

Google, WAPA trial TV White Spaces in SA

Google, the Wireless Access Providers' Association (WAPA), and partners recently announced the launch of a TVWS trial involving ten schools in the Cape Town region.



Television White Spaces (TVWS) are vacant frequencies in the broadcast TV spectrum and have characteristics that are highly desirable for wireless communications, offering the potential to improve internet connectivity where they are most needed in the developing world.

The advantage of white spaces is their ability to pass through obstacles and travel longer distances, making the technology well suited not only for expanding coverage of wireless broadband in densely populated urban areas but also for providing low cost connectivity to rural communities with poor telecommunications infrastructure.

According to project manager, Arno Hart, "This TVWS technology trial brings South Africa to the cutting edge of innovation in terms of improving internet connectivity and is a very positive step towards bringing many more South Africans online. This trial will be used to inform the regulatory process in South Africa."

Three base stations

The trial involves broadcasting wireless services from three base stations located on top of Stellenbosch University Medical School to ten schools in the Cape Town region. The aim of the trial is to demonstrate that broadband can be offered over white spaces without interfering with licensed spectrum holders. The network will use Google's spectrum database to determine TVWS availability, with CSIR monitoring for interference and reporting results to ICASA and local broadcasters. WAPA has sourced local vendors to deploy the network and WAPA member Comsol Wireless Solutions is responsible for the installation, configuration and maintenance of the project.

Luke Mckend, Google South Africa country manager says, "We are pleased to be part of this exciting new development - the first of its kind in South Africa - and look forward to opening discussions with policy makers around a regulatory framework that will support the wider use of TVWS to deliver wireless broadband internet across the country."

WAPA's participation in this trial marks the results of several years of lobbying for more progressive and efficient spectrum management in South Africa. Says WAPA chairperson Christopher Geerdts, "WAPA's 150 member organisations are at the forefront of delivering broadband access to rural communities across South Africa and the TVWS initiative vastly increases the scope of what we can achieve."

Dr Ntsibane Ntlatlapa, manager at CSIR Meraka Institute, adds that TVWS could help bridge the digital divide, transmitting internet data over long distances without causing interference to primary users, thereby opening up access to underserved and rural communities.

Partners take up the challenge

Google supported its first white space trial in the US in 2010, and has recently launched a spectrum database for public comment period with the FCC. In 2011, Google hosted a TVWS Africa workshop in Johannesburg, co-organised by WAPA, at which ICASA lent support for an industry-led white spaces trial in South Africa. Google then worked together with WAPA, CSIR Meraka, TENET, eSchools Network, Comsol Wireless Solutions, Carlson Wireless, and Neul to take up the challenge.

White Space technology is gaining momentum around the world. It is already available for licensed exempt uses in the US. Ofcom, the UK regulator, is working on a model regulatory framework based on the licence exempt but managed use of TVWS spectrum. The partners hope the results of the trial will drive similar regulatory developments in South Africa and other African countries.

The majority of WAPA members currently make use of licence exempt frequencies in accordance with the ICASA Frequency Licence Exemption Regulations 2008. It is however, recognised that this is not a sustainable solution, given the pressure under which these bands are coming.

WAPA is promoting the development of a sustainable frequency-sharing model in South Africa and believes that this is a key intervention in raising spectrum efficiency and providing opportunities for new entrants. This trial is set to demonstrate that TVWS spectrum represents an immediate win that can be taken advantage of by the regulators. Says Geerdts, "WAPA looks forward to a greatly improved frequency regime which we can be proud that we contributed towards improving."

For more info, go to www.wapa.org.za.

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