

Remarks of Dr. William Lehr
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ITU Workshop on Market Mechanisms for Spectrum Management
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It is a great pleasure and honor to welcome you all here to participate in this workshop on spectrum management. We are on the cusp of another big cycle of innovation and growth in Information and Communications Technologies and their role within our economies and societies.

Over the past several decades, computer processors have been embedded in our cars, consumer appliances, and infrastructure grids. Today, mobile telephony and the Internet deliver mass market personalized and data communication services. Now, these worlds are merging into a broadband, mobile Internet. A new age of post-PC devices are arriving. We are in the early stages of deploying sensor nets. The distributed processing power and data communication needs at the edges of the network are exploding. The world of pervasive computing – always/everywhere connected and unaware – is at hand. Networking all of these computing/communicating devices requires lots of different kinds of wireless services – low and high power, low and high bandwidth, fixed and mobile, wireless personal area, local area, and wide area networks. Wireless also holds the promise for extending connectivity to un- and underserved rural and developing markets and expanding competitive options everywhere.

To meet the challenges and opportunities presented, a wide array of new wireless technologies are poised for commercialization, including smart antennas, new signal processing and modulation techniques, software radios, UWB, WiMAX, 3G/4G and a host of other innovations that together have dramatically expanded the available pallet for designing and operating radio systems. Although the laws of physics have not changed, our technical understanding of how to work within those laws to allow applications to be supported over a wider array of frequencies and to share spectrum among multiple users and uses has expanded dramatically.

Unfortunately, legacy regulatory policies framed for a world of radios from a 100 years ago are blocking many important innovations, leading to artificial spectrum scarcity. There is a growing consensus that the appropriate direction for change is toward increased reliance on market mechanisms to more flexibly and dynamically allocate spectrum among contending uses. Such market mechanisms include liberalized licensing and shared-used "commons" or "unlicensed" use.

Accomplishing the necessary regulatory reforms will require an appropriate balancing of a diverse range of stakeholder interests and there are many details that need working out. Regulatory reform will give rise to and will need to adapt to innovation in industry and market structures as businesses adjust their business models and strategies to address the

new challenges and opportunities posed by a transition to more dynamic market-based spectrum access regulatory frameworks.

This is a multidisciplinary challenge, requiring collaboration among experts in technology, business economics, and law and public policy from government, industry, and academia. It is an international challenge since coordinated change, if possible, will enable faster realization of global scale and scope economies and, hopefully, help minimize old and new Digital Divide issues. And, it is a timely challenge. We need to reform spectrum management now to enable the new wireless future. Over the next two days, I look forward to insightful and lively discussion of how we can more effectively use market mechanisms to ensure our collective spectrum resources are best used.