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|  | | **Addendum 1 to  Document RAG/30-E** |
| **28 February 2025** |
| **Original: English** |
| |  | | --- | | Director, Radiocommunication Bureau | | report TO the tHIRTY-second meeting  of the radiocommunication advisory group | | STUDY GROUPS ACTIVITIES | | | |

# 1 Introduction

This document provides status reports and information on some of the issues included on the draft agenda for the 32nd meeting of RAG (see [CA/276](https://www.itu.int/md/R00-CA-CIR-0276/en)).

# 2 Electronic working facilities

All ITU-R SG/WP meetings are paperless with meeting documents available on the respective websites for download. There was continuing emphasis on the development and use of electronic facilities which brought considerable benefit to delegates.

## 2.1 SharePoint website

Access to documentation during meetings via a dedicated SharePoint website was the standard practice.

SharePoint sites for Correspondence and Rapporteur Groups were also used extensively in the periods between the WP meetings.

## 2.2 File synchronization

The file synchronization facility was updated for all SG/WP meetings to facilitate access to the most recent versions of documents during meetings and to the meeting room assignments.

## 2.3 Physical meetings with remote participation

Since April 2022, ITU-R SG and WP meetings have been held as physical meetings with remote participation. The platform used for such meetings (Zoom) allowed interactive remote participation of both chairs and delegates. All meeting arrangements were made in agreement with the respective SG/WP leadership.

Starting in 2025, interpretation into the official languages of the Union was provided upon request by the administrations, as indicated in the invitation letters to SG meetings. As a result, the Bureau was able to save resources.

All SGs meetings were provided with live captioning in English. However, due to the related technical requirements, this feature has an impact on the costs of the meeting, in particular for meetings held outside of ITU premises.

## 2.4 Study Group webpages

In alignment with the ITU policy, updates to webpages were continuously performed in order to provide necessary information to delegates.

The list of CGs/RGs can be found on each SG main page under a specific link and are aligned for all SGs. Information such as the group name, SharePoint page, Rapporteur/Chair/Convener, mailing list, archives, and other necessary information are made available to users.

In line with the provisions of Resolution ITU-R 1, meeting documents are posted by BR 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.

BR SGD completed the implementation of a tool that automatically posts the “as received” contributions.

# 3 Participation

There was a significant increase in the level of participation in ITU-R SGs and WPs meetings, particularly since 2020 when all meetings were held either electronically or physically with remote participation. This was very encouraging, but at the same time created difficulties when planning meetings of large groups.

Figure 1 depicts the physical participation per group in 2024.

Figure 1

Total number of in-person participation per ITU-R Study Group/  
Working Party meetings in 2024

## 3.1 Fellowships to support participation in ITU-R Study Groups activities

In accordance with section A1.3.2.1*quinquies*of Resolution ITU-R 1-9, ITU should provide support and facilitate participation in the work of the ITU-R Study Groups, especially for persons originating from developing countries, as far as possible and practicable. In order to identify the budget allocated to grant fellowships for ITU-R meetings, a request was made to ITU Council 2025.

# 4 Meeting rooms

The shortage of meeting rooms at ITU Headquarters continued to hinder the effective planning of meetings. This problem was exacerbated by the following factors:

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

– the shortage of meeting rooms with a capacity of more than 120 participants;

– the need to avoid overlap of meeting dates as well as the requirement of having meetings of ITU-R Groups in parallel;

– the limited availability and very long lead times required for bookings in alternative facilities, such as CICG;

– additionally, CICG contract conditions have changed and became more stringent:  CICG no longer automatically provides meeting room space free of rental charge to ITU or other international organizations with allocations of meeting space free of rental charges ​subject to CICG’s budgetary availability and all requests to be submitted 18 months in advance to be considered for free of rental charge;

– the future demolition of Varembé building and the construction of the new ITU building, which would have an impact on several meeting rooms.

Consequently, when the demolition of the Varembé building begins, an increasing number of meetings would need to be held outside ITU Headquarters or as a mixture of physical and remote participation. To that end, offers from the membership to host SGs/WPs meetings during this period would be particularly welcome. Furthermore, such arrangements would require considerable advance planning and preparation.

Overlaps with meetings of other ITU Sectors and the General Secretariat were avoided in 2024 to the extent possible. Unfortunately, the number of non-ITU-R events increased significantly. It has become difficult and sometimes impossible to avoid such overlaps. A similar situation is foreseen in 2025 and regular coordination among the ITU Sectors is ongoing to mitigate the impact.

# 5 Activities in the Study Groups

Working methods for Study Groups (SGs) and Working Parties (WPs) were applied in accordance with Resolution ITU-R 1 and the associated [Guidelines for the working methods](https://www.itu.int/oth/R0A01000004).

Some of the activities and other ongoing standardization studies are described below, which summarizes the studies carried out since RAG-24 as well as the production of ITU‑R Recommendations and ITU-R Reports approved since then.

| Study Group | Status of studies | | | | |
| --- | --- | --- | --- | --- | --- |
| Recommendations ITU-R approved | Reports ITU-R approved | Questions ITU-R approved | Handbooks ITU-R approved | Opinions ITU-R approved |
| **SG 1** | SM.329-13, SM.853-2, SM.1539-2, SM.1541-7, SM.2129-1 | SM.2486-1, SM.2449-1, SM.2542-0 |  |  |  |
| **SG 3** | P.372-17, P.525-5, P.835‑7, P.1511-3 |  |  |  |  |
| **SG 4** | M.1787-5, S.1328-5 | BO.2497-1, M.2513-1, M.2543-0, S.2546-0 |  |  |  |
| **SG 5** | F.758-8, M.1041-3 | F.2416-1, M.2442-1, M.2541-0, M.2547-0, M.2548-0 | 265/5, 266/5 |  |  |
| **SG 6** | BS.2076-3, BS.2094-2, BS.2168-0,  BT.1662-1, BT.1666-1, BT.2016-4, BT.2100-3, BT.2123-1, BT.2166-0, BT.2167-0 | BS.2388-5, BS.2493-1, BT.2343-9, BT.2386-5, BT.2389-1, BT.2408-8, BT.2420-7, BT.2467-3, BT.2468-2, BT.2485-3, BT.2506-1, BT.2521-1, BT.2522-1, BT.2526-1, BT.2538-0, BT.2539-0, BT.2540-0, BT.2544-0, BT.2545-0 | 148/6 |  |  |
| **SG 7** |  |  |  |  |  |

NOTE: The outputs listed above were compiled at the moment of the preparation of this document.

It is to be noted that the editorial revisions of ITU-R Reports were treated, by analogy, in accordance with §A2.5.2.4 and §A2.6.2.5 of Resolution ITU-R 1-9.

## 5.1 Study Group 1

Study Group 1 continued to develop ITU-R Recommendations, Reports and Handbooks related to spectrum management principles and techniques, general principles of sharing, spectrum monitoring, long-term strategies for spectrum utilization, economic approaches to national spectrum management, automated techniques and assistance to developing countries in cooperation with the Telecommunication Development Sector. Its studies also included methods for identification and elimination of interference, unwanted emissions, maintenance of data dictionary, spectrum redeployment, spectrum use measurement, unlicensed and shared uses of spectrum, dynamic spectrum access, smart grids and wireless power transmission.

Working Parties 1A, 1B and 1C and Study Group 1 held a block of physical meetings with remote participation from 12 to 20 June 2024 in Geneva. In addition to the approved publications indicated in section 5 above and detailed below, good progress was also made on other SG 1 activities. It was agreed in June 2024 to schedule the following meetings in November 2024 at the ITU Headquarters in Geneva:

– WP 1B met from 5 to 8 November 2024 to progress the work and, considering that this WP is a contributing group on WRC-27 agenda item 1.5, to be able to provide on time information to WP 4A, as appropriate.

– WP 1C Rapporteur Group (RG) on the ITU-R Spectrum Monitoring Handbook (SMH) met from 5 to 12 November 2024 to progress the work on the revision of this important Handbook for national regulators and for the manufacturers providing equipment to them.

Recommendation ITU-R:

– SM.329-13 “Unwanted emissions in the spurious domain”

– SM.853-2 “Necessary bandwidth”

– SM.1539-2 “Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329”

– SM.1541-7 “Unwanted emissions in the out-of-band domain”

– SM.2129-1 “Guidance on frequency ranges for the operation of non-beam wireless power transmission for mobile and portable devices”

Report ITU-R:

– SM.2486-1 “Use of commercial drones for ITU-R spectrum monitoring tasks”

– SM.2449-1 “Impact analyses of non-beam inductive wireless power transmission for mobile and portable devices on radiocommunication services”

– SM.2542-0 “Next generation Spectrum Monitoring – Proactive, Autonomous, and Data-Driven”

– SM.2353-0 “The challenges and opportunities for spectrum management resulting from the transition to digital terrestrial television in the UHF bands” was editorially updated.

At the June 2024 meeting of SG 1, the need for the RAG to review the [Format of ITU-R Recommendations](https://www.itu.int/oth/R0A0E000097) was highlighted, in order to clarify where the references to ITU-R Reports in an ITU-R Recommendation should be included (see Section 10.1 of the Summary Record in Doc. [1/27](https://www.itu.int/md/R23-SG01-C-0027/en)).

At the November 2024 physical meetings with remote participation, WP 1B further progressed its regular studies and agreed to send to SG 1 a draft revision of Report ITU-R 2015-2 on *“Methods for determining national long-term strategies for spectrum utilization”*. The WP 1C RG-SMH was also very productive in continuing the draft revision of all the Chapters and the Annex of the Handbook as well as in developing a draft new Chapter on data and automation. The next meeting of the RG-SMH as initially foreseen in February 2025 was therefore cancelled to give more time for the preparation of the June 2025 WP 1C meeting where additional days would be given for the revision of the SMH.

As indicated in the invitation circulars ([CACE/1131](https://www.itu.int/md/R00-CACE-CIR-1131/en) and [1/LCCE/113](https://www.itu.int/md/R00-SG01-CIR-0113/en)), the next meeting of WP 1C is scheduled from 9 to 18 June 2025 with the first two days dedicated to the work on the revision of the SMH, and the next meetings of WPs 1A and 1B are scheduled from 11 to 18 June 2025. SG 1 will meet on 19 June 2025. Some possibilities to plan other meetings of the SG 1 WPs during the period from 5 to 14 November 2025 were also envisaged depending on the workload at the end of the June 2025 meetings and depending on the ITU rooms availability in view of the priorities. However, a meeting of the WP 1C RG-SMH is most likely going to be held during that period in order to meet the targeted deadline of June 2026 for the revision of this important Handbook.

## 5.2 Study Group 3

Study Group 3 continued to undertake extensive research using propagation measurements, data analysis and model development to extend the applicability of radio-wave propagation prediction methods in relevant parts of the spectrum up to 375 THz. Study Group 3 also continued to revise or develop new recommendations, reports and handbooks under its purview to support the design of radiocommunication systems and the assessment of interference. The latter was often required for sharing and compatibility studies in support of work on WRC agenda items.

Since RAG-24, four revised ITU-R Recommendations were adopted and approved by SG 3. Three ITU‑R Recommendations were also editorially amended.

Three additional Correspondence Groups (CGs) were established. A total of 39 CGs of WPs 3J, 3K, 3L and 3M were active to progress the work between official meetings. Those CGs conducted a significant proportion of the work between official WP meetings. Working Parties of SG 3 had used CGs in this manner for more than a decade, particularly noting the fact that the four Working Parties meet usually only once a year and that the completion of some topics of work could span longer than five or even ten years. It should therefore not be seen that the use of CGs in this manner was specifically and only due to the situation created by the COVID-19 pandemic during the period 2020-2022.

At its meetings in Denver, Colorado, United States (29 May-7 June 2024), WPs 3J, 3K and 3M exceptionally planned two meetings in 2025 (i.e. 17-21 February 2025 and 25 May-5 June 2025, ITU Headquarters, Geneva) to complete those items of work required by the responsible working parties in their sharing and compatibility studies in support of work on WRC agenda items. Working Party 3L will only meeting during the period 25 May to 5 June 2025. Furthermore, the four WPs decided to convene a workshop to exchange ideas on applications of machine learning in radio-wave propagation prediction. The workshop would coincide with the WP meetings on 27 May 2025 and include remote participation.

In 2024, as had been the case in the previous three years, the P-series recommendations remained the most popular of all ITU-R series of recommendations, with over 76 000 downloads more than the second most popular series, thus continuing to reflect its importance to all users of radio systems within the ITU and the greater radiocommunications community.

Recommendation ITU-R:

– P.372-17 “Radio noise”

– P.525-5 “Calculation of free-space attenuation”

– P.835-7 “Reference atmospheres”

– P.1511-3 “Topography for Earth-space propagation modelling”

The working parties of Study Group 3 continued to maintain a number of fascicles containing information that should be preserved for reference purposes, but that was not suitable for inclusion in ITU-R Reports or Recommendations. Working Party 3J approved the following new Fascicles:

– [3J/FAS/11](https://www.itu.int/oth/R0A04000096/en) “Background information on Annex 3 of Recommendation ITU‑R P.835”;

– [3L/FAS/1](https://www.itu.int/oth/R0A04000095/en) “The brightness temperature prediction method in Recommendation ITU-R P.372 – Radio noise”.

## 5.3 Study Group 4

Study Group 4 is continuing to study fixed, mobile, broadcasting and radiodetermination-satellite systems and networks characteristics, including the related use of links in the inter-satellite service, as applicable, air interfaces, performance and availability objectives as well as sharing of orbit/spectrum resources among GSO and non-GSO satellite systems, enabling the sustainable development of the space ecosystem.

The work in response to Resolution ITU-R 74 *“Activities related to the sustainable use of radio-frequency spectrum and associated satellite-orbit resources used by space services”* continues in Working Party 4A. An invitation to submit proposals for the development of an ITU-R Handbook on *“Best practices for the sustainable use of frequencies and associated non-GSO orbits by space radiocommunication services”* was issued (see [CACE/1129](https://www.itu.int/md/R00-CACE-CIR-1129/en)).

Taking into account suggestions made at the RAG meeting in May 2024, SG 4 agreed to develop a new ITU-R Handbook on *“Satellite communications and technologies”*, concentrating the material relevant to FSS, BSS, MSS and RDSS systems. This Handbook will succeed the outdated Handbook on satellite systems, and its development is ongoing. An invitation for submission of proposals for its development was issued (see [4/LCCE/140](https://www.itu.int/md/R00-SG04-CIR-0140/en)). Since RAG-24, SG 4 has adopted and approved two revised ITU-R Recommendations. SG 4 also approved two new and two revised ITU-R Reports.

Recommendation ITU-R:

– M.1787-5 “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”

– S.1328-5 “Satellite system characteristics to be considered in frequency sharing analyses within the fixed-satellite service”

Report ITU-R:

– BO.2597-1 “Characteristics and effectiveness of frequency sharing criteria for the broadcasting-satellite service in Regions 1 and 3 subject to RR Appendix 30”

– M.2513-1 “Studies regarding the protection of the primary radionavigation-satellite service (space-to-Earth) by the secondary amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz”

– M.2543-0 “Outcome of the evaluation, consensus building and decision of the IMT-2020 satellite process (Steps 4 to 7), including characteristics of IMT-2020 satellite radio interfaces”

– S.2546-0 “Mitigation measures between FSS and IMT in the frequency band   
3 400-3 600 MHz”

The next meetings of WPs 4A, 4B and 4C are scheduled from 23 April to 16 May 2025 in Shanghai, China. SG 4 will meet in November 2025.

## 5.4 Study Group 5

Study Group 5 continued studies on systems and networks for the fixed, mobile (terrestrial, maritime and aeronautical), radiodetermination (including both, radiolocation and radionavigation), amateur and amateur-satellite services, paving the way for the continuing development of all these services, including IMT, HAPS/HIBS, ITS and PPDR.

SG 5 approved two new ITU-R Questions. Furthermore, two revised ITU-R Recommendations and two new and three revised ITU‑R Reports pertaining to the scope of SG 5 were approved.

Question ITU-R:

– 265/5 “Coexistence of VHF data exchange system with a ranging-mode in the VHF data exchange system”

– 266/5 “Introduction of digital voice communications in the VHF maritime frequency channels”

Recommendation ITU-R:

– F.758-8 “System parameters and considerations in the development of criteria for sharing or compatibility between digital fixed wireless systems in the fixed service and systems in other services and other sources of interference”

– M.1041-3 “Future amateur radio systems”

Report ITU-R:

– F.2416-1 “Technical and operational characteristics and applications of the point-to-point fixed service applications operating in the frequency band 275-450 GHz”

– M.2442-1 “Current and future usage of railway radiocommunication systems between train and trackside”

– M.2541-0 “Technical feasibility of IMT in bands above 100 GHz”

– M.2547-0 “Various aspects of non-safety aeronautical mobile service systems in the frequency bands 15.4-15.7 GHz and 22-22.21 GHz”

– M.2548-0 “Bandwidth considerations for land mobile service applications in the frequency range 275-450 GHz”

Due to the large number of participants and to optimize the meeting rooms allocation, it was decided that WP 5B would meet from 29 April to 8 May 2025, separately from WPs 5A and 5C. WPs 5A and 5C would meet from 12 to 22 May 2025. At its first meeting in February 2025, WP 5D confirmed convening its next meeting in Kobe at the kind invitation of the Administration of Japan (24 June to 3 July 2025).

Concerns were raised by delegates participating in SG 5 meetings about the overlap with meetings of other groups that were unavoidable during 2024. Among several factors, one additional reason is that the overall duration of the SG 4 block had been extended by several days and hence, inevitably overlapping with previously scheduled meetings.

## 5.5 Study Group 6

Study Group 6 is continuing studies on radiocommunication broadcasting, particularly on emerging topics including advanced technologies for terrestrial digital broadcasting, a global platform for the broadcasting service, high dynamic range television (HDR-TV), integrated broadcast-broadband (IBB) systems, new audio and video codecs for digital broadcasting, Advanced Immersive Audio‑Visual (AIAV) systems, renderer specifications for advanced sound systems, application of Artificial Intelligence for broadcasting, audio‑visual accessibility (AVA).

Study Group 6 has also been actively coordinating the work of mutual interest with ITU-T SGs 21 (formerly ITU-T Study Groups 9 and 16) and 12 through the Intersector Rapporteur Group (IRG) on Audio-Visual Accessibility (IRG‑AVA) and Intersector Rapporteur Group Audiovisual Quality Assessment (IRG-AVQA) respectively.

One new ITU-R Question, three new and seven revised ITU-R Recommendations as well as five new and 15 revised Reports were approved by SG 6 since RAG-24. The draft revised Recommendation ITU-R BT.1774-2 was adopted by SG 6 and is undergoing approval by the Membership. In addition, Recommendation ITU-R BT.500-15 was editorially updated. SG 6 also approved the suppression of two ITU-R Questions.

Question ITU-R:

– 148/6 “Evolution of sound systems for broadcasting”

Recommendation ITU-R:

– BS.2076-3 “Audio Definition Model”

– BS.2094-2 “Common definitions for the Audio Definition Model”

– BS.2168-0 “Audio definition model and serial representation of audio definition model profile for advanced sound systems emission”

– BT.1662-1 “General reference chain and management of post-processing headroom for programme essence in television applications”

– BT.1666-1 “User requirements for television applications intended for presentation in a theatrical environment”

– BT.2016-4 “Error-correction, data framing, modulation and emission methods for terrestrial multimedia broadcasting for mobile reception using handheld receivers in VHF/UHF bands”

– BT.2100-3 “Image parameter values for high dynamic range television for use in production and international programme exchange”

– BT.2123-1 “Video parameter values for advanced immersive audio-visual systems for production and international programme exchange in broadcasting”

– BT.2166-0 “Viewing conditions for high dynamic range and standard dynamic range monitoring in close proximity within a single-master high dynamic range production environment”

– BT.2167-0 “A framework for content-adaptive methods for reduction of energy consumption in television displays”

Report ITU-R:

– BS.2388-5 “Usage Guidelines for the Audio Definition Model and Multichannel Audio Files”

– BS.2493-1 “Practical implementation of broadcast systems using audio codecs for ITU advanced sound systems”

– BT.2343-9 “Collection of field trials of ultra high definition television over digital terrestrial television broadcasting networks”

– BT.2386-5 “Digital terrestrial broadcasting: Design and implementation of single frequency networks (SFN)”

– BT.2389-1 “Guidelines on measurements for digital terrestrial television broadcasting systems”

– BT.2408-8 “Suggested guidance for operational practices in high dynamic range (HDR) television production”

– BT.2420-7 “Collection of usage scenarios of advanced immersive sensory media systems”

– BT.2467-3 “Methods for the evaluation of the quality of service of second generation digital terrestrial television broadcasting systems”

– BT.2468-2 “Guidance for selection of system parameters and implementation of second generation DTTB systems”

– BT.2485-3 “Advanced network planning and transmission methods for enhancements of digital terrestrial television broadcasting”

– BT.2506-1 “Requirements for spatial characteristics of an ideal head-mounted display for immersive video”

– BT.2521-1 “Practical examples of actions to achieve energy efficiency of broadcasting”

– BT.2522-1 “A framework for the future of broadcasting”

– BT.2526-1 “Field trials of terrestrial multimedia mobile broadcasting systems”

– BT.2538-0 “Use cases of Versatile Video Coding multilayer profiles for broadcasting services”

– BT.2539-0 “Use of cloud computing for programme production”

– BT.2540-0 “Display energy reduction through image signal processing”

– BT.2544-0 “Compatibility between TMMB System-L and DTTB systems in the 470-694 MHz band within the GE06 agreement”

– BT.2545-0 “Inter-tower communications network (ITCN) for terrestrial broadcasting and datacasting systems”

As part of the 2024 SG 6 blocks of meetings, the following events were organized:

• [ITU Workshop on the Future of Television for Europe​](https://www.itu.int/en/ITU-R/seminars/Future-of-tv-europe/Pages/default.aspx) (7 November 2024, jointly organized by ITU-R SG6, ITU-T and ITU-D)

• [Demonstrations on Future of Broadcasting](https://www.itu.int/dms_pub/itu-r/oth/0a/07/R0A070000470001PDFE.pdf) (6 and 7 November 2024)

• [Workshop on Terrestrial Multimedia Mobile Broadcasting (TMMB)](https://www.itu.int/en/ITU-R/seminars/sg6-tmmb-2024/Pages/default.aspx) (8 March 2024)

WPs 6A, 6B and 6C meetings are scheduled from 3 to 13 March 2025 followed by SG 6 meeting on 14 March 2025.

## 5.6 Study Group 7

Study Group 7 is continuing to develop ITU-R Recommendations, Reports and Handbooks that are used for development and for ensuring non-interference into the operation of space operation, space research, Earth-exploration and meteorological systems (including the related use of links in the inter-satellite service), radio astronomy and radar astronomy; and for the dissemination, reception and coordination of standard-frequency and time-signal services (including the application of satellite techniques) on a worldwide basis. It studies as well radiocommunication systems for use with manned and unmanned spacecraft, communication links between planetary bodies and the use of data relay satellites.

The systems addressed by SG 7 are used in activities that are a critical part of our everyday life such as:

– definition and dissemination of Coordinated Universal Time;

– global environment monitoring – atmosphere (including greenhouse gases emissions), oceans, land surface, biomass, etc.;

– weather forecasting and climate change monitoring and prediction;

– detection and tracking of many natural and man-made disasters (earthquakes, tsunamis, hurricanes, forest fires, oil leaks, etc.);

– providing alerting/warning information;

– damage assessment and planning relief operations;

– monitoring and mitigation of space weather events.

SG 7 also encompasses systems for the study of outer space:

– satellites for studying the sun, the magnetosphere and all the elements of our solar system;

– spacecraft for human and robotic exploration of extraterrestrial bodies;

– lunar, Lagrangian, deep space research systems and space‑very long baseline interferometry, including their associated earth stations;

– Earth and satellite-based radioastronomy to study the universe and its phenomena.

Working Parties 7A, 7B, 7C and 7D met from 16 to 27 September 2024 in Almaty at the kind invitation of the Administration of Kazakhstan. As part of these meetings, the following events also took place:

– WMO-ITU Seminar “Earth observation for Sustainable Development Goals: technologies, spectrum, applications, impacts”, 16-17 September 2024, Almaty, Kazakhstan.

– ITU Workshop on Radioastronomy, 16 September 2024, Almaty, Kazakhstan.

The next meeting of Study Group 7 is scheduled for 27 March 2025, while WPs 7A, 7B, 7C and 7D are planned to meet from 17 to 26 March 2025.

## 5.7 Coordination Committee for Vocabulary

The ITU Coordination Committee for Terminology (CCT) is composed of:

− ITU-R Coordination Committee for Vocabulary (CCV) functioning in accordance with Resolution ITU-R 36;

− ITU-T Standardization Committee for Vocabulary (SCV) functioning in accordance with WTSA Resolution 67 (Rev. New Delhi, 2024); and

− representatives of ITU-D.

The ITU CCT is continuing its work in harmonizing terminology and definitions within ITU, based on proposals submitted by ITU study groups in English, and validating their translation into the other five official languages of the Union. The work of the CCT has been led by the Chairs of the CCV and the SCV with the active support of the Vice-Chairs, the Rapporteurs for Vocabulary and other representatives of the three ITU Sectors.

The new [ITU CCT webpage](https://www.itu.int/en/general-secretariat/Pages/coordination-committee-for-terminology.aspx) has been placed under the General Secretariat as requested by the membership, and can be accessed via the SCV and CCV webpages as well as from the Intersectoral Coordination webpage, the Multilingualism page and the Quick Links section on the main General Secretariat landing page. Work continues on adapting the look and feel of the webpage to harmonize it with those of other groups of the Union.

An updated version of Council Resolution 1386 on the ITU Coordination Committee for Terminology was approved in ITU Council in June 2024, including terms of reference of ITU CCT, which align with Resolution 154 (Rev. Bucharest, 2022) of the Plenipotentiary Conference. As the work of ITU CCT has evolved, the committee will consider submitting to CWG-LANG proposed revisions to Resolution 154 to better reflect its current focus.

There has been a positive response to circular letter [CL-23/45](https://www.itu.int/md/S23-SG-CIR-0045/en) inviting all Member States to recommend suitable entities interested in collaborating with the Conferences and Publications Department (C&P) on terminology. Collaboration with four institutions began in July 2024: the Communication, Space and Technology Commission (CST) of Saudi Arabia, China Institute of Communications (CIC), M.I. Krivosheev Radio Research and Development Institute (NIIR) of Russia, and *Colegio Oficial de Ingenieros de Telecommunicación* (COIT) of Spain. C&P has been working closely with these institutes in translating terms and definitions into other official languages. To provide more multilingual content in the ITU Terms and Definitions database, C&P and the Telecommunication Standardization Bureau are additionally developing a solution to incorporate translations of terms and definitions from previously translated ITU-T recommendations.

The terms and definitions in English validated by the CCT are translated into the other five official languages of the Union before introducing them into the [ITU Terms and definitions database](https://www.itu.int/br_tsb_terms/#/).

ITU-R and ITU-T study groups, within their terms of reference, should continue their work on technical and operational terms and their definitions in English only.

The next meeting of CCT is scheduled on 11 March 2025.

## 5.8 Appointment of Vice-Chairs of Study Groups and the CCV

At its Third Plenary Meeting (see Doc. [RA23/PLEN/101(Rev.1)](https://www.itu.int/md/R23-RA23-C-0101/en)), the Radiocommunication Assembly 2023 (RA-23) decided to delegate to the relevant groups (SGs, CCV, RAG, CPM) the responsibility for appointing their respective vice-chairs based on Document [RA23/PLEN/91](https://www.itu.int/md/R23-RA23-C-0091/en).

During the meetings in 2024, each SG appointed their vice-chairs following the course of action described in Chapter II of the General Rules of Conferences, Assemblies and Meetings of the Union for those candidates for which there was no consensus. All the Study Groups constituted their management team accordingly.

At its meeting in April 2024, the CCV appointed its vice-chairs by consensus.

## 5.9 Participation of Vice-Chairs in the work of their respective Groups

In accordance with § A1.4.5 of Resolution 1-9, RAG shall be made aware of the non-attendance of Vice-Chairs at RAG and SG meetings. The participation of Vice-Chairs to the meetings of their concern during the year 2024 is reported hereinafter.

### 5.9.1 Participation of SG 1 Vice-Chairs in the work of SG 1

SG 1 appointed 15 Vice-Chairs for the 2023-2027 study period.

− Number of SG 1 Vice-Chairs who participated in the meeting of SG 1 in 2024: **13/15**

### 5.9.2 Participation of SG 3 Vice-Chairs in the work of SG 3

SG 3 appointed 11 Vice-Chairs for the 2023-2027 study period.

− Number of SG 3 Vice-Chairs who participated in the meeting of SG 3 in 2024: **5/11**

### 5.9.3 Participation of SG 4 Vice-Chairs in the work of SG 4

SG 4 appointed 19 Vice-Chairs for the 2023-2027 study period.

SG 4 held three meetings during 2024.

− Number of SG 4 Vice-Chairs who participated in the 23 April and 10 May 2024 SG 4 meetings: 16/19

− Number of SG 4 Vice-Chairs who participated in the 1 November 2024 SG 4 meeting: **17/19**

### 5.9.4 Participation of SG 5 Vice-Chairs in the work of SG 5

SG 5 appointed 19 Vice-Chairs for the 2023-2027 study period.

SG 5 held two meetings during 2024.

− Number of SG 5 Vice-Chairs who participated in the 13 May 2024 SG 5 meeting: 12/19

− Number of SG 5 Vice-Chairs who participated in the 2-3 December 2024 SG 5 meeting: **17/19**

### 5.9.5 Participation of SG 6 Vice-Chairs in the work of SG 6

SG 6 appointed 14 Vice-Chairs for the 2019-2023 study period.

SG 6 held two meetings during 2024.

− Number of SG 6 Vice-Chairs who participated in the 15 March 2024 SG 6 meeting: 13/14

− Number of SG 6 Vice-Chairs who participated in the 15 November 2024 SG 6 meeting: **13/14**

### 5.9.6 Participation of SG 7 Vice-Chairs in the work of SG 7

SG 7 appointed 10 Vice-Chairs for the 2023-2027 study period.

− Number of SG 7 Vice-Chairs who participated in the meeting of SG 7 in 2024: **9/10**

### 5.9.7 Participation of CCV Vice-Chairs in the work of the ITU Coordination Committee for Terminology (CCT)

CCV appointed 6 Vice-Chairs for this study period.

The CCT held four conference calls during 2024.

− Number of CCV Vice-Chairs who participated in the 16 April 2024 CCT conference call: **6/6**

− Number of CCV Vice-Chairs who participated in the 25 June 2024 CCT conference call: **4/6**

− Number of CCV Vice-Chairs who participated in the 17 September 2024 CCT conference call: **4/6**

− Number of CCV Vice-Chairs who participated in the 10 December 2024 CCT conference call: **3/6**

## 5.10 CPM-27 activities and preparation for CPM27-2

A summary of the CPM-27 activities and preparation for CPM27-2 is provided in Section 4 of Doc. [RAG/30](https://www.itu.int/md/R23-RAG-C-0030/en).

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

Intersectoral activities have continued throughout the period, particularly concerning ITU’s priority topics of climate change, emergency communications and accessibility.

*•* *ITU-D*

BR continues to contribute to the BDT workshops and seminars.

BR actively participated in the meetings of the ITU-D SGs to provide the latest development in the activities of the ITU-R SGs, as well as guidance and mapping on ITU-R Recommendations, Reports and Handbooks of particular interest to developing countries and studies developed by ITU-D SGs 1 and 2. ITU-R SGs or their WPs also responded to several liaison statements from ITU-D SGs related to the preparation of draft ITU-D Reports to WTDC-25 in response to the ITU-D Questions approved at WTDC-22.

*•* *ITU-T*

In addition to climate change and emergency communications, topics of mutual interest between ITU‑R and ITU-T include IMT, the effects of human exposure to radio frequencies, power line transmission systems, smart grid, smart cities, EMC/EMI, intelligent transport systems, audio-visual media accessibility, common patent policy and intellectual property rights.

*• Other organizations*

Appropriate collaboration has continued between ITU-R SGs and other organizations, with due reference to Resolution [ITU-R 9](https://www.itu.int/pub/R-RES-R.9), where required.

The Bureau continued to maintain close cooperation with several organizations with the following objectives:

1. promote dialogue amongst bodies having common interests;
2. improve coordination leading to more effective preparation for events such as WRCs; and
3. keep ITU-R abreast of relevant activities in other organizations for a more strategic planning of work programmes.

The Bureau continues its close collaboration with the relevant international and regional organizations including, but not limited to:

− APT, ASMG, ATU, CEPT, CITEL and RCC for regional coordination;

− ABU, ASBU, EBU, SMPT, ETSI and HFCC for broadcasting matters;

− ITSO, ESOA, GVF, GSMA for the use of specific radiocommunication systems and services;

− 3GPP, IEEE and several regional standardization organizations for activities related to the Global Standards Collaboration (GSC);

− The World Meteorological Organization (WMO), the World Health Organization (WHO), ISO and IEC (including the International Special Committee on Radio Interference (CISPR)), Space Frequency Coordination Group, the International Union of Radio Science (URSI), and several others on an ad-hoc basis, for the useful exchange of information with respect to SG activities;

− UN Committee on the Peaceful Uses of Outer Space (UN-COPUOS), the United Nations Economic Commission for Europe (UNECE), the International Maritime Organization (IMO), the International Mobile Satellite Organization (IMSO), Bureau International des Poids et Mesures (BIPM), the International Telecommunications Satellite Organization (ITSO), COSPAS-SARSAT, the International Committee of the Red Cross (CICR), the International Civil Aviation Organization (ICAO) with regard to the application of ITU treaty texts.

# 7 Other intersectoral activities

BR has actively participated in other intersectoral activities that are relevant to the work of ITU‑R SGs, as described below:

*–* Climate Change and Emergency Communications: The BR participates in the Intersectoral activities coordinated by the ITU Climate Change and Emergency Telecommunications Task Force for the implementation of Resolution 136 (Rev. Bucharest, 2022). There are also studies in response to Resolution [ITU-R 60-3](https://www.itu.int/pub/R-RES-R.60) (Reduction of energy consumption for environmental protection and mitigating climate change by use of ICT/radiocommunication technologies and systems).

– Accessibility: ITU-R has been actively participating in the ITU-T JCA-AHF (Joint Coordination Activity on Accessibility and Human Factors).

– WSIS and CWG on WSIS and SDGs: In response to Resolution 140 (Rev. Bucharest, 2022) of the Plenipotentiary Conference on “ITU’s role in implementing the outcomes of the World Summit on the Information Society and the 2030 Agenda for Sustainable Development, as well as in their follow-up and review processes”, ITU-R liaises with the CWG on WSIS and SDGs, and contributes with the updates on the work carried out by the ITU-R Study Groups. BR SGD has prepared and published a website that lists the ITU-R publications related to each SDG. This can be found here: <https://www.itu.int/en/ITU-R/study-groups/Pages/Sustainable-dev-goals.aspx>.

– The Bureau is continuing its participation in the activities related to the major ITU events, conferences and meetings. These activities are in support of the Plenipotentiary Conference, the ITU Council, WTSA and WTDC.

As requested by new Resolution [ITU-R 75](https://www.itu.int/pub/R-RES-R.75) on *“Strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest”*, BR will continue to cooperate with ITU-D and ITU-T as appropriate.

# 8 Follow-up actions requested by the RAG at its meeting in 2024

The Bureau performed the follow-up actions as per RAG request during its last meeting in March 2024 (as contained in the Summary of Conclusions – Administrative Circular [CA/273](https://www.itu.int/md/R00-CA-CIR-0273/en)).

− The RAG requested the BR Director to collect information on ITU-R Study Groups’ Sustainable Digital Transformation (SDT) activities. Some of these are provided in the Annex to this document for information.

Annex  
  
Activities and studies related to sustainable digital transformation

| Sector/Domain | Study group or SDO | Title of deliverable | Scope of deliverable | Current status | Reference/URL |
| --- | --- | --- | --- | --- | --- |
| Energy Aware Broadcasting | ITU-R SG 6 | Question ITU-R 147/6 “Energy Aware Broadcasting Systems” | *decides* that the following Questions should be studied  1 What direct impact do the technologies and features used for broadcasting have on energy consumption?  2 What indirect impact does the use of external services used for broadcasting have on overall energy consumption?  3 What metrics should be used to quantify and report both the direct and indirect impact on energy consumption?  4 How can broadcasting be made more energy efficient? | Published | <https://www.itu.int/pub/R-QUE-SG06.147> |
| Opinion ITU-R 104 “Advice for sustainability strategies incorporating carbon offsetting policies” | that broadcasters and broadcasting related organizations world-wide should have robust sustainability strategies in place that move towards net zero and encourage the implementation of robust energy efficiency schemes that reduce energy consumption before considering carbon offsetting protocols as a last resort | Published | <https://www.itu.int/pub/R-OP-R.104> |
| Undergoing revision | Working Document version available attached to the Report of the March 2024 meeting of Working Party 6C  Doc. [6C/77](https://www.itu.int/md/R23-WP6C-C-0077/en) ([Chapter 4, Annex 4.1](https://www.itu.int/dms_ties/itu-r/md/23/wp6c/c/R23-WP6C-C-0077!H4-N4.01!MSW-E.docx)) (TIES protected) |
| Report ITU-R BT.2385-1. “Reducing the environmental impact of terrestrial broadcasting systems” | This report proposes Life Cycle Assessment (LCA) methodology for assessing environmental impact of Broadcasting delivery. It also provides case studies from broadcasters which explains how they could reduce the environmental impact of their business activities. | Published | <https://www.itu.int/pub/R-REP-BT.2385-1-2022> |
| Report ITU-R 2521-1 “Practical examples of actions to realize energy aware broadcasting” | This Report is intended to assist broadcasters and broadcasting related organizations to implement sustainability strategies and assess and reduce their impact on the environment. | Published | <https://www.itu.int/pub/R-REP-BT.2521> |
| Report ITU-R BT.2540-0 “Display energy reduction through image signal processing” | Broadcasting and streaming technologies incur a cost in terms of energy that is distributed over the entire transmission chain, from production to distribution / transmission and final viewing by consumers. Television displays, when considered the whole quantity globally, consume a relatively large part of this energy. This energy consumption may be mitigated by content-adaptive image signal processing while minimizing the impact on visual quality. This Report describes such techniques. | Published | <https://www.itu.int/pub/R-REP-BT.2540> |
|  |  | Recommendation ITU-R BT.2167-0 “A framework for content-adaptive methods for reduction of energy consumption in television displays” | Television displays consume a relatively large part of the total energy consumed in the end-to-end of a broadcasting chain from production of programmes to final viewing by consumers. The energy consumption by television displays may be mitigated by content-adaptive methods without unduly impacting visual quality. This Recommendation defines a framework for such techniques.  NOTE – Companion to Report ITU‑R BT.2540-0 | Approved. | <https://www.itu.int/rec/R-REC-BT.2167/en> |
| Proposed New Recommendation  “A measurement framework for broadcasters to assess their Scope 3 impact of televisions displaying a television programme” | For broadcasters, the downstream impact of broadcasting a television programme is considered part of Scope 3, Category 11 indirect use phase emissions of sold products, the reporting of which is currently voluntary. This Recommendation defines a framework to assess this impact, insofar end user displays are involved. | Under Study | Working Document version available attached to the Report of the March 2024 meeting of Working Party 6C  [6C/37 (Annex 3.1](https://www.itu.int/dms_ties/itu-r/md/23/wp6c/c/R23-WP6C-C-0037!H3-N3.01!MSW-E.docx))  (TIES protected) |

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