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FORUM2015

14 - 16 SEPTEMBER, **SAFARI PARK HOTEL**, NAIROBI, KENYA

EVENT
REPORT2015

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Welcome to the 2015 Commonwealth Telecommunications Forum Event Report

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01 Executive Summary

The CTO Forum 2015 was held from **14th to 16th September 2015** at the Safari Park Hotel & Casino, Nairobi, Kenya, hosted jointly by **the Communications Authority of Kenya (CAK)**, and the **Ministry of Information, Communications and Technology of Kenya** under the theme *Towards a Connected Commonwealth.*

The main objective of the 2015 Forum was to improve understanding among stakeholders of the role of ICT connectivity, role of access in socio-economic development and the need for equitable Information and communications technology (ICT) access.

The CTO Forum 2015 focused on key aspects of the ICT connectivity eco-system, including ICT regulation and facilitation, reaching the first mile in connectivity, international connectivity, trade and commerce, utilising connectivity, financing connectivity, internet governance and security, and future technology trends.

This Forum was attended by around 220 participants representing 23 Countries and 65 resource persons who delivered 13 sessions. The Programme of the event is in the annex of this report.

02 Opening Ceremony

Chair: **Boni Gantile**, Executive, Telkom Centre for Learning, Telkom South Africa

The CA Director General, **Francis Wangusi**, expressed support for a united and stronger CTO. The CA Board chairman, Mr. Ngene Gituku emphasised the commitment of CA to improving lives through ICTs.

Lasantha De Alwis, Director, Operations, representing Prof. Tim Unwin, Secretary General, CTO highlighted the importance of treating access to ICTs as a basic human right.

Professor Umar Garba Danbatta, Chairman CTO, in a speech read on his behalf, by **Josephine Amuwa**, Director/Policy, Competition and Economic Analysis, Nigeria Communications Commission, emphasized the importance of ICTs for socio-economic development and stated that CTO would strive to remain relevant in the fast-changing ICT eco-system.

Paul Njaga, CEO, Chase Bank Kenya, noted that ICTs have continued to simplify access to financial services with quick turnaround for service provision. This has led to wider financial inclusion, poverty eradication, and access to banking services by the youth through innovative products.

Theresa Swinehart, Senior Advisor to the President on Global Strategy, International Corporation of Names and Numbers (ICANN), underscored the importance of partnerships and globalisation as means to providing solutions to ICT challenges. She noted ICANN's current efforts in the IANA stewardship transition and in enhancing ICANN accountability processes.

Malcolm Johnson, Deputy Secretary-General, International Telecommunication Union (ITU), noted that the ITU has common objectives with the CTO with regard to ensuring widespread access to affordable ICTs by all member states.

In his opening address, Honourable **Dr. Fred Matiang'i**, Cabinet Secretary, Ministry of Information, Communications and Technology, Kenya stressed the role of ICTs and especially broadband, to Kenya's development goals, noting that ICT is a key contributor to Kenya's gross domestic product (GDP) and critical to the delivery of public services. **Dr. Matiang'i** called for objective discussions during the forum aimed at increasing access and reducing costs in order to foster ICT and broadband connectivity within the commonwealth.

The swearing in ceremony of **Shola Taylor**, Secretary-General elect, CTO, was also conducted during the opening ceremony. During this function, **Mr. Taylor** took the oath of office as the new Secretary-General of the, CTO.

Session 1: 03
High level panel of eminent persons:
Connecting the Commonwealth: The future

Chair: **Cris Seecheran**, Chief Executive Officer, Telecommunications Authority of Trinidad & Tobago

Key outcomes:

- Adoption of ICTs is key to socio-economic development and thus Governments must encourage infrastructure roll-out, covering both wired and wireless access technologies

- Though access to broadband in developing countries is growing, affordability of devices and connectivity is still a challenge

- Shared infrastructure and removal or reduction in roaming costs, could help reduce costs and boost trade

- There are concerns that Sustainable Development Goals (SDG) do not make sufficient reference to ICTs despite growing innovations in ICTs which will be applicable in all areas of the SDGs

- Increased connectivity must be accompanied by a wide range of services that consumers can choose from

- Effective competition policy and regulatory framework can help reduce costs of services

- Universal Service mechanisms should be employed to enable affordable access to ICTs and broadband

- Further standardization of spectrum allocations across the globe can lead to economies of scale for manufacturers and reduce the costs of devices

- There must be effective National Broadband Policies and implementation strategies

- Supporting infrastructure such as clean energy and transport must be developed

- Increasing challenges such as Cybersecurity and on-line child protection must be addressed

- Content must be available in different languages, similar to the availability of top-level domain names in different languages.

- Strategies have to be put in place to achieve universal access to ICTs and Broadband. It is necessary to lower costs of broadband services and devices i.e by removing taxation, which will accelerate broadband uptake

04 Session 2:
International Connectivity

Chair: **Shola Taylor**, Secretary-General elect, CTO

Key outcomes:

- Landlocked countries are challenged by high transit fees levied by the coastal and the intermediary countries, when trying to connect to undersea cables.
- Greater cross-border coordination is required in the development of broadband infrastructure and harmonization of tariffs for bandwidth sale across borders
- Satellites could provide reliable broadband infrastructure back up and redundancy, as well as a way to overcome limitations in the first and last-mile connectivity such as distance, terrain and availability of other infrastructure such as grid electricity.
- Marginal costs for additional users connected via satellite technology is lower than corresponding costs of mobile and fibre
- Due to declining costs, landlocked countries could consider satellite connectivity especially using the Ka-Band, as their primary means of international connectivity.

05 Session 3:
Regulation

Chair: **Josephine Amuwa**, Director, Policy, Competition and Economic Analysis, Nigerian Communications Commission.

Key outcomes:

- The essence of regulation should be to ensure citizens' universal access to quality ICT services.
- Regulators should strike a balance between consumer's and operator's concerns.
- Managing competition is key to affordable ICT access to the citizens
- Policy and regulatory frameworks should encourage investment and innovation in the ICT sector.
- Regulators must aim at reducing barriers for new market entrants. They could be given incentives to roll out in the un-served and under-served areas
- Modern market based spectrum management approaches are essential for the growth of mobile broadband services.
- There should be effective regulation to protect consumers from Cyber threats and provide for on-line protection for children.
- Competition from Over-The-Top services has disrupted the sector. A light touch regulatory approach is necessary to manage such disruptive emerging technologies.
- ICTs can be applied in various situations to drive the national agenda, as has been the case in managing the outbreak and the recovery from the Ebola tragedy in Sierra Leone.
- Infrastructure sharing and open access should be encouraged
- Taxation on ICT services and devices must be reviewed, or removed altogether
- Mobile operators should ensure reliability in the provision of mobile services

Session 4: 06
The Broadband Promise

Chair: **Abdoulkarim Soumaila**, Secretary-General, African Telecommunications Union

Key outcomes:

- Despite the tremendous growth in international bandwidth, first mile infrastructure remains poor on account of access and affordability.
- Nearly half of Sub-Saharan Africa's population is within 25km range of the backbone fiber optic network. However there is a challenge of how to connect these consumers to the backbone network.
- Satellite technology could compliment limitations in terrestrial infrastructure roll-out.
- Though Africa has the world's second largest number of mobile subscribers, challenges such as quality of service, affordability, rural penetration, effective competition and infrastructure rollout remain.
- A large number of African countries have mobile penetration rates above 50 per-cent but growth in broadband penetration is still low.
- For developing countries, mobile broadband is the most promising access method, but spectrum availability, uncompetitive markets, expensive wireless networks, and the declining profitability of data services for operators remain challenges.
- Independent and impartial enforcement of policies and regulations could ensure fair market competition, protect consumers and encourage a vibrant broadband echo-system.
- National broadband strategies and policies are vital tools for broadband inclusion for all. The CTO has assisted Sierra Leone develop a broadband strategy
- To successfully develop and implement a National Broadband Strategy/ policy, support from the highest level of government, multi-stakeholder partnerships, expertise from international community, and the appointment of a lead implementing agency are key factors.
- National broadband strategies and policies must embrace the entire broadband eco-system comprising policy, legal and regulatory framework, infrastructure (high speed networks), content and applications, devices, and users, as well as financing and investment.
- Fibre, cable, wireless and satellite technologies apply in different population profiles i.e. dense, medium and scarce population respectively

- Government taxation on ICT services and devices must be reviewed, or removed altogether. Sub national authorities must re-think their imposition of heavy taxes on telecommunication infrastructure and services
- Relevant content developed in diverse languages and consumer awareness are important to develop the broadband eco-system
- Incentives such as enabling policies, simplified licensing regimes, availability of spectrum, reducing regulatory obligations, and tax incentives should be provided to investors for broadband

infrastructure roll out, especially in underserved and unserved areas.
- Private public partnerships are necessary for faster broadband infrastructure roll-out, and to reduce cost for broadband access
- Cheaper smart phone initiatives must be embraced
- Emerging technologies, such as TV White space technologies, which enable broadband connectivity to rural areas, should be cosidered
- Community ownership of the first mile connectivity in areas that are not economically viable is an option for network extension.

07 Session 5:
Governing the Internet: Emerging consensus

Chair: **Nigel Hickson**, Vice-President for IGO Engagement, ICANN

Key outcomes:

- ICANN is a multi-stakeholder institution involving a wide variety of actors in different capacities and roles in governing the Internet.
- Major stakeholders in the governance of the internet are the Internet community, the business community, the US Government, International organisations such as the International Telecommunication Union (ITU) and the World Intellectual Property Organisation (WIPO), and National Governments.
- Internet's global multistakeholder community has made tremendous progress in its work to develop a proposal to transition the historic stewardship role of the National Telecomuncations and Information Administraiton of US in relation to domain name system (DNS). It has been proposed to extend the Internet Assigned Number Authority (IANA) contract with ICANN for one year till September 30, 2016. Beyond 2016, there are options to extend the contract for up to three additional years if necessary.
- The IANA transition must be done in

a manner that preserves the security, stability and resilience of the DNS
- The multistakeholder Internet governance approach enables ICANN to operate outside the control of the US or any other government. Some have suggested a UN treaty that will help govern the internet.
- Legitimacy must be a cornerstone of the multistakeholder Internet governance approach. It must reflect an acceptance by the private and public sectors of the broad framework that the transition plan articulates and a continuous process of negotiation and power balance.
- Multistakeholder governance may pose problems of accountability. Unlike traditional state-driven multilateral agreements, where states are accountable to their citizens, the non-hierarchical network structure of multistakeholder governance lacks clear accountability incentives which should be addressed.
- Africa should be more involved in the multistakeholder internet governance framework
- ICANN must focus on developing a post-transition plan that includes measuring success, calibrating failures and making the necessary course corrections over time.

Session 6: 08
Global M-Commerce

Chair: **Torbjörn Fredriksson**, Chief, ICT Analysis Section, United Nations Conference on Trade and Development

Key outcomes:

- There is increasing global acceptance of Mobile commerce as a facilitator of easy access to new markets with the potential to reach masses in the developing world.
- The need for mobility backed by the high penetration of mobile devices is the primary driving force behind the growth of M-Commerce, especially in the banking, entertainment and marketing sectors.
- Affordable smart phones, with more varied modes of making transactions, applications or programs in local languages will reduce the language barrier to entry and use of mobiles for banking and enhance growth of m-banking and m-commerce.
- Trust, ease of use, and cost-effectiveness are crucial drivers for the establishment and growth of M-commerce services.
- Awareness is a key factor affecting the adoption of M-commerce. Previous experiences of internet shopping may aid in building familiarity in M-commerce.
- Security of transanctions and appropriate data protection policies are essential for the growth of M-Commerce
- Legislation and regulations governing M-commerce should encourage investment in the sector and promote innovation. Over regulation and lack of clear concurrence policy framework where M-Commerce is regulated by more than one sector-specific regulator, can hinder innovation and the growth of M-Commerce.
- New bussiness opportunities such as aggregation platform providers that provide a common platform to connect several banks and telecom service providers (TSPs) will help transaction processes and promote the growth of m-banking
- International standards of interoperable platforms across countries and also of technological standards for various modes of transactions are vital for the global growth of M-Commerce
- There must be greater and enhanced co-ordination among stakeholders in the m-Commerce eco-system.

09 Session 7:
Utilising Connectivity

Utilising connectivity in Health
Chair: **James Kaphale**, Director of Legal Services, Malawi Communications Regulatory Authority

Utilising connectivity in Learning
Chair: **Stella Appiah-Nkansah**, Human Resource Director, Vodafone, Ghana

Utilising connectivity in Agriculture
Chair: **Marcel Belingu**e, Senior Manager, Head of Membership and Communications, CTO

Key outcomes:

- E and M- health initiatives could mitigate challenges associated with emerging diseases, the dynamic nature of medicines, limited contact time with learners, and shortage of qualified trainer staff
- The cost of devices and cost of internet connectivity presents a big challenge
- Governments and regulators should enact policies and regulations that promote innovation in the mobile applications sector. USF funds could be used to support ICT connectivity and fund innovations
- Enabling environments should be created to increase the availability of scalable mobile applications in the health, education, and agricultural sectors. This can be achieved through establishment of enabling platforms, funding of incubators, accessibility to broader markets, and alternative financing mechanisms to enable scalability of m-applications
- Human capacity development and improvement in digital literacy is required to make citizens aware and be able to make use of mobile applications
- A robust partner eco-system is required in order to increase utilisation of ICT connectivity in the health, learning, and agricultural sectors
- An effective mechanism is required for monitoring and evaluating the impact of the various efforts made in ICT utilisation

10 Session 8:
Technology future trends

Chair: **Daniel Onyango Obam**, Communications Radio Technology Expert, National Communications Secretariat, Kenya

Key outcomes:
- With the emergence of Internet of Things (IoT), the ICT sector is set to witness unprecedented changes such as convergence in technology evolution, device capabilities, services, big data, cloud computing, cashless payment systems, intelligent transport systems, and multiple sensors.
- These expected developments will result in higher demands for bandwidth, and especially spectrum, for mobile broadband.
- These trends would result in increased challenges in Cybersecurity, data privacy and interoperability among existing technology systems and platforms, among others
- Shared broadband connectivity could be provided in the design of roads, railway lines, power grids, sewers, buildings and other infrastructure
- The allocation of the digital dividend is key in determining the future roll-out of broadband services by operators
- Interoperability among current and future systems and platforms is critical to achieve a global networked society
- Policy makers and ICT regulators must be more strategic and pragmatic to support innovation and the evolution of ICT technologies, content and services
- Effort must be taken to ensure more effective Cybersecurity and privacy frameworks

Session 9: 11
Mobile Money Innovations

Chair: **Dr. Monica Kerrets-Makau,** Senior Faculty, Strathmore Business School and Consultant, ICT Policy, World Bank

Key outcomes:

- In Kenya, the mobile money revolution has resulted in employment opportunities in terms of agents and vendors for the mobile money companies, and contributed greatly to socio-economic development by taking financial services to the un-banked in the rural areas.
- Governments around the globe were increasingly encouraging the citizens to embrace mobile payments for Government services.
- Establishment of enabling regulations, funding of incubators, accessibility to broader markets through integration with other money payment systems, and alternative financing mechanisms are key considerations to boost uptake.
- Barriers to mobile money services include rigid policy and regulatory requirements, and security of mobile money transactions
- Operators and regulators should address threats to mobile money innovations such as identity theft, phishing, and loss of personal data. This calls for enhancing of security mechanisms in order to establish confidence and quality assurance in the mobile money sector
- Governments and regulators should enact policies and regulations that promote innovation in the mobile money sector
- An effective mechanism for evaluating the impact of mobile money innovations is required

12 Session 10 :
Youth and ICTs

Chair: **Jean Baptiste Mutabazi**, Rwanda Utility Regulatory Agency

Key outcomes:

- Nearly 2 billion or 30 per-cent of the World's population is below the age of 24 years, with 580 million adolescents girls in the world, four out of five of whom live in developing countries. This presents an opportunity for African countries to benefit from their large youthful populations in what is known as "the demographic dividend".
- ICT based channels such as radio, internet, and social media can be used to empower the youth in peace-building networks. The private sector can provide solutions for community peace building programs e.g. free minutes,

SMS to facilitate communication
- Outdated curriculum in universities is a challenge. Governments and universities should work together to ensure current technologies are applied in the existing curriculum and draw on industry perspectives.
- Mobile providers can also help in partnering in peace-building efforts. Supporting tech savvy youth is key in peacemaking efforts.
- ICTs can be used to increase access to education through e & m-learning, as well as in bridging the gap in limitations to facilities by simulations of experiments and lab environments
- Research in learning institutions must be relevant, and must address the socio-economic problems affecting the populations

13 Session 11:
Financing Connectivity

Chair: **Josephine Towett**, Principal Consultant, Alvory Consulting and Member of Universal Advisory Council, Kenya

Key outcomes:

- Universal Service Funds (USF) are key to ensuring reliable and affordable internet/broadband for all.
- There are differences in access to ICTs and broadband by geographical, income, and level of education segregation, among other factors. These access gaps present key obstacles to the goal of achieving universal access to broadband.
- USF programmes need to be re-engineered to support ICT/Broadband services in addition to basic voice telephony and community access points
- Affordability of ICT/Broadband services and devices should be a key consideration, in additional to universal access (UA)
- Co-ordination among stakeholders is important to the successful

implementation of universal service strategies and policies
- An effective monitoring and evaluation framework is required for implementation of UA and USF programmes
- To attract funding and investment opportunities, start-ups must present attractive propositions.
- Wireless and satellite services could provide affordable connectivity solutions in remote areas and help achieve universal access to broadband
- Infrastructure Sharing and Open -Access among operators must be encouraged
- Governments could declare ICT and broadband as critical infrastructure
- Public private partnerships could provide extra support for USF programmes
- To be successful, USF must be based on sound legal, policy and regulatory frameworks
- The USF must be managed by an autonomous/independent fund administrator with an all inclusive stakeholder representation

Session 12: 14
Connecting Rural Communities

Chair: **Pumla Radebe**, Chairperson, Universal Service & Access Agency of South Africa

Key outcomes:

- A conducive policy and regulatory framework is essential to encourage investments in rural connectivity.
- Where public funds are committed to ICT infrastructure investment such as in public private partnerships, regulators should encourage open access arrangements to maximize the economic benefits across as broad a base of users and suppliers as possible.
- Policy makers and regulators have several options to provide incentives for the private sector to invest in the ICT sector in rural communities such as reducing entry barriers, simplifying licensing regimes, giving waivers on spectrum fees, reducing regulatory obligations, and offering tax incentives.
- Governments and the private sector could support investment in R&D activities, especially those geared towards the development of innovative ICT connectivity solutions, applications and content.
- Capacity building in digital literacy, local content generation, and holistic development are vital in connecting rural communities.
- Strategy for ICT access in rural communities should revolve around community engagement from the start
- Rural community communication solutions should have low energy requirements, possibly based on renewable energy, low security risks, low network costs and should meet rural market demand.
- Initial focus should be on public access areas such community tele-centres, Government offices, schools, health facilities, police stations and learning institutions
- Wireless and satellite services could provide affordable connectivity solutions in remote areas and help achieve universal access to ICTs and broadband

15 Session 13 :
ICT initiatives for All

Chair: Ms Judith Owigar, Founder, Akirachix, Kenya

Key outcomes:

- For inclusive development, disadvantaged groups must have access to mainstream ICT connectivity and services
- The ICT for all collaboration framework must include all players in the eco-system i.e consumers, service providers, policy makers, manufacturers, and content developers.
- Initial focus for ICT inclusion for all should be in the sectors of rural agriculture, remittances, and migration.
- Equality for women and girls is not only a basic human right, but it is a social and economic imperative.
- The design of ICT devices, products, programmes and services must be based on the principle of usability by all people, to the greatest extent possible, without the need for adaptation or specialised design
- The right to access to ICT services for vulnerable groups including, people with disabilities, girls, women, and under-serviced communities must be protected and enforced
- Funding through Universal Service Funds could be useful in addressing ICT needs for vulnerable and disadvantaged groups
- ICT facilities that do not require sophisticated knowledge to use need to be developed
- Community based ICT facilities which can be shared among vulnerable and disadvantaged groups should be encouraged
- Access to ICT services by vulnerable groups must be safe and equitable. Cybersecurity and Child-on-line protection measures for these groups must be put in place.

16 Closing Ceremony

The CA Director General, **Francis Wangusi** thanked the participants for the lively discussions and urged them to build on the identified opportunities and challenges to create better broadband economies.

Rakesh Luchmun, Head of Finance and Administration, CTO, speaking on behalf of Professor Tim Unwin, Secretary-General, CTO, called for recognition of access to broadband as a fundamental right of every citizen. He stressed that CTO would continue to play a key role in supporting member countries in their ICT development initiatives.

Shola Taylor, incoming Secretary-General, CTO thanked all organisers and sponsors of the event and called for continued networking for the ICT cause.

Professor Umar Garba Danbatta, Chairman, CTO and Executive Vice Chairman of the Nigerian Communications Commission emphasised that CTO would continue to promote the spirit of commitment among its member states

In his official closing speech, **Joseph Tiampati ole Musuni**, Principal Secretary, Ministry of Information, Communications and Technology, Kenya, stated that broadband must be at the centre of our development agenda and urged participants to continue to share experiences and leverage on each other's strengths in the broadband eco-system.