

State of the Hungarian National Spatial Data Infrastructure

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Ministry of Rural Development

INSPIRE Background

- The INSPIRE directive (2007/2/EC of the European Parliament and of the Council) entered into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2019.
- The INSPIRE directive aims to create an Infrastructure for Spatial Information in the European Community. This will enable the sharing of environmental spatial information among public sector organisations and better facilitate public access to spatial information across Europe.

INSPIRE

The Five General Principles

- Data should be collected only once and kept where it can be maintained most effectively.
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
- Geographic information needed for good governance at all levels should be readily and transparently available.
- Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.

INSPIRE components to be set out

- Metadata
- Interoperability of spatial datasets and services
- Network services
- Data sharing
- Coordination and complementary measures

The common Implementing Rules to be adopted

To ensure that the spatial data infrastructures of the Member States are compatible and usable in a Community and cross boundary context, the INSPIRE Directive requires that common Implementing Rules (IR) are adopted in areas of

- **Metadata,**
- **Data Specifications,**
- **Network Services,**
- **Data and Service Sharing and**
- **Monitoring and Reporting**

Common Reference Spatial Data Sets

INSPIRE Annex I and Annex II

1. Coordinate reference systems

2. Geographical grid systems

3. Geographical names

4. Administrative units

5. Addresses

6. Cadastral parcels

7. Transport networks

8. Hydrography

9. Protected sites

1. Elevation

2. Land cover

3. Orthoimagery

4. Geology

Thematic Spatial Data Sets

INSPIRE Annex III

- 1. Statistical units**
- 2. Buildings**
- 3. Soil**
- 4. Land use**
- 5. Human health and safety**
- 6. Utility and governmental services**
- 7. Environmental monitoring facilities**
- 8. Production and industrial facilities**
- 9. Agricultural and aquaculture facilities**
- 10. Population distribution — demography**
- 11. Area management/restriction/regulation zones and reporting units**
- 12. Natural risk zones**
- 13. Atmospheric conditions**
- 14. Meteorological geographical features**
- 15. Oceanographic geographical features**
- 16. Sea regions**
- 17. Bio-geographical regions**
- 18. Habitats and biotopes**
- 19. Species distribution**
- 20. Energy resources**
- 21. Mineral resources**

INSPIRE Roadmap

– Adaption

– Implementation

INSPIRE European and Member State's Level Management

- European Commission INSPIRE Team, CT (DG Environment, EUROSTAT and JRC)
- INSPIRE Committee, IC (Member States representative body to assist the Commission and to deliver its opinion on the draft Implementing Rules proposed by the Commission)
- Member State Contact Points (MSCP)
- Initial Operating Capability Task Force (Help and support Member States in implementation of services and ensure interoperability with the INSPIRE geoportal, EC)
- Thematic Working Groups, TWG (for detailed execution rules, data specification)
- Member State coordinating bodies/authorities (for the national INSPIRE partitions)
- Data owners/holders in Member States
- Member States bodies as
 - The SDIC, Spatial Data Interest Communities
 - The LMO, Legally Mandated Organizations

Coordination and organisational issues in Hungary (1)

- National Spatial Data Infrastructure Strategy NTIS
 - InfoSo Interministerial coordination Committee,
 - 2005-2006
- Participation in INSPIRE establishing (from 2005) by
 - MoEW (Mr. Bozó P.) and MoARD (Mr. Remetey F.G.)
 - SDIC: HUNAGI
 - LMO: FÖMI, OMSZ, MÁFI, MBFH, ELGI, MoEW
- Driving forces for Hungarian SDI are related to
 - Lands and Mapping, FÖMI
 - Location Based Services
 - Environment (earlier MoEW)
 - Regional Development and Town Planning, VÁTI
 - Hungarian State Geological Institute, MÁFI

Coordination and organisational issues in Hungary (2)

- Official representative and MSCP for Hungary to Brussel
 - MoEW, till May 2010 (Mr. Bozó P., and later Mr. Mikus D.)
 - MoRD. From June 2010 (Mr. Mihály Sz. from Dec 2010)
- More than 40 organizations/stakeholders have been involved by end of 2009, belonging to the ministers responsible for
agriculture, mining, health, energy, forestry, employment, land management, defence, industry, disaster control, environment, public administration IT, transport, culture, education, civil national, security, vocational training, natural conservation, regional development and spatil planning, mapping, water management and central statistical affairs

Coordination and organisational issues in Hungary (3)

- The approach and territorial coverage of the SDI is truly national
- More components of the SDI have reached a significant level of operationality
- Producers and users of spatial data participation in the SDI is not significant
- Only public sector actors participation in the SDI is significant
- Changes in coordinating body, 2010
- Still no common and no full interoperable SDI activity in Hungary

Legal framework in Hungary (1)

- An INSPIRE Directive harmonization amendment to the Environmental Law of December 2008 entered into force on 15 May 2009,
- Government decree 241/2009.X.29 on establishing and operating the National Environmental Spatial Information System was set up, really making possible also the full implementation of the INSPIRE directive.
- Government decision 1176/2009 (X. 26) setting up and clarifying the tasks of the National Environmental Spatial Information Coordinating Committee (NESIC) to support the work of the INSPIRE contact point
- However, the new government in June 2010 revoked the 1176/2009 (X.26) government decision
- A new version of it should be introduced because from that time the only coordination is done by MSCP, only
- There are laws dispersing for different spatial information topics
- The most significant are the law on surveying and mapping, and unified land registry

Legal framework and funding in Hungary (2)

- **Licensing framework** is existing in a partial way, there is no uniformity, unfortunately
- **The pricing policy** is diversing all over the country, some professional areas are working well, the best practice is working in surveying and mapping area, no uniform approach exists on Member State level
- **Funding** is ministerial dependent, sometimes occasional, sometimes well planned
- For the INSPIRE Member State duties performance some budget has been devoted for a geoshop development in FÖMI (with successful realization) and for an environmental geoportal example to be widened nationally (it become successful project starting this mounth, only!!!!!!)

INSPIRE Data Set existence in Hungary (1)

- All the Common Reference Spatial Data Sets listed in the INSPIRE Annex I and Annex II exist (not full for addresses)
- A non-exhaustive list of the Thematic Spatial Data Sets of the INSPIRE Annex III are as follows
 1. TelR, a Territorial Information System covering the whole of Hungary (owner: VÁTI, a settlement planning institution);
 2. Budapest Base Map in 1:25.000 scale (owner: Topolisz Ltd.);
 3. Population Census Data of Hungary (owner: KSH, Central Statistical Office);
 4. Digital geological maps (Zala County Complex Database, Minor Plain Database, Paks Atomic Energy Plant Geological Database, Geology of Budapest, Uniform Geological Digital Database, River Danube Geological Database), (owner: MÁFI, a Hungarian State Geological institute);
 5. Soil Scientific Database of Hungary (owner: TAKI, a Soil research institute);
 6. Settlement Addresses Database (owner: Geogroup Infograph Ltd.);

INSPIRE Data Set existence in Hungary (2)

7. OTAB as a 1:200.000 scale digital geographical map database (owner: Geometria Ltd.);
8. Budapest-4.000 database (owner: Infograph Ltd.);
9. Budapest CD Atlas (owner: Cartographia Ltd.);
10. HALIS database of the Budapest water supply (owner: Budapest Water Works Company);
11. Database of the Optical Backbone Network of Hungary (owner: MATÁV);
12. KIR and KÖFIR electric supply database (owner: Budapest Electric Works Company);
13. TIGÁZ database on gas supply;
14. Voting District Database (owner: the Gallup Institute);
15. Environmental Protection Sample District of the Lake Balaton and the Hortobágy;
16. Local Government Managing and Geoinformation systems for the settlement Zugló, Szombathely, Debrecen, Hajdúszoboszló, Nyíregyháza, Pilis, Orosháza, Szeged, Pécs;
17. Budapest Green Area Cadastre.

INSPIRE Data Set existence in Hungary (3)

As for indication we can state for Hungary that

- Geodatasets exist which provide a basis for contributing to the coverage of pan-Europe for the INSPIRE-selected data themes and components
- The geodetic reference system and projection systems are standardised, documented and interconvertible
- There is a documented data quality control procedure applied at the level of the SDI (selected institutional level)
- Concern for interoperability goes beyond conversion between different data formats (Partially)
- The national language is the operational language of the SDI
- English is used as secondary language

Metadata state of the art in Hungary (1)

- **Metadata catalogues availability**

- A metadata catalogue is available at FÖMI since 1997. It is organized according to the DAT-standard (MSZ7772-1:1997 Digital Base Map) based on ISO TC211 and CEN TC 287
- The Geological Institute of Hungary: METATER = DUBLIN-core
- Prime Minister's Office: KIKERES = DUBLIN-core

- **As indicatory**

- Metadata are produced for a significant fraction of geodatasets of the themes of the INSPIRE annexes
- More standardised metadata catalogues are available covering more than one data producing agency (Partially)

Metadata state of the art in Hungary (2)

1. Coordinate reference systems	no need	FÖMI
2. Geographical grid systems	no need	Defense
3. Geographical names	for 1 data set	FÖMI
4. Administrative units	for 1 data set	FÖMI
5. Addresses	partial existence	-
6. Cadastral parcels	for 1 data set	NCProgr.
7. Transport networks	for 30 data sets	15 organizations
8. Hydrography	for 8 data sets	VKKI
9. Protected sites	for 5 data sets	2 organizations

Metadata state of the art in Hungary (3)

1. Elevation	3 data sets	FÖMI
2. Land cover	1 data set	FÖMI
3. Orthoimagery	5 data sets	FÖMI, MVH
4. Geology	23 data sets	14 organizations

Network Services in Hungary (1)

As indicator

- There are more discovery services making it possible to search for data and services through metadata
- There are more view services available for to visualise data from the themes of the INSPIRE annexes
- There are more on-line download services enabling copies of datasets
- There are more transformation services enabling spatial datasets to be transformed to achieve interoperability
- There are middleware services allowing data services to be invoked

Standards in Hungary

- General requirements on military digital topographic maps, 1996;
- Hungarian GIS data exchange standard, 1997;
- MSZ 7772-1:1997 Digital Base Map. Conceptual model (DAT standard)
- MSZ 7772-2: 2000 Definition of digital topographic database
- The SDI-initiative is devoting significant attention to standardisation issues

Status of Last Year Actions in Hungary

- Metadata for Data Sets of Annex I and II, Dec 2010, Done, exception of addresses
- Initial Operating Capability Task Force, Hungarian representation is close to final decision (end of April 2011 is over)
- Monitoring for Data Sets of Annex I, II and III is done end of May (after 15 of May, 2011)
- Member State central geoportal to be used for the EC Geoportal – not ready, still a fractional approach can be available (deadline 15 of June 2011)
- INSPIRE maintenance preparation, in progress
- Participation on the INSPIRE Conference, June 27-July 2, 2011, Edinburgh

Matter of Excellence in Performances in Hungary

The Data Set+ Metadat+Services

(Discovery, View, Download, Transformation, Invoke Services)

- TAKARNAT24, a unified cadastre on-line data supply, nationwide geoportal
- Geoshop, a reference core data supply, nationwide geoportal
- Geological data supply, nationwide geoportal
- OKIR, National Environmental Information

Thank you for your attention

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