

## **PANEL-GI: Pan European link for Geographical Information**

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### **Abstract**

The PANEL-GI (INCO-COPERNICUS) project has been proposed to constitute a GI European Network aimed at involving partners from the Central and Eastern European Countries (CEEC) in the process of creation of a Pan European GI Forum.

The main goal of the project is to integrate the interested groups in the Central and Eastern European Countries (CEEC) in the emerging European GI/GIS framework and to support them in develop this information technology in their countries.

In two years time from the beginning of the project most of the project tasks have been developed: the first results are now presented. They include among the other the PANEL-GI package, a reference book useful to have a vision of the key issues of the GI/GIS framework, the results of study visits, the networking and technology transfer activities in the CEEC and the dissemination activity, carried out in order to diffuse the PANEL-GI mission and its results.

Moreover, it is offered a short outlook about the network exploitation strategies.

### **PANEL-GI: an overview**

In the last few years a wide debate has begun among the European Geographical Information Community and various initiatives are in process to create a European Geographical Information Infrastructure (EGII) that has been defined as a “set of agreed rules, standards and procedures for creating, collecting, exchanging and using GI”.

In general, a GI infrastructure assumes a working system to exchange data, that requires a technical infrastructure, a set of standards for the exchange and the interpretation of data and organisational arrangements, including economic and legal agreements; furthermore the understanding and the adoption of the methods coming out from the GI current trends over a wider community (users, system vendors, developers and integrators, data providers, agencies) is the base for the development of the GIS market.

The PANEL-GI project has been then proposed for constituting a GI European Network working on these issues and aimed at involving partners from Central and Eastern European

Countries (CEEC) in the process of creation of a Pan European GI Forum. The network is considered to give an important contribution to realise in perspective a full and integrated European GI context and to stimulate or enable GI business in CEEC.

The wider goal of the project is to contribute to the establishment of shared foundations for the Information Society in CEEC, in the particular area of GIS.

To act in such direction the Network intends to cover a number of GI issues that make possible to classify the project in a mainstream enclosing keywords as *European Geographical Information Infrastructure (EGII)*, *GIS Interoperability and Open GIS*, *metadata*, *data availability*, *GIS applications* and *European dimension*.

The objectives of the project are characterised by the following strands:

**Networking**, to create the EU-CEEC framework

**Tutoring**, that is the production of a "PANEL-GI" Package, which aims at assessing the key issues of the GI/GIS framework

**Technology transfer**, that is the exploitation of the established network towards CEEC.

The main project tasks in which the project has been developed are:

The implementation of the PANEL-GI package, the "PANEL-GI Compendium. A Guide to GI and GIS". This has been the leading outcome of the PANEL-GI network, committing all the Partners in giving their contributions as regards the different expertise and knowledge.

Study visits to support a transfer of knowledge around the project issues, such as how to implement a National Geographical Information Infrastructure or to get expertise on conceptual model or GIS prototypes. The visits have been also organised in order to stimulate contacts among companies about GIS market and products.

The development of the PANEL-GI issues towards CEEC promoting networking and technology transfer activities also in CEEC non directly involved as project partners. That would also include a contribution for the development of the GIS market in the CEEC throughout the involvement of GIS companies and in general GI organisations at a country level. In this view, the CEEC Partners have been committed to promote the establishment or the consolidation of National Geographic Information Associations (NGIAs) and to exploit and implement at a National level the PANEL-GI results.

Diffusion and awareness activities to exploit and disseminate the project results towards the GI Community. That is being achieved throughout PANEL-GI WWW pages, project documentation and the organisation of PANEL-GI workshops in the CEEC to present and discuss the PANEL-GI issues as well as the national emerging GI problems.

The expected overall result is a significant improvement of a common awareness and a share of the most important GI issues on the table at a European level. In general, the major result will be the transfer of knowledge and a contribution to a solution for building an effective GI infrastructure and the development of the GI market in the CEEC.

**The project partners are:**

**From European Union**

GISIG (I) - Geographical Information Systems International Group (project co-ordinator)

EUROGI (NL) - European Umbrella Organisation for Geographical Information

JRC - SAI (EU) - Joint Research Centre, Space Applications Institute

Technical University of Vienna (A) - Department of Geoinformation

CNIG (P) - Centro Nacional de Informação Geográfica

**From Central and Eastern European Countries**

HUNAGI (H) - Hungarian Association for Geo-Information

GISPOL (PL) - Polish Land Information Systems Users Association

Masaryk University (CZ) - Laboratory on Geoinformatics and Cartography

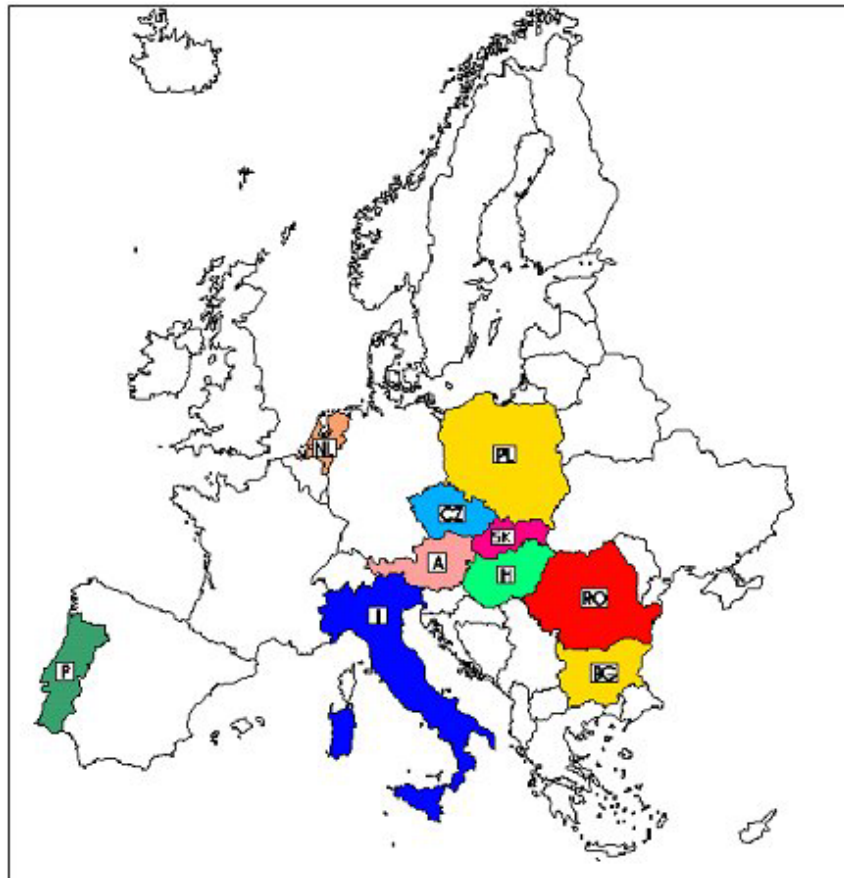
ICI (RO) – National Institute for Research and Development in Informatics

Technical University of Sofia (BG) - Programming and Computer System Application Department

University of Zilina (SK) - Faculty of Management Science and Informatics

The PANEL-GI project is enframed within the activity of the GISIG Association, that promotes innovation and technology transfer initiatives according to the EU policies of Training and Education, Research and Technology Development, Regional Development and International Co-operation (in which line, the INCO-COPERNICUS PANEL-GI project has been proposed).

In the following parts of the article some details as regards the above tasks and their results in the first two years of the PANEL-GI project are described.



### **The PANEL-GI Compendium. A Guide to GI and GIS**

One of the main output of the project is the PANEL-GI package titled “PANEL-GI Compendium. A Guide to GI and GIS”. It has been designed as a reference book useful to have a vision of the key issues of the GI/GIS framework. The package aims at offering to the reader a synthesis of the main GI topics and should support to orient her/him in the GI/GIS field, stimulating as well new business initiatives.

The PANEL-GI Package targets in particular managers in private business and decision-makers in the central, regional and local administration. It is considered to bring business benefits to companies in the GIS field, in particular in CEEC countries, as well as users in both the public and private sectors. This will be achieved by a wide distribution to the GI/GIS community, taking into account the needs of knowledge of newcomers in this field.

The package is concentrated on issues that a manager needs to know, for example, to understand offers made by companies, evaluate reports from consultants and for overall planning. It excludes technical detail and specifics of particular systems. The text will be readable with a general knowledge and not require specific knowledge from geodesy, computer science, statistics, geography, etc.

The Package consists of the following chapters:

1. The Importance of Geographic Information
  2. Basic Concepts of GIS
  3. Organisation and Business Aspects of GIS
  4. Geographic Information Infrastructures
  5. National GII Solutions: The Portuguese experience (project SNIG)
  6. Standardisation and Interoperability - [From a European perspective](#)
  7. GIS Application Domains
  8. Trends
- Annex 1: Links  
Annex 2: Glossary

During the project the definition of the structure and the content of the package has been carried out. The publication of the PANEL-GI Compendium is expected by November 2000.

Moreover, in order to complement the PANEL-GI Package with useful material such as technical documents, articles, studies, and examples in line with the PANEL GI package issue, a PANEL-GI “Extended package” implemented on the WWW is being developed.

The target audience of the extended package is the GI/GIS community including project managers, researchers, students etc. They will have the opportunity to get structured information about different experience, different kinds of approaches and visions on the significant GI/GIS issues, as defined in the PANEL-GI Compendium.

The Extended Package aims also at fostering integration with other GI/GIS projects and once well established the development of an engine for knowledge sharing and for the promotion of new GI initiatives.

### **Study Visits**

Important results as regards the networking at a pan European level came from the organisation of study visits from Central and Eastern European partners to selected institutions of the European Union. This task has been completed so far. The participants originate mainly from the Panel GI CEEC partners, but also associate as much as possible other national partners involved in Geographic Information and use of Geographic Information Systems. The mobility and study visits programme aimed specifically at supporting transfer of knowledge about the PANEL-GI issues and were intended to stimulate also contacts among companies about GIS market and products.

The first group of study visit was organised in Portugal and dealt with public and private institutions. This country was chosen due to its specific experience, through CNIG (National Centre for Geographic Information), in the field of definition of a National Geographic Information Infrastructure. The visit was structured according to three main topics: institutional framework, network characteristics, GI research projects. The possibility of transferring/adapting such a concept of infrastructure, at regional or national level, was discussed in detail.

The second study visit provided for a Bulgarian counterpart the opportunity to visit in France EUROGI (European Association for Geographic Information), AFIGEO (French Association of Geographic Information), MEGRIN (European Association of National Mapping Agencies for the creation of European Information), ENSG Geography School. This visit resulted in an exploitation plan mainly devoted to the preliminary steps necessary to undertake prior to the creation of a National Geographical Information Association.

The third visit was organised to the Technical University of Vienna and other public or private institutions. Special emphasis was put on the preparation of a digital land information system in Austria, since transition countries undergo extensive transformations in the field of rural property and thus have significant activities in cadastre mapping. A detailed presentation of the GIS facilities of the City of Vienna was also provided. The CCEC participants also retained of specific interest the presentation of new activities of electronic commerce.

The fourth group of study visit was organised in Italy and included 3 days of EC GIS Workshop, 4 days at the Joint Research Centre of Ispra (European Commission), one day in Turin (CSI Piemonte) and one day in Genoa (AMGA Water Company, GISIG and City Hall). The visit to the JRC provided mainly an overview of the GIS application projects of the Space Applications Institute at European level: agriculture, land use/land cover, coastal zones monitoring, urban zones mapping and monitoring, protected zones monitoring...The co-operation with Eurostat GISCO was presented. The participation of central and eastern European countries in the Fifth Framework Programme as well as possibilities of co-operation with the European Commission (Joint Research Centre, Directorate Generals, PHARE National Programmes...) was reviewed and discussed. During the visits to Turin and Genoa, several presentations were related to the preparation of digital maps of water network for inventory, management, analysis and simulation purposes.

Moreover, other visits were organised linked to some other project events. We refer to a short visit at VTT – Technical Research Centre of Finland (FIN) that hosted a Steering Committee meeting and the possibility of knowing about relevant GIS experience in CEEC in connection with the organisation of National PANEL-GI workshops. We underline in particular the visits to Central, Provincial and Municipal Geodetic and cartographic Documentation Centres in Warsaw and Olsztyn linked with the Polish PANEL-GI workshop.

## **Networking and Technology transfer at National level**

The networking and technology transfer activities in the CEEC are considered the most important in order to achieve a wide Pan European GI framework.

Each of the CEEC partners has been then committed, as regards its country, to give its best effort in order to achieve the following objectives:

To establish GI networks and technology transfer poles

To create the conditions for an effective dissemination of the PANEL-GI issues

To participate in the gradual process of the design of the National Geographic Information Infrastructure in CEEC, involving the different actors of the GI Community

To share experiences on how to approach, establish and develop National Geographical Information Association.

To create a business framework based on the network and its achieved experience

Many actions has been carried out in the above directions, such as:

Analysis of GI context at country level

Survey of GI actors

PANEL-GI meetings and seminars

Establishment of groups of interest, including IT companies, data providers, users, Research and Education

PANEL-GI WWW Pages

These activities are being carried out in connection with other activities in which the CEEC partners are involved at a National and European level.

In particular, we underline the activity linked with the initiative promoted by the GISIG Association, that other than promoting Innovation and Technology Transfer GIS initiatives at European level, promotes activities at National/Regional and Thematic level.

The National/Regional level is developed by some active members that play the role of GISIG Secretariats for their countries. That is the case of most of the PANEL-GI CEEC partners.

## **Dissemination and awareness**

Several actions have been carried out for promoting the PANEL-GI project and for disseminating the project results towards the pan European GI Community.

### Promotional material and project presentation

This includes general dissemination activities such as presentations in Conferences, Exhibitions, Workshops, etc., and the preparation of promotional material, such as the PANEL-GI "White Paper", project leaflets and Posters.

### Workshops

**PANEL-GI workshops have been successfully organised by the CEEC partners in order to disseminate the PANEL-GI issues at a National level. The workshops were organised according to the following timetable.**

- Poland (Warsaw/Olsztyn) 16-18 September 1999 (GIS Workshops and Conference, linked with the Conference “Local GIS of Olsztyn Town”)
- Hungary (Szolnok) 23-24 September 1999 (linked with the 9<sup>th</sup> National GI Conference)
- Romania (Sinaia) 25-26 October 1999 (linked with the ICTPA’99 Conference)
- Czech Republic (Ostrava) 22-25 January 2000 (Ostrava GIS 2000)
- Bulgaria (Sofia) 5-6 June 2000 (Geographical Information Infrastructure 2000)

### PANEL-GI WWW pages

The PANEL-GI web site has been organised and hosted at the GISIG site:

<http://gisig.ima.ge.cnr.it/panel-gi>

A particular effort has been devoted for this task by the CEEC for the National WWW sites made in English and in the national language.

Here the list of the CEEC WWW sites:

- HUNAGI (H) (<http://www.fomi.hu/hunagi>)
- Gispol (PL) ([http://www.gispol.org.pl/4/panel\\_gi.htm](http://www.gispol.org.pl/4/panel_gi.htm))
- Masaryk University (CZ), also in co-operation con CAGI (<http://www.cagi.cz> and <http://www.geogr.muni.cz/gisig>).
- ICI (RO) (<http://td1.ici.ro/panel-gi>)
- Technical University of Sofia (BG) (<http://mulmedp.vmei.acad.bg/panel-gi/summary.htm>)
- University of Zilina (SK) (<http://tempus1.utc.sk/panelgi>)

### **Future PANEL-GI perspective**

The PANEL-GI network is intended to be a forum towards the Pan European GI Community and as such it will be opened to new organisations wishing to share the projects objectives.

In particular, the openness of PANEL-GI will be fostered towards:

- The European GI community, in general
- Organisations from the CEEC (BG, CZ, H, PL, RO) represented by the project partners that have indeed the mission of disseminating at a national level the project results, especially towards IT companies and GIS users.
- Organisations from other CEEC with the aim to enlarge the country scope of the project

The PANEL-GI network is intended to continue also after the conclusion of the project as part of the activity of the project partners and of their networks at a National or European level. In particular PANEL-GI will constitute a line of activity within the GISIG Association that will reinforce its policy of International Co-operation, especially with CEEC. In such a framework, the PANEL-GI members will pursue the exploitation of the PANEL-GI results.

A Memorandum of Understanding (MOU) among the project partners has been defined in order to fix the results exploitation criteria and the enlargement of the network.

In particular, within the Memorandum the following exploitation strategies have been defined:

- to favour exchange of experiences among the PANEL-GI Members;
- to promote new actions and initiatives as follow-up and exploitation of the PANEL-GI results;
- to maintain and update the Extended Package of the PANEL-GI Compendium
- to establish mutual technical co-operation among the Members for the realisation of initiatives at European, National and Regional level
- to operate as a cluster of projects and initiatives related to the Panel-GI issues in order to exchange experiences and to create synergies among these projects/ initiatives;
- to enlarge the country scope in particular towards CEEC, NIS and MED, also with the promotion of new National Geographical Information Associations (NGIAs);
- to create linkages with other groups or initiatives complementary to Panel-GI

The sustainability of the network is grounded on the support of the already consolidated networking activity of the PANEL-GI partners and on the promotion of new initiatives linked with the PANEL-GI issues.