

Building a SDI for small countries – the Portuguese example

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Abstract

Portugal was one of the SDI pioneers in the beginning of the 90's, but after a quick start the project slowed down. Sometimes, small countries do not have the same strength, resources and opportunities of larger nations.

Now SNIG project (NSDI of Portugal) is regaining its position and in the paper I will present how a small country can develop a SDI project, INSPIRE oriented and truly useful for public administration and citizens.

The paper will focus on describing the SNIG project, referring to key issues like strategy, resources, results and future expectations.

Keywords: Portugal, SDI, SNIG, INSPIRE

1. Background

INSPIRE Directive, approved May 2007, has stressed the importance and settled a new framework for the development of Spatial Data Infrastructures (SDI) in Europe, as tools for good and modern governance, through the establishment of a coordinated network of National SDI (NSDI).

Portugal was and still is a pioneer, always facing new challenges and improving the Sistema Nacional de Informação Geográfica (SNIG), our NSDI. SNIG (<http://snig.igeo.pt/>), was established 18 years ago through the Decree-Law 53/90, 13th of February, being the first NSDI in Europe and also the first one opened to the Internet in 1995.

Since then, especially during the last years, there was a significant growing of interest about SDI, acknowledging their important role in what concerns the formulation, implementation and monitoring of spatial public policies and private activities that spread over the territory.

Today, more than the simple land representation through cartography, it is important to collect, organize, store, retrieve and explore spatial data finding the necessary knowledge for action. More than data repositories it is important to have dynamic information flowing through the Information Society channels.

Also the common citizen is much more exposed and aware of Geographic Information. First, through the boost of GPS usage and afterwards, more recently, with *Google Earth*.

This is the context where SNIG is being thought and developed. The first actions were related with the design of the interface and contents reorganization.



Figure 1. –SNIG interface evolution

The general idea was to consolidate SNIG as an infrastructure that enables users to identify, visualise and explore Geographic Information, as well as to access databases through three main related components (Metadata, Products & Services and Market) supported by an harmonized data structure directly provided by their producers and accessible at the **geoPORTAL**.

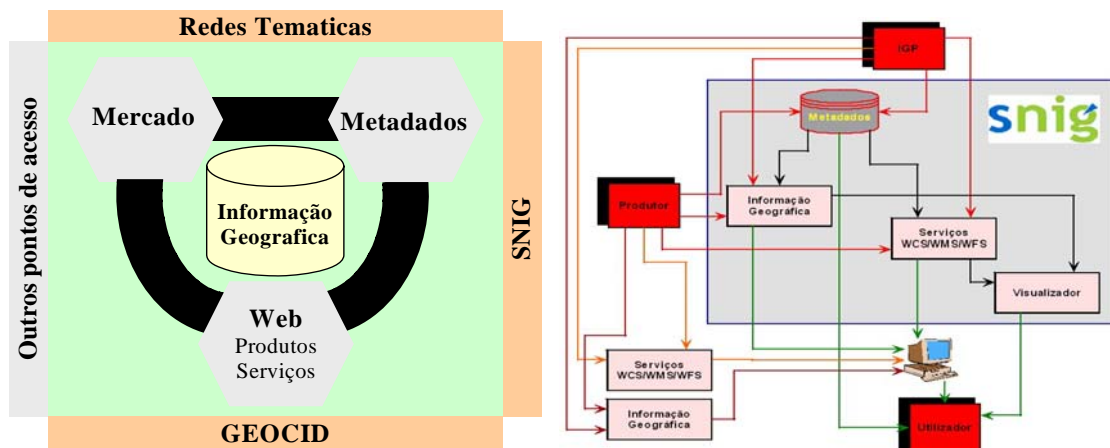


Figure 2. –SNIG structure

SNIG is the result of a national effort (pioneer at European and global level) and can only survive as a national system if there is a committed participation of all stakeholders, producers and users of Geographic Information. IGP (Instituto Geográfico Português) has the mandate to act as coordinator and promoter of SNIG, which is different of having data rights over the information provided.

2. GeoPORTAL

Today SNIG is one of the first SDI to have a fully operational portal. In fact SNIG geoPORTAL has the following implemented components:

- Catalogue
- Viewer
- Applications
- Geo-community

In most of the SDI portals their visible face corresponds to the Viewer. It is important to stress that this is only one of the components and not the most important one.

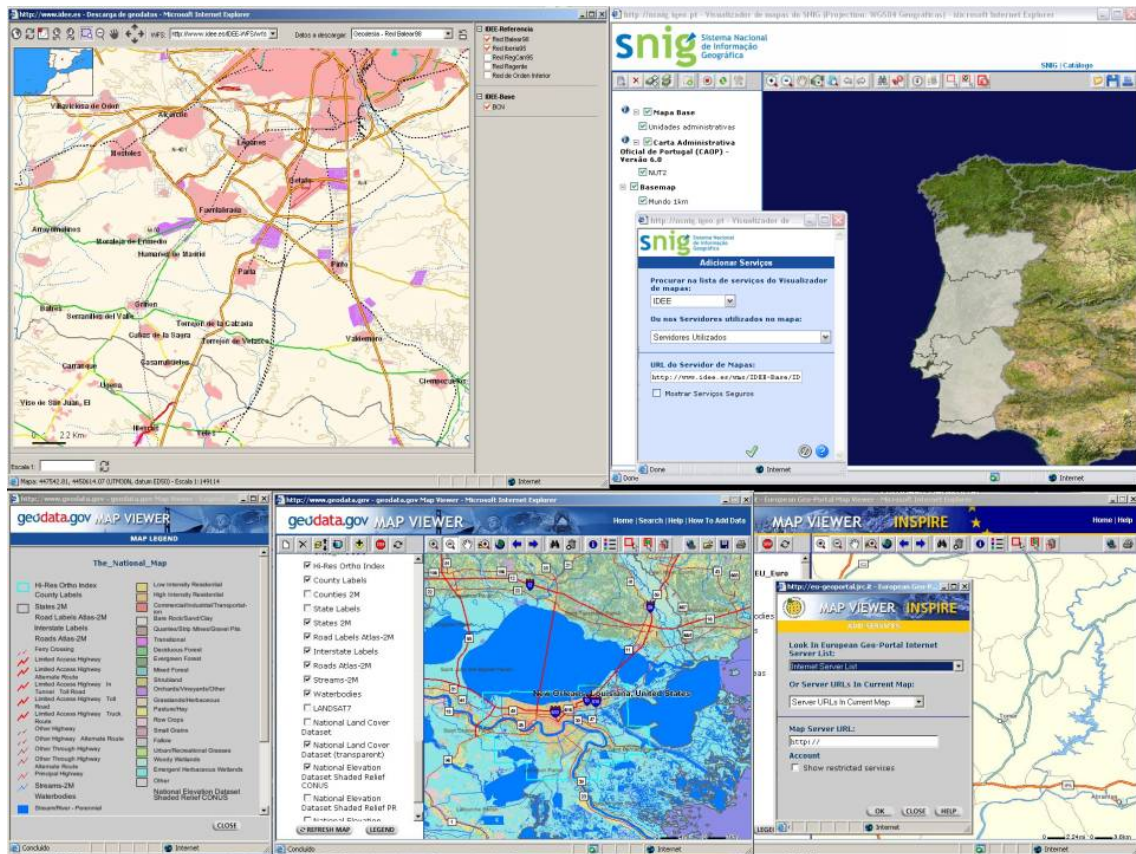


Figure 3. – SDI viewers

Through the four main components of SNIG, the user has public and free access data, applications and services about Portuguese spatial data.

Our metadata catalogue has more than 9.000 records about data, data services and applications. These records are increasing every day, mainly due to the creation of a specific tool (ISO and OGC compliant) to support metadata production: MIG.

IGP, as coordinator and promoter of SNIG, recognizes that a good metadata catalogue is a critical point of a SDI. That is why our first option was to create MIG (ISO 19115, ISO 19119 and ISO 19139 compliant) and provide free training to users.

MIG, now in version 2.2, is an open source application and is available for free download from SNIG website. Moreover, MIG is compatible with all other metadata applications that are OGC and ISO compliant.

One of our objectives was to provide a tool that enables users to document spatial data in a structured way, through an easy learning and friendly user’s environment.

The Catalogue interface enables users to create a set of multi-options queries. It is possible to select based on free text, keywords, temporal and spatial frames, and also geographic names using a detailed gazetteer.

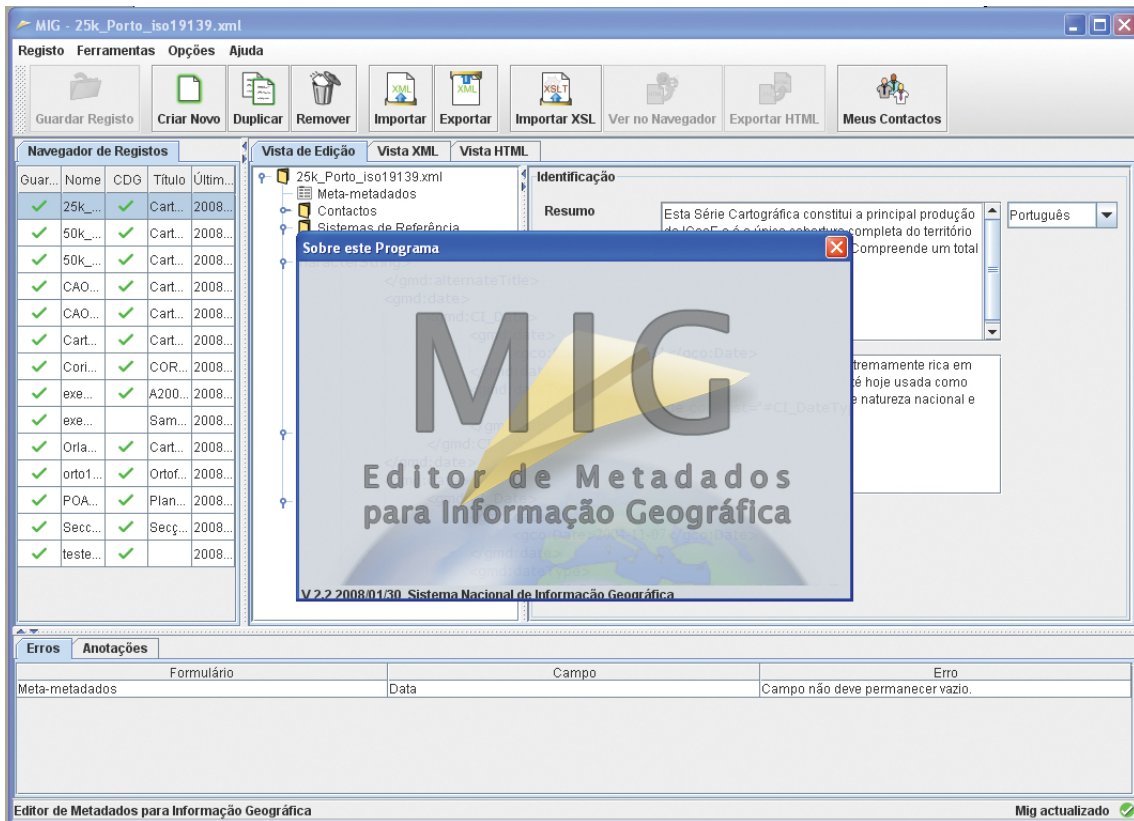


Figure 4. –MIG interface

This vast set of possibilities and its combination provides a powerful tool for data identification and description. It is easy to find, compare and evaluate the existing data according to users’ needs.



Figure 5. –Catalogue interface

Data visualization is also provided for all SNIG data services and also other providers, as long as they support OGC standards like WCS, WFS e WMS. The original interface was barely modified because it is not yet the occasion. Other priorities are much more important, like metadata and data services.

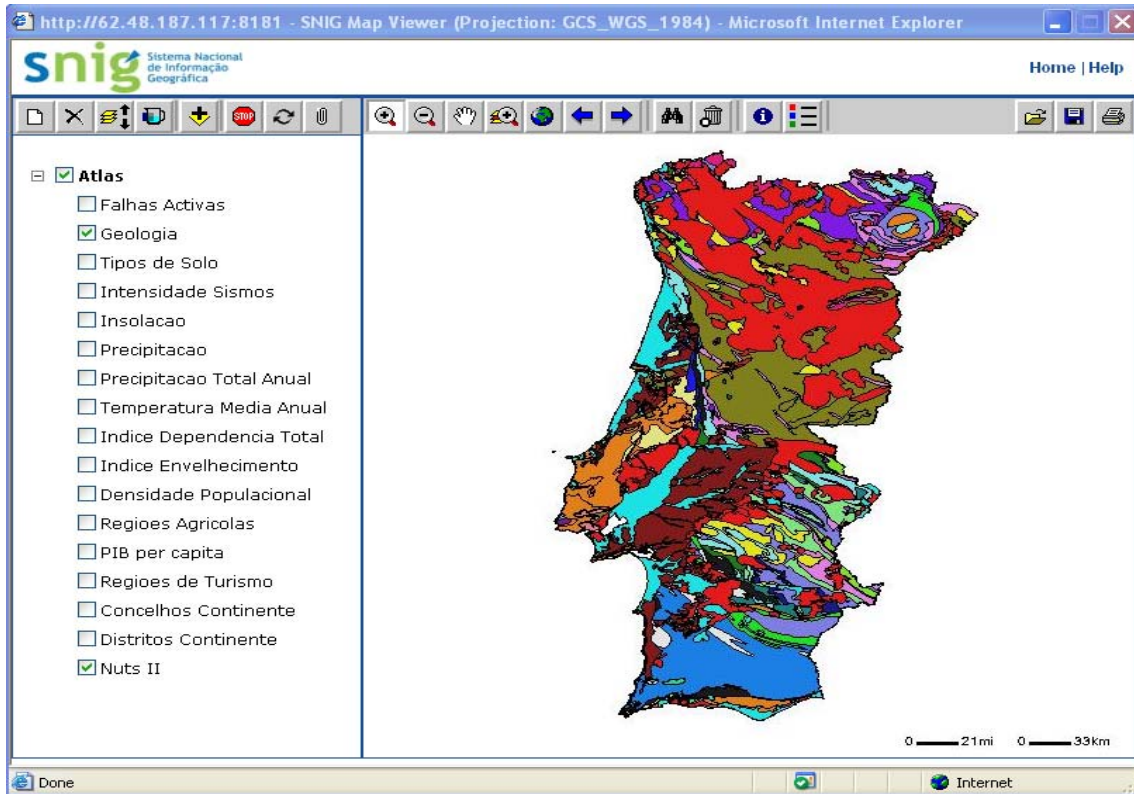


Figure 6. – Viewer interface

SNIG is currently delivering several data webservices, most of them provided by IGP, like CAOP (Official Administrative Boundaries Map), CRIF (Fire Risk Assessment Map) and Atlas (a set of maps produced for the Atlas of Portugal).

There is a strong cooperation with Instituto Geográfico Nacional (IGN) from Spain in order to strengthen the links between the two NSDI: SNIG and IDEE. The results rising from this cooperation are the data integration in both viewers and also the translation of contents.

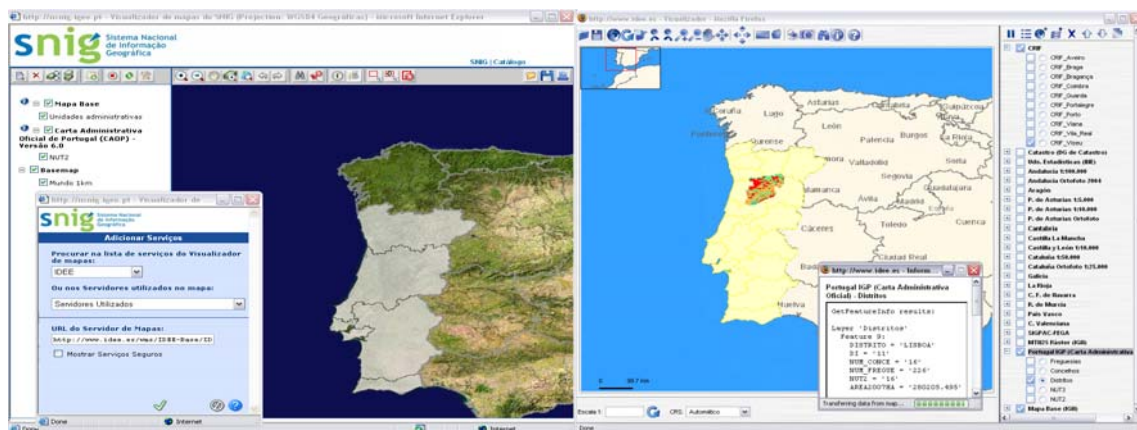


Figure 7. – Interaction between SNIG and IDEE

According to the founding principles of SNIG, this is the right tool to discover, know and explore our geographic wealth. But SNIG goes further than just providing a viewers, catalogue tools, metadata editors, webservices, etc. There is an open space for

users contacts and knowledge exchange regarding Geographic Information – Geocommunity.



Figure 8. –Geocommunity space in SNIG

SNIG Geocommunity is the meeting point for users and knowledge exchange, namely at Forum SNIG, as well as the entrance for some specific thematic networks, like RISE (Risk network) and SNIG Education.

3. Next steps

IGP, as SNIG coordinator and promoter, will carry on its job of following INSPIRE implementation closely, interfacing with Portuguese national, regional and local authorities. The idea is to have all national GI stakeholders well informed about INSPIRE developments and provide in time advise and support to them.

Moreover, IGP is responsible for INSPIRE transposition for national law. This will be done by revising SNIG Decree-law and with the active participation of all stakeholders. To support this action, SNIG network is being updated and there is now an active contact point in each organization dealing with GI. The network is broader than just INSPIRE related organizations.

Following the success of MIG training where, since 2004, several people attended, IGP is now starting webservices training to support all public organisations that wish to implement OGC data webservices.

IGP is also engaged in a strategy to promote GI awareness and dissemination to general public. This is being pursued by several public acts and also agreements with major GI providers like Google Earth (Google), Virtual Earth (Microsoft) and ESRI, assuring that all Portuguese space is covered with high quality information.