

# For implementation and monitoring of SDGs using Geospatial/EO data first engage the stakeholders

## Sharing some challenges - the Hungarian case

PRESENTED BY GÁBOR REMETEY-FÜLÖPP  
DELEGATE OF THE HUNGARIAN SPACE OFFICE TO THE GEO XV  
NATIONAL GEO CORRESPONDENT

CO-AUTHORS:

MFTTTT's GI/EO4SDG TEAM LEAD BY HON.PROF.SZABOLCS MIHÁLY PhD  
DÁNIEL KRISTÓF PhD, BFKH FTFF (earlier: FÖMI)

CONTRIBUTORS:

FERENC HORVAI, HSO  
ZOLTÁN ZBORAY, MoIT

Hungarian contribution to the GEOEO4SDG Side Meeting on Earth Observations in Service of the 2030 Agenda for Sustainable Development: Scaling Successful Practices  
Kyoto International Conference Center, GEO Week 2018, Kyoto, Japan, 29 October, 2018



**About the Hungarian Space Office (HSO) and the National GEO Board**

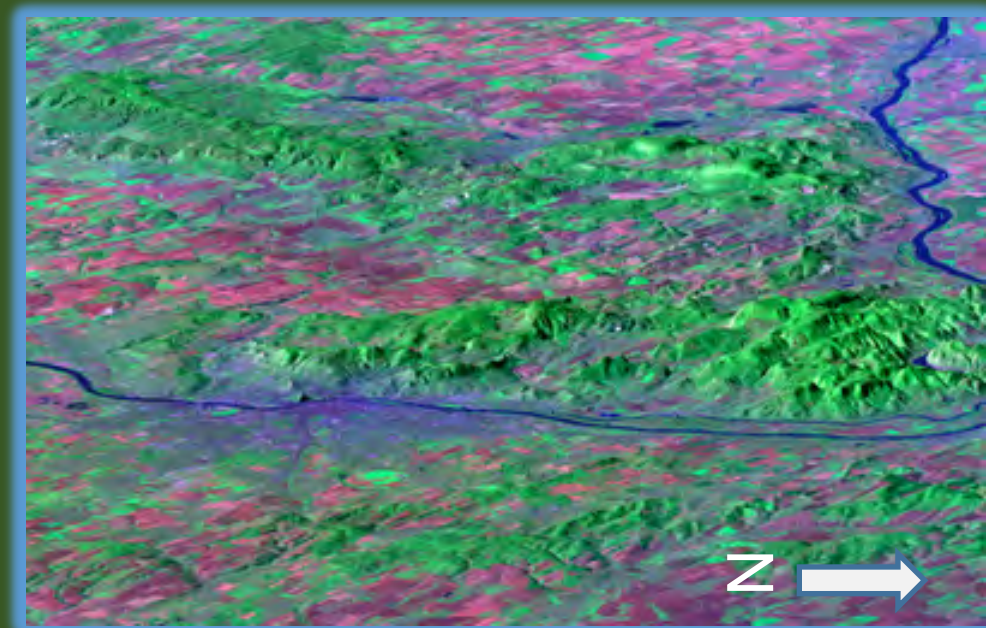
**Promoting the potentials and challenges related to the use of GI & EO to support the achievement of the UN SDGs**

**Selected operational monitoring programs using EO data and some key players from the academia**

**State Earth Observation Information System**

**Conclusions**

**Selected references**



SRTM-based high-resolution Digital Terrain Model of central part of Hungary Cover photo of the Geocarto International Vol 28 No 1-2, Feb-April 2013.

(Special Issue Remote Sensing and GIS in Hungary)

# About the Hungarian Space Office (HSO) and the National GEO Board in the GEO Context

CONTRIBUTORS:

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ZOLTÁN ZBORAY, MoIT

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# News on the Hungarian Space Office (HSO)

Established in 1992, HSO continues its work in the Ministry of Foreign Affairs and Trade as its Department of Space Activity.

Considering the role of the geospatial/EO information systems and services as infrastructural backbone in frameworks as the accomplishment of the UN 2030 Agenda, HSO is interested to take part in the work of EO4SDG

Hungarian National GEO Board members include Principal I. Erényi, Deputy principal Z.Zboray both with Ministry of Innovation and Technology (earlier Ministry of National Development), Correspondents Gy. Iván of BFKH FTFF (earlier FÖMI), Gy. Szabó (HUNAGI) and G.Remetey-Fülöpp (delegated to GEO XV by HSO)

Illustrations reflect the participation of the Hungarian Governmental Organisations at GEO Plenaries and Ministerial Meetings

HUNGARY AT THE GEO MINISTERIAL  
CAPE TOWN (2007)



HUNGARY AT THE GEO MINISTERIAL  
BUCAREST (2008)



HUNGARY AT THE  
GEO MINISTERIAL  
BEIJING (2010)

HUNGARY AT THE GEO PLENARY  
FAZ DE IGUAZU (2012)



HUNGARY AT THE GEO  
MINISTERIAL GENEVA(2014).



HUNGARY AT THE  
GEO PLENARY  
WASHINGTON DC  
(2017)  
PICTURE N.A.



# The Hungarian National GEO Board

Hungarian National GEO Board member participated in GEO/SD-related events (Delegated by GSDI, represented also HUNAGI)



FIRST MEETING OF THE HUNGARIAN NATIONAL GEO BOARD (2006)



CAPE TOWN (2007)



BUCAREST(2008)



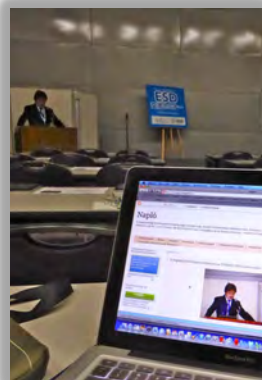
BEIJING (2010).



FOZ DE IGUAZU (2012)



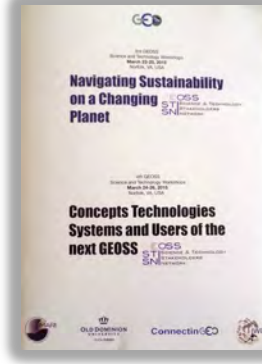
GENEVA (2014)



UNESCO EDU4SD NAGOYA (2014)



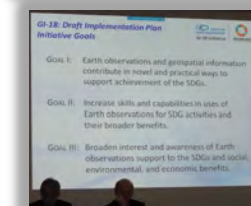
GEO WS NORFOLK (2015)



MEXICO CITY (2015)



GEO WP GENEVA (2016): GI-18



ST:PETERSBURG (2016)



# Promoting the potentials and challenges related to the use of Geospatial Data and Earth Observation for support the achievement of the Sustainable Development Goals

AUTHORS: MIHÁLY SZ., PALYA T., ZENTAI L., REMETEY-FÜLÖPP G.

ALL ARE MEMBERS OF THE  
HUNGARIAN SOCIETY OF SURVEYING, MAPPING AND REMOTE SENSING (MFTTT)

Hungarian contribution to the GEOEO4SDG Side Meeting on Earth Observations in Service of the 2030 Agenda for Sustainable Development: Scaling Successful Practices  
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## The context

On 25 September 2015 world leaders in the UN General Assembly agreed to a definitive plan called the UN 2030 Agenda by adopting 17 Sustainable Development Goals (SDGs)

**"For the SDGs to be achieved, everyone needs to take Action"**

In Hungary, an Ad-hoc Team of the Hungarian Society of Surveying, Mapping and Remote Sensing MFTTT has been mandated to promote the potentials and challenges related to the use of Geospatial Data and Earth Observation for support the achievement of the Sustainable Development Goals

The early achievements have been reported to the UN SDG Action Campaign, the Global Day of Action on 25 September 2018



action partner

# WE #ACT4SDGs

JOIN THE GLOBAL DAY OF ACTION ON 25 SEPT ACT4SDGS.ORG

Hungarian Society of Surveying, Mapping and Remote Sensing is Partner of ACT4SDGS.ORG

[http://act4sdgs.org/partner/HU\\_MFTTT](http://act4sdgs.org/partner/HU_MFTTT)



## MFTTT GI/EO4SDG - Who we are?

Members of the Hungarian Society of Surveying, Mapping and Remote Sensing (MFTTT) formed an ad-hoc team to raise awareness on the opportunities and challenges in access and use the EO/geospatial data for Sustainable Development Goals and to strengthen the engagement of stakeholders



Hon. Prof. Szabolcs MIHÁLY PhD, 1943, recently retired. Last positions: Director, Institute of Geodesy, Cartography and Remote Sensing, Hungary (1997-2010); Hungarian delegate to INSPIRE of European Commission (2011-2012)



Tamás PALYA, 1974, Government Office of the Capital City Budapest, Department of Geodesy, Remote Sensing and Land Offices (BFKH FTFF) Vice-chair of QKEN (Quality Knowledge Expert Network) at EuroGeographics; Hungarian member of the INSPIRE Maintenance and Implementation Group.



Prof. László ZENTAI PhD, DSc., 1959, Department of Cartography and Geoinformatics, ELTE Eötvös Loránd University, Budapest. Last positions: Secretary-General of the International Cartographic Association (2011–), Vice-Rector of ELTE Eötvös Loránd University (2007–2010; 2017–), Council member of the International Orienteering Federation (2006–), Head of the Department of Cartography and Geoinformatics (2005–).



Gábor REMETEY-FÜLÖPP Dr, 1944, retired, National GEO correspondent (2006-) Last positions: Chief Counsellor, Department of Land Administration at Ministry of Agriculture (1986-2007), Secretary general, Hungarian Association for Geo-information (1994-2015), Delegated by GSDI, since 2018 by HSO to GEO plenaries (2008-2018) and to CEOS WGISS (2006-2018)



2015

**BACKGROUND:** The Multi-stakeholder partnerships are part of the Sustainable Development Goal 17. The Resolution 70/1 of the UN General Assembly describes the related tasks:

„17.16 **Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships** that mobilize and share knowledge, expertise, technology and financial resources, **to support the achievement of the Sustainable Development Goals in all countries**, in particular developing countries

17.17 **Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships**”

**SELECTED ACTION:** **Accomplishment of the ‘Engagement of Stakeholders’ Campaign in Hungary**

2016-18

After 4 months of preparation, in March 2017 an awareness raising campaign was launched by volunteers of an ad-hoc team of MFTTT in line with the priorities of the 71th Session of UN, where to start to strengthen the momentum for SDGs implementation

**”On the first place: raising the global public’s awareness of the critical importance of SDG implementation.**

**Now, the best start is to begin it with awareness raising to engage the stakeholders”**

(Commitment of the President of the 71th Session of UN Mr. Thomson on 13 September 2016)

# Awareness raising - Aims

Increasing the engagement of stakeholders of the EO/Geospatial community for the implementation of the UN 2030 Agenda in Hungary

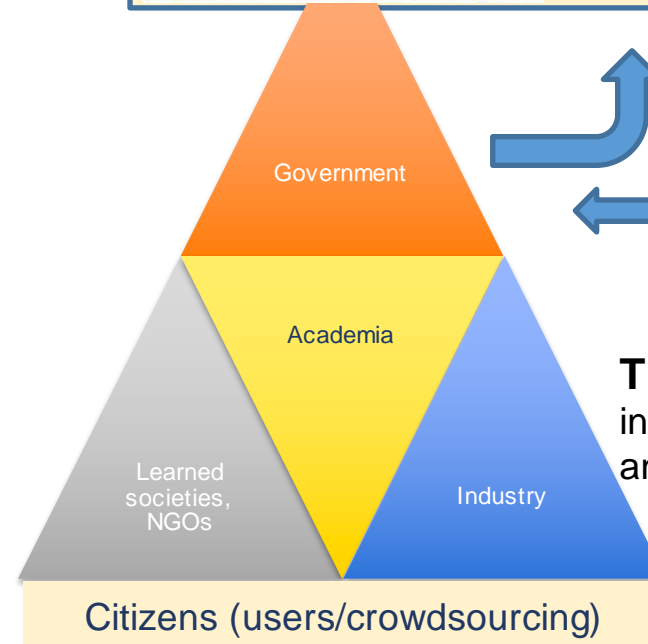
Delivering presentations related to EO/GI4SDGs at the GI/EO community and interdisciplinary fora

Promoting the access and use of EO/Geospatial information and Spatial Data Infrastructure for the accomplishment of Sustainable Development Goals

Promoting the potentials of use of GI/EO in informed decisions in other global agreements and frameworks

Forging links with initiatives, organisations and agencies in the context (UN GGIM, GEO EO4SDG, CEOS)

Sharing and exchange of experiences of the actions



GEO EO4SDG  
CEOS EO4SDG  
FIG GI4SDG  
...

Guidelines

**The stakeholder's triangle**  
in target and indicator monitoring  
and national reporting

Land Water Urban Vegetation Forestry etc

Enabling interoperable infrastructures:  
**EO Information system and services**  
**National Spatial Data Infrastructure**  
**Official statistical information System**  
 Related capabilities: in data acquisition, processing, analysis, data discovery and access, visualization, preservation and stewardship  
 innovative technology exploration & exploitation

Needs:  
 Partnership  
 Cooperation  
 Data integration  
 Legislative Framework  
 Data policy  
 Capacity building  
 Financing

## Actions on Domestic and Cross-border events

### **Day of the European Surveyors and Geoinformation**

Budapest, 22 March 2017/ (Mihály et al, 2017a)

Surveyors, GI experts policy makers, market players, professors, students, members of civil societies **180 pers.**

### **GIS Open 2017**

Székesfehérvár, 11-13 April 2017/ (Mihály et al, 2017b)

Land Administration, experts in surveying, mapping, remote sensing, geoinformatics; professors, students, researchers **150 pers.**

### **18th Meeting of Transylvanian Surveyors, EMT**

Tusnádfürdő, 18-21 May 2017/ (Mihály et al, 2017c)

A cross-border event. Geodesists, surveyors, experts in cadastre and geoinformatics, private sector of Transylvania and Hungary **140 pers.**

### **7th GIS Conference and Exhibition**

Debrecen, 25-26 May 2017/ (Palya et al, 2017)

Experts in geoinformatics and remote sensing, professionals of higher education, policy makers, civil servants **150 pers.**

### **31st Bi-annual Roving Conference of MFTTT**

Szekszárd, 6-8 July 2017/ (Mihály et al, 2017d)

Experts in land administration, surveying, mapping, remote sensing, geoinformatics; Policy makers, civil societies' members **192 pers.**

### **Mini Conference, 70th Anniversary of Prof. B. Márkus**

Székesfehérvár, 11 July 2017/ (Mihály, 2017)

Experts in geoinformatics from universities, students, private sector, governmental agencies and civil professionals **35 pers.**

### **Fény-Tér-Kép (Light-Space-Image) Conference**

Gárdony, 12-13 October 2017/ (Mihály et al, 2017e)

Experts in photogrammetry, remote sensing, Earth Observation, image processing and geoinformatics/ **100 pers.**

### **Meeting with SD representatives of the National University of Public Service**

Budapest, 7 November 2017/ (Mihály et al, 2017f)

Experts in Good State/Governance, efficiency indicators, **4 pers.**



## Actions: on Domestic and Cross-border events

### Day of the European Surveyors and Geoinformation

Budapest, 21 March 2018

(Mihály et al 2018a)

Surveyors, experts in EO and geoinformatics; market actors, students, professors, students, members of civil societies **130 pers.**



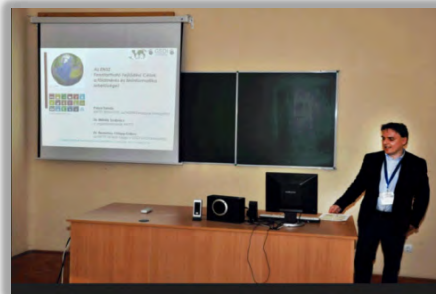
Szabolcs Mihály lead of the MFTTT GI/EO4SDG Team

### 7th Conference of the Zielinski Szilárd Civil Engineering College

Budapest, 4 May 2018/ (Palya, 2018)

Students of Civil Engineering Faculty, Budapest University of Technology and Economics

Higher education faculty professionals, students **30 pers.**



Tamás Palya, member of the MFTTT GI/EO4SDG Team

# Sharing, exchange and outreach

Publications in magazines/scientific journals, on websites and social media platforms, targeted communities

**GIM International Magazine's Insider's View/ September 2017/ ((Remetey-Fülöpp, 2017)**  
Wider international community of geospatial information management

Paper in **International Scientific Journal MMM-GI** December 2017/ (Mihály et al 2017h)  
Experts and stakeholder representatives of EO/geospatial data and technologies

**Geodézia és Kartográfia/ 2018/3 / (Mihály et al 2018b)**

Hungarian community in surveying, mapping, geoinformatics, remote sensing and land management  
Circulation: 1000

<https://hunagi8.blogspot.com> (many posts on SDG in the GI/EO context since 2006)

<https://www.mfttt.hu/mftttportal>





# Sharing and outreach

**7th International Conference on Cartography & GIS**, Sozopol, Bulgaria 18-23 June 2018/ (Zentai et al 2018)/ International experts of Cartography and GIS/ 196 pers.

Contribution to the **2nd Nexus Conference on Climate-Water-Food-Energy**/ Chapel Hill 16- 18 April 2018 as well as interventions at the **InterCarto-InterGIS Interdisciplinary Conference on Geo-information and Sustainable Development** /Bonn, 24-28 July 2018.

**Hungarian GIS data for Sustainable Development Goals**. Presented at the European Forum on Geography and Statistics (Palya et al 2018) Helsinki 16-18 Oct 2018



PT talks at the EFGS

## At Int'l Conferences, Workshops and Working Group Meetings



**SDI Days, 14th International Conference on Geo-information and Cartography** Zagreb, 27 September 2018. In the Welcome address given by L. Zentai, Secretary-general of ICA, the MFTTT's activities were mentioned



SDG Day. Source: ELTE TFT



SDG Day. Source: ELTE TFT

**Bi-annual Hellenic Cartographic Conference**. Prof. L. Zentai will introduce the MFTTT's SDI-related actions in his opening speech. Thessaloniki, 31 October – 2 November 2018



# Sharing and outreach at Workshops and Working Group Meetings

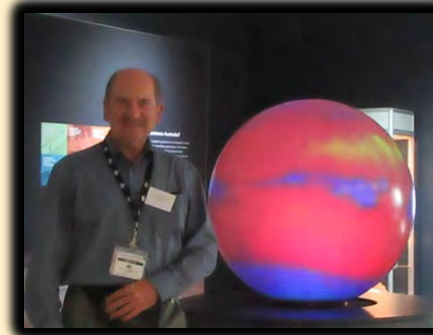
## How to reach us?

Hon.Prof. Szabolcs MIHÁLY PhD  
Hungarian Society of Surveying,  
Mapping and Remote Sensing (MFTTT)

[mihaly.szabolcs43@gmail.com](mailto:mihaly.szabolcs43@gmail.com)

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[lzentai@caesar.elte.hu](mailto:lzentai@caesar.elte.hu),  
[gabor.remetey@gmail.com](mailto:gabor.remetey@gmail.com)

Hungarian efforts promoting the EO/SDI for SDGs by MFTTT were mentioned in the **GSDI's Liaison Reports** and presented for the **CEOS WGISS-44** and **WGISS-45** plenaries hosted by NASA and RADI respectively (GSDI, 2017a and GSDI, 2017b) and reported as contribution for **GEO EO4SDG Initiative** in August 2017 and August 2018



GR at WGISS-41 hosted by GA

**GEO EO4SDG Initiative' progress report** prepared for *GEO Highlights* mentioned the Hungarian activities in September 2018

Reported on the **3<sup>rd</sup> Anniversary Day of Action** to Act4SDGs.org in frame of the **UN SDG Action Campaign** (25 September 2018)

Presented at the **CEOS WGISS-46**  
Hosted by DLR on 22 October 2018



Source: EO4SDG Progress Report 2018



its [Volunteer National Review report](#), this year; this included references to [Digital Earth Australia \(DEA\)](#) and [Open Data Cube \(ODC\)](#) projects using and promoting satellite data. To complement its efforts, the Australian Government organized a special side-event around EO and SDGs. The side meeting, followed by two hands-on workshops, was designed to consult with, and inspire, more governments and organizations to take action on using EO with the SDGs, while providing necessary knowledge on how and where to begin with.



Country representatives from Australia, Greece, Vietnam, Namibia, Switzerland, and Vietnam present their perspectives on EO uses for the SDGs during the Australia-led side meeting as part of the 2018 HLPF. Credit: EO4SDG

Hungary was another country that submitted its [Volunteer National Review report](#) at the 2018 HLPF. Efforts aiming to emphasize opportunities and challenges for geospatial data stakeholders in the SDG context in Hungary include activities by a committed team of volunteers mandated by the Hungarian Society of Surveying, Mapping and Remote Sensing (MFTTT) to contribute to the implementation of the SDGs by identifying and promoting the use of geospatial and EO data. These efforts, inspired partly by EO4SDG and the Global Spatial Data Infrastructure Association, have focused on enhancing multi-stakeholder partnerships – for instance, between the MFTTT, the Hungarian Space Office, and the Hungarian Central Statistical Office, in support of geospatial/EO integration in national SDG monitoring and implementation.

As part of UN-GGIM 8, EO4SDG worked with UN-GGIM

# Selected operational monitoring programs using EO data and some key players from the academia

CONTRIBUTOR:

DANIEL KRISTÓF PhD, BFKH FTFF (earlier: FÖMI)

Hungarian contribution to the GEOEO4SDG Side Meeting on Earth Observations in Service of the 2030 Agenda for Sustainable Development: Scaling Successful Practices  
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# Selected EO-based monitoring activities in Hungary

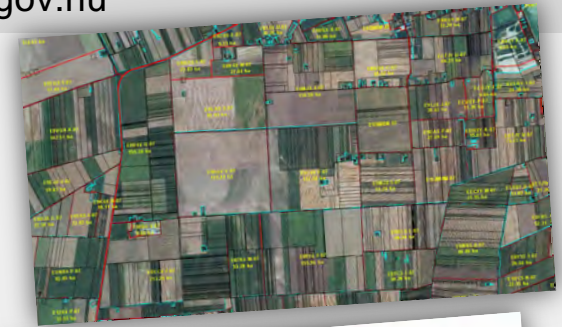


Current operational projects at BFKH FTFF (earlier: FÖMI) [ftf@bfkh.gov.hu](mailto:ftf@bfkh.gov.hu) – <http://www.ftf.bfkh.gov.hu>

## Land Parcel Identification System (MEPAR)

For the administration of agricultural EU subsidies

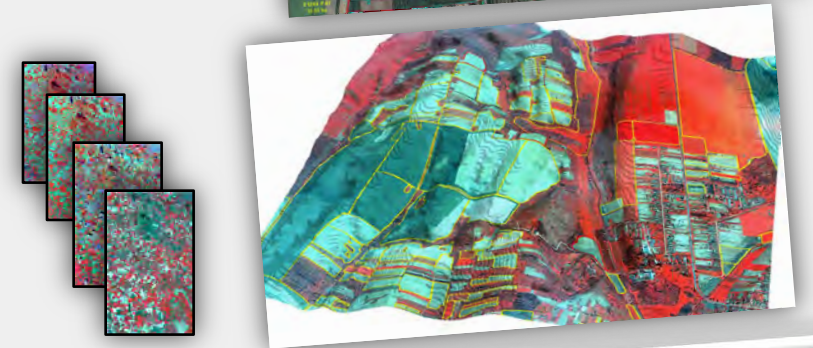
Operational since 2004, Continuous updating based on orthophotos and VHR imagery



## Control of Agricultural Subsidies with Remote Sensing (TámELL)

Operational since 2004.

Based on time series of HR and VHR satellite imagery

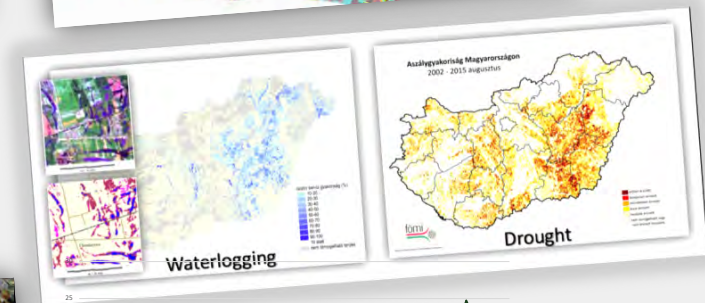


## Agricultural Risk Management System (MKR)

Operational since 2014

Integrated governmental system to assess loss compensation requests

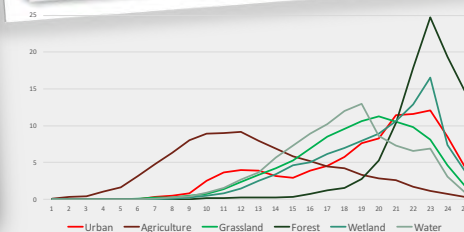
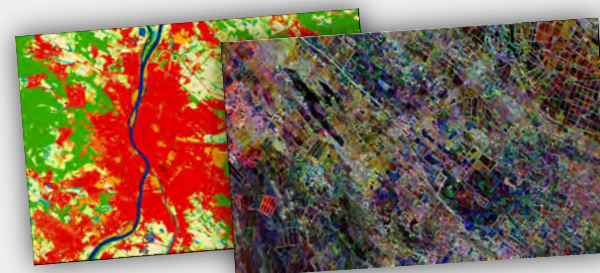
Operational provision of waterlogging /inundation and drought products



## Country-wide mapping and status assessment of ecosystem services (NÖSZTÉP)

Led by the Ministry of Agriculture (Nature Protection)

Contribution from various R&D and operational partners





# National reference institution of land cover mapping: BFKH FTFF (earlier FÖMI)

<http://www.ftf.bfkh.gov.hu>

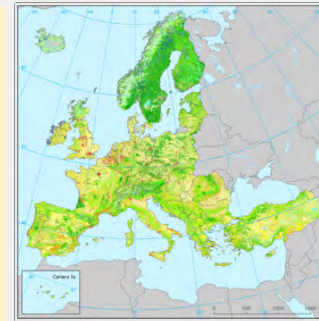


Working for the **European Environment Agency (EEA)** as member in European Topic Centres since 2001. 2015 onward : **European Topic Centre – Urban, Land and Soil systems**

**Key actor in the coordination of European land cover mapping activities**  
(e.g. CORINE Land Cover)

Participation in the **development and testing of LC/LU related environmental indicators**

Participation in the development of a **European land monitoring strategy**  
(**EAGLE** working group, **FP7 HELM** project)



BFKH FTFF (slides 17-18) contributors:  
Péter Winkler  
Gábor Csornai  
György Büttner  
György Surek  
Gábor Mikus  
Gergely Maucha  
István László  
Márta Belényesi  
Angéla Olasz

**National Reference Centre land cover:**

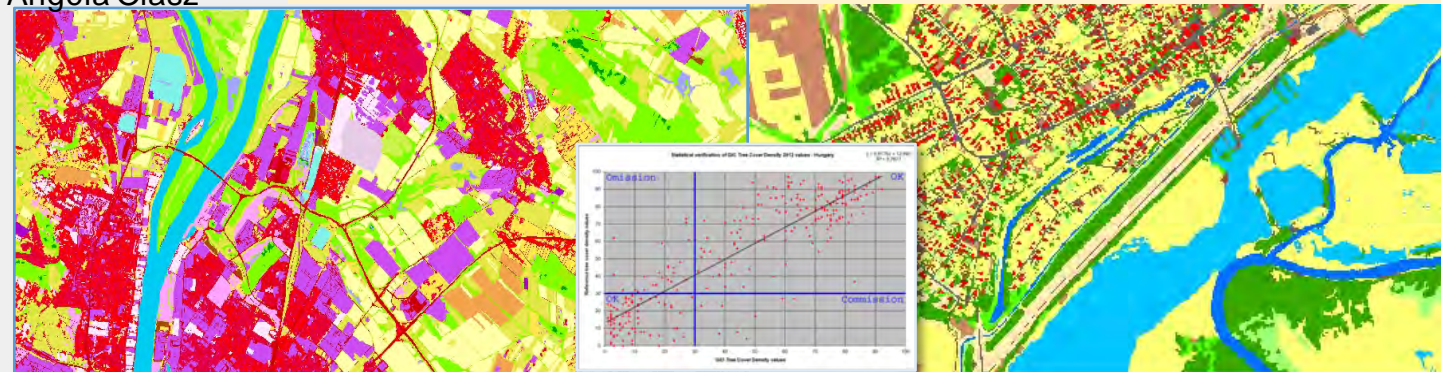
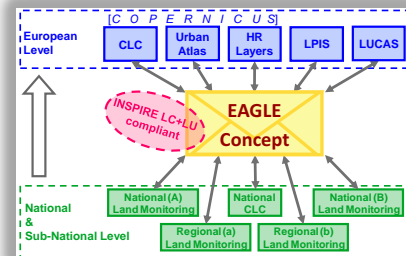
**CLC update & change mapping** for Hungary area  
**QA/QC** of various European land cover products

**Strong background in visual photo-interpretation:**

Designing a national 1:50.000 scale CORINE Land Cover map  
Development of a specific tool for visual photo-interpretation

**Key methodological developments:**

Designing **change mapping method** for CORINE land cover updates – new standard for Europe  
Testing **EAGLE methodology** in the practice – **harmonization of LC/LU related information**  
Exploring **statistical comparability** of land cover products





# Some key players in EO in Hungary

Applications using Sentinel data at BFKH FTFF (earlier: FÖMI) Reference: Kristóf D. (2018)

## Műholdfelvételek adatmennyisége



Sentinel -1, -2 data volumes for Hungary in 2012-2017

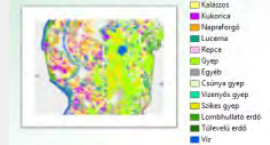
Some results :

Inlog water mapping

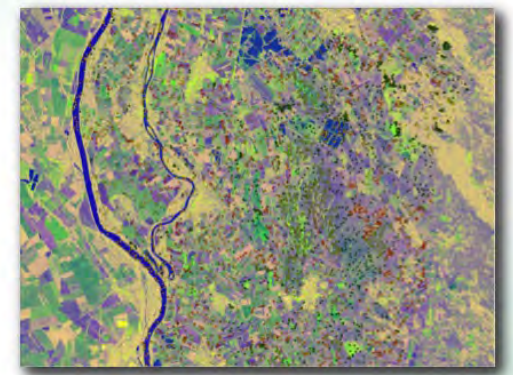
Agricultural mapping supported by machine-learning

Establishment of the National Ecosystem Base Map using data cube approach

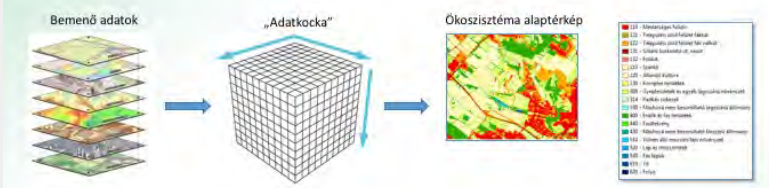
Mezőgazdasági célú térképezés gépi tanulással



- Referencia-adatok
  - Térinformatikai adatbázisok
- Optikai és radar űrfelvétel-idősor
  - Sentinel-2 (+Landsat-8, ...): Reflektancia, spektrális indexek
  - Sentinel-1: intenzitás, polarimetrikus deskriptorok
- Gépi tanulás és osztályozás



Sentinel-1, Sentinel-2 eredmények – MANT Űrkutatás Napja, 2018. 23



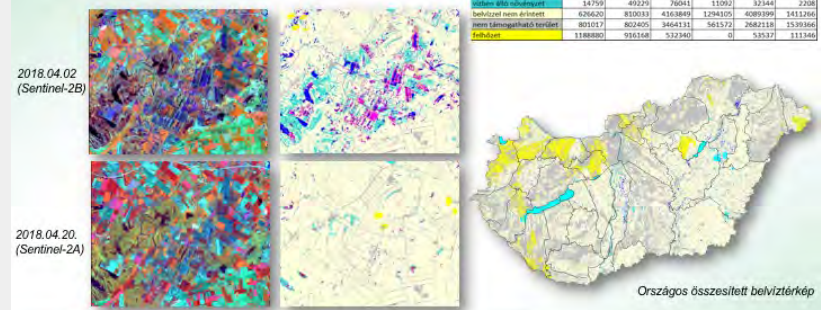
- Meglévő térinformatikai adatbázisok
- Távérzékeléssel gyűjtött adatok
- Új „térképezés”
- Referencia adatok (ÁNER + BFKH saját adatbázisok)
- Egységes geometria (20m raster)
- Egységes vetület (ETRS1989 LAEA)
- INSPIRE kompatibilis metadatok
- Cella alapú SQL lekérdezések
- Egység lehetséges „adatbányászat”
- 20m raster, európai vetület
- MAES alapú kategóriarendszer

Sentinel-1, Sentinel-2 eredmények – MANT Űrkutatás Napja, 2018.

Sentinel-1, Sentinel-2 eredmények – MANT Űrkutatás Napja, 2018. 21

## Belvíztérképezés

időpont	május 28.	április 2.	április 8.	április 12.	április 20.	április 22.
inaktív terület (ha)	3140729	3427294	4663769	3696203	4708409	2862138
szennyezett víz	55706	55369	189269	20480	105703	91889
szilárd hulladék	8050	24948	40725	6166	10792	521
előzetes ártérrel fedett terület	7912	23298	32722	4186	8261	877
előzetes belvízzel fedett terület	10610	22267	37178	6085	9766	1001
gyógyászati hulladék	16780	35311	41325	11015	15460	1781
előzetes víz szennyezés	14729	49229	70681	11091	32344	2288
belvízzel nem érintett terület	626620	810033	4363849	1294105	4089399	3413261
szennyezett terület	801017	862405	3464131	565372	2682118	3539366
előzetes	1186601	936148	523260	-	33617	113346



Sentinel-1, Sentinel-2 eredmények – MANT Űrkutatás Napja, 2018. 22

GOCCB-DGRSLA (former: FÖMI)  
 ftf@bfkh.gov.hu – <http://www.ftf.bfkh.gov.hu>





# Some key players in EO in Hungary

**Academic/Education institutions Having monitoring capabilities (with satellite EO, and/or airborne RS as well as in situ measurements data)**

Details in the HSO Liaison Report presented at the CEOS WGISS-46 on 22 October 2018 <https://wgiss.ceos.org>

**Eötvös Loránd University, Budapest**  
In 2 Faculties 2 Departments  
and a Research Group



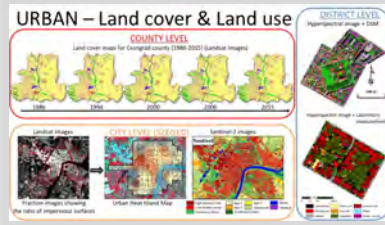
**Budapest University of Technology and Economics**  
Department of Photogrammetry  
and Geoinformation



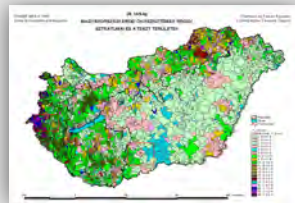
**Eszterházy Károly University**  
Research Institute of  
Remote Sensing and Rural Development



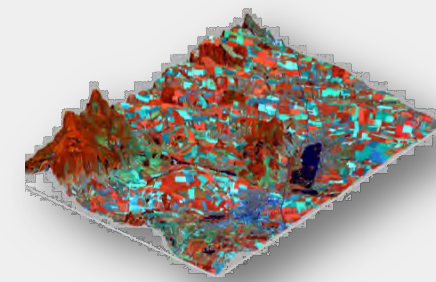
**University of Szeged,**  
Department of Physical  
Geography and Geoinformatics



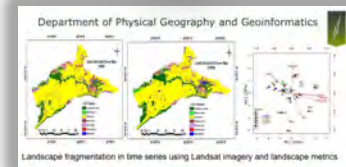
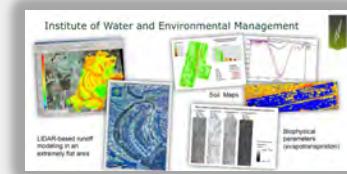
**University of Sopron**  
Faculty of Forestry,  
Department of Surveying  
and Remote Sensing



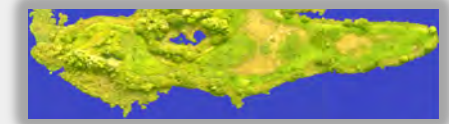
**Óbuda University**  
Alba Regia Technical Faculty, Székesfehérvár



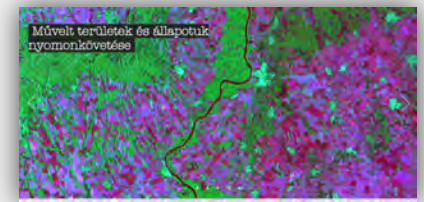
**University Debrecen**  
1-1 Departments/Institute



**Dennis Gabor College**



**University of Pécs**  
Institute of Geography

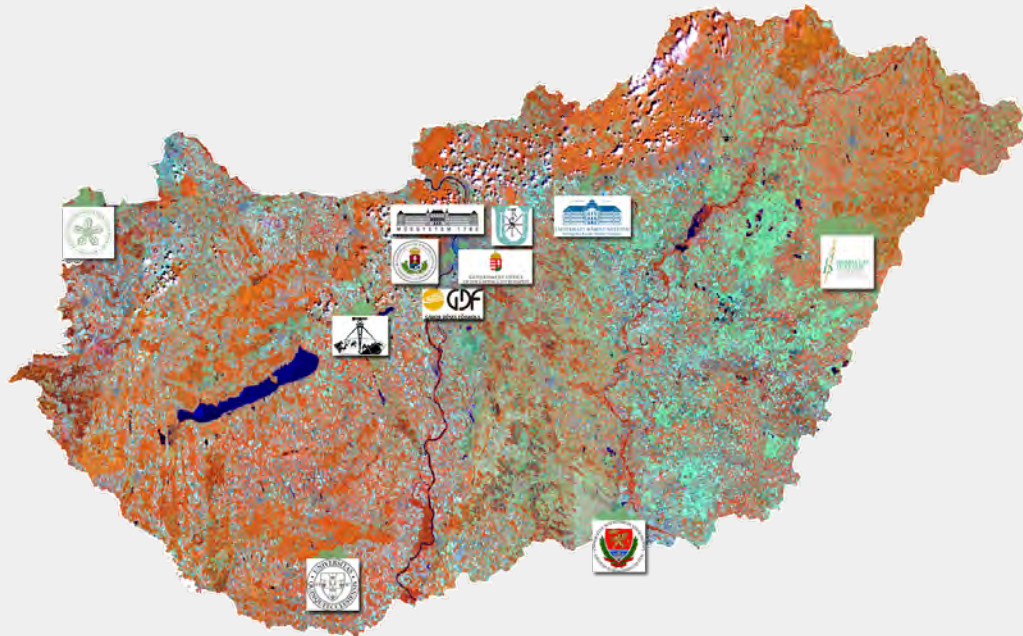


**Szent István University, Gödöllő**  
Faculty of Agricultural and  
Environmental  
Sciences (4 Departments/Institutes)





# Penetration of the Remote Sensing Academic Community in Hungary



As of Fall, 2017)

A well attended meeting devoted to the experts in Research+Development and Applications of Remote Sensing, GIS and Image Processing is arranged every year by Gábor Kákonyi of GeoIQ Ltd. The forthcoming one is

**Fény- Tér-Kép (Light-Space-Image) Conference  
November 15-16, 2018 in Gárdony**

<https://geoiq.hu/category/feny-ter-kep/>

with presentations and discussions on hot topics

(This year the messages of WGISS-46 and GEO Week 2018 will be also on the agenda with a formal presentation with special emphasis on EO for SDGs.)

# State Earth Observation Information System

CONTRIBUTOR:

ZOLTÁN ZBORAY, MoIT

Hungarian contribution to the GEOEO4SDG Side Meeting on Earth Observations in Service of the 2030 Agenda for Sustainable Development: Scaling Successful Practices  
Kyoto International Conference Center, GEO Week 2018, Kyoto, Japan, 29 October, 2018



# The project on Earth Observation Information System (FIR)

**Aim of the project** is to establish a comprehensive governmental capability to provide detailed, easily accessible and up-to-date

EO information for the public administration, governmental institutions, private sector and the whole society. The “Earth Observation Information System” (FIR) using freely accessible and commercial EO data, will provide a unified, integrated and value-added information service for the society upon the central infrastructure, applying e-service.

**Project ID:** KÖFOP-1.0.0-VEKOP-15-2017-00050

**Managed by** a consortium lead by KIFÜ, the Governmental Info Tech Development Agency

**Beneficiaries:** : KIFÜ, National Infocommunications Service (NISZ), Budapest Capital Governmental Office (BFKH)

**Planned deadline:** 31 October 2019

**Budget:** 7,000,000,000 HUF

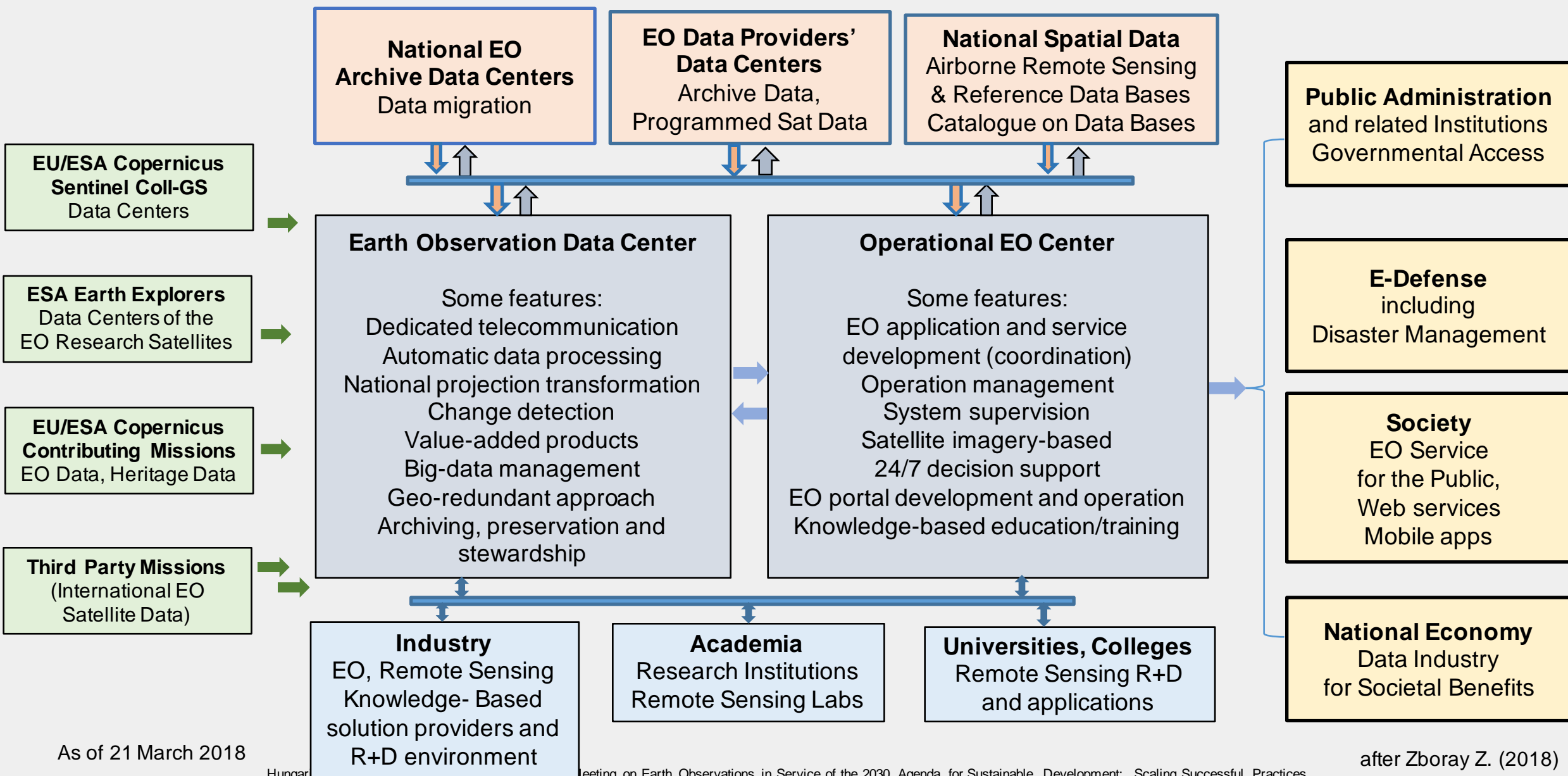
## Targets

Enabling / providing /creating / developing

- **EO Services for the Public Administration**
- **e-Earth platform** on visual data of Copernicus program
- Establishment of the **EO Data Center**
- Establishment of the **EO Operation Center**
- **Nationwide Operative Monitoring System**
- Increasing the efficiency of the access and use of satellite data by **process- and service development**
- **Special content provision for state-owned companies**
- EO data processing environment **for Hungarian SMEs**
- **Change monitoring services** for the private sector as well as the whole society
- Environment for **application- and service development by informatics**
- **Standard access nodes and interfaces for FIR**
- **Efficient link to access Copernicus data for Hungary**
- **Legislative framework**

**Source:** [http://kifu.gov.hu/kofop\\_fir](http://kifu.gov.hu/kofop_fir) (last visited on 21.10.2018)

# Earth Observation Information System (FIR) - Overview



after Zboray Z. (2018)

Hungar



# Conclusions

Hungarian contribution to the GEOEO4SDG Side Meeting on Earth Observations in Service of the 2030 Agenda for Sustainable Development: Scaling Successful Practices  
Kyoto International Conference Center, GEO Week 2018, Kyoto, Japan, 29 October, 2018



## Expected impact of the awareness actions

**Empowering and motivating students, start-ups, young professionals** with information on the challenges and opportunities of EO/GIS/SDI as well as related technologies, services and apps to support the achievement of the UN SDGs.

**Engagement of stakeholders** and forged co-operations between players from academia, government, industry and learned societies with emphasis on the EO/geospatial data custodians, SDI service providers and national statistics of the Central Statistical Office.

**Increasing number of interdisciplinary (Nexus) approaches** to reach multi-goals accomplishment by joint actions of multi-sector stakeholders (e.g. land, water, urban, climate, food)

**GI/EO4SDG issues embedded in the higher education curricula**

**Improved links between the statistical and geospatial communities**, with the aim of increasing the interoperability of statistical and geospatial data.

**More effective development and use of EO/GI in the UN SDG target and indicator monitoring and yearly national reporting** context based on the integrated geospatial and official statistic information and use of the announced State Earth Observation Information System capabilities (Zboray, Fekete 2018),

# References

Hungarian contribution to the GEOEO4SDG Side Meeting on Earth Observations in Service of the 2030 Agenda for Sustainable Development: Scaling Successful Practices  
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Thank you for your attention!

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