

SPATIAL DATA INTEREST COMMUNITY IN HUNGARY NETWORKING INTERDISCIPLINARY STAKEHOLDERS TO SHARE THE DIGITAL EARTH VISION

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Abstract

As member of the European Umbrella Organisation of Geographic Information (EUROGI), an interdisciplinary national spatial data interest community called HUNAGI (Hungarian Association for Geo-information) has been evolved in Hungary to share the Digital Earth vision, to strengthen horizontal (intersectorial and interdisciplinary) links and to facilitate interoperable service of data and products according to the European and global initiatives such as INSPIRE and GSDI respectively.

By the end of its first decade of operation HUNAGI networked over 100 academic institutions, governmental agencies, NGOs and industry representatives countrywide by information dissemination and provision of knowledge transfer. Awareness raising on NSDI, Digital Earth vision, Information Society implications, monitoring of natural resources and the environment, as well as on the European INSPIRE initiatives and programmes such as GMES and GALILEO are part of its activity. There is an promising situation for the adoption and implementation of the projects supported by regional networking (EUROGI, EuroGeographics, GSDI) and programmes such as Information Society Technologies, eTEN and e-Content Plus. Based on national mapping programme, application oriented R+D and operational programmes of some core members, the effectiveness and synergy gained by the integrated use of advanced technologies such as GIS, communication, satellite navigation and remote sensing have been demonstrated and verified in many applications.

Keywords

NSDI, INSPIRE, networking, awareness raising, information society

1 Introduction of a steadily growing spatial data interest community

When the Digital Earth vision, a multi-resolution, 3D representation of the planet was introduced by former US Vice President Al Gore in 1998, he said: “Obviously, no one organisation in government, industry or academia could undertake such a project. Like the World Wide Web, it would require the grassroots efforts of hundreds of thousands of individuals, companies, university researchers and governmental organisations.” Now, in Europe especially during the past ten years a series of interdisciplinary national GI associations have been established and became member of the EUROGI framework forming a 2-level institutional network of 6500 legal entities and individual experts, users in the domain Geographic Information. Realised the role and importance of the availability, accessibility and useability of geo-referenced data, products and services, the Hungarian Association for Geo-Information (HUNAGI) was established by some professional organisations in 1994 including

- gita GIS Technology Society [website](#)
- Hungarian Academic and Research Network Association [website](#)
- HUNGIS Foundation [website](#)
- Hungarian Society of Surveying, Mapping and Remote Sensing [website](#)
- Hungarian Geographical Society [website](#)
- Hungarian Association for Settlement and Regional Development [website](#)
- John v. Neumann Society for Computing Sciences [website](#)
- College of Geoinformatics, The University of West-Hungary [website](#)

Today, the Association have 106 institutional members and serves as a real spatial data interest community

of networked stakeholders.

HUNAGI has been recognised by the government as an interdisciplinary national GI association, a co-operating partner in strategic planning in the field of GI and synergy provider in the implementation of the spatial data infrastructure.

1.1 Mission and objectives/strategy

Mission

- 1) To promote, stimulate, encourage and support the development, access and use of GI and its associated technologies
- 2) To strengthen the institutional links between the multidisciplinary GI communities in Hungary and in abroad.
- 3) To provide platform and expert forum by multiagency and public-private partnership facilitating the national spatial data infrastructure development.
- 4) To promote the access and use of Geographical Information by improving coordination, co-operation, networking, knowledge transfer and exchange of information in European and global level

Objectives/strategy

The objective of the Hungarian GI Association is to provide representation and visibility of the GI community's interests in the European Umbrella Organisation for Geographic Information (EUROGI), and to build up contacts with similar national GI associations in Europe and beyond. HUNAGI carries out actions related to the EUROGI membership and provides representation of its members' interest on international fora.

1.2 Key roles

1	GI policy maker	Yes
2	Knowledge and information supplier	Yes
3	Public relations, awareness raising and promotion of GI	Yes
4	Program assistance and support	Yes
5	Political interface, lobbyist	Yes
6	Mediator, negotiator	
7	Promoter of standards, certification	Yes
8	Facilitator for education (professional development) and training	Yes
9	Research	No

1.3 Actions

1	Workshops	4 th EC GIS Workshop (partner: DG JRC), 1998, 1 st EU Cadastral Workshop, 2002 (partners: DG JRC, EUROGI) Based MoU, support of Workshops arranged by CELKCenter, the Central-European Land Knowledge Center (9 events since January 2003).
2	Seminars	European Union Satellite Center – Hungarian Space Office – HUNAGI Conference January 2004 PECS Seminar, September 2002 (partners: European Space Agency, Hungarian Space Research Office) International HUNAGI Forum on SDI and other hot issues, November 2004
3	Conferences	HUNAGI members FÖMI and CelkCenter involvement in the Control with Remote Sensing orchestrated by the JRC of the European Communities (2004) 6 th GSDI Conference September 2002 (partners: GSDI Secretariat, EUROGI) GI Sessions of EFITA, the European Agriinformatics' Conference 2003 Support of annual events: Kaposvár GIS Days (University of Kaposvár), Nagykanizsa GIS Days, GIS in Education (Budapest) GISopen (West Hungary University College on Geoinformatics at Székesfehérvár), the Conferences of

		<p>the Hungarian Agriinformatics Federation (Debrecen-Budapest), National GIS Conference (Szolnok) and gita Conference, Göttingen conference on GIS and RS October 2004.</p> <p>Besides the own conferences, HUNAGI member institutions are deeply involved in the international activities and action plan implementation of acknowledged organisations such as IAG, FIG, ICA, ISPRS, GSDI, IPCGM, ISDE, gita, and many more.</p>
4	Projects	<p>Participation in international projects:</p> <p>Providing experts and WG members for the INSPIRE initiative (2002-2004) GINIE (Geographic Information Network in Europe) and related high level awareness raising(2001-2003). PANEL-GIS (Pan-European Link for Geographical Information), ABDS (Administrative Boundary Database Service), IST CAP3 hosting GSDI6. Contribution to: OISE (Proposal), ETeMII (by invitation in Potsdam 2001,and Antwerp 2002), ESMI (European Spatial Metadata Infrastructure (by invitation in Lisbon and Budapest), GEIX (by invitation in Budapest), OLLO, SDILA</p>
5	Publications	<p>Selected contributions to:</p> <p>Annual National Reports of the Hungarian Surveying, Mapping, Remote Sensing and Land Administration activities for EuroGeographics</p> <p>Paper on EUROGI and HUNAGI at the 8th Geoscience Conference Santiago de Chile (2004) Extended Member Meeting of EUROGI in Rome (2004), GSDI7 Conference in Bangalore (2004). Book chapter review on Urban Remote Sensing. Nature-GIS project document reviewing. GIM Magazine column: Cadastre, backbone of SDI.</p> <p>Hungarian translation of several GINIE documents (website, 2003)</p> <p>EUROGI paper at the First Cadastral Congress in the EU. Published by ACT, in English and Spanish (2002), Second Cadastral Conference in the EU (2003) Cadastral GIS Survey in Europe (so far covering 22 countries). A 110 pages document of EUROGI.</p> <p>Proceedings of the EU Workshop on Cadastre (published by the European Commission in August, 2002)</p> <p>Models of national GI associations in Europe (published by EUROGI)</p> <p>Panel GI Compendium A guide to GI and GIS (published by GISIG)</p> <p>Proceedings of the EC GI/GIS Workshops (Leuven, Stresa, Lyon, Budapest, Dublin, Potsdam and Warsaw)</p> <p>A strategic View of GIS research and technology development for Europe 2nd Edition (published by DG JRC), Proceedings of EFITA Conference 2003, EUGISES Conference 2000, Proceedings of EUROGI/AFIGÉO Day “Cadastre and NSDI in Europe” Paris, April 2000, Proceedings of GIS Day 2001 Budapest (CD) and others</p>
6	Lobbying	<p>February 2005: The INSPIRE and related measures were introduced at the Geodetic Science Committee of the Hungarian Academy of Science. The Committee unanimously accepted the prepared promotive resolutions hwich will help in further awareness raising.</p> <p>January 2005: Cooperation between the Hungarian Contact Point for ePSInet and HUNAGI established. Consultation before the ePSInet meeting in Athens.</p> <p>November 2004 Deputy State Secretary level delegation made a study tour in the USA and the United States devoted to exchange of views on the use of GI, benefits of the SDI on local, regional and global.</p> <p>HUNAGI core members’ leadership in FIG Commission 3 (spatial data management) and 7 (cadastre) for 2006-2010. HUNAGI officers’s co-chairmanship in the ISPRS Working Group Spatial Data Infrastructure for 2004-2008.</p> <p>Promoting Intelligent Transport System and 2nd Galileo Conferences held in Budapest at GSDI, EUROGI, FIG, ISPRS and EU institutions</p> <p>March 2004: contribution to the Hungarian Exhibition at DG InfSo in Brussels</p>

		<p>February 2004: Successful initiative accepted by the Intersectoral coordination committee on Information Society and a Task Force lead by HUNAGI core members received mandate to elaborate the Strategy on the implementation of National Spatial Data Infrastructure with special emphasis on INSPIRE</p> <p>November 2003 Deputy State Secretary level delegation attended the GINIE Closing Workshop in Brussels. HUNAGI member RETC, an NGO in cross-border projects successfully organised the attendance of additional high ranking governmental advisors from Slovakia and Hungary.</p> <p>September 2002 Minister of Informatics and Communication opened the GSDI 6 Conference in Budapest, attracted 55 countries and 5 EU institutes. The meeting was attended also by Mr. Paterman, Director of Research of the DG Research</p> <p>April 2001: at the Expert Meeting of the Parliamentary Committee on Regional Development on the role and importance of GI infrastructure in natural disaster mitigation</p> <p>HUNAGI Forums at GIS/LIS CE (1995, 1996) and in 2004), GIS Day (2000-2002 and in 2004)</p>
7	Ongoing other actions	<p>Promotion activity for strengthening the domestic and European presence at the forthcoming events of Digital Earth, FIG/GSDI8 Conference and the ISPRS WG IV/1 "Spatial data infrastructure" Conference will be held in Hangzhou later this year.</p> <p>Promoting activities related to GMES, Galileo, PSI-ePSInet, eTEN and INSPIRE. SDI Strategy Task Force, definition and implementation of the National Spatial Data Infrastructure, Preparation as needed for the adoption of the INSPIRE Directive with emphasis on its proposed roadmap and timetable.</p> <p>Hosting the Workshop on "EU enlargement – impacts on the land administrations" of the UN Economic Council for Europe, Human Settlements Division's Working Party of Land Administration</p>

1.4 Structure

General Board

General Board, meetings takes place annually. Approves reports on operation, finance, monitoring, as well as strategy updates, action plan, financial plan and agrees with new member applications

Executive Board

Presidential Executive Board operates on continuous basis. Formal meetings take place at least once per calendar year, usually two times. Decides on strategy updates, membership policy, applications and matters as regulated by the Statute, which was updated and accepted by Court decision in August 2002.

Working groups

No permanent committees. Topic-oriented ad hoc task force groups are established when needed. New, municipality-oriented interest group is under preparation. HUNAGI members have been nominated and or recommended to join the GINIE Actions, the INSPIRE Working Groups, the EUROGI Working and Advisory Group devoted to Spatial Data/INSPIRE, GMES/Galileo, e-Content + and many more.

Secretariat

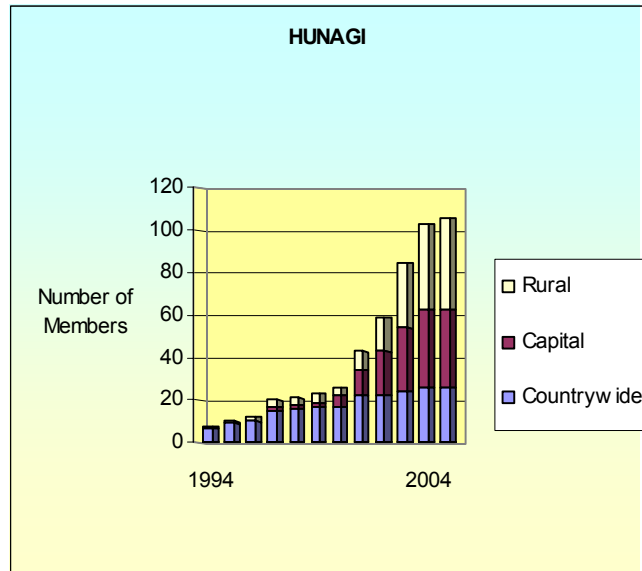
The Secretary General runs the secretariat supported by the Treasurer (both on voluntary basis). Tasks include:

- Adopting and implement membership policy development and direct membership contacts,
- Administration and archive, information gathering, evaluation and dissemination,
- Co-operation development, co-ordination and awareness raising.
- Keep contact with EUROGI and partner (national, regional) GI associations
- Preparing plans, documents, keeps records on activities including photo archive

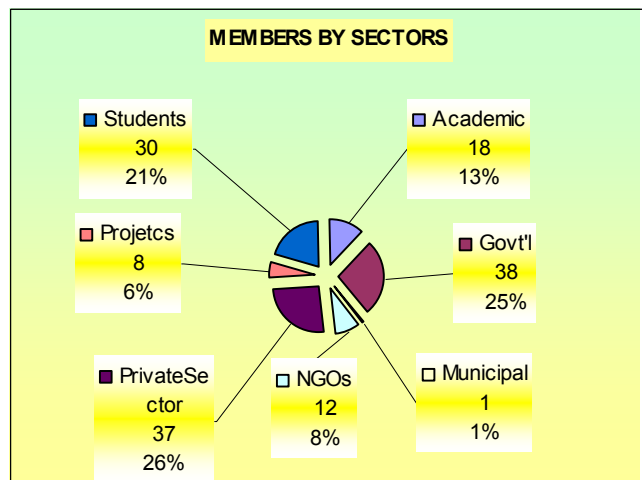
- Provide direct website development with voluntary assistance of members (FOMI, WebHU)
- Three-member Control Committee, elected by the General Assembly keeps control on the overall operation.

Membership

- Categories and number in each category, target groups:
 - Members (including sustaining members, all legal entities): 106 (as of 20 February 2005), Invited observers. Student Division with mentor Prof.Dr.Béla Márkus has additional 30 students as individual member sponsored since 2003 by Geometria and ESRI Magyarország. The managements of 8 countrywide projects are also beneficiary members, all on behalf FÖMI.
 - Sectors: Governmental (34%), Academia (29%), NGOs (9%) and Private Sector (28%).



- Benefits for the members?
 - Forum for representing their interest,
 - Dissemination of GI/GIS related knowledge and information,
 - Directly serves the competitiveness in the European Union
- Is the membership separated in a public and private part and how are they brought together?
 - The only difference is: private sector enterprises belong to the sustaining member category contributing to the activities and operations by higher membership fee. Common interest: developing potentials for public-private partnership.



Partnerships

HUNAGI has strong partnership with HUNGIS Foundation, which was established in 1989 aiming the development of the GIS culture in Hungary. HUNAGI has seat in the Board of Curators of HUNGIS, one of the prime consultant body for the government in GIS. HUNAGI has Memorandum of Understanding with CELKCenter, the Central European Land Knowledge Center since 2003. Recently, similar MoU is intended to sign with the Hungarian Ornithological and Nature Conservation Society as a contribution to the environmentally friendly, sustainable urban/rural development. HUNAGI assisted in voting management for AGILE. HUNAGI keeps excellent contact with the Hungarian Space Office in order to mobilize the private sector's interest towards the exploitation of space research especially in the field Earth Observation and Satellite Positioning and Navigation.

Recently, the EOGEO Foundation expressed its interest to join HUNAGI. EOGEO Hungary Public Foundation is a non-profit organization with the aims to provide backing and technical support to

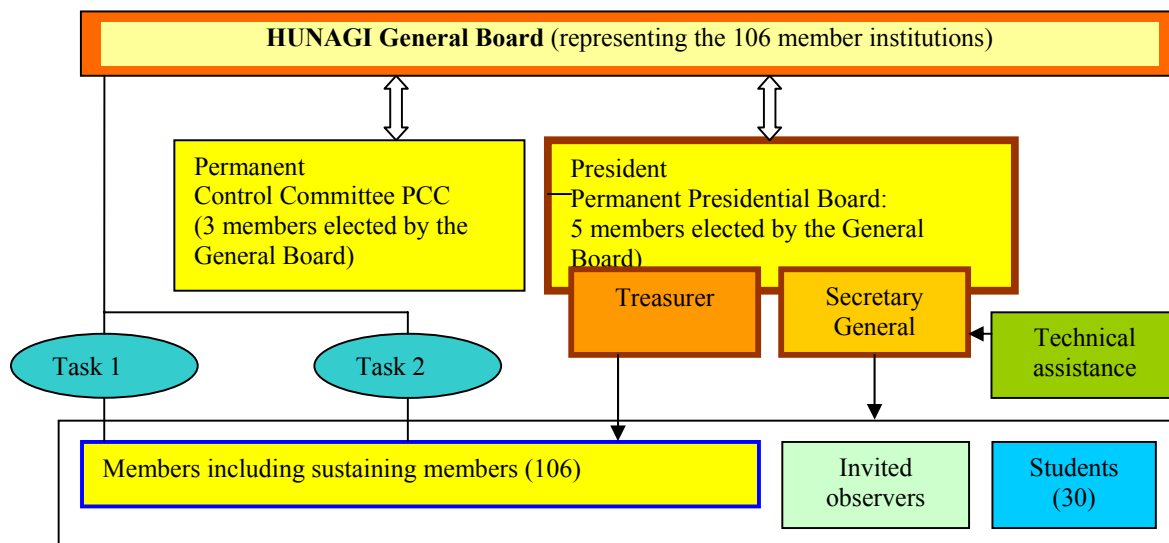
- Educational Institutions
- Government Organizations
- Non-Governmental Organizations (NGOs)
- International Institutions

on IT systems and services developments and provide access data mostly connected to GIS technologies and Environmental Information Systems.

- To create EOGEO Hungary Foundation was a joint idea with EOGEO (exists in U.S.A) www.ogeo.org to create a „Node” under the same name in EUROPE to be able to deliver sustainable GIS tools and software to Eastern European countries and institutions prefer especially the use of open source technologies.
- The EOGEO Hungary Public Foundation in its activity is supposed to represent the ideas formulated by EOGEO by all the means at its disposal and assist EOGEO in realising its objectives across Europe. The two EOGEOs will be associated by a memorandum of understanding and will work together to provide services in Eastern Europe
- EOGEO Hungary is involved with testing and help to develop the NASA / GSFC Global Change Master Directory (GCMD) Software.
 - Oracle Database migration to the open source PostgreSQL database.
 - Master Directory / Local Database Agent testing
 - Assist with the Installation and testing of Master Directory software.
 - Investigating Postgres / PostGIS option usage for geospatial search.
- EOGEO’s plan is to find and be involved open source projects mainly connected to environmental systems and GIS applications, and help to bring open source technology closer to the public and Institutions.

Another relevant development which has to be mentioned is related to the GEOSS, which held its 3rd conference in Brussels recently. The GEO meeting and the 4th GMES in November 2003 was already participated by HUNAGI members representing the Ministry of Environment and Water as well as EUROGI.

Organisational scheme



1.5 Communication

1	Newsletters	Yes	Electronic, 3 per week on specific topics disseminated 150+ addresses (members and VIPs)
2	Bulletins	Yes	Periodic, theme oriented, in English
3	Reports	Yes	Annual, well documented, archived and accessible for the members
4	Web site	Yes	www.hunagi.hu gradually enhanced and reach in content number of visitors have been doubled in every two years So far there are over 27, 000 visitors. Recent increment is 1000+

			per month
5	Magazines	Yes	Regular publications in leading domestic (Geodézia és Kartográfia) and sometimes in international GIS journals (e.g. GIM)
6	E mail	Yes	remeteyfg@posta.fvm.hu (during office hours) hunagi@hunagi.hu (short messages only)

Projects executed by members of HUNAGI includes:

Geodetic reference networks EUREF and UELN
 Active GPS Network
 National Cadastral Programme (full country coverage in vectorised form will be available in 2007)
 Digitised Land Registry and Internet based service
 Nationwide Land Cover (with enhanced CORINE nomenclature and 50 m resolution)
 CORINE Land Cover 2000 (new survey for change analysis and mapping)
 National Topographic Project
 National Orthophoto Database (based on the aerial survey flight taken in 2000, the year and season of the countrywide detailed agristatistical census)
 Area frame sampling based European Land Use Database (with enhanced resolution)
 Administrative Boundary Data
 Geo-referenced address register
 Operational crop monitoring and yield estimation
 Agricultural parcel-based identification and reference system
 Area-based subsidy control with remote sensing
 Local SDI: support for vineyard inventory (to be completed for 22 wine regions)
 Territorial information system
 Forest information and management system
 Nature conservation: GIS support for the National Parks
 Soil database
 Meteorological, applications of GIS and RS
 Climatological modelling, Global Change related assessments
 Water Management, flood mapping, logwater damage mapping
 Precision farming
 Location based services
 Land administration incl. valuation, land use, land protection, land consolidation
 Rural development
 Urban and Regional planning
 Urban data management and utilities related applications
 Cross-border applications in transportation,
 Environmental assessments
 Natural disaster mitigation
 Hazard and risk assessments
 Plant health and soil conservation
 Human settlements and impact analysis
 Air pollution
 Management of non-renewable natural resources
 Advanced documentation of Cultural heritages
 Applications in advanced learning
 Civil protection and defense

Potential resources and backstopping of programmes and projects

eTEN
 e-Content +
 ePSInet

Information Society Technologies
National Development Plan
GMES
Galileo

Conclusion

Digital Earth could provide a mechanism for users to navigate and search for geospatial information – and it is anticipated, the INSPIRE proposal for EU Directive will ensure it in Europe till 2013 in case of many of the core and thematic data listed in its Annexes.

In order to be prepared, the networking of the potential stakeholders (data providers, data brokers, value added product producers and resellers as well as developers, researchers, users (governmental agencies, communities, individuals and the market players of the private sector) is rather important. The role of awareness raising, the education and training should be never underestimated. Communicating, lobbying are inevitable to build bridges between agencies, to establish public-private partnership with the active and committed participation of government, industry and academia. NGOs such as the national GI associations can help a lot to bring the Digital Earth concept into reality in the forthcoming one-two decades.

References:

Gary W. Fuller, 1999 [A Vision for a Global Geospatial Information Network](#)
www.hunagi.hu (with practical unlimited links and on-site search engines effectively applicable e.g. in all cases of abbreviations used in this paper and beyond)
www.eurogi.org

Appendix

General information about the Hungarian national GI association

Name: Hungarian Association for Geo-Information (HUNAGI)
President and Chairman of the Board: Zsolt Sikolya (Ministry of Informatics and Communication)
Honorary President: Miklós Havass (SZÁMALK Shareholding Co.)
Secretary General: dr.Gábor Remetey-Fülöpp (Ministry of Agriculture and Rural Development)
Treasurer: dr.Rezső Berencei (Director, HUNGIS Foundation)
Member of the Board: Zsolt Barkóczy (Town and Regional Development Public Benefit Company)

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