

Session #15 - Room Der A.E.028, Die late Bibliothek	1 June 2016 – 16:15-18:30
Regional dimension for GEO and capacity building priorities	
Moderator:	Dr Haris Kontoes
Format	Presentations (part 1) – Round Table Panel Discussion (part 2)
Session Report	
Part 1- Successful examples of operational EO value-added chains: from data sources to end-users	
<p>Taking place under the auspices of the GEO-CRADLE project, the session gathered more than 60 representatives from science, business and public administrations.</p> <p>Split in two parts, the session aimed at presenting the tools and methodologies that have been or are being put in place by capacity building projects, to overcome the various challenges for the uptake of EO data and services at a regional level.</p> <p>The first part of the session was moderated by Mr. Haris Kontoes, Research Director of NOA, GEO-CRADLE Project Director who introduced GEO-CRADLES's mission and objectives for the Balkans, Middle East and North Africa regions.</p> <p>Speakers, representing GMV, Centre Royal de Télédétection Spatiale and Spatial Services Ltd, were invited to share with the audience their feedback and lessons learned from implementing previous projects in the region. More specifically, to highlight the existing issues hampering the sustainability and interoperability of capacity building projects in the region.</p> <p>Dr Ana Sebastian Lopez, Senior Project Manager at the Pay Load Data Processing and Applications Business Unit of GMV, presented their activities within Wall-to-wall Environmental Habitat Mapping in the Emirate of Abu Dhabi. Responding to an international call, GMV used 600 WorldView 2 PAN & MSS images to map land habitats in an area of 60,000 Km², drawing up fine-scale terrestrial land Use/Land Cover (LULC) and Habitat classes for the entire country. This work was part of a broader project Commissioned by the Abu Dhabi Environmental Agency and coordinated by Proteus, which also included the mapping of the sea habitats (20,000 Km² of coastline down to a depth of 15 m).The tool will serve as the primary ecological dataset underpinning the Emirate's environmental and land use policies. In terms of quantifying the factors behind the successful implementation of the project, Dr Lopez highlighted that a daily coordination with the client and local partners has been imperative for their mission. A bottom up approach allowed them to take advantage of the local knowledge and expertise, as well as ensure that their work is consistent with user needs. Of course, other aspects such as the companies' rich experience and data quality, as well as in the implementation of complex mapping workflows have also played a role in creating a high-quality product. However, companies should not dismiss the added value of user's local knowledge. Moreover, the success of a project was not only determined by external factors. Implementing a robust workflow and pursuing quality checks along the production chain have also played a key role in keeping up with a very tight delivery schedule.</p>	

Ms Amal Layachi, Head of Department at the Centre Royal de Télédétection Spatial in Morocco, also agreed on **the importance of understanding user needs and providing them with tailored solutions**. To this end, CRTS provides numerous value added services and data to Moroccan public authorities. Furthermore, among their medium to long term objectives, enlarging the pool of geo-information users is a top priority for the agency. To support national and regional capacity building, the organisation has focused on developing human skills by offering more than 180 trainings for more than 2500 participants, since the programme started. This is done in cooperation with universities and end users to ensure a perpetual cross-sector knowledge transfer. For Ms Layachi, **the lack of finance or lack of knowledge on the existing solutions and methodologies coupled with the lack of human skills are limiting factors to the development of EO projects in institutions**. A stronger support for partnerships between R&D, private productive sectors and universities are needed, together with a **more constant exchange on good practices**. Furthermore, CRTS has and continues to remain engaged in numerous and diverse international cooperation networks and projects. Through such projects CRTS is promoting cooperation and knowledge transfer programmes from NORTH - SOUTH and SOUTH-SOUTH.

The **need to develop services in cooperation with the private sector and universities** was also stressed by Dr Peter Zeil, Senior Project Manager at Spatial Services Ltd and the African Association of Remote Sensing of the Environment (AARSE). However, such cooperation would not be possible without a supportive policy framework (EU Copernicus Regulation (2014), African Space Policy & Strategy (2016)). On this matter, he underlined the importance of the implementation of GMES& Africa, supported through the new Pan-African Facility PanAf (Development Cooperation Funds EU-AU) in 2016. Coherent policies are of course vital to develop coherent services, however, a recurring challenge consists of the coordination (a) within European Commission (DEVCO-GROW-JRC); (b) within EU (EC-ESA-Eumetsat-MS); (c) between EC-AUC; (d) within AUC (HRST-REA) and (e) between AUC-REC-MS. The **slow and complex coordination between these institutions was translated in many delays**. In addition, implementing open data policies is challenging, with **many countries and institutions still refusing to share their in-situ datasets**. To overcome such challenges, Mr Zeil, pinpointed the importance of strengthening the cooperation and knowledge sharing between European and African companies. A new initiative carried out by AARSE and EARSC, which surveys the African private sector, highlights the need for more EU-Africa joint projects and workshops, trainings and information exchange. Moreover, **universities in the region should play a leading role in supplying innovation and training for the private sector**. Such activities would allow universities to provide income generating services and strengthen cross-sector skills transfers. Of course, as public authorities make up 80% of the EO market clients, their involvement in collaborative projects should not be overlooked. A key contribution of joint projects should be on **building the value chain**, especially in those countries that lag behind.

Part 2 –Capacity building: success stories and initiatives in regions - building regional cooperation

The round table discussion was moderated by Letteris Mamais, GEO-CRADLE Technical and Quality Assurance Manager. The session focused on showcasing successful capacity building case studies and their lessons learned. More specifically, the session aimed to provide a feedback on how can capacity building projects support the sustainable uptake of EO services and data at a regional level.

On this topic **Dr Giovanni Rum**, GEO Work Programme Coordinator and AfriGEOSS Support, underlined the importance of enhancing EO capacities from education to product in Africa. Thus, **capacity building should be done along the entire value chain**. From policy to the final services, a **harmonisation of activities**

around bilateral and multilateral projects with the EC is needed and this is what AfriGEOSS tried to achieve. In terms of the sustainable use of project outcomes, Mr Rum pinpointed **the need to establish strong national representative structures**, such as a “standing network of Points of Contact”. These local structures, should act as enablers to build upon. Without such local structures, it is indeed difficult to ensure sustainability, Dr Rum argued.

Dr. Uta Wehn, Assoc. Prof of Water Innovation Studies and AfriAlliance Project Director, UNESCO-IHE, also agreed on conducting capacity development following both on a top-down and bottom-up approach. As the local dimension is vital to enhance sustainability, solutions such as **making available seed money for local initiatives** was presented as an effective approach. The AfriAlliance project will be offering such seed money to its Action Groups (Communities of Practice). By including the sights of local citizens, who are directly affected by issues such as water scarcity and climate change, Dr Wehn, believes that such grassroots initiatives will be more successful. **The lack of a clear structure and delineation of actors in water governance in many parts of Africa can also be seen as an opportunity**, Dr. Wehn added. While in Europe, the roles have been institutionalised, the African value chain could develop more freely, presenting opportunities to ‘leap frog’ to smart environmental management, for example with the help of citizen science.

When looking at the Balkan region, **Mr Igor Milosavljevic**, Senior Business Development Manager at InoSens, highlighted that **sometimes the disconnection within countries is to a large extent greater than in between countries** as found in the BalkanGEONet project. Throughout the project, many cases of data duplications were identified not only at a regional level, but also at a local level. Mapping such gaps and duplications in order to prioritise capacity building needs will be amongst the key objectives of ConnectinGEO. The project, as **Ms Ivette Serral**, Technical coordinator and Project Manager suggested, will aim to **build upon previous regional project expertise** to offer a new set of recommendations to Copernicus and GEOs. The need to build on existing initiatives was also highlighted by Dr. Wehn, arguing that beyond identifying gaps, the AfriAlliance project will seek to come up with a blue print of how different data sources (remote sensing, in situ observations and citizen sensed data) can be combined to address specific local problems. In addition, **pilot studies, such as those implemented by GEO-CRADLE and AfriAlliance, play an important role in demonstrating to local users, the benefits of using EO to tackle many regional and local challenges.**

Beyond building on existing projects, sustainability is highly dependent on the involvement of local actors, as all speakers emphasized. Local stakeholders should find a reason to continue using the tools created through different projects. Furthermore, **a stronger cooperation between governments, private sector and universities is needed to ensure coordination of initiatives, cross-sector fertilization and support for greater data sharing.** If these three sectors actively work together, the structures created will become sustainable. Although one of the biggest achievements of GEO and Copernicus is that they function on open data principles, data sharing is still an issue. Not only in Africa, but even in Europe, as Mr Zeil pinpointed.

Furthermore, Mr Zeil argued that case studies should be presented and used with a more long term vision. **Public authorities should be given concrete examples which they can re-create locally.** Success should be measured according to user satisfaction. **Local initiatives should be user driven.**

Capacity and innovation should go hand in hand, Dr. Wehn argued. All partners, from different communities should work and collaborate together to provide innovative approaches and strengthen the capacity of all actors in the process. It is only through partnerships that the market can grow and that meaningful and sustainable solutions can be generated.

Conclusions and Recommendations

Following the constructive discussions of this session, a series of recommendations have been put forward by both panellists and attending delegates.

Drawing on the exchanges related to the development and operational use of EO value-added chains, the below recommendations have subsequently taken form:

- Prior to developing infrastructures, capacities and data value chains, **ensuring that coherent policies are implemented at the national and regional level is of utmost importance**. The European Commission (EC) should facilitate top-down knowledge transfer and directives to ensure that political understanding is transferred at an operational level. Stable national structures can act as enablers for future development.
- **Value added chains should be developed through a close collaboration between universities, private sector and public authorities**. A stronger linkage of these communities can be achieved through: knowledge transfer workshops, cross-sector conferences, trainings, joint projects, SME/Start-up EO-focused accelerators etc.
- The **EC should continue to support capacity building in its neighbouring regions through sustained calls for projects and diverse funding schemes** (both through seed grants and larger initiatives). Synergies with existing funding mechanisms (e.g. IPA for the Balkans and ENI for North Africa and Middle East) should be further explored.
- The private sector and user driven initiatives should be supported through **twinning exercises** (knowledge and skill transfer between European and non-European companies).
- Market and product development should be user driven. **By building products and tools that concretely respond to local needs, their sustainability is increased**. Local stakeholders should have a clear interest in using project outcomes on a long term basis.
- A concerted effort to promote not simple awareness but **actual replication of success stories** in different countries should be pursued.
- Cooperation programs and projects should follow both a NORTH-SOUTH and SOUTH-SOUTH approach.

The valuable exchanges during the round table discussion focused on capacity building initiatives also providing the audience with important feedback from Europe's neighbouring regions. Drawing on these exchanges, the following recommendations and actions were highlighted:

- Many end users of geo-information (public authorities and private sector) are still not aware of initiatives such as GEO, Copernicus and free, open and full access to satellite data (e.g. Sentinels). Thus, more effort and time needs to be invested in awareness raising campaigns and in promoting data sharing principles. It's difficult to obtain a user feedback, when they do not know about such initiatives.
- A lack of awareness of end users of geo-information has also been registered with regards to their knowledge and use of existing regional data sets.
- Data sharing is still an issue, even in Europe. Programmes such as GEO and Copernicus do act as enablers in pushing for greater data sharing. However, as some of the challenges can be explained through cultural differences and practices, success will be measured on a long term basis.
- Building on the valuable exchanges during this session, the GEO-CRADLE team will actively pursue further engagement with other capacity building projects, and with representatives of the different value chains, to incorporate, as much as possible, lessons learned into the sustainability plan of the project.