RECOMMENDATION OF IMT-ADVANCED (4G) APPROVED BY ITU

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Overview of the Working Party 5D work;

- The Working Party:
  - Is responsible for the overall system aspects of IMT.
  - Has the prime responsibility within ITU-R for issues related to the terrestrial component of IMT, including technical, operational and spectrum related issues to meet the objectives of future IMT systems.
  - Is the lead group for the overall maintenance of existing and the development of new Recommendations on IMT.
  - Is responsible for studies related aspects regarding the continued deployment of IMT-2000 and the success of IMT-Advanced, e.g. convergence impacts, regulatory aspects, etc.
  - Will continue to work closely with Working Party 4C on issues related to the satellite component of IMT.
  - Will continue to work closely with other Working Parties on issues relevant for IMT systems.
Study Group 1
Enabling environment, cybersecurity, ICT applications and Internet-related issues

Study Group 2
Information and communication infrastructure and technology development, emergency telecommunications and climate-change adaptation

Telecommunication Development Advisory Group (TDAG)
ITU-T; TELECOMM STANDARDIZATION SECTOR

- Study Group 2
  Operational aspects

- Study Group 3
  Economic and policy issues

- Study Group 5
  Environment and climate change

- Study Group 9
  Broadband cable and TV

- Study Group 11
  Protocols and test specifications

- Study Group 12
  Performance, QoS and QoE

- Study Group 13
  Future networks

- Study Group 15
  Transport and access

- Study Group 16
  Multimedia

- Study Group 17
  Security

Telecommunication Standardisation Advisory Group (TSAG)
Technical note: The radio interfaces shown in the figure are commonly known by the following names: UTRA FDD (WCDMA) for IMT-DS; cdma2000 for IMT-MC; UTRA TDD, and TD-SCDMA for IMT-TC; UWC-136 for IMT-SC; and DECT for IMT-FT.
The “Vision” Recommendation ITU-R M.1645
Approved in Radio Assembly 2003

**Systems beyond IMT-2000 will encompass the capabilities of previous systems**

New capabilities of systems beyond IMT-2000 will encompass the capabilities of previous systems.

- Dashed line indicates that the exact data rates associated with systems beyond IMT-2000 are not yet determined.
- New Nomadic / Local Area Wireless Access
- Enhanced IMT-2000
- New Mobile Access

**Peak useful data rate (Mbit/s)**

- Low
- High
- IMT-2000
- Enhanced IMT-2000

**Interconnection**
**Nomadic / Local Area Access Systems**
**Digital Broadcast Systems**
THE IMT-ADVANCED PROCESS IN ITU

Setting the stage for the future:
Vision, spectrum, and technology views

Defining the technology
IMT-ADVANCED DEVELOPMENT PROCESS

**ITU-R**

- Step 1: Issuance of a Circular Letter to invite proposals for radio interface technologies and evaluations
- Step 2: Development of candidate radio interface technologies
- Step 3: Reception of the submissions and issuance of an acknowledgement for RIT
- Step 4: Evaluation of candidate radio interface technologies by independent evaluation groups, grouping or compromise of the technologies through consensus building
- Step 5: Review and coordination of outside evaluation activities
- Step 6: Review to assess compliance with minimum requirements
- Step 7: Consideration of evaluation results, consensus building, and decision
- Step 8: Development of radio interface Recommendation(s)

**Outside ITU-R**

- Step 9: Implementation of Recommendation(s)

Cooperation between evaluation groups

Source: IMT-ADV/2 R1
SCHEDULE FOR DEVELOPMENT OF IMT-ADVANCED

- **2007**
  - WP8F
    - #21
    - #22
  - Invitation for proposals 5/LCCE/2

- **2008**
  - #1
  - #2
  - #3
  - Add#1
  - Add#2
  - Services framework
    - Rec ITU-R M.1822
  - Technical requirements
    - Rep ITU-R M.2134
  - Evaluation criteria and methodology
    - Rep ITU-R M.2135

- **2009**
  - WP5D
  - #4
  - #5
  - #6
  - #7
  - #8
  - #9
  - #10
  - Preliminary EVALUATION
  - Revise proposals

- **2010**
  - CONSENSUS BUILDING
    - inside & outside of ITU – revise proposals

- **2011**
  - #8
  - #9
  - #10
  - Framework and key characteristics
    - Rec ITU-R M.[IMT.RADIO]
  - Detailed specifications of the radio interfaces
    - Rec ITU-R M.[IMT.RSPEC]
Circular Letter 5/LCCE/2 and addendums
INVITATION FOR SUBMISSION OF PROPOSAL FOR CANDIDATE RADIOTECHNOLOGIES FOR TERRESTRIAL COMPONENT OF IMT-ADVANCED 7 March 2008, 2 Aug & 18 Dec 2008

Doc. IMT-ADV/1
BACKGROUND ON IMT-ADVANCED 30 May 2008

Doc IMT-ADV/2 Rev 1
TIMELINES, SUBMISSION AND EVALUATION PROCESS, AND CONSENSUS BUILDING 7 August 2008

REPORT ITU-R M.2133
(formerly M.[IMT.REST])
REQUIREMENTS, EVALUATION CRITERIA, and SUBMISSION TEMPLATES FOR THE DEVELOPMENT OF IMT-ADVANCED 11 November 2008

REPORT ITU-R M.2134
(formerly M.[IMT.TECH])
REQUIREMENTS RELATED TO TECHNICAL PERFORMANCE FOR IMT-ADVANCED RADIO INTERFACE(S) 11 November 2008

REPORT ITU-R M.2135
(formerly M.[IMT.EVAL])
GUIDELINES FOR EVALUATION OF RADIO INTERFACE TECHNOLOGIES FOR IMT-ADVANCED 11 November 2008
"to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for IMT and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution COM6/8 (WRC-12)"