

Twelfth session of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), 3 - 5 August 2022



**GEOSPATIAL INFORMATION MANAGEMENT
COUNTRY REPORT OF HUNGARY 2022.**



Submitted by the Hungarian delegation of the UN GGIM 2022, **Balázs Tóth JSD** (Prime Minister's Office) Head of GGIM Delegation, **László Lippmann** (Prime Minister's Office) expert and coordinator of GGIM Delegation

RESPONSIBILITIES

1. MINISTERIAL POWERS THAT MANAGE THE MOST IMPORTANT TASKS RELATED TO STATE SPATIAL DATA.

1.1. Prime Minister's Office

The Prime Minister's Office (PMO) is the body appointed to manage the government's geodesy, remote sensing, GIS and land registration tasks. PMO is responsible for the operation of the legal and organizational framework of the field. It oversees the public authority for land surveying and remote sensing in Hungary (Lechner Nonprofit Ltd.). Keeps in touch with actors of the Hungarian professional universitys, develops state professional concepts and represents the GIS field on international arenas. PMO is the Hungarian Contact Point to coordinate the implementation of the EU INSPIRE directive. PMO oversees the Earth Observation Information System (FIR) operated within the framework of the domestic government.

1.2. Ministry of Agriculture

Manages the tasks of Hungarian agricultural cartography, defines environmental protection pollutants emissions, surface and ground water and nature protection geospatial databases.

1.3. Ministry of Interior

Manages the state tasks of the registers of water and disaster management.

1.4. Ministry of Foreign Affairs and Trade

Is the dedicated entity responsible for space research and space activities, that serves as space agency of Hungary. It maintains contact with the European Space Agency (ESA), contributes to the acquisition of satellite remote sensing data, and develops the Hungarian Space Strategy.

1.5. Ministry of Defence

Manages the military mapping tasks and databases of the defense sector.

2. GOVERNMENT BODIES, BACKGROUND INSTITUTIONS

2.1. Hungarian Central Statistical Office (KSH)

Management and publication of Hungary's Public Administration Place Name Book and Place Directory, management the spatial data of census, creation of public administrative areas and spatial databases, planning maps and regional statistical GIS analysis.

2.2. Lechner Knowledge Centre Nonprofit Ltd. (LTK)

The public authority for land surveying and remote sensing in Hungary (former: FÖMI) is Lechner Tudásközpont Nonprofit Kft. [Lechner Knowledge Centre Nonprofit Ltd.]. Supervisory governmental

authority is the Prime Minister's Office since 2019. LTK is Hungary's largest spatial data asset management organization, the tasks cover the following:

LTK operates and develops the Hungarian land registry system (TAKARNET), maintains the cadastral map database. LTK supervises the horizontal and vertical control point network, performs the geodetic tasks of the state border, maintains and develops the Satellite Geodetic Observatory and the domestic GNSS reference network (*GNSSnet.hu*). Manages aerial photography and other remote sensing databases, performs the photogrammetry tasks, operates the Operational Center of the Earth Observation Information System (FOK). LTK operates the *fentrol.hu* Digital Aerial Photo Archive web service. Geodata are served WMS or WMTS, web-based services and web applications. LTK provides background services for regional and urban planning research.

2.3. National Land Centre

Hungary's most important state administration body for agricultural mapping. It maintains the geospatial records of our country's forest database, develops a spatial database related to irrigation development, conducts research, operates - in cooperation with the Hungarian State Treasury - the LIPS (MePAR) system of our country's EU area-based agricultural support, interprets data in geospatial and remote sensing, and checks eligibility.

2.4. General Directorate of Water Management

Management of spatial data of central water databases (rivers, lakes, water bodies, canals, etc.), water registers, water management systems, and water protection information.

2.5. Supervisory Authority of Regulated Activities

It performs the tasks of the former MBFSz Mining and Geology Service. It manages Hungary's mining records and manages geological, hydrogeological and soil GIS databases.

2.6. Herman Otto Institute Nonprofit Ltd.

Participates in the survey and registration of Hungarian conservation entities, the delimitation of nature conservation databases, and the management of environmental data.

2.7. MH-GEOSZ and MH Zrínyi Nonprofit Ltd.

They provide cartographic support for Hungary's national and NATO military tasks, they provide the full-scale geoinformation service for the defence sector.

3. Umbrella organizations that also affect geospatial specialized area in Hungary:

3.1. Hungarian Drone Coalition

Drone Coalition is an umbrella body on UAV sector that groups stakeholders of government organizations, background institutions, academic and scientific organizations and industry actors.

3.2. Artificial Intelligence Coalition - AI Coalition

AI Coalition is the professional and consultation forum of the artificial intelligence ecosystem, which created Hungary's Artificial Intelligence Strategy

4. LAND SURVEYING, MAPPING STATE TASKS AND THE BASIC STATE DATA ARE REGULATIONS DEFINED IN ACT XVI OF 2012 ON SURVEYING AND MAPPING ACTIVITIES.

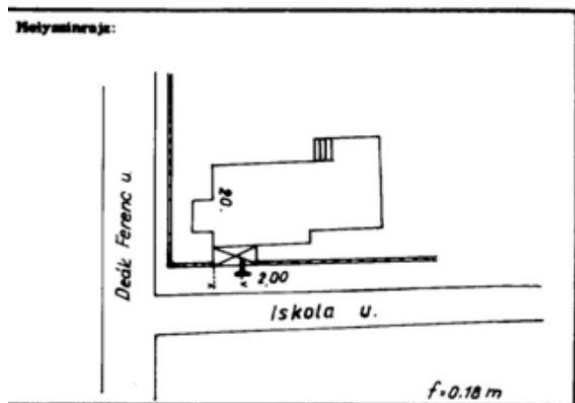
4.1. Based on the law, state basic data are the following:

a) the state border database,

Hungary's 2215 km long state border is marked by 23,000 border markers in nature.

b) databases of base point network points,

Horizontal Base Points Database (VAB) 58,000 pcs, Elevation Base Points Database (MAG) 27,700 pcs



(MAB)

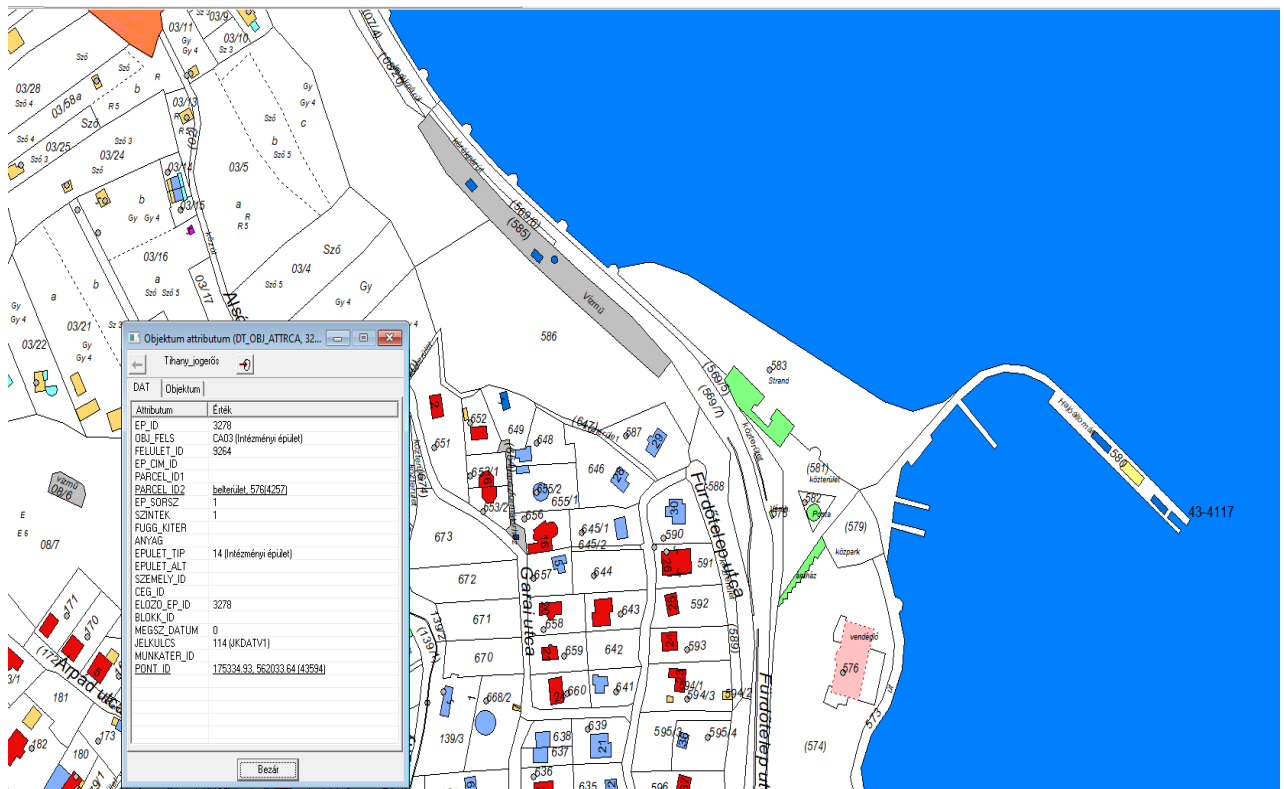


(VAB)

c) the state land survey base map database,

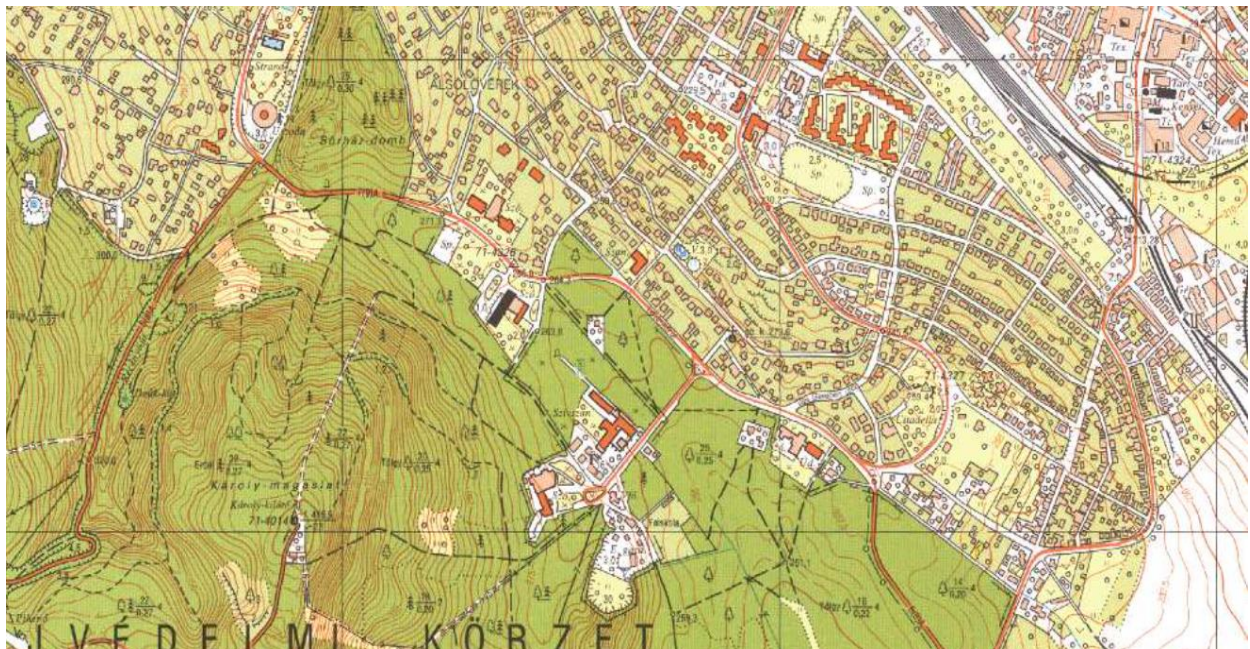
d) the state land register map database,

Number of cadastral parcels currently: 8,4 million. From 2003 online Land Registry Services (TAKARNET) is available. In 2009 has started the new integrated IT system (DATR) for legal and cadastral map data management.



real situation DATR screenshot

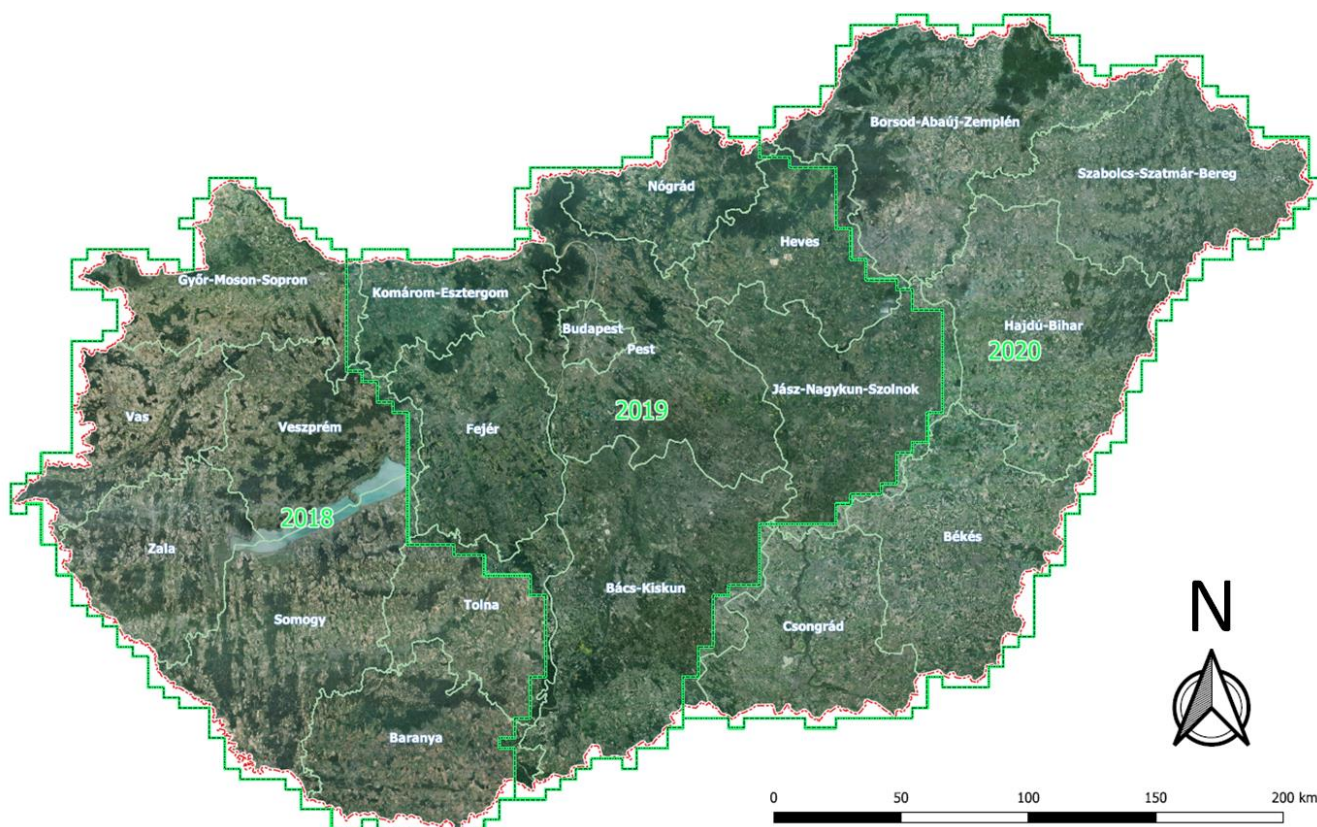
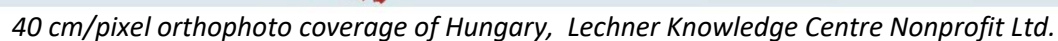
e) state topographic map databases,



cut-out excerpt from the topographic map M 1:10 000

f) state remote sensing databases,

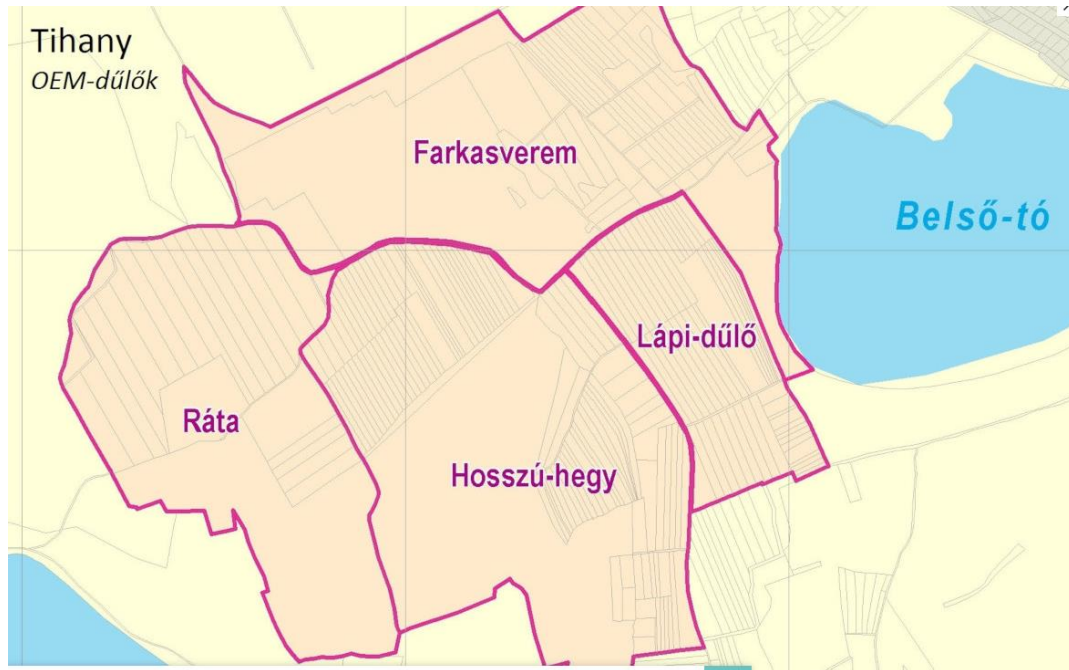
20 cm/pixel orthophoto coverage of Hungary, Lechner Knowledge Centre Nonprofit Ltd.



g) national defense map databases,

h) the Geographic Names Database

Hungarian Geographical Names Gazetteer (FNT1, Contains 80,000 records)



geographical names in VINGIS / National Land Centre

i) databases of archival analog and digital map data.

5. EARTH OBSERVATION INFORMATION SYSTEM (FIR)

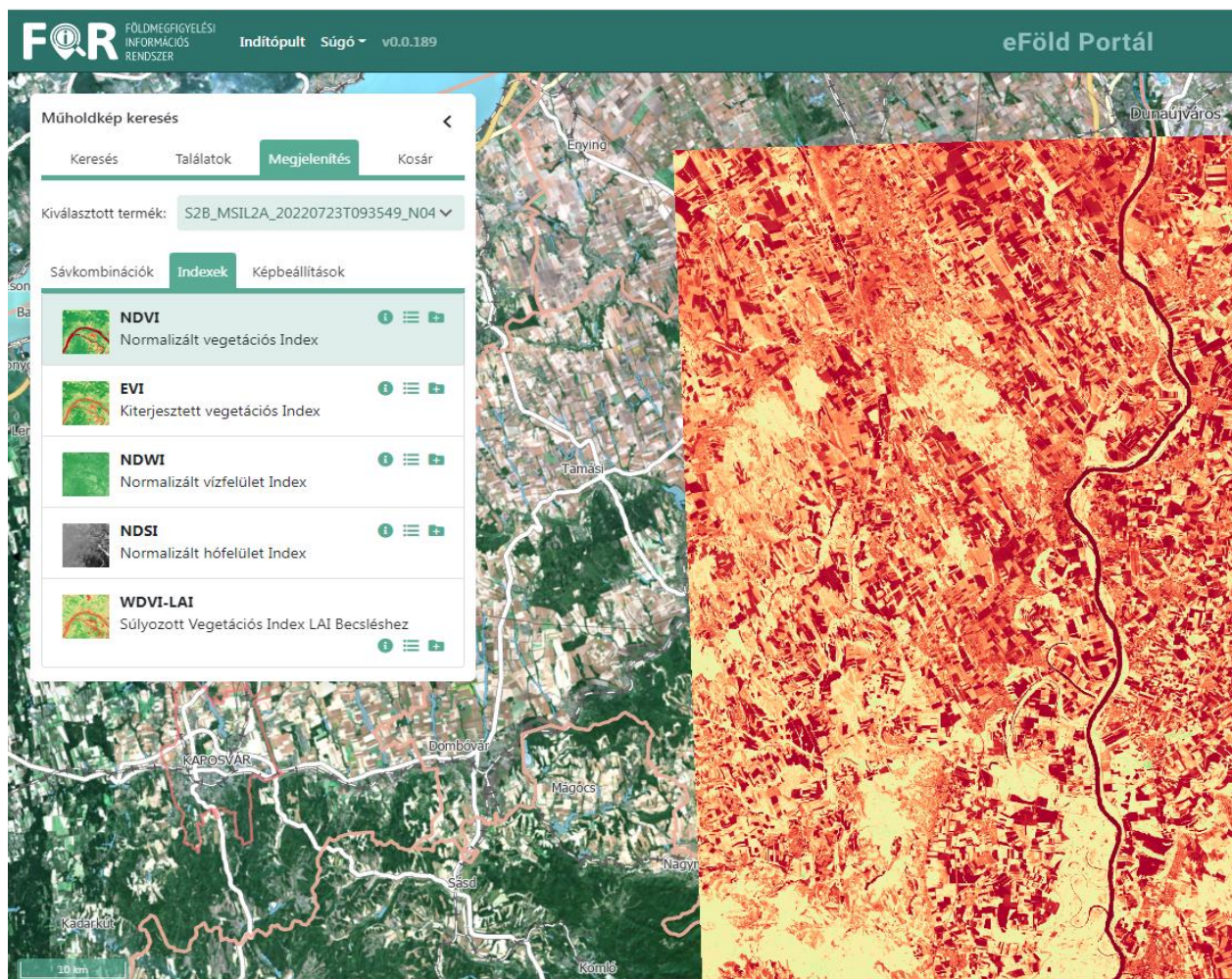
Earth Observation Information System (Földmegfigyelési Információs Rendszer- FIR) is an observation data infrastructure system and services. Supervisory governmental authority is the Prime Minister's Office, the Earth Observation Operational Center is professionally operated by LTK.

FIR is a central enterprise data warehouse based on satellite remote sensing data for the storage, analysis and free download of satellite images of the Copernicus, creating an "e-Earth" interface from the visual data. The scope of use of the data covers agriculture, forestry, environmental protection, disaster prevention, water affairs, the university sector, etc. area.

The FIR provides Hungary with an extensive geoinformation analysis capability, which is currently available for the Sentinel-1, Sentinel-2, Sentinel-3, Sentinel-5P layers.

The completed recordings are pre-processed and appear in the system in the shortest possible time. In addition to basic data, calculated indices (NDVI, NDWI, EVI, NDSI, WDI-LAI) can also be downloaded.

Availability of FIR: <https://efold.gov.hu/>



<https://efold.gov.hu/#Indexes>

6. HUNGARY AND THE UNITED NATIONS GROUP OF EXPERTS ON GEOGRAPHICAL NAMES

Legal basis of work of the Hungarian Committee on Geographical Names (HCGN): *Gov. Decree No. 303/2007. (XI. 14.)*. Supervisory governmental authority: Prime Minister's Office since the middle of 2019.

Hungary takes an active role in the United Nations Group of Experts on Geographical Names (UNGEGN) and in the regional Division East Central and South-East Europe (ECSEED).

Hungary attended the 2021 UNGEGN online conference with 5 delegates, to which he also sent his country report. ECSEED, which has been meeting since 2022 under the chairmanship of the Czech Republic, is an active participant of our country, and at its 2022 meeting in Prague, 5 people participated on behalf of the Hungarian Geographical Names Committee.

The Hungarian Geographical Names Gazetteer (FNT1, *.shp and *.dxf) contains a total of 40 types of geographical names. It includes the names of settlements, parts of settlements, landscapes, nature conservation areas, vineyards, forests, topography and hydrographic names, the names of notable points on the map (e.g. ruins, lookouts, castles), and the names of some transport objects.

The public authority for land surveying and remote sensing in Hungary is the Lechner Tudásközpont Nonprofit Ltd. - responsible for Database Gazetteer of Hungary.

Official website of HCGN: <https://kormany.hu/miniszterelnokseg/foldrajzinev-bizottsag>

2021. UNGEGN Hungarian country report:

https://unstats.un.org/unsd/uneggn/sessions/2nd_session_2021/documents/GEGN.2_2021_CRP119_4a_Hungary.pdf

2022. ECSEED Hungarian country report:

http://ecseed.zrc-sazu.si/Portals/22/26%20session/reports%20doc/ECSEED_National_report_Hungary_2022.pdf

7. INSPIRE

The overall objective of Directive 2007/2/EC (INSPIRE) is to establish a European spatial data infrastructure for the purposes of EU's environmental policies and policies or activities which have an impact on the environment.

Sectoral organisations are responsible for INSPIRE Data themes. In 2016, the INSPIRE national metadata portal was created. Metadata for the various datasets are available on the portal, with in some cases view and download services or links to other portals where the data are hosted.

The national geoportal built with open source software containing metadata for geospatial dataset.

Hungarian Geoportal: <http://inspire.gov.hu>

Environmental data portal operated by the Ministry of Agriculture providing data on waste management, air pollutants emissions, surface and ground water and nature conservation. Includes view, search services, no direct connection to Geoportal.

OKIR – National Environmental Information System: <http://web.okir.hu/en/>

Geoportal under the Lechner Nonprofit Ltd. Contains the National cadastral (land registration) map database, elevation data, Land Cover Database, aerial photos, orthophotos, topographic maps. Data are accessible for a fee.

Geoshop.hu: <https://geoshop.hu/>

The Hungarian National INSPIRE Contact Point operates within the organizational framework of the Prime Minister's Office. In the future, the PMO will strive to ensure that the most complete data ranges into the missing data layers as coordination tasks of the INSPIRE spatial data.

8. DEVELOPMENTS, REFORMS:

E-Land-register Project (eING)

The complex development the hungarian land administration

Main goals of eING project is the rising the general IT security level unified IT system to the land registry, cadastral maps, land use registration, farmer register and land protection procedures. E-ING integrates the BIIR, TAKAROS, DATR and DATEView currently systems.

Covering all spectrum of electronic administration and procedures:

- To accept the electronical Application
- Managment of digital documents
- Online, real time connect with other registers
- Digital support to decision preparation and delivery
- Online data servicing
- Online payment solutions for all procedures

Special goals to be achieved:

- Automatic decision making
- Cadastral map: display the map drawing of buildings below and above each other