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| **Radiocommunication Advisory Group Geneva, 5-8 May 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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|  | **Addendum 2 to Document RAG15/1-E** |
| **18 March 2015** |
| **Original: English** |
| Director, Radiocommunication Bureau | |
| report to the twenty-SECOND meeting of the  radiocommunication advisory group | |
| Study Group activities | |

# 1 Working methods

Study Group activities were pursued within a stable Study Group (SG) and Working Party (WP) structure according to the work programmes defined in the ITU‑R Operational Plan. Working methods were satisfactorily applied in accordance with Resolution ITU‑R 1-6 (and the associated Working Guidelines).

# 2 Access to meeting documents

In line with the revisions made to Resolution ITU‑R 1 at RA-12, meeting documents are posted by SGD staff within one working day “as received” on a webpage established for this purpose, and the official versions are posted on the website within three working days.

# 3 Electronic working facilities

Continuing emphasis has been placed on the use of electronic facilities that have brought considerable benefit to delegates as well as a significant economy in paper.

## 3.1 Sharepoint website

Access to documentation during meetings via a dedicated Sharepoint website is the standard practice. All Study Group and Working Party meetings are now completely paperless.

## 3.2 File synchronization

A file synchronization facility has been implemented for all Study Group/Working Party meetings to facilitate access to the most recent versions of documents during meetings.

## 3.3 Online list of participants

Online versions of the lists of participants for all study group and working party meetings have been implemented with access to the online version restricted to TIES users. The dynamic list can be searched based on parameters such as name, member and position in the delegation.

## 3.4 Remote participation

Since the last meeting of RAG, audio webcasts of all available languages have been provided during the Plenary sessions of all Study Group and Working Party meetings held in Geneva.

During the Working Party meetings, the possibility of active remote participation using Adobe Connect facilities in English only has been offered. Remote participants wishing to actively participate (e.g. to introduce a contribution) need to register for the meeting beforehand and coordinate their active participation with the responsible Counsellor.

Active remote participation was provided to allow participants in Working Parties to present contributions on nine occasions in the last year. Typically there has only been 1-2 active remote participants at a given meeting. The general feedback received has been that such participation has been useful, but that it can be difficult to schedule and that it slows the meeting down.

While the Secretariat will make every effort to facilitate such active participation, it should be recognized that on some occasions this may not be possible due to factors such as the limited number of support staff, availability of equipped rooms, many parallel meetings and the need for the remote participants to have a high-quality Internet and phone connection.

## 3.5 Study Group webpages

The ITU is in the process of changing the presentation of its webpages to provide an updated and consistent look across the ITU website. All of the main SG and WP pages have been changed to the new format, and associated pages are being changed progressively when they need to be updated.

## 3.6 Further development of the ITU‑R documents database search facility

A separate RAG document provides information about the ITU‑R documents database and search facility.

## 3.7 Enhanced correspondence group tool

An enhanced tool as a replacement for the current mailing lists and ftp servers is now being developed and should be introduced in the second half of the year.

## 3.8 Captioning

Since December 2013, all Study Group meetings have been provided with live captioning in English. Feedback on this facility has been generally positive as an aid to following discussions, however some concerns have been raised on occasion regarding the accuracy of the captioning particularly with respect to frequency bands and radiocommunication acronyms.

# 4 Meeting rooms

The shortage of meeting rooms at ITU headquarters continues to hinder the effective planning of meetings. This problem has been exacerbated by the following factors:

i) the increased number of meetings being arranged by all of the Sectors and the General Secretariat;

ii) the shortage of meeting rooms with a capacity of more than 150 participants;

iii) the need to avoid overlap and clashes of meeting dates;

iv) the limited availability and very long lead times required for bookings in alternative facilities such as CICG.

# 5 Notable activities in the Study Groups

Since the last meeting of the RAG, Study Group activities have largely focused on finalizing the CPM text in preparation for CPM15-2 and the organization of the meetings of the CPM‑15 Management Team and the Special Committee. Some of the notable activities and other ongoing standardization studies in each Study Group are highlighted below.

## 5.1 Study Group 1

SG 1 has not met since the last meeting of the RAG. However correspondence activities continued on the following studies and will be reported to the June 2015 block of meetings of SG 1:

– Wireless Power Transmission (WPT);

– coexistence of wired telecommunication with radiocommunication systems;

– harmonization of short-range devices (SRD) in response to Resolution ITU‑R 54-1 with the issuing of a Questionnaire on SRD classification;

– spectrum management principles, challenges and issues related to radio systems employing cognitive capabilities, including dynamic access to spectrum, by radio systems employing cognitive capabilities in response to Resolution ITU‑R 58;

– challenges and opportunities for spectrum management resulting from the transition to digital terrestrial television in the VHF and UHF bands;

– spectrum monitoring evolution;

– measurement techniques and new technologies for satellite monitoring;

– other technical studies related to spectrum monitoring (e.g. DF accuracy, storage of I/Q data, planning/optimizing spectrum monitoring network, etc.).

The final editorial corrections to the newly approved edition of the ITU Handbooks on National Spectrum Management and on Computer-Aided Techniques for Spectrum Management were also undertaken towards their publication in 2015.

## 5.2 Study Group 3

In line with its two-year cycle, Study Group 3 had no meetings in 2014. Its Working Parties 3J, 3K, 3L and 3M met in September 2014, during which, amongst other activities, specific work started on the revision of Recommendation ITU‑R P.2040-0 dealing with building entry loss and Recommendations ITU‑R P.1411-7 and P.1238-7 in connection with propagation models and related characteristics for higher frequencies (6-100 GHz). Both work items resulted in the establishment of two dedicated Correspondence Groups to address this work.

Other work activities include improved resolution and accuracy of precipitation modelling in a number of categories (e.g. high altitude, sea and coastal areas, etc.), improved propagation modelling for broadband wireless access systems specifically in the frequency ranges 2-10 GHz and above 60 GHz, extending propagation modelling up to about 100 GHz for Earth-space paths, the updating and careful checking of the HF prediction program ITURHFPROP and the preparation of a Report on ground wave propagation.

Recommendations in the P‑series remain popular and statistics for the period 1 June 2014 to 31 December 2014 indicated that they received the highest number of downloads (more than 760 000). This is more than twice the number of downloads than for the next most popular recommendation series for the same period.

## 5.3 Study Group 4

Working Parties 4A and 4C finalized the preparatory work for WRC‑15 on the agenda items for which they were the leading groups, and produced related draft CPM texts for all those agenda items.

New and revised reports pertaining to the scope of SG 4 were approved, in particular Report ITU‑R BO.2007‑2 “Considerations for the introduction of broadcasting-satellite service of high definition television systems and ultra-high definition television systems in the band 21.4-22 GHz” and Report ITU‑R S.2306‑0 “Multi-dimensional signal mapping technique for satellite communications”.

New and revised recommendations pertaining to the scope of SG 4 were approved, in particular Recommendation ITU‑R S.2062-0 “Carrier identification system for digital-modulation transmissions of fixed-satellite service occasional use carrier earth station transmissions using geostationary-satellite networks in the 4/6 GHz and 11-12/13/14 GHz FSS bands”, for which a news flash was created on the ITU‑R and SG 4 websites, as requested by SG 4. In addition, Recommendation ITU‑R M.1787-2 “Description of systems and networks in the radionavigation-satellite service (space-to-Earth and space-to-space) and technical characteristics of transmitting space stations operating in the bands 1 164-1 215 MHz, 1 215-1 300 MHz and 1 559-1 610 MHz” and Recommendation ITU‑R M.1478-3 “Protection criteria for Cospas-Sarsat search and rescue instruments in the band 406-406.1 MHz” were approved.

## 5.4 Study Group 5

Twenty-three Recommendations and 28 Reports pertaining to the scope of SG 5 were approved, some of which are in support of the studies carried out by SG 5 in relation to WRC‑15 agenda items.

WP 5A produced Report ITU‑R M.2330 on cognitive radio systems (CRSs) in the land mobile service. The Report presents the existing, emerging and potential applications employing CRS capabilities and the related enabling technologies, including the impacts of CRS technology on the use of spectrum from a technical perspective.

The 2014 Plenipotentiary Conference adopted Resolution 185 (Busan, 2014) on global flight tracking, which resolved to instruct WRC‑15 to include in its agenda, as a matter of urgency, the consideration of global flight tracking, including, if appropriate, and consistent with ITU practices, various aspects of the matter, taking into account ITU‑R studies.

In order to progress the work on this urgent issue, WP 5B agreed to hold an additional meeting (11‑15May 2015, Geneva) with the agenda limited to the development of a report on global flight tracking and the progression of an existing potential new Report (ITU‑R M.[ADS-B]) on a future application that might contribute to global flight tracking.

After conclusion of the works of JTG 4-5-6-7, a number of Reports relating to sharing between the mobile and other services were approved by SG 5. In addition to those Reports, WP 5D produced several Reports on IMT which were subsequently approved by SG 5. In particular, Report ITU‑R M.2320 (*Future technology trends of terrestrial IMT systems*) provides information on the technology trends of terrestrial IMT systems considering the time-frame 2015-2020 and beyond, and possible technology enablers which may be applied in the future.

## 5.5 Study Group 6

SG 6 approved the revision of several key Recommendations on digital terrestrial sound and television broadcasting, service configuration, media transport protocol, and signalling information for MMT-based broadcasting systems, metadata requirements for production and post-production in broadcasting, integrated broadcast-broadband systems and real-time serial digital interfaces for UHDTV signals. SG 6 also completed new or updated existing Reports on the transition from analogue to digital terrestrial broadcasting, field trials of UHDTV over DTT networks, technical parameters, operational characteristics and deployment scenarios of SAB/SAP as utilized in broadcasting production, emission and exchange of closed captions for all worldwide language character sets (Latin and non-Latin).

On the occasion of the World Radio Day on 13 February 2105 that was held at the ITU Geneva headquarters , SG 6 organized a well-attended technical session on Radio and Innovation together with an exhibition of radio-technology options for the future ([www.itu.int/en/wrd15](http://www.itu.int/en/wrd15)).

## 5.6 Study Group 7

SG 7 prepared and approved four new and two revised Recommendations as well as 13 new Reports. A new Handbook on Space Research Service was prepared by WP 7B and published by ITU.

The main areas of current studies are active sensing at around 9 GHz, the future of UTC, and the characteristics and spectrum requirements of satellite systems using nano- and pico-satellites.

## .5.7 Coordination Committee for Vocabulary

As proposed by the CCV and agreed by the RAG, the ITU‑R CCV and ITU‑T SCV meetings are now being conducted jointly, with extensive use of electronic methods.

# 6 Liaison and collaboration with ITU‑D and ITU‑T, and with other organizations

The summary of conclusions of the twenty-first Radiocommunication Advisory Group (Annex 1 to Circular Letter CA/215) indicates the main topics in ITU‑R Study Groups currently being addressed as an intersectoral activity. Intersectoral activities have continued throughout the period, particularly concerning ITU’s priority topics of climate change, emergency communications and accessibility.

*Concerning ITU‑D*: BR continues to participate in relevant Rapporteur Group meetings and contributes to the BDT Development Fora. These events provide an opportunity to present ITU‑R’s standardization activities and, in turn, to demonstrate their contribution to Resolution 123 (Rev. Busan, 2014) in bridging the standardization gap.

*Concerning ITU‑T*:In addition to climate change and emergency communications, topics of mutual interest between ITU‑R and ITU‑T include the effects of human exposure to radio frequencies, power line transmission systems, intelligent transport systems, common patent policy and intellectual property rights and audiovisual media accessibility.

SG 6 established a new Intersector Rapporteur Group (IRG) on Integrated Broadband Broadcasting (IBB) systems in addition to the two existing IRGs on audiovisual media accessibility (IRG‑AVA) and on audiovisual quality assessments (IRG-AVQA).

There continues to be a requirement for close coordination on the various topics being addressed by ITU‑T that impinge on radiocommunication issues to reduce the potential for overlap, duplication and conflict of work undertaken by the two Sectors.

*Concerning other organizations*:Healthy liaison has continued between ITU‑R Study Groups and other organizations, with due reference to Resolution ITU‑R 9-4, where required. ITU‑R and BR representatives have continued their involvement in the Global Standards Collaboration (GSC), the World Standards Cooperation (WSC), CISPR and IEC. Liaison has also been evident with UN bodies and agencies in various fields, e.g. space weather, climate change and climate monitoring (WMO, UNFCCC, Global Humanitarian Forum, GEO, SFCG, NASA, ESA) and EMF exposure (WHO).

# 7 Other intersectoral activities

BR has actively participated in other intersectoral activities, which are relevant to the work of ITU‑R Study Groups, as described below.

• *Climate Change and Emergency Communications*: Intersectoral activities continue to be coordinated by the ITU Climate Change and Emergency Telecommunications Task Force related to the implementation of Resolution 136 (Rev. Busan, 2014), in which BR has active participation. RA-12 adopted Resolution ITU‑R 60 (Reduction of energy consumption for environmental protection and mitigating climate change by use of ICT/radiocommunication technologies and systems), which is driving additional activities. Activities linked to the implementation of Resolutions ITU‑R 53-1 (The use of radiocommunications in disaster response and relief) and 55-1 (ITU studies of disaster prediction, detection, mitigation and relief) are being pursued in ITU‑R. The ITU‑R webpage on climate change has been updated to reflect the latest developments in this field.

• *Broadband Commission*: BR participates in the ITU Broadband Commission Inter-Sectoral Group, which was set up in order to provide support to the activities of the [Broadband Commission](http://www.broadbandcommission.org/). The role of radiocommunications, particularly mobile broadband including IMT systems, has been emphasized as an example of ICT systems able to provide timely and efficient access to broadband applications.

• *Preparation for ITU meetings*: BR has been participating in the activities related to recent and forthcoming ITU events, conferences and meetings, including WTDC-14 and PP-14.

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