#### **ITUE**vents

# 1<sup>st</sup> ITU Inter-regional Workshop on WRC-23 preparation

13 - 15 December 2021

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Preparation of the APT for WRC-23:

APT Conference Preparatory
Group for WRC-23 (APG-23)

Asia-Pacific Telecommunity





# Preparation of the APT for WRC-23: APT Conference Preparatory Group for WRC-23 (APG-23)

## Outline:

- ❖The Asia-Pacific Telecommunity (APT) and APT Conference Preparatory Group for WRC-23 (APG-23)
- ❖Structure of the APG-23
- \*APG-23 Meeting Schedule and Process of Developing APT Common Proposals to WRC-23
- ❖ Drafting Groups of APG-23
- ❖APT Preliminary Views on WRC-23 Agenda Items (as outcome of APG23-3)
- ❖ Preparation for RA-23
- Other necessary information

## The Asia-Pacific Telecommunity (APT)

- The Asia-Pacific Telecommunity (APT) was founded by an intergovernmental treaty, on the joint initiatives of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the International Telecommunication Union (ITU)
- APT is one of the Regional Telecommunication Organizations, as defined in the ITU Convention No. 269B
- APT has been the focal and only organization for APT Members for the preparation of major ITU conferences such as the ITU Plenipotentiary Conferences (PP), World Radiocommunication Conferences (WRC), World Telecommunication Development Conferences (WTDC), World Summit on the Information Society (WSIS), World Telecommunication Standardization Assemblies (WTSA), Radiocommunication Assembly (RA) and other associated ITU meetings
- APT has a strength of 38 Members (Administrations), 4
   Associate Members and 137 Affiliate Members

## Geographical Coverage and Membership:



## The APT Conference Preparatory Group for WRCs (APG)

 The APT Conference Preparatory Group for World Radiocommunication Conference (APG) has been developed into one of the most important activities of APT

- APG was started in 1996 with the objective of harmonizing views and developing common proposals from the Asia-Pacific region for the World Radiocommunication Conference (WRC)
- The APG process has met exemplary success in presenting the views of the Asia-Pacific region at WRCs. As a result, APG has become the regional group with highest attendance from the members in the region

#### **Key Objectives of APG:**

- Develop APT Common Proposals (ACPs) for WRCs and on matters related to ITU Radiocommunication Assemblies (RAs)
- 2. Develop APT contributions to ITU-R Conference Preparatory Meetings (CPMs)
- 3. Assist APT Member countries, especially developing countries, in their preparations for WRCs, RAs and CPMs

## APG-23: Structure and Management Team

The APT Conference Preparatory Group for WRC-23 (APG-23) was established at the 1st APG Meeting for WRC-23 (APG23-1), 24-25 September 2020

Management Team of APG-23

#### **Chairman:**

Dr. Kyu-Jin Wee (Republic of Korea) <a href="mailto:kjwee56@rapa.or.kr">kjwee56@rapa.or.kr</a>



**Vice-Chairmen:** 

Ms. Zhu Keer (P. R. of China)

zhukeer@miit.gov.cn

Mr. Muneo Abe (Japan)

<u>Abe.Muneo@cj.MitsubishiElectric.co.jp</u>



<u>Christopher.Hose@acma.gov.au</u>



kavouss.arasteh@gmail.com







Structure of Working Parties of APG-23: Same as CPM-23 Chapters

WP1

- •Fixed, Mobile and Broadcasting Issues: 1.1, 1.2, 1.3, 1.4, 1.5, 9.1(c) and RR21.5
- •Co-Chairmen: Dr. Hiroyuki Atarashi (Japan) <u>hiroyuki.atarashi.yt@nttdocomo.com</u> , Dr. Jae-Woo Lim (Rep. of Korea) <u>jwlim@korea.kr</u>

WP2

- •Aeronautical and Maritime Issues: 1.6, 1.7, 1.8, 1.9, 1.10, 1.11 and Res. 427
- •Chairman: Mr. Bui Ha Long (Viet Nam) Longbh@rfd.gov.vn

WP3

- •Science Issues: 1.12, 1.13, 1.14, 9.1 (a) & (d) and Res.655
- •Chairman: Dr. Wahyudi Hasbi (Indonesia) wahyudi.hasbi@lapan.go.id

WP4

- •Satellite Issues: 1.15, 1.16, 1.17, 1.18, 1.19 and 7
- •Co-Chairmen: Ms. Fenhong Cheng (P. R. of China), <u>chengfenhong@chinasatcom.com</u> Mr. Mrunmaya Pattanaik (India) <u>pattanaik.mr@gov.in</u>

WP5

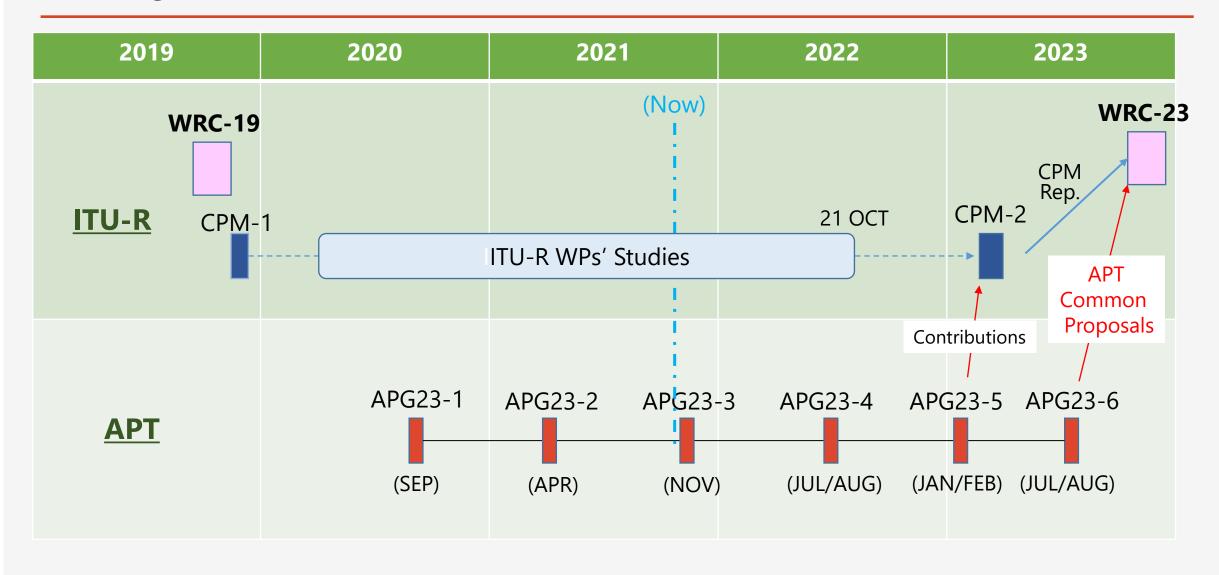
- •General Issues: 2, 4, 8, 9.1 (b), 9.2 and 10
- •Chairman: Dr. Taghi Shafiee (Islamic Rep. of Iran) shafiee@cra.ir

## Meeting Schedule of APG-23

## **Tentative Meeting Schedule and Workplan of APG-23**

Meetings	When and where	What to do
APG23-1	24-25 September 2020, Virtual	<ul> <li>Elected Chairman and Vice-Chairmen</li> <li>Established the WP Structure</li> <li>Appointed Chairmen for the WPs</li> <li>Adopted tentative workplan</li> </ul>
APG23-2	19-23 April 2021, Virtual	<ul> <li>Established Drafting Groups (DGs) and appointed Chairmen for DGs</li> <li>Developed APT Preliminary Views on WRC-23 Agenda Items</li> </ul>
APG23-3	8-13 November 2021, Virtual	<ul> <li>Review the progress of studies in ITU-R Study Groups on WRC-23 Agenda Items</li> <li>Update APT Preliminary Views</li> </ul>
APG23-4	July/August 2022	<ul> <li>Review the progress of studies in ITU-R Study Groups on WRC-23 Agenda Items</li> <li>Update APT Preliminary Views on WRC- 23 Agenda Items</li> </ul>
APG23-5	Jan/Feb 2023, Rep. of Korea	<ul> <li>Review the draft CPM Report on WRC-23 Agenda Items</li> <li>Develop the contributions of APT to CPM23-2</li> <li>Update APT Preliminary Views on WRC- 23 Agenda Items on WRC-23 Agenda Items</li> </ul>
APG23-6	July/Aug 2023	<ul> <li>Develop Preliminary APT Common Proposals (PACPs) on WRC-23 Agenda Items</li> <li>Develop PACPs for RA-23</li> </ul>

## Meeting Schedule of APG-23



## Process of Developing APT Common Proposals to WRC-23

- Six APG meetings are planned for the Preparatory Cycle for WRC-23
- The meetings develop and update **APT Preliminary Views** on WRC Agenda items based on the ITU-R studies available and input contributions from Members
- At the final APG meeting, Preliminary APT Common Proposals (PACPs) are developed
- Two Stage procedures are followed for developing APT Common Proposals (ACPs)

## Process of Developing APT Common Proposals to WRC-23

## Stage One: Adoption of PACP during the APG Meeting

- Based on the APT Preliminary Views on Agenda Items Proposals are developed by the WPs at the 6<sup>th</sup> APG meeting
- A proposal will become a **PACP** once it is adopted by the Plenary

## Stage Two: Adoption of ACP by Correspondence following the APG Meeting

- All APT Members will be asked to consider inclusion of their country name as a signatory to each **PACP**
- A **PACP** becomes **ACP** if it is
  - Supported by at least 25% of the APT Members (Administrations)
  - And not opposed by more than 50% of the number of Members who support it

- APG23-3 adopted APT Preliminary Views on WRC-23 Agenda Items
- APT PVs are available for downloading at (zip file):
   https://www.apt.int/sites/default/files/Upload-files/APG-23/APT\_PVs\_APG23-3.zip

Working Party 1: Fixed, Mobile and Broadcasting Issues

Agenda Items: 1.1, 1.2, 1.3, 1.4, 1.5, 9.1 c), RR 21.5

Co-Chairman:

Dr. Hiroyuki Atarashi (Japan) (<u>hiroyuki.atarashi.yt@nttdocomo.com</u>)

Dr. Jae Woo Lim (Rep. of Korea) (jwlim@korea.kr)





Agenda Items	DG Chairman	
1.1	Mr. Fierza Mutuahdi Pasaribu (Rep. of Indonesia)	
	Email: fier001@kominfo.go.id	
1.2	Mr. Tan Wang (People's Republic of China)	
	Email: wangtan@srrc.org.cn	
1.3	Dr. Azim Fard (Islamic Republic of Iran)	
	Email: <u>azimfard@cra.ir</u>	
1.4	Mr. Shiro Fukumoto (Japan)	
	Email: shiro.fukumoto01@g.softbank.co.jp	
1.5	Dr. Azim Fard (Islamic Republic of Iran)	
	Email: <u>azimfard@cra.ir</u>	
9.1 c)	Mr. Yongseok Seo (Republic of Korea)	
	Email: onlyys@korea.kr	
RR21.5	Mr. Dong Zhou (People's Republic of China)	
	Email: <u>zhou.dong1@zte.com.cn</u>	

#### APT Preliminary Views:

APT Members support the on-going ITU-R studies

#### Issues raised:

- Some APT Members expressed the view that the studies under this agenda item should be carried out based on the relevant provisions in the ITU and other international organizations (such as IMO, ICAO, etc.). Some APT Members indicated that consideration of the provisions in international organizations other than ITU would not be necessary for the studies under this agenda item.
- Based on the regulatory studies results, some APT Members expressed the view that there is no need for the protection of AMS and MMS stations located in international airspace and international waters. Some APT Members indicated that they did not share this view as it looked like not addressing the purpose of this agenda item which was adopted by WRC-19 to include both technical and regulatory study and expressed that the protection of the AMS and MMS stations located in international airspace and international waters should be ensured, and some other APT Members did not share this indication.

DG Chairman: Mr. Fierza Mutuahdi Pasaribu (Indonesia)



#### APT Preliminary Views:

- APT Members support the on-going sharing and compatibility studies in ITU-R in accordance with Resolution 245 (WRC-19) for the frequency bands mentioned below.
  - <u>7 025-7 125 MHz (globally):</u> APT Members support ITU-R studies to consider the identification of the frequency band 7 025 7 125 MHz to achieve global harmonized utilization of the frequency band for IMT with appropriate regulatory and technical conditions, where applicable, taking into account the results of studies to ensure the protection of services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) so that they shall in no way be adversely affected
  - 3 300-3 400 MHz (Region 2 and amend footnote in Region 1): APT Members support ITU-R studies with a view that any possible IMT identification/or action in the band 3 300-3 400 MHz in Region 1 and Region 2 shall protect the services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) in Region 3 so that these services shall in no way be adversely affected
  - <u>3 600-3 800 MHz (Region 2):</u> APT Members support ITU-R studies with a view that any possible IMT identification in the band 3 600-3 800 MHz in Region 2 shall protect the services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) in Region 3 so that these services shall in no way be adversely affected
  - <u>6 425-7 025 MHz (Region 1):</u> APT Members support ITU-R studies with a view that any possible IMT identification in the band 6 425-7 025 MHz in Region 1 shall protect the services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) in Region 3 so that these services shall in no way be adversely affected

#### APT Preliminary Views:

• 10 000-10 500 MHz (Region 2): APT Members support ITU-R studies with a view that any possible IMT identification in the band 10.0-10.5 GHz in Region 2 shall protect the services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) in Region 3 so that these services shall in no way be adversely affected

#### Issues raised:

- Some APT Members are of the view to support the ITU-R studies of the R1/R2 frequency bands, in light of benefiting from the economies of scale and global/regional harmonized IMT eco-system.
- Some APT Members are of the view that the frequency band 6 425-7 025 MHz includes ITU RR Appendix 30B as a worldwide treaty shall be protected, and there is no way that any possible IMT identification in this band in Region 1 should adversely affect Region 3 frequency allocations, including current and future relevant frequency bands' uses
- Some APT Members are of the view that due to the long border with Region 1 countries, the amendment of Radio Regulations Article 5 footnotes under the frequency band 3 300 3 400 MHz should not undermine and reduce the degree of protection and ease the conditions of the protection of these services within this frequency band

DG Chairman: Mr. Tan Wang (P. R of China)

#### APT Preliminary Views:

- APT Members support ongoing sharing and compatibility studies in the ITU-R in accordance with Resolution 246
  (WRC-19) regarding the possibility of upgrading the mobile service to a primary allocation in the band 3 600 3
  800 MHz in Region 1
- APT Members also are of the view that such upgrading shall not have any adverse effect on the allocation of the existing services and their future development in Region 3

#### Issues raised:

• Noting that Region 3 has an existing primary allocation to the mobile service in the 3 600 – 3 800 MHz frequency band, the expected action of Region 3 at WRC-23, needs to be carefully discussed at subsequent APG meetings

DG Chairman: Dr. Azim Fard (I. R of Iran)



#### APT Preliminary Views:

• APT Members support the ongoing ITU-R studies for establishing a new globally or regionally harmonised regulatory framework for HIBS with a view to providing flexibility of spectrum usage for HIBS in certain frequency bands below 2.7 GHz already identified for IMT referred to in Resolution 247 (WRC-19), while ensuring protection of the existing services, to which the frequency band is allocated on a primary basis, and adjacent bands, as appropriate, without adversely affecting in their deployment including other IMT uses, existing systems and the planned development of primary services

#### Issues Raised:

- In APG23-3 meeting, it was proposed to discuss the following issues among the ongoing ITU-R studies:
  - 1. The sensitive analysis of HIBS in altitudes lower than 20 km, and their possible regulatory consequences as per the invites 4 of the Resolution **247 (WRC-19)**;
  - 2. Some studies considered the scenario of HIBS UEs as interferers, but as the UEs for HIBS and ground-based IMT are the same, views were expressed that no additional studies are required as those bands are already identified for IMT

#### Issues Raised:

- 3. Different opinions were expressed regarding the applicability of the information in the Appendix, and thus further discussion is required at the following WP 5D meetings. It should be highlighted that WRC-23 agenda item 1.4, as per Resolution 247 (WRC-19), strictly limits the sharing and compatibility studies of frequency bands for HIBS and not for ground-based IMT. Thus, the results of the studies should not impose any constraints in any existing service, including IMT systems. As the current version of text of the Appendix in Annex 4.21 to 5D/886 may raise concerns regarding the use of ground-based IMT in these bands, the proponents are invited to review the relevance of the information contained herein, noting that currently it should be considered for informational purposes only and not intended to be included as part of the summary of studies for this agenda item
- 4. How to treat resolves 4 in Resolution **247 (WRC-19)** in terms of definition of HIBS.



DG Chairman: Mr. Shiro Fukumoto (Japan)

#### APT Preliminary Views:

• APT Members are of the view that conclusions to be reached on Agenda Item 1.5 are a Region 1 issue and WRC-23 decisions shall in no way adversely affect Region 3 frequency allocations and existing and future use of the relevant frequency band or subject to any changes to procedural or regulatory provisions

#### Issues Raised:

- There was discussion on possible action by WRC-23 on this agenda item in relation to global harmonization and economy of scale, including potential identifications of the frequency band 470-694 MHz to IMT in Region 1. There was also discussion that this issue is outside the scope of Agenda Item 1.5
- There was discussion referring to the existence of primary mobile allocation in Region 3 in the 470 694 MHz frequency band

DG Chairman: Dr. Azim Fard (I. R. of Iran)



#### APT Preliminary Views:

- APT Members support the on-going ITU-R studies in accordance with Resolution **175 (WRC-19)** under WRC-23 agenda item 9.1 topic c).
- APT Members support the modification of existing or, if required, the development of new ITU-R Recommendations, Reports and/or Handbooks as a result of these studies

#### Issues raised:

- It was indicated that regulatory methods to change the Radio Regulations should not be developed for this topic in line with the CPM report structure for agenda item 9.1
- It was also pointed out by an APT Member that on-going studies under this topic shall take into account the protection of primary services in the frequency bands allocated to the FS, and this point might need to be reflected in the APT Preliminary Views
- Some APT Members are of the view that the term "fixed wireless broadband" is understood to mean fixed wireless access supporting broadband applications using IMT technology

#### Issues raised:

• Some APT Members are of the view that the term "fixed wireless broadband" is a short form for the term "broadband fixed wireless system" defined in Recommendation <a href="ITU-R F.592">ITU-R F.592</a>, which support a range of applications such as access and core network transport

DG Chairman: Mr. Yongseok Seo (Rep. of Korea)



#### APT Preliminary Views:

- APT Members support the on-going ITU-R studies on the applicability of the limits specified in RR No. **21.5** to IMT stations using active antenna systems (AAS) and the verification of RR No. **21.5** regarding the notification of these IMT stations, in accordance with the scope mentioned in Document 550 of WRC-19 and the guidance provided by the Chairmen of ITU-R Study Group 4 and 5
- APT Members are of the view that the ITU-R studies should address the matters being raised so far and prepare solutions which provide regulatory provisions/measures for the operation of terrestrial IMT and space services and their future development in a balanced and fair manner

#### Issues raised:

- Regarding the verification of No. 21.5 for the notification of IMT stations operating in the frequency band 24.45-27.5 GHz, which
  use an antenna that consists of an array of active elements, some APT Members are of the view that the value of total radiated
  power (TRP) within a reference bandwidth should be used as an alternative measure instead of the "power delivered to the
  antenna
- It was raised during the meeting that the term "reference bandwidth" is not clear. Further study is necessary to study further the proper wording of "reference bandwidth", such as, an applicable reference bandwidth, applied as a scaling or adjustment factor/adjustment factor/bandwidth factor/correction factor
- It was also pointed out by APT Members that clear understanding of the terms of "transceiver unit" from ITU-R Report M.2334 and "transmitter" from RR No. **21.5** would help the discussion.

DG Chairman: Mr. Dong Zhou (P. R. of China)



Working Party 2: Aeronautical and Maritime Issues

Agenda Items: 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, Res 427(WRC-19)

Chairman:

Mr. Bui Ha long (Viet Nam) (Longbh@rfd.gov.vn)



Agenda Items	DG Chairman
1.6	Mr. Wei Tan (People's Republic of China) tanwei@bittt.cn
1.7	Mr. Kok Pin Puah (Singapore) puah kok pin@caas.gov.sg
1.8	Mr. Nguyen Anh Tuan (Viet Nam) tuanna3@vnpt.vn
1.9	Mr. Glenn Odlum (Australia) glennodlum@bigpond.com
1.10	Dr. Jicheng Fang (People's Republic of China) jchfang@163.com
1.11	Issue A/resolve 1 – GMDSS modernization: Mr. Yoshio Miyadera (Japan) <u>miyadera.yoshio@jrc.co.jp</u>
	Issue B/resolve 2 – eNavigation:
	Dr. Byungok Kim (Republic of Korea) kimbo60@hanmail.net
	Issue C/resolve 3 – new satellite systems:
	Ms. Xia Ge (People's Republic of China) gexia@bsnc.com.cn
Res. 427 (WRC-19)	WP 2 Chair

#### APT Preliminary Views:

- APT Members support ITU-R studies of spectrum needs for communications between stations on board suborbital vehicles and terrestrial/space stations and of appropriate modification, if any, to the Radio Regulations consistent with Resolution 772 (WRC-19)
- APT Members are of the view that when studying appropriate modification to the Radio Regulations, existing services should be properly protected, and new allocations or changes to the existing allocations in Radio Regulations Article 5 are excluded under this agenda item at WRC-23

DG Chairman: Mr. Wei Tan (P. R. of China)



#### APT Preliminary Views:

- APT Members support ITU-R studies defined in Resolution **428 (WRC-19)** for a new AMS(R)S allocation for both the Earth-to-space and space-to-Earth directions in all or part of the frequency band 117.975-137 MHz, while taking into account the protection of existing services operating in this frequency band and in adjacent frequency bands
- APT Members support the new AMS(R)S allocation that is limited to the relaying of aeronautical VHF air traffic management communications in accordance with international Standards and Recommended Practices and procedures established in accordance with the Convention on International Civil Aviation
- APT Members are of the view that unacceptable interference shall not be caused to the services to which the band is currently allocated as well as to the additional allocation of the aeronautical mobile (OR) service on a primary basis operating in the bands 132-136 MHz and 136-137 MHz

DG Chairman: Mr. Kok Pin Puah (Singapore)



#### APT Preliminary Views:

• APT Members support ongoing studies being carried out by ITU-R WP 5B in relation to Agenda Item 1.8 in accordance with Resolution **171 (WRC-19)** 

#### Issues raised:

- This agenda item is very complex and a considerable number of points need to be further discussed and clarified in the principle document.

  Consequently, the work is behind schedule and may not be completed before the final date of submission of the Draft CPM text. Consequently, activities related to the drafting of the Resolution, either as a new Resolution or a revised Resolution 155, has not been started. Moreover, no action has been taken with respect to the CPM text. In addition, technical annexes to be attached to the CPM text or to the Resolution have yet to be finalized
- This agenda item is a continuation of work from two previous WRCs (WRC-15 and WRC-19). There are considerable inconsistencies in the Resolution 155 (Rev.WRC-15) as well as Resolution 155 (Rev.WRC-19). This matter was raised at several meetings at WP 5B, in particular by ICAO. WP 5B decided to prepare a "principle document (5B/261)" indicating the objective of this agenda item. This principle document has been discussed at meetings of WP 5B as well as in the intersessional meetings between WP 5B meetings. Various elements yet to be raised at these meetings. Some progress has been made on this principle document however it has not yet been completed. Until this principle document is finalized no actual work in this agenda item could be started.

DG Chairmen: Mr. Nguyen Anh Tuan (Viet Nam)

#### APT Preliminary Views:

- APT Members APT Members support studies with a view to identify any necessary modifications to RR. Appendix 27 to accommodate wideband HF technologies for the aeronautical mobile (route) service (AM(R)S) between 2 850 and 22 000 kHz in accordance with Resolution 429 (WRC-19) with the need to avoid harmful interference to primary services in the same and adjacent bands in particular existing AM(R)S HF systems
- APT Members are of the view that there are differing wideband HF technologies and are of the view that changes to RR. Appendix 27 should allow new digital wideband HF systems taking into account technology neutrality
- APT Members are also of the view that the implementation of new wideband AM(R)S HF systems require necessary coordination through ICAO given their role in organizing HF aeronautical channel plans in flight information regions

DG Chairman: Mr. Glenn Odlum (Australia)



#### APT Preliminary Views:

- APT Members support ongoing ITU-R studies on spectrum needs, coexistence with radiocommunication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution 430 (WRC-19)
- APT Members are of the view that the protection of existing primary services in the 15.4-15.7 GHz and 22-22.21 GHz frequency bands and, as appropriate, in adjacent frequency bands should be ensured
- APT Members are also of the view that the frequency band 21.2-23.6 GHz is extensively used by terrestrial services, in particular the fixed service, to support the development of telecommunication infrastructure in many countries and crucial in developing countries, and no adverse effect on the terrestrial services allocated in this band and its future development should be ensured

DG Chairman: Dr. Jicheng Fang (P. R. of China)



#### APT Preliminary Views:

#### **Resolves 1: GMDSS Modernization**

- APT Members support ITU-R studies to progress the modernization of GMDSS, taking into consideration the
  activities of IMO, for GMDSS modernization, including introduction of NAVDAT system and revised IMO
  performance standards of GMDSS equipment
- APT Members support possible introduction of the automatic connection system (ACS) for MF and selected HF bands and international NAVDAT service for the modernization of GMDSS, while ensuring no adverse effect on the allocation of the existing services and their future development in the same and adjacent frequency bands. APT Members are of the view that introduction of new radiocommunication technologies should not adversely affect the operation of the GMDSS
- APT Members are also of the view that the modernization of GMDSS including the introduction of the automatic connection system (ACS) should be affordable and simple to operate, so that non-SOLAS/non-Convention vessels could also benefit from it.

#### APT Preliminary Views:

#### Resolves 2: E-navigation

- APT Members support ITU-R studies, taking into consideration the activities of IMO, for implementation of enavigation, while ensuring no adverse effect on the operation of the existing services and their future development in the same and adjacent frequency bands
- APT Members are also of the view that the implementation of e-navigation should be affordable and simple to operate, so that non-SOLAS/non-Convention vessels could also benefit from it

#### Resolves 3: Introduction of additional satellite systems into the GMDSS

• APT Members support the introduction of additional GSO satellite systems into the GMDSS, provided that the results of studies on sharing and compatibility with other radiocommunication services in the same and adjacent frequency bands ensure the protection of the services in the frequency bands under consideration by this agenda item

#### DG Chairmen:

Resolve 1: Mr. Yoshio Miyadera (Japan)
Resolve 2: Dr. Byungok Kim (Rep. of Korea)

Resolve 3: Ms. Ge Xia (P. R. of China)



## APT Preliminary Views on WRC-23 Agenda Items: Res. 427(WRC-19)

#### APT Preliminary Views:

- APT Members support ITU-R studies on the relevant Articles of the Radio Regulations and their associated appendices to identify outdated aeronautical provisions, and the development of regulatory texts for updating these provisions, in accordance with Resolution 427 (WRC-19)
- APT Members are of the view that any proposed changes to the Radio Regulations should not impact current and planned aeronautical systems or applications

DG Chairman: Mr. Bui Ha Long (Viet Nam)

Working Party 3: Science Issues

Agenda Items: 1.12, 1.13, 1.14, 9.1 a), 9.1 d) and Res.655 (WRC-15)

Chairman:

Dr. Wahyudi Hasbi (Rep. of Indonesia) (wahyudi.hasbi@lapan.go.id)



Agenda Items	DG Chairman
1.12	Mr. Kevin Knights (Australia)
	Email: kevin.knights@csiro.au
1.13	Mr. Rui Han (People's Republic of China)
	Email: hanrui@srrc.org.cn; henryxju@gmail.com
1.14	Mr. Sohel Rana (Bangladesh)
	Email: sohel@btrc.gov.bd
9.1 a)	Mr. Takahiro Yokoyama (Japan)
	Email: <u>t.yokoyama@joy.ocn.ne.jp</u>
9.1 d)	Dr. Hwangjae Rhee (Republic of Korea)
	Email: <u>rhee@synctechno.com</u>
Res. 655	Mr. Takahiro Yokoyama (Japan)
(WRC-15)	Email: <u>t.yokoyama@joy.ocn.ne.jp</u>

### APT Preliminary Views:

• APT Members are of the view that a new secondary allocation could be supported for the Earth exploration-satellite service (active) for spaceborne radar sounders within the range of frequencies around 45 MHz if ITU-R studies show that the protection of in-band and adjacent band incumbent services could be ensured while not imposing any additional restrictions onto those services

DG Chairman: Mr. Kevin Knights (Australia)

### APT Preliminary Views:

- APT Members support ITU-R sharing and compatibility studies for the consideration of upgrading the SRS allocation from secondary to primary in the frequency band 14.8-15.35 GHz, while ensuring protection of and not adversely affecting incumbent services in this frequency band as well as the adjacent bands
- Appropriate transitional measures need to be developed to protect incumbent services that are allocated on a secondary basis in the frequency band 15.2-15.35 GHz

DG Chairman: Mr. Rui Han (P. R. of China)

### APT Preliminary Views:

• APT Members support the consideration of possible adjustments to the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz in accordance with Resolution 662 (WRC-19) subject to the outcome of study results. Any changes to the EESS (passive) allocations in the frequency range 231.5-252 GHz shall not adversely affect the operation of other primary services

DG Chairman: Dr. Sohel Rana (Bangladesh)



### APT Preliminary Views:

• APT Members support ITU-R studies relating to the identification of space weather sensors, their technical and operational characteristics, spectrum requirements and appropriate radio service designations with a view to describing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services

DG Chairman: Mr. Takahiro Yokoyama (Japan)



### APT Preliminary Views:

• APT Members support studies in the ITU-R on the protection of EESS (passive) sensors operating in the band 36-37 GHz from non-GSO FSS systems in the band 37.5-38 GHz, with due consideration of the operational aspects of non-GSO FSS system, leading to Recommendations and/or Reports as appropriate

DG Chairman: Dr. Hwangjae Rhee (Rep. of Korea)



## APT Preliminary Views on WRC-23 Agenda Items: Res. 655(WRC-15)

- APT Preliminary Views:
  - To be developed

Working Party 4: Satellite Issues

Agenda Items: 1.15, 1.16, 1.17, 1.18, 1.19 and 7

Co-Chairman:

Ms. Fenhong Cheng (People's Rep. of China) (chengfenhong@chinasatcom.com)

Mr. Mrunmaya Pattanaik (India) (pattanaik.mr@gov.in)





Agenda Items	DG Chairman
1.15	Mr. Phung Nguyen Phuong (Viet Nam)
	Email: phuongpn@rfd.gov.vn
1.16	Mr. Noriyuki Inoue (Japan)
	Email: ni-inoue@kddi.com
	Editor: Ms. Jing Chen (People's Republic of China)
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1.17	Mr. Jiaqian Zhang (P. R. of China)
	Email: <u>zjq0224@163.com</u>
1.18	Dr. Daesub Oh (Republic of Korea)
	Email: <u>trap@etri.re.kr</u>
1.19	Mr. Risdianto Yuli Hermansyah (Rep. of Indonesia)
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7	General, Topics A, B and new proposal:
	Ms. Ting Ling Lee (Singapore)
	Email: <u>tingling.lee@ses.com</u>
	Topics C, D and E:
	Ms. Geetha Remy Vincent (Malaysia)
	Email: geetha@measat.com

- APT Members support on-going studies being carried out by ITU-R Working party 4A regarding the use of the frequency band 12.75 13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with GSO space stations in the FSS while ensuring protection of existing services in those frequency bands and in adjacent bands, in accordance with Resolution 172 (WRC-19)
- APT Members also have preliminary views as follows:
  - The use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels shall not limit the access of other administrations to their national resources in Appendix **30B** as well as implementation of Resolution **170** (WRC-19)
  - The use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels shall not adversely affect the operation of existing services and their future development
  - Support the development of an appropriate methodology in order to enable the Bureau to examine the conformity with PFD limit established under this Agenda Item 1.15

- Use of earth stations on board aircraft and vessels shall not cause unacceptable interference (more than what is stipulated in relevant annexes to **AP30B** of the Radio Regulations) to allotments, converted allotments to assignments within the limits of initial characteristics as contained in the allotment Plan, and those stemming from application of Article 7 transferred to Article 6 of **AP30B** and those submitted under Resolution **170 (WRC-19)** as well as all existing and planned services in that frequency band and adjacent bands operating in accordance with the Radio Regulations. Earth stations on board aircraft and vessels shall not claim protection from the allotment Plan, assignments in the List of **AP30B** for national coverage, and other services including terrestrial services to which the frequency band is allocated and operating in accordance with the provisions of Radio Regulations
- With respect to the sharing and compatibility studies between earth stations on board aircraft and vessels communicating
  with geostationary space stations in the fixed-satellite service and the fixed service in the frequency band 12.75-13.25 GHz,
  both long-term and short-term interference scenarios under relevant ITU-R Recommendations should be considered and
  carried out in these studies

DG Chairman: Mr. Phung Nguyen Phuong (Viet Nam)



- APT Members are of the view that on-going sharing and compatibility studies between earth stations in motion (ESIM) communicating with non-GSO FSS in the frequency bands 17.7–18.6 GHz, 18.8–19.3 GHz and 19.7–20.2 GHz (space-to-Earth), and 27.5–29.1 GHz and 29.5–30 GHz (Earth-to-space) and the existing services including passive services allocated in those frequency bands and the adjacent bands should be conducted to ensure the protection of existing services
- APT Members are also of the view that the operation of secondary services as allocated by previous WRCs and currently contained in the Radio Regulations shall/should not be adversely affected by the potential operation of ESIM being studied under this agenda item
- APT Members are also of the view that regulatory provision, and technical and operational measures with appropriate examination methodology by the Bureau for non-GSO ESIM should be established to ensure the protection of services to which the frequency bands are allocated and operated in accordance with the Radio Regulations. In the absence of such methodology necessary transitional measures should be developed and agreed by WRC-23
- APT Members are also of the view that for the protection of other space services, non-GSO ESIM characteristics shall remain within the envelope characteristics of typical earth stations associated with the non-GSO satellite system within which these ESIM communicate
- APT Members are also of the view that for the protection of GSO FSS networks operating in the 17.8-18.6 GHz, 19.7-20.2 GHz, 27.5-28.6 GHz, and 29.5-30.0 GHz the relevant EPFD limits in Nos. **22.5C**, **22.5D** and **22.5F** shall apply
- APT Members are also of the view that the ESIMs operating with non-GSO FSS system shall not cause unacceptable interference to the terrestrial services in those frequency bands and in adjacent frequency bands and not adversely affect these terrestrial services

#### Issues raised:

- Some APT Members are of the view that similar technical, operational, and regulatory provisions as those applicable to GSO ESIM would also be applicable for non-GSO ESIM in these frequency bands
- Some APT Members are of the view that non-GSO ESIM operating in the frequency bands 17.7-18.6 GHz, 18.8-19.3 GHz, and 19.7-20.2 GHz (see No. **5.524**) shall not claim protection from terrestrial services to which the frequency band is allocated and operating in accordance with the Radio Regulations. Non-GSO ESIM operating in the frequency band 27.5-29.1 GHz shall comply with specific technical conditions subject to results of sharing studies in WP 4A so as not to cause unacceptable interference to terrestrial services to which the frequency bands are allocated and operating in accordance with the Radio Regulations
- Some APT Members are of the view that the methodology included in Recommendation ITU-R S.1503 for determination of compliance with EPFD limits in Article **22** is applicable to ESIMs communicating with non-GSO FSS system

DG Chairman: Mr. Noriyuki Inoue (Japan)



- APT Members support ITU-R studies on the sharing and compatibility as well as to develop technical conditions and regulatory provisions for the use of satellite-to-satellite operations in the 11.7-12.7 GHz, 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz frequency bands or portions thereof, in accordance with Resolution **773 (WRC-19)**, as such the use shall ensure protection of primary services allocated in the bands and in the adjacent bands
- APT Members are of the view that the use of these bands for inter-satellite service needs to fully protect the FSS in these bands, taking into account that part of these frequency bands studied under the agenda item are core FSS bands which are used for telecommunication infrastructure in many countries
- APT Members are of the view that the technical conditions and regulatory provisions developed under WRC-23 agenda item 1.17 shall not impact on the terrestrial services operating in the frequency band 27.5-29.5 GHz
- APT Members are also of the view that consideration should be given to the operation of the secondary terrestrial services as currently contained in the Radio Regulations in order that these terrestrial services should not be adversely affected by inter-satellite service in the frequency band being studied under AI 1.17

#### Issues Raised:

- Some APT Members are of the view that satellite-to-satellite link transmissions should comply with the same propagation direction in the existing FSS allocations (Earth-to-space = from user space station to service provider space station, space-to-Earth = from service provider space station to user space station)
- Some APT Members are of the view that the frequency band 11.7-12.2 GHz in Region 3 shall be no change under AI 1.17 in order to protect and not to adversely affect the existing and future BSS in Region 3 in the frequency band 11.7-12.2 GHz

DG Chairman: Mr. Jiaqian Zhang (P. R of China)



### APT Preliminary Views:

- APT Members support sharing and compatibility studies with existing primary services to determine the suitability of new allocations to the mobile-satellite service (MSS), while ensuring no adverse effect on the allocation of the existing services including IMT and their future development in the same and adjacent frequency bands which allocated for Region 3. It is noted that some APT members are included in RR No **5.429** as having and additional allocations to the fixed and mobile service for the 3300 3400 MHz frequency band
- APT Members are of the view that any studies to be carried out by ITU-R under the agenda item 1.18 should be limited only for NB-MSS not a general MSS taking into account *considering a*) and *recognizing c*) described in Resolution **248 (WRC-19)**.

#### Issues raised:

• APT members discuss the issue of interpretation of *recognizing c*) of Resolution **248 (WRC-19)** and whether the e.i.r.p. limits of 27 dBW contained in the Resolution apply on a system or a satellite basis. It is noted that the representative NB-MSS system parameters should be developed for sharing studies with incumbent services in the ITU-R

DG Chairman: Dr. Daesub Oh (Rep. of Korea)

### APT Preliminary Views:

• APT Members are of the view that any ITU-R studies related to Agenda Item 1.19 need to ensure protection of the services to which the bands are allocated in the same and adjacent bands. In addition, a new allocation to the FSS in Region 2 should not adversely affect existing allocations and services for Region 3

#### Issues raised:

• The existing primary services in Region 3 in the frequency band considered under the Agenda Item 1.19 of WRC-23, including Appendix 30A satellite networks, should be protected from any impact of the ITU-R study results for this agenda item

DG Chairman: Mr. Risdianto Yuli Hermansyah (Indonesia)



#### APT Preliminary Views:

#### General Aspects

• APT Members support consideration of possible changes to improve advance publication, coordination, notification and recording procedures for space services in the Radio Regulations in accordance with Resolution 86 (Rev.WRC-07), provided that such changes do not result in modification of frequency allocations in Article 5 of the Radio Regulations, except for the provisions in the footnotes of the Table of Frequency Allocations in Article 5 relating to advance publication, coordination, notification and recording procedures

#### • Topic A: Tolerances for Certain Orbital Characteristics of Non-GSO Space Stations in the FSS, BSS and MSS

- APT Members support the development of the definition of tolerances of non-geostationary-satellite orbit (non-GSO) space stations in the FSS, BSS and MSS
- APT Members are of the view that the development of the definition of tolerances of non-geostationary-satellite orbit (non-GSO) space stations in the FSS, BSS and MSS, should be limited to the inclination of the orbital plane, the altitude of the apogee of the space station, the altitude of the perigee of the space station and the argument of the perigee of the orbital plane, to account for potential differences between the notified and deployed orbital characteristics
- APT Members are also of the view that appropriate regulatory consequences/measures should be developed taking into account the operational aspects of the non-GSO space stations in the FSS, BSS and MSS, if the operations are beyond the specified allowable tolerances. These regulatory measures should not have retroactive application. Moreover, necessary transitional measures for application of the decision of WRC-23 may need to be developed

### APT Preliminary Views:

- Topic B: Post-milestone reporting procedure for non-GSO systems
  - APT Members support the development of the post-milestone procedures for NGSO satellite systems in FSS, BSS and MSS
  - APT Members are of the view that the studies for developing final post-milestone procedures at WRC-23 need to take into account the reporting procedure defined in *resolves* 19 of Resolution **35 (WRC-19)**
  - APT Members are also of the view that when developing the post-milestone procedures, some degree of operational flexibility which is necessary for the maintenance of non-GSO systems in the FSS, BSS and MSS, may need to be duly considered
  - APT Members also support the development of appropriate regulatory measures for frequency assignments to non-GSO space stations that do not comply with the post-milestone requirements/procedures

#### • Topic C: 7/8 & 20/30 GHz GSO MSS protection

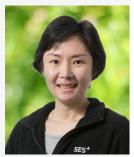
- APT Members are of the view that existing regulations and their effectiveness to protect geostationary-satellite networks in the mobile-satellite service operating in the bands 7/8 GHz and 20/30 GHz from emissions of non-geostationary-satellite networks operating in the same bands and in same direction, need to be verified by ITU-R Working Party 4A
- APT Members support application of concept of No. 22.2 of the Radio Regulations for MSS in the band 20/30 GHz

- Topic D: Mod to App 1 to Annex 4 of AP30B
  - APT Members support the single method developed by ITU-R to modify Appendix 1 to Annex 4 of Appendix 30B of the Radio Regulations to reflect the values of the minimum orbital separation as adopted by WRC-19 in § 1.1 and § 1.2 of Annex 4 of RR Appendix 30B
- Topic E: Improved procedures under RR Appendix 30B for new ITU Member States
  - APT Members support granting new ITU Member States the same right as those granted to other Member States in Appendix **30B**, based on principles stipulated in Article **44** of the Constitution, Resolution **2** (**REV.WRC-03**) and those contained in Article **1** of Appendix **30B**
  - APT Members support ITU-R studies on improved procedures under Appendix **30B** of the Radio Regulations for new ITU Member States

- Topic F: Exclusion of feeder-link/uplink service & coverage areas in AP30A/30B
  - APT Members support on-going ITU-R studies on the issue of excluding the territory of a country from the service area of the feeder link of Appendix **30A** and adjustment of coverage area of the feeder link to the smallest service area of that submission under RR Appendix **30A**, as well as adjustment of coverage area to the smallest to be aligned with the service area of the submissions under RR Appendix **30B**
  - APT Members support the exclusion of the territory of a country from the service area of feeder link of another country and the adjustment of coverage area to the smallest to be aligned with the service area of feeder link under RR Appendix **30A**
  - APT Members do not have any view yet on the adjustment of the coverage area to the smallest to be aligned with the service area of the RR Appendix **30B** submissions under consideration
- Topic X: BIUing multiple orbital locations with one satellite
  - None

Ms. Geetha Remy Vincent (Malaysia)
Ms. Ting Ling Lee (Singapore)





Working Party 5: General Issues

Agenda Items: 2, 4, 8, 9.1 b), 9.2 and 10

Chairman:

Dr. Mohammad Taghi Shafiee (Islamic Rep. of Iran) (shafiee@cra.ir)



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2 & 4	Ms. Keiko Mori (Japan)
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8	Mr. Neil Meaney (Australia)
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10	Aeronautical and Maritime Issues:
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	Mr. HyoungJin Choi (Republic of Korea)
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### APT Preliminary Views:

- APT Members support the examination and review of ITU-R Recommendations incorporated by reference into the Radio Regulations and, where appropriate, the updating of these references in accordance with Resolution 27 (Rev.WRC-19)
- APT Members are encouraged to participate and monitor the progress of the ITU-R studies in the relevant Working Parties, which may propose revisions of incorporates by reference (IBR) Recommendations, with a view to develop the APT positions on this agenda item towards the WRC-23

DG Chairman: Ms. Keiko Mori (Japan)

- APT Members support the principle and intent of Resolution 95 (Rev.WRC-19), to ensure Resolutions and Recommendations of past WRCs are relevant and kept up to date
- Since a number of the studies requested by the WRC Resolutions are now under consideration at the relevant groups in the ITU-R, APT Members are encouraged to participate in these studies
  - In reviewing the Resolutions/Recommendations listed in the Attachment 1 of Document APG23-2/OUT-36;
    - the progress of the studies is important information for those Resolutions that include "invites ITU-R",
    - or similarly, the progress of the implementation work of the ITU Radiocommunication Bureau (BR) is also important for those Resolutions that include "instructs the Director of the Radiocommunication Bureau"





APT Preliminary Views:

TBD

DG Chairman: Mr. Neil Meaney (Australia)



### APT Preliminary Views:

• APT Members support ITU-R studies in accordance with Resolution 774 (WRC-19), to protect RNSS (space-to-Earth) receivers from the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz without considering the removal of the amateur and amateur-satellite service allocations

APT Preliminary Views:

TBD

DG Chairman: Mr. Paul Burford (Australia)



- In developing new WRC Agenda items, APT Members support the 'Principles for establishing agendas for WRCs' as detailed in Annex 1 to Resolution **804** (**Rev.WRC-19**) and encourages the use of the *Template for the submission of proposals for agenda items* (Annex 2 of the Resolution)
- APT Members are of the view that
  - the volume of the agenda of a WRC and the workload of the preparatory work needs to be kept at a manageable level. Therefore, the number of agenda item shall be absolutely minimum and manageable, taking into account that there are 13 preliminary agenda items for WRC-27 plus 10 standing agenda items including agenda item 7 which could be much more than one item
  - issues that can be resolved under the standing agenda items of WRCs or through the regular activities of ITU-R should not be converted into separate agenda item of WRCs
  - topic/subject under agenda item 9.1 should, as much as possible, be avoided since some of them are more complex than standard agenda items (these are also considered as hidden agenda items)
  - consistency between the title of agenda item and title of the supporting resolutions as well as operative parts of the resolutions are absolutely necessary and needs to be fully respected. In addition every effort is to be made in selecting Terms, Language and wording of the resolutions, in particular resolve parts to be non-ambiguous, meaningful and clear. Once the text of the resolutions in the initial language is agreed its full consistencies in other official languages of the Union needs to be ensured.

- APT Members are of the view that (Contd)
  - the preamble of any/all resolutions should be reduced to the absolute minimum necessary which are needed to justify the operative parts. In particular, recognizing parts of the resolution should only be factual statements already agreed by ITU-R and ITU. Reference to the protection of other services (in band) and (adjacent band if necessary) should be clearly specified in the resolution
  - mandates and scope of ITU-R should not be mixed up with mandates and scope of works of other international organizations such as IMO, ICAO and the like
  - during the Conference, estimation of workload of ITU-R Study Groups need to be indicated by the BR in consultation with current Study Groups/Working Parties Chairmen/Vice chairmen. This estimation could be facilitated by providing the relevant information in the proposals to the WRC, in accordance with Resolution 804. Inclusion of identical agenda item in two WRCs shall be strictly avoided
  - during the Conference, RRB Members and Head of BR Departments attending the WRC-23 are also invited to examine the operative parts of the proposed resolutions in order to declare their conformity with the RR and Rules of Procedure (RoP) and practices of the BR

DG Chairman: Mr. Jia Huang (P. R. of China) Mr. HyoungJin Choi (Rep. of Korea)





## APG-23: Preparation for RA-23

Chaired by Mr. Muneo Abe, Vice-Chairman, APG-23

- Following issues were discussed for the preparation of RA-23
  - Implementation of WRC-19 Gender Declaration
    - APT would encourage members to promote the participation on women in APG and ITU-R meetings
    - APG would provide opportunity for networking activities for women during APG meetings
  - Possible Revision of Resolution ITU-R 1-8
    - APT Members were encouraged to participate at the RAG CG in this regard
  - Need for further improvement of Resolution ITU-R 2-8
    - APT Members were encouraged to follow the application and implementation of this Resolution and identify any further room for improvement, as appropriate

## Meeting Report of RA-23 Preparation:



### Other information

- Detail information on APG-23 available at: <a href="https://www.apt.int/APTAPG">https://www.apt.int/APTAPG</a> and the relevant pages of APG-23 Working Parties
- APT values the participation of ITU and regional organizations at all APG Meetings to enhance cooperation and better understanding of the views of other regional organizations on WRC-23 Agenda Items



# For further information and questions?

Chairman of APG-23



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**APT Secretariat** 



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