protection infrastructures.	<ul style="list-style-type: none"> - General public - Educational institutions in research and development - Business - Regional and municipal administration 		X	X	X
INE, I.P.	Spatial data infrastructure to support official statistical activity (IDESTAT)	Increased use of official statistical information	Production and dissemination, effectively, efficiently and free of charge, of quality official statistical data, relevant to the whole of society.	The development of IDESTAT enhances the use of administrative sources for statistical purposes	Society	Not identified	X	X	X
LNEG, I.P.	Creation of metadata catalogue for LNEG and discovery, view and download services for SDSs produced at the LNEG	Not available	Identification of and easy access to spatial data produced at the LNEG	Promoting the use of spatial data produced at the LNEG in environmental information systems	Public administration institutions, public and private companies, universities, secondary schools, students and the general public	Implementation and maintenance costs and scarce qualified human resources in this field	X	X	X

Institution	Example	Quantitative measures	Core benefits for public authorities in improving environmental policies	Broader side effects	Main beneficiaries	Undesired side effects of implementing INSPIRE	Categories of benefits		
							efficiency	effectiveness	Broader socio-economic benefits
	Provision of spatial data on national and international projects	Not available	Facilitates the integration of spatial data produced by the LNEG in pursuing environmental policy	Helps to harmonise spatial data in national and European projects	Public administration institutions, public and private companies, universities and associations of European geological services	Large number of measures to be implemented and scarce qualified human resources in this field	X	X	X