**APrIGF Seoul 2013**

**Workshop Summary Reports**

**Date: September 4, 2013**

**Time: 1430-1600**

**Track: Access**

**Workshop Title: Sharing Spectrum: A Solution for Asia’s Mobile Bottleneck?**

**Reported by & Contact Email: Jim Foster; jfoster@sfc.keio.ac.jp**

**Moderators: Jim Foster, Keio University**

**Panelists: Hiroshi Harada, Smart Wireless Laboratory, NICT**

 **Andrew Jun, VP, Spectrum Policy, Korea Telecom**

 **Jeffrey Yan, Director, Technology Policy, Microsoft Singapore**

**A brief summary of presentations (If any)**

 In their opening remarks, each panelist was asked to summarize research, commercial and policy developments regarding the use of white space in their respective jurisdictions (Japan, Korea and Singapore). Reference was also made to developments in the US, where the Federal Communications Commission (FCC) has used a variety of policy instruments to promote unlicensed use of white space and more efficient and economically rational use of spectrum.

**A substantive summary and the main issues that were raised:**

Definitions of white space are not completely uniform. The most common understanding is spectrum made available through the “digital dividend” i.e. the transition from analog to digital broadcasting, which has opened up areas of spectrum formerly reserved for television. But increasingly there is an appreciation (and the technology to support it) that white space might include any “open channels” in heretofore assigned frequencies as long as issues related to interference and quality of service can be managed. Both government and commercial research groups in Japan, Korea and Singapore are actively exploring the opportunities opened up by this to expand Internet services in rural areas, off-load mobile traffic, expand the availability of Wi-Fi and provide a variety of novel services.

These developments have technological and commercial significance, but they also may raise interesting issues related to the management of spectrum and indeed to Internet governance. Spectrum has traditionally been thought of as a valuable and limited resource and as such has been regulated by governments and licensed to users on an exclusive and purpose-designated basis. Yet new technologies that map actual spectrum use both in terms of location and time may open the door to use of the same spectrum by multiple users for multiple purposes. This is a challenge to the role of traditional telecoms and broadcasters that currently hold large amounts of commercially valuable spectrum and to the traditional preeminence of government in managing spectrum as a key national resource. And it opens the door to a discussion of how we might move from spectrum “allocation” to spectrum “sharing” as well as how we might expand the range of “stakeholders” using both licensed and unlicensed spectrum to offer and consume a range of services quite beyond telephony and broadcasting.

White space usage schemes and the technology that support it are still in the realm of the experimental. But as Asian populations increasingly move on line, the ability to manage and use spectrum effectively will be key to economic growth. This will be particularly true in rural and economically depressed areas where affordable connections to the Internet are still not widely available.

**Conclusion & Further Comments:**

There is quite a bit of research and growing business interest in the concept of “sharing spectrum.” But there also needs to be a parallel discussion of the policy and regulatory requirements for “spectrum sharing.” Over time, this could result in a veritable “sea change” in government thinking and management of spectrum. Indeed, spectrum management has been the starting point for much of the government role in the ICT sector. Changes here could boost competition and promote new innovation. A crucial next is for standards bodies to work on harmonizing technical approaches to mapping and accessing white space and other unlicensed frequencies across the region and globally so that devices and services based on white space can operate seamlessly in multiple markets.