Newsletter
August 2019
09

Global Geodetic Centre of Excellence
In February 2015 the UN General Assembly adopted the resolution "A Global Geodetic Reference Frame for Sustainable Development" – the first resolution recognizing the importance of a globally-coordinated approach to geodesy.

The UN-GGIM Subcommittee on Geodesy is now presenting the second iteration of the position paper defining appropriate governance arrangements and recommends to establish a Global Geodetic Centre of Excellence to strengthen the capacity to implement this resolution.

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CAPACITY BUILDING:

Need for a coordinating entity

«Capacity development is one of the main pillars, and main challenges when it comes to the national geodetic network. There is a great need to develop and strenghten capacity for us to be able to sustain our geospatial activities,» says Oumar H. Ka, director of DTGC/National Mapping at the National Agency for Spatial Planning (ANAT) of Senegal and chairman of UN-GGIM Africa.

PHOTO: ADOBE STOCK

***DAKAR:** For all the people of Senegal, a solid geodetic reference system supports positioning, mapping and property rights.*

Some years ago, as part of the National Geomatics Plan of Senegal, Natural Resources Canada supported the national data infrastructure program and set up a new reference station for satellite based positioning in Senegal. The station was inaugurated in 2012 to support international efforts involving a global network of stations to calculate satellite information and define reference frames. It also enhances the Senegal geodetic reference system.

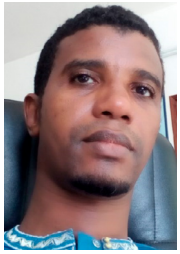
National benefits

For surveyors this means that they can do their work efficiently and accurately; reducing costs for all applications including engineering and science. For all the people of Senegal, a solid geodetic reference system supports positioning, mapping and property rights.

«We are now trying to implement network stations for the entire country and one of the main issues we are raising is capacity development," says Oumar H. Ka.

The challenges

He explains that having a well functioning positioning system is more than just building GNSS stations and securing them. "It is about people, the technical knowhow and resources to maintain this infrastructure year after year."



***OUMAR H. KA:** There is a need for a global coordinating body that can coordinate capacity development.*

«As part of the national spatial data infrastructure program the Canadians arranged a geomatics training technology program which was very helpful and beneficial. They also had clear recommendations on how to get this whole "geomatization" process moving forward when they left. But since they left everything went dry", says Oumar H. Ka.

The Senegalese developed an action plan to deal with all the components of the program including the station.

«But for now things haven't moved that much. The government of Senegal was supposed to put money into this, but didn't.»

Important infrastructure

The station is one of a very few active satellite based stations in Africa, connected to the international GNSS (Global Navigation Satellite System) Service (IGS).

It has custom made Canadian hardware that must be serviced by the Canadians. Senegal would need more capacity transfer to be able to take responsibility for this work.

"To improve the situation, I think there is a need for a global coordinating body that can coordinate capacity development at the international and regional level," says Mr. Ka.

Positioning investment delivers for Australia

The Australian Government has assessed the economic, social and environmental impacts of improved positioning technologies, demonstrating benefits to every corner of Australia.

Through an 18 month trial of high accuracy satellite positioning technology known as a Satellite-Based Augmentation System, or SBAS, 27 projects across ten industry sectors saw enhanced positioning accuracy down to centimetres, wider coverage and signal integrity.

An economics analysis has reported these significant benefits with an expected value of $6.2 billion for Australia over 30 years.

"We've seen promising results from SBAS technology across a number of sectors including agriculture, aviation, construction, transport and resources," says Gary Johnston, co-chair of the UN-GGIM Subcommittee on Geodesy and the Positioning Australia Program Manager.

Australia has now committed to delivering an ongoing world leading satellite positioning capability for Australia.

More information about SBAS in Australia is available from the Geoscience Australia website: www.ga.gov.au/sbas.

PHOTO: CORRIGIN FARM IMPROVEMENT GROUP

***AUSTRALIA:** Corrigin Farm Improvement Group trialling SBAS for precision agriculture.*

Q&A

Sustaining the Global Geodetic Reference Frame (GGRF)

The consultations on the position paper defining appropriate governance arrangements for the GGRF concludes that there is a need for a GGRF coordinating entity. The subcommittee therefore recommends to establish a Global Geodetic Centre of Excellence (GGCE) under the auspices of the UN-GGIM.

As a background document to the report to the UN-GGIM 9th session, the Subcommittee on Geodesy has prepared the second iteration of the position paper which elaborates on the need for this centre. The questions and answers below give an introduction to the GGCE:

What will the GGCE do?
It will act as a GGRF operational hub that will support the objectives of UN-GGIM and the Subcommittee on Geodesy, with three initial thematic priorities; enhanced global cooperation; GGRF coordination; to provide technical assistance and capacity building.

Why do we need a GGCE?
Because the GGRF is in danger of degradation and facing a number of challenges that must be dealt with on a short to medium-term.

What are the main challenges?

- Lack of redundancy in the production of GGRF-products critical for the operation of navigation satellites
- Lack of open data sharing
- The maintenance and development of the GGRF is halting due to lack of overarching coordination globally
- An increasing risk that new GGRF technology cannot take over for the aging equipment before it suffers from severe operational failure
- Low benefits realisation in capacity building projects after donor nations leave

How will the GGCE enhance the GGRF?
The work of the GGRF can only reach its full potential through direction and coordination of the national contributions. The GGCE will act as a coordination unit and strengthen the capacity to implement the UN General Assembly resolution 'A Global Geodetic Reference Frame for Sustainable Development'.

How can Member States influence the GGCE activities?
By donating funds to the GGCE a Member State can influence which activities the centre shall engage in.

More information about the report and background documents is available from the UN-GGIM website, 9th Session documents, global geodetic reference frame: