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TOWARDS AN OBSERVATORY ON GI AND GIS USE AND DEVELOPMENT IN EUROPEAN LOCAL AUTHORITES

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1. INTRODUCTION

It is well known that the themes of the GI and GIS have been arisen since some half a decade to the attention of the activities of Local Authorities specially in terms of cartography, digital geographic data, cadastral data, utilities networks, facilities management and some other sectors generally related to the information systems and back office activities. Since some years the development of the internet system and the TLC access also involved the geographic information giving to it a wider spectrum of applications and, the most relevant aspect, connecting the Public Authorities with the citizens. The use of the GI became wider and the industrial sector also reinforced his interest in the GIS and in data production.

It is not easy to know which is the state of the art regarding the GI among the near 100.000 European Local governments. It may be said that the interest and use of GI is widely increasing and it represents a considerable part of public sector information (PSI).

It has been long demonstrated that European governments have invested huge amount of resources on PSI, the largest sector of which is represented by geographic information (mapping, land and property, meteorological services, environmental data, etc.), followed by social, cultural and company information.

Regarding EU effort, huge amount of economic and human resources have been and are spent in research projects dealing with GI and GIS, such as PETIT, PANEL-GI, ESMI, MADAME, ETeMII, GINIE, just to mention few among them, and initiatives such as INSPIRE, while the policy debate has been reoriented into the broader issues of access and reuse of PSI [1][2][3], of which GI is considered to be an important component.

Furthermore, some key drivers may bring to a wider availability, access and use of GI for all in Europe including (i) the eGovernment initiatives; (ii) the need to address European cross border issue; (iii) the demands for an inclusive society; (iv) the growing importance of sustainable development; (v) the European perspective for spatial planning [4]; (vi) the demands arising from emergency planning and security.

Against this, which is the real impact of GI related activities in the member states? The importance and functions of Local Authorities is widely increasing with the result that they are the actual main interface between the Public Administration and the Citizens.

Notwithstanding the local authorities are considered to be among the largest users of GI and GIS technologies and producers of PSI it's not clear how they deal with GI and GIS; it is surprising to note that relatively few systematic researches have been carried out on GI and GIS diffusion in a key sector such as local government.

2. A CASE STUDY

All the above mentioned projects and other studies have provided reports on the GI state of the art in EU member states, mainly focusing on data and recently on metadata availability and standard implementation; other specific activities (e.g. the EU GISDATA project, the book *GIS Diffusion* [5]) have investigated in the past years GI and GIS diffusion in local authorities: despite all the analysis are now not up to date and in some situation are focused on few case studies, which are often the best practices.

Few months ago, the LABSITA [6][7] carried out a research on GI and GIS diffusion in the Italian Provinces (NUTS 3) through a systematic and complete manual survey of their web sites performed on some specific keywords (e.g. GIS, WEB GIS, GI, GIS Viewer, Provinces, e-Government, GI Metadata, etc.).

Some findings of the analysis, dated to the middle of 2002, have been:

- GI is “becoming” part of some e-government programmes (reference data, agriculture, environment, local taxation, cadastral, etc.);
- GI has been consolidated in local authorities which already started some years ago [8];
- The transfer (knowledge, technology and process) from Regions (NUTS 2) to Provinces (NUTS3) and to townships has been not easy also in the well developed situations;
- The IT developments mainly affect the “publicity” of GI (Internet is more powerful than GIS);
- GI is going from now to be part of the e-governance policies.

All above sentences are quantitatively justified and are supported by some thematic maps (fig. 1):

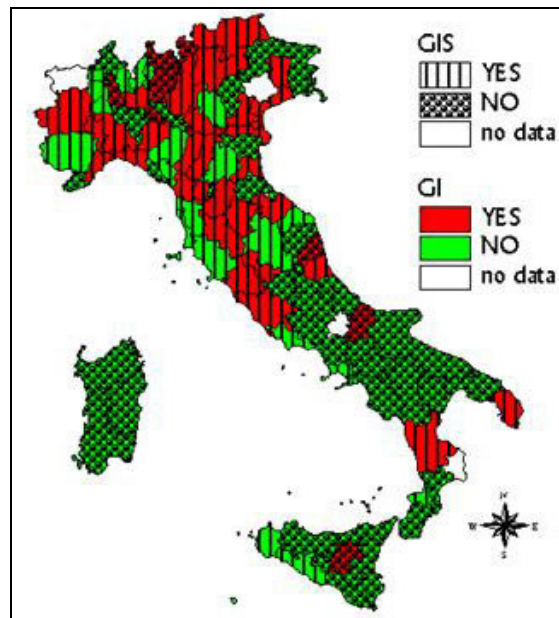


Fig. 1 GI and GIS Diffusion in Italian Provinces. The investigation has pointed out significant situation: some Provinces have GI catalogues on-line even if they do not use any GIS.

The Italian case study may be easily expanded in terms of method to the other countries in order to discover some specific aspects of the use of GI by the local authorities.

With this in mind, we think that GI and GIS uses and practices need to be analysed “at least” at EU NUTS 3 level at the present time and in the near future in order to investigate the real impact of the EU policies and initiatives, the real effort of local authorities in relation to their activities of e-government, territorial planning and management, environmental management and protection, public health and safety, etc.

In the future the granularity of the investigation should be increased in order to monitor all the European public local authorities.

3. THE OBSERVATORY

It has been largely demonstrated by recent studies, projects (see Bibliography) and actions (see bibliography) that GI and GIS diffusion must be investigated in consideration of its relevant impact on many policies, first of all the “e-government”, and we are aware that nowadays, notwithstanding the GI itself isn’t directly mentioned in the 6^o Framework Program of the European Commission, several themes and subject of the ERA may profit by intelligent, coherent use and application of GI and GIS. Subjects such as health, environment and protection of people and property, cultural heritage, mobility, location based services, eInclusion, sustainable development, emergency management, public services, knowledge based society, etc., are demonstrating the high importance of the GI in treating the issues. Having this in mind, an Observatory, characterised by an agile and efficient structure, may be foreseen as a possible solution for analysing the mentioned characteristics of GI and GIS environment and for supporting their development. EU use frequently such a model (the observatory) to monitor developments and make recommendation.

The main task of the Observatory will be to provide support to the EU policies finalised to stimulate the demand and the efficiency of the public sector at local level in the use of GI and GIS. Different action lines may be seen as possible to realise, some of which should aim to a consistent improvement of education, active training and competent consultancy in this field together with the main achievement of increasing the appropriate use of GI in local authorities. Other actions should be related to the base cartography and reference data, the metadata, the data policy (local and global), legal issues and coordination aspects. The main objectives can be articulated in several specific operational goals such as:

- monitor the needs of the public sector demand on GI and GIS at local government level and its actual use by administrations in Europe;
- survey initiatives and projects related to GI and GIS funded by local governments;
- stimulate relationships between EU and local governments in order to minimise “friction” among EU policies and local development and initiatives;
- provide models for education, active training and competent consultancy in this field;
- design a European vertical portal that becomes a strategic tool to expand the use of GI and GIS, enhance networking and project clustering at local level;
- support projects results and EU actions finalised to the public sector;
- support the activities of European thematic organisations on GI and GIS ;
- build synergies with and among European RTD projects, integrated projects and NoE, and support measures in the framework of the ERA and the 6FP;
- stimulate synergies among local governments in real seamless approach.

The Observatory wants to individuate the fundamental tools and inputs which can usefully contribute and or used directly by the Commission to sustainable development of local activities related to geoinformation in the framework of the future European Spatial Data Infrastructure (i.e. INSPIRE [9]).

Immediate benefits which may be foreseen by the creation of such an observatory are mainly related to the development of a vision and a strategic approach for an effective, intelligent and effective, citizen-oriented use of the GI in the Local Authorities, to provide

models for education, training and competent consultancy, and finally through the dissemination of excellent results, to create a European environment able to accept and promote the legislative and technical initiatives which the EU intends to take in this field .

Networks of Excellence together with integrated projects on GI and GIS participated also by local authorities and synergies with other key players as academy, research institutions and networks, data providers and GIS enterprises are system tools and operations which the Observatory has to produce on the routine basis.

The Observatory aims also at continuously promoting and disseminating information about GI and GIS at local level and at building synergies among already established and future European RTD projects.

The following figure drafts an overall description of the main players considered by the Observatory and their interactions in the implementation of strategies for an effective use of GI and GIS:

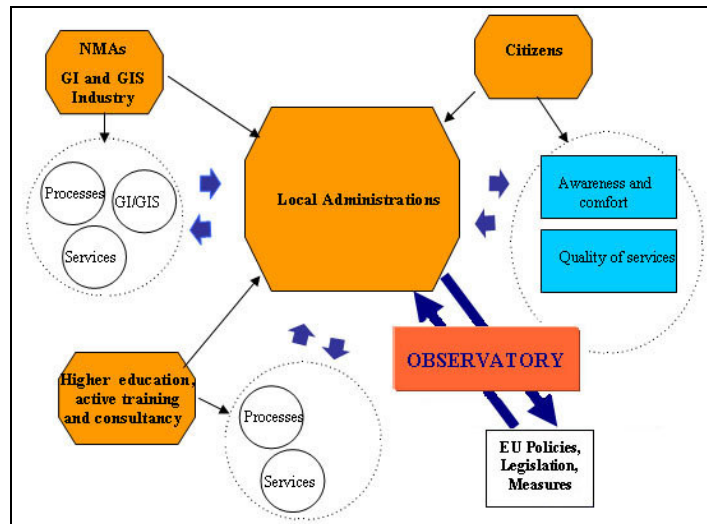


Fig. 2 The main players of the Observatory and relationships among them.

The following figure is an overall description of the components of the Observatory:

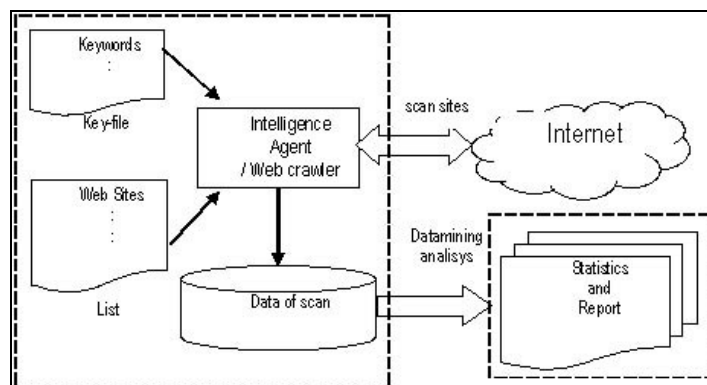


Fig. 3 Components of the Observatory.

- An IA (Intelligent Agent) will populate a DB extracting information from the websites of European local authorities (mainly at the level of NUTS3 and according with resources allowable at level of municipalities (NUTS4). Data retrieving will be based on some indicators such as: usage of GIS; access to GI via web; partnerships with other organisations (public and private) for responsibility and cost sharing; and other ad hoc parameters to be defined;
- Human experts from research and academic organisations will analyse and study data in order to produce studies and quantitative-qualitative analysis (e.g. statistics, reports and so on) to support the users of the Observatory (decision makers, officers and politicians) in their activities related to GI and other fields.

The present work will treat in detail the following aspects of the Observatory mission:

- user requirements study and evaluation ;
- user need assessment ;
- impact of EU policies ;
- register of the GI related initiatives with comparative analysis of funding and operations;
- analysis of funding and spending activities in GI by the local authorities;
- mission and functioning of the observatory and cost estimation.

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