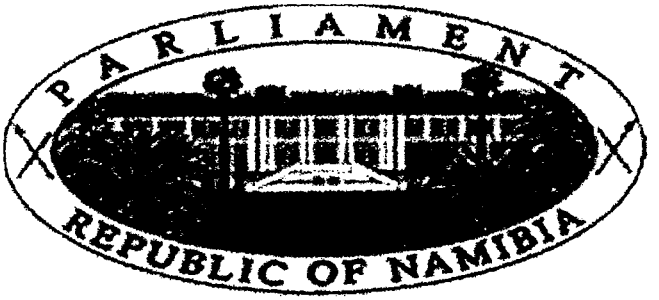
National Assembly



FUTURE-SAT AFRICA SUMMIT 2017

"SMARTER NETWORKS FOR AFRICA"

11 – 12 JULY 2017

ABUJA, NIGERIA

Contents

ACRONYMS

A4AI	Alliance for Affordable Internet
CAPEX	Capital Expenditure
GVF	Global VSAT Forum
HTS	High Throughput Satellite
ICT	Information, Communication Technology
ICT & I	Information, Communication Technology and Innovation Committee
ISP	Internet Service Providers
Mbps	Megabits per second
MHz	Megahertz
OTT	Over-the-top

1. INTRODUCTION AND BACKGROUND

The Parliamentary Standing Committee on Information, Communication Technology and Innovation (ICT) as part of its consolidation of relationship with international ICT stakeholders, received an invitation to attend the Future-Sat Africa Summit 2017 which took place from 11 – 12 July 2017 in Abuja, Nigeria. The Committee was represented by Hon. Rebekka Ndapandula Nakale-Ipinge, Hon Themistokles Dudu Murorua and Ms Charmaine Groenewald, (Parliamentary Clerk).

Future-Sat Africa is an initiative conceived by the global satellite industry key players with the intention of bridging the relationship between Satellite and Terrestrial services as technology providers. The summit focused on the need for integration and collaboration between satellite and terrestrial technologies and the purpose of connectivity, rather than just reviewing the technologies in isolation.

The Summit was organised by Extensia Limited in partnership with the Global VSAT Forum (GVF) and the Nigeria Ministry of Communication. GVF is the single and unified voice of the global satellite industry, an independent, non-partisan and non-profit organization with member companies from throughout the world. It brings together organisations engaged in the delivery of advanced broadband and narrowband satellite services to consumers and commercial and government enterprises worldwide.

2. METHODOLOGY

Through different presentations, dedicated sector case studies, different perspectives on connectivity requirements for emergency showcase NGOs, education institutions and large enterprises. These insights illustrated the need for network diversity, effective planning and collaborative thinking when it comes to aligning network developments with end user requirements.

Furthermore lively panel discussions combined insight perspectives of one of Africa's leading satellite connectivity providers Yahsat, with a fibre focused; Nigerian IPS – BCN; VSAT connectivity provider; Hughes and Rural Connectivity service provider – NuRAN to get a balanced view on how a country can enjoy the benefits of multiple technologies in order to achieve robust connectivity and how service providers must be open to exploring all options when it comes to developing their networks.

GVF launched their SatAfrica Working Group with a parallel session for policymakers and regulator setting up the opportunity for engagement, collaboration and open dialogue between the satellite industry, policy makers and regulators in Africa to ensure further alignment.

2.1 WORKSHOP PARTICIPANTS

Over 150 delegates across 16 Countries (of which 10 are African countries) gathered in Abuja, Nigeria and discussed the backdrop of a rapidly evolving connectivity agenda in Africa and on the verge of major evolutions in the global satellite sector.

The summit was attended by a unique blend of key decision makers from across Africa including, Policy Makers, Regulators, Service Providers, Broadcasters and Major ICT end users and senior representatives from the Global Solutions and Consulting markets.

2.2 PURPOSE OF THE REPORT

The report intends to provide a summary on what transpired at the summit and to identify possible best practices that could be used in Namibia. For the purpose of this report, information on the summit attended by the delegation, which are of significance to Namibia is highlighted below:

3. FINDINGS AND DISCUSSION

3.1 GVF : NEWSPACE CONSTELLATIONS: EXPANDING THE SATELLITE ECOSYSTEM

There is an accelerated growth in the converging satellite ecosystem as currently, satellites already deliver mobile backhaul, push data services, linear and non-linear TV, converged media, broadband services, many M2M services that will be part of the 5G ecosystem. By 2020 -2025 there will be over 100 High Throughput Satellite (HTS) in the orbit delivering Terabits of Connectivity across the world using Ku and Ka bands. Satellites provide high-level cyber-resilience. High Throughput Satellites (HTS) creating fast, affordable and available broadband over satellite. HTS is not the only key enabler for backhaul, though, ground terminals need to play their role and adapting to new market requirements. In addition modems evolving from handling a couple of megabits per second (Mbps) to hundreds of Mbps, ground terminals must improve efficiencies in terms of Mbps per MHz, keep Capital Expenditure (CAPEX) at reduced levels, perform traffic optimization, optimally support "bursty" traffic and allow bandwidth pooling, support security applications and encryption and optimize media traffic.

3.2 SMART CITY CONNECTIVITY: ROLE OF ICT AND SMART INFRASTRUCTURE

The modernized human life revolves around the city that 100 years ago less than 20% of people lived in an urban area while in 1990 less than 30% of the global population lived in a city whereas in 2010 greater than 50% lives in an urban area. By 2050 this proportion will increase to 70%.

Africa is witnessing rapid urbanizing growth as currently 40% of Africans live in urban areas and this equates to roughly 414 Urban Dwellers. As a result, urban areas are getting more and more congested and it brings numerous challenges like education, employment, housing, infrastructure, health care, transportation and energy. Managing urban areas has become one of the most important developmental challenges of the 21st century.

It is important to understand that Africa is a very large and very complex place with many unique challenges. It has a different urbanization model whereas socio-economic conditions in African cities are now the most unequal in the world and this threatens stability, affecting the continuity of African cities as socio-political human ecosystems.

Africa is a rapidly expanding continent, with urbanization rising incomes and better living standards. The current socio-economic conditions in African cities make it unique in the global context. However traditional methods and approaches are not going to work unless they are fully integrated. ICT on its own will not do this as we need an effective and integrated strategy that looks at people, processes and technology across societies. The African ideas of smart city connectivity framework has shown potential to provide this integration. Africans should work together to provide the connectivity which will enable the reliability and bandwidth required to deliver this much needed services.

3.3 NETWORK SECURITY

Cybersecurity attacks are happening all the time and becoming more prevalent. The number of cybercrimes that occur is increasing at a rapid rate whereas cybercriminals are operating at the speed of light while law enforcement moves at a low speed.

Cyberspace is an environment that combines people, processes and technology. It is not borderless because it perceived as borderless but its borders are seamless to the end user. Every country has its own cyberspace which is defined by its national infrastructure. Implications are that threat actors carry out their activities in an apparently seamless environment, while the law enforcement operatives are constrained by issues of jurisdiction. Nigeria through the 2015 National Cybersecurity Policy and the National Cybersecurity Strategy recognizes cyberspace as the 5th domain of warfare after Land, Sea, Air and Outer-space.

Billions of dollars are lost every year by such attacks. According to statistics 0,80% of Nigeria's GDP is lost to cybercrime (N$137 billion annual direct losses), 45.3% of internet users suffered attack in the third quarter of 2015 while between 13 April 2015 and 1 February 2016, 3,599 breaches of Nigeria domains with 2.518 websites defaced. The more people are interconnected to cyber space, the more they are at risk to cyber threats.

Cybercrimes are evolving through large scale such as, (i) wide spreading incident (e.g. virus, worm outbreak), (ii) script kiddies and crackers (professionals, organized Cyber-gangs) and (iii) motivation for fun (peer recognition). Cybercrime is fueled by opportunity, interconnectedness and ignorance. The motivation behind cybercrime are categorised by the following aspect:

i) Financial - Make money fraudulently or steal money outright;
ii) Political - Cyber War: one nation attacking another Hacktivists; and
iii) Personal - Enjoy the challenge and risk disgruntled current or former employees

As has been evidenced over the past years, cyberattacks are part of the new reality. The best way to combat against cyberattacks is to build cyber resilience which relies on far more than just securing the perimeter. An emphasis on resilience are to develop proposals for policy and norms coherence related to the security as well as stability in and of cyberspace, to support information exchange and capacity building as well as research and advocacy.

3.4 NETWORK RELIABILITY

Nigerians and all Internet Service Providers (ISPs) that were connected to Glo1 and SAT-3 suffered a great set back on internet connectivity. Major ISP's nightmare that encounter to submarine cables caused internet disruptions and affecting millions of users across Nigeria. Several ISP's were affected and network performance degraded. Other hurdles were local network disruptors caused by copper scavengers, damage to local fibre cables, poor infrastructure, high cost of ROW, no redundancy, rogue operators, frequency interference, high cost of tower rental and community issues.

Due to set back on internet connectivity, a coalition called Alliance for Affordable Internet (A4AI) was established in 2014 to address goals of open, affordable Internet access to all Nigerians. In order to achieve these goals, the coalition came up with a solution for High Throughput Satellites, ISP's Celestial Solution which provide a high-speed broadband across all territories, education and health, small and medium businesses, farms administrations, Post offices as well as all residential uses up to 100Mbps with download speed above 99% availability. Compared to terrestrial technologies, satellites offer unrivalled coverage and reliability, while providing high speeds at an affordable price.

3.5 ACCESS TO INFORMATION AS AID – REFUGEE CONNECTIVITY PROGRAMME EUROPE (2015 – 2017) – A CASE STUDY

In November 2015, Nethope's joint efforts with other international development organization to identify key ICT related needs at the refugee camp in Greece. Although many refugee have mobile phones, they need to be able to communicate with family and friends as well as to access crucial information.

Between November 2015 and December 2016, the Nethope-led has deploy 81% connectivity at various refugee camps in Greece. An estimate 600,000 users at 81 locations connected and have been benefiting from the services. All refugee networks are cloud-managed, monitored 24/7 as well as protecting 2.4 million DNS queries every 24 hours. This clearly illustrates that communication is aid as it can be categorised among others as a basic needs.

3.6 YAHSAT CONNECTED WORLD

Africa will transform into a single digital market to enhanced connectivity and creates empowered societies. Impact of broadband connectivity are that 10% increase in broadband connectivity are equal to 1.38% which increase in GDP of developing nations. Connectivity challenge in Africa are satellite broadband hence Yahsat connecting various communities and companies across Africa such as Schools, Clinics, Commerce Banking GSM Backhaul, Island Sites GSM as well as Under Served Areas Rural Communities, Lodges, Ferries, Police Stations, etc.

Other initiative projects through Satellite Broadband are:

i) e-Learning: 1,000 students connected at Primary School in Kenya. Students are not only encourage to attend school, but have great access to resources;
ii) e-Healthcare: more than 30 health clinics have access to information in Kenya while10,000 people per day receive quicker, more cost-effective care due to improved communication;
iii) e-Government: 207 National Libraries have internet labs across the Eastern Cape, South Africa:
iv) e-Government: 1.2 million retired government employees currently have access to their pension funds:
v) e-Government: 8.6 million listeners have access to live announcements;
vi) Remote living with full connectivity connections over Satellite Broadband.

4. CONCLUSIONS

ICT is the key to unlocking Africa's full potential socially and economically, while Communication Networks are the roadmap to finding the lock. However the biggest challenges to providing universal access to socio-economic development in Africa is in providing people with affordable, reliable and ubiquitous access to ICT. Depending on their circumstances, people have many different requirements ranging from:

i. Access to basic services which enable significant improvements to their daily lives;

ii. High-Speed uninterrupted access that enables video, social media, Over-the-top (OTT) to demanding digital citizens and mission critical services for international businesses;
iii. Mobile access that enables remote and mobile workers who need connectivity to move with them;
iv. Secure networks that allow sensitive and confidential information to be communicated in confidence;
v. Communication Service Providers, Large enterprise, Governments and the Third Sector each face different challenges in delivering networks that will provide their stakeholders with access to ICT and enable fulfilment of their objective.

The Future-Sat Summit has a strong believe and trust in satellite as the way forward for ICT and serves as a platform to provide valuable opportunities for key ICT decision makers from across Africa to meet with leaders from the global Satellite sector.

5. RECOMMENDATIONS

5.1 The Government of the Republic of Namibia through the Office of the Prime Minister should implement the e-governance project in Namibia fully in order to improve economic growth and National development.

5.2 Ministry of Information and Communication Technology
i) to speed up the process of law enforcement by enacting and implementing the upcoming Cybercrime Bill in order to reduce damaging consequences of cybercrime as well as create permanent and secured information;
ii) to develop policy and/or framework to increase global resilience and security of National ICT assets which support critical functions of the government;
ii) to adopt best practices related to IT in education as well as healthcare and training of end users.

Nakale ..... 27/03/2018 .....
Hon. Rebecca Nakale-Ipinge — Date
Deputy Chairperson

..... 27/03/2018 .....
Hon. Themistokies Dudu Murorua — Date
Member of ICT Committee