Unlock and use EO/geospatial data for SDG by empowering stakeholder engagement in a transformed society

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Abstract. The mission goal of the Working Group for Sustainable Development Goals (WG4SDG) of the Hungarian Society of Surveying, Mapping and Remote Sensing (MFTTT) is to promote the use of the steadily developed Earth observation (EO) and geospatial data infrastructures (SDI) and services – considering as base elements of the Digital Earth concept - as supportive tools for many of the SDGs-related indicator monitoring and reporting. The engagement of the stakeholders from government, academia/education, private sector/industry and learned societies is a key issue also on national level. It is anticipated, the link with the forum of the EO industry represented by the Hungarian Space Cluster HUNSPACE will leverage the experiences of the EO and SDI communities. Similarly, the connection with the national geographic information (GI) association HUNAGI and international societies such as FIG, ISPRS, ICA and ISDE are vital for knowledge transfer.

1. Background
In Hungary, after the Twelfth Plenary Session of the Group of Earth Observations (GEO), awareness raising campaign was setting up in January 2017 by volunteer, ad-hoc team members of the Hungarian Society of Surveying, Mapping and Remote Sensing (MFTTT) with the aim to pave the way for stakeholder engagements and inter/trans-disciplinary cooperation on domestic level in order to support the accomplishment of the SDGs by using geospatial data and EO information. The team consisted by both the former and the present national INSPIRE delegate, the national correspondent to GEO, liaison of the Global Spatial Data Infrastructure Association (GSDI) later of the Hungarian Space Office (HSO) to the Working Group of Information Systems and Services (WGISS) of the Committee of Earth Observation Systems (CEOS). MFTTT acknowledged the team as its Working Group on Sustainable Development Goals (WG4SDG) in 2018. The achievements of the first two years were published in domestic and international journals including Geodézia és Kartográfia[1], MMM Geo Information[2], GIM[3]), various Proceedings (7thICC&GIS[4], EFGS[5] in details and a contributing report has been submitted to the GEO EO4SDG Initiative at the GEO Week held in Kyoto, October 2018 as well.
2. Achievements in 2019
Special attention was paid on domestic level to the SDG Goal 17: Partnership for the Goals and promote the EO/GI ecosystem development, which today appears inevitable for an effective accomplishment of most of the SDGs.

2.1. Stakeholder engagement and capacity building
A comprehensive presentation on the sustainability of the surveyor’s profession in conjunction with the Agenda 2030 was delivered by the lead of WG4SDG for the community working in geoscience, geo-related engineering and land administration [6]. The accomplished activities were presented as part of the Hungarian Space Office’s report at the CEOS WGISS Plenary hosted by NOAA [7]. There is an emerging necessity to adopt SDGs-related capacity building to strengthen the wider use of EO/Geospatial data and the related Digital Earth technologies and innovative solutions in data collection, ground truth, data architecture capable to handle spatio-temporal big data (eg. Sentinels). To ensure efficiency and competitiveness there is imperative need for cooperation and collaboration in line with the UN guidelines, the national strategy on SDGs using the gradually improved capabilities provided by the national programmes associated with the digital transformation of the society.

2.2. Parallel ongoing achievements introduced, which might have influence on SDGs implementation
- **In governance**: presence of governmental decree, active Council on Sustainable Development etc.
- **In institutional capacity building**: recent merging vast amount of geospatial/EO data and service capabilities at under single roof of Lechner Nonprofit Ltd, and uptake the space related advisory boards supporting the department responsible for space research and activities (actually the Hungarian Space Office) at the Ministry of Foreign Affairs and Trade.
- **In resources**: developments are underway to establish an EO (Copernicus-based) data infrastructure and services for the Public Administration by KIFÚ and to set up a 3D data infrastructure at Lechner Nonprofit Ltd. Other emerging technologies under development include the 5G drone apps
- **In data policy**: a strategy recommendation paper supporting AI-based innovation has been elaborated by the Magyary Zoltán Society on e-Economy with conformity to the European PSI framework emphasizing the more widely use of open data.

Synergy is provided by the supportive policy environment related to technology and innovation, artificial intelligence, nationwide programs related aiming the “Digital welfare”, e-Hungary or the new national strategy on space research and related activities for societal benefits under preparation.

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