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SHIV BAKHSHI SPEECH AT WSIS FORUM June 12.2017

Honorable Ministers, Secretary General Zhao, Director Rancy, Ladies and Gentlemen,

It is an honor and a privilege to have the opportunity to address this august gathering on the subject of the mobile industry ecosystem and the role of the ITU in its development over the years, specifically the Radio sector.

In their 30 odd years of existence, mobile technologies have touched and revolutionized practically every form of human endeavor. The mobile revolution is reconstituting social, economic and political relationships, transforming institutions and businesses, and redefining the way we work and play.

The mobile technology, aided and abetted by concomitant improvements in processing, storage, display and other associated information technologies, has transformed the world.

The culture of mobile data consumption, wrought by the growing ubiquity and maturity of mobile networks and smart devices, and by digitization, has invited the transformation of industry after industry and it constitutes the societal mainstay that anchors the emerging platform economy – the likes of Ubers and AirBnB's, Facebooks and Snapchats, and what have you.

According to several scholars, the impact of the mobile revolution far exceeds that of the industrial revolution in terms of technology evolution and economic growth worldwide.

But perhaps, most important, the mobile technologies have given voice to millions, both in the literal and the political sense – not to mention access to information that can dramatically improve and transform their lives.

Some numbers might help put in perspective the size and scope of the mobile industry.

According to the Ericsson Mobility Report, a report we publish every six months, as of the first quarter of this year, Q1 2017:

- There were 5.2 billion mobile subscribers (that is, individuals with mobile connectivity)
- There were 7.6 billion mobile subscriptions
- Of these, 4.6 billion were mobile Broadband subscriptions. (By MBB we refer to 3G and 4G technologies, that is WCDMA, HSPA and LTE technologies)
- Today, the mobile networks cover 95% of the world population. (This means 95% of the world population live in areas that have sufficient radio signal to connect to the mobile network.) Mobile Broadband covers about 80% of the world population, and is likely to cover 95% of the world population by 2022.
- There were nearly 1.5 billion smartphones shipped last year, in 2016, a remarkable increase from about 300 million smartphones shipped in 2010.
  The smartphone numbers are important, because for an overwhelming share of the world population, especially in developing economies, smartphones provide the only form of access to the Internet.
- The mobile data traffic grew to 8.8 Exabytes – one exabytes is a quintillion bytes of information, that is, one with 18 zeroes. And, more than half of it was driven by video.

Likewise, when one considers mobile industry's <u>economic</u> contribution, the numbers are equally impressive.

- In 2016, mobile technologies and services generated 4.4% of GDP globally, equivalent to around $3.3 trillion of economic value. It contributed about $450 billion to the public sector in the form of general taxation, and several more billions through spectrum auctions.

- Mobile operators have spent more than a trillion dollars in capex since 2010, and are expected to invest another 700 billion dollars by the end of this decade.
- The mobile ecosystem supported approximately 28 million jobs in 2016.

I could go on, but you get the idea. And I have not even spoken about the tremendous societal transformation that awaits us as 5G – with its three-fold promise of enhanced mobile Broadband, massive and critical MTC – is deployed and takes hold. The promise of 5G is that it will transform industries as varied as automotive and health care, financial services and manufacturing, transport and utilities, media and entertainment and public safety.

In September 2015, the United Nations Member States adopted the Sustainable Development Goals (or SDGs) — a 17-point plan to end poverty, combat climate change and fight injustice and inequality by 2030. The UN SDGs and their associated targets outline a broad and ambitious agenda that integrates economic, social and environmental issues across all geographies and applies to both developed and developing economies.

Mobile is essential to achieving the SDGs.

In its 2016 Mobile Industry Impact report, which assess the impact of mobile industry on SDGs, the GSMA reported that mobile is already contributing to all 17 SDGs to varying degrees.

BUT markets and technologies do not fall like manna from heaven. They are built painstakingly by careful management and planning of fundamental resources. The case for mobile is no different. We often forget that when we speak of mobile technologies, we are essentially speaking of the radio – the mainstay of all that is mobile. And radio requires spectrum to function, which is why we hold that Spectrum is the lifeblood of all that is mobile.

And ever since the advent of the radio, spectrum has required thoughtful management and planning – a task that the ITU's Radio Sector, since its earlier incarnation as the CCIR, has essayed admirably.

The ITU-R, as we know, coordinates the vast and growing range of radiocommunication services, and manages the international radio-frequency spectrum and satellite orbits. That is, it registers frequency assignments and orbital slots.

What is perhaps less known, is that the ITU's Radiocommunication Bureau, the executive arm of the ITU-R, beyond providing administrative and technical support to radio-communications conferences, assemblies, and study groups, also develops and publishes handbooks and reports on best practices in national spectrum management that help member states understand fair and effective use of the radio-frequency spectrum and satellite orbits. The importance of the ITU-R's spectrum related publications is evident from the fact that they have assumed the status of a bible, as it were, to quote a friend.

But trying to define the contribution of the ITU-R in these terms misses the point. What is salient is that, through its many study groups, and working parties, the ITU-R provides the necessary platform for discussion and debate on matters relating to spectrum by all the spectrum stakeholders in industry, research, academic and governments sectors.

The public nature of the peer review and debate in the many study groups and working parties constitutes an inherent safeguard against opportunistic play by self-proclaimed experts and the "new age" prophets in spectrum management who often posit that we trust them on faith.

Further, in providing the platform for developing consensus that translates into globally harmonized bands, the ITU-R helps ensure both the protection of investments (through sharing studies which are the basis of WRC decisions) and the definition of worldwide harmonized standards and best practices.

This global harmonization of spectrum and development of standards together create the market certainty necessary for investment and the development of scale that in turn makes things affordable. Equally important, the creation and dissemination of standards, allows new players, both entrepreneurs and small companies, an opportunity to join and grow the ecosystem.

Given the fast pace of technology change and rapid evolution of technologies, it is sometimes argued that the ITU-R is somewhat of an impediment to things. I can understand where that critique may be coming from. But here is the question, should we deliberate and reflect hownto use a critical resource like spectrum, or should we leave it to the opportunistic whims and vagaries of the marketplace?

Deliberation and reflection require time. And so does the building of consensus and the achievement of harmonization. The cost of coordination is invariably paid in the currency of time. But, as my wise friends in Africa have it, Travel Alone, If you Wish to Travel Fast. Travel Together If You Wish To Travel Far.

What the industry is doing, and the ITU-R is supporting, is serious work with long term effects. It needs to continue to invite the world to debate and reflect and not fall prey to the falls messiah of opportunism.

Thank you for your attention.

Dr Shiv K. Bakhshi