

Dynamic Spectrum Access Comes to Asia

Executive Director of Dynamic Spectrum Alliance tours Asia

13 October 2014: Dynamic Spectrum Access (DSA) technologies and evolving spectrum regulations are underway in Asia, helping governments, businesses, and communities to make wireless broadband more widely available and affordable, and increasing the amount of spectrum to the benefit of consumers and businesses alike. The viability of DSA including TV White Spaces (TVWS) has been proven in numerous [trials across the globe](#), from remote villages, to dense urban centres.

This month witnessed Prof. H Nwana, Executive Director of the Dynamic Spectrum Alliance, tour the region, which kicked off with presentations by himself and EJ Chiang from MediaTek, a Dynamic Spectrum Alliance member, focused on utilizing spectrum's full potential, at the Radio Spectrum Technology & Management Conference @ Wireless China Industry Summit in Beijing. While in Asia, Prof. Nwana also held meetings with the Chinese Academy of Telecom Research (CATR), State Radio Regulatory Commission (SRRC), Ministry of Industry & Information Technology (MIIT), State Administration of Press, Publication, Radio, Film and Television (SAPPRFT), United States Information Technology Office (USITO) in Beijing, and Japan's Ministry of Internal Affairs and Communications, and a group of Japanese companies interested in DSA.

Prof. H Nwana, Dynamic Spectrum Alliance Executive Director, said: "DSA's time has come in Asia. The pace of development in the region is incredibly encouraging so, by supporting and working together with regional Asian organisations, regulatory bodies and Governmental departments, we hope to continue to open up underused spectrum by advocating for new laws and regulations that will lead to more efficient and effective spectrum utilisation and encouraging DSA pilot project initiatives."

Recently, Asia has witnessed a flood of activity. In China, the Government of the People's Republic of China has already made significant advancements regarding management of its spectrum resources as it continues to go through a public consultation period on revising its radio spectrum management policies. In Singapore, the Infocomm Development Authority (IDA) has developed a regulatory framework for unlicensed access to 180MHz of unused radio spectrum in the broadcast TV frequency bands which comes into effect in November 2014.

Elsewhere, the Taiwan Dynamic Spectrum Access Pilot Group continues to make good progress. The Pilot Group, which Prof. Nwana participated in the signing of, is working towards the creation and development of a world-leading dynamic spectrum access ecosystem in Taiwan. This will leverage Taiwan's tremendous capabilities in semiconductor design and fabrication, component and devices manufacturing, and systems integration and solutions.

"The region, as a whole, is making major progress and by moving towards dynamic allocation of spectrum, more resources and spectrum can be made available, especially at a time when Asia is exploring innovative wireless, and data-hungry, technologies. Asia will provide the setting for next year's Dynamic Spectrum Alliance Global Summit – we're still exploring possible locations, so I urge anyone who would like be involved, and who would like to host with us, to get in touch," added Prof. Nwana.

Over the past few years, global organisations and Dynamic Spectrum Alliance members have worked closely with local providers, radio manufacturers, regulators, donor agencies and ICT

ministries to demonstrate the benefits of DSA technology in underserved communities in emerging economies. Dynamic Spectrum Alliance members are driving work forward:

- 6Harmonics Inc, a DSA founding member, has invented an Adaptive Radio Network-ARN* that allows dynamic spectrum access as well as a scalable cell size and topology. This innovative wireless network technology provides 4G access speeds at the lowest cost to date, making a cost effective WAN dynamically accessing all available spectrum economically possible. ARN* has been deployed in 12 countries on five continents. In rural Africa, 6Harmonics FCC certified GWS3000 has been deployed to establish high-speed connections over distances in excess of 10km under NLOS propagation conditions. In the Philippines, GWS3000 has been deployed for disaster recovery. Dr Robert Wu, Founder and CEO of 6Harmonics disclosed that 2 new products are in the final tests: AP with highest RF power on the market to date for longer range, and a low cost palm size CPE which will enable large scale deployment. Dr Wu further noted, when those get deployed, people can dial WiFi anywhere.
- Aviacomm, Dynamic Spectrum Alliance founding member, has broken new ground for realizing DSA with its innovative RF transceiver solutions, which are designed to utilize new spectrum made available and brings into use frequency bands subject to challenging regulatory requirements. Shih Mo, President and CEO of Aviacomm, Inc, said: "Aviacomm is leading the way toward high-performance flexible RF solutions that will enable dynamic spectrum sharing – the next generation of technology which will achieve significant improvements in coverage and capacity for wireless networking and mobile devices."
- Mediatek, the Taiwanese semiconductor Tier 1 giant and founder member of the Dynamic Spectrum Alliance, announced at the DSA Global Summit in May they would release a tri-band chipset in partnership with another Alliance member Aviacomm that would support traditional WiFi in the 2.4Ghz and 5Ghz range as well as TV White Spaces band using the 802.11af standard. Mediatek is the 3rd largest manufacturer of WiFi chipsets in the world.
- NICT, based in Japan, has developed several world standard based TV White Space devices, along with other technologies (e.g. IEEE802.22, IEEE802.11af, and LTE release 8 (eNB,smartphone) and White Space database compliant with FCC, Ofcom, and the Japanese TV band contour calculation algorithm. It has also done world-first field trials using these international multi-band standard devices. Prof. Hiroshi Harada, Executive Research Director of NICT, commented: "Some world standards have already been issued and some feasibility trials based on the standards have also been completed. Now it is a time to think about actual business ecosystems by collaborating global representative partners."

The Dynamic Spectrum Alliance believes a real and immediate opportunity lies with TVWS, the unused TV broadcast channels. The Alliance is working to promote regulatory policies which will pave the way for innovative new wireless technologies, addressing growing wireless data challenges. The cross-industry Alliance works to engage with regulators and government officials to promote the adoption of legal and regulatory frameworks that facilitate dynamic access to radio spectrum.

For further information about the Dynamic Spectrum Alliance, please visit www.dynamicspectrumalliance.org/, or follow [@dynamicspectrum](https://twitter.com/dynamicspectrum) on Twitter. Alternatively joins the Alliance on [Facebook](#) or [LinkedIn](#). For all media enquiries, please contact Dana Hare at dana.hare@proactive-pr.com or +44 7795 615466, or Russell Cafferty at russell.cafferty@proactive-pr.com.

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About the Dynamic Spectrum Alliance

The Dynamic Spectrum Alliance is a global organization advocating for laws and regulations that will lead to more efficient and effective spectrum utilization. The DSA's membership spans multinationals, small- and medium-sized enterprises, and academic, research, and other organisations from around the world, all working to create innovative solutions that will increase the amount of available spectrum to the benefit of consumers and businesses alike. Visit <http://www.dynamicspectrumalliance.org/>, follow [@DynamicSpectrum](#), <https://www.facebook.com/DynamicSpectrumAlliance>, and <http://www.linkedin.com/groups/Dynamic-Spectrum-Access-DSA-5122947>.