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| **Radiocommunication Advisory Group** | C:\Users\murphy\AppData\Local\Temp\Temp1_ITU logo Entire package.zip\jpg\ITU official logo_blue_RGB.jpg | |
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|  | | **Revision 1 to**  **Document RAG/1-E** |
| **29 February 2024** |
| **Original: English** |
| Director, Radiocommunication Bureau | | |
| report TO the tHIRTY-FIRST meeting  of the radiocommunication advisory group | | |

# 1 Introduction

This document provides status reports and information on some of the issues that appear on the draft agenda for the 31st meeting of RAG (see [CA/271](https://www.itu.int/md/R00-CA-CIR-0271/en)). This document is intended to assist the meeting in considering the relevant agenda items.

Separate reports will be submitted for some of the agenda items.

# 2 ITU-R Governance

# 2.1 Council issues

This section covers issues addressed by the 2023 sessions of Council held on 11-21 July 2023 and 19-20 October 2023 (see: <https://council.itu.int/2023/en/> and <https://council.itu.int/2023-additional/en/>, respectively).

## 2.2.1 Free on-line access to ITU-R Publications

ITU continues to publish flagship and various other publications in both print and digital/electronic versions. By Decision 12 (Guadalajara, 2010), PP-10 adopted a free online access policy to include, inter alia, ITU R Recommendations and Reports. This policy was expanded by Council 2012 Decision 571, revised by Council 2013 and 2014 and confirmed by PP-14 revised Decision 12, which provides free online access for the general public, permanently. Many publications were added to the free online access to disseminate information and reach out to a wider general public. These include major publications such as the Radio Regulations, Rules of Procedure, Recommendations, Basic Texts of the Union, WCIT Final Acts, Council Resolutions and Decisions, and ITU Handbooks, resulting in only Maritime Service Publications and a few other titles still for sale.

Furthermore, in response to requests from Member States, in particular developing countries, in January 2017 the free access policy has been extended by the BR Director to include all ITU-R Handbooks.

The impact of these Decisions is well reflected by the large number of downloads of these publications, as indicated in Section 8.1.4.

## 2.2.2 Cost recovery for satellite network filings

At its first 2023 session, Council took note of the annual report on the implementation of Decision 482 (see [Document C23/16](https://www.itu.int/md/S23-CL-C-0016/en)).

Council considered the study presented by the Bureau on the appropriateness of Council Decision 482 (C01, last amended C20) to recover costs associated with the processing of satellite network filings (see Document [C23/19](https://www.itu.int/md/S23-CL-C-0019/en)). The study considered various topics, including:

* Full costs of the processing of satellite network filings;
* Activities related to the processing of satellite network filings not currently covered by Decision 482;
* Activities related to the processing of satellite filings that are currently free of charge under Decision 482;
* Financial value of the fees contained in Annex to Decision 482;
* Regulatory mechanisms currently included in Decision 482 that have substantially changed since 2005;
* Fee categories to be reviewed;
* What works well in Council Decision 482 and should not be changed;
* Assistance and capacity-building activities related to satellite network filings;
* Lack of dedicated resources for Bureau software modernization.

Council 2023 also took into consideration the conclusions of the 2023 session of the Radiocommunication Advisory Group, which had *“advised the Director to request Council 2023 to reactivate the Expert Group addressing Council Decision 482 (modified 2020) so that it can commence its work towards making a recommendation to Council 2024 on the increased costs incurred by the BR from those filings whose size and/or complexity, as well as resubmission of the same system, are such that the current methodology does not accurately capture their costs.”*

Having fully considered the materials and views presented, Council adopted Decision 632, which created an Expert Group on Decision 482 (EG-DEC482) with the following terms of reference:

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| **Terms of Reference of the Council expert group on Decision 482**  The terms of reference of the Council Expert Group on Decision 482 are as follows:  1. The Council Expert Group on Decision 482 shall, based on principles and guidelines provided in Resolution 91 (Rev. Guadalajara, 2010), in particular *resolves* 4 vi), study the appropriateness or otherwise of any of the items listed below (derived from Annex 1 to Document [C23/19](https://www.itu.int/md/S23-CL-C-0019/en)), based on information provided by the Radiocommunication Bureau if requested and contributions submitted to its meetings.  a. In the case of non-receivable filings, the appropriateness or otherwise of charging a fraction of the amount of an equivalent receivable filing for such cases, taking into account the needs of developing countries.  b. Whether there are categories of filings for non-GSO satellite systems that, due to their complexity, should not be eligible to free entitlement.  c. Whether specific fees should be paid for processing submissions related to earth stations in motion, while avoiding double invoicing.  d. The cost of processing resubmissions of notification requests.  e. The costs associated with the BR’s implementation of additional provisions: Resolutions **4** and **49**, Nos. **11.32A** (see footnote a), **11.41**, **11.47**, **11.49**, Subsection IID of Article **9**, Sections 1 and 2 of Article **13**, Article **14**. The Bureau is invited to provide information on the cases already submitted.  f. The costs of processing non-GSO filings having more than 75 000 units or, alternatively, whether the formula to compute units for such non-GSO satellite systems should take into account the impact of the number of different orbital altitudes, number of satellites, number of earth stations, or other characteristics affecting workload associated with the processing of non-GSO systems.  g. Consider the introduction of units in categories A1 and N4, with a different fee being charged for more complex or larger systems, depending on the number of units.  h. An additional fee for recovering the costs of epfd examination of coordination requests and notifications.  i. Consequences of modifications introduced by any WRC after WRC-2000, if any, to regulatory provisions governing the Space Plans.  j. The cost of dedicated resources needed to continually update and modernize the Bureau software applications used for satellite filings. However, satellite cost recovery should not be used to fund development of software tools for processing terrestrial filings.  2. It shall prepare an interim report containing recommendations for the possible revision of Decision 482 for submission to the 2024 session of the ITU Council.  3. The final report of the group shall be submitted to the 2025 session of the ITU Council for action and possible revision of Decision 482.  4. It shall be open to all ITU Member States and Sector Members and work in the English language. It should hold physical meetings with remote participation in conjunction with those of ITU-R Working Party 4A or Council working groups or any other relevant events, when possible. |

## 2.2.3 Budget for –2024 – 2025 period

Council 2023 adopted the following budget for the ITU-R in the 2024-2025 timeframe (see [Council Resolution 1417](https://www.itu.int/md/S23-CL-C-0115/en)).



As of this report, the ITU’s budget for 2024-2025, as adopted by the 2023 Council, will not fully address the BR’s financial needs since it does not include any budget associated with implementing the decisions of the 2023 World Radiocommunication Conference.

## 2.2.4 Use of the six official languages of the Union on an equal footing

The 2022 ITU Plenipotentiary (PP-22) Conference adopted Resolution 154 (Rev. Bucharest, 2022) which addresses the use of the six official languages of the Union. This resolution calls on the ITU to continue to take all necessary measures to ensure the use of the six official languages of the Union on an equal footing and to provide interpretation and the translation of ITU documentation while noting that some work in ITU (for example working parties, regional conferences) might not require the use of all official languages.

Resolution 154 (Rev. Bucharest, 2022) instructs the ITU Secretary-General, in close collaboration with the Directors of the Bureaux, to annually report to Council and to the Council Working Group on Languages (CWG-Lang) on a variety of measures to support multilingualism in the ITU.

ITU’s progress on implementing Resolution 154 was presented in document [RCLCWGLANG14-C-0002](https://www.itu.int/md/S24-RCLCWGLANG14-C-0002/en) to the meeting of the CWG-LANG that was held on 23 January 2024. Amongst its provisions, Resolution 154 calls upon the ITU secretariat to publish all contributions for any ITU event not later than three working days after they were received and even before their translation into the other official languages of the Union. Without automation, fulfilling this requirement would pose significant burden on the administrative staff processing input contributions to large ITU events. As there was an insufficient timespan between PP-22 and RA-23/WRC-23 for an ITU-wide solution to be developed, the BR’s Space Applications Software Division developed a software application for publishing “as received” contributions to the meetings of ITU-R Study Groups, the RA-23 and WRC-23. This was used successfully at the RA-23 and WRC-23 which were able to meet this requirement established by Resolution 154.

The BR has also made significant progress in the transition of its websites from SharePoint to WordPress, which supports machine translation of webpages. With the start of a new study period, the BR will be able to transition more of its webpages to WordPress, which was used for both the WRC-23 and RA-23 webpages, as well as the new RAG webpage that was introduced to support this meeting. See section 8.6.1.2 of this report for the status of translation of BR webpages.

The RAG is reminded that Resolution 154 (Rev. Bucharest, 2022) also instructs the Sector Advisory Groups to review annually the use of all official languages of the Union on an equal footing in ITU publications and on ITU websites.

# 3 Results of RA-23 and WRC-23 and consequential actions

## 3.1 RA-23

As per Council Resolution 1399 and Decision 623, the Radiocommunication Assembly 2023 (RA‑23) was held in Dubai, United Arab Emirates, from 13 to 17 November 2023 with 566 participants representing 95 Administrations and 41 Sector Members, 1 Academia and 2 specialized agencies of the United Nations.

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| Committee 1  (Steering) | Chair: Ms Carol WILSON (Australia)  Vice-Chairs: Mr El Hadjar ABDOURAMANE (Cameroon)  Mr Khalid AL AWADI (United Arab Emirates)  Mr Dilmurod DUSMATOV (Uzbekistan)  Mr Victor MARTINEZ VANEGAS (Mexico)  Mr Martin WEBER (Germany)  This Committee was made up of the Chair and Vice-Chairs of the Assembly and the Chairs and Vice-Chairs of the Committees. |
| Committee 2 (Budget) | Chair: Mr Daniel OBAM (Kenya)  Vice-Chair: Ms Latifa ALMUHANNA (Kuwait) |
| Committee 3 (Editorial) | Chair: Mr Christian RISSONE (France)  Vice-Chairs: Mr Mohammed AL-HASSANI (United Arab Emirates)  Mr Dmitry CHERKESOV (Russian Federation)  Ms Zhang HAIYAN (China (People’s Rep. of))  Mr Oliver INGS (United Kingdom)  Mr Angel LEON ALCALDE (Spain) |
| Committee 4 (Structure and work programme of the Study Groups) | Chair: Mr Yukihiro NISHIDA (Japan)  Vice-Chair: Ms Muneera ALZAYANI (Bahrain) |
| Committee 5 (Working methods of the Radiocommunication Assembly and Study Groups) | Chair: Mr John ZUZEK (United States of America)  Vice-Chair: Mr Moath ALMANEA (Saudi Arabia) |

RA-23 was a fully paperless assembly, with all of the detailed drafting activities being conducted using the RA-23 SharePoint site. A Sync Application was also provided and used.

As decided during the opening plenary and in line with the decisions of PP-14, all input documents were freely accessible by the public in advance of the assembly since no Member State considered that their disclosure would cause potential harm to a legitimate private or public interest that outweighs the benefits of accessibility.

The ITU-R Resolutions, Recommendations and Questions, as the main outputs of the assembly, are available for public access. The Plenary sessions, as well as those of committees, were webcast in the six official languages and provided with captioning in English, and the corresponding files (archives) are also available on the RA-23 website. Full information on RA-23 can be found on the webpage at: <https://www.itu.int/ra-23/>.

In total, RA-23 revised 26 ITU-R Resolutions.

Resolution ITU-R [1](http://www.itu.int/pub/R-RES-R.1) "Working methods for the Radiocommunication Assembly, the Radiocommunication Study Groups, the Radiocommunication Advisory Group and other groups of the Radiocommunication Sector" was revised. Some important changes were made to this resolution, including among others:

− Change of the deadline for submission of contributions for meetings of all SGs, the CCV and their subordinate groups to **12 calendar days** prior to the start of the meeting;

− Inclusion of a provision on fellowship policy for persons originating from developing countries, upon availability of funds;

− Request to inform RAG about the non-attendance of Vice-Chairs;

− Inclusion of reference to new Resolution ITU-R 72 on Promoting gender equality and equity;

− Addition of a new section on the procedures of voting at RA;

− Establishment of the role and mandate of the Study Groups Vice-Chairs as well as the role and mandate of the Working Parties (WPs) Chairs. In addition, establishment of the maximum number of terms of office for WPs Chairs. Consequentially, Resolution ITU‑R 15 was suppressed since the relevant provisions were included under Resolution ITU-R [1](http://www.itu.int/pub/R-RES-R.1). Resolution ITU-R [2](http://www.itu.int/pub/R-RES-R.2) “Conference Preparatory Meeting” was also revised to clarify the *resolves* part on the technical studies and with the objective of improving the guidelines for preparation of the CPM Report.

The structure of the ITU-R Study Groups has been maintained. As such, the existing six ITU-R Study Groups continue into the new study period (2023-2027) with the same scopes of activity. Only the scope of Study Group 4 was modified to include the related use of links in the inter-satellite service. The structure of Radiocommunication Study Groups, including their scopes and chairs, can be found in Resolution ITU‑R [4](http://www.itu.int/pub/R-RES-R.4). Due to the lack of consensus on the appointment of Vice-Chairs for each Group, RA-23 delegated to the relevant groups (SGs, CCV, RAG, CPM) the responsibility for appointing their respective Vice-Chairs based on Document [RA-23/PLEN/91(Rev.1)](https://www.itu.int/md/R23-RA23-C-0091/en).

RA-23 approved the work programme and Questions of the Radiocommunication Study Groups (see Resolution ITU-R [5](http://www.itu.int/pub/R-RES-R.5)) as well as four ITU-R Recommendations.

Resolution ITU-R [56](https://www.itu.int/pub/R-RES-R.56) on “Naming for International Mobile Telecommunications” was also significantly revised to include the term “IMT-2030” and reference to Recommendation ITU-R M.2160 that describes the framework and overall objectives for the future development of “IMT for 2030 and beyond”. Similarly, Resolution ITU-R [65](https://www.itu.int/pub/R-RES-R.65) on “Principles for the process of future development of IMT-2020 and IMT-2030” was also revised to include the same concepts.

Additionally, four new ITU-R Resolutions were approved:

**Resolution ITU-R** [**72**](https://www.itu.int/pub/R-RES-R.72) – Promoting gender equality and equity and bridging the contribution and participation gap between women and men in ITU-R activities

**Resolution ITU-R** [**73**](https://www.itu.int/pub/R-RES-R.73) – Use of International Mobile Telecommunications technologies for fixed wireless broadband in the frequency bands allocated to the fixed service on a primary basis

**Resolution ITU-R** [**74**](https://www.itu.int/pub/R-RES-R.74) – Activities related to the sustainable use of radio-frequency spectrum and associated satellite-orbit resources used by space services

**Resolution ITU-R** [**75**](https://www.itu.int/pub/R-RES-R.75) – Strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest

This new Resolution consolidates the texts of Resolutions ITU-R 6, ITU-R 7 and ITU-R 48 that were subsequently suppressed.

The Assembly also decided to suppress four ITU-R Resolutions:

**Resolution ITU-R** [**6**](https://www.itu.int/pub/R-RES-R.6) – Liaison and collaboration with the ITU Telecommunication Standardization Sector

**Resolution ITU-R** [**7**](https://www.itu.int/pub/R-RES-R.7) – Telecommunication development including liaison and collaboration with the ITU Telecommunication Development Sector

**Resolution ITU-R** [**15**](https://www.itu.int/pub/R-RES-R.15) – Appointment and maximum term of office for Chairmen and Vice Chairmen of Radiocommunication Study Groups, the Coordination Committee for Vocabulary and of the Radiocommunication Advisory Group

**Resolution ITU-R** [**48**](https://www.itu.int/pub/R-RES-R.48) – Strengthening the regional presence in the Radiocommunication Study Group work

The decisions of RA-23 of particular relevance to WRC-23 were reported in Document [WRC-23/217](https://www.itu.int/md/R23-WRC23-C-0217/en).

### 3.1.1 Instructs from RA-23 to RAG

– RA-23 delegated to the RAG the responsibility to appoint its Vice-Chairs based on the nominations included in Doc. [RA‑23/PLEN/91(Rev.1)](https://www.itu.int/md/R23-RA23-C-0091/en).

– During RA-23, there was a discussion on possible modifications to Resolution ITU‑R 2 (see Document [RA-23/PLEN/102](https://www.itu.int/md/R23-RA23-C-0102/en)), in order to verify the efficiency of the CPM Process. Several views were expressed, and proposals were made by Member States on a possible course of action. RA-23 invited the BR Director to undertake consultations to identify a suitable option, including a proposal to create a Correspondence Group of the RAG to address this matter.

– At the Fifth Plenary Meeting of RA-23, the Chair indicated that there was ambiguity in Resolution ITU-R 1 about the mandate of the radiocommunication assemblies allowing to approve ITU-R Recommendations received as a contribution directly from Member States, without having been considered first by a relevant ITU-R Study Group (see Doc. [RA23/PLEN/103](https://www.itu.int/md/R23-RA23-C-0103/en)). This matter is brought to the attention of the RAG for its consideration.

### 3.1.2 Instructs from RA-23 to Study Groups

– RA-23 delegated to the SGs and the CCV the responsibility to appoint their Vice-Chairs.

– Regarding the submissions of new ITU-R Questions to RA-23, administrations were invited to contribute directly to the relevant Study Groups.

– RA-23 instructed ITU-R Study Group 7 (SG 7) to consider how to facilitate a satellite operator to get the relevant information on radio astronomy sites, including the contact point of the administration in the territory of which the radio astronomy site, and/or its potential radio quiet zone, is located, to know the technical conditions, if any, associated to this radio astronomy site to be respected for radiocommunication with earth stations on this territory. For example, the relevant SG 7 Working Party could request that the Director of the Radiocommunication Bureau create and maintain an online database of radio quiet zones, with information provided voluntarily by administrations. This would result in no change to the Radio Regulations (RR) and not imply or establish any additional protections for the radio astronomy service, beyond what already exists in the RR or in national regulatory frameworks.

## 3.2 WRC-23

### 3.2.1 Final preparations for WRC-23

After the 30th RAG meeting in May 2023, the preparations for WRC-23 continued, taking into account PP Resolution 80 (Rev. Marrakesh, 2002) and Resolution **72 (Rev.WRC-19)**, with in particular the BR’s active participation in the final preparatory meetings of the regional groups, APT, ASMG, ATU, CEPT, CITEL and RCC, wherever possible. In addition, the BR organized the [3rd ITU Inter-regional Workshop on WRC-23 preparation](http://www.itu.int/go/ITU-R/wrc-23-irwsp-23) from 27 to 29 September 2023.

Taking into account the information, guidelines and tools provided for the preparation of contributions to WRC-23 (see [here](https://www.itu.int/wrc-23/preparations/preparation-of-proposals/)), all 2 851 proposals submitted in 580 documents, without counting the revisions or corrigenda, were processed on time for their consideration during WRC-23.

### 3.2.2 Results of WRC-23

#### 3.2.2.1 Introduction

Further to Resolution 811 (WRC-19), and in accordance with Council Resolution 1399 (C20) and Council Decision 623(C21), the World Radiocommunication Conference 2023 (WRC-23) was held in Dubai, United Arab Emirates from 20 November to 15 December 2023.

A total of 3,982 participants representing 163 Member States, Resolution 99 and 151 observer organizations attended WRC-23. The demographics of WRC-23 participants are shown the following exhibit:

Exhibit 3.2.2.1 – Delegate Demographics

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A screenshot of a computer

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At the first Plenary Meeting, His Excellency Mohammad Al Ramsi (UAE) was elected as Chair of the WRC-23. Six Vice-Chairs were elected as follows:

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| Dr Kyu Jin Wee (Republic of Korea) Mr Mohammed Alabdulqader (Saudi Arabia) Mr Martin Weber (Germany) | Mr Stephan LANG (United States) Mr Albert Nalbandian (Armenia) Mr Valéry Hilaire Ottou (Cameroon) |

The following committees were established:

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| Committee 1 (Steering) | (composed of the Chair and Vice-Chairs of the Conference and of the Chairs and Vice-Chairs of the other committees) |
| Committee 2 (Credentials) | **Chair:** Ms Basebi Mosinyi (Botswana)  **Vice-Chairs:** Dr Jaewoo Lim (Republic of Korea)  Ms Huda Al Korbi (Qatar)  Mr Samuel Ritchie (Ireland)  Mr Hector Bude (Uruguay)  Mr Agzam Tajibayev (Kazakhstan) |
| Committee 3 (Budget Control) | **Chair:** Ms Cindy Cook (Canada)  **Vice-Chairs:** Mr Christopher Hose (Australia)  Mr Fawaz M. Albarjas (Kuwait)  Mr Kenneth Concannon (Ireland)  Mr Serikbolsyn Myrzakhmet (Kazakhstan)  Ms Salwa Suleiman Kamil (South Sudan) |
| Committee 4 (Specific agenda items) | **Chair:** Dr Hiroyuki Atarashi (Japan)  **Vice-Chairs:** Mr Bharat Bhatia (India)  Mr Mohamed Abdelhaseeb (Egypt)  Mr Eric Fournier (France)  Mr Avaz Khashimkhodjaev (Uzbekistan)  Ms Sana Zairi (Morocco)  Ms Maria Myers Hamilton (Jamaica) |
| Committee 5 (Specific agenda items) | **Chair:** Ms Anna Marklund (Sweden)  **Vice-Chairs:** Mr Phung Nguyen Phuong (Viet Nam)  Mr Aws Majeed Al Awadi (Iraq)  Mr Stephen Talbot (United Kingdom)  Mr Rafael Pinto Prata (Brazil)  Mr Gabriel Yao Koffi (Côte d'Ivoire)  Ms Aftab Kalantarli (Azerbaijan) |
| Committee 6  (Specific agenda items) | **Chair:** Mr El Hadjar Abdouramane (Cameroon)  **Vice-Chairs:** Dr Mohammad Taghi Shafiee (Iran)  Mr Mustafa Bessi (Morocco)  Mr Alexander Kühn (Germany)  Ms Tania Villa (Mexico)  Mr Mohamed Soliman (Egypt)  Mr Ulugbek Azimov (Uzbekistan) |
| Committee 7  (Editorial) | **Chair:** Mr Christian Rissone (France)  **Vice-Chairs:** Ms Sana Souai (Tunisia)  Ms Claire Lyons (United Kingdom)  Ms Marta Serrano (Spain)  Mr Dimitri Cherkesov (Russian Federation)  Mr Zhao Zheng (China) |

WRC-23 was a fully paperless conference. In order to facilitate the handling of the 7,608 proposals of the conference, the Proposals Management System used by the Secretariat was further enhanced in advance of WRC-23, after its successful use in previous ITU conferences.

The ITU also further developed the Conference Proposals Interface (CPI) which was extensively used by the Member States in creating documents containing proposals for the work of the conference.

Other electronic tools used during the conference were: the WRC-23 SharePoint, the WRC-23 Smartphone Applications (on iOS, Android and Huawei platforms), the Radio Regulations Navigation Tool, and the Sync Application.

As decided during PP-14, all input documents were freely accessible by the public in advance of the conference. The Provisional Final Acts of WRC-23 are also available for public access as they are considered the main output of the conference. In line with Res.154 (Rev.PP-22), all contributions submitted to the WRC Secretariat were published ‘As Received’ and in their original language in a maximum of three working days.

The Plenary sessions, as well as those of Committees 4, 5 and 6, were webcasted and captioned during the conference. Webcast was also provided for the sessions of for the Working Groups of the Committees. The corresponding files (archives) are available for TIES users on the WRC-23 website.

Full information on WRC-23, including the Provisional Final Acts as well as all documents, photos and videos can be found at: <https://www.itu.int/wrc-23/>.

#### 3.2.2.2 Main outcomes of WRC-23

WRC-23 addressed over 30 topics related to frequency allocation and frequency sharing for the efficient use of spectrum and orbital resources. The following are WRC-23 key outcomes:

##### 3.2.2.2.1 Mobile and fixed broadband communications

WRC-23 identified a total of additional 1 300 MHz for IMT and extension of IMT identification in the frequency ranges between 3 300 MHz and 10.5 GHz in order to facilitate the worldwide demand of the mid-band IMT spectrum. The bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 125 MHz and 10-10.5 GHz or parts thereof, are identified for IMT on a regional or country basis with conditions for protection of the existing services such as radiolocation service or the fixed-satellite service. It also remained a flexibility of the national and regional decisions on the designation of the 6 GHz band for RLANs or IMT.

WRC-23 also made allocation of the band 470-694 MHz on a secondary basis, and parts thereof on a primary basis, to the mobile, except aeronautical mobile, service in some countries in Region 1, with conditions for protection of the broadcasting service. This decision would contribute to facilitate the future spectrum needs of the mobile service with wider connectivity, both in rural and urban areas. The band 614-694 MHz is also identified for IMT in some Region 1 countries.

WRC-23 identified the frequency bands 1 710-1 980 MHz and 2 110-2 160 MHz for high altitude platform stations as International Mobile Telecommunications base stations (HIBS) on a global basis and along with other bands 694-960 MHz, 2 010-2 025 MHz, 2 160-2 170 MHz and 2 500-2 690 MHz on a Regional or country basis, with total of 801 MHz spectrum. This will facilitate the development and implementation of HIBS and will enable extended mobile broadband connectivity and telecommunication services in underserved communities and in rural and remote areas, including mountainous and desert zones, thus connecting the unconnected. HIBS can also be used for disaster recovery communications.

##### 3.2.2.2.2 GMDSS modernization and additional satellite GMDSS provider

WRC-23 introduced the results of modernization of the Global Maritime Distress and Safety System (GMDSS) into the Radio Regulations. This aligns the RR with the recent IMO decisions and includes several emerging technologies. New Automatic Connection System (ACS) will ensure reliable access to radio links for mariners. Introduction of Digital navigational data system (NAVDAT) will assist in providing ships with up-to-date meteorological and navigation warning. The use of the automatic identification system search and rescue transmitters (AIS-SART) will facilitate locating of craft in distress for rescue purposes.

The Conference also provisionally recognized satellite BeiDou Message Service System (BDMSS) for use in GMDSS subject to successful completion of coordination with the existing networks and elimination interference.

**3.2.2.2.3**  **Digitalization of HF aeronautical frequencies**

WRC-23 added some provisions to the aeronautical frequency Plan for aeronautical mobile (Route) service in High Frequency (HF) bands contained in RR Appendix **27** permitting the introduction of new digital wideband HF systems.

**3.2.2.2.4** **Spectrum for non-safety aeronautical applications**

WRC-23 made allocation to the aeronautical mobile (OR) service in the frequency bands 15.41-15.7 GHz on a secondary basis and 22-22.2 GHz on a primary basis in Region 1 and in some countries of Region 3 on a non-interference basis with respect to the existing services.

##### 3.2.2.2.-5 Satellite Services

WRC-23 adopted regulatory, operational and technical conditions under which earth stations in motion (ESIM) can communicate with geostationary-satellite orbit (GSO) space stations in the fixed-satellite service in the 12.75-13.25 GHz frequency band or with non-geostationary satellite (non-GSO) systems in the 30/20 GHz frequency range. This decision will provide more available bandwidth for connectivity in ships or planes.

WRC-23 also devised a new mechanism under which inter-satellite links can be operated in the 30/20 GHz frequency range, which will enable transferring data gathered by scientific or experimental sensors quicker to the ground.

WRC-23 fine-tuned the regulatory framework concerning the bringing into use and the milestone-based approach for the deployment of non-GSO satellite constellations in specific frequency bands and services. Notably WRC-23 adopted a set of orbital tolerances around the notified values and agreed on a post-milestone mechanism. The approach will better qualify the accuracy of the Master International Frequency Register with respect to the actual deployment of non-GSO satellite systems. In making these decisions, WRC-23 a reinforced the balance found by WRC-19 between the prevention of spectrum warehousing, the proper functioning of coordination, notification and registration mechanisms, and the operational requirements related to the deployment of non-GSO systems.

WRC-23 also adopted a number of measures reinforcing the equitable access to orbit/spectrum resources by guaranteeing the long-term protection of national planned resources in the BSS, BSS Feeder-Links and FSS Plans and by facilitating the obtention of resources in Appendices **30**, **30A** and **30B** for new countries or for countries not using the Lists yet. In the same vein, WRC-23 decided on the replacement of BSS planned resources for 41 countries previously having degraded resources in the BSS or BSS Feeder-links Plans and agreed on the inclusion in the FSS Plans of new national allotments for nine countries.

##### 3.2.2.2.6 Support for the Science Services

WRC-23 allocated the frequency band 40-50 MHz for EESS (active) sensors in order to improve the observations of ice thickness in polar areas.

WRC-23 upgraded to primary the allocation to the space research service in the frequency band 14.8-15.35 GHz in order to improve the regulatory status of the data relay satellite systems using this frequency band.

WRC-23 reorganized the allocations to the EESS (passive) in the frequency range 231.5-252 GHz in order to ensure alignment with the most up-to-date remote-sensing observation requirements. This reorganization entailed a consequential modification of allocations to the fixed and mobile services.

Concerning space weather, WRC-23 concluded that space weather sensors may operate under the Meteorological Aids service (under a specific subset of allocations labelled “MetAids (space weather)”). Studies will continue until WRC-27 to identify the appropriate frequency bands for such allocations.

Finally, WRC-23 adopted an e.i.r.p. density limit per non-GSO space station to protect EESS (passive) sensors in the frequency band 36-37 GHz from non-GSO FSS systems operating in the 37.5-38 GHz band.

##### 3.2.2.2.-7 Palestine

WRC-23 adopted Resolution **12 (Rev.WRC-23)** measures to ensure the continuous assistance and support to enable Palestine to manage and exploit its radio spectrum; modernize its telecommunication networks, including building and operating 4G and 5G networks; obtain and manage the necessary frequencies for microwave links, which are considered essential to the operation of 4G and 5G services; extend, install, own, manage and operate optical fibre broadband telecommunication networks (and optical fibre links) between governorates and major cities to ensure a more robust digital transformation; obtain VHF and UHF frequencies for fixed and mobile telecommunication services; and obtain FM frequencies for the broadcasting service.

##### 3.2.2.2.8 Agenda for WRC-27 and preliminary agenda for WRC-31

WRC-23 adopted new Resolutions containing the agenda for WRC-27 and the preliminary agenda for WRC-31, as well as new or revised Resolutions associated to the agenda items. The WRC-27 agenda contains 19 specific agenda items to accommodate emerging technological developments and new spectrum requirements for users in the terrestrial, aeronautical, radiolocation, satellite and science services, as well as several regulatory issues. The WRC-27 agenda contains also the usual standing agenda items, and the conference will further consider the preliminary agenda for WRC-31. The WRC-27 agenda will be presented in a separate document to Council 2024.

### 3.2.3 Financial implications of WRC-23 decisions

The World Radiocommunication Conference (WRC-23) identified some areas of additional work, studies and development for the implementation of the decisions of the Conference. The estimated costs for the completion of these new tasks are in the magnitude of CHF 12.6 million of both one-time and recurrent cost over the period of 2024 – 2027. The estimated allocations are contained in Tables 3.2.3-1 through 3.2.3-4, which are contained in WRC-23 document [C-460Rev 1](https://www.itu.int/md/R23-WRC23-C-0460/en).

WRC-19 requested the Secretary-General to bring this to the attention of Council-24 session to discuss the most effective methodology for the funding of these activities as they should be concluded prior to the next World Radiocommunication Conference in 2027.

The meeting of Council Working Group on Financial and Human Resources, which took place in January 2024 reviewed this matter and concluded that the request be submitted to Council-24 session. More information is available in Document 12 of the CWG-FHR (<https://www.itu.int/md/S24-CWGFHR17-C-0012/en>).

**Table 3.2.3-1 Overall Cost Estimates**



**Table 3.2.3-2 Study Group Cost Estimates**



**Table 3.2.3-3 Terrestrial Services Cost Estimates**



**Table 3.2.3-4 Space Services Cost Estimates**



### 3.2.4 Software development to implement WRC-23 decisions

The BR is pursuing software design and development to implement WRC-23 decisions.

At the time of writing this report, the Bureau is still investigating the extent of software development required to implement WRC-23 and additional requirements may therefore be identified in 2024.  
The following presents a summary of the main tasks identified thus far.

#### 3.2.4.1 Implementation of WRC-23 decisions relating to terrestrial services:

* Review and update of the software used for processing and publication of terrestrial notices, both for internal (*TerRaSys*) and external (BR IFIC (Terrestrial)) utilization, as a result of WRC-23 decisions and related Rules of Procedure. These include changes in the terrestrial databases, validation and examination software, and reference tables.
* Development of the software modules for processing of HIBS notifications (validation, examination and publication tools). This task also comprises the development of calculation modules for checking technical conditions specified Resolutions **213 [COM4/3] (WRC-23)**, **221 (Rev. WRC-23)** and **218 [COM4/4] (WRC-23)**, the changes in the database and filing structure.

#### 3.2.4.2 Implementation of WRC-23 decisions relating to space services:

* Review and update of the software used for processing and publication of satellite network submissions, both for internal and external (BR IFIC (Space)) use. These include changes in the database, validation and examination software modules, reference tables, resulting from WRC-23 decisions and related Rules of Procedure.
* Due to the fact that certain changes adopted by WRC-23 satisfied the conditions set out in the rule of procedure on the effective date of entry into force of WRC decisions, the e-Submission system was modified to accept new AP4 elements stemming from decisions under agenda items 1.7, 1.12, 1.13, 1.14, 1.17, and 1.19. The updated version of e-Submission was released just before midnight on December 15, 2023 Geneva time. The full set of changes related to WRC-23 shall be available in January 2025 in version 10 of BR Soft.
* A partial list of changes to space service software includes:
* Changes under Resolution **406 [COM4/2] (WRC-23)** for AMS(R) service in band 117.975-137 MHz;
* Changes under Resolution **678 [COM5/7] (WRC-23)** for space research service in the frequency band 14.8-15.35 GHz;
* Changes under Resolution **121 [COM5/2] (WRC-23)** for AP30B ESIM;
* Changes under Resolution **123 [COM5/3] (WRC-23)** for non-GSO ESIM;
* Changes under Resolution **679 [COM5/8] (WRC-23)** for inter-satellite links (protection of space and terrestrial services);
* Changes under Resolution **8 [COM5/4] (WRC-23)** for tolerances for certain orbital characteristics of NGSO;
* Changes for the protection of GSO MSS in 7/8 GHz and 20/30 GHz bands;
* Changes for the protection of EESS (passive) in band 36-37 GHz;
* Changes needed to implement RR 9.52.1 (unacceptable interference), RR 21 (Rev. WRC-23), and improvements of BR processing;
* Changes under Resolution **677 [COM5/6] (WRC-23)** for EESS (active) for spaceborne radar sounders;
* Changes for FSS (space-to-Earth) in the 17.3-17.7 GHz band in Region 2;
* Changes under Resolution **35 (Rev. WRC-23)** for the NGSO BIU post-milestone procedure;

### 3.3 Software development to implement WRC-19 decisions

The BR is finalizing software design and development to implement WRC-19 decisions.

The following presents a summary of the main tasks finalized since the last report or remaining to be finalized.

### 3.3.1 Implementation of WRC-19 decisions relating to terrestrial services:

Continued development of the examination module for processing of notices under No. **9.21** in the bands identified for IMT at WRC-19;

Development of the software modules for processing HAPS notifications (validation and publication tools) have been completed. Continued development of the calculation modules for checking technical conditions specified in Resolutions **122 (Rev.WRC-19)**, **145** **(Rev.WRC-19)**, **165 (WRC-19)**, **166 (WRC-19)**, **167 (WRC-19)**, and **168 (WRC-19)**.

# 4 Study Groups activities

This topic is presented in Addendum 1 to this document.

# 5 WRC-27 preparation

The Agenda of the WRC-27, as contained in Resolution **813 (WRC-23)**, will be considered at the 2024 session of the Council, which will be invited to adopt a new Resolution containing that Agenda, as well as the venue and exact dates of WRC-27 and RA-27.

The first session of the Conference Preparatory Meeting for WRC-27 (CPM27-1) was held on 18 and 19 December 2023 in Dubai, United Arab Emirates, to organize the preparatory studies for WRC-27.

Taking into account the WRC-27 agenda, the WRC-31 preliminary agenda, the associated new or revised WRC-23 resolutions and the relevant WRC-23 decisions, CPM27-1 prepared the structure and developed the working procedures for the preparation of the draft CPM Report to WRC-27. CPM27-1 identified the responsible and contributing existing ITU-R working parties for each of the WRC-27 agenda items. It also identified the responsible existing ITU-R working parties for the WRC-31 preliminary agenda items but, taking into account the provisional nature of the agenda for WRC-31, no contributing groups were identified, excepting for item 2.14. CPM27-1 appointed the CPM-27 Vice-Chairs and the Rapporteurs or co-Rapporteurs for the five Chapters of the draft CPM Report to assist the Chair in managing the flow of contributions and the development of the draft CPM texts, in line with the CPM working methods and guidelines for the preparation of these texts as contained in Annexes 1 and 2 to Resolution ITU-R 2-9. CPM27-1 also agreed to set a general deadline at the end of 2024 on the criteria, characteristics and methodologies for ITU-R preparatory studies for WRC-27. Circular letter [CA/270](http://www.itu.int/md/R00-CA-CIR-0270/en) of 26 January 2024 contains the results of CPM27‑1.

As soon as the exact dates of WRC-27 is decided by the ITU Council, the CPM-27 Steering Committee, in consultation with the Chairs of the ITU-R Study Groups and responsible Working Parties, will propose dates for the second session of CPM-27 and will determine the deadline for the completion of the draft CPM texts by the responsible groups. This information will be communicated to the membership accordingly.

# 6 Operational planning

In its [Resolution 1415](https://www.itu.int/md/S23-CL-C-0113/en), the 2023 Council adopted the Operational Plan for the Union for 2024-2027 ([here](https://www.itu.int/md/S23-CL-C-0028/en)) which was structured in accordance with the results-based management concept to ensure complete linkage with the budget and other financial tools of the Union, and is consistent with the financial limits set by the 2022 Plenipotentiary Conference in the financial plan for 2024-2027.

The ITU(-R) Operational Plan for the period 2024 - 2027 sets forth details of the five thematic priorities and the 43 outputs of the Union, as laid down in the ITU Strategic Plan adopted by PP-22. Having been structured according to cross-sectoral thematic objectives, it does not contain dedicated sections for each ITU Sector/Bureau and the General Secretariat. The 2023 RAG meeting expressed concerns that this presentation did not facilitate the RAG’s review the operational plan for the ITU-R Sector/Bureau and hindered its ability to carry out its mandate under CV 160CA to review the implementation of the operational plan and advise the BR Director on any necessary corrective measures. It was conveyed to Council that RAG felt that if there are difficulties with the presentation or implementation of the operational plan, Member States might want to review the structure of Resolution 71 at the next PP.

RAG also requested that a separate document be presented to this RAG meeting that explains the aspects of the ITU-R Sector/Bureau contained in the combined operational plan. This alternative presentation of the 2024-2027 ITU-R Operational Plan is presented in document [RAG/C-005](https://www.itu.int/md/R23-RAG-C-0005) to this meeting.

# 7 BR information system

## 7.1 Terrestrial software and tools

### 7.1.1 Processing of coordination requests under RR No. 9.21

The development of the software modules and associated tools for the processing of coordination requests under RR No. **9.21** continued during the reporting period. The completion of the software for checking the corresponding assignments (subject to **9.21**) notified under RR Article **11** to the Master Register and its integration into TerRaSys is expected during 2024 in the context of the overall system migration.

### 7.1.2 HFBC software re-engineering

In accordance with provisions of Article 12 of the Radio Regulations (RR), the Radiocommunication Bureau (BR) prepares and publishes the seasonal HFBC schedules together with compatibility analysis results. The schedules are made available on the BR website.

The previous HF software consisted of a number of standalone desktop applications developed in Visual Basic. These applications can no longer be maintained in the Operating Systems used by computer systems in the BR and they needed to be re-developed using newer technologies.

For consistency with other terrestrial software and applications, the HFBC software has been re-engineered into a single online application using the .Net framework in C#.

The new HFBC application is completed and integrated into the online platform for terrestrial services eTerrestrial/eBroadcasting. The official publication on eHFBC commenced with Schedule B23-S1 in October 2023. eHFBC is currently in an active phase of progressive development, with a focus on introducing a series of new features and enhancements over time.

### 7.1.3 Migration from Ingres to SQL Server

The work on the migration of the TerRaSys system continued during 2023, concerning both the migration of the database and the rewriting and enhancements of the system modules using new coding techniques. This includes (but is not limited to):

* The design of the terrestrial database was finalized, including the needed database structures to accommodate the processing of HAPS, following WRC-19 decisions.
* Continued redesign of various TerRaSys software components and applications used to access the database, with the view of taking advantage of the modern technology offered by the new DBMS and using web applications and modern software development techniques.

The new format for the electronic notifications of terrestrial frequency assignments, conforming to XML standards and used in addition to the existing SGML format was finalized. The new database system and software modules for the processing and validation of the electronic terrestrial notifications were finalized, including HAPS. The migration of the existing software modules used for the technical examinations was finalized. Work on the specific technical examination modules for HAPS is undergoing. Examination results display modules were also finalized. Work on the publication and preparation of the new BR IFIC packages is completed. Various Web Applications have been designed and implemented, and are under continuous development and testing, to allow online access to the database queries and other software tools, including the online validation of the terrestrial notifications of frequency assignments.

Copies of the existing terrestrial database in its new structure on the new DBMS platform are now available and are being used by various BR applications through the web to display, validate and process terrestrial frequency notifications. Dedicated copies were also designed and are now available, containing the data image of the last published terrestrial BR IFIC accessible online, including access to previous terrestrial BR IFICs published during the current year. The full migration and restructuring of the existing system were completed. A circular letter describing the resulting new and modified Terrestrial database structure and tools on the BR IFIC, as well as a description of the new XML notification format, is under preparation and will be sent to the Member States Administrations and other users.

As seen by the Member States and external users, a transition period is planned before the final cut-off of the existing system and will be specified in the above-mentioned circular letter, to allow the on-time adaptation and adjustment of third-party developed software. During this period, the BR IFIC database will be distributed both in its existing current format and its new format, thus ensuring continuity of service. Forward-only conversion tools have been developed and will be distributed to allow the conversion of the current BR IFIC database format to the new system database format.

## 7.2 Progress in fulfilling the BR Space Information Systems roadmap (RAG-19, 2012)

RAG-19 (2012) advised the Director to implement recommended actions within the proposed timeframe, as described in the agreed roadmap, comprising: Phase 1 (Implementation of WRC-12 decisions); Phase 2 (Rewrite some existing software); and Phase 3 (Set up a project team to implement a common framework, security system, and centralized space database). RAG encouraged Member States and Sector Members to submit their comments on Phase 3.

In 2023, the BR continued to maintain existing legacy software, while at the same time working on implementing new versions of key software applications. This parallel effort is both a necessity due to operational exigencies as well as the reason why certain modernization projects are still underway.

### 7.2.1 Progress toward achieving the objectives of Phase 2 of the roadmap

#### 7.2.1.1 Rewrite legacy software for technical examination

* Rewrite of PFD examination for protection of space services: The modernized PXT software is under test, to be finalized in 2024.
* Migration of GIMS Fortran components: Work is well underway, to be finalized in 2024.
* Mspace – Migration of Visual Basic 6 components to .NET: Ongoing.

#### 7.2.1.2 Design and develop the BR Space Information System (BR SIS)

* Rewrite SpaceCap written in Visual Basic 6: Ongoing. In 2023, foundational work continued on the framework of the new BRSIS-Capture application, aiming for partial implementation of WRC-23 decisions in BRSIS-Capture v10.5 (an intermediate version of BR space software focused on database modernization, as explained under [7.2.2](#_7.2.2￼Progress_toward_achieving) below).
* Migrate SRS MDB to a more modern technology: Although the choice of technology to replace MDB files is clear, the migration will significantly impact BR internal space services processing. Due to many more pressing priorities in 2023 and 2024, work on this will continue only after he implementation of WRC-23 decisions. Even when the BR Space Software applications move to SQLite, backward compatibility with the MDB format, as well as conversion tools, will be retained for the foreseeable future.
* Migrate SNS database on Ingres to SQL Server: The migration of Ingres-environment-specific internal processing applications continued in 2023. There was an unanticipated need for major internal changes to the existing SpaceCap legacy application, which delayed beta testing until Q2 of 2024. The migration is expected to be fully complete by the end of 2024.
* Review SNTrack: Ongoing. SNTrack will be gradually replaced by a Space Management Information System to complete the back-office functionality of the e-Submissions system.
* Review SNS Online (and merge with SNL Online): Ongoing. Development of the web application "ITU Space Explorer" to replace the data mining system previously contained in the SNS Online and SNL Online is part of the deliverables to satisfy instruction 4 of Resolution **186 (Rev. PP-22 Bucharest)**. Phase 1 of the project progressed in 2023 and new functionality was made available for test in time for WRC-23, with excellent feedback from delegates. The full release in production is expected in Q2 of 2024.

### 7.2.2 Progress toward achieving the objectives of Phase 3 of the roadmap

The work done during the previous phases, as well as the design and technology choices made thereafter, provide a foundation for successful completion of Phase 3, which will be as follows:

* A schema redesign, preserving equivalence of data, but with the objective of eliminating certain redundancies, will be delivered as v10.5 in early 2027, at the mid-point between implementation of decisions of WRC-23 and WRC-27, so as not to force a database schema change too frequently.
* Activities on centralizing and streamlining risk, recovery, and security management: Ongoing.

## 7.3 Software developments related to space services

### 7.3.1 Implementation of Resolution 907 (Rev.WRC-15): Use of modern electronic means of communication for satellite network-related administrative correspondence

In 2023, work continued on improving and maintaining the “e-Communications” online system in response to Resolution **907 (Rev.WRC-15)**. The number of registered Administrations has grown to 147, out of which 127 Administrations have sent correspondence via the system as of 8th February 2024. The new function to integrate with the e-Submission system that will facilitate the tracking of correspondence between the Bureau and the notifying administration relating to correspondence on receivability is under development and it is expected to be introduced in the first half of 2024.

### 7.3.2 Implementation of Resolution 908 (Rev.WRC-15): Electronic submission of satellite network filings

The “e-Submission” system has been providing round-the-clock operation to administrations and operating agencies for the submission of satellite network filings throughout 2023. The number of registered Administrations has grown to 154 as of 8th February 2024.

Four major updates were provided to the e-Submission system in 2023. According to Circular Letter CR/493, from 16th January 2023, the e-Submission system only accepts uploaded filings in SNS 9.1 format.

In addition, on 17th September 2023, the new status “Published in BR IFIC" was introduced on e-Submission. When a notice is published on a BR IFIC (Space Services) in a special section or Part I-S in accordance with the Radio Regulations, the status of the notice on e-Submission changes from “Published As-Received" to “Published in BR IFIC".

Furthermore, on 1st October 2023, the new online examination tool “e-Examination" was delivered as part of the e-Submission system. The e-Examination assists administrations in verifying the compliance to PFD and EIRP limits specified in the Radio Regulations when submitting their satellite network filings to the Bureau or Administrations. This function is provided for the information and convenience of the submitting administration/operator and does not affect the regulatory status of the notice in terms of receivability or findings.

To meet the immediate needs concerning new submissions based on the decisions of WRC-23, the Bureau implemented on 16th December 2023, a new feature to capture and submit additional data items within the e-Submission interface.

Further developments are ongoing to provide additional functions such as the integration with the e-Communications system, which is aimed to be introduced in the first quarter of 2024. The Bureau will also proceed with the development of the online commenting system, though the development may depend on the availability of additional resources.

It should be noted that WRC-23 merged Resolutions **907** and **908** into Resolution **55 (Rev. WRC-23)**, therefore all future developments on the e-Submission and e-Communication systems will continue under Resolution **55 (Rev. WRC-23)**.

To assist in the development and testing of this tool, the Administration of Japan has made a financial contribution and also made available a space regulatory and technical expert in the ITU headquarters. The Radiocommunication Bureau renews its thanks to the Administration of Japan for its continuous support and specific assistance in the development of this project.

### 7.3.3 Migration of the BRIFIC (Space services) from a DVD format to an online mechanism

Following the obsolescence of the software technologies used in the implementation of the BRIFIC (Space Services) DVD-ROM, the Bureau has been working on a project to migrate the BRIFIC (Space Services) from a DVD format to an online delivery mechanism. After the released in beta version on March 2023 for the BRIFIC subscribers to comment and provide feedback, the web application BR IFIC (Space services) online was officially released on 23 January 2024 on a secure server that provides 24/7 access. This online interface allows users to browse online the BR IFIC (Space services) content and to download the relevant information (publications and databases), from BR IFIC 2987 dated 10 January 2023. Full access to the BR IFIC (Space services) online has been given to registered users to the Web-based distribution of the BR IFIC (Space services).

The new application has also been deployed for the BR IFIC DVD-ROM and the ISO file. Hence, all forms of distribution of the BR IFIC (Space services) (web interface, ISO file and DVD-ROM), are based on the new application, with a renewed user interface. This new interface facilitates easy retrieval of information from all data and publication files corresponding to that satellite network. In particular, the technical files (examination results, EPFD data, …) are now linked with the regulatory publications (Special sections and Parts), allowing to display all documents published for a specific satellite network.

In addition, a new feature named Advanced queries has been added on the BR IFIC online application allowing users to run queries on the SNS data published in a specific BR IFIC. Three advanced queries have currently been released: the list of administrations affected by a coordination request, the list of networks affected by a coordination request and the list of networks potentially interfering with networks of a specific administration. More advanced queries will be developed in future.

Further developments are on-going to provide to BR IFIC subscribers all past publications published in past BR WIC and BR IFIC.

Finally, the Bureau is studying the possibility to provide an application programming interface (API), allowing BR IFIC users to directly query the BR IFIC database.

## 7.4 Software developments related to terrestrial services and other BR software and tools

### 7.4.1 Radio Regulations tools

The Bureau continues to update and maintain software tools to facilitate the use and analysis of the Radio Regulations (RR):

1. A limited-time license-free version of the Radio Regulation Navigation Tool was released in time for RA-23/WRC-23 to support the work of delegates and to demonstrate the tool's usefulness in view of future license purchases. The tool will be updated with the 2024 version of the Radio Regulations as soon as possible after it is published.
2. The software tool to conduct a detailed search and analysis of the Table of Frequency Allocations in Article 5 of the Radio Regulations, enables filtering and reformatting by frequency range, service, category of service, footnote, country, etc. The tool has been updated based on the outcomes of the WRC-19 and the RR 2020 Edition to introduce the changes in the frequency allocations, country footnotes, and related references to associated Resolutions and Recommendations. The updated package now also includes links to the relevant ITU-R Recommendations referenced in RR5, as well as the latest version of the relevant Rules of Procedure. The package is now also equipped with a utility to extract the National Table of Frequency Allocations for a specific country as it results from combining the various provisions of RR5. Throughout 2023, the tool was enhanced to link with various provisions in the various articles of the RR. It was demonstrated during various Radiocommunication Regional Seminars. It is available for purchase at the ITU sales website. All software and data updates will be provided regularly and freely to the subscribers, until the release of the new version, based on WRC-23 decisions. A limited-time license-free version of the RR5 Table of Frequency Allocations was released in time for RA-23/WRC-23 to support the work of delegates and to demonstrate the tool's usefulness in view of future license purchases. The tool is being updated after WRC-23 and the update is expected to be available during second quarter 2024.

### 7.4.2 Further enhancement of web tools

The online tools eBroadcasting (former eBCD2.0) and eMIFR were integrated into the eTerrestrial portal, implemented with the latest web technologies, and put into production in December 2020. Online Validation (rebranded to eValidation) was integrated in the last quarter of 2021, as well as new features like a Dashboard to allow the BR and users to monitor their activities. The propagation tools are now available via the ePropagation tool with improved mapping capabilities.

The eBroadcasting tools developed to support the GE84 optimization process were instrumental to the success of this activity. Maps are implemented using the open source OpenLayers library, chosen by the BR Task Force (see 7.4.4). GE06 Art.4 plan simulation in eTools now uses TerRaSys services for performing calculation, while keeping the same look and feel as before. The integration of GE06 Art.5 conformity examination in eTools is also being finalized, allowing to decommission soon the tool currently available in the GE06Calc standalone tool.

P1546 simulations in ePropagation have been enhanced with the implementation of the P1546 point to point calculation and the integration of the SRTM1/ASTER v3 tool for the determination of the effective antenna height, allowing to perform P1546 simulations within the range [83°S, 83°N].

The web interface for the submission of terrestrial frequency assignments/allotments to the BR (WISFAT) has integrated the option to validate notice files by evoking eValidation and it is in production. Navigation maps have been extended to additional tools (eMIFR, myAdmin, and ePub), and the map display functionality has been integrated into P1812 point to area propagation tool. ePropagation has been improved with a new P1546 point to point tool and a new feature that considers antenna attenuations in the calculations for all tools.

The online platform for fixed and mobile services (eFXM) was developed with the latest web technologies and integrated into the eTerrestrial portal in 2022. In addition to eQueryFXM, ePubFXM was further developed to allow administrations to consult the published FXM Special Sections annexed to BR IFIC (Terrestrial Services) and the related coordination information. Among FXM Special Sections, RR9.21 and GE06L have been developed and integrated into the eTerrestrial portal in 2023.

### 7.4.3 Compatibility analysis software for FM sound broadcasting

The BR deployed in 2021 an eBroadcasting online tool for the GE84 Plan (FM broadcasting) optimization in Africa in the band 87.5-108 MHz: the GE84 Optimization tool. This tool performs compatibility calculations based on the GE84 Agreement and evaluates the incompatibilities for all the frequencies in the GE84 band. This tool, which served as the basis for optimizing the FM band in Africa, has been made available to all administrations - parties to the GE84 Agreement.

The tool uses the GE84 propagation curves and also the Recommendation ITU-R P.1812 propagation prediction method in conjunction with a digital terrain map (SRTM3) with 90m resolution. In 2023, additional Digital Terrain Models (DEMs) have been added namely, SRTM1 and ASTER, with 30m resolution. Contrary to SRTM DEMs, providing terrain elevation information from 56°S to 60°N, ASTER provides terrain elevation information from 83°S to 83°N, allowing field strength calculations between sites located above 60°N latitude. Considering that SRTM1 is more accurate than ASTER, an additional option is provided to the users (AUTO) for which the software automatically selects the appropriate DEM, between SRTM1 and ASTER, both using a 30m resolution, to evaluate the prediction of point-to-point interference, depending on the location of the stations (transmitter/receiver) involved in the calculations. Further work has been made to enhance user experiences and address bugs.

### 7.4.4 BR Geographic Information Systems

The BR GIS Task Force, comprised of staff from all BR departments, has been established to harmonize GIS activities in the BR. The Task Force implemented the BR GIS Platform using GeoServer, which is ready to be deployed. The conversion of all IDWM datasets from proprietary format to geospatial format has been completed while the storage of SG3 radio-meteorological data to the BR GIS Platform is in progress. This data will be made available to users via Open Geospatial Consortium (OGC) compliant web services. The BR is implementing GIS functionalities in its web tools using the open source OpenLayers library.

The ITU is a member of the UN Geospatial Network, a coalition of entities within the UN system that is tasked to strengthen the coordination and coherence of geospatial information management within the United Nations system. The BR participates in the Steering Committee of this network and leads the ITU Inter-Sectorial Task Force on Geospatial Information Management.

### 7.4.5 Maritime Service Publications Project

The BR continues implementing the ITU Maritime Service Publications project (List IV, List V and the Maritime Manual). A substantial progress on the required developments has been achieved. The creation of the Sales Platform to purchase and download digital publications, the development of the Desktop Application for the List V and the Inspector Mobile app, are now completed. The ongoing developments include the integration of the List IV and Maritime Manual publications into the Desktop Application and the List V Mobile app.

### 7.4.6 HITS (Harmful Interference to Terrestrial Services)

## The development of a new online platform for treatment of the reports of harmful interference and infringements, concerning terrestrial services (HITS) continued. During this period, the work continued on the authentication/authorization, report submission, Documentum integration and user interface improvements. Additionally, the correspondences being exchanged between BR and the involved Administrations were reviewed. The work continues on the user interface.

## 7.5 Business Continuity and Disaster Recovery (both Space and Terrestrial Services)

Work on further strengthening the ITU Risk Management Framework continued in 2023, with the BR's full participation in the Inter-Sectoral Task Force Working Group on Risk Management. In addition, BR staff involved in RA-23/WRC-23/CPM27-1 preparation took part in several resilience table-top exercises and business continuity planning sessions organized by the ITU Organizational Resilience Management System (ORMS) coordinator.

## 7.6 Cloud Computing

The BR Cloud Migration Task Force started its work from March 2023 in close collaboration with the IS department. The task force's priority for 2024 is to establish an inventory and classification of BR data repositories, with the help of IS department subject matter experts in line with current and forthcoming ITU cloud and data policies.

# 8 Outreach

Outreach activities include dissemination of information and assistance to membership, the publication of ITU-R outputs, the organization of, and participation in, seminars and workshops, as well as the development and maintenance of communication and promotion tools. The purpose of these activities is to ensure that the outputs produced by the ITU-R Sector (regulations, recommendations, reports, and handbooks) are disseminated worldwide so that they may form the basis for the formulation of national and regional policies and decisions for the use of the radio spectrum. To carry out these activities, the BR relies on close cooperation with the other Bureaux and Sectors, the ITU regional and area offices, and the relevant international organisations and national authorities.

## 8.1 Publications

### 8.1.1 Regulatory publications

*Final Acts and Radio Regulations and Rules of Procedure*

Following the 2023 World Radiocommunication Conference the final version of the Final Acts is expected to be published in March 2024 followed by the Edition of the Radio Regulations in September 2024.

A third update to the Rules of Procedure Edition 2021 was published in July 2023.

BR also published eleven HFBC schedules every year in accordance with RR Article **12**.

### 8.1.2 Service publications

#### 8.1.2.1 Background and general observations

#### The Bureau prepares and issues the following service publications, as specified in Article 20 of the Radio Regulations.

* BR IFIC − International Frequency Information Circular
* List IV − List of Coast Stations and Special Service Stations
* List V − List of Ship Stations and Maritime Mobile Service Identity Assignments
* List VIII − List of International Monitoring Stations
* Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services

#### 8.1.2.2 List of Coast Stations and Special Service Stations (List IV)

#### This List contains information notified to the ITU (i.e. Call Sign, MMSI, geographical coordinates, transmitting and receiving frequencies, etc.) of coast stations that provide watch-keeping using digital selective calling techniques, public correspondence service, medical advice, navigational and meteorological warnings, notices to navigators and radio time signals, etc.

#### The List of Coast Stations and Special Service Stations (List IV) is published every two years, in CD‑ROM format. One edition of List IV was published in November 2023.

Information pertaining to this list is made available via the online information system ITU Maritime mobile Access and Retrieval System (MARS). A compilation of all changes notified to the ITU is provided on the web every six months.

#### 8.1.2.3 List of Ship Stations and Maritime Mobile Service Identity Assignments (List V)

This List contains information notified to the ITU on Ship, Coast and Search and Rescue (SAR) Aircrafts Stations, Accounting Authority Identification Codes (AAICs), and contact information for notifying administrations.

The List of Ship Stations and Maritime Mobile Service Identity Assignments (List V) is published every year, in CDROM format. One edition of List V was published in April 2023.

Information pertaining to this List is also made available via the online information system MARS. A compilation of all changes notified to the ITU is provided on the web every three months.

#### 8.1.2.4 List of International Monitoring Stations (List VIII)

#### The List of International Monitoring Stations (List VIII) contains the addresses and other relevant information of centralizing offices, including detailed information related to monitoring stations measuring terrestrial and space emissions. A direct download facility is available, free of charge, with TIES access.

One edition of this List was published in December 2022.

#### 8.1.2.5 List of service publications issued

Table 8.1.2.5-1 below summarizes the different publications for the period 2020-2023:

**Table 8.1.2.5-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2020 | 2021 | 2022 | 2023 |
| BR IFIC (International Frequency Information Circular) | 25 | 26 | 25 | 25 |
| List IV (List of Coast Stations and Special Service Stations) |  | Edition of 2021 (December) |  | Edition of 2023  (November) |
| List V (List of Ship Stations and Maritime Mobile Service Identity Assignments) | Edition of 2020  (April) | Edition of 2021  (April) | Edition of 2022  (April) | Edition of 2023 (April) |
| List VIII (List of International Monitoring Stations) |  |  | Edition of 2022 (December) |  |
| Maritime Manual | Edition of 2020 (November) |  |  |  |

### 8.1.3 Study Group publications

Since RAG-23, the ITU‑R Study Group publications, including Recommendations approved by RA‑23, continued to be developed in accordance with Resolution ITU-R 1.

The full list of ITU-R Questions, ITU-R Recommendations and ITU-R Reports approved since RAG‑23 can be found in Addendum 1 to this document.

### 8.1.4 ITU-R Publications downloads

#### 8.1.4.1 Radio Regulations and the Rules of Procedure

Concerning these regulatory documents, Table 8.1.4.1-1 shows the number of deliveries for the RR2016 and RR-2020 editions. Following up on the request of the 2021 RAG meeting, both pdf and WORD versions of the RR-2020 edition are available for free download from the ITU website [here](https://www.itu.int/en/publications/ITU-R/pages/publications.aspx?parent=R-REG-RR-2020&media=electronic) and WORD versions are also available for free download from [here](https://www.itu.int/hub/publication/r-reg-rr-2020/). Table 8.1.4.1-2 shows the total number of downloads during the same period for the Rules of Procedure. The last edition of the Rules of Procedure was published in June 2021, taking into account the decisions of WRC-19. The edition has subsequently received three updates as a result of new and modified rules of procedure approved by the Radio Regulations Board.

**Table 8.1.4.1-1**

Number of deliveries of the Radio Regulations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2020  (RR-16 and RR-20) | 2021 RR-20 | 2022 RR-20 | 2023 RR-20 |
| Hard copies sold | 2016 ed:  59   2020 ed: 1 170 | 274 | 117 | 1611 |
| DVD’s sold | 2016 ed: 482   2020 ed: 5 061 | 3 855 | 1638 | 11700 |
| Free downloads | 2016 ed: 36 416  2020 ed: 4 236 | 18 092 | 13467 | 42439 |

**Table 8.1.4.1-2**

The Rules of Procedure (downloads)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2020 | 2021 | 2022 | 2023 |
| ROP (Rules of Procedure) | 10 882 | 10 539 | 11887 | 16875 |

#### 8.1.4.2 ITU-R Recommendations

As a result of the free online access policy, ITU-R Recommendations are accessed and downloaded worldwide. From January 2020 to December 2023, almost seven million downloads of ITU-R Recommendations, from the ITU website, were recorded. Table 8.1.4.2-1 summarizes their distribution by year and series. At this time, there are 1 190 ITU-R Recommendations in force.

**Table 8.1.4.2-1**

Distribution of ITU-R Recommendations (downloads)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SERIES | 2020 | 2021 | 2022 | 2023 | TOTAL | % |
| P | 385614 | 410918 | 347953 | 401927 | **1546412** | 22.32% |
| M | 327720 | 365675 | 314920 | 355079 | **1363394** | 19.68% |
| BT | 226737 | 231981 | 218403 | 240031 | **917152** | 13.24% |
| SM | 171165 | 196660 | 169755 | 177372 | **714952** | 10.32% |
| BS | 142699 | 166563 | 143107 | 158493 | **610862** | 8.82% |
| F | 154672 | 147667 | 116539 | 139580 | **558458** | 8.06% |
| S | 108174 | 123593 | 87801 | 105480 | **425048** | 6.13% |
| V | 40634 | 47032 | 44707 | 39508 | **171881** | 2.48% |
| SA | 46718 | 43137 | 33274 | 46373 | **169502** | 2.45% |
| RS | 26823 | 23253 | 19350 | 24932 | **94358** | 1.36% |
| BO | 26816 | 23173 | 16489 | 22760 | **89238** | 1.29% |
| TF | 24077 | 22729 | 18211 | 20903 | **85920** | 1.24% |
| SF | 19381 | 16720 | 13102 | 15980 | **65183** | 0.94% |
| BR | 17101 | 15009 | 9838 | 13285 | **55233** | 0.80% |
| RA | 12315 | 10777 | 9169 | 11546 | **43807** | 0.63% |
| SNG | 3319 | 2548 | 1987 | 3045 | **10899** | 0.16% |
| IS | 1280 | 1366 | 1203 | 1416 | **5265** | 0.08% |
| PI | 372 | 206 | 143 | 288 | **1009** | 0.01% |
| TOTAL | **1735617** | **1849007** | **1565951** | **1777998** | **6928573** | 100% |

#### 8.1.4.3 ITU-R Reports

As ITU-R Recommendations, ITU-R Reports have been promulgated worldwide touching most of the audiences and contributing to good technical practices in certain aspects of radiocommunications. From January 2020 to December 2023, more than one million downloads of ITU-R Reports, from the ITU website, were recorded. Table 8.1.4.3-1 summarizes their distribution by year and series. Currently, there are 632 ITU-R Reports in force.

**Table 8.1.4.3-1**

Distribution of ITU-R Reports (downloads)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SERIES | 2020 | 2021 | 2022 | 2023 | TOTAL | % |
| SM | 101965 | 149392 | 105880 | 116282 | **473519** | 29.08 |
| M | 105681 | 118785 | 102742 | 121622 | **448830** | 27.57 |
| BT | 59805 | 75168 | 76421 | 83612 | **295006** | 18.12 |
| BS | 28707 | 35392 | 30002 | 31013 | **125114** | 7.68 |
| BO | 14003 | 16812 | 16721 | 16993 | **64529** | 3.96 |
| P | 14785 | 18142 | 15647 | 15536 | **64110** | 3.94 |
| F | 12411 | 15138 | 8623 | 9397 | **45569** | 2.80 |
| S | 10001 | 9918 | 9170 | 10174 | **39263** | 2.41 |
| SA | 5547 | 9042 | 5346 | 6856 | **26791** | 1.65 |
| RS | 4796 | 6343 | 4486 | 6236 | **21861** | 1.34 |
| RA | 4222 | 4834 | 4840 | 6463 | **20359** | 1.25 |
| TF | - | 97 | 466 | 948 | **1511** | 0.09 |
| SF | 387 | 397 | 326 | 345 | **1455** | 0.09 |
| BR | 72 | 61 | 88 | 97 | **318** | 0.02 |
| TOTAL | **362382** | **459521** | **380758** | **425574** | **1628235** | 100% |

#### 8.1.4.4 Handbooks

Following the BR director’s decision in 2017, all ITU-R Handbooks are now free to download at the ITU website. With a steady increase since then, more than 140 000 downloads were registered in 2023. Table 8.1.4.41 provides the distribution of ITU-R Handbooks on spectrum management series as well as other handbooks that are sold.

At this time, a total of 48 ITU-R Handbooks are published including the Spectrum Management Series.

**Table 8.1.4.4-1**

Distribution of ITU-R Handbooks on spectrum management series and other Handbooks

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Handbook** | **2020** | **2021** | **2022** | **2023** |
| **Spectrum Management Series (hard copies sold)** | 3 | 5 | 0 | - |
| **Other Handbooks (hard copies sold)** | 4 | 5 | 4 | - |
| **GRAND TOTAL** | **7** | **10** | **4** | **-** |
|  |  |  |  |  |
| **FREE downloads** | **79 961** | **126 201** | **134159** | **143478** |

## 8.2 Seminars, workshops and other events

During the 2019-2023 study period, the World and Regional Radio Seminars (WRS/RRS) aimed at disseminating worldwide the updates contained in the 2020 Edition of the Radio Regulations, along with its associated Rules of Procedure. In this period, the BR conducted two biennial World Radiocommunication Seminars (WRS), complemented by ten Regional Radiocommunication Seminars (RRS) rotated amongst the Regions, to the maximum extent practicable.

The figures below show the participation for the 2019-2023 study period:

* In two WRS: 1 773 participants from over 156 countries.
* In ten RRS: 906 participants from over 165 countries.

Total: 12 seminars, 3 039 participants from over 180 countries.

WRS and RRS were conducted in a “*paperless*” environment; their respective proceedings are available on the ITU website: <http://www.itu.int/ITU-R/go/seminars>.

During this period the BR provided more than 30 fellowships for RRS held physically and 23 fellowships for WRS (one per administration for eligible countries).

Since 2024, a new cycle of WRS/RRS events in the interim period between WRCs has started: WRS/RRS 2024-2027. Those Seminars aim at disseminating worldwide the updates contained in the Radio Regulations Ed. 2024 (with the decisions taken by WRC-23) along with its associated Rules of Procedure (RoP). Based on the prior WRS/RRS experiences, this WRS/RRS 2024-2027 cycle plans to conduct two biennial World Radiocommunication Seminars (WRS), complemented by eleven Regional Radiocommunication Seminars (RRS) (each one aimed to a different subregion), as follows:

TABLE 8.2.2-1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Language | 2024 | 2025 | 2026 | 2027 |
| WRS (2) | UN | 2-6 December  Geneva | − | December  Geneva | − |
| **RRS (11)** | | | | | |
| Africa:AFR (2) | | | | | |
| Africa | English/French | − | April | − | − |
| Africa | English/French | − | − | − | July |
| Americas: AMS (3) | | | | | |
| Caribbean | English | 22-26 July  Venue TBD | − | − | − |
| South America | Spanish | − | July | − | − |
| Meso America | Spanish | − | − | June | − |
| Asia & Pacific: APC (3) | | | | | |
| Pacific Islands States | English | 23-27 September  Apia, Samoa | − | − | − |
| Southern Asia | English | − | October | − | − |
| Central Asia | English | − | − | September | − |
| Arab States: ARB (1) | Arab/ English | − | − | − | February |
| CIS & Eastern Europe (1) | Russian | 15-19 April  Astana, Kazkhastan | − | − | − |
| Europe (1) | English | − | − | − | April |

As in prior cycles, to optimize the necessary resources, this planning has the following principles:

* 1st quarter 2024: no RRS/WRS, updating RR and associated software tools;
* 2nd semester 2027: no RRS/WRS: preparation of upcoming WRC-27;
* Two WRS per cycle (every 2 years): WRS-24 and WRS-26;
* The first WRS after a WRC (WRS-24) will have a specific session devoted to explaining in detail, the modifications to the RRs introduced by the WRC;
* The two RRSs for Africa are scheduled in different years than the WRS, considering that the participation in RRS Africa is nearly twice as large as other RRSs, and allowing for an even distribution of the fellowship budget;
* RRSs are carried out in the predominant language(s) of the region, which helps reduce interpretation costs and allows for an easier exchange of information during the event;
* The programs of the RRSs are tailored to the specific needs of the region concerned;
* The last day(s) of each RRS are devoted to a Forum-type session, where panellists from outside the region could be invited to enlarge the scope of the discussions (provision of interpretation from/to English might become necessary for those days);

The above planning is duly coordinated/and adjusted with ITU Regional Offices (ROs) as well as pertinent regional groups, considering the challenges arising from the current outbreak and the subsequent changes of format (online events), and its implications on the involved ITU Staff (BR, ROs).

### 8.2.1 World Radiocommunication Seminars (WRS)

* WRS-20, 30 November to 11 December 2020, attended by 2,183 participants from 159 countries;
* WRS-22, from 24 to 28 October 2022, attended by 540 participants from 123 countries.

**WRS-20** was initially planned for the 1st week of December 2020 in Geneva, but due to the travel restrictions related to the Covid-19 pandemic, WRS changed to a virtual format, with the following changes:

* WRS-20 was presented over 2 weeks, i.e., from 30 November to 11 December, with 3‑hour sessions daily,
* to accommodate participants in different time zones worldwide, WRS-20 sessions were presented twice each day:

• Morning sessions (Geneva time) were presented for participants in the Asia-Pacific, and East and Southern Africa Regions,

• Afternoon sessions (Geneva time) were presented for participants in the Americas, Europe, CIS, Arab States, and West Africa Regions.

* Recordings of the seminar sessions were also made available on the event website.
* The second week, limited to ITU members only, featured basic training workshops on how to use ITU-developed tools for frequency notifications and technical examinations.
* Web tutorial exercises enabled workshop participants to master both the procedures and the software that the ITU Radiocommunication Sector (ITU-R) uses to process filings. Participants were able to alternate between space and terrestrial services.

**WRS-22** **Plenary** was held as a physical meeting with remote participation.

**WRS-22 Terrestrial and Space Workshops** were held in parallel and organized as physical meetings only and were limited to participation by ITU-R membership. During the four-day WRS‑22 space and terrestrial workshops, participants received hands-on experience with ITU notification procedures, as well as with the software, databases and electronic publications made available by the Radiocommunication Bureau to the ITU membership. Tailored sessions were also available for both beginners and advanced users of BR software tools. The sessions were mainly conducted in English and French. BR granted 23 fellowships for WRS-22.

Noting that more and more people are using and deploying radiocommunication systems and considering the BR role to inform all individuals and organizations worldwide about the Radio Regulations and how to implement them, for the first time during both events, the WRS Plenary sessions were opened to public audience, no matter whether they are members of ITU or not.

### 8.2.2 Regional Radiocommunication Seminars (RRS)

As a complement to the biennial WRS, the BR maintained its strategy for regional outreach through the organization of Regional Radiocommunication Seminars (RRS) aimed to visit every developing region worldwide, fostering human capacity building on the use of the radio-frequency spectrum and satellite orbits, in particular, the application of the provisions of the ITU Radio Regulations.

RRSs are jointly organized with the spectrum management authorities of host countries, in close cooperation with relevant regional organizations and the ITU regional/areas offices. Their agenda include two days of theoretical sessions and one or two days of workshops on terrestrial and space services. They are complemented with a one-day forum, dedicated to spectrum-related topics of particular interest to the region.

Table 8.2.2-2 provides a summary of the RRSs held since WRC-19. These seminars were mainly conducted online during the Covid-19 Pandemic and later hosted by the administrations, the regulator or the spectrum management authority in the country, in cooperation with the relevant regional organizations and the ITU regional/areas offices.

Table 8.2.2-2

ITU Regional Radiocommunication Seminars (2020-2023)

| **Date** | **RRS** | **Place** | **Host** | **Cooperation** | **Forum Topics** | **Languages** | **Participants/ administrations** | **Fellowships** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2020** | | | | | | | | |
| 13-24 July 2020 | **RRS-20-Americas** | E-meeting | − | Caribbean Telecommunications Union (CTU)ITU Americas Office | WRC-19 Outcomes: Challenges and opportunities for the Region | E | 350/38 | N/A |
| 19-30 October 2020 | **RRS-20-Asia-Pacific** | E-meeting | − | Asia-Pacific Telecommunity (APT)  ITU Asia and the Pacific Office | WRC-19 Outcomes: Challenges and opportunities for the Region | E | 300/30 | N/A |
| **2021** | | | | | | | | |
| 26 April to 7 May 2021 | **RRS-21-Americas** | E-meeting | − | Inter-American Telecommunication Commission (CITEL)  Colombian National Spectrum Agency (ANE)  ITU Americas Office | Modern spectrum management in the Region | S | 238/49 | N/A |
| 5-16 July 2021 | **RRS-21-Africa** | E-meeting | − | African Telecommunications Union (ATU)  ITU Africa Office | Radiocommunications Trends: Opportunities and challenges for the Region | E & F | 217/68 | N/A |
| 11-22 Oct. 2021 | **RRS-21-Asia-Pacific** | E-meeting | − | Asia-Pacific Telecommunity (APT)  ITU Asia&Pacific Office | Radiocommunications Trends: Opportunities and Challenges for the Region | E | 287/58 | N/A |
| **2022** | | | | | | | | |
| 13-24 March 2022 | **RRS-22-Arab States** | E-meeting | − | Arab Spectrum Management Group (ASMG)  ITU Regional Office for Arab States | Radiocommunications Trends: Opportunities and challenges for the Region | A & E | 185/51 | N/A |
| 30 Aug. to 8 Sept. 2022 | **RRS-22-Europe** | E-meeting | − | ITU Regional Office for Europe | Spectrum Management | E | 286/83 | N/A |
| 15-20 Dec. 2022 | **RRS-22-Asia-Pacific** | Nadi, Fiji | [Ministry of Communications](http://www.fiji.gov.fj/) (MOC) of Fiji | [Pacific Islands Telecommunications Association (PITA)](https://www.pita.org.fj/)  [Department of Infrastructure, Transport, Regional Development, Communications and the Arts](https://www.infrastructure.gov.au/) (DITRDCA) of the Government of Australia  ITU Regional Office for Asia and the Pacific | Radiocommunication Trends: Opportunities and challenges for the Asia-Pacific Region | E | 80/40 | 11 (funded and granted by BR and DITRDCA Australia) |
| **2023** | | | | | | | |  |
| 8-12 May 2023 | **RRS-23-Americas** | Havana, Cuba | [Ministerio de Comunicaciones of Cuba](https://www.mincom.gob.cu/es) | [Comisión Técnica Regional de Telecomunicaciones](https://www.sica.int/comtelca/inicio)  ITU Americas Office | Spectrum Management: Challenges on the Americas | S | 87/26 | 3 |
| 20-23 June 2023 | **RRS-23-Africa** | Brazzaville, Congo | [Agence de Régulation des Postes et des Communications Électroniques](https://www.arpce.cg/)  (ARPCE) | [Policy and Regulation Initiative for Digital Africa](https://prida.africa/) (PRIDA)  [African Telecommunications Union](https://atuuat.africa/) (ATU)  ITU African Office | ITU-PRIDA Workshop: Wireless broadband (terrestrial and satellite) | E & F | 103/46 | 11 (funded and granted by BR and PRIDA (EU)) |

The BR, together with the regional partners, granted 11 full and 24 partial fellowships for RRS (only one per administration for eligible countries).

### 8.2.3 Planned World and Regional Radiocommunication Seminars for 2024-2027

Based on the WRS/RRS 2024-2027 planning (Table 8.2.2-1), the following seminars are being considered for 2024:

* RRS-24-CIS: 14-19 April, Astana, Kazakhstan, (in Russian);
* RRS-24-Americas (focused on Caribbean States): 22-26 July, Venue TBD;
* RRS-24-Asia&Pacific: 23-27 September, Apia, Samoa;
* WRS-24: 6-12 December 2024, [Geneva, Switzerland].

### 8.2.4 Workshops on National Frequency Allocation Tables (NFAT)

During the different RRS, participants identified the urgent need to improve and update their NFATs and its alignment with RR, while facing great challenge for it, as:

* little awareness about the importance of NFAT;
* lack of qualified and dedicated human resources to update and maintain the NFAT;
* insufficient awareness of RR issues (in particular RR Article **5**) and WRCs process; neither ITU-R SGs structures and publications;
* limited (and old fashioned) computer-supported tools for spectrum management (and the NFAT Updates).

Although the WRS and RRS tackle this matter, they are mainly focused on:

* preparation of filing for stations registration (WRS);
* Most relevant topics on Regional Agendas for spectrum management (e.g., 5G, DTT, Big Constellations, Emergency Communications, etc.).

Consequently, it was identified the need to complement the WRS/RRS with a training specifically devoted to NFAT, and its updating with ITU RR and ITU-R Publications.

To bridge the knowledge above identified gap and to answer the technical assistance requests, in May 2021, ITU, through its program: Policy and Regulation Initiative for Digital Africa (PRIDA), conducted the: [Workshop on the preparation of the National Table of Frequency Allocation](https://www.itu.int/en/ITU-D/Regional-Presence/Africa/Pages/Online-workshop-on-the-preparation-of-the-National-Table-of-Frequency-Allocation-(NTFA).aspx) (Online, English and French, from 24 to 27 May 2021.

This Workshop had an extraordinary success, with plenty of positive feedback. In view of it, during the recent BR/ROs coordination meeting, the ROs asked for including this Workshop on the spectrum management Capacity Building activities within their respective Regions.

In response to it, BR will organize the following NFAT Workshops (one per RR Region):

* NFAT Workshop for Region 1: 14-17 May, Addis Ababa, Ethiopia (TBD) in cooperation with ATU, ASMG
* NFAT Workshop for Region 3: 28-31 May: Shenzhen, China in cooperation with APT, PITA
* NFAT Workshop for Region 2: 18-21 June: Venue (TBD) in cooperation with CITEL, CTU, COMTELCA

## 8.3 Assistance to Member States, in particular in developing countries and LDCs

### 8.3.1 Assistance to administrations of developing countries

In the period between WRC‑19 and WRC‑23, the Bureau provided assistance to the administrations of developing countries by:

* Supporting national spectrum management activities and providing technical assistance in the field of space radiocommunication;
* Participating in the meetings of the regional coordination groups, as requested by Article 12 of the Radio Regulations;
* Providing assistance in Long Term Frequency management and assignment for mobile broadband (IMT);
* Providing guidance and technical support for the transition to Digital Television and the allocation of the digital dividend.
* Participation in capacity building seminars on satellite communications;
* Providing assistance in coordination procedure under RR 9.18, RR 9.19 and RR 9.21;
* Providing assistance in Plan modification procedure under GE06 Agreement;
* Providing assistance in assignments of call signs and MMSI;
* Providing assistance in space procedures;
* Providing focused assistance in the implementation of Resolution 559 (WRC-19).

### 8.3.2 Assistance to Regional Groups

In 2021-2022, BR thoroughly analysed and proposed relevant modifications to a series of spectrum related documents and recommendations developed by the African Telecommunication Union (ATU), such as African Spectrum Allocation, ATU-R recommendations on 5G implementation in Africa, state of Digital Sound Broadcasting in Africa, Spectrum Management Recommendations (on licensing, spectrum management, spectrum evolution), etc.

The Bureau actively participated in various activities in the framework of in the Policy and Regulation Initiative for Digital Africa “PRIDA” of the African Union, the European Union and the ITU. Among those activities are:

* Capacity building workshop on modern spectrum management and the ITU spectrum. management software for developing countries (SMS4DC), May 2020.
* Capacity building workshop on IoT and digital services, August 2020.
* Online Technical Committee meeting, November 2020.
* Online workshop for validation technical reports and guidelines, 9-11 March 2021.
* Online workshop on the preparation of the National Frequency Table of Allocations, May 2021.
* Online workshop on HCM4A (Harmonized Calculation Method for Africa), November 2021.
* Online focal points meeting, October 2021.
* Technical Committee meeting, June 2022.
* Training on aeronautical and maritime communication services, April 2023 (in English).
* Training on aeronautical and maritime communication services, May 2023 (in French).

The Bureau also participated to several workshops organized by ATU or SADC on the implementation Resolution **559 (WRC-19)** and other space procedures.

#### 8.3.2.1 Assistance to ATU

In 2019-2022, the Radiocommunication Bureau, in collaboration with the African Telecommunication Union (ATU), organized and successfully completed the project for the optimization of the GE84 Plan for Africa.

The project aimed to achieve an efficient and equitable use of the 87.5-108 MHz (FM) band for analogue sound broadcasting and to identify new frequencies to FM broadcasting for African administrations.

This assistance was provided through several preparatory workshops and three virtual frequency coordination meetings, taking place between February 2021 and January 2022. It resulted in approximately 85% satisfied frequency requirements, i.e., 18 326 successfully coordinated FM frequency channels.

## 8.4 Strategic Partnerships, including inter-sector cooperation

### 8.4.1 Cooperation with ITU-D

The BR has maintained close collaboration with the BDT on issues of mutual interest to ITU-R and ITU-D. The BR has participated in relevant meetings of ITU-D Study Groups, Rapporteur Groups and TDAG, where liaison activities have involved topics such as spectrum management, digital broadcasting and migration from analogue systems, transition towards and implementation of IMT, and broadband wireless access technologies.

In order to facilitate collaboration using existing mechanisms, BR SGD provides summaries of their SG’s or WPs’ recent accomplishments to the relevant ITU-D SGs by keeping up to date all the recently approved outputs. This information is published on a regular basis on the [ITU-R SGs website](https://www.itu.int/dms_pub/itu-r/oth/0a/0e/R0A0E0000E80001PDFE.pdf). The file contains a list of recently approved texts in a chronological order for the 2019‑2023 study period as well as a brief description of the content of each document. BR SGD has mapped the ITU‑D and/or ITU-T Study Group and study question for which each ITU-R document could be relevant. This also contributes to avoid duplication of effort, and to make use of the results of work done by the ITU-R SGs.

In response to requests from the BDT, experts from ITU-R and BR have participated in ITU seminars and workshops organized by ITU-D.

BR continues to pursue its objective of informing and assisting the ITU membership, in particular in developing countries, on issues relating to radiocommunication matters. For this purpose, the BR organizes and participates in a number of spectrum related workshops, seminars, meetings and capacity building activities, including training sessions. For instance, the BDT/BR national training IMT-2020/5G training in four CIS countries, namely Azerbaijan, Kyrgyzstan Kazakhstan and Uzbekistan in 2022.

#### 8.4.1.1 GSR

Recognizing the importance of expert information to Member States, the BR continues to support the BDT by providing technical expertise in relation to spectrum management, digital broadcasting and digital dividend. The BR contributed to the ITU Global Symposium of Regulators (in 2020, 2021, 2022 and 2023) with the organization of, and participation in, sessions related to spectrum management.

#### 8.4.1.2 World Telecommunication/ICT Indicators Symposium, WTIS

The BR cooperated with the BDT on the indicators and definitions for gathering data on mobile broadband technologies, especially when referring to standards.

The WTIS 2020 was held online from 1-3 December 2020. BR and BDT jointly supported the discussions relating to IMT National Spectrum Allocations and Assignments.

The WTIS was not held neither in 2021 nor in 2022.

In 2023, the WTIS agenda did not include a session on spectrum-related topics.

#### 8.4.1.3 Spectrum Management Training Programme (SMTP)

Since 2013, the BR has actively participated in a joint project with the BDT to develop the Spectrum Management Training Programme (SMTP) through its different phases: design, material preparation, peer review, and pilot test. Several updates occurred over the years and BR performed regularly a review of the material contained in the current SMTP. Recent updates were performed to include the outcomes from WRC-19/RA-19.

Considering the resources necessary to maintain/update this tool and its importance for many administrations, a discussion is currently taking place in BDT to verify if SMTP could be further enhanced or migrated to a different tool.

## 8.5 Membership

### 8.5.1 ITU Membership

Tables 8.5.1-1 to 8.5.1-3 show the Membership by Sector and Region, along with the associated contributions in 2023 and the evolution of the number of ITU-R Sector Members, Associates and Academia during the period 2019 to 2023.

**Table 8.5.1-1**

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**Table 8.5.1-2**

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Note: Academia are automatically members of all 3 sectors.

Amounts are assuming all members pay their membership fees.

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**Table 8.5.1-3**

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### 8.5.2 ITU-R Membership

Table 8.5.2 shows the evolution of the number of ITU-R Sector Members, Associates, and Academia during the period 2019 to 2023.

**Table 8.5.2**

Evolution of the ITU-R membership since 2019

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2019** | **2020** | **2021** | **2022** | **2023** | **2023**  **vs**  **2019** | **% Increase** |
| **Sector member Members** | 272 | 275 | 278 | 278 | 283 | 11 | 4.04% |
| **Associate** | 21 | 22 | 28 | 38 | 44 | 23 | 109.5% |
| **Academia\*** | 156 | 161 | 161 | 171 | 169 | 13 | 8.33% |

*\*As per the PP-14 decision, Academia membership encompasses all 3 ITU sectors*

## 8.6 Communication and promotion

### 8.6.1 Websites and databases

The on‐going performances of ITU-R websites, including related databases and other information management systems, are maintained and ensured constantly by BRWeb team ([brweb@itu.int](mailto:brweb@itu.int)).

During 2023 focus was on the WRC-23 website and related activities and developments.

#### 8.6.1.1 New content management system (CMS) à WordPress

During 2023, the following WordPress CMS websites continued to be maintained in the six official languages of the Union:

* [WRC-23 event website](https://www.itu.int/wrc-23/)
* [RA-23 event website](https://www.itu.int/ra-23/)
* [Network of Women for WRC-23 (NOW4WRC23)](https://www.itu.int/now4wrc23/)

New WordPress websites prepared in 2023:

* [Emmy Award – ITU-R Awards](https://www.itu.int/itu-r-awards/awards/emmy-award/)
* [[ITU Future Radio Exhibition – #FutureRadioNow](https://www.itu.int/futureradionow/)](https://www.itu.int/futureradionow/)

These websites are being updated with relevant materials and information as they become available.

#### 8.6.1.2 Translation status

This topic is presented in Addendum 2 to this document.

### 8.6.2 Promotion and media relations

In 2023, BR's communication primarily centered on activities and events associated with the Radiocommunication Assembly 2023 and World Radiocommunication Conference 2023, featuring virtual meetings, webinars, and online promotion of the Bureau's work through social media and websites.

**World Radiocommunication Conference 2023 (WRC-23):**

Promotion for WRC-23 persisted throughout 2023, commencing in the third quarter of 2022 with the introduction of its official visual identity and logo, developed in collaboration with the host country, the United Arab Emirates.

A WRC-23 Newsroom on a WordPress platform was created, offering current press releases, articles, special editions of ITU News magazine for WRC 2023, audiovisuals, videos, podcasts, photos, and other pertinent materials in all six official languages of the United Nations.

The [WRC-23 Newsroom](https://www.itu.int/wrc-23/newsroom/wrc-news/) and ITU News magazine special editions on WRC-23 results were updated to highlight key conference decisions, summarized as follows:

|  |
| --- |
| WRC-23 addressed 19 Agenda Items (AIs), four Topics, and 11 Standing Items categorized under core radio service umbrellas (fixed, mobile and broadcasting, transport, space and science), along with a fifth category for items of general nature.  Over 3,900 delegates from 163 ITU Member States attended, including 88 ministerial-level participants.  Among the decisions, WRC-23 identified spectrum for International Mobile Telecommunications (IMT), which will be crucial for expanding broadband connectivity and developing IMT mobile services, also known as 4G, 5G and, in the future, 6G.  That new spectrum includes the 3300—3400, 3600—3800, 4800—4990 and 6425—7125 MHz bands in various countries and regions. The 6425—7125 MHz band in Region 1 and 7025—7125 MHz in Region 3 were identified for IMT by footnote.  In the transport arena, a decision was made to introduce the Chinese BeiDou navigation satellite system to the GMDSS (Global Maritime Distress and Safety System).  Under the space and science heading, key decisions included a new secondary allocation for Earth Exploration Satellite Services (EESS) in the 40—50 MHz band. This will allow the use of spaceborne radar sounders to monitor the movement of polar ice sheets. |

On the [WRC-23 Newsroom](https://www.itu.int/wrc-23/newsroom/wrc-news/) the information about key conference decisions was provided via the following communications:

**Press Releases:**

|  |
| --- |
| [WRC-23 Closing Press Release](https://www.itu.int/en/mediacentre/Pages/PR-2023-12-15-WRC23-closing-ceremony.aspx): ITU WRC-23 revises the ITU Radio Regulations to support spectrum sharing and technological innovation: Updated treaty allocates new spectrum for broadband connectivity, safety of life, space and Earth observation.  [Press Release](https://www.itu.int/en/mediacentre/Pages/PR-2023-12-01-IMT-2030-for-6G-mobile-technologies.aspx): ITU advances the development of IMT-2030 for 6G mobile technologies: Sixth generation radio interface technologies to be approved by the end of the decade.  [WRC-23 Opening Press Release](https://www.itu.int/en/mediacentre/Pages/PR-2023-11-20-WRC23-opening-ceremony.aspx): ITU WRC-23 addresses future of space-, sea- and land-based radiocommunications: WRC-23 to update Radio Regulations and allocate scarce radio-frequency spectrum.  [RA-23 Closing Press Release](https://www.itu.int/en/mediacentre/Pages/PR-2023-11-17-RA23-closing-ceremony.aspx): ITU Radiocommunication Assembly sets agenda for development of IMT-2030 for 6G and sustainable use of spectrum and orbital resources.  Media Advisory: Media registration open for ITU WRC-23 and RA-23 |

**Press and Media:**

|  |
| --- |
| **Registration:** Media accreditation for WRC-23/RA-23 was issued for 34 reporters.  **Media inquiries:** ITU received and considered 18 media inquiries related to WRC-23, RA-23 or general radiocommunication topics in the context of RA-23/WRC-23.  **Media communications:** ITU issued eight (8) press products related to WRC-23/RA-23 (releases/media advisories/coverage notes). |

**Audiovisual:**Following are the Audiovisual statistics for quantity and views (to date) for RA/WRC-23 content posted on ITU YouTube, Flickr and Soundcloud:

**YouTube**

|  |  |  |  |
| --- | --- | --- | --- |
| RA-23 Videos: **15** | RA-23 Plays: **4791** | WRC-23 Videos: **61** | WRC-23 Plays: **16,414** |

**SoundCloud**

|  |  |  |  |
| --- | --- | --- | --- |
| RA-23 Tracks: **7** | RA-23 Plays: **183** | WRC-23 Tracks: **56** | WRC-23 Plays: **828** |

**Flickr**

|  |  |  |  |
| --- | --- | --- | --- |
| RA-23 Photos: **503** | RA-23 Views: **528,150** | WRC-23 Photos: **1994** | WRC-23 Views:  **11,964,400** |

Note: Some videos were independently posted on ITU Social Media channels, but statistics for these are unavailable.

**WRC-19/WRC-23 audio-visual stats for comparison:**

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The Bureau actively engaged in various United Nations International Days relevant to its work. These include World Radio Day, International Day of Women and Girls in Science, International Women’s Day, World Meteorological Day, International Day of Human Space flight, World Telecommunication and Information Society Day, World Oceans Day, World Maritime Day, International Moon Day, World Space Week, World Television Day, World Standards Day and International Civil Aviation Day. The BR communications team, in close collaboration with focal points, drafted articles and blogs which were published by ITUNews HUB and UN News.

#### 8.6.2.1 FAQs, Media Backgrounders & ITU News magazine, blogs and articles

In 2023, the Bureau in collaboration with the Corporate Communications Dept regularly published on the BR website and via the ITU Hub and WRC-23 Newsroom, the media backgrounders, special editions of ITU News magazines, articles, and blogs, with ongoing updates to resources like FAQs.

Five special editions of the ITU News Magazine for WRC-23 were issued in preparations for the conference:

* [Science services Magazine No. 5, 2023](https://www.itu.int/hub/publication/s-gen-news-2023-5/)
* [Satellite services Magazine No. 4, 2023](https://www.itu.int/hub/publication/s-gen-news-2023-4/)
* [Land, sea and airwaves Magazine No. 3, 2023](https://www.itu.int/hub/publication/s-gen-news-2023-3/)
* [The future of Coordinated Universal Time Magazine No. 2, 2023](https://www.itu.int/hub/publication/s-gen-news-2023-2/)
* [Countdown to WRC-23 Magazine No. 1, 2023](https://www.itu.int/hub/publication/s-gen-news-2023-1/)

Existing FAQs were reviewed to make them relevant for the conference:

* [ITU-R FAQ on Universal Time Scale (UTC) – Leap Second](https://www.itu.int/en/ITU-R/Documents/ITU-R-FAQ-UTC.pdf)
* [ITU-R FAQ on International Mobile Telecommunications (IMT)](https://www.itu.int/en/ITU-R/Documents/ITU-R-FAQ-IMT.pdf)
* [ITU-R FAQ on the Digital Dividend and the Digital Switchover (DSO)](https://www.itu.int/en/ITU-R/Documents/ITU-R-FAQ-DD-DSO.pdf)
* [ITU-R FAQ on Radio Regulations](https://www.itu.int/en/ITU-R/terrestrial/Pages/by-categories-faq.aspx?maincategorizedby=1)

Media Backgrounders were updated as required:

* ​[5G - Fifth Generation of Mobile Technologies (IMT-2020 and beyond)](https://www.itu.int/en/mediacentre/backgrounders/Pages/5G-fifth-generation-of-mobile-technologies.aspx)
* [High-Altitude Platform Systems (HAPS)](https://www.itu.int/en/mediacentre/backgrounders/Pages/High-altitude-platform-systems.aspx)
* [ITU Study Groups](https://www.itu.int/en/mediacentre/backgrounders/Pages/itu-study-groups.aspx)
* [ITU-R: Managing the radio-frequency spectrum for the world](https://www.itu.int/en/mediacentre/backgrounders/Pages/itu-r-managing-the-radio-frequency-spectrum-for-the-world.aspx)
* [Radiocommunications for keeping ships and people safe at sea​](https://www.itu.int/en/mediacentre/backgrounders/Pages/Radiocommunications-for-keeping-ships-and-people-safe-at-sea.aspx)​
* [Satellite issues: Earth stations in motion (ESIM)](https://www.itu.int/en/mediacentre/backgrounders/Pages/Earth-stations-in-motion-satellite-issues.aspx)
* [Satellite issues: Non-GSO FSS satellite systems](https://www.itu.int/en/mediacentre/backgrounders/Pages/Non-geostationary-satellite-systems.aspx)
* [Satellite issues: Small SATS: Nano and Pico - short duration missions​​](https://www.itu.int/en/mediacentre/backgrounders/Pages/non-GSO-satellite-systems-with-short-duration-missions.aspx)
* [Regulation of Satellite Systems​](https://www.itu.int/en/mediacentre/backgrounders/Pages/Regulation-of-Satellite-Systems.aspx)

In 2023, the Radiocommunication Bureau addressed 77 media queries from specialized technical magazines and media, promptly providing the requested information and fostering positive relationships with the outlets.

Outreach activities for following ITU-R events included the use of Press Releases, Member Communiques, ITUNews blogs, Videos, Event Branding, and Social Media posts.

* Conference Preparatory Meeting (CPM23‐2) - 27 March‐6 April
* Future Radio Exhibition‐held concurrently with CPM23‐2
* Joint ITU‐R Study Group 6 and EBU Workshop on Broadcasting in Times of Crisis -March 9
* ITU Regional Radiocommunication Seminar for Americas - 8‐12 May
* World Telecommunication and Information Society Day - 17 May
* ITU Regional Radiocommunication Seminar for Africa -2 0‐23 June
* ITU Radiocommunication Assembly (RA‐23) -13‐17 November
* World Radiocommunication Conference (WRC-23) - 20 November‐15 December

International Days related to ITU‐R Activities:

* World Radio Day Feb 13
* World Meteorological Day March 23
* World Amateur Radio Day April 18
* International Moon Day July 20
* World Television Day Nov 21

Other promotional activities related to ITU‐R activities:

* Promotion of New ITU-R Recommendation on the IMT‐2030 framework
* Award of Engineering Science and Technology Emmy Award to ITU‐R Study Group 6
* Promotion of handbook on Small Satellites
* Press release on the publication of recommendation on IMT‐2030 for 6G Mobile Technologies

The Radiocommunication Bureau Director regularly contributed to ITUNews articles, blogs, and podcasts featured in the [BR Director’s corner](https://www.itu.int/en/ITU-R/Director/Pages/default.aspx).

**8.6.2.2** **Branding communications, Sales and Marketing**

In 2023, branding and communication efforts focused on utilizing the new ITU News Hub platform in collaboration with ITU Sales and Marketing to e-promote specific ITU-R publications, databases, and software, featuring specially crafted visual identities for outreach for the following:

* 1st and 3rd ITU Inter-regional Workshop on WRC-23 Preparation
* Future Radio exhibition
* Conference Preparatory Meeting 23-2 and 27-1
* Radiocommunication Assembly 2023
* World Radiocommunication Conference 2023
* BRIFIC 3000th issue
* Emmy Award for HDR-TV (High Dynamic Range TV)
* [Radio Regulation Navigation Tools](https://www.itu.int/hub/2022/11/wrs-radio-regulations-software-tools/)

**8.6.2.3** **Exhibitions and demos**

An exhibition on Future Radio was organized at the CICG Espace Polyvalent during the dates and place of the CPM (Geneva). It was open to ITU members and to non-members for a fee.

A UAE host-country exhibition was organized close to the dates and place of the WRC-23 (Dubai).

#### 8.7 Gender Equity

Promoting gender equality in all spheres of today’s digital society has never been more crucial as the world embarks on the Decade of Action to achieve the 2030 Agenda for Sustainable Development. Digital technologies are crucial to the attainment of all the 17 Sustainable Development Goals and increasing the share of women with access to and using digital technologies to better their lives - and by extension improve the lives of their families and society is a development challenge we all have a stake in.

We have seen a sustained growth in the number of women attending our World Radiocommunication Conferences. Nearly 4,000 delegates from 163 Member States attended WRC-23, including 88 ministerial-level participants. Women made up 22 per cent of all WRC-23 delegates, an increase from 18 per cent at WRC-19 in 2019. This increase in level of women’s representation in the WRC-23 must be seen in light of the fact that the WRC-23 was the largest ever with 16% more delegates than WRC-19, which had set the previous record for attendance. There was a record 860 women delegates at the WRC-23, which was an 83% increase over the 467 women delegates at the WRC-19. It is clear that this progress was a result of the initiatives and hard work of the Network of Women for WRC-23 (NOW4WRC23).

### 8.7.1 RA-23 Resolution on Gender Equality

The ITU Radiocommunication Assembly ([[*RA-23*](https://www.itu.int/ra-23/)](http://RA-23)) on 15 November adopted a new [*Resolution on gender equality*](https://www.itu.int/pub/R-RES-R.72), aiming to keep strengthening, accelerating and scaling up the active involvement of women in the work and activities of the ITU Radiocommunication Sector (ITU-R).

The adoption of the gender resolution was called for by the 2019 World Radiocommunication Conference’s “Declaration on Promoting Gender Equality, Equity and Parity in the ITU Radiocommunication Sector.”

It is also the product of ITU Networks of Women – specifically NOW4WRC19 and NOW4WRC23 – that aimed to start building capacity early in the World Radiocommunication Conference (WRC) preparatory process, to encourage greater participation of women as delegates, chairs, vice-chairs, at the 2019 and 2023 conferences.

The new resolution from RA-23 – acknowledging the importance of leadership roles in driving change – says all ITU policies, work programmes, information dissemination, publications, study groups, seminars, courses, assemblies, and conferences on radiocommunications should reflect the sector’s commitment to gender equality.

This strengthened endorsement of gender equality underscores the radiocommunication sector’s recognition of the importance of diverse perspectives and the immense benefits the sector will reap from the equal participation of women and men.

The adoption of the resolution on gender equality resonates as a strong signal of our unwavering commitment to inclusivity. I believe that the work of the Radiocommunication Sector can only be advanced most effectively through the active inclusion and participation of women from around the world.

In addition to the actions calls upon the ITU-R and membership to undertake, Resolution ITU-R [72](https://www.itu.int/pub/R-RES-R.72) instructed the Director of the Radiocommunication Bureau to carry out specific actions towards its effective implementation. The RAG may wish to consider what role it can play in supporting to the BR Director in following up on the implementation of this resolution to ensure that progress towards gender equity in the ITU-R continues.

### 8.7.2 Network of Women for WRC-23 (NOW4WRC23)

NOW4WRC23 globally facilitated a mentoring program, pairing mentors and mentees engaged in ITU-R work with shared interests. Regionally, Regional NOW4WRC23 Co-Chairs led initiatives, conducting mentoring programs and workshops alongside meetings of their respective Regional Telecommunication Organizations.

### 8.7.2.1 NOW4WRC23 Events

NOW4WRC23 events were organized at the various regional preparatory meetings, at ITU Inter-Regional Workshops on WRC-23 Preparation and during WRC-23. One session was held for women delegates at WRC-23 for evaluating accomplishments, identifying lessons learned, and gathering ideas for the subsequent NOW4WRC27 initiative. As the host country, UAE offered a NOW4WRC23 networking dinner during the conference.

Additional NOW4WRC23 networking sessions were arranged during Conference Preparatory Meeting 23-2 and the 2nd ITU Inter-Regional Workshop on WRC-23 Preparation, garnering positive feedback. Regional activities were presented in these sessions.

CEPT held an Open House during the CPM23-2 and the WRC-23.

CEPT initiative at WRC-23 providing opportunities for women new to the conference, by offering insights into the roles of chairman and secretary, actively participating on stage during working group meetings (WG4B, led by Sandra Wright), and fostering a positive response in setting the stage for future women leaders in ITU-R activities, meetings and conferences.

### 8.7.2.2 NOW4WRC23 Mentoring Program

The mentoring program is crucial for aiding mentees, particularly WRC conference novices, in comprehending WRC processes, agenda items, and challenges. The shortage of mentors has been a significant issue since only 54 mentees out of 93 mentees who requested mentorship were successfully matched, resulting in varying levels of success among pairs. BR is reaching out to the Regional Organizations to nominate the NOW4WRC27 Co-Chairs and plans to relaunch the mentoring program during WRS-24 (2-6 December 2024).

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