# Nwana makes case for DSA at ITU Telecom World

Dec 09, 2014 by Toby Youell

**H. Sama Nwana, chief executive of the Dynamic Spectrum Alliance, used a panel session at ITU Telecom World 2014 to argue that dynamic spectrum access technology could go some way to addressing Africa's digital divide.**

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The other panellists disagreed with Nwana on most aspects of dynamic spectrum access (DSA), although they did agree that it should be subject to some form of spectrum pricing.

DSA is championed by some internet and engineering firms who believe its efficient use of spectrum could revolutionise spectrum management. Microsoft is currently running six TV white space (TVWS) pilots in Africa while manufacturer MediaTek is now producing 802.11af chips, which will use UHF white spaces as well as unlicensed spectrum in the 2.4 GHz and 5 GHz bands. The technology is also being piloted in the UK and is authorised for use in Singapore and the US.

"The technology is there, the only thing that stops us is policy and regulation," Nwana said. He argued that clearing spectrum for new services is an extremely difficult undertaking and that DSA, which works as a secondary service and cannot interfere with primary services, could be the quickest way of rolling out certain broadband services. Nevertheless, he acknowledged that it may not be right for every country.

Eng Godfrey Mutabazi, executive director at the Uganda Communications Commission (UCC), told the panel that he is potentially open to DSA, but not immediately. He said his country firstly needs to complete its migration from analogue terrestrial broadcasting to digital broadcasting, and that after that the UCC needs to be convinced from the ongoing pilots that the technology is feasible.

As well as pilots in Africa, TVWS technology is currently subject to several ongoing studies within the ITU-R. Fahai Yao, vice president of China Satellite Communications, argued against any use of TVWS until these studies are completed.

Mutabazi added that the UCC would need to resolve data protection and sovereignty issues to do with the geolocation database that is widely accepted to be necessary for TVWS. These concerns were echoed by Ericsson's Shiv Bakhshi. "The database will be privately owned and the database is going to dynamically allocate spectrum and in effect appropriate the role of spectrum policy making," he said. Nwana noted that the UK regulator, whose spectrum policy he used to manage, had decided to retain ownership of this data.

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Intel's Peter Pitsch agreed with Nwana's calculation that the opportunity cost of allowing TVWS to remain unused supported the case for dynamic spectrum applications in these bands. Nevertheless, he argued that these bands would be better licensed on an exclusive basis to mobile operators. Additionally, he argued that the low power limits that have been imposed on TVWS by the Federal Communications Commission in the US had rendered the technology redundant, and that this could happen in other parts of the world.

Expanding on Pitsch's point about opportunity cost, Bakhshi argued that the reason broadcasters have access to this spectrum is that they are deemed to have a social value. Therefore, he said, "it's not the opportunity cost to broadcasters we should worry about, it's the opportunity cost to society". He also pointed out that the lower UHF bands could be used for mobile broadband in the future.

The GSMA's Roberto Ercole also argued that the bands would be better used for mobile broadband because the technology is proven and benefits from economies of scale. He contrasted this with the geolocation

database. "What value does the database add, and what uncertainty does it create?" he asked. "Can you have 3.4 billion subscribers for what I think is at best a niche product?" He also argued that it is difficult to build a business model based on secondary rights to spectrum. "At the end of day, operators need exclusive spectrum they can control," he said.

Against this, Nwana argued that mobile operators' business models in Africa probably meant that some rural areas would probably never receive broadband access.

"I am encouraging every regulator to release spectrum for broadband as fast as possible. But regulators have to ask themselves: will 3G and 4G cover the 70 to 80 per cent gap [of people in Africa who do not currently have access to mobile broadband]? If they won't, you should at other alternatives as well," he said.

Ercole argued that there is no reason that the 3G or 4G footprints would not eventually match the 2G footprint, which according to the GSMA currently covers around a third of Africans.

Earlier in the day, the head of Egypt's telecoms regulator said he was against the use of TVWS. "We think it will be better to allocate it once and for all instead of knowing how to manage interference," said Eng Hesham El Alaily, executive president of the country's National Telecommunication Regulatory Authority.•

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