



Outcome report: Emerging technology solutions: Bringing new digital experiences in remote areas

Session Date and Time: Session 1, Wednesday, 7 July 2021 (06:00 – 07:00 Geneva time).
60 minutes.

Moderator:

- Mr. Suetena Loia, Samoa

Speakers:

- Mr. Alan Cheng, Sales Manager, SES Network
- Dr. Abdulla Firag, Director Networks, Dhiraagu
- Dr. Namita Singh, Director - Strategy, Knowledge and MEL, Digital Green

1. Session summary: The panelists analyzed how emerging technologies have the potential to deliver transformative experiences to end users, especially through high-speed broadband connectivity, 5G terrestrial networks, and digital applications and services. The panelists focused on experiences of emerging technologies and the potential of its adoption to solve challenges, while highlighting different technological maturity levels. Participants noted challenges pertaining to enabling environment (policies, regulation), standardization, interoperability, scalability, capacity and affordability.

2. Main outcomes highlighting the following:

a. Discussed Topics:

Digitalization and availability of new satellite technology, including Medium Earth Orbit and Lower Earth Orbit to deliver broadband to LDCs, and SIDSs; 5G Implementation drivers and experiences in SIDSs (Maldives); Community-based digital agriculture services for Rural Areas .

b. Key achievements and challenges shared by the panelists and/or the audience

- Satellite connectivity is useful for the last mile broadband connectivity, especially in the Pacific, and can go hand in hand with submarine cables that are being deployed.
- Satellite focus has been on Geostationary Orbit Satellites. However, Medium Earth Orbit (MEO) can provide high throughput and lower latency, and has been deployed in the Pacific. In addition, Low Earth Orbit (LEO) satellites hold the promise to provide very low latency.
- Ground infrastructure is important too. Antenna technology advancements can ensure that there is no lack of connection when antennas are tracking on a new satellite. Flat panels will be an importance advancement for this, once they are commercially viable and technically feasible.
- Next-generation satellites are vital in bridging the digital divide, but need collaboration between operators in market access and partner ecosystem.
- Microwave transmissions on lower bands have limited capacity, and is a challenge as long island to island links can only be possible on lower RF bands

- 5G services hold great promise for SIDSs and has been successfully deployed by operators in the Maldives. Current business approach is developing 5G hotspots in high population centers. Some of the challenges pertaining to 5G deployments included spectrum interference with satellite, handset verification and lower indoor coverage.

- Rural communities are increasingly getting access to smart devices and internet connectivity, including women community members. Video based agriculture best practices sharing and use of chatbots combined with messaging can accelerate dissemination and sharing of knowledge .

- Onboarding users to new digital channel is challenging – issues range from those of trust to limited digital skills. But users have to see high value to continue using the service – timely personalized services are valued.

c. Main conclusions reached during the discussion

- Next-generation satellites are vital in bridging the digital divide and providing broadband enabled services in remote islands and rural areas but need collaboration between operators in market access and partner ecosystem for the service viability and sustainability.

- - 5G implementation is important for LDCs, LLDCS and SIDSs but need careful planning consideration

- Use of emerging technology is important to bridge the knowledge gap in rural communities .

3. Panelists contributions to the outcome reports

- End to end broadband connectivity is important to deliver digital services and applications leaving no one behind. To achieve the objectives of delivering the benefits of emerging technologies to remote citizens, submarine cable, satellites and terrestrial networks play important respective roles, especially in Small Islands Developing States and remote areas. The choice of GEO, MEO and LEO satellites to deliver services is driven by the technical requirements such as latency, speed, etc. The advancement of antenna technology and partnership ecosystems are also driving the development.

- 5G deployment is important for SIDS, LDCs and LLDCS owing to the growing need for broadband. Deployment of 5G in SIDS require careful technical and business planning consideration. There is a need to encourage operators setting up connectivity in countries to do due diligence (e.g. wireless interference, technical choice, handsets, coverage needs and to make an informed choice among multiple providers).

For LDCs and SIDSs, existing 2G/3G/4G coverage remains relevant since data usage is limited outside the main islands. There is a need to leverage emerging technologies innovatively to deliver digital services and bridge the knowledge gap for rural community members, based on how they want to access information and services. One needs to keep farmers and communities in the center when using data, addressing issues such as data privacy and security while delivering high value to the end user.