Telecommunication
Development Sector

ITU Regional Seminar IMT towards 2020 and Beyond

Ho Chi Min City, Vietnam 11 Feb 2014

Seminar Report
11th of February 2014
Original: English

REPORT

1. INTRODUCTION

The ITU Asia-Pacific Regional Seminar on "IMT towards 2020 and beyond – Technology & Spectrum" was organized by ITU on 11 February 2014 at the New World Saigon Hotel, Ho Chi Minh City - Viet Nam. The Seminar was kindly hosted by Ministry of Information and Communication of Viet Nam with support from various sponsoring entities[i].

The objective of this event is to highlight the importance of IMT for ICT development and emphasize the need to adopt harmonized solutions to issues related technological advancement and spectrum availability for IMT systems in future.

This report gives an account of the work and outcomes of the Seminar.

2. PARTICIPATION

The Seminar brought together delegates from Administrations, Regulators, Industry Experts, Academia and senior government officials and other stakeholders.

The Seminar was attended by around **156** participants representing 16 ITU Member states from Asia-Pacific Region, 8 ITU Member states from outside Asia-Pacific Region and several worldwide ITU Recognized operating agencies and Scientific or Industrial organizations.

Fellowships were provided to delegates Afghanistan, Bangladesh, Cambodia, Lao P.D.R, Myanmar, Nepal, Samoa, Mongolia and Papua New Guinea.

3. SESSION PROCEEDINGS

The one day seminar was organized into two sessions namely: Technology Session and Spectrum Session. Details of the session by session proceedings are as follows:

Technology Session

Moderated by: *Dr. Hakan Ohlsen, Ericsson- Vietnam*

The session involved 3 seminar addresses and 5 presentations followed by 30 minutes of Question and Answers. The summary of the session deliberations are as follows:

SEMINAR OPENING

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The seminar was opened by Mr. Doan Quang Hoan, Director General ARFM-Vietnam. He welcomed the participants to Ho Chi Minh and noted the importance of this seminar not only for Vietnam but also for the entire Asia-Pacific (ASP) region. He commented that the demand on RF coverage bands is higher than the demand on RF capacity bands for developed countries and to resolve this there are two trends of making spectrum available to meet the future requirements of mobile broadband services. The first one is by seeking new spectrum and the second one is through re-farming the current frequency bands that are able to migrate to mobile broadband from existing services.

He hoped that the seminar followed by ITU-R WP-5D meeting would go a long way in understanding and resolving the challenges associated with roll out of future IMT systems.

SEMINAR REMARKS

Ms. Aurora Rubio, Head of ITU Area Office for South East Asia, thanked the Ministry of Information and Communication (MIC) Vietnam, through the Authority of Radio Frequency Management (ARFM) for the warm welcome and for hosting the Seminar. She likewise acknowledged and thanked the Seminar sponsors for the support extended. She remarked that the spectrum issues have now become top priority for national Administrations, regulators and ITU and that ITU will continue its efforts to address these issues and assist Administrations, especially those in developing countries, to deal with these challenges.

SEMINAR ADDRESS

Mr. Steven Blust, Chairman ITU-WP5D highlighted that due to its valuable applications in several sectors of the society and the national economies, IMT is no longer an option but IMT is something that connects people with their world, everywhere they live and work. He encouraged active participation of all the delegates during the coming days so as to have concrete outcomes from the two back to back events.

MOBILE MARKET AND TRAFFIC GROWTH

Ms. Amy Sanders from Alcatel Lucent presented the projections of the traffic growth in future. However, it was mentioned that it has been observed that actual traffic seen nowadays has overtaken all the projections made in the past. She attributed the major reason of this growth to video streaming activities and video conferencing applications. It was suggested that making more spectrum bands available together with offloading of traffic (e.g: on WiFi) may be a possible solution.

3GPP IMT TECHNOLOGY DEVELOPMENT AND SPECTRUM ASPECTS

Mr. Antti Toskala, representing Nokia Siemens Networks (NSN) introduced the evolution of small cells and their technical characteristics. He explained the LTE carrier aggregation solutions for efficient spectrum usages involving interference suppression by cancellation and suppression. The presentation also explained the work being done on 3D beam forming for vertical sectorization.

RESEARCH TRENDS AND IMT BEYOND 2020

Mr. Johan Skold from Ericsson presented the latest research trends in telecommunication networks and especially explained the ongoing work on 5G systems. According to his presentations, 5G means unlimited access to Information and sharing of data available anywhere, anytime to anyone and anything. He encouraged participants to mobilize funds for supporting the research on the new technologies for the benefits of the society as a whole.

MOBILE DEVICES AND SERVICES - PAST AND FUTURE

Mr. Haeyoung Jun, representing Samsung presented the evolution of User devices over the past decade. He explained the available device technologies in the market today and the future trends in device manufacturing including new battery technologies, high performance processors, displays, cameras, and wearable forms of devices, etc. The concepts of augmented reality, connected car, connected health, UHD streaming etc. were discussed.

SPECTRUM AND TECHNOLOGY IN VIETNAM

Mr. Dinh Chi explained the activities undertaken by Administration of Vietnam in support of the introduction of future IMT systems in the country. These include Mobile traffic projections, spectrum demand estimation, spectrum re-farming and digital dividend.

He emphasized the importance of global and regional approaches through collaboration of regulators, Industry and operators in order to resolve the common issues.

Spectrum Session

Chaired by: *Mr. Le Van Tuan, ARFM*

The session involved 7 presentations followed by 30 minutes of Question and Answers. The summary of the session deliberations are as follows:

IMT ACTIVITIES CONDUCTED BY ITU-D

Mr. Aamir Riaz from ITU Area Office for South East Asia presented the activities undertaken by the ITU-D at Global level and at ASP Regional level. Details of the work of ITU-D SG-2 were presented specifically the work under question Q-25/2. Participants called on Seminar participants to partner with ITU in areas of common interest for the Global ICT development (including IMT) and of the ASP region in particular.

ESTIMATED FUTURE SPECTRUM NEEDS FOR IMT

Mr. Hiroyuki Atarashi, representing NTT DoCoMo highlighted the methodology of spectrum estimation based on the working of ITU-R SG-5 and JTG 4-5-6-7. He further explained the two traffic offloading approaches taken into account in Recommendation ITU-R M.1768-1. Based on global traffic estimations done in 2012, the calculations show total spectrum requirements for IMT in 2020 of 1340 MHz in case of low user density settings and 1960 MHz in case of high user density settings. This would mean a requirement of additional spectrum identification for advanced IMT systems.

LSA FACILITATES NATIONAL SPECTRUM ACCESS FOR IMT

Ms. Eiman Mohyeldin from NSN presented a concept of Licensed Shared Access (LSA) as a solution to overcome Spectrum Licensing challenges to promote spectrum efficiency. She informed that this approach is being studied at CEPT and ECC. She emphasized the fact that LSA may be taken as complimentary licensing method instead of a spectrum sharing technique.

IMT FOR DEVELOPING COUNTRIES

Mr. Soglo Bienvenu from Qualcomm presented the challenges faced by developing countries in adoption of IMT. He shared the statistics from ITU and broadband commission regarding the impact of broadband wireless on national economies. He further highlighted the importance of adoption of recommendations by different ITU SGs by developing countries in order to make spectrum available for IMT - 2000 and IMT – Advanced.

NEW TRENDS ON TV-CONTENT CONSUMPTION

Mr. Lasse Wieweg Of Ericsson explained the changing TV viewing behaviour globally which shows a gradual increase of Mobile viewing and decrease of fixed station based TV content consumption. He made emphasis to consider the change of viewing behaviour especially of population in age group 35-54 years while planning new strategies nationally, regionally and globally.

POSSIBLE CANDIDATE BANDS FOR IMT FOR WRC-15

Mr. Jiao Jian of Huawei explained the WRC-15 agenda items related to IMT and the associated timelines. The presentation included the suitability criteria for determining the candidate band to deploy IMT services. These criteria included amongst others: cost and coverage based on propagation characteristics, contiguous band availability and suitability of band to develop equipment with simple architecture. Mr. Jian presented the different candidate bands along with reason of their suitability.

SHARING AND COMPATIBILITY STUDIES TOWARDS WRC-15

Mr. Reza Arefi, representing Intel, presented outcomes of the work done under ITU-R JTG 4-5-6-7 and WRC-15 agenda item 1.1 related to compatibility studies of wireless systems in general and IMT in particular. He also highlighted the compatibility issues involved in spectrum sharing between IMT and various satellite services, Radars etc.

4. MAIN OUTCOMES

The Seminar after considerations of all the presentations and the question Answer sessions was successful in:

1. Highlighting the work done by ITU in respect to adoption of harmonized approach for future IMT systems development and adoption.
2. Providing an opportunity for participants from industry, academia, regulators and Administrations to share ideas and discuss challenges faced by different sectors individually and put forward possible solutions.
3. Providing a detailed insight into the development of IMT wireless networks in the near and medium term as well as on research activities on the related network and user equipment.
4. Providing an opportunity for developing countries to appreciate and be more aware of the current issues, possible solutions and trends as they relate to IMT.
5. Although not officially expressed in the Seminar proper, participants from developing countries requested outside the Seminar room to organize similar events in the future as they found it very useful.

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[i] *The following 10 (TEN) entities supported the Seminar:*

1. Vietnam Posts and Telecommunications Group (VNPT)
2. Viettel - Vietnam
3. GSMA
4. Ericsson
5. Qualcomm
6. Huawei
7. Samsung
8. Nokia Siemens Networks (NSN)
9. Intel
10. DoCoMo