

## ITU Activities on IMT-2000



### 1.2.3 IMT-2000 Radio Technology and Spectrum Matters

*Regional Workshop for the Arab Region on Guidelines on the Smooth Transition of Existing Mobile Networks to IMT-2000 for Developing Countries*

*Damascus, Syria 13-15 June 2005*

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## ITU-BDT Regional Seminar for Arab Region



## IMT-2000 and systems beyond

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- ITU groups working on IMT
- IMT-2000 radio access standards
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- Spectrum requirements
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## ITU Overview

**ITU**

Helping the World Communicate

189 Member States  
700 Sector Members

**ITU-T**

Telecommunication  
standardization  
- network and service  
aspects



**ITU-R**

Radiocommunication  
standardization and  
global radio spectrum  
management

**ITU-D**

Assisting implementation  
and operation of  
telecommunications in  
developing countries



## ITU work on IMT

### ITU-T

**Study Group 13**  
Next generation networks  
**Study Group 19**  
Network aspects of IMT



### ITU-D

**Study Group 2**  
Guidelines for the transition to IMT

### ITU-R

**Working Party 8F**  
Overall responsibility for the radio aspects of IMT  
- including preparation of text on IMT for the next World Radiocommunication Conference (Geneva, 2007)

**Working Parties 8A & 9B**  
Mobile/fixed radio LANs

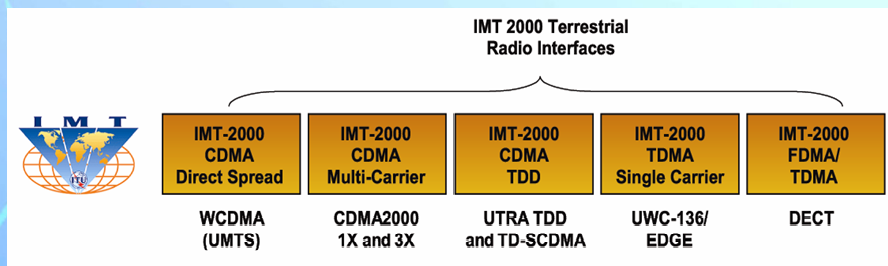
**Working Party 8D**  
Mobile-satellite aspects

**Working Party 6S**  
Digital broadcast aspects



## IMT-2000 Radio Access Standards

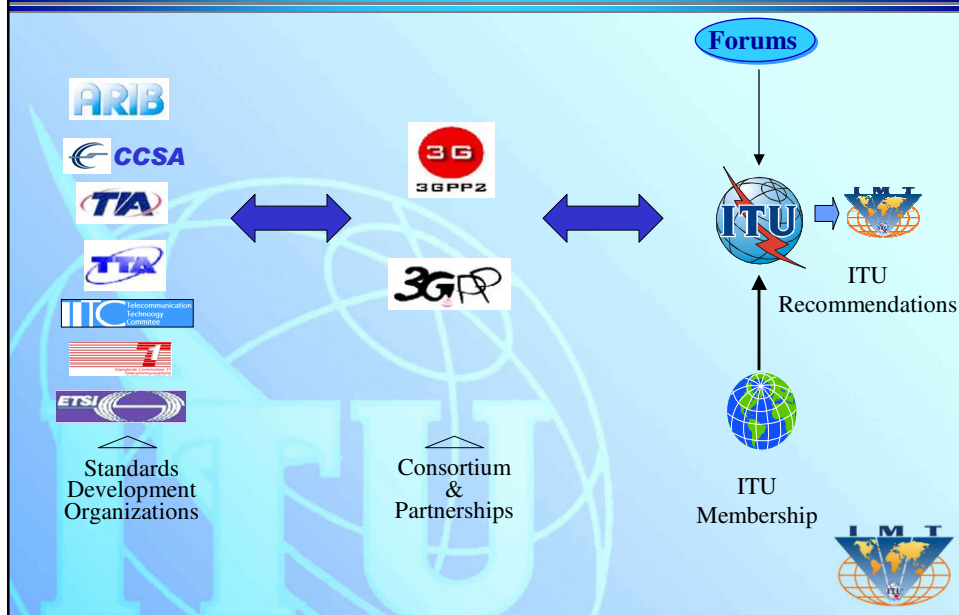
- A reminder .....



- Designed mainly in response to market, technology & regulatory opportunities & segments
- Many of these standards are already being enhanced

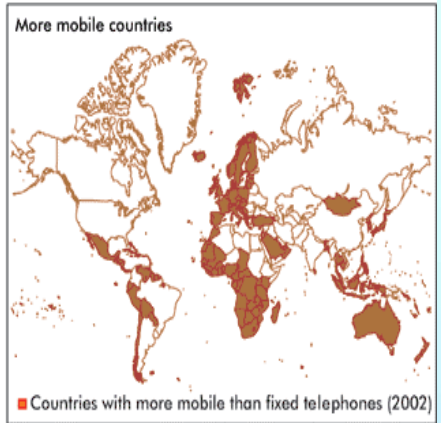
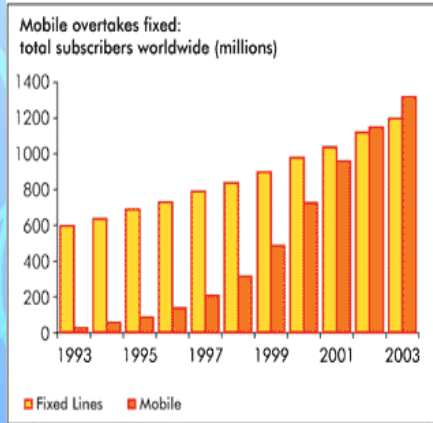


# IMT-2000 Standards Development



# Growth of mobile

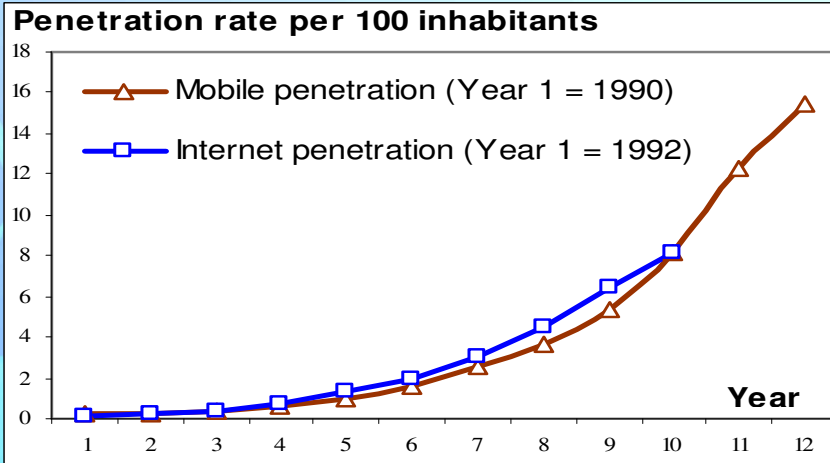
Fixed lines and mobile subscribers (millions) and countries in which mobile has overtaken fixed



Source: ITU World Telecommunication Indicators Database



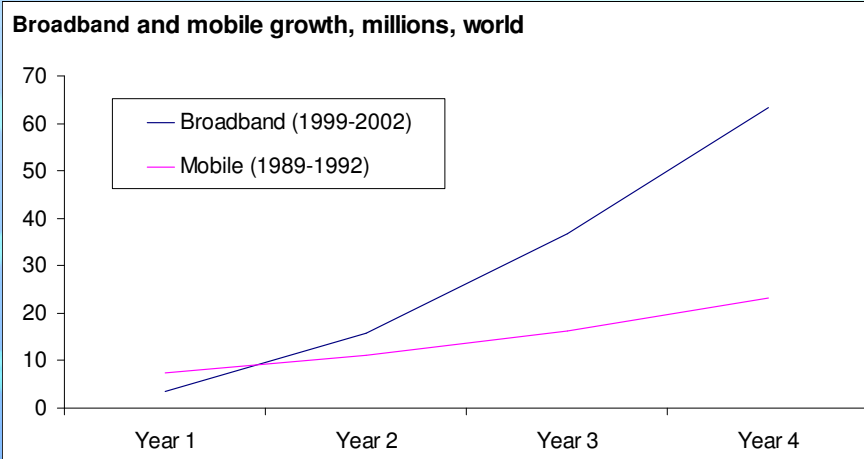
## Growth of Internet



Source: ITU World Telecommunication Indicators Database



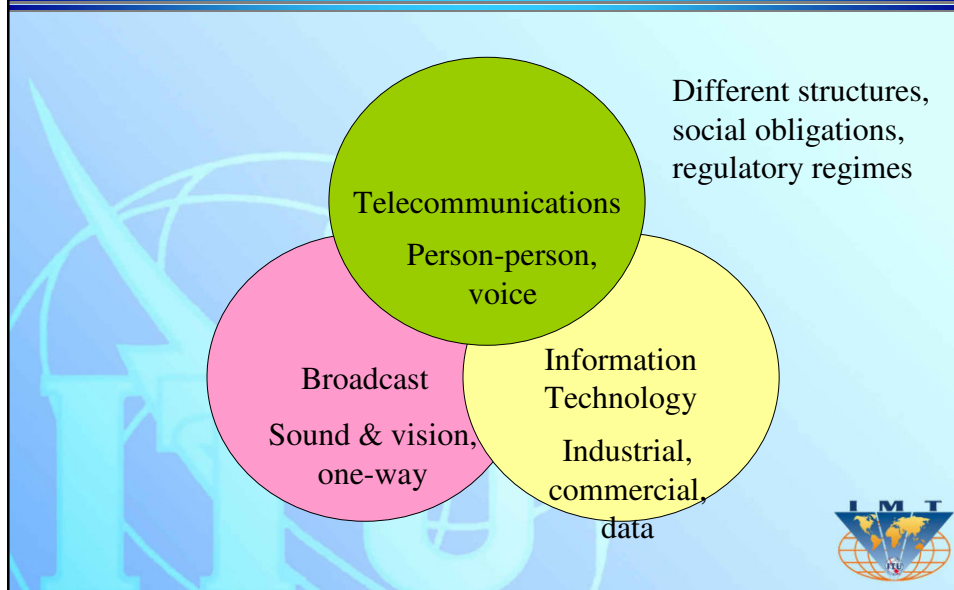
## Growth of broadband



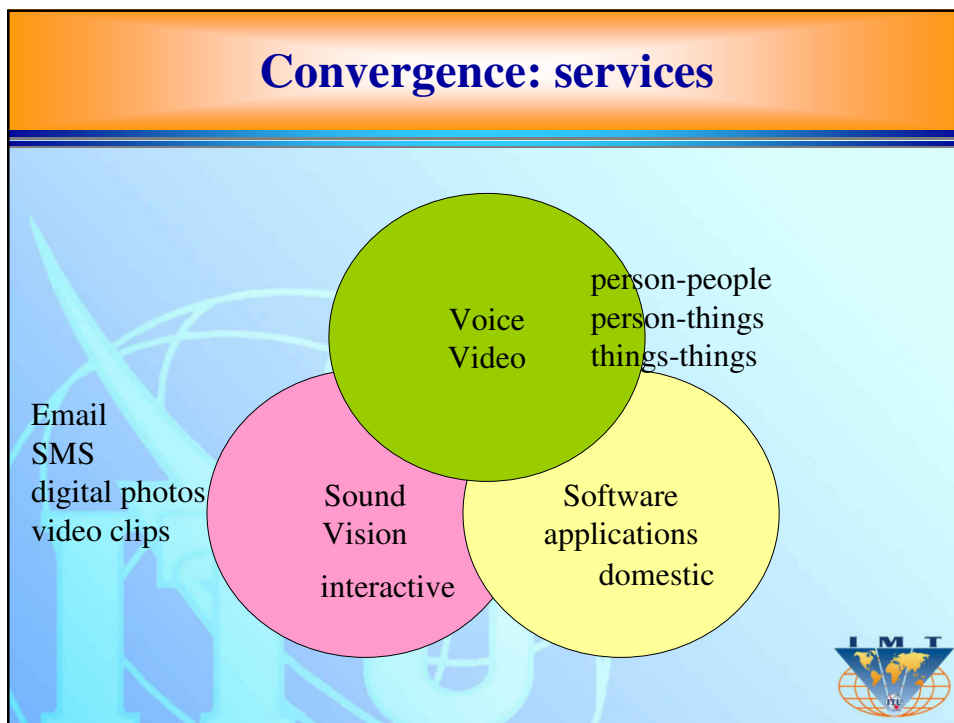
Source: ITU World Telecommunication Indicators Database



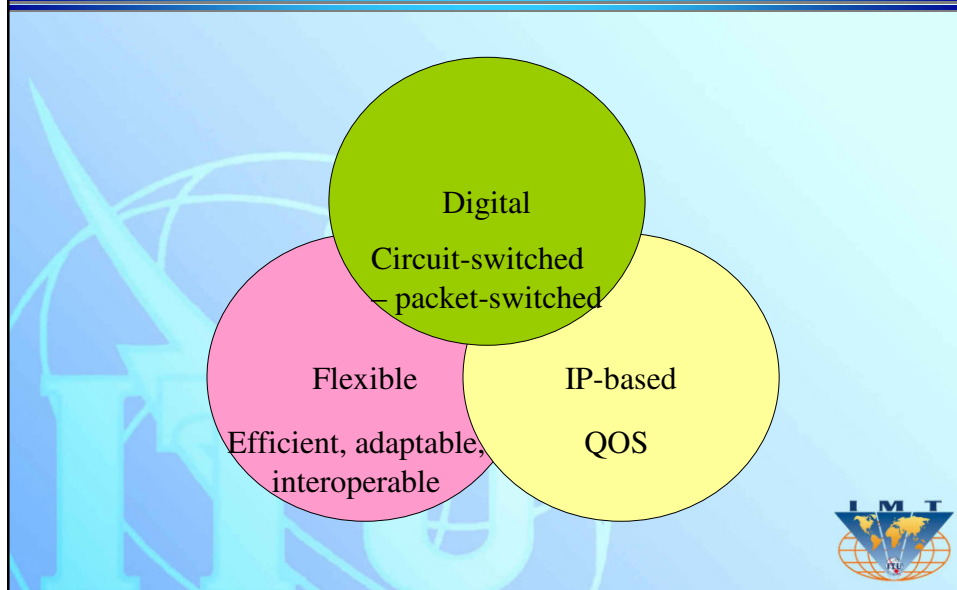
## Convergence: market sectors



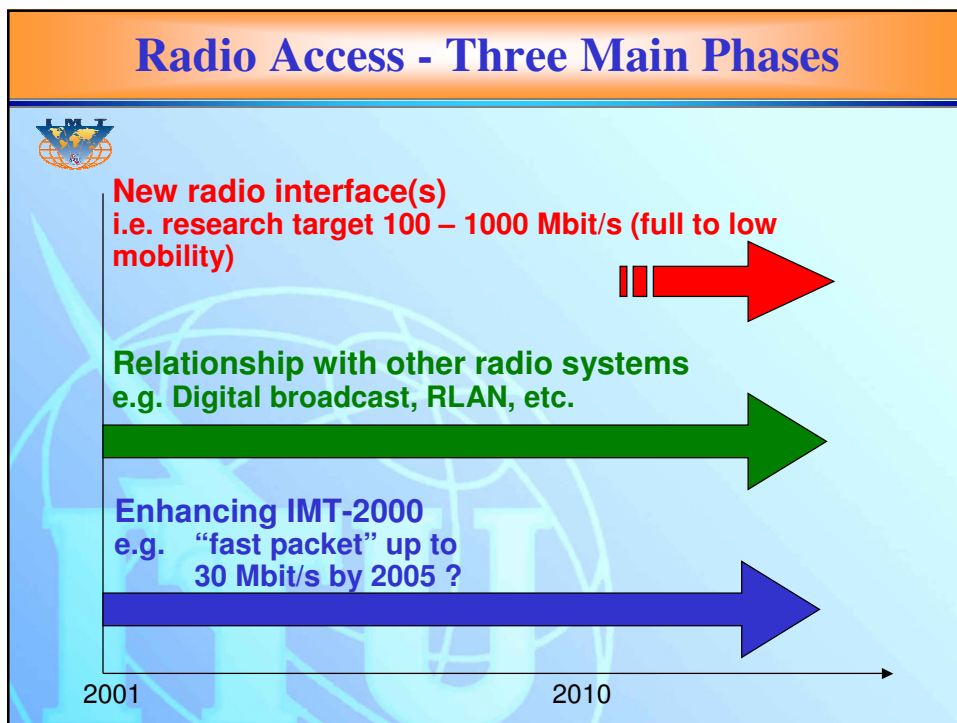
## Convergence: services



## Convergence: technology

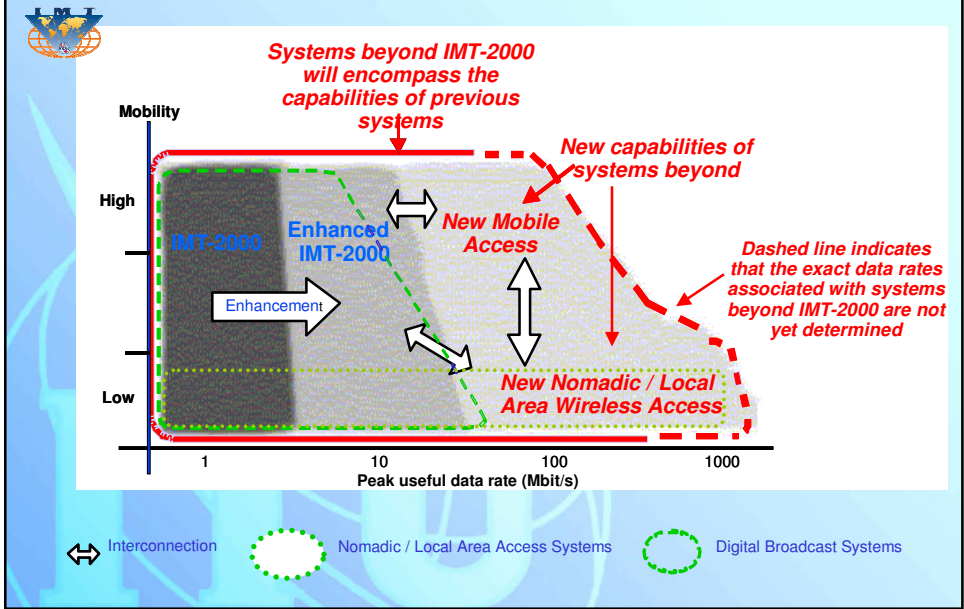


## Radio Access - Three Main Phases

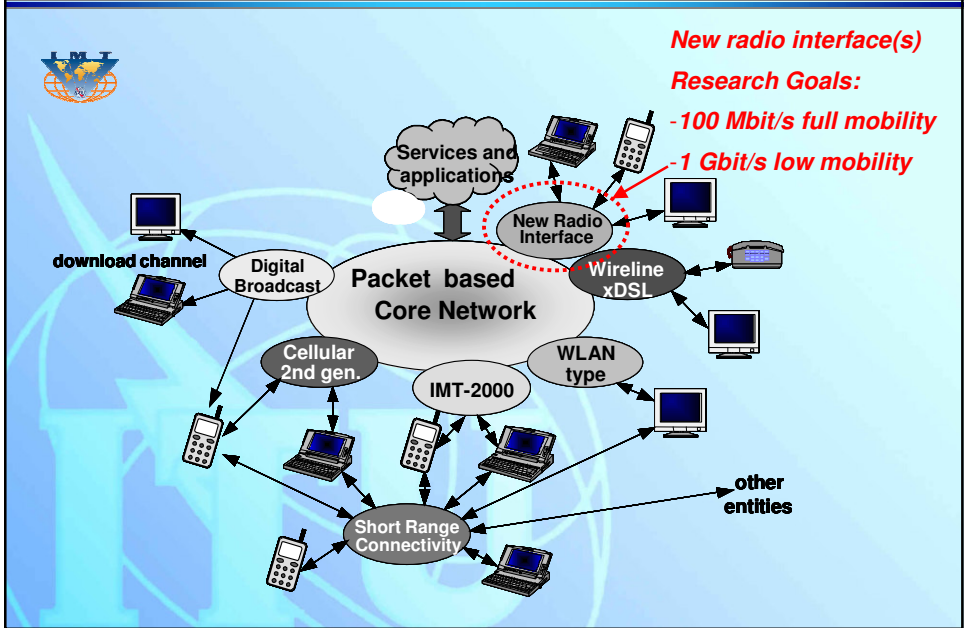




# Capabilities ('The Van')



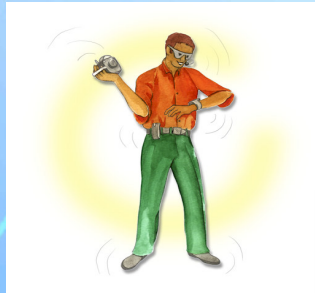
# Variety of Access Networks





## Domains

### Personal Area



### Immediate Area



### Wide Area



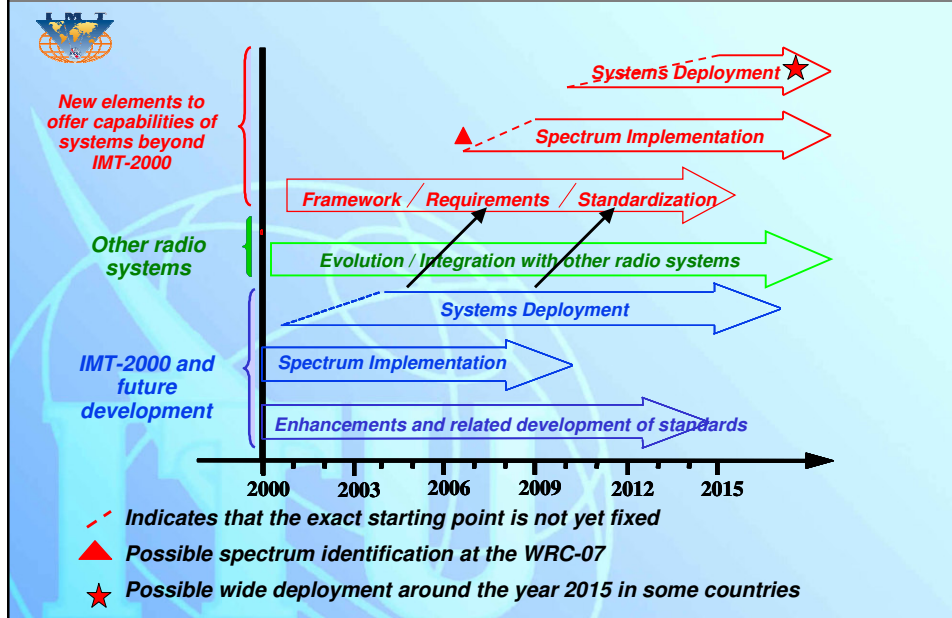
## Fusion

### Recommendation ITU-R M.1645

**"Systems beyond IMT-2000 will be realized by functional fusion of existing, enhanced and newly developed elements of IMT-2000, nomadic wireless access systems and other wireless systems, with high commonality and seamless interworking"**



## The Plan



## Spectrum

- Prerequisite for development and operation of radio systems is the availability of spectrum
- Most of the usable spectrum is already allocated
- Decisions on global spectrum allocations/identification are taken at ITU World Radiocommunication Conferences
- There is a long lead-time between identification of spectrum and spectrum availability



## Resolution 802 (WRC-03)

2007 World Radiocommunication Conference

Agenda item 1.4

“to consider frequency-related matters for the future development of IMT-2000 and systems beyond IMT-2000, taking into account the results of ITU-R studies in accordance with Resolution 228 (Rev.WRC-03)”



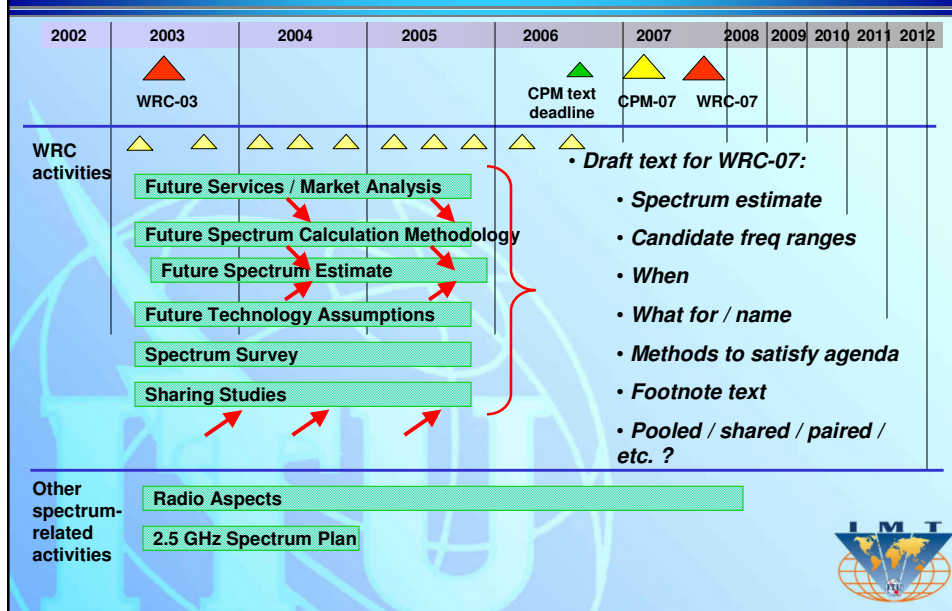
## Resolution 228 (Rev.WRC-03)

*resolves*

- 1 to further study technical and operational issues ...;
- 2 to report to WRC-07 on the spectrum requirements and potential frequency ranges ...;
- 3 to conduct regulatory and technical studies on the usage of frequencies below those identified for IMT-2000 ...;
- 4 to take into consideration the particular needs of developing countries including use of the satellite component of IMT-2000 ...;
- 5 to include sharing and compatibility studies with services already having allocations in potential spectrum ...;
- 6 that WRC-07 should consider frequency-related matters for the future development of IMT-2000 and systems beyond IMT-2000



# WP 8F WRC preparation



## WP 8F web page

Working Party 8F - IMT-2000 and systems beyond IMT-2000 - Microsoft Internet Explorer

Address: <https://www.itu.int/ITU-R/study-groups/rsg8/wp8f/index.asp>

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**Working Party 8F - IMT-2000 and systems beyond IMT-2000**

- ▶ Scope
- ▶ Terms of reference
- ▶ Chairmen and Vice-Chairmen [TIES Users](#)
- ▶ Counsellor
- ▶ Questions

**Documents**

- ▶ Chairman's Report: 13th meeting
- ▶ Contributions - Archives
- ▶ Current Meeting: [Temp. Documents](#)
- ▶ Information Documents - Archives
- ▶ Administrative Documents
- ▶ GCS updates [TIES Users](#) for Rec. ITU-R M.1457

**Next meeting**

- ▶ [ITU-R meeting schedule](#)
- ▶ Invitation to next WP 8F meeting: 12-20 October 2004, Shanghai, People's Republic of China

**Structure and workplan**

- ▶ [WP 8F structure and workplan](#)

**Research activities**

- ▶ [Focus areas](#)
- ▶ [Recommendation ITU-R M.1645](#) - Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000
- ▶ [Draft Report on Technology Trends](#)
- ▶ [Questionnaire on services and market](#)

**Other IMT-2000 activities at ITU**

- ▶ [Telecommunication Development \(ITU-D Question 18/2\)](#)
- ▶ [Telecommunication Standardization \(ITU-T Special Study Group\)](#)
- ▶ [Research and Analysis \(SPU\), General Secretariat](#)

**Seminars and workshops**

- ▶ [Working Party 8F Workshop on services and market aspects \(Edinburgh, 8 October 2003\)](#)

**Electronic facilities**

- ▶ [ITU-R electronic facilities](#)
- ▶ [Mailing lists](#) [FTP server](#) [TIES Users](#)
- ▶ Contributions submission: [rsg8@itu.int](mailto:rsg8@itu.int)

## Summary

- IMT is being implemented and will evolve considerably over next 10-15 years - an open and market led process
- Mobile, Internet and broadband access is growing rapidly
- Convergence is occurring in many spheres
- New radio interface(s) are expected to be required sometime between 2010-2015
- Spectrum aspects will be considered at WRC-07  
- WP 8F is leading the preparatory studies



## ITU-BDT Regional Seminar for Arab Region



Thank you

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