DSA Showcase Session

Global Summit
A NEW SPECTRUM MINDSET

November 3-5, 2020
VIRTUAL EVENT
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Academia-Regulator Collaboration in the era of DSA

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Collaboration between SU and CA

- Strathmore University (SU) and the Communications Authority of Kenya (CA) signed an MoU in January 2019 (Stretching to 2022) to establish a framework of collaboration on spectrum management research. The research covers – Dynamic Spectrum Access (DSA) techniques, A focus on TV White Spaces, IMT bands, 5G, Software Defined Radio and Cognitive Radio techniques as well as Cybersecurity.

- In December 2019, the UK Department for International Development (DFiD) provided a grant to SU in collaboration with CA to complete the validation exercise for the TVWS draft framework whose work had began earlier on. The project officially began in January 2020 and is expected to end in August 2020.

- Tracks on the project included:- Field surveys and studies in Kisumu, Kitui and Laikipia counties to validate theoretical measurements, new technical tests together with Dynamic Spectrum Alliance partners, In-country co-existence calculations between DTTs and WSDs and stakeholder engagements on the draft framework. The overall output of this work is the release of the TVWS framework for Kenya.
The Communications Authority of Kenya (CA) receives an application from Microsoft for the deployment of a trial TVWS network in Kenya.

- **December 2012:**
  - Mawingu Networks releases the TVWS trial report - demonstrates good coverage, reliable Internet speeds and no interference to the DTV/DTH services. A data rate of up to 16 Mbps on a single 8 MHz TV Channel at a distance of up to 14 km.

- **February 2013:**
  - The project was called Mawingu Project (origin of the rebranding of Indigo Telecom to Mawingu).

- **August 2014:**
  - CA Presents findings from the TVWS Trials in Nanyuki at the Dynamic Spectrum Alliance Workshop in South Africa and lays a foundation for TVWS future plans.

- **May 2017:**
  - Strathmore University conducts studies together with Mawingu Networks and CA. CA conducts Due Diligence in USA, South Africa and UK.

- **June 2017:**
  - Strathmore University signs an MoU with CA and invites other researchers to join the work. The Dynamic Spectrum Alliance (DSA) on TVWS. Work on TVWS Regulatory Studies Conducts a TVWS Workshop in Nairobi led by the CA. DSA also visits CA.

- **January 2019:**
  - Strathmore University and CA engage the UK Department for International Development (DFID) on funding to validate the studies and the framework.

- **October 2019:**
  - DFID funds Strathmore University in collaboration with CA to validate the regulatory framework. SU invites more researchers to join the work from other institutions.

- **March 2020:**
  - The Draft Framework on “Authorisation of the Use of TV White Spaces in Kenya” is released and published on the CA website for stakeholder and public review.
Mawingu Pilot 2013

Spectral Opportunity for SS – 2020

Findings

➢ No interference to the incumbent DTT services.
➢ Great coverage of up to 14km.
➢ Capacity on the CPE station was 20 Mbps.
Summary of the Draft Regulations
• **DSA Potential through TVWS:** Rural Wireless Internet Provision for Schools, Health Centres, Technical Institutions, Rural Startup hubs, County government offices and services etc. TVWS will also enable access to e-government services by rural populations. Innovation through IoT is a big potential in Kenya and the EA region.

• **Studies on Challenge and Limitations:** Guarantee on Return on Investment, Global feedback on the deployment of TVWS in other countries, challenges of local knowledge and technical skills for deployments.

• **Next Steps:** SU and CA will be pursuing more studies on dynamic spectrum access – TVWS best-fit approach of implementation and coverage, DSA in the IMT bands (2.3 GHz, 5G bands), WiFi 6 and other bands, research on Neutral hosting and more work on SDRs/CRs for DSA.
Thank you