



The ITU World Radiocommunication Conference Overview on WRC-12

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Deputy Director

Group Spectrum Office

Orange – FT Group



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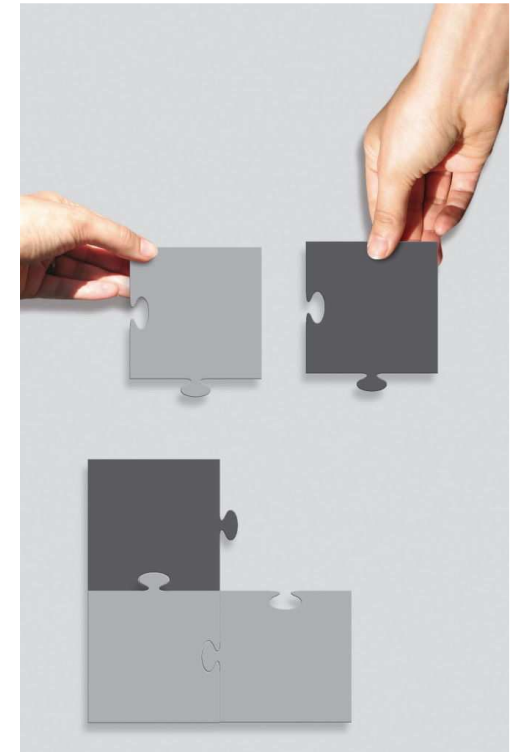
Agenda

1 General Introduction

2 brief of ITU activity – Radio Regulation

3 ITU World Radio Conferences (WRCs) – General Overview

4 WRC-12 preparation & Agenda Items



Orange FT Group

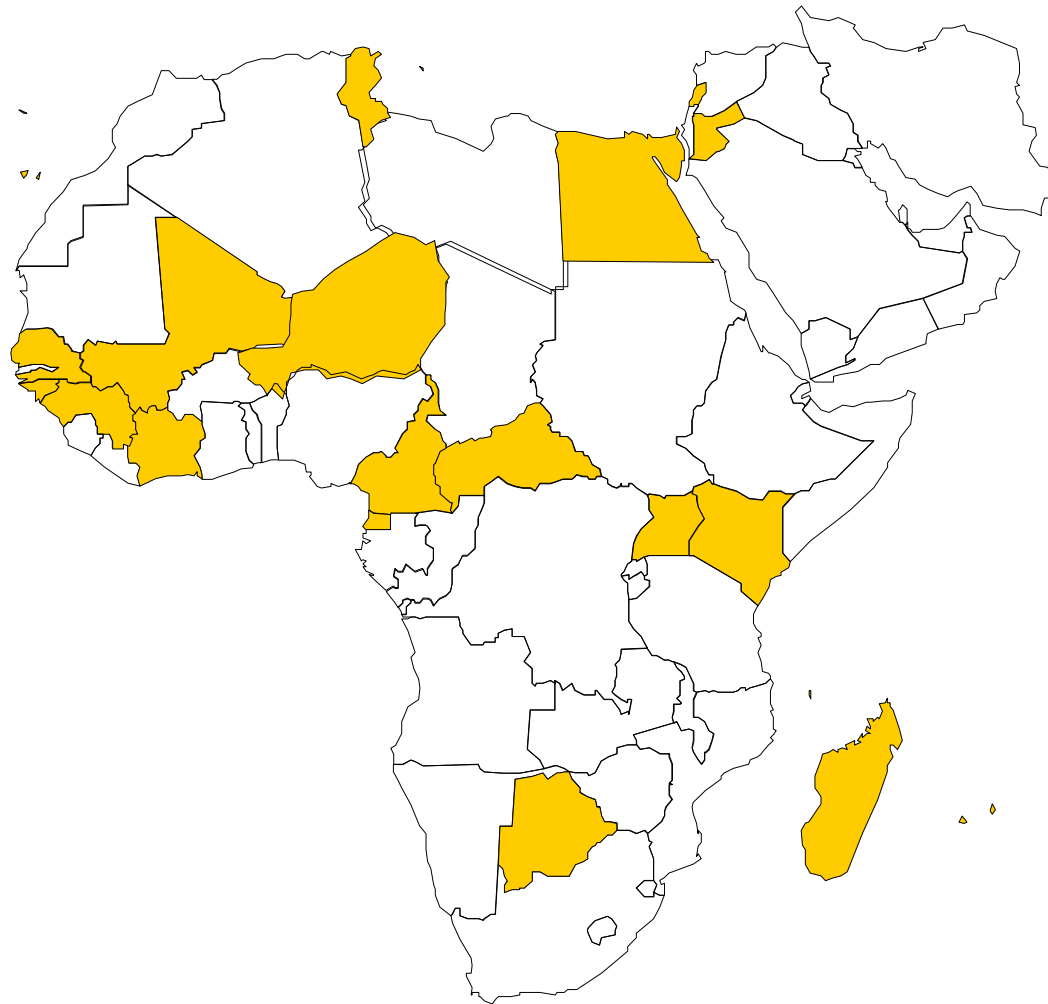
serving consumers in 28 countries

2009

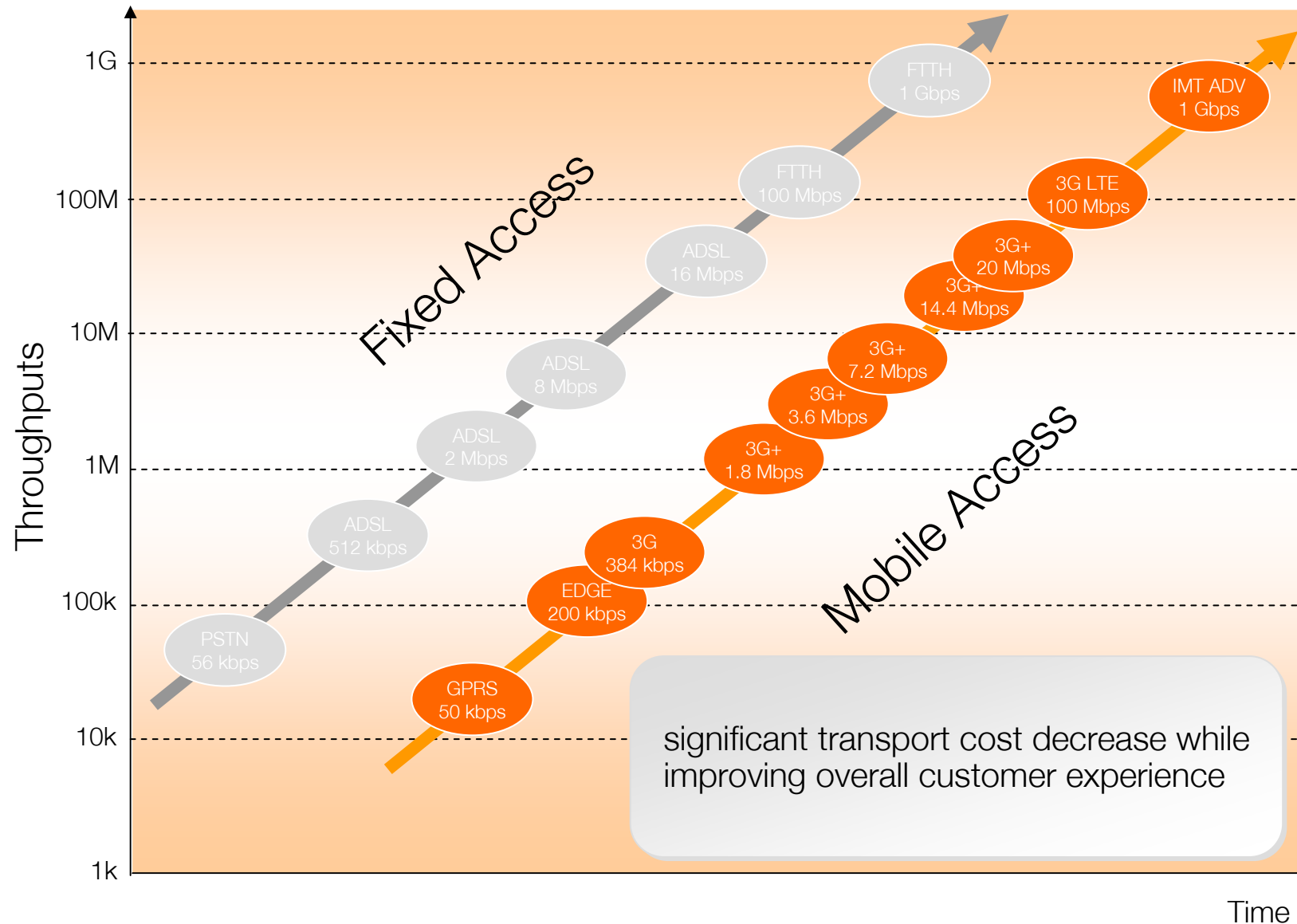
182 M subscribers,
of which:

122 M mobile

13 M fixed
broadband in
Europe



Broadband Everywhere: deploy up-to-date access technologies for very high bit rate



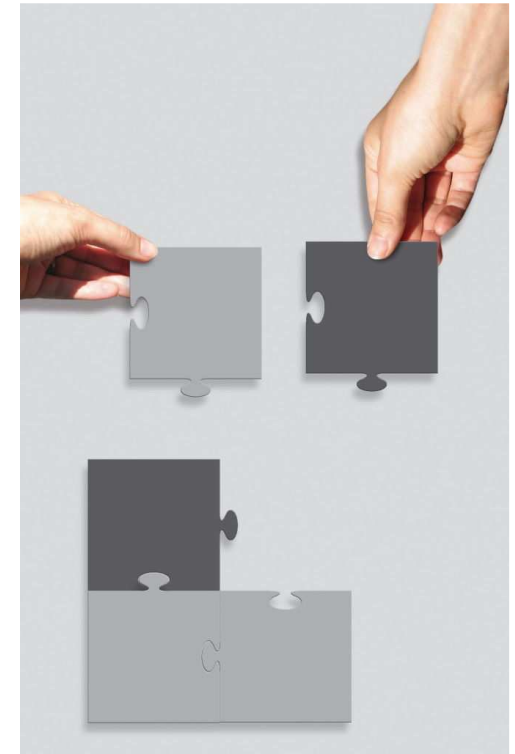
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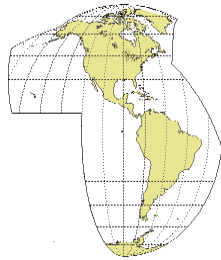
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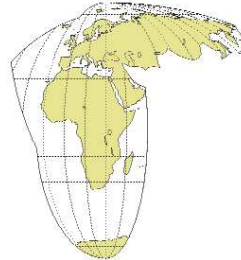


ITU-R Activity - Radio Regulations

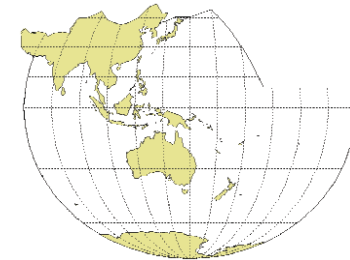
Framework for the National Regulatory Authorities (NRA) to license radio users



Region 2



Region 1



Region 3

- International treaty
 - Facilitate **rational use of the radio frequency spectrum**
 - Basis for **global and regional harmonisation**
 - Combine **administrative** and **technical** procedures
 - Necessary to **ensure interference free** and efficient operation of radio services

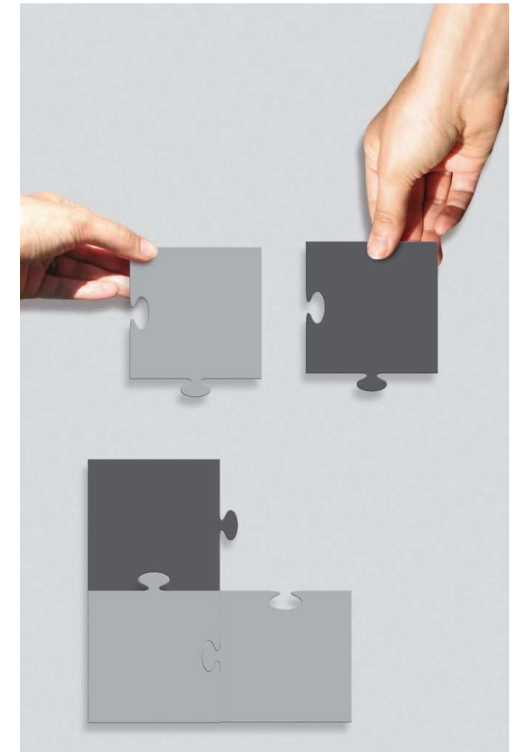
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ITU World Radiocommunication Conferences

General Overview & Why participate at the WRC



- WRCs update the **International Radio Regulations**
- Held every 3-5 years
 - Last was in 2007
 - Next in 2012
- Main purposes
 - To revise the **Radio Regulations** (RR)
 - To address Radiocommunication issues of a **worldwide character**

Example of recent WRC decisions:

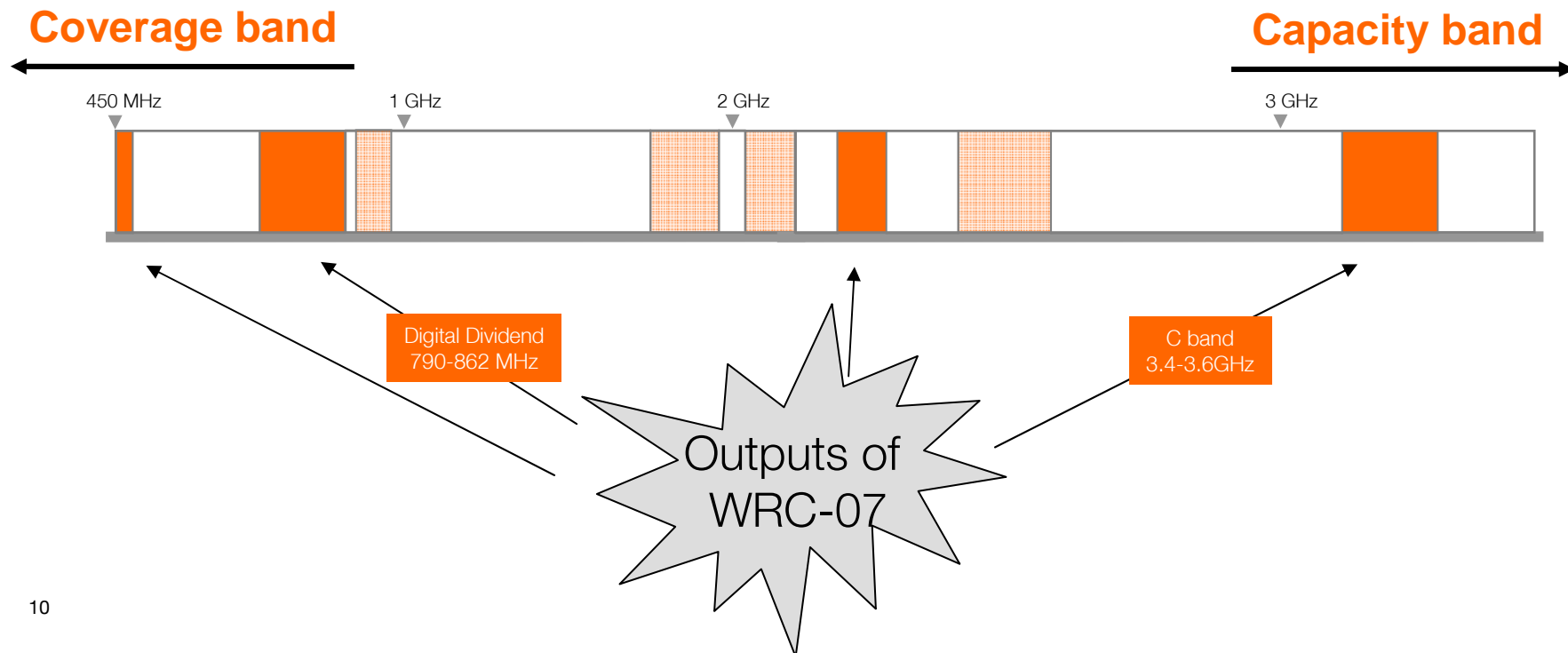
Mobile allocations and identifications for IMT at the WRC-07

- Initial proposals

No new allocations supported by a large majority in all proposed bands

- Compromise

Four bands have been identified



WRC-12 Process

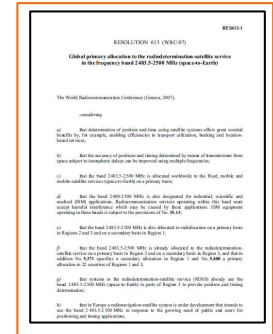
Structure involving administrations and stakeholders

WRC Resolutions

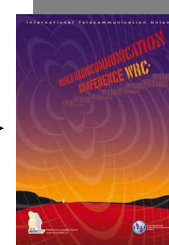
Director's Report

Conference Preparatory Meeting Report

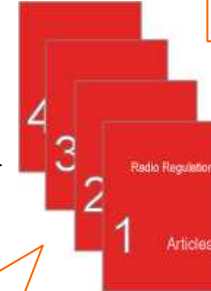
Member States proposals



Final Acts



Radio Regulations



Frequency allocations

Allocation to services		
Region 1	Region 2	Region 3
2010-2025 FIXED MOBILE 5.388A 5.388B	2010-2025 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)	2010-2025 FIXED MOBILE 5.388A 5.388B
5.388	5.388 5.389C 5.389E	5.388

5.388A In Regions 1 and 3, the bands 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz and, in Region 2, the bands 1885-1980 MHz and 2110-2160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution 221 (Rev.WRC-03). Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)

Coordinated common proposals



Regional preparation

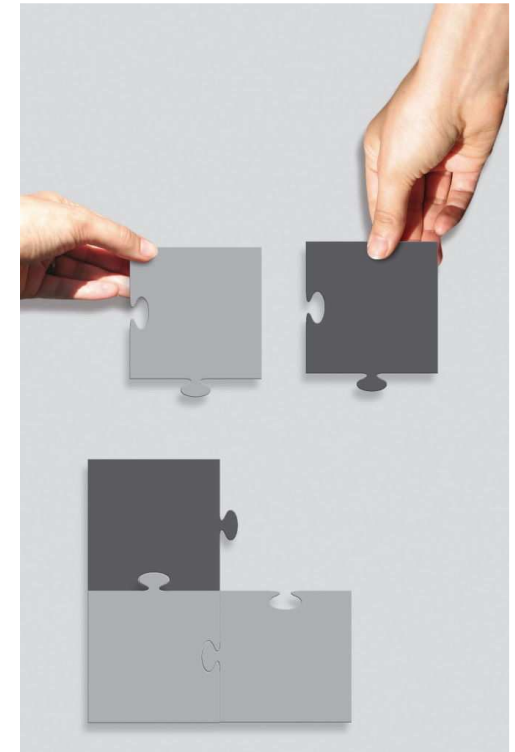
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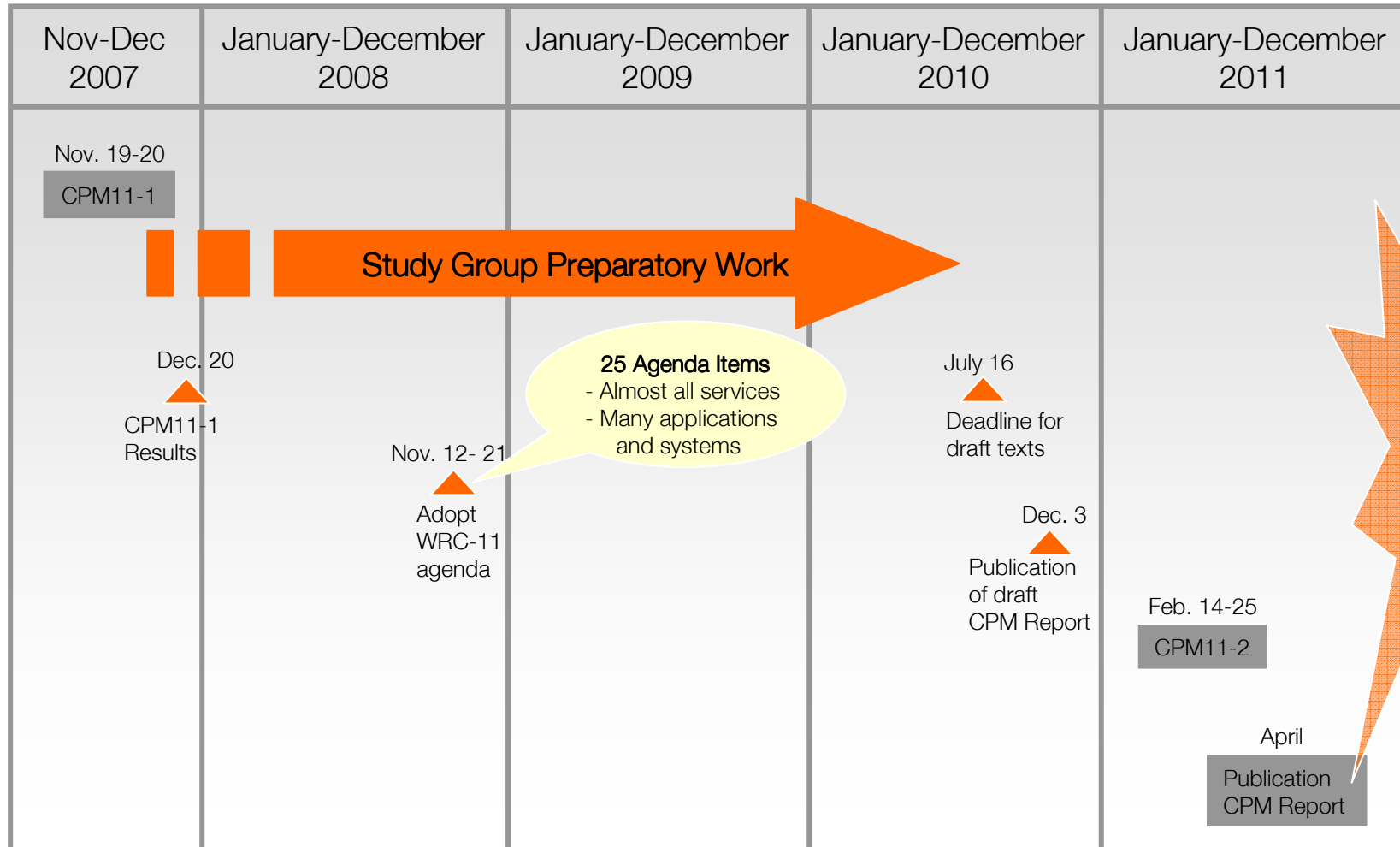
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General Information

Timetable towards WRC-12



*: January 23- February 17, 2012, Geneva

Primary interest Topics

Main Agenda items which could affect mobile/ wireless industry

- 1.2 – Int'l Regulatory Framework
- 1.4 – Regulatory measures for AM(R)S in 112, 960 and 5000 MHz
- 1.5 – Spectrum for ENG
- 1.8 – Regulatory issues for fixed services in bands between 71 and 238 GHz
- 1.11 – Primary allocation for SRS (E-S) in 22-23 GHz
- 1.12 – Protect primary services in 37-38 GHz
- 1.13 – BSS in 21-22 GHz
- 1.17 – Sharing studies between mobile & other services in 790-862MHz in Regions 1 & 3
- 1.18 – RDSS in 2483.5-2500 MHz
- 1.19 – Regulatory measures for SDR & Cognitive radio
- 1.20 – HAPS feeder links in 5850-7075 MHz
- 1.22 – Short range/unlicensed devices
- 1.25 – New MSS allocations between 4 and 16 GHz

Primary interest Orange FT Group: Spectrum Management

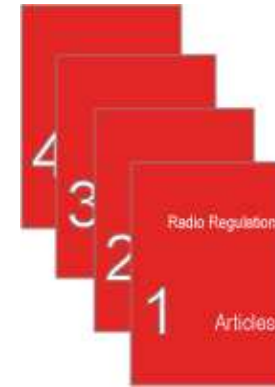
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Agenda Item 1.2

Enhance the International regulatory Framework

Issues

- Potential changes to the basic service definitions or creation of new service definitions with possible impact to the existing allocations in the Radio Regulation
- Convergence of radio technologies for some applications combining elements of different radiocommunication services
- Initially identify for Broadcasting and Mobile services convergence
- Nowadays, focus on Fixed and Mobile Services convergence

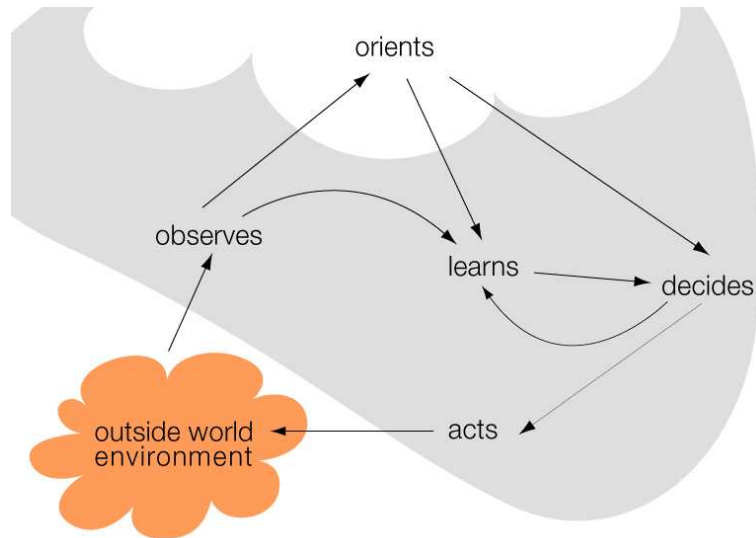


Impact to the Mobile Industry

- Could impact the implementation of communication systems
- Could modify cost & status of allocations
- Could limit the Fixed Service deployment

Agenda Item 1.19

Regulatory measures for Software Defined Radio (SDR) and Cognitive Radio System (CRS)



Issues

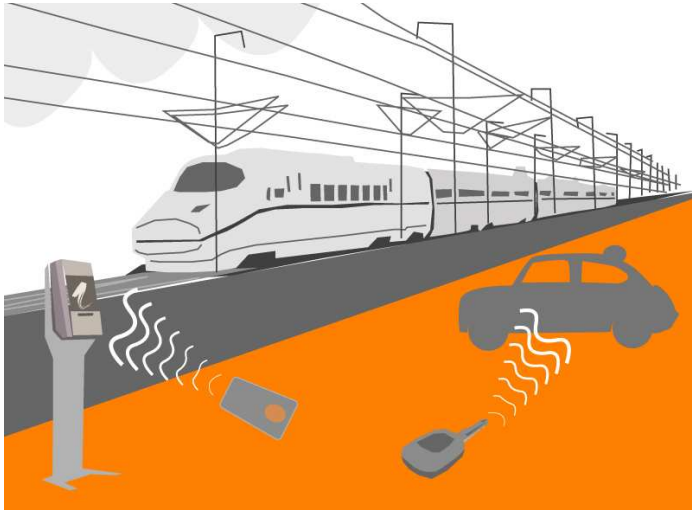
- Study whether there is a need for regulatory measures related to application of CRS & SDR
- Some administrations want to exclude bands from CRS use (like passive service bands or safety service bands)

Impact to the Mobile Industry

- Could impact the introduction of cognitive radio like devices
- Further studies on feasibility need to be performed

Agenda Item 1.22

Short range/unlicensed devices (SRD)



Issues

- Some administrations are looking for harmonized bands and use of standards-based technology, or other measures to address perceived congestion
- Other administrations are interested in studying emission limits on short range devices to protect primary services

Impact to the Mobile Industry

- Interference due to non harmonisation
- Introduction of SRD in bands dedicated or adjacent to Mobile Services
- Important to develop appropriate ITU-R recommendations for harmonization of emissions for such applications. Resolution ITU-R 54, is currently on studies to achieve harmonization for short-range devices

Primary interest Orange FT Group: Coexistence with Mobile Spectrum

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Agenda Item 1.5

Spectrum for Electronic News Gathering (ENG)



Issues

- Increasing portability and use of terrestrial ENG systems and trend towards cross-border operation of ENG equipments breaking news
- Achieve a satisfactory degree of worldwide/regional harmonization of spectrum for ENG use based on discussion on tuning ranges for ENG use

Impact to the Mobile Industry

- Performance degradation of bands dedicated to Mobile Services
- Encourage actions to harmonise the tuning ranges for frequencies for ENG without placing undue/additional constraints on Fixed and Mobile Services.

Agenda Item 1.17

Sharing studies in 790-862MHz in Regions 1 & 3

Region 1	Region 3
	610-890 MHz FIXED MOBILE MOD5.317A ADD 5.YYY
790-862 MHz FIXED BROADCASTING <u>MOBILE except aeronautical</u> <u>mobile</u> ADD5.XXX MOD5.317A 5.312 5.314 5.315 MOD5.316 ADD5.316A 5.319	BROADCASTING

Issues

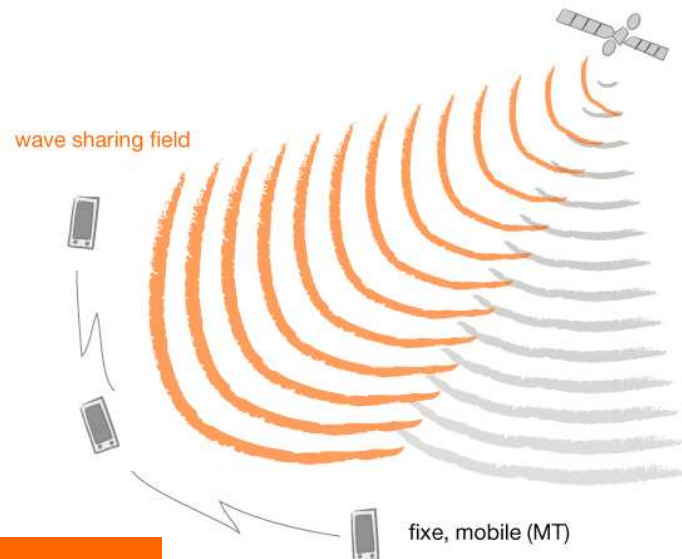
- Sharing studies between Mobile & Primary services in 790-862 MHz in Regions 1 and 3

Impact to the Mobile Industry

- Constrain IMT deployments in the digital dividend in Regions 1 and 3
- Limit deployment roadmap for Mobile Service in the Digital Dividend

Agenda Item 1.18

radiodetermination-satellite service RDSS (space-to-Earth) allocations at 2483.5-2500MHz



Issues

- Europe is looking for new Radio determination Satellite allocation in 2483.5-2500 MHz (Galileo <EU> & Compass <China>)
- Compatibility with IMT in adjoining bands need to be considered

Impact to the Mobile Industry

- Could impact the implementation of communication systems in the 2.5GHz band
- Could modify cost & status of allocations
- Any modification to the RR should not place undue constraints on IMT systems in the adjacent bands.

Agenda Item 1.4

Regulatory measures for the introduction of AM(R)S



Issues

- Consider, based on the results of ITU-R studies, any further regulatory measures to facilitate introduction of new aeronautical mobile (R) service (AM(R)S) systems in the bands 112-117.975 MHz, 960-1164 MHz and 5000-5030 MHz

Impact to the Mobile Industry

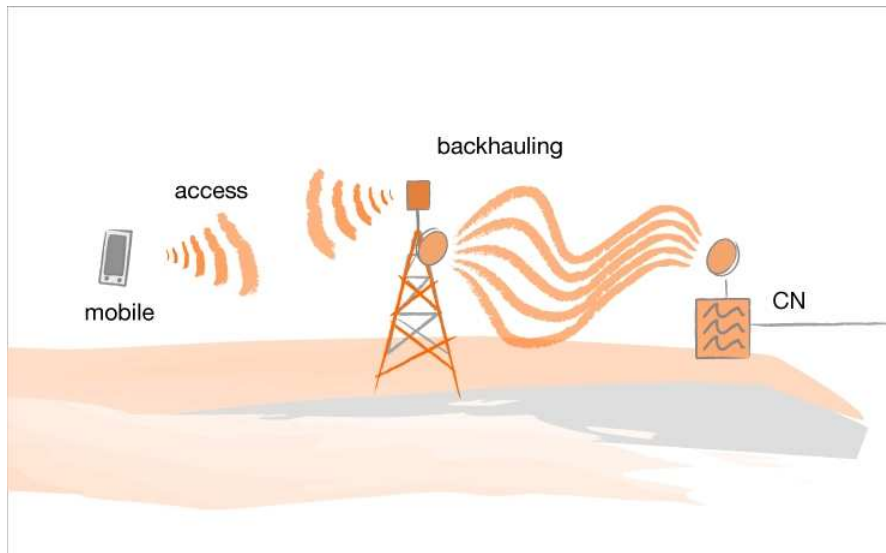
- Possible impact on the 900 MHz allocation for Mobile Service as well as for refarming
- Newly proposed allocation should not place any undue constraint on the services performed in the adjacent bands

Primary interest Orange FT Group: Protection of Fixed Services

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Agenda Item 1.8

Regulatory issues for fixed services in bands between 71 and 238 GHz



Issues

- Consider the progress of ITU-R studies concerning the technical and regulatory issues relative to the fixed service in the bands between 71 GHz and 238 GHz
- Address future developments in the fixed service in the bands between 71 and 238 GHz, whilst protecting scientific use.

Impact to the Mobile Industry

- Frequency bands around 80 GHz, for Fixed Service:
 - are becoming increasingly attractive for high capacity short distance links
 - could provide very high data rate links without the need for detailed planning
 - could allow flexible deployment than wired or fibre networks
- These bands will facilitate the deployment of the backhauling part dedicated to mobile Broadband (LTE, LTE-A)

Agenda Item 1.12

Protect primary services in 37-38 GHz



Issues

- Aeronautical mobile station can cause high interference to receivers in the FS
- Modify of the aeronautical MS conditions to protect other primary services

Impact to the Mobile Industry

- Non appropriate protection may lead to primary service degradation (i.e. FS)
- Nationwide impact due to the Aeronautical MS specificities

Agenda Item 1.20

HAPS feeder links in 5850-7075 MHz



Issues

- Finding 2 x 80 MHz of spectrum for HAPS feeder links in 5850-7075 MHz
- Determining if HAPS is compatible with:
 - fixed service in 5925-6425 MHz, FSS uplinks in ~5850-6425 MHz
 - MSS feeder links in above 6425 MHz
 - FSS & FS entities are very involved in studies

Impact to the Mobile Industry

- Could impact the Fixed Service operating in the 6 GHz bands
- Could limit the return on investment for current and future deployments
- **Heavily used** for backhauling
- We should:
 - carefully consider the importance of the mobile backhauling (Fixed Services)
 - ensure appropriate protection

Agenda Item 1.25

New Mobile Satellite Service allocation between 4-16 GHz



Issues

- List of possible bands identified for possible new MSS allocations
- Difficult for MSS to share with terrestrial services
- Request 2*300MHz for about 450,000 users

Impact to the Mobile Industry

- Could attempt to add MSS to bands where Industry sells other types of equipment and operates other services

WRC-12

Summary of the Agenda Items

- Important to support **ITU studies** and actions
- Important to **be involved in the WRC process** from start to the conference
- Consider the possible **impact on the mobile industry** including the mobile backhauling
 - Long term impact on the current operation
- Evaluate the importance of the **data traffic forecast**



thank you