

SNIG 2020: a participated vision for the Portuguese National Spatial Data Infrastructure

Directorate-General for the Territory

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Sistema Nacional de Informação Geográfica - SNIG

- The Portuguese Spatial Data Infrastructure (SDI) which from its *geoportal* allows to search, visualize and explore geographic data about the Portuguese territory, produced by public or private entities.
- Technological platform for monitoring the activities related to the application of the INSPIRE - INfrastructure for SPatial InfoRmation in Europe, Directive in Portugal.

SNIG – The Concept

- The entities register themselves on SNIG and submit the metadata of the spatial data and the metadata of the services which they produce. These metadata need to respect the National Profile of Metadata.
- Main objective: To concentrate in one only place the registration of all geographic information regularly produced in Portugal. The data can also be visualized on the *geoportal*, through spatial data services normalized with the OGC – Open GeoSpatial Consortium specifications, if requested by the entity.

SNIG – Steering Committee

**Article 5, Decree-Law n. 180/2009, August 7
(Decree-Law n. 84/2015, May 21)**

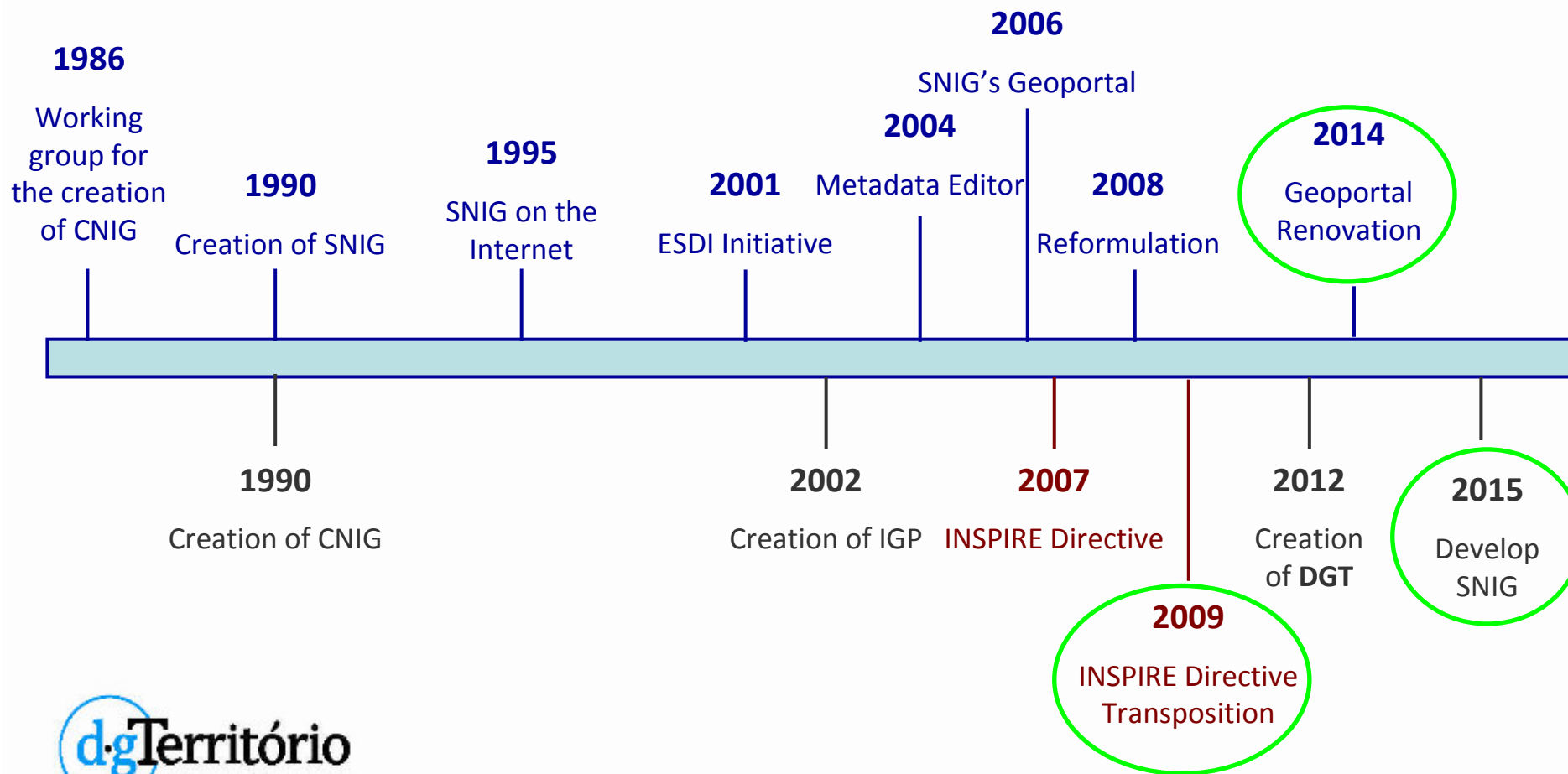
- *“Approve the strategic guidelines and the general objectives of SNIG ”*
- *“Ensure to grant public authorities the technical capacity to cross their spatial data sets and services on Internet ”*
- *“Promote a good articulation between the members of the SNIG network, to analyze and to pronounce about possible cases of divergence of interests ”*
- *“Approve the work program to enable the establishment and effective operation of SNIG, the corresponding financial plans and the participation of each integrated service in the costs”*
- *“Advise about the national technical standards for geographic information ”*
- *“Advise about the rates for data sharing proposed by the public authorities involved”*
- *“Issue opinions requested under the present law”*

SNIG – Steering Committee - Actual Configuration:

- Directorate-General for the Territory
- Portuguese Environment Agency
- National Association of Portuguese Municipalities
- National Authority for Civil Protection
- Institute for Nature Conservation and Forests
- Army Geographic Institute
- Hydrographic Institute
- National Statistics Institute
- National Laboratory of Energy and Geology
- Institute for the Sea and the Atmosphere
- Directorate-General for Agriculture and Rural Development
- Directorate-General of the Treasury and Finance
- Financing Institute for Agriculture and Fisheries
- Directorate- General for Natural Resources, Security and Maritime Services
- Regional service responsible for the activities of cartography and geographic information in the Autonomous Region of Azores
- Regional service responsible for the activities of cartography and geographic information in the Autonomous Region of Madeira

SNIG – Historical Context

- Landmarks in the evolution of SNIG



SNIG – INSPIRE Directive

- Directorate-General for the Territory is the National Focal Point for INSPIRE
- To monitor the implementation of the INSPIRE Directive:
“... Member States shall monitor the implementation and the use of their infrastructures for spatial data and submit reports on the implementation of the Directive .”
- Annual Monitoring :
Calculation of indicators based on the List of sets and spatial data services of each Member State
- Triennial Reports :
Organization, coordination and quality assurance of data
Contributions to the functioning and the coordination of the infrastructure
Usage of the Infrastructure for Spatial Information
Data sharing agreements between public authorities
Costs and benefits associated with the implementation of the Directive and examples of benefits



SNIG – INSPIRE Directive

- Implemented a network called *Focal Point Network INSPIRE Core* - covering public authorities formally responsible for the production of spatial data and national services for the themes listed in the three annexes of the Directive

Annex I

1. Coordinate reference systems
2. Geographical grid systems
3. Geographical names
4. Administrative units
5. Addresses
6. Cadastral parcels
7. Transport networks
8. Hydrography
9. Protected sites

Annex II

1. Elevation
2. Land cover
3. Orthoimagery
4. Geology

Annex III

1. Statistical units
2. Buildings
3. Soil
4. Land use
5. Human health and safety
6. Utility and government services
7. Environment monitoring facilities
8. Production and industrial facilities
9. Agriculture and aquaculture facilities
10. Population distribution and demography
11. Area management/restriction/regulation zones/
reporting units
12. Natural risk zones
13. Atmospheric conditions
14. Meteorological geographical features
15. Oceanographic geographical features
16. Sea regions
17. Bio-geographical regions
18. Habitats e biotopes
19. Species distribution
20. Energy resources
21. Mineral resources



SNIG – INSPIRE Directive

- Entities of the Focal Point Network INSPIRE Core

Administração Central do Sistema de Saúde
Agência Portuguesa do Ambiente
ANA -Aeroportos de Portugal
Autoridade Nacional de Protecção Civil
Autoridade Tributária e Aduaneira
Correios de Portugal
Direção-Geral de Estatísticas da Educação e Ciência
Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos
Direção-Geral do Património Cultural
Direcção Geral de Agricultura e Desenvolvimento Rural
Direcção Geral de Energia e Geologia
Direcção Geral de Saúde
Direcção Geral do Território
Estradas de Portugal
Gabinete de Estratégia e Planeamento
Instituto da Conservação da Natureza e das Florestas
Instituto da Habitação e da Reabilitação Urbana
Instituto da Mobilidade e dos Transportes

Instituto da Vinha e do Vinho
Instituto de Financiamento da Agricultura e das Pescas
Instituto de Infra-Estruturas Rodoviárias
Instituto Geográfico do Exército
Instituto Hidrográfico
Instituto Nacional da Aviação Civil
Instituto Nacional de Emergência Médica
Instituto Nacional de Estatística
Instituto Nacional de Investigação Agrária e Veterinária
Instituto Português do Mar e da Atmosfera
Laboratório Nacional de Energia e Geologia
Navegação Aérea de Portugal
Rede Ferroviária Nacional
Secretaria Regional do Ambiente e Recursos Naturais da Região Autónoma da Madeira
Secretaria Regional do Turismo e Transportes da Região Autónoma dos Açores



SNIG – 2014 Renovation

- Technological upgrade of the platform architecture
- Design renovation
- Diversification of the methods for metadata registration
- Configuration and publication of INSPIRE services
- New search functionalities
 - Scale
 - Resolution
 - Producer
 - Type of Resource
 - ...etc
- New possibilities for visualization and comparison between added themes on the viewer
- ...etc.

SNIG – 2014 Renovation

- <http://snig.dgterritorio.pt/portal>

The screenshot displays the SNIG (Sistema Nacional de Informação Geográfica) portal homepage. At the top left is the SNIG logo and name. The top right features a 'Winner of the European SDI Best Practice Awards 2009' badge and a font size selector. A horizontal navigation bar contains the following menu items: CATÁLOGO, VISUALIZADOR, APLICAÇÕES, and GEOCOMUNIDADE. The main content area is titled 'Bem vindo ao SNIG!' and includes a timestamp 'Actualizado em Terça, 05 Agosto 2014 18:47' and the user 'Administrador'. A descriptive paragraph explains the system's purpose. Below this are six icons representing services: PESQUISA (magnifying glass), VISUALIZADOR (map), GEOCOMUNIDADE (people), APLICAÇÕES (CD/DVD), NOTÍCIAS (newspaper), and INSPIRE (INSPIRE logo). The left sidebar contains a 'SNIG' menu with links to 'Início', 'Apresentação', 'Como integrar a Rede', 'Edição e Publicação de Metadados', and 'Outras IDE'. A highlighted 'INICIAR SESSÃO' section contains a login form with fields for 'Utilizador:' and 'Senha:', and an 'Iniciar' button. Below the login form are links for 'Recuperar Senha?' and 'Registo'. A 'NOVIDADES' section lists 'Últimos Registos Publicados' and 'Notícias'. The footer includes 'Contactos', 'Ficha Técnica', 'RSS SNIG', and a status bar with 'CSS' and 'XHTML' indicators. Logos for 'COMPETE', 'EN', and the European Union are also present.

SNIG – 2014 Renovation

- Metadata Submission

The screenshot displays the SNIG (Sistema Nacional de Informação Geográfica) web application interface for metadata submission. The header includes the SNIG logo and navigation tabs: CATÁLOGO, VISUALIZADOR, APLICAÇÕES, and GEOCOMUNIDADE. A sidebar on the left contains navigation links for 'SNIG', 'INICIAR SESSÃO', and 'NOVIDADES'. The main content area is titled 'Metadados' and features a search form with fields for document title, UUID, and site UUID, along with dropdown menus for owner, state, publication method, and protocol. A search button labeled 'Pesquisar' is present. Below the form, there is a section for 'Para os registos seleccionados:' with a dropdown menu set to 'Definir como Publicado' and an 'Executar' button. The results area shows 'Nenhum resultado encontrado.' and a table header with columns: Opção, Título, Proprietário, Estado, Método, and Data.

snig Sistema Nacional de Informação Geográfica

Winner of the European SDI Best Practice Awards 2009

CATÁLOGO VISUALIZADOR APLICAÇÕES GEOCOMUNIDADE

Metadados

Gestão Metadados [Criar](#) [Upload](#) [Validar](#) [My Licenses](#) [security.manager / license.manager](#) [service.monitor](#)

Título do documento:

UUID do Documento:

UUID do site:

Proprietário:

Estado: Método de publicação: Protocolo:

Alteração entre: e (aaaa-mm-dd)

Pesquisar

Para os registos seleccionados: **Executar**

Nenhum resultado encontrado.

Opção	Título	Proprietário	Estado	Método	Data
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SNIG – 2014 Renovation

- Search data

CATÁLOGO

- Entidades Responsáveis Anexos INSPIRE
- Temas INSPIRE Anexos I e II
- Temas INSPIRE Anexo III
- Informação Geográfica de Base
- Serviços de Mapas
- Serviços de Catálogo

SNIG

- Início
- Apresentação
- Como integrar a Rede
- Edição e Publicação de Metadados
- Outras IDE

INICIAR SESSÃO

- Dados Perfil
- Metadados
- Repositórios

[Terminar Sessão](#)

NOVIDADES

- Últimos Registos Publicados
- Notícias

CATÁLOGO

CATÁLOGO | NAVEGAR | QUESTÕES

» Palavra(s) a Pesquisar

» Critérios Alfanuméricos

CATÁLOGOS

Clique para seleccionar catálogos diferentes ou configurar a pesquisa.

TIPO/FORMATO Serviços de Mapas

ESCALA de 1: a 1:

RESOLUÇÃO de: a: (metros)

DATA DE REFERÊNCIA

Data Criação Data Publicação Data Revisão Extensão


De: (aaaa-mm-dd)

Até: (aaaa-mm-dd)

[Opções adicionais para Pesquisa Avançada](#)

» Critérios Geográficos


Qualquer Intersectados pela extensão Contidos na extensão



Ir para:

(Ex: Rua Julieta Ferrão, Lisboa)

[Minhas Pesquisas](#)

 **d.gTerrit**
Direção-Geral

SNIG – 2014 Renovation

- Viewer

The image shows the SNIG (Sistema Nacional de Informação Geográfica) viewer interface. The main window is titled "snig Visualizador". On the left, there is a navigation toolbar with a compass, zoom in/out buttons, and a scale bar. The top right corner features a search bar labeled "Introduzir endereço" and a checkbox for "Restringir a Portugal". A "Mapa base" button is also present. The central map displays the Iberian Peninsula with various cities labeled, including Oviedo, Santander, Bilbao, Vitoria, Pamplona, Logrono, Valladolid, Madrid, Seville, Malaga, GIBRALTAR, Casablanca, Rabat, Marrakech, Agadir, and Santa Cruz. An inset map in the bottom right corner shows the location of the main map area within the context of Europe and Africa, labeled "North Atlantic".

Pesquisa de Metadados

>> Palavra(s) a pesquisar

>> Critérios Alfanuméricos

CATÁLOGOS

Geoportal SNIG

TIPO/FORMATO Serviço de Mapas

ESCALA de 1: [] a 1: []

RESOLUÇÃO de [] a []

DATA DE REFERÊNCIA

Data Criação Data Publicação

Data Revisão Extensão Temporal

De: [] Até: []

Opções adicionais para pesquisa avançada

>> Critérios Geográficos

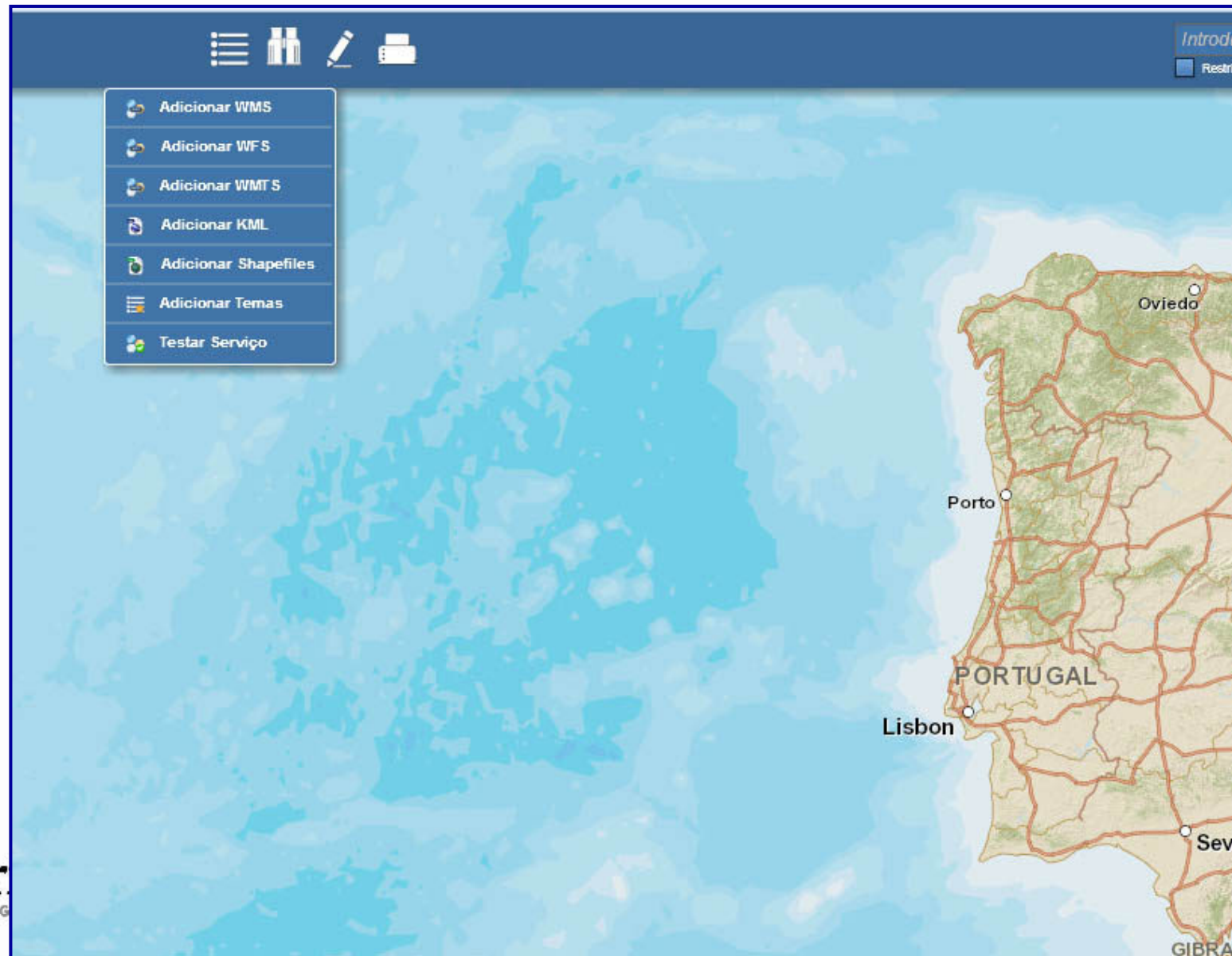
Qualquer Lugar

A informação deve intersectar a extensão geográfica

A informação deve estar contida na extensão geográfica

SNIG – 2014 Renovation

- Viewer



SNIG – 2014 Renovation

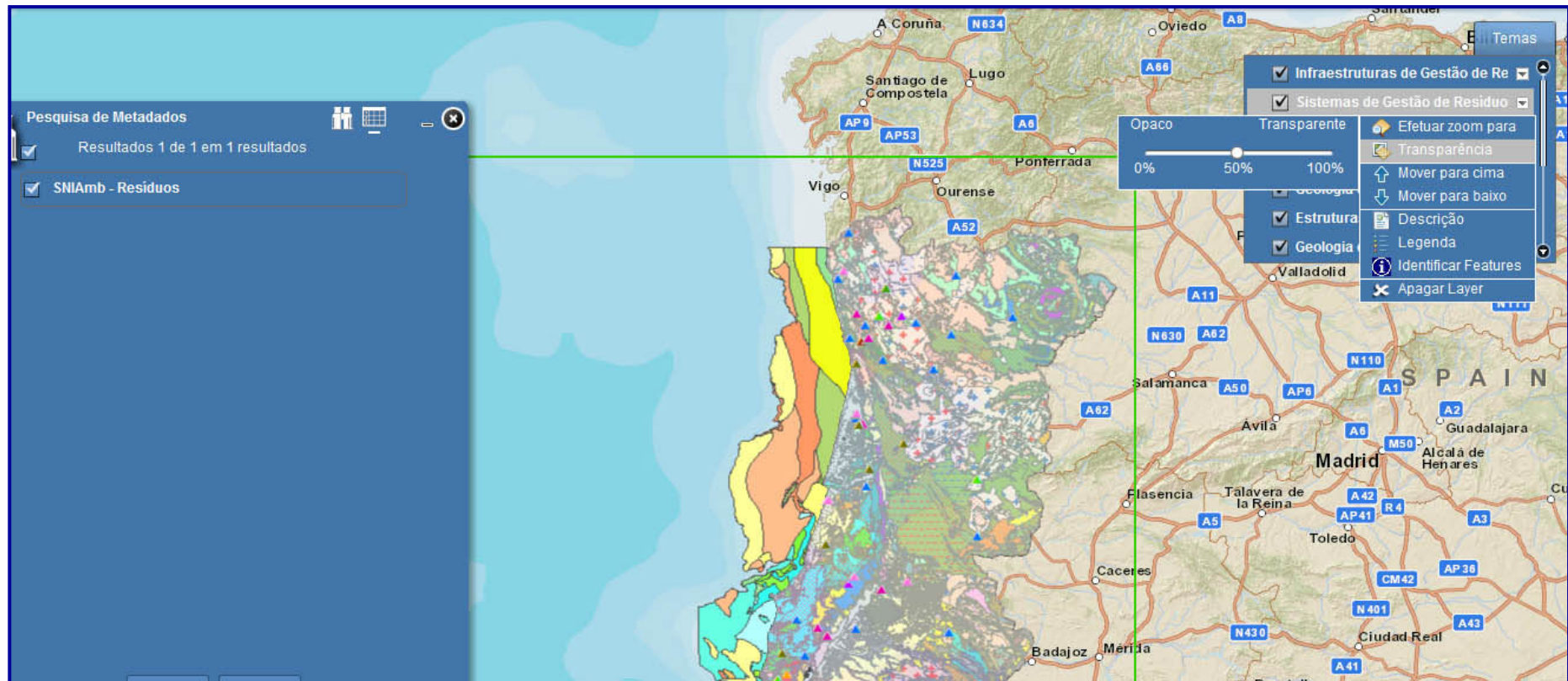
- Adding a WMS Service

The screenshot displays the SNIG web application interface. The main map area shows a topographic map of a region in Portugal, with various geographical features and place names like Vila Franca de Xira and Benavente. Several windows are overlaid on the map:

- Adicionar Temas (Add Themes):** A window on the left side of the map. It contains a list of services to be added to the map:
 - Carta de Portugal Continental à escala 1:500 000
 - CAOP
 - Rede Geodésica (highlighted)
 - Carta Geológica de Portugal à escala 1/1 000 000
 - CORINE Land Cover 2006, 2000 e 1990 da ilha de São Miguel
- Temas (Layers):** A window on the right side of the map. It shows a list of layers with checkboxes. Two layers named 'VG' are checked. Below the list are several actions:
 - Efetuar zoom para
 - Transparência
 - Mover para cima
 - Mover para baixo
 - Descrição
 - Legenda
 - Identificar Features
 - Apagar Layer
- Resultados (Results):** A window at the bottom right of the map. It displays the results of a feature identification query for a point in the 'VG' layer:
 - VG - VG
 - GetFeatureInfo results:
 - Layer 'VG'
 - Feature 4430:
 - VG = 'FIGUEIRINHA'
 - F150k = '30D'
 - Ord = '3'
 - M = '-69147.010000000000'
 - P = '-73165.140000000000'
 - H_topo_ = '7.47'
 - Observ_ = 'Coord. Observadas'

SNIG – 2014 Renovation


- Adding several WMS Services



Developing SNIG

- This year the Directorate-General for the Territory created a survey on the internet to understand the level of awareness of SNIG among the users of geographic data

Interação com o Sistema Nacional de Informação Geográfica (SNIG)



15. Teve conhecimento da existência do SNIG através:*

- Internet
- Ações de divulgação presenciais
- Diploma legal de criação do SNIG (DL 53/90)
- Diretiva INSPIRE (2007/2/CE)
- Transposição da Diretiva INSPIRE (DL 180/2009)
- Artigos técnicos ou científicos sobre informação geográfica
- Outro:

16. Sabe da existência do SNIG desde:*
Escolha o intervalo de tempo

- 1990-1994
- 1995-1999
- 2000-2004
- 2005-2009
- 2010-2014
- 2015

Developing SNIG



- The analysis of the results of the survey and the global feedback from the different users will help to define a more adequate and efficient approach to the development of SNIG
- Until the end of 2015 we plan to complete the diagnosis of SNIG, which will allow the definition of the next steps in the development of this SDI and the consolidation of a strategy for the next years – SNIG 2020.

Strategy SNIG 2020



Global principles to consider:

- Strengthen the specific role of SNIG as a SDI with a global nature and independent from all the thematic, regional and local SDI
- Mobilize, encourage and support all the entities which produce geographic information to register those data in SNIG
- Promote the use of SNIG's database by all entities which coordinate the remaining SDIs, through the use of search services as REST or CSW

Strategy SNIG 2020



Global principles to consider:

- Make the access to the data more easy and friendly through the creation of more OCG services
- Increase the number of platform users through more regular publicity of SNIG
- Continue to monitor the application of the INSPIRE Directive, through concerted strategies defined within the Steering Committee of SNIG
- Build a strategy for the development of SNIG with the participation of all the data providers and the users of geographic data



Workshops, Friday, 29th





Workshops - Programa

Sexta, 29 de maio

Workshop 1 - 09:00 – 10:30

Infraestruturas de informação Geográfica em Português à volta do Mundo

Workshop 2 - 11:00 – 12:30

Rumo ao SNIG 2020 e Mentas Criativas

Workshop 3 - 14:00 – 15:30

Serviços de Dados Geográficos INSPIRE

Workshop 4 - 15:30 – 17:00

Panorama atual e evolução dos metadados INSPIRE em Portugal



Thank you.