

# WRC-15 Preparations and C-Band Update



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# Broadcasters and the ITU World Radiocommunication Conference



...WRC-07, WRC-12, **WRC-15**, WRC-18...  
Study periods in between to work on agenda items  
Regional preparations



# WRC-15 Agenda Items of Interest to Broadcasters

## Agenda Item 1.1 - Additional allocations for mobile services and applications

- UHF (470-694 MHz) - effective transition from analogue TV and DTT, future viability of DTT, PMSE/SAB/SAP
- C-Band/Extended C-Band downlinks (3 400-4 200 MHz) - vulnerability of international programme distribution
- C-Band/Extended C-Band uplinks (5 850 – 6 725 MHz) – protection of links for newsgathering/contribution

## Agenda Item 1.2 - Mobile allocation in Region 1 in 694-790 MHz

- UHF - protection of DTT from IMT, retaining enough spectrum for PMSE/SAB/SAP

## Agenda Item 1.14 - Reference time-scale and potential modification of coordinated universal time (UTC)

- Potential issues with global scheduling of programmes and advertising, automated production and play-out systems, SNG and OBs (sidereal time reference)

## Agenda Item 10 - Future WRC Agenda items

- UK proposal for IMT identification for bands above 6 GHz – possible threat to Ku and Ka Bands

# WRC-15 Timeline



Final ITU  
JTG 4567  
July 21<sup>st</sup> – 31<sup>st</sup>

2<sup>nd</sup> ITU  
Inter-  
Regional  
Workshop  
Nov  
12-13<sup>th</sup>

ITU  
Telecom  
World in  
Doha on  
Dec  
7-11<sup>th</sup>

CPM 2  
Mar 23<sup>rd</sup>  
– Apr 2<sup>nd</sup>

WRC-15  
Nov 2<sup>nd</sup> -  
27<sup>th</sup>



ATU  
Dec

ATU  
Jan

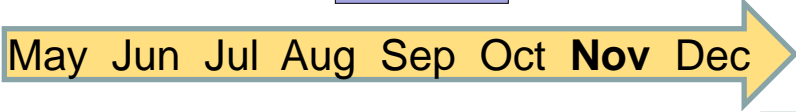


CEPT  
CPG  
Sept

CEPT  
CPG  
Feb

CEPT  
CPG  
June

CEPT  
CPG  
Sept



2014

2015



# C-Band Update

- **CPM text for AI 1.1** – estimated spectrum requirements for IMT, results of studies, candidate bands, methods to satisfy agenda item, regulatory and procedural considerations

## **Draft New Report ITU-R [FSS-IMT C-BAND DOWNLINK]**

Sharing studies between IMT-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 MHz and 4 500-4 800 MHz frequency bands

## **Draft New Report ITU-R [FSS-IMT C-BAND UPLINK]**

Sharing and compatibility between IMT systems and fixed-satellite service networks in 5 850-6 425 MHz frequency range

- **LS Telcom Reports and Euroconsult Studies**



# Mobile Spectrum Requirement Estimates: Getting the Inputs Right



ITU WP-5D developed the Speculator to project future IMT requirements for additional spectrum – LS Telcom report identifies fundamental problem with the ITU model

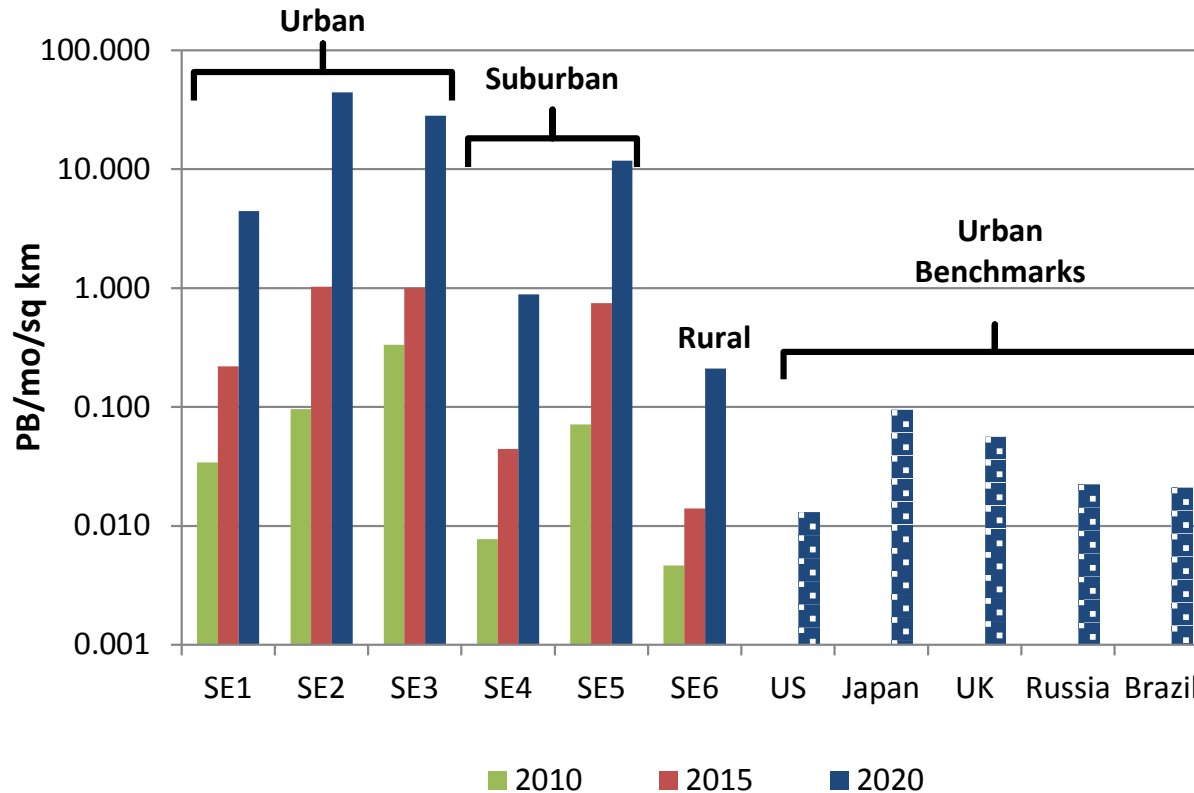
For WRC-15, Speculator predicts that 1340 – 1960 MHz of spectrum will be required for IMT services by 2020

Analysis of the model inputs shows that the assumed traffic density (which drives spectrum requirement) is unrealistic

- 'Typical' traffic density >200 times volume during 2014 World Cup Final
- Population density equivalent to densest 1 sq km in Tokyo
- Assumed usage of 200GB/subscriber per month
- Erroneous assumptions on WiFi offloading

# Traffic Density Comparison

Speculator traffic assumption per sq km vs Cisco traffic projection in urban areas (2020)



# Analysis of World-wide Licensing and Usage of IMT Spectrum



**Paper examines the extent to which the spectrum that is already identified for IMT services is licensed and in-use**

- On average, around the world, less than two-thirds of the spectrum that should have been made available for IMT services is licensed. Less than half of that which could be made available is licensed.
- In every country examined, there was potential scope for making more spectrum available for IMT services without additional allocations.
- Compared to the ITU's forecast for IMT spectrum demand in 2015 (just one year hence) the amount of spectrum licensed today is at best only 50% of that forecast.
- Evidence from a number of regulators indicates only 70 to 80% of spectrum licensed to mobile operators today is actually deployed and in use.



# C-Band Usage and Sharing Studies



**Sept 2014 - Assessment of C-Band Usage in African Countries**

**June 2014 – Assessment of C-Band Usage in Asian Countries**



**Sept 2013 - Sharing Study on Effects of IMT-Advanced on C-Band Earth Stations**

Available on Satellite Spectrum Initiative Website  
[www.satellite-spectrum-initiative.com](http://www.satellite-spectrum-initiative.com)

# SSI /GVF WRC-15 Campaign



- C-band (3.4 – 4.2) Satellite Services Are Used Extensively to Support Major Socio-Economic Enterprise in all regions
- IMT Spectrum Needs Are Over-Stated... Again
- But for Nations that Want to Permit IMT Deployments at C-band, the WRC-07 NOC Footnote Already Provides a Solution
- Support NOC for Agenda Item 1.1 at WRC-15

# SSI /GVF collaboration with WBU-ISOG



**Broadcasters are important users of C-band spectrum and can illustrate the value of satellite services in C-band**

- Lobby own national administrations
- Work with SSI/GVF at regional meetings, sharing panels and speaking opportunities
- Regional broadcasting unions lobby regional WRC-15 preparatory groups

Thank you