

MINUTES OF UNGGIM PSN BOARD MEETING

Date: 11th November 2021

Place: Online

Attended by:

1. Prof Dr Dieter Fritsch
2. Dr Kumar Nuvulur
3. Dr Nadine Alameh
4. Charles Brigham
5. Valrie Grant
6. Devleena Bhattacharjee
7. Willy Govender
8. Kuhelee Chandel

Agenda of the meeting:

- Updates from Regional and thematic representatives of the PSN Board
- Planning the way future activities of the UNGGIM-PSN.

Meeting proceedings:

- ✚ As the Chair of the PSN Board was in transit and hence unavailable for the meeting, Dr Kumar Nuvulur steered this board meeting through.
- ✚ Updates from Regional and thematic representatives:
 - Dr Kumar Nuvulur:
 - He mentioned that he has been working around I data and platforms for geospatial information, and one focus area is focusing on 3D representation of the data. He added that Esri and Voxel maps are also implementing similar things. So, the attention is towards technologies that can represent geospatial information efficiently.
 - He added that the creation of diverse AI-ML algorithms is an intriguing subject. What other platforms are planned? Notably, for AI-ML, he feels that new platforms are emerging that focus on what they call explainable AI, which is currently a black box that people are striving to interpret. What matters is how to adequately explain what occurs in artificial intelligence. Additionally, the rising trends in AI-ML. It's all about keeping track of the data collected. The metadata for the training and validation datasets, as well as the AI algorithm, used, so that the outputs for geospatial information can be tracked.

- He proposed that the UNGGIM-PSN collaborate on a report examining the different trends coming from data platforms. The emphasis is on three-dimensional representation, artificial intelligence and machine learning, and the metaverse.
 - Dr Dieter concurred with Dr Kumar's assessment. He said that comparable trends in artificial intelligence algorithms and data are being witnessed in Germany and in Europe in general. He stated that when it comes to machine learning and deep learning, just a few individuals understand what is happening and only a few groups of people have built the algorithms, while the rest are tinkering with data via training, training, data, etc.
 - Additionally, Dr Kumar noted that the WGIC Policy Committee has recruited a consultant to work on digital twins and that the report should be completed by the end of this year or early in January of the following year. As a result, coordination of UNGGIM-PSN and WGIC reports may be conceivable.
- Prof Dr Dieter Fritsch:
 - He is currently preparing two abstracts for digital twins in New Cairo, Egypt, and Khartoum, Sudan. Sudan now has political issues. But they are working on another project for Egypt, which will be ready in two or three weeks. All relevant information is expected to be on the internet, including the mission, open data, open software, open algorithms, and open access. It will be shared with all interested parties worldwide, especially the UNGGIM-PSN network.
 - To keep things in order, a new Center for Geospatial Technologies is founded in Cairo. The work in Egypt is going well as the political system is very stable, so it is anticipated to receive great data, process it, and have resulted in April or May next year. He intends to share what has been done for this pilot with the network.
 - Dr Dieter mentioned the newly established Global Geodetic Centre of Excellence in Bonn, Germany. This new centre, which will operate under the auspices of the UNGGIM, will coordinate global alignment and cooperation among the Member States and stakeholders in order to strengthen geodetic infrastructure. It is expected to be completed by the end of this year and to begin operations in early 2022. He stated that he would keep everyone updated if any new developments occurred. He believes it would be very interesting to learn what they are doing so that we can truly use their technology, infrastructure, or whatever else is available to us in order to continue with all the visions and missions we are discussing.

- Charles Brigham (Integration of Statistical and Geospatial Information)
 - He has been attempting to establish a formal relationship with the United Nations Expert Group on the Integration of Statistical and Geographical Data. Unfortunately, they have not responded and attempts to contact them have been unsuccessful.
 - It was suggested by Dr Kumar requesting Greg Scott for help in establishing this communication.
 - Action item: Kuhelee will try to establish communication once again with Greg Scott and Charles in the loop.
- Devleena
 - Devleena mentioned that her company's work entails using data science and satellite picture analysis in rural communities. So, they mostly work with fishing communities. Aside from building the technology, a lot of social engineering is involved. They mainly help fishing communities with climate-resilient livelihood and disaster management. They also have some pilots on hand to assist. So, it's basically a top-down model. Since this is a worldwide issue, Devleena said she would be pleased to engage with anyone interested within the network.
- Dr Nadine Alameh
 - Dr Nadine provided an update from the perspective of the OGC, stating that they had disaster management-related pilots under their innovation program, which is sponsored by the USGS, NASA, and Natural Resources Canada, and is in collaboration with GEO and UNGGIM Americas. The region of interest was Peru, and the disasters involved flooding and mudslides. That pilot will come to an end at the end of the year.
 - OGC's commercial entities from around the world are essentially contributing different components, and the idea is to leave behind some sort of blueprint for dealing with flooding, and mudslides, and the stages of those disasters. So, how do you forecast? What is your reaction? How do you keep it from happening in the first place?
 - So, she intends to share the results when the pilot concludes, as part of the process involves fundamentals. For example, if you have satellite or Earth observation data, how do you store it in the cloud and query it? How do you make use of open source? What are the available open-source components? How do you make monitoring systems? How do you create decision-ready information or analysis?

- She thinks it would be a good contribution and reasons of it as step 0 because what we could do is scale that to other disasters and see if someone else can take that blueprint and implement it elsewhere in the world where they have similar problems.
 - Further on this, Dr Kumar went on to say that one of the key components for the flooding aspect is elevation models, and that it might be possible to create a source of both open source and proprietary elevation models through collaboration between WGIC and UNGGIM-PSN.
- Valrie Grant (UNGGIM PSN-Americas)
 - They endorsed the Joint Action Plan for the Aguascalientes Declaration's results document. The purpose of that joint action plan is to enhance coordination and dialogue between the Member States and relevant international organizations in order to share experiences related to the application of geospatial technologies and best practices, as well as the adoption of technology to aid decision making. There are three working groups, capacity development working group, a working group for data information and knowledge sharing and the communication, cooperation, and coordination working group of which Valerie is a member. The outcomes document is presently being reviewed.
 - Additionally, being an active participant in the CARIGEO effort, one of the areas that have been concentrated on is the development of a specific project, the early warning system, because this is an issue that affects multiple Caribbean islands. And right now, it is being determined how to reapply this effort to other Caribbean regions, as well as establish the business model that would support it.
 - Valrie added that they are also been working on a Caribbean student's competition, which is currently in the planning stages and is scheduled to launch in January. She intends to communicate with members of the Americas PSN Group as soon as she has a document to share regarding their participation.
 - Valrie added that they are also been working on a Caribbean student's competition, which is currently in the planning stages and is scheduled to launch in January.
 - She intends to communicate with members of the Americas PSN Group as soon as she has a document to share regarding their participation. In addition to that, they are participating in several other committees active in the region, as well as hosting several different workshops with various private sector organizations. For

instance, they recently co-hosted one with Rigel, focusing on LIDAR technologies for scanning the future. And another is expected with Trimble soon.

- In December, they will consider focusing on the Latin America/Caribbean region as well. She is also involved in several working groups and committees, as well as preparing for the eighth session of UNGGIM Americas and the various side events, the first of which she attended this week.
- Willy Govender (UNGGIM-PSN- Africa)
 - UNGGIM Africa has barely any activities and is almost non-operational. On the African continent, things are not progressing as they should, in comparison to what is occurring elsewhere.
 - There is an Africa GIS event taking place (22nd-26th November), along with a UNGGIM-Africa meeting as a side event there. However, the PSN group is not even invited to attend. Demonstrates UNGGIM Africa's lack of commitment and coordination.
 - Regarding this Kuhelee informed Willy that Derek Clarke from WGIC is going to speak about the private sector at the UNGGIM-Africa meeting at Africa GIS. It was the decision that a separate meeting would be arranged between Derek and Willy to get better clarity on this matter and discuss a strategy for that particular event.
 - About the various developments in the region, Willy believes that, as there is no favourable political leadership or political environment now, what is required on the African continent is that technology is used as a facilitator, to overcome this situation.
 - He mentioned a land titling project he is working on in Mozambique with the World Bank. He expressed a desire to leverage technologies such as AI and ML, particularly when it comes to land registration and titling.
 - He added that in his capacity as Chair of the WGIC's PPP committee, they are also exploring innovative business models such as PPPs to address some of the content-related issues. However, this will not be driven by UNGGIM. It will be largely driven by the private sector and will be country specific. It also relates to the World Bank's work in this area. What he would like to do as PSN is some of the work that Dr Kumar and Dr Dieter have discussed and see how these proof-of-concept pilots can be translated into the real world.
 - He added that in comparison to the work that is happening in the Western world, for example, in Europe and the Americas, what is happening in African countries is quite different, and we must find a way to capitalize on the lessons learned in

developing nations. For example, in developing countries, affordability is a concern. For instance, some of these countries are beginning to acquire satellite imagery from the 2020 archive in preparation for their 2022 mapping scenarios, for example. As a result, they are already utilizing out-of-date maps. As a result, it is critical to discuss how data can be made more affordable in these locations.

- Dr Kumar concurred with Willy and added that if people continue to approach imagery in the same way they did five years ago, those business models will be prohibitively expensive. He suggested that PSN as a group write a White Paper discussing how to alter business models for access to imagery and information, which is exactly what Nadine (and OGC) are doing. And there are similar companies such as Planet, Maxar, and others. There are entirely new models in place that the public is unaware of.
 - He also proposed providing information from Maxar that could be used by a neutral party to write a paper on how to change the business model for accessing these types of data in order to assist developing nations as prices continue to fall. As a result, there may be an opportunity for us to assist and educate others about evolving business models for accessing these types of datasets.
 - Valrie endorsed the idea as well, adding that if the PSN agrees, a white paper on data access from a variety of platforms, including satellite imagery, would be a good idea.
 - Dr Kumar suggested that this idea be discussed with the PSN Chair (Sanjay Kumar) and that this group be led by someone other than the data provider (for example, Devleena) to avoid bias.
 - Devleena added that one aspect is the business model; the other is that the user understands the data and, whether he pays for it or not, there is ownership for using the data for responsible consumption. This also pertains to skill development and awareness generation.
 - Dr Kumar approved of this suggestion and said that the term licensing is used, so we should talk about what you can do with the data and this aspect should also be covered in the white paper.
- Dr Kumar made another suggestion. He stated that presently he is involved with some workaround greenhouse gases, particularly methane and carbon dioxide. Therefore, perhaps discuss a paper on the various industries that are addressing these greenhouse gases. And, except for WGIC, there is no one else in the private sector network working on something similar. He asked the PSN board for suggestions on how PSN could assist or contribute to this area.

- Dr Nadine contributed to this discussion by mentioning the OGC Climate Change Service Pilots. The initiative will begin in 2022 and run for five years, with multiple focus areas and cycles dedicated to addressing specific technical challenges. Climate Change Services Pilots' objective is to accelerate collective readiness for accessing, fusing, and analysing data from the climate change modelling community with earth observation and social science data in order to contribute to the global push for climate resilience. Additionally, she stated that the PSN or private sector companies, in general, may contribute to this initiative and the use cases chosen for this pilot.
- Dr Kumar appreciated this suggestion and offered to collaborate with Dr Nadine in order to explore the possibility of writing a paper on how the private sector can assist with issues such as climate change.
- Dr Nadine agreed, stating that this would avoid reinventing the wheel for every region and company.

Way forward

- It was discussed and decided within the board to regroup again soon along with the chair (Sanjay Kumar) in order to decide on the next milestones for the group.
- Dr Kumar agreed to take the lead on the proposed white paper with support from the core group that was formed earlier.