IAA Study Group Status Report

Responsible Commission: Commission 4

Study Number and Title: Study **4.24** - **Disseminating knowledge and experiences of satellite applications to improve global cooperation and help societies around the world**

Short Study Description (repeat from Study Group Proposal):

Satellite applications and -technology are resources that possess immense potential for creating positive impacts and sustainable development on a global scale. By sharing knowledge and experiences on how to harness the many capabilities of satellite applications, potentials and ideas can be explored and realised, and as an effect deliver benefits to societies globally.

Aside from benefitting developing countries in areas such as: Health & education, food security, agriculture, climate change, connectivity, energy & natural resources management, and disaster risk reduction and resilience-building. Satellite applications and geospatial services also adds commercial monetary value, which further strengthens the economic growth and stability of developing countries. This fact is one of the main reasons why cross-border knowledge and experience sharing on the area of satellite- and space applications is integral for developing countries to acquire.

With the constant advancement in satellite applications and geospatial services, more and more countries are becoming able to directly leverage and benefit from the cross-fertilisation of ideas and spinning-in/off of space and non-space technologies. These potential benefits may only be accessible if the countries, who are looking to utilise and capitalise on satellite applications, have the intellectual resources available to properly leverage and utilise, and explore the different applications of satellites and the technologies that powers them. Hence, the building and enhancement of the technological and scientific capacity of space experts is crucial for non-space-faring- and developing countries.

By establishing initiatives for the dissemination and sharing of satellite application-oriented knowledge and experience among developing countries and -societies. Research and innovation within the fields of satellite technology and -applications could help to ensure that future research activities better integrate space research and with other policy areas addressing global and societal challenges. It would help to support the exploitation of scientific space data from global space science and exploration missions and the development of scientific instrumentation.

Space companies, ranging from small start-ups to big corporations providing services in different sectors including agriculture, farming, mining etc. have realized that knowledge is a key component. And by creating a space that foster cooperative efforts between the scientific, engineering, industrial, and commercial sectors, the creative potential can be unlocked and thus help to find the right path from data to information to knowledge to growth and gain.

However, it is important to note that we live in a data and information driven world which can make it difficult for us to distinguish between what data and information we want and need and for what purposes. Even with small separate quantities of data and information, it can be a challenge to comprehend or perceive how the date or information may prove useful to us. Space applications are one of the means that can address such challenges. It can do so through the federation, and meaningful structuring of data, while offering the users natural ways for interfacing and interacting with the data. The two main orientations are semantic interaction with

large volumes of data and Long Term Data Preservation, which ensures that the data we have is not lost, and remains usable.

Progress in past six months:

The progress consisted in selecting target sectors to be investigated and for each of them an analysis of the space data that can be used, the methodologies already in use, has started.
In particular, the progress has covered the following:

- scanning the global space application environment
- scoping potential themes of mutual interest
- selecting target sectors to be investigated: water, health, education, smart cities and agriculture
- analyzing the space data and methods that can be used within the scope of the investigation.

A series of discussions have been held with members of the Study group and new members have been identified following in particular meetings with the Mexican Space Agency representatives and with SANSA.
The meetings with SANSA and South African industries were particularly relevant to further elaborate on selected applications:

- An approach for a large scale education project in South Africa was discussed. A team was established including different stakeholders to identify requirements (power, internet access etc.), regional private and public partners and potential areas for the implementation of the space education project.
- Further joint activities in space applications for water, health, agriculture and food security and urban development were discussed. Some of these activities will consist in exchange knowledge and experience in already existing application solutions, whereas others will trigger new initiatives.
- SANSA expressed interest to be involved for knowledge sharing in the topic of safe and clean management of water, hydrocarbons and electricity. To this aim, SANSA will federate the African users needs and requirements.

It is of interest to mention the EO AFRICA (Earth Observation African Framework for Research, Innovation and Applications) initiative to build an African-European R&D collaboration proposed by ESA in partnership with the African Union Commission. SANSA will be invited to join as national/regional partner taking a key role in gathering requirements on the R&D agenda for SDG monitoring as well as providing capacity development activities in the Southern African region.

A first draft with recommendations is in preparation.

Website Study Information update: (please give any update regarding Study Group Membership, documents, Study Plan and Schedule):

New members were added following the successful GLAC2018 Conference in May 2018

Issues requiring resolution? (recommend approach):

None

Product Deliveries on Schedule? (If modified explain rationale):

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.)

Name of person providing Study Group Status (Study Group Chair or Co-Chair):

Roberta Mugellesi Dow

Status Report Date: 22 March 2019

Study Team Membership Changes

Effectivity Date: 22 March 2019

Discontinue:

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Add:

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