



Hungarian and International Experiences in INSPIRE

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About FÖMI

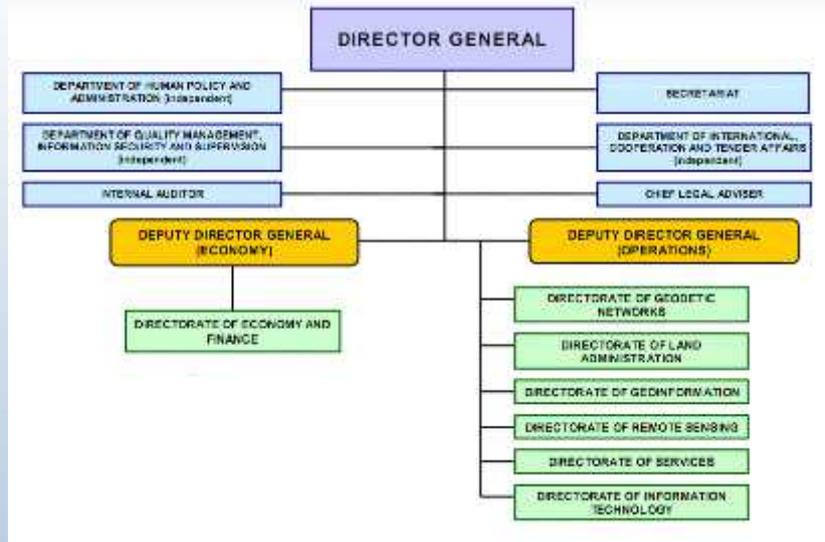


- FÖMI is the Central Land Surveying and Geoinformation Institution of the Government of Hungary under the Supervision of Department of Land Administration at the Ministry of Rural Development
- FÖMI was founded in 1967
- Independently operative and managed institution within the State Budget of Hungary
- Please visit our homepage for more information at:

In fact FÖMI has to pay into the State Budget, but does not receive any financial support from it

<http://www.fomi.hu>

Organization of FÖMI



FÖMI's activities in NSDI & LA I.



- Providing the basis of positioning
 - Geodetic network (traditional and GPS based)
 - R+D on Space Geodesy (VLBI, Geodynamics, Radar Interferometry)
 - Official GNSS Services
 - State Boundary Survey
 - Large Scale (1:10 000) topographic mapping
- Providing the operation and development of LA IT systems
 - Operating the network of LA (TAKARNET)
 - Land Registry Services via TAKARNET
 - Operating of Central Unified Land Registry Database
 - Continuous development of IT systems
- Providing and development of Remote Sensing Applications
 - Operating and development of Land Parcel Identification System
 - Operating and development of CORINE Land Cover Databases
 - R+D on different Agricultural Remote Sensing Applications
 - R+D on Digital Image Processing

FÖMI's activities in NSDI & LA II.



- Central Data Archive and Data Services
 - All geo-related data (including historical documents) are available at Central Data Archive
 - Operating of GeoPortal of FÖMI (<http://www.geoshop.hu>)
 - Continuous development of Services
- R+D activities on GeoInformation
 - Management of Nation-Wide Databases (High-resolution elevation model, Cadastral Database, Topographic Databases)
 - Development of Geoinformation technologies, services
 - Participation in European-wide GIS projects (e.g. GIS4EU, HUMBOLDT, ESDIN, EURADIN)
 - **Management of INSPIRE related activities and databases**
- Educational and international activities
 - Department of Geoinformation technologies of University of West Hungary is working at FÖMI
 - FÖMI has cooperational agreements with the main Universities of Hungary on research and developments and educational activities
 - FÖMI has representatives in the main professional associations (e.g. FIG, IAG, ISPRS, ICA etc.)
 - FÖMI acts as a national representative in EuroGeographics
 - **FÖMI is a Legally Mandated Organization (LMO) in INSPIRE Framework**

FÖMI and INSPIRE



- As an LMO FÖMI reviews deliverables, submitted reference materials, proposed experts and tests data specification
- FÖMI, as one of the greatest actor in NSDI, supports the National Implementation of Directive
- Accepted experts in Thematic Working Groups (TWG) in themes:
 - Cadastral Parcels
 - Orthoimagery
 - Land Cover
 - Elevation
 - Buildings

International Experiences in INSPIRE



Note: The following estimations based my personal experiences in the work of TWG Cadastral Parcels, and TWG Elevation

- **Political issues:**
 - Leaders of TWGs are the Facilitator (the leader in fact) and Editor (responsible for documention delivery)
 - Choosing of Leaders and experts sometimes has not been effective enough (e.g. in TWG Cadastral Parcels there were no experts from German-speaking countries)
 - As in EC, the newly affiliated countries has not as influence as the older members (check members of TWGs)
- **Professional Issues**
 - Usage of a lot of Standards, Recommendations (ISO, CEN, OGC etc.) sometimes has weighted the real professional work (experts have not been professionals in Standards)
 - Sometimes the Directive itself, and the connected Framework and Other documents have not been clear

International Experiences in INSPIRE



- **Concrete Issues:**
 - **Cadastral Parcels**
 - The definition in INSPIRE is very simple: „Areas defined by cadastral registers or equivalent“
 - The large differences in Cadastral Systems all the Europe (French, German and UK systems)
 - The large differences in preparation of digital cadastral data (e.g. France plans to finish digitization in 2017, in Greece cadastral survey is going on etc.)
 - UK has no cadastral maps
 - Result: Very simple model, just with geometry, no legal data inserted
 - **Elevation**
 - Complexity of elevation information (e.g. height, depth, vector and GRID and TIN coverages)
 - Tide referencing
 - Introduction of special objects (e.g. ElevationReference)
 - Topological issues at vector elements (e.g. breaks and contours)
 - Result: A complicated model, but usable (we hope)
 - **Usage of GML:**
 - UML->GML Schema conversion (e.g. Hungary has 7,6 Cadastral Parcels or HUNDEM-5 Database (high resolution DEM) contains 3 942 280 098 points)

Hungarian Experiences in INSPIRE



- **Political Issues:**
 - INSPIRE is an Environmental Initiative, therefore the former Ministry of Environmental Protection (MEP) got the responsibility of INSPIRE
 - MEP translated the Directive and inserted it into the Act on Environmental Protection
 - MEP melt into the Ministry of Rural Development in 2010
 - The last Government rejected the regulation on INSPIRE Committee of Hungary
 - There is only one National Contact Point (Dr. Szabolcs Mihály) who is responsible for the coordination of INSPIRE Directive in Hungary
- **Professional Issues**
 - INSPIRE is an Environmental Initiative, but Annex I and II Themes (so-called reference themes) are better related to Land Surveying, Geodetic Institutions than Environmental ones (except Hydrography and Protected Areas)
 - EC has not and will not finance any INSPIRE related activities, domestic resources are needed for the Implementation

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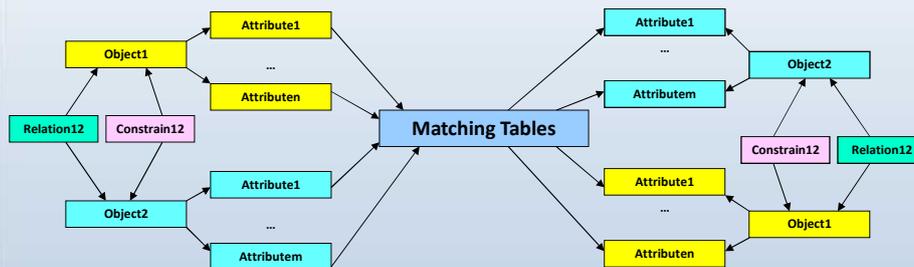
- **Lessons learned:**
 - NSDI is not INSPIRE
 - Identification of Institutions responsible for the different (34) themes is one of the most important task in the Implementation (e.g. Addresses in Hungary)
 - An Overall Coordinator with Competence, Force and Financial sources is required for the successful implementation
 - Coordinated Inventory of existing digital data is also essential
 - Responsible organizations should be addressed institutionally and functionally for INSPIRE
 - Assigning of National INSPIRE Portal is a very sensitive action, but must be done

Experiences in INSPIRE



Note: The below showed example derived from GIS4EU and HUMBOLDT project

- INSPIRE Data Specifications and National Datasets
 - Both INSPIRE and National Datasets defines a schema
 - National Datasets should be translated into INSPIRE schema



Usage of Matching Tables were very successful in both project

Free Softwares are available at HUMBOLDT website

<http://community.esdi-humboldt.eu/>

Conclusions



- INSPIRE is a very important legal regulation, which strenghten the importance of Spatial Data and NSDIs
- Problems and misunderstanding in implementaion should be solved on both European and Member State level
- Member States must invest to NSDI and INSPIRE, but the result makes a better Governance and inspire Spatially Enabled Society (see FIG)

One important fact for the end



„The importance of capacity development in surveying and land administration at the organisational level was usefully quantified in Great Britain (OXERA, 1999) by research that found that approximately £100 billion of Great Britain’s GDP (12.5% of total national GDP, and one thousand times the turnover of OSGB) relied on the activity of Ordnance Survey of Great Britain”

Source: Institutional and Organizational Development. A Guide for Managers. FIG Publication No. 47. pp. 8., 2010. FIG (International Federation of Surveyors)



Thank you for your attention

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See you at: <http://www.fomi.hu>