Type of Session: LIGHTNING TALK (Can also be considered for Poster session)

TITLE: POWER FOR BASE STATIONS

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BIOGRAPHY

Temitope Mercy John is currently undertaking her Phd in Electrical and Electronics Engineering in Covenant University, Nigeria. She has a Masters' degree in Electrical and Electronics Engineering and a Bachelors of Engineering degree in Information and Communication Engineering. She is currently a junior faculty at Covenant University, Nigeria. She is a member of professional bodies such as the Institute of Electrical and Electronics Engineers (IEEE), International Association of Engineering (IAENG), Nigerian Society of Engineers (NSE) etc. Her research interests include but not limited to: Machine learning, Data Analytics, Smart and Connected Communities research, Internet of Things and Renewable Energy.

KEYWORDS

Base Stations, Green Mobile Networks, Solar Powered Base Stations

SHORT DESCRIPTION

This Lightning talk is partly inspired by Cathrin Stover's lightning Talk from TNC 17 tagged Truth to Power. She stated in her presentation that from a cable perspective Africa is one of the best connected continents in the world but Internet penetration is still the lowest in the world. According to [1], in a study consisting of 44 countries in Sub-Saharan Africa (SSA) from 2000-2012, the mean Internet penetration per 100 persons was 4.222 and the mean Mobile Phone penetration per 100 persons was 24.428. This figures corroborates the overall low technology penetration in SSA.

One of the major limiting factors to the widespread adoption and utilization of internet technology and mobile telephony in SSA; is the general lack of access to electricity especially in the rural regions of the continent. Mobile operators usually have to spend large amounts of revenue to install and maintain diesel generators in remote areas.

The quick solution to this is to adopt Solar Powered Base Stations. This technology is not only suitable for off-grid communities but also will help to reduce the pollution from diesel generators and also reduce the cost of installing and maintaining diesel generators in the long run.

REFERENCES

[1] S. A. Asongu, S. Le Roux, and N. Biekpe, "Enhancing ICT for environmental sustainability in sub-Saharan Africa," *Technological Forecasting and Social Change,* vol. 127, pp. 209-216, 2018/02/01/ 2018.