



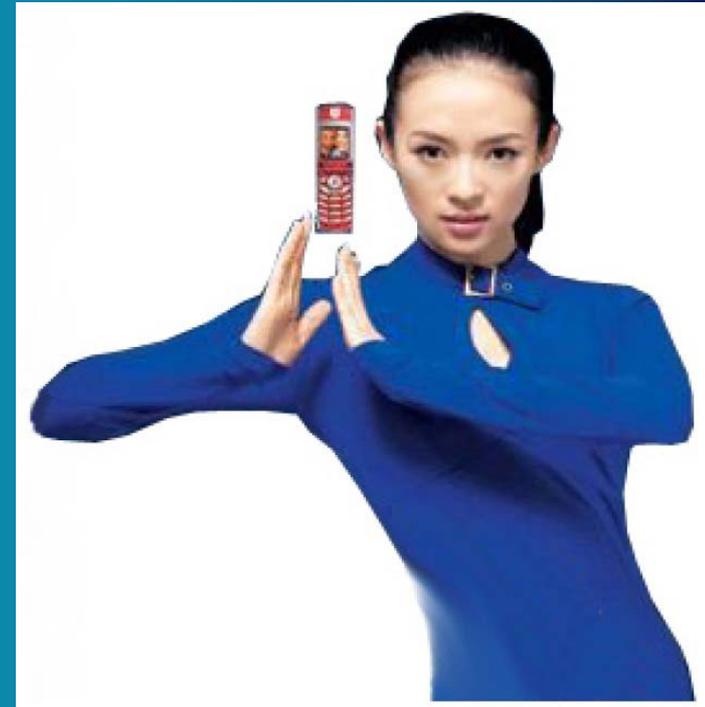
UMTS Forum 2011-2012

Recent activities

Jean-Pierre Bienaimé
Chairman, UMTS Forum

Summary

- **3G/3G+/4G LTE global market overview**
- **Recent UMTS Forum reports**
- **Messages to ITU-WRC-12 & Spectrum White Paper**
- **News announcements - conferences and events**



Setting the scene

Mobile broadband snapshot: 3G/4G subscriptions and commercial networks (end Feb 2012)

Global 3G subscriptions (UMTS/WCDMA + EVDO + TD-SCDMA)	1.25+ billion
Global 3G/UMTS (WCDMA/HSPA/HSPA+) subscriptions	1.05+ billion
Global HSPA/HSPA+ subscriptions	775+ million
Global 4G/LTE subscriptions	12 million

3G/WCDMA/HSPA networks	390+
3G/HSPA+ networks	155+
LTE networks	50+

Data: UMTS Forum, Wireless Intelligence and other industry sources

Recent UMTS Forum Reports and Studies

- ***“Delivering on the promises of IMT in C-band: key findings on C-band spectrum usage” – July 2010***
- ***“Two worlds connected: consumer electronics meets mobile broadband” - February 2011***
- ***“Mobile traffic forecasts 2010-2020” – February 2011***
- ***“Spectrum for future development of IMT-2000 and IMT-Advanced” – January 2012***



Recent UMTS Forum spectrum contributions to ITU & CEPT

- **Digital Dividend/700MHz band plan in Asia:** UMTS Forum has contributed to the definition by the APT/AWF of a band plan for the Digital Dividend in Asia (ITU Region 3). We promote the importance of harmonization for the availability of terminals as well as compatibility between regional band plans.
- **Preparation of WRC-12:** with its Mobile Traffic Report 2010-2020, UMTS Forum was one of the main contributors to the ITU-R M.2243 report which details the mobile broadband current and expected traffic growth around the world. A White Paper was also presented at the beginning of WRC-12.
- **C-band/3400-3800MHz Harmonization:** the C-band study has been submitted to several international regulatory groups, including EC and CEPT/ECC, and is still relevant in the context of the WRC-15.
- **L-band/1452-1492MHz:** potential opportunity for mobile broadband in the L-band. UMTSF supports the study of the harmonisation for UMTS Downlink in CEPT/ECC. UMTSF will help coordinating ECC and 3GPP activities, including 3GPP specific band aggregation definition.

UMTS Forum White Paper at WRC-12: *‘Spectrum for future development of IMT-2000 and IMT-Advanced’*

At the beginning of WRC-12, the UMTS Forum delivered key messages:

- The World Radiocommunication Conference 2012 (WRC-12) should **adopt an Agenda Item for the WRC-15**, allowing the identification of additional IMT spectrum
- The ITU Radiocommunication Sector (ITU-R) should conduct during the next study period (between WRC-12 and WRC-15) **thorough studies on future IMT spectrum requirements**
- The ITU should urge countries to coordinate their actions in order to **harmonise IMT spectrum** both before and during the WRC-15.
- The UMTS Forum believes strongly that **all identified IMT spectrum should be made available as soon as possible for mobile broadband usage in all countries**
- In any case the UMTS Forum supports not only the **timely availability of spectrum but also harmonisation in general, when possible on a global basis.** The latter should **address the risk of spectrum fragmentation and interoperability issues**, and help **creating economies of scale for enabling affordable mobile broadband/LTE devices**

Turning the IMT/Mobile Broadband potential into reality (1)

→ *We will not achieve our goals through technology and investment alone*

- In the past, the introduction of new air interface technologies (2G to 3G) has corresponded to major performance improvement in terms of spectrum efficiency (bits per second per Hertz for a given wireless channel)
- LTE is already leveraging the use of several antennas at both the transmitter and the receiver through the so-called Multiple Input Multiple Output (MIMO) technologies. However, the gain obtained through MIMO is limited by several factors. The number of antennas that can be deployed at base station sites and inside terminals is obviously limited. Furthermore, the geometry of the transmission channels is also important, leading to a situation where antennas that would be located too close to one another would not benefit from the MIMO effect anyway.

Turning the IMT/Mobile Broadband potential into reality (2)

- The capacity of mobile broadband channels increases with the channel bandwidth, at constant emitted power spectrum density. This path is clearly favoured by the ITU as the requirement for 4G systems such as LTE-Advanced corresponds to transmissions over channels with 100 MHz bandwidth, compared with the 5 MHz typical bandwidth of 3G systems.
- It is unlikely that the explosion of traffic can be addressed through a single solution. It is likely that MIMO technologies (i.e. new technologies), increased network density (i.e. increased investments) and larger bandwidth must be combined in order to properly address this challenge. However, **it is clear that mobile broadband networks will not be able to address the rise of traffic without allocating the adequate amount of spectrum required by IMT networks.**

Enable timely identification of additional IMT spectrum

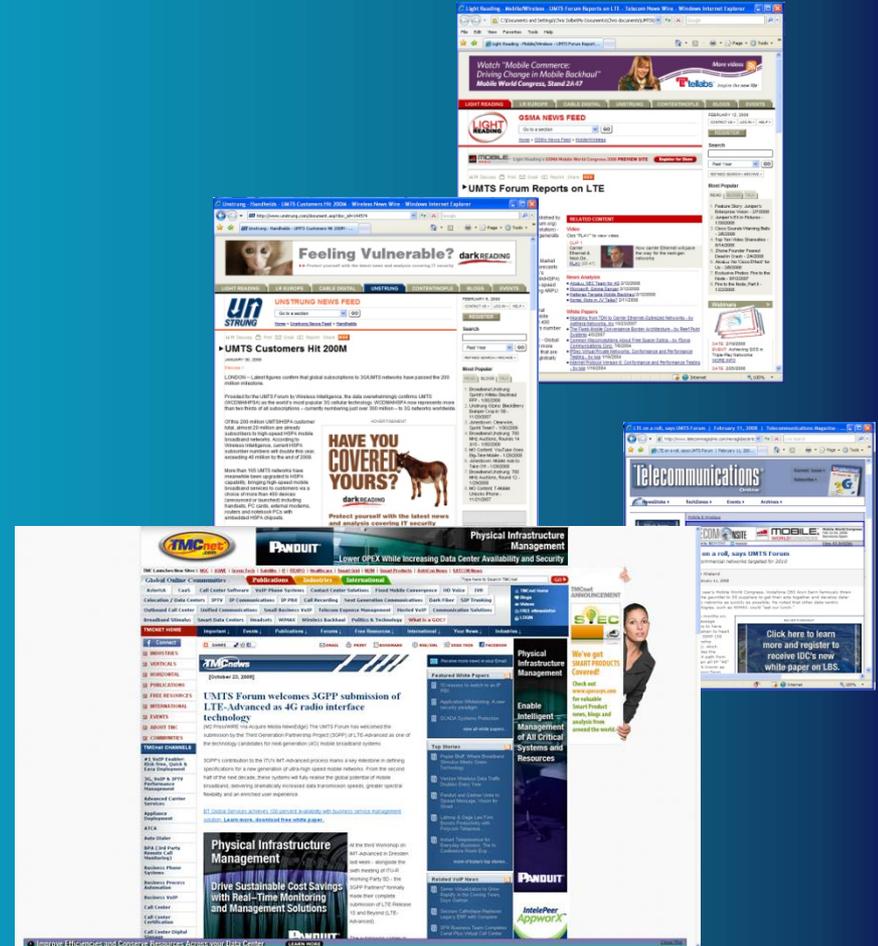
- Ultimately, the development of mobile broadband services requires the identification of additional IMT spectrum. What was already a certainty in 2007 has only become a matter of urgency following the explosion of mobile broadband traffic between 2007 and 2012.
 - The identification of harmonised spectrum is a long and strenuous process. As such, it requires co-ordination of numerous countries, including aligned political decisions in each of these countries.
- WRC-15 preparation will be a unique opportunity to complete such a process, in order for the currently identified IMT spectrum not to become saturated.**



PR/external communications

Regular press releases and media briefings. Recent topics have included:

- **A billion connected devices by 2016, predicts UMTS Forum**
- **33x growth in mobile traffic over next decade, predicts UMTS Forum**
- **Latin American administrations' action on spectrum "vital to support mobile broadband growth"**
- **UMTS Forum applauds CEPT report on mobile broadband**
- **A billion 3G/UMTS mobile connections, confirms UMTS Forum**
- **Mobile broadband needs more spectrum soon, says UMTS Forum**



3GPP PCG#28
26 April 2012
Shanghai, China

Conferences and events (2H 2011)

- Futurecom 2011, Sao Paulo, Brazil
- Managed Services World Congress 2011, Berlin, Germany
- Broadband World Forum 2011, Paris, France
- ETSI Business Innovation Summit, London, UK
- Small Cells World Congress, Berlin, Germany
- Electronic Business Group (EBG) Round Table, Paris, France
- IP Convergence/Mobile IT Expo/Cloud & IT Expo 2011, Paris, France
- 3GPP/PCG#27, Paris, France
- ITU Telecom World 2011, Geneva, Switzerland
- Africa.Com 2011, Cape Town, South Africa
- Digiworld Summit 2011, Montpellier, France
- 8th Annual MVNO Networking Congress, Paris, France
- ETSI General Assembly#58, Cannes, France





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Investing in Innovation and Effective Business Modelling to Satisfy
End User Demand and a Complex Wireless Network Environment

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Takehiro Nakamura
3GPP TSG RAN Chairman
NTT DoCoMo, Japan



William Webb
Chief Technology Officer
Neul



Peter Zidar, M.Sc.,
Chairman of Operators
Group, UMTS Forum
Head of Standardization,
Mobitel, Slovenia



4th - 5th October 2011, London, UK

Two UMTS Forum speakers at the conference

UMTS Forum was endorsing this event

UMTS Forum active partner of ETSI/3GPP since 1997...

Conferences and events (1H 2012)

- **CES 2012, Las Vegas, USA**
- **World Radiocommunication Conference WRC-2012, Geneva, Switzerland & UMTS Forum dinner**
- **Smart WIP Club, Paris, France**
- **MWC 2012, Barcelona, Spain**
- **EBG Round Table, Paris, France**
- **IEEE WCNC 2012, Paris, France**
- **MVNO Industry Summit 2012, Barcelona, Spain**
- **LTE World Summit 2012, Barcelona, Spain**
- **Transport networks for mobile operators**
- **Mobile Access Evolution Forum**
- **IIR Carrier Ethernet Russia and CIS**

For more information

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