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| **Agenda item: PL 2** | **Document C24/36-E** |
| **6 May 2024** |
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| Report by the Secretary-General | |
| ITU'S ROLE IN THE IMPLEMENTATION OF THE “SPACE2030” AGENDA: SPACE AS A DRIVER OF SUSTAINABLE DEVELOPMENT, AND ITS FOLLOW-UP AND REVIEW PROCESS | |
| **Purpose**  This contribution fulfils the reporting requirements established by Resolution 218 (Bucharest, 2022) of the Plenipotentiary Conference on the ITU’s implementation of the “Space 2030” Agenda.  **Action required by the Council**  Council is invited **to note** this report.  **Relevant link(s) with the Strategic Plan**  Spectrum use of space and terrestrial services  **Financial implications**  Within the allocated budget 2024-2025  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **References**  [*Resolution 218*](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-218-E.pdf) *(Bucharest, 2022) of the Plenipotentiary Conference Council document* [*C23/58*](https://www.itu.int/md/S23-CL-C-0058/en) | |

#### Background

#### In the “Space 2030” Agenda, developed by the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), Member States laid out a vision to enhance the use of space science and technology for the attainment of the 2030 Sustainable Development Agenda.

#### During its seventy-sixth session in October 2021, the United Nations General Assembly adopted the Space2030 Agenda: space as a driver of sustainable development with four overarching objectives:

#### Enhance space-derived economic benefits and strengthen the role of the space sector as a major driver of sustainable development;

#### Harness the potential of space to solve everyday challenges and leverage space-related innovation to improve the quality of life;

#### Improve access to space for all and ensure that all countries can benefit socioeconomically from space science and technology applications and space-based data, information and products, thereby supporting the achievement of the Sustainable Development Goals; and

#### Build partnerships and strengthen international cooperation in the peaceful uses of outer space and in the global governance of outer space activities.

#### For its implementation, the “Space 2030” Agenda calls on Member States to contribute via partnerships, tools and resources.

#### The United Nations Office for Outer Space Affairs (UNOOSA) serves as the secretariat for COPUOS, and coordinates the implementation of the “Space 2030” Agenda.

#### The 2022 ITU Plenipotentiary Conference (PP-22) recognized that ITU has an essential role in achieving its objectives. As such, PP-22 adopted Resolution 218 (Bucharest,2022) which *resolved*,

#### that ITU should support the implementation of the "Space2030" Agenda, especially the parts relevant to space services of overarching objective 3 referred to in recalling b) above, taking into account the unique role of ITU with respect to access to the radio-frequency spectrum and associated satellite orbits, consistent with Article 44 of the Constitution;

#### that the implementation of *resolves* 1 above should leverage the involvement of the ITU regional presence and pay particular attention to developing countries, least developed countries (LDCs), small island developing states (SIDS) and landlocked developing countries (LLDCs);

#### that the Radiocommunication Bureau (BR) and the Telecommunication Development Bureau (BDT) continue to assist developing countries, LDCs, SIDS and LLDCs in accessing the radio-frequency spectrum and associated satellite orbits, in particular in order to achieve the objectives of the "Space2030" Agenda.

#### Reporting on ITU Implementation of the Space 2030 Agenda

#### Resolution 218 (Bucharest, 2022) instructed the ITU Secretary-General and the Directors of the Bureaux to, *inter alia*:

#### To provide annually to the ITU Council a comprehensive report on the status of the plans governed by Appendices 30, 30A and 30B to the Radio Regulations, highlighting the situation of developing countries and any challenges related to the implementation of those plans, such as the evolution of reference situations of the various frequency assignments and allotments, including any difficulties and problems encountered by BR in the implementation of these plans and problems reported to BR by administrations; *(instructs 2)*

#### To provide annually to the Council a report on the role of ITU in the implementation of the "Space2030" Agenda; *(instructs 3)*

#### To report to the Council on sessions of the United Nations Inter-Agency Meeting on Outer Space Activities (UN-Space) and the measures being implemented in promoting synergies and avoiding duplication of efforts related to the use of space technology. *(instructs 8)*

#### The reports on each of the above matters are presented in Annexes [1](#Annex1), [2](#Annex2) and [3](#Annex3) of this contribution, respectively.

**Highlights of recent and planned ITU activities**

#### In order to foster high-level dialogues and awareness on the opportunities offered by space systems, a [session](https://www.itu.int/net4/wsis/forum/2024/Agenda/Session/491) in the WSIS+20 High Level Forum is dedicated to the use of space technologies and applications for sustainable development.

#### Similarly, a [session on space economy](https://www.itu.int/itu-d/meetings/gsr-24/programme/schedule/session-details/?sessionid=8) and a [workshop on tools for sustainable space](https://www.itu.int/itu-d/meetings/gsr-24/programme/schedule/session-details/?sessionid=21) will take place during the Global Symposium for Regulators 2024.

#### The Radiocommunication Assembly 2023 adopted the [ITU-R Resolution 74](https://www.itu.int/pub/R-RES-R.74-2023) on Activities related to the sustainable use of radio-frequency spectrum and associated satellite-orbit resources used by space services.

#### As instructed in this Resolution, a dedicated webpage "[Space Sustainability Gateway](https://www.itu.int/space-sustainability/)” has been developed and made publicly available.

#### In parallel, [Circular Letter CA/272](https://www.itu.int/md/R00-CA-CIR-0272/en) has been released to invite all the ITU membership to provide relevant information aimed at populating the Space Sustainability Gateway. The first replies have been received and published. The ITU membership is invited to continue to provide relevant information on this topic.

#### A Forum to take stock on the first replies to this Circular Letter is scheduled on 10 and 11 September 2024.

#### *Annexes: 3*

Annex 1

Status of the Plans governed by Appendices 30, 30A and 30B to the Radio Regulations

#### Introduction

Resolution 218 “*ITU's role in the implementation of the ''Space2030'' Agenda: space as a driver of sustainable development, and its follow-up and review process*” instructs the Secretary-General and the Directors of the Bureaux “to provide annually to the ITU Council a comprehensive report on the status of the plans governed by Appendices **30**, **30A** and **30B** to the Radio Regulations, highlighting the situation of developing countries and any challenges related to the implementation of those plans, such as the evolution of reference situations of the various frequency assignments and allotments, including any difficulties and problems encountered by BR in the implementation of these plans and problems reported to BR by administrations” (see *instructs 2*).

This report summarizes the status of the Space Plans as of the end of February 2024 and provides information on other related issues. It is divided into two parts: Part I reports on the broadcasting-satellite service and associated feeder-link Plans in Appendices **30** and **30A.** Part II reports on the status of the fixed-satellite service Plan in Appendix **30B**.

## Part I – Broadcasting-satellite service and associated feeder-link Plans in Appendices 30 and 30A of the Radio Regulations

### 1. Status of the Plans governed by Appendices 30 and 30A in Regions 1 and 3

### Overview

The Plan of Appendix **30** in Regions 1 and 3 is a Plan for the Broadcasting-satellite service (BSS) in the frequency bands 11.7 -12.2 GHz in Region 3 and 11.7-12.5 GHz in Region 1. The Plan of Appendix **30A** in Regions 1 and 3 is a Plan for BSS feeder-links in the frequency bands 17.3 -18.1 GHz in Regions 1 and 3 and 14.5-14.8 GHz for countries outside Europe.

WRC-2000 successfully completed a replanning of the Appendices **30** and **30A** Plans in Regions 1 and 3. Since then, more and more assignments for additional uses have entered the Lists of these Appendices by relying on increased application of “implicit agreement”. As a result, the reference situations (EPM – Equivalent Protection Margin) of most Regions 1 & 3 Plan assignments have been degrading over time.

WRC-19 adopted Resolution **559 (WRC-19)** to provide some Administrations of Regions 1 and 3 with the possibility to submit new frequency assignments to replace their degraded national frequency assignments in the Appendices **30** and **30A** Plans. A total of 45 eligible Administrations sent their requests under Resolution **559 (WRC-19)** and 41 Administrations have successfully entered their new assignments in the Lists of Appendices **30** and **30A** andsubsequently submitted their requests for inclusion in the Plans to WRC-23.

WRC-23 acceded to the requests of the above-mentioned 41 Administrations. As a result, the corresponding 40 degraded national frequency assignments in the Plans of Appendices **30** and **30A** have been replaced with frequency assignments stemming from the application of Resolution **559** with improved reference situations. The Administration of South Sudan has also obtained its new entry in the Plans of Appendices **30** and **30A**.

WRC-23 also modified Appendices **30** and **30A** provisions in Regions 1 and 3 so that any degradation to the reference situation of Regions 1 & 3 Plan assignments beyond the allowable tolerance shall be subject to an explicit agreement from the potentially affected administrations.

**1.2. Reference situation of the planned national assignments**

Tables 1 and 2 below indicate the changes in the reference situation of the Regions 1 and 3 Plan assignments as established by WRC-2000 and at the time of BR IFIC 3015 of 20 February 2024. The 41 new Regions 1 & 3 Plan assignments described in section 1.1 above are also included in these Tables (see Notes 1 and 2). The changes are reflected in the range of the minimum and maximum values of EPM per Administration.

Table 1

Change in EPM values for assignments in the Regions 1 and 3 BSS Plan (downlink)

[**See Table 1 here**](https://www.itu.int/en/council/Documents/2024/036e-Table1.pdf)

Note 1: WRC-2000 Plan assignments have been replaced with assignments stemming from the application of Resolution **559 (WRC-19)** in accordance with decisions of WRC-23.

Note 2: The Administration of South Sudan as a new ITU Member State obtained its assignments in the Appendices **30** and **30A** Plans in the framework of Resolution **559 (WRC-19)**.

Table 2

Change in EPM values for assignments in the Regions 1 and 3 BSS feeder-link Plan

**[See Table 2 here](https://www.itu.int/en/council/Documents/2024/036e-Table2.pdf)**

Note 1: WRC-2000 Plan assignments have been replaced with assignments stemming from the application of Resolution **559 (WRC-19)** at WRC-23.

Note 2: The Administration of South Sudan as a new ITU Member State obtained a new entry at WRC-23 in the framework of Resolution **559 (WRC-19)**.

**1.3. Implementation of Resolution 559 (WRC-19)**

As mentioned in section 1.1 above, 41 out of the 45 eligible Administrations have successfully applied Resolution **559 (WRC-19)** and obtained new Regions 1 & 3 Plan assignments at WRC-23. Table 3 below indicates the maximum and minimum EPM values of the 4 remaining requests submitted under Resolution **559 (WRC-19)**. The Radiocommunication Bureau continues to assist these Administrations so that they can obtain new Regions 1 & 3 Plan assignments at WRC-27.

Table 3

Range of EPM values of the 4 remaining requests   
submitted under Resolution **559 (WRC-19)**

| **Administration** | **Orbital Position (⁰E)** | **Down-link** | | **Feeder-link** | |
| --- | --- | --- | --- | --- | --- |
| **Minimum**  **EPM (dB)** | **Maximum**  **EPM(dB)** | **Minimum**  **EPM (dB)** | **Maximum**  **EPM(dB)** |
| AFG | 10 | 3.706 | 7.389 | 0.094 | 5.01 |
| GNE | -42 | 1.188 | 6.783 | 13.794 | 18.476 |
| MLT | -37.5 | 2.798 | 4.39 | 5.221 | 5.583 |
| SEY | 45.2 | -6.055 | 0.639 | 20.717 | 22.543 |

**1.4. Summary of the situation in Regions 1 and 3 Lists of additional uses**

Additional uses in Regions 1 and 3 in Appendices **30** and **30A** are:

* use of assignments with characteristics different from those appearing in the Plans and which are capable of causing more interference than the corresponding entries in the Plans;
* use of assignments in addition to those appearing in the Plans.

Various Administrations have applied Article 4 procedures of Appendices **30** and **30A** for additional uses in Regions 1 and 3. Tables 4 and 5 below summarize the number of networks for additional uses that have been included in the Lists of Appendices **30** and **30A** as of 20 February 2024 (BR IFIC 3015).

Table 4

Number of networks of additional uses included in the List of Appendix **30**

| **Administration**  **(Organization)** | **Number of networks** | **Administration**  **(Organization)** | **Number of networks** |
| --- | --- | --- | --- |
| ALG | 1 | ISR | 1 |
| ARS/ARB | 5 | J | 9 |
| AUS | 1 | KOR | 2 |
| BUL | 2 | LUX | 14 |
| CHN | 6 | MCO | 3 |
| CYP | 1 | MLA | 1 |
| D | 1 | NOR | 4 |
| E | 4 | PAK | 1 |
| EGY | 3 | PNG | 9 |
| F | 5 | RUS | 5 |
| F/EUT | 8 | RUS/IK | 4 |
| G | 6 | S | 6 |
| GRC | 1 | TUR | 2 |
| HOL | 9 | UAE | 5 |
| I | 1 | USA | 3 |
| IRN | 1 |  |  |

Table 5

Number of networks of additional uses included in the List of Appendix **30A**

| **Administration**  **(Organization)** | **Number of networks** | **Administration**  **(Organization)** | **Number of networks** |
| --- | --- | --- | --- |
| ALG | 1 | I | 1 |
| ARS/ARB | 7 | IRN | 1 |
| AUS | 1 | J | 7 |
| BUL | 1 | KOR | 2 |
| CHN | 3 | LUX | 12 |
| CYP | 1 | MCO | 3 |
| D | 1 | MLA | 1 |
| E | 3 | NOR | 3 |
| EGY | 3 | PNG | 4 |
| F | 5 | RUS | 4 |
| F/EUT | 8 | RUS/IK | 4 |
| G | 1 | S | 4 |
| GRC | 1 | TUR | 2 |
| HOL | 9 | UAE | 5 |

**1.5. Administrations not having national assignments in the Plans**

In Regions 1 and 3, only the Administration of Montenegro (MNE) does not have assignments in the Appendices **30** and **30A** Plans.

If the Administration of Montenegro requests for assignments in the Plans, the Bureau would advise it to apply the procedure of Article 4 of Appendices **30** and **30A** to obtain new frequency assignments in the Lists of additional uses over its national territory. Subsequently, the Administration of Montenegro can apply § 4.1.26 of Article 4 to request the following Conference to include its assignments in the Appendices **30** and **30A** Plans. In accordance with the decision of WRC-23, the Administration of Montenegro can apply all measures endorsed by WRC-23 relating to Resolution **559 (WRC-19)** to its request for new Regions 1 & 3 Plan assignments.

**2. Status of the plans governed by Appendices 30 and 30A in Region 2**

**2.1. Overview**

The Plan of Appendix **30** in Region 2 is a Plan for the BSS (downlink) in the frequency band 12.2 – 12.7 GHz in Region 2, together with modifications resulting from the successful application of the procedures of Article 4 of that Appendix. The Plan of Appendix **30A** in Region 2 is a Plan for BSS feeder-links in the frequency band 17.3 – 17.8 GHz in Region 2.

### The Plans in Region 2 do not use the concepts of additional use and List. However, Region 2 Administrations can apply the procedures of Article 4 of Appendices 30 and 30A to include a new assignment in the Region 2 Plans even at different orbital positions and/or with wider coverage and service areas than the national territory of the requesting administration.

### All Region 2 Administrations have at least one entry in the Region 2 Plans.

### The reference situation of an assignment in the Region 2 Plans is represented by the OEPM (Overall Equivalent Protection Margin), which combines EPM values in both downlink and feeder uplink.

**2.2. Reference situation of the planned national assignments**

### Table 6 below indicates the reference situation, in terms of the minimum and maximum values of OEPM, of the Region 2 Plans assignments based on the data in BR IFIC 3015 of 20 February 2024.

Table 6

Reference situation for assignments in the Region 2 Plans

[**See Table 6 here**](https://www.itu.int/en/council/Documents/2024/036e-Table6.pdf)

##### Part II - Plan for the fixed-satellite service in Appendix 30B

**1. Overview**

The fixed-satellite service (FSS) Plan in Appendix **30B** is an allotment Plan. It was adopted by the World Administrative Radio Conference 1988 (WARC Orb-88) in the frequency bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space), 10.70-10.95 GHz (space-to-Earth), 11.20-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space).

Each national allotment in the Plan comprises:

a nominal orbital position,

a bandwidth of 800 MHz (uplink and downlink),

a service area limited to the national territory of an administration.

World Radiocommunication Conference 2007 (WRC-07) made major modifications to the procedures and updated some technical criteria of Appendix 30B.

World Radiocommunication Conference 2019 (WRC-19) made some further modifications to the regulatory provisions and technical criteria of Appendix **30B** and introduced Resolution **170** with a view to enhancing the equitable access to these frequency bands.

WRC-23 introduced significant changes to the concept of implicit agreement in order to ensure more protection to the reference situation of allotments in Appendix **30B** Plan. In addition, WRC-23 approved Resolution **126** **(WRC-23)** which provides the possibility for administrations to restore degraded reference situations of their allotments.

**2. Reference situation of the planned national allotments**

The reference situation of the national allotments in the Plan of Appendix **30B** is represented by the aggregate C/I value at each test point.

Tables 7 and 8 below show the reference situation of the national allotments as in BR IFIC 3015 of 20 February 2024. As the reference situation values of most allotments are not degraded much compared with the 21 dB criterion set forth in Appendix 30B, only the minimum aggregate C/I value is shown for each allotment.

Table 7

Reference situation of the national allotments in the FSS Plan

(4 500-4 800 MHz and 6 725-7 025 MHz bands)

[**See Table 7 here**](https://www.itu.int/en/council/Documents/2024/036e-Table7.pdf)

Note 1: The degradation is due to the application of an implicit agreement.

Note 2: This allotment has been converted into assignments.

Note 3: The degradation is due to the explicit acceptance of interference from the network(s) of other Administration(s) as a result of mutual agreement.

Note 4: WRC-23 approved the entry into the Plan of this new allotment and the corresponding Special Section will be published in March 2024.

Table 8

Reference situation of the national allotments in the FSS Plan  
(10.70-10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz bands)

[**See Table 8 here**](https://www.itu.int/en/council/Documents/2024/036e-Table8.pdf)

Note 1: The degradation is due to the application of an implicit agreement.

Note 2: This allotment has been converted into assignments.

Note 3: The degradation is due to interference caused by the Administration’s own network(s), or due to the explicit acceptance of interference from the network(s) of other Administration(s) as a result of mutual agreement.

Note 4: WRC-23 approved the entry into the Plan of this new allotment and the corresponding Special Section will be published in March 2024.

**3. Summary of the situation of additional systems in the List**

Table 9 below summarizes the number of networks in the List of Appendix **30B**. They are stemming from the conversion of an allotment, “existing” systems (see Resolution **148 (Rev.WRC-15)**) or additional systems. The numbers are based on the data of BR IFIC 3015 of 20 February 2024.

Table 9

Number of networks included in the List of Appendix **30B**

[**See Table 9 here**](https://www.itu.int/en/council/Documents/2024/036e-Table9.pdf)

**4. Administrations not having a national allotment in the Plan**

A number of Administrations do not have an allotment in the Appendix 30B Plan or assignments in the List, essentially because they joined the Union after 1988. Article 7 of Appendix **30B** provides ways for those new Member States to request for national allotments. WRC-23 approved specific measures to facilitate a new ITU Member State to overcome difficulties in application of that Article in order to obtain a national allotment.

In accordance with the decisions of WRC-23, nine (9) new ITU Member States, i.e. Bosnia and Herzegovina, Croatia (Republic of), Georgia, North Macedonia (Republic of), Moldova (Republic of), Montenegro, Serbia, Slovenia and South Soudan (Republic of) obtained their national allotments in the Appendix **30B** Plan.

At the time of writing this report, there are seven (7) Administrations, which do not have an allotment in the Appendix **30B** Plan: Eritrea, Estonia, Latvia, Saint Lucia, Tajikistan, Timor-Leste (Dem. Rep. of), and Turkmenistan. Furthermore, the State of Palestine[[1]](#footnote-2) does not have an allotment in the Appendix **30B** Plan whereas it has planned frequency assignments in the Appendices **30** and **30A** Plans. Following the advice of the Radio Regulations Board, WRC-23 instructed the Bureau to contact these seven administrations and the State of Palestine with a view to identifying orbital resources, should they wish to initiate the process under Article 7 of Appendix **30B**.

**5. Difficulties to operate a modern FSS system with the parameters of** **Appendi**x **30B**

In spite of the fact that WRC-07 revised the basic technical characteristics of the FSS Plan allotments based on the technology then available, some of these technical parameters have become obsolete.

In particular, the Plan assumes that earth stations with an antenna diameter of 5.5 m in the 6/4 GHz bands and of 2.7 m in the 12-13/10-11 GHz bands would be used. Such large antennas are not corresponding to the widely used VSAT stations and could not meet the demand for many emerging satellite applications.

Annex 2

Role of ITU in the implementation of the “Space2030” Agenda

**1. Introduction**

The [**“Space2030” Agenda**](https://www.unoosa.org/oosa/oosadoc/data/resolutions/2021/general_assembly_76th_session/ares763.html) is a “forward-looking strategy for reaffirming and strengthening the contribution of space activities and space tools to the achievement of global agendas[[2]](#footnote-3), addressing long-term sustainable development concerns of humankind.” (see § 6 of the Agenda).

The “Space2030” Agenda comprises a set of objectives and actions that UN Member States have agreed to pursue.

The implementation of the “Space2030” Agenda by Member States is facilitated by the establishment of partnerships as well as support from a number of international and regional mechanisms, programmes, projects and platforms described in section II of Part B of the Agenda. ITU is cooperating with, or contributing to, a number of these entities or programmes as described in the Council document on the collaboration with the United Nations system (see Document [C24/55](https://www.itu.int/md/S24-CL-C-0055/en)).

**2. Structure of the “Space2030” Agenda**

The four overarching objectives of the Agenda are “structured around the four pillars of space economy, space society, space accessibility and space diplomacy. Those four pillars are complementary and mutually reinforcing.” (see § 19 of the Agenda):

* Overarching objective 1: Enhance space-derived economic benefits and strengthen the role of the space sector as a major driver of sustainable development (this part contains 8 specific objectives).
* Overarching objective 2: Harness the potential of space to solve everyday challenges and leverage space-related innovation to improve the quality of life (this part contains 8 objectives).
* Overarching objective 3: Improve access to space for all and ensure that all countries can benefit socioeconomically from space science and technology applications and space-based data, information and products, thereby supporting the achievement of the Sustainable Development Goals (this part contains 10 objectives and is highlighted in *resolves* 1 of Resolution 218 (Bucharest, 2022)).
* Overarching objective 4: Build partnerships and strengthen international cooperation in the peaceful uses of outer space and in the global governance of outer space activities (this part contains 10 objectives and is mentioned in *recalling c)* of Resolution 218 (Bucharest, 2022)).

**3. Contribution of ITU Thematic Priorities in the Implementation of the “Space2030” Agenda**

The ITU activities related to space are supporting most of the 36 objectives of the “Space2030” Agenda through the five thematic priorities described in section 2.6 of Annex 1 to the Strategic Plan for the Union for 2024-2027 contained in Resolution 71 (Rev. Bucharest, 2022).

**3.1 Thematic Priority 1 – Spectrum use for space and terrestrial services**

In the context of space services, this thematic priority aims at improving the use of the spectrum/orbit resources by radiocommunication services, while coordinating efforts to prevent and resolve harmful interference between space and earth stations of ITU Member States, therefore ensuring an interference-controlled environment for operating space systems reliant on the use of radio frequencies.

In 2023, under this thematic priority, most actions were related to “Space2030” agenda objectives 1.5 “Enable space activities for all, based on international law, by promoting an international framework that facilitates equal access to space for all, including non-spacefaring nations, and encourages safety and innovation” and 3.6 “Promote and support the use of space technologies to enhance worldwide access to data and broadband technologies, giving special attention to developing countries and areas with less-developed infrastructure”:

* In addition to the implementation of Resolution 559 **(WRC-19)** and the assistance to seven Member States to obtain their own allotments in the FSS Plan (see Annex 1), WRC-23 modified Article 7 of Appendix **30B**, in order to facilitate the obtention of allotments by new Member States in the future.
* ITU assisted a number of Member States to complete the regulatory process of coordination and notification of satellite networks in non-planned services so that they can successfully start operations.
* ITU assisted Administrations and Satellite Operators to resolve cases of harmful interference that were preventing normal operations.
* For non-planned services, a large number of Administrations have submitted satellite filings: at the time of writing this report, 116 out of the 193 ITU Member States have submitted satellite notices to the ITU. In 2023, a record number of Advanced Publication of Information (464 in total) was received from 48 Administrations, 248 coordination requests were received from 38 Administrations and 129 notifications were received from 32 Administrations. Across the various procedures, satellite notices were received from a total of 60 Administrations in 2023.
* To meet the growing needs of the industry, ITU-R developed a [Handbook on small satellites](https://www.itu.int/pub/R-HDB-65-2023). This handbook is made available to all for free download from the ITU website.

In relation with “Space2030”agenda objective 3.3 “Promote exploration beyond low Earth orbit, as the scientific, technological, economic and inspirational contributions of those missions will benefit humanity”, WRC-23 decided to put on the agenda of WRC-27 the consideration of studies on frequency-related matters, including possible new or modified space research service (space-to-space) allocations, for future development of communications on the lunar surface and between lunar orbit and the lunar surface, in accordance with Resolution **680 (WRC-23)**.

In relation with “Space2030”agenda objective 3.8 “Increase awareness of the risks of adverse space weather and mitigate those risks, in order to ensure increased global resilience against space weather effects, and improve the international coordination of space weather-related activities, including outreach, communication and capacity-building, as well as the establishment of an international mechanism to promote increased high-level coordination in relation to space weather and increased global resilience against space weather effects”, WRC-23 introduced a definition of space weather in the Radio Regulations and adopted Resolution **675 (WRC-23)** on the importance of meteorological aids service (space weather) applications and decided to task WRC-27 to consider regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies, in accordance with Resolution **682 (WRC-23)**.

In relation with “Space2030” agenda objective 4.5 “Ensure the long-term sustainability of outer space activities and the preservation of the outer space environment for peaceful uses, including through the implementation on a voluntary basis of the adopted preamble and the guidelines for the long-term sustainability of outer space activities and the sharing of experiences in implementing the guidelines, and address new challenges, risks and threats posed to the long-term sustainability of outer space activities”, the 2023 Radiocommunication Assembly adopted [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”. ITU also organized a space roundtable in Dubai in December 2023 with the participation of leaders from Space Agencies, Satellite Operators, UNOOSA, the World Meteorological Organization (WMO), Academia and other stakeholders to address the challenges faced by the space community and propose solutions in line with the “Space2030” Agenda.

**3.2 Thematic Priority 2 – International telecommunication numbering resources**

This thematic priority is supporting the access of satellite communication systems, that are inherently international, to the indispensable international telecommunication numbering resources, on which they rely to deliver international communication services.

Beyond geostationary satellites, there has been an expansion in numbering assignments to services offered via Low Earth Orbit (LEO) Satellites in recent years. Access to satellite connectivity is instrumental in enabling communication services in maritime and aerial domains, as well as remote and geographically dispersed areas not covered by land mobile networks. This ensures that these domains and areas remain connected, underscoring the vital importance of numbering resources in the seamless delivery of international telecommunication services across diverse platforms and environments.

**3.3 Thematic Priority 3 – Inclusive and secure telecommunication/ICT infrastructure and services**

In the context of the Agenda, this thematic priority aims at providing enhanced connectivity and access for all to fixed and mobile broadband services through the use of satellite communication systems when they are best suited to deliver such services in an inclusive, secure and resilient manner.

The convergence of terrestrial fixed and mobile networks and satellite systems raises the need to consider various requirements for user equipment, network capabilities, and applications. These are a necessary step towards providing full access to enhanced connectivity and innovative use cases and services.

ITU is particularly involved in the UN Initiative on [Early Warnings for All (EW4All),](http://earlywarningsforall.org/) and in line with PP Resolution 136 ([Rev. Bucharest, 2022](https://www.itu.int/en/council/Documents/basic-texts-2023/RES-136-E.pdf)[[3]](#footnote-4)) and WTDC Resolution 34 ([Rev. Kigali, 2022](https://www.itu.int/dms_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-E.pdf)[[4]](#footnote-5)), has increased its support to countries in implementing early warning systems (EWS). Launched 2022, and spearheaded by WMO and the United Nations Office for Disaster Risk Reduction (UNDRR), this new climate adaptation initiative, stipulates that by 2027, every person in the world should be protected by an early warning system. ITU is leading the “[Warning Dissemination and Communication](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/Early-Warnings-for-All-Initiative.aspx)" pillar (3) of the EW4All initiative to look at last-mile connectivity and to ensure that warnings reach the people at risk in time to take action.

To achieve this critical climate adaptation initiative, ITU promotes a multi-channel approach to ensure that countries employ a wide range of communication channels and both traditional and cutting-edge technologies to disseminate alerts, including radio and television, mobile networks and satellites. To leverage the great spread of mobile networks, services and handsets but also advances in emerging alerting services via satellite systems, ITU is working closely with ITU’s public and private sector members, including the mobile and satellite industry, as well as academia and civil society, to build on existing solutions and explore innovative approaches to bridge the last mile. ITU also promotes the use of the common alerting protocol (CAP) to ensure that warning messages are sent in a harmonized format, and can be understood by populations at risk, and actionable.

During COP28, [commitments from the mobile and satellite industries](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/Events/2023/COP-28-EW4All.aspx) were featured. GSMA and Mobile Network Operators, including VEON, KDDI, Globe, Safaricom, Telefonica, MTN, and Axiata Group, have launched the call to action to deploy cell broadcast and location-based SMS, leveraging digital connectivity to ensure everyone is protected. The Global Satellite Operators Association (GSOA) and its partners have committed to enhancing direct-to-handset services and overcoming challenges through cross-sector collaboration, including engaging with device manufacturers.

The ITU work for this initiative is related to “Space2030” agenda objectives 2.3 “Strengthen the use of integrated space applications to facilitate the observation of the climate and the assessment of disaster risks, improve early warning disaster systems and provide data for the indicators used to track progress in the implementation of the 2030 Agenda for Sustainable Development, the Sendai Framework and commitments by States parties to the Paris Agreement” and 2.5 “Promote the use of space-based technologies in all phases of the disaster management cycle, applicable to both natural and man-made disasters, including prevention, mitigation, preparedness, response, recovery, reconstruction and rehabilitation; monitor and assess elements such as exposure, hazards, disaster risk and damage in different regions of the world; and promote the sharing of disaster monitoring data.”

**3.4 Thematic Priority 4 – Digital applications**

Under this thematic priority, the enhanced adoption and use of telecommunication/ICT applications made possible by an increased deployment of space-based networks and services needed for such applications is planned to deliver an improved capacity for Member States to leverage innovation and entrepreneurship for sustainable development in line with the objectives set forth in the Overarching objective 1 of the Agenda.

**3.5 Thematic Priority 5 – Enabling environment**

Policy and regulatory environments designed under this thematic priority by taking into account the specificities of space technologies should ensure that the advantages of these technologies are available to Member States when relevant, thereby increasing the number of policy options for delivering universal connectivity and implementing a sustainable digital transformation.

Activities under this thematic priority are specifically related to “Space2030” agenda objectives 3.4 “Enhance capacity-building, education and training in space science and applications, in particular for developing countries” and 4.3 “Strengthen capacity-building and technical assistance, including that provided by the Office for Outer Space Affairs, for Member States, in particular in the field of international space law and policy”:

* ITU Academy continued to deliver the ITU Spectrum Management Training Programme (SMTP) in collaboration with AFRALTI, an ITU Academy Training Centre. The SMTP is a comprehensive programme, designed for Member States and Sector Members, offering high-level training in all aspects of spectrum management, featuring both basic and advanced levels covering a wide range of topics from legal frameworks to technical specializations. In 2023, 8 modules were run, attracting over 60 participants from 20 countries.
* In addition, the ITU Academy continued its collaboration with the International Telecommunications Satellite Organization (ITSO) on the course “Satellite Communications and Radio Regulation Procedures”. The course’s primary objective is to improve the knowledge of policies, regulations, licensing frameworks and technical aspects associated with the provision of satellite communications services. In 2023, the course was delivered for the Arab States and Africa regions, and attracted over 60 participants from 29 countries.
* ITU staff actively participated in various seminars and workshops, including those organized by UNOOSA and the European Space Agency (ESA), to provide capacity building to Member States in the area of ITU frequency registration procedures for small satellites.
* ITU facilitated the 2nd International Telecommunication Union (ITU) - Communications Regulators Association of Southern Africa (CRASA) workshop on Space Regulatory Frameworks and Space Economy in Luanda, Angola (presenters: BDT and BR experts, Anatel, the Regional African Satellite Communications Organization (RASCOM), Square Kilometre Array (SKA) Observatory, the International Astronomical Union (IAU) CPS, AST Space Mobile, GSOA, GGPEN, UNOOSA, the Malawi Communications Regulatory Authority (MACRA), CRASA and the Tanzania Communications Regulatory Authority (TCRA)). CRASA Member States were provided with insights into the current satellite communication market, emphasizing recent advancements and the multifaceted aspects of Low Earth Orbit satellite communication systems, engage in discussions about regulatory standards relating to spectrum allocation, coordination, and interference mitigation procedures, share and analyze case studies from various countries and companies to understand operational aspects of satellite systems and regulatory and licensing issues, foster dialogue on environmental and sustainability considerations, and encourage knowledge exchange and collaboration among CRASA Member States. Additionally, a visit to the National Space Program Management Office (GGPEN) of Angola to gain and share insights into the country's experience with launching their own satellite was organized. The following items have been discussed:
  + Satellite direct-to-device communications, an emerging technology, offers potential connectivity in remote areas.
  + Brazil's satellite communication regulations are considered best practice.
  + CRASA Members need more awareness about RASCOM's offerings and membership opportunities.
  + Discussions on non-GSO satellite service authorization, radio frequency coordination, and interference mitigation are ongoing.
  + The blanket licensing approach simplifies terminal equipment permissions.
  + Adherence to ITU regulations and UNOOSA guidelines for spectrum and orbital resources is crucial.
  + Angola emphasized building expertise before launching satellites.
  + CRASA members are keen to develop expertise in National Space Programs.
  + CRASA and ITU are planning a meeting for infrastructure mapping activities.
  + Addressing interference issues and space debris is a high priority.
* ITU delivered a Capacity-building Workshop and Technical/Regulatory Space Dialogue in Kinshasa, Democratic Republic of Congo (Presenters: BDT, MACRA, CRASA, GSOA). ITU provided an overview of the satellite communication market and recent developments, discuss significance of satellite communications systems, opportunities, and challenges in owning a satellite system, cooperation, and collaboration in the use of satellite systems, international, regional, national aspects of satellite communication regulations and principles of equitable access to, and protection of, space resources. An open discussion about regional expectations and needs with a view to designing the second, more focused workshop was also facilitated. The main issues that were discussed are the following:
  + Satellite communications regulation is an urgent topic in the region. CRASA members face challenges in satellite regulations and would like to learn more about opportunities, services, capacity building, technical, business and economic aspects in the satellite sphere.
  + Several countries are currently deploying or testing LEO satellite communications solutions.
* ITU participated to United Nations/World Health Organization International Conference on Space and Global Health in collaboration with the Government of Switzerland and Space and Global Health Network Supported by the European Space Agency and Hosted by the United Nations Conference on Trade and Development (UNCTAD) in Geneva in November 2023 and attended the Space and Global Health Network during the sixty-first session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space.

Annex 3

UN Inter-Agency Meetings on Outer Space Activities (UN-Space)

The UN Inter-Agency meetings on Outer Space Activities started in the mid-1970s before being referred to as “UN-Space” by the General Assembly resolution 68/75a of December 2013.

UN-Space is a mechanism to promote collaboration, synergy, exchange of information and coordination of plans and programmes of United Nations entities (departments, offices, funds, programmes and specialized agencies) in the implementation of activities involving the use of space technology and its applications.

The Office for Outer Space Affairs leads UN-Space and acts as its secretariat. Thirty-five United Nations entities are participating (<https://www.unoosa.org/oosa/en/ourwork/un-space/po.html>).

At its [66th session](https://www.unoosa.org/res/oosadoc/data/documents/2023/a/a7820_0_html/A_78_020E.pdf) in June 2023, the Committee on the Peaceful Uses of Outer Space (COPUOS) continued to encourage entities of the United Nations system to participate, as appropriate, in the coordination efforts of UN-Space.

The 42nd session of [UN-Space](https://www.unoosa.org/oosa/en/ourwork/un-space/iam/41st-session.html) was held on 18 October 2023 and hosted by the Service for Geospatial, Information and Telecommunications Technologies at the United Nations Global Service Centre (UNGSC) in Brindisi, Italy.

The session included updates on the latest developments in the peaceful uses of outer space, on the “Space2030” Agenda, as well as discussions on UN-Space interlinkages with the Our Common Agenda Policy Brief 7, For All Humanity - the Future of Outer Space Governance (<https://www.un.org/sites/un2.un.org/files/our-common-agenda-policy-brief-outer-space-en.pdf>).

This Policy Brief recalls the adoption of the “Space2030” Agenda, recognising the important link between outer space and the Agenda for Sustainable Development. It recommends United Nations entities to increase their collaboration, including through UN-Space, with a view to better coordinating their data-sharing, building United Nations system capacity and cooperating on the procurement of space-based information. ITU actively contributed to the development of this Policy Brief under the leadership of the Office of the UN Secretary General together with the UN Offices for Disarmament Affairs (UNODA) and for Outer Space Affairs (UNOOSA). ITU presented the 60-year engagement of the Union on space issues leading to the inclusion of numerous regulatory provisions in the ITU treaties and contributed data extracted from the Master International Frequency Register. The policy brief notably recognizes that “ITU has the institutional mechanisms in place to address the communications requirements of future space missions”.

The participants at UN-Space agreed to review its organisation, to add work tracks in the outer space sector and to include virtual meetings between sessions. The UN-Space will report to the UN Secretary-General on the coordination of space-related activities within the United Nations system. This report will be also submitted to the Committee on the Peaceful Uses of Outer Space in June 2024.

To summarise thematic activities carried out by United Nations entities, UN-Space produces, on biennial basis, [special reports](https://www.unoosa.org/oosa/en/ourwork/un-space/reports_publications.html) for submission to the COPUOS. ITU contributes to these special reports on initiatives and applications for space-related inter-agency cooperation. The last report was released in 2022 in the topic of "[Space for climate action](https://www.unoosa.org/oosa/oosadoc/data/documents/2022/aac.105/aac.1051264_0.html)”.

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1. See Resolution 99 (Rev. Antalya, 2006) of the Plenipotentiary Conference. [↑](#footnote-ref-2)
2. The 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction 2015–2030 and the Paris Agreement. [↑](#footnote-ref-3)
3. PP Resolution 136 (Rev. Bucharest, 2022): The use of telecommunications/information and communication technologies for humanitarian assistance and for monitoring and management in emergency and disaster situations, including health-related emergencies, for early warning, prevention, mitigation, and relief, available at: <https://www.itu.int/en/council/Documents/basic-texts-2023/RES-136-E.pdf> [↑](#footnote-ref-4)
4. WTDC Resolution 34 (Rev. Kigali, 2022): The role of telecommunications/information and communication technology in disaster preparedness, early warning, rescue, mitigation, relief and response, available at <https://www.itu.int/dms_pub/itu-d/opb/tdc/D-TDC-WTDC-2022-PDF-E.pdf> [↑](#footnote-ref-5)