Resolutions

Radiocommunication Assembly (RA-19)

Sharm El-Sheikh, 21 – 25 October 2019

ITU RA
SHARM EL-SHEIKH 2019

21 – 25 October
Sharm El-Sheikh, Egypt

ITU

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ITU

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Working methods for the Radiocommunication Assembly, the Radiocommunication Study Groups, the Radiocommunication Advisory Group and other groups of the Radiocommunication Sector

(1993-1995-1997-2000-2003-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that the duties and functions of the Radiocommunication Assembly (RA) are stated in Article 13 of the ITU Constitution and Article 8 of the ITU Convention;

b)   that the duties, functions and organization of the Radiocommunication Study Groups (SGs) and the Radiocommunication Advisory Group (RAG) are briefly described in Articles 11, 11A and 20 of the Convention;

c)   that the RA is authorized to adopt the working methods and procedures for the management of the Sector's activities in accordance with No. 145A of the Constitution and No. 129A of the Convention;

d)   Resolutions ITU-R 2, 36 and 52, concerning the Conference Preparatory Meeting (CPM), the Coordination Committee for Vocabulary (CCV) and RAG, respectively;

e)   that Resolution 165 (Rev. Dubai, 2018) of the Plenipotentiary Conference sets firm submission deadlines for proposals from participants in conferences and assemblies of the Union, sets a firm submission deadline for secretariat documents, and applies to the RA;

f)   that Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference establishes the appointment procedure and the maximum term of office for Chairmen and Vice-Chairmen of Sector Advisory Groups, SGs and other groups;

g)   that Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference establishes methods and approaches for the coordination of efforts among the three Sectors of the Union;

h)   that the General Rules of Conferences, Assemblies and Meetings of the Union have been adopted by the Plenipotentiary Conference,

noting

that the Director of the Radiocommunication Bureau (BR) is authorized by this Resolution, in close cooperation with RAG when needed, to periodically issue updated versions of guidelines on working methods which complement and are additional to this Resolution,

resolves

that the working methods and documentation of the RA, the SGs, the RAG and other groups of the Radiocommunication Sector shall be in accordance with Annexes 1 and 2.

ANNEX 1

Working methods of ITU-R

A1.1   Introduction

A1.1.1   As mentioned in Article 12 of the Constitution, the Radiocommunication Sector, bearing in mind the particular concerns of developing countries, fulfils the purposes of the Union, as stated in Article 1 of the Constitution, relating to radiocommunication:

a)   by ensuring the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using the geostationary-satellite or other satellite orbits, subject to the provisions of Article 44 of the Constitution, and

b)   by carrying out studies without limit of frequency range and adopting recommendations on radiocommunication matters.

A1.1.2   The Radiocommunication Sector works through World Radiocommunication Conferences (WRC) and Regional Radiocommunication Conferences (RRC), the Radio Regulations Board (RRB), RA, SGs, the CPM, the RAG, other groups and the Radiocommunication Bureau (BR), headed by the elected Director. This Resolution deals with the RA, the SGs, the RAG, the CPM and other groups of the Radiocommunication Sector.

A1.2 The Radiocommunication Assembly

A1.2.1 Functions

A1.2.1.1   The RA shall:

a)   consider the reports of the Director of the BR (hereinafter, the Director) and of the Chairmen of the SGs, the Chairman of the CPM, the Chairman of the RAG pursuant to No. 160I of the Convention and the Chairman of the CCV;

b)   approve, taking into account the priority, urgency and time-scale for the completion of the studies and the financial implications, the programme of work[1] (see Resolution ITU-R 5) arising from the review of:

  *b*1)   existing and new Questions;

  *b*2)   existing and new ITU-R Resolutions, and

  *b*3)   topics to be carried forward to the next study period, as identified in the SG Chairmen Reports to the RA;

c)   delete any Question that an SG Chairman, at two consecutive Assemblies, reports as having received no study contributions, unless a Member State, Sector Member or Associate[2] reports that it is undertaking studies on that Question and will contribute the results of those studies prior to the next Assembly, or unless a newer version of the Question is approved;

d)   decide, in the light of the approved programme of work, on the need to maintain, terminate or establish SGs (see Resolution ITU-R 4) and, where appropriate, other groups, and allocate to each of them the Questions to be studied;

e)   appoint SG Chairmen and Vice-Chairmen, based on the provisions of Resolution ITU-R 15 (see also Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference) and taking into account the proposals of the meeting of Heads of Delegation (see § A1.2.1.2 below);

f)   give special attention to problems of particular interest to developing countries by grouping Questions of interest to the developing countries as far as possible, in order to facilitate their participation in the study of those Questions;

g)   review and approve revised or new ITU-R Resolutions;

h)   consider and approve draft Recommendations proposed by the SGs and the membership, and any other documents within its scope, or make arrangements for the delegation of the consideration and approval of draft Recommendations and other documents to the SGs, as set out elsewhere in this Resolution or in other ITU-R Resolutions, as appropriate;

i)   take note of the Recommendations approved since the last RA, paying special attention to the Recommendations incorporated by reference within the Radio Regulations;

_____

[1] RAG should consider and recommend modifications to the programme of work in accordance with Resolution ITU-R 52.

[2] In accordance with Article 19 (No. 241A) of the Convention, the RA may decide to admit an entity or an organization to participate as Associate in the work of a given study group. The provisions governing the participation of Associates are contained in Articles 19, 20 and 33 of the Convention.

In accordance with Resolution 209 (Dubai, 2018) of the Plenipotentiary Conference, small and medium enterprises meeting the requirements in that Resolution may participate in the work of the Sectors of the Union as Associates.

j) communicate to the next WRC a list of the ITU-R Recommendations containing text incorporated by reference in the Radio Regulations which have been revised and approved during the previous study period.

A1.2.1.2 Heads of Delegations shall:

a) consider the proposals regarding the organization of the work and the establishment of relevant committees;

b) draw up the proposals concerning the designation of Chairmen and Vice-Chairmen of the committees, SGs, CPM, the RAG, and the CCV, taking into account Resolution ITU-R 15 (see also Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference).

A1.2.1.3 In accordance with No. 137A of the Convention, and the provisions of Article 11A of the Convention, the RA may assign specific matters within its competence, except those relating to the procedures contained in the Radio Regulations, to the RAG for advice on the action required on those matters (see also Resolution ITU-R 52).

A1.2.1.4 The RA shall report to the next WRC on the progress in matters that may be included in agendas of future Radiocommunication Conferences as well as on the progress of ITU-R studies in response to requests made by previous Radiocommunication Conferences.

A1.2.1.5 An RA may express its opinion relating to the duration or agenda of a future Assembly or, when appropriate, to the application of the provisions of Section 4 of the General Rules of Conferences, Assemblies and Meetings of the Union relating to the cancellation of an RA.

A1.2.1.6 In accordance with Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, the RA identifies subjects in common with other ITU Sectors where work is to be done and that require internal coordination within ITU.

A1.2.1.7 The Director shall issue, in electronic form, information that will include preparatory documents for the RA.

A1.2.2 Structure

A1.2.2.1 The RA, in undertaking the duties assigned to it in Article 13 of the Constitution, Article 8 of the Convention and the General Rules of Conferences, Assemblies and Meetings of the Union, shall conduct the work of each Assembly by setting up committees, as may be required, to address organization, work programme, budget control, and editorial matters.

A1.2.2.2 In addition to committees mentioned in § A1.2.2.1, the RA shall also establish a Steering Committee, presided over by the Chairman of the Assembly, and composed of the Vice-Chairmen of the Assembly and the Chairmen and Vice-Chairmen of the Committees.

A1.2.2.3 All committees referred to in § A1.2.2.1 shall cease to exist with the closing of the RA except, if required, the Editorial Committee. The Editorial Committee shall be responsible for aligning and perfecting the form of any texts prepared during the meeting and of any amendments made by the RA to texts.

A1.2.2.4 The RA may also establish, by Resolution, committees or groups that meet to address specific matters, if required. The terms of reference should be contained in the establishing Resolution.

A1.3   Radiocommunication Study Groups

A1.3.1   Functions

A1.3.1.1   Each SG shall perform an executive role in carrying out studies and adopting Recommendations and Questions, as well as approving Decisions, Reports, Opinions and Handbooks, on radiocommunication matters under its mandate, including the planning, scheduling, supervision, delegation and approval of the work and other related matters.

A1.3.1.2   The work of each SG, within the scope defined in Resolution ITU-R 4, shall be organized by the SG itself on the basis of proposals by its Chairman in consultation with the Vice-Chairmen. New or revised Questions or Resolutions approved by the RA on topics referred to it by the Plenipotentiary Conference, any other conference, the Council or the Radio Regulations Board, pursuant to No. 129 of the Convention, shall be studied. In accordance with Nos. 149 and 149A of the Convention and Resolution ITU-R 5, studies on topics within the scope of the SG may be undertaken without Questions and the results may be included in draft Recommendations and other documentation, which may also cover topics relating to agenda items of WRC, as appropriate. The topics of such studies, especially the scope of work, should be posted on the ITU website. Where a study initiated without a Question is expected to last more than four years, the SG is encouraged to develop an appropriate Question.

A1.3.1.3   Each SG shall maintain a plan for its work that considers a period of at least four years ahead, taking due account of the related schedule of WRCs, RRCs and RAs. The plan may be reviewed at each meeting of the SG.

A1.3.1.4   The SGs may establish subgroups necessary to facilitate the completion of their work. With the exception of Working Parties (WPs), introduced in § A1.3.2.2, the terms of reference and milestones of subgroups established during an SG meeting shall be reviewed and adjusted at each SG meeting as appropriate.

A1.3.1.5   When WPs, Task Groups (TGs) or Joint Task Groups (JTGs) (defined in § A1.3.2) are assigned preparatory studies on matters to be considered by WRCs or RRCs (see Resolution ITU-R 2), the work should be coordinated by the relevant SGs, WPs and TGs or JTGs.

When preparing ITU-R recommendations and reports to be referenced in the CPM Report, WPs, TGs or JTGs shall plan, to the extent practicable, their works such that these ITU-R recommendations and reports are submitted to the relevant SG in time for adoption and approval in accordance with the relevant section of Annex 2, prior to the WRC.

A1.3.1.5*bis*The final draft CPM texts prepared by the WPs, TGs or JTGs may be submitted directly to the CPM process, normally at the meeting called to consolidate SG texts into the draft CPM Report, or exceptionally via the relevant SG. In some cases, supporting materials that were developed to address WRC agenda items may not be published as ITU-R recommendations or reports but will be contained in Working Party (WP), Task Group (TG) or Joint Task Group (JTG) documentation.

A1.3.1.6   Electronic means of communication shall be used as far as possible to facilitate the work of SGs, WPs, TGs and other subordinate groups, both during and between their respective meetings.

A1.3.1.7   The Director will maintain a list of Member States, Sector Members, Associates and Academia participating in each SG, WP or TG and exceptionally, JRGs if so deemed necessary (see § A1.3.2.8).

A1.3.1.8   Matters of substance, within the scope of an SG, may only be considered within SGs, WPs, JWPs, TGs, JTGs, Rapporteur Groups (RGs), JRGs and Correspondence Groups (defined in § A1.3.2) as well as within Intersector Rapporteur Groups (IRGs) (see § A1.6.1.3).

A1.3.1.9   The SG Chairmen, in consultation with their Vice-Chairmen and with the Director, shall plan the schedule of SG, WP and TG meetings for the forthcoming period, taking account of the budget allocated to SG activities. The Chairmen shall consult with the Director to ensure that the provisions of §§ A1.3.1.11 and A1.3.1.12 below are appropriately considered especially as they apply to available resources.

A1.3.1.10   SGs shall consider at their meetings, the draft Recommendations, Reports, Questions, progress reports and other texts prepared by WPs and TGs, as well as contributions submitted by the membership and Rapporteurs and/or RGs established by the same SG. To facilitate participation, a draft agenda shall be published in the Administrative Circular announcing the meeting, at latest, three months in advance of each meeting, indicating, to the extent possible, specific days for consideration of different topics.

A1.3.1.11   For meetings held outside Geneva, the provisions of Resolution 5 (Kyoto, 1994) of the Plenipotentiary Conference shall apply. Invitations to hold meetings of the SGs or their WPs and TGs away from Geneva should be accompanied by a statement indicating the host's agreement to defray the additional expenditure involved and the host's acceptance of *resolves* 2 of Resolution 5 (Kyoto, 1994) which states "that invitations to hold development conferences and meetings of the SGs of the Sectors away from Geneva should not be accepted unless the host government provides at least adequate premises and the necessary furniture and equipment free of charge, except that in the case of developing countries equipment need not necessarily be provided free of charge by the host government, if the government so requests".

A1.3.1.12   To ensure the efficient use of the resources of the Radiocommunication Sector and of the participants in its work and to reduce the amount of travel involved, the Director, in consultation with the Chairmen, shall establish and publish a programme of meetings in a timely manner, normally planning at least one year in advance. This programme should take into account relevant factors, including:

a)   the expected participation when grouping the meetings of a certain SG, WPs or TGs;

b)   the desirability of contiguous meetings on related topics;

c)   the capacity of the ITU resources;

d)   the requirements for documents to be used in meetings;

e)   the need for coordination with the other activities of ITU and other organizations;

f)   any directive issued by the RA concerning the SG meetings.

A1.3.1.13   An SG meeting should, wherever appropriate, be held immediately after WP and TG meetings. The draft agenda of such an SG meeting should contain the following points:

a)   if some WPs and TGs have met earlier and have prepared draft Recommendations, for which the approval process in accordance with § A2.6 of Annex 2 is to be applied, a list of such draft Recommendations, each accompanied by a summary of the new or revised Recommendation;

b)   a description of the topics to be addressed by the WP and TG meetings just before the SG meeting for which draft Recommendations may be developed.

A1.3.1.13*bis*   SGs will normally meet once or twice a year in conjunction with a normal block of associated WP/TG meetings. An exceptional SG meeting may be required at the beginning of each study cycle for formalizing the structure of work and associated WPs and TGs. The Bureau will take these requirements into account when developing the schedule for the SGs following each WRC in accordance with § A1.3.1.3 within budget limitations.

A1.3.1.14   The draft agenda for WP and TG meetings, which are immediately followed by an SG meeting, should indicate as specifically as possible the topics to be addressed, and should indicate where it is anticipated that draft Recommendations are to be considered.

A1.3.1.15   The Director shall issue, in electronic form, at regular intervals, information that will include:

a)　　　　an invitation to participate in the work of the SGs for the next meeting;

b)　　　　information on electronic access to relevant documentation;

c)　　　　a schedule of meetings with updates, as appropriate;

d)　　　　any other information that could be of assistance to the membership.

A1.3.1.16   SGs will grant high priority, for the continuation of their work, to the Questions meeting guidelines defined in *a)* and *b)* below, with an intent to manage as efficiently as possible the scarce resources of ITU, taking into account the need to give appropriate priority to topics addressed to them by relevant ITU bodies, such as Plenipotentiary Conferences, WRCs, RRCs and the RRB:

a)　　　　Questions which are within the mandate of ITU-R:

　　　　This guideline ensures that Questions and their associated studies are related to the conduct of radiocommunication matters, in line with Nos. 150-154 and 159 of the Convention, "a) use of the radio-frequency spectrum in terrestrial and space radiocommunication and of the geostationary-satellite and other satellite orbits; b) characteristics and performance of radio systems; c) operation of radio stations; and d) radiocommunication aspects of distress and safety matters". However, new or revised Questions, when adopted, shall not include any reference to spectrum matters covering proposals on allocation unless requested under an RA agenda item relating to the Question, or in a WRC Resolution seeking studies by ITU-R;

b)　　　　Questions that relate to work being conducted by other international entities:

　　　　If such work is being conducted elsewhere, the SG should liaise with such other entities, in accordance with § A1.6.1.4 of this Resolution and Resolution ITU-R 9, to determine the most appropriate way to conduct the studies, with a view to taking advantage of external expertise.

A1.3.2　　Structure

A1.3.2.1   The Chairman of an SG should establish a Steering Committee composed of all Vice-Chairmen, WP Chairmen and their Vice-Chairmen, as well as the Chairmen of subgroups to assist in the organization of the work.

A1.3.2.2   The SGs will normally set up WPs to study topics within their scope, and topics based on the Questions assigned to them, as well as topics in accordance with § A1.3.1.2 above. WPs are understood to exist over an undefined period to answer Questions and study the topics put before the SG. Each WP will study Questions and these topics, and will prepare draft Recommendations and other texts for consideration by the SG. To limit the resource impact on the BR, Member States,

Sector Members, Associates and Academia[3], an SG shall establish by consensus[4] and maintain only the minimum number of WPs.

A1.3.2.3   An SG may also establish a minimum number of TGs, as necessary, to which it may assign the studies of those urgent issues and the preparation of those urgent Recommendations that cannot reasonably be carried out by a WP; appropriate liaison between the work of a TG and the WPs may be required. Given the urgent nature of the issues that need to be assigned to a TG, deadlines will be established for the completion of the work of a TG, and the TG will be disbanded upon completion of the assigned work.

A1.3.2.4   Establishment of a TG shall be an action taken by an SG during its meeting and shall be the subject of a Decision. For each TG, the SG shall prepare a text listing:

a)   the specific matters to be studied within the Question or topic assigned and the subject of the documentation to be prepared;

b)   the reporting date;

c)   the name and address of the Chairman and any Vice-Chairmen.

In addition, for the case of an urgent Question or topic arising between SG meetings, such that it cannot reasonably be considered at a scheduled SG meeting, the Chairman, in consultation with the Vice-Chairmen and the Director, may take action to establish a TG, in a Decision indicating the urgent Question or topic to be studied. Such action shall be confirmed by the following SG meeting.

A1.3.2.5   When necessary, to bring together inputs that cover multiple SGs, or to study Questions or topics requiring the participation of experts from more than one SG, JWPs or JTGs may be established by the SGs as proposed by the relevant SG Chairmen, or by decision of the first session of CPM to carry out studies in preparation for the next WRC, as specified in Resolution ITU-R 2. In either case, the work of the JWP or JTG should be specified as for a Task Group (see § A1.3.2.4). If ITU-R documentation, as referred to in Annex 2, is developed by a JWP or JTG, it should be jointly approved by the relevant involved Study Groups and any revisions should similarly be jointly approved.

A1.3.2.6   In some cases, when urgent or specific issues arise that require analysis, it might be suitable for an SG, WP or TG to appoint a Rapporteur, with clearly defined terms of reference, who, being an expert, can carry out preliminary studies or conduct a survey among Member States, Sector Members, Associates and Academia participating in the work of the SGs, mainly by correspondence. The method used by the Rapporteur, be it via personal study or survey, is not guided by working methods but is the choice of the individual Rapporteur. Therefore, the results of that work are assumed to represent the views of the Rapporteur. It might also be useful to appoint a Rapporteur to prepare draft Recommendation(s) or other ITU-R texts. In this case, the preparation of draft Recommendation(s) or other ITU-R texts should be clearly mentioned in the terms of reference and the Rapporteur should submit the drafts as a contribution to the parent group in sufficient time before the meeting to allow for comments.

A1.3.2.7   A Rapporteur Group may also be established by an SG, WP or TG to handle urgent or specific issues that require analysis. An RG differs from the Rapporteur in that, in addition to an appointed Rapporteur, the RG has a membership and the results of the RG shall represent the agreed

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[3] The term Academia includes colleges, institutes, universities and their associated research establishments concerned with the development of telecommunications/ICT which are admitted to participate in the work of ITU-R (see Resolution 169 (Rev. Dubai, 2018) of the Plenipotentiary Conference).

[4] Consistent with the United Nations practice, consensus is understood to mean the practice of adopting decisions by general agreement in the absence of any formal objection and without a vote.

consensus of the Group or reflect the diversity of views of the participants in the Group. An RG must have clearly defined terms of reference. As much work as possible should be performed by correspondence. However, if necessary, an RG may hold a meeting to further its work. The work of the RG shall be conducted with limited support provided by BR.

A1.3.2.8   In addition to the above, in some special cases, the establishment of a JRG consisting of Rapporteur(s) and other experts from more than one SG might be envisaged. A JRG should report to the WPs or TGs of the relevant SGs. The provisions in § A1.3.1.7 concerning JRGs will apply only to those Joint Rapporteur Groups (JRGs) which have been identified as requiring special support by the Director in consultation with the Chairmen of the relevant SGs.

A1.3.2.9   Correspondence Groups may also be established under the leadership of an appointed Correspondence Group Chairman. The Correspondence Group differs from the RG in that the Correspondence Group performs its work only via electronic correspondence and no meetings are required. A Correspondence Group must have clearly defined Terms of Reference and may be established and its Chairman appointed by a WP, a TG, an SG, CCV, or RAG.

A1.3.2.10 Participation in the work of the RGs, JRGs and Correspondence Groups of the SGs is open to representatives of Member States, Sector Members, Associates and Academia. Any views expressed and documentation submitted to these groups should indicate the Member State, Sector Member, Associate or Academia, as the case may be, making the submission.

A1.3.2.11 Each SG may nominate liaison Rapporteur(s) to the CCV to ensure that the technical vocabulary and the grammar in the approved texts are correct. In that case, the Rapporteur(s) would also ensure that the approved texts are aligned and have the same meaning in the six languages of ITU and are easily comprehensible to all users. The agreed texts are provided by BR to the designated Rapporteur(s) as and when they become available in the official languages.

A1.4   The Radiocommunication Advisory Group

A1.4.1   As stipulated in § A1.2.1.3, specific matters within the competence of the RA, except those relating to the procedures contained in the Radio Regulations, may be assigned to the RAG for advice on the action required on those matters.

A1.4.2   The RAG is authorized in accordance with Resolution ITU-R 52 to act on behalf of the Assembly in the period between Assemblies.

A1.4.3   In accordance with No. 160G of the Convention, the RAG adopts its own working procedures compatible with those adopted by the RA.

A1.4.4   Participation in the work of the RGs and Correspondence Groups of RAG is open to representatives of Member States and Sector Members, and to Chairmen of the Study Groups. Any views expressed and documentation submitted to these groups should indicate the Member State or Sector Member, as the case may be, making the submission.

A1.5   Preparations   for   World   and   Regional   Radiocommunication Conferences

A1.5.1   The procedures outlined in Resolution ITU-R 2 apply to the preparation for WRCs. As appropriate, they may be adapted by an RA to apply to the case of a RRC.

A1.5.2   Preparations for WRCs will be carried out by CPM (see Resolution ITU-R 2).

A1.5.3   In preparation for a WRC or RRC, there may be a need to obtain additional information through a Questionnaire. Questionnaires issued by the Bureau should be limited to the required

technical and operational characteristics to perform the necessary studies, unless such questionnaires stem from a decision of a WRC or RRC.

A1.5.4   The Director shall issue, in electronic form, information that will include CPM preparatory documents and final Reports.

A1.6   Other considerations

A1.6.1   Coordination among Study Groups, Sectors and with other international organizations

A1.6.1.1   Meetings of Study Group Chairmen and Vice-Chairmen

As soon as practical after each RA, as well as when the need arises, the Director will call a meeting of the Chairmen and Vice-Chairmen of SGs and may invite Chairmen and Vice-Chairmen of WPs and other subordinate groups. At the discretion of the Director, other experts may be invited on an *ex-officio* basis. The purpose of the meeting is to ensure the most effective conduct and coordination of the work of the SGs, in particular regarding studies in response to relevant ITU-R Resolutions, with the view to avoid duplication of work between several SGs. The Director shall serve as Chairman of this meeting. If appropriate, such meetings could be held by electronic means, such as telephone or video conferences or using the Internet.

A1.6.1.2   Liaison Rapporteurs

Coordination between SGs may be ensured by the appointment of SG Liaison Rapporteurs to participate in the work of the other SGs, the CCV or relevant groups of the other two Sectors.

A1.6.1.3   Intersector Groups

In specific instances, complementary work on certain topics may be conducted by SGs in the Radiocommunication Sector, as well as in the Telecommunication Standardization Sector, and the Telecommunication Development Sector. In such circumstances, it may be agreed between the two Sectors or among the three Sectors to establish an Intersector Coordination Group (ICG) or an Intersector Rapporteur Group (IRG). For details on these groups, see Resolutions ITU-R 6 and ITU-R 7.

A1.6.1.4   Other international organizations

When cooperation and coordination with other international organizations is necessary, the interface shall be provided by the Director. Liaison on specific technical matters, following consultation with the Director, may be carried out by WPs or TGs, or by a representative appointed by an SG. For details on this process, see Resolution ITU-R 9.

A1.6.2   Director's Guidelines

A1.6.2.1   As a complement to this Resolution, it is the duty of the Director to periodically issue updated versions of guidelines on the working methods and procedures within the BR which may affect the work of SGs and their subordinate groups (see *noting*). The guidelines need also to include matters relating to the provision of meetings and correspondence groups, as well as aspects concerning documentation.

A1.6.2.2   The guidelines issued by the Director shall contain guidance on preparation of contributions, the deadlines for their submission and details of the various types of documents, including reports and documents prepared by Chairmen, and liaison statements. The guidelines should also address practical matters concerning the effective distribution of documents by electronic means. The guidelines contain the mandatory common format for new and revised ITU-R Recommendations.

ANNEX 2

Documentation of ITU-R

A2.1   General principles

In the following sections A2.1.1 and A2.1.2, "texts" is used for ITU-R Resolutions, Decisions, Questions, Recommendations, Reports, Handbooks and Opinions, as defined in §§ A2.3 to A2.9.

A2.1.1   Presentation of texts

A2.1.1.1   Texts should be as brief as possible, taking account of the necessary content, and should relate directly to the Question/topic or part of the Question/topic being studied.

A2.1.1.2   Each text should include a reference to related texts and, where appropriate, to pertinent items of the Radio Regulations, without any interpretation or qualifications of the Radio Regulations or suggesting any change to an allocation status.

A2.1.1.3   Texts shall be presented showing their number (including, for Recommendations and Reports, their series), their title and an indication of the year of their initial approval, and, where appropriate, the year of approval of any revisions.

A2.1.1.4   Annexes, Attachments, and Appendices to any of these texts should be considered equivalent in status, unless otherwise specified.

A2.1.2 Publications of texts

A2.1.2.1   All texts shall be published in electronic form as soon as possible after approval and may also be made available in paper form subject to the publication policy of ITU.

A2.1.2.2   Approved new or revised Recommendations and Questions will be published in the official languages of the Union as soon as practicable. Reports, Handbooks and Opinions will be published, as soon as practicable, in English only or in the six official languages of the Union depending on the decision of the relevant group.

A2.2 Preparatory documentation and contributions

A2.2.1 Preparatory documentation for Radiocommunication Assemblies

Preparatory documentation shall include:

a)   draft texts, prepared by SGs, for approval;

b)   a Report from the Chairman of each Study Group, CCV, RAG[5] and CPM, reviewing activities since the preceding RA, including from each Study Group Chairman a list of:

      *b*1)   topics identified to be carried forward to the next study period;

      *b*2)   Questions and Resolutions for which no input documentation has been received for the period mentioned in § A1.2.1.1 of Annex 1. Should an SG believe that a certain Question or Resolution should be maintained, the Report from the Chairman must include an explanation;

c)   a Report by the Director, which should include proposals for the future work programme;

d)   a list of Recommendations approved since the previous RA;

e)   contributions submitted from Member States and Sector Members addressed to the RA.

A2.2.2 Contributions to the Radiocommunication Assembly

A2.2.2.1   In accordance with Resolution 165 (Rev. Dubai, 2018) of the Plenipotentiary Conference, the following deadlines apply for the submission of contributions and other texts to the RA:

a)   contributions shall be received no later than 21 calendar days before the opening of the RA;

b)   secretariat documents, including study group chairman's reports, shall be submitted no later than 35 calendar days before the opening of the RA.

A2.2.2.2   Contributions shall be provided to the Director electronically, with some exceptions for developing countries unable to do so. The Director may return a document that does not comply with the guidelines, for it to be brought into line.

A2.2.2.3   The secretariat shall post contributions as received on the RA website, as a rule, within one working day.

A2.2.3 Preparatory documentation for Radiocommunication Study Groups

Preparatory documentation shall include:

a)   any directives issued by the RA with respect to the SG, including this Resolution;

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[5]   Pursuant to No. 160I of the Convention, RAG prepares a Report for the RA, submitted through the Director of BR.

b)   draft Recommendations and other texts (as defined in §§ A2.3 to A2.9) prepared by WPs or TGs;

c)   Chairman's executive reports from each WP, TG and RG, summarizing the progress and conclusions of any work carried out by the group since the previous meeting and the work to be accomplished at the next meeting (these reports may also include considerations about the procedure to be followed for adoption and approval of the draft Recommendations to be considered by the meeting (see § A2.6));

d)   the contributions to be considered at the meeting;

e)   documentation prepared by the Bureau, particularly of an organizational or procedural nature, for clarification purposes or in response to SG requests;

f)   the summary record of the preceding meeting;

g)   an outline agenda indicating: draft Recommendations to be considered, draft Questions to be considered, reports from WPs and TGs to be received, and draft Decisions, draft Opinions, draft Handbooks and draft Reports to be approved.

A2.2.4   Contributions to Radiocommunication Study Groups, the Coordination Committee for Vocabulary and other groups

A2.2.4.1   For meetings of all SGs, the CCV and their subordinate groups (WPs, TGs, etc.), the following deadlines apply for the submission of contributions:

a)   *where translation is required,* contributions should be received at least three months prior to the meeting, and will be made available not later than four weeks before the meeting. For the second session of the CPM, contributions should be received at least one month prior to the meeting (see Resolution ITU-R 2). For later contributions, no commitment can be made by the Secretariat to ensure the document will be available at the opening of the meeting in all the required languages;

b)   otherwise, for documents *not requiring translation*, contributions (including Revisions, Addenda and Corrigenda to contributions) shall be received not later than seven calendar days (1600 hours UTC) prior to the start of the meeting to be made available for the opening of the meeting. For the second session of the CPM, the deadline for submission is 14 calendar days (1600 hours UTC) prior to the meeting. The deadline applies only to contributions from the membership. The secretariat shall post contributions as received on a webpage established for this purpose within one working day, and post within three working days the official versions on the website once reformatted. The membership should submit their contributions using the template published by ITU-R.

The secretariat cannot accept submissions later than the aforementioned deadline. Documents not available at the opening of a meeting cannot be discussed at the meeting.

A2.2.4.2   Contributions shall be provided to the Director electronically, with some exceptions for developing countries unable to do so. The Director may return a document that does not comply with the guidelines, for it to be brought into line.

A2.2.4.3   Contributions should be sent to the Chairman and Vice-Chairmen, if any, of the group concerned as well as to the Chairman and Vice-Chairmen of the SG.

A2.2.4.4   Each contribution should clearly indicate the Question, Resolution or topic and the group (e.g. SG, WP, TG) for which it is intended, and be accompanied by the details of a contact person as may be needed to clarify the contribution.

A2.2.4.5   Contributions should be limited in length (if possible, less than ten pages) and be prepared using standard word-processing software, without using any auto-formatting facility; modifications to existing text should be indicated by means of revision marks (using "Track Changes").

A2.2.4.6   Following the meetings of WPs or TGs, the Chairmen of the groups concerned shall prepare a report for their future meetings giving information regarding progress made and work in progress. These Reports should be prepared within one month of the end of the meeting concerned. In addition, annexes to a Chairman's Report, which contain draft texts for which further study is needed, should be issued by BR within two weeks of the end of the meeting.

A2.2.4.7   When articles are referred to in documents submitted to the BR, such references or bibliography should refer to published materials which are readily available through library services.

A2.3   ITU-R Resolutions

A2.3.1   Definition

A text giving instructions on the organization, methods or programmes of the RA or SG work.

A2.3.2   Adoption and approval

A2.3.2.1   Each SG may adopt, by consensus of all Member States attending the meeting of the SG, draft revised or new Resolutions for approval by the RA.

A2.3.2.2   The RA shall review and may approve revised or new ITU-R Resolutions.

A2.3.3   Suppression

A2.3.3.1   Each SG as well as the RAG may propose, by consensus of all Member States attending the meeting of the SG, to the RA to suppress a Resolution. Such a proposal shall be accompanied by supporting explanations.

A2.3.3.2   The RA may suppress Resolutions based on proposals from the membership, SGs or the RAG.

A2.4   ITU-R Decisions

A2.4.1   Definition

A text giving instructions on the organization of the work of an SG.

A2.4.2   Approval

Each SG may approve, by consensus of all Member States attending the meeting of the SG, revised or new Decisions.

A2.4.3   Suppression

Each SG may delete Decisions by consensus of all Member States attending the meeting of the SG.

A2.5   ITU-R Questions

A2.5.1   Definition

A statement of a technical, operational or procedural study, generally seeking a Recommendation, Report or Handbook (see Resolution ITU-R 5). Each Question shall indicate in a concise form the reason for the study and specify the scope of the study as precisely as possible. It should also, to the extent practicable, include a work programme (i.e. milestones for the progress of the study and

expected date of completion) and indicate the form in which the response should be prepared (e.g. as a Recommendation or other text, etc.).

A2.5.2 Adoption and approval

A2.5.2.1 General considerations

A2.5.2.1.1 New or revised Questions, proposed within SGs, may be adopted by an SG according to the process contained in § A2.5.2.2, and approved:

a)   by the RA (see Resolution ITU-R 5);

b)   by consultation in the interval between RAs, after adoption by an SG, according to provisions contained in § A2.5.2.3.

A2.5.2.1.2 SGs will evaluate draft new Questions proposed for adoption against the guidelines set forth in § A1.3.1.16 of Annex 1 and will include such evaluation when submitting them to administrations for approval according to this Resolution.

A2.5.2.1.3 Each Question shall be assigned to only one SG.

A2.5.2.1.4 Concerning new or revised Questions approved by the RA on topics referred to it by the Plenipotentiary Conference, any other conference, the Council or the RRB, pursuant to No. 129 of the Convention, the Director shall, as soon as possible, consult with the SG Chairmen and Vice-Chairmen and shall determine the appropriate SG to which the Question shall be assigned, and the urgency for the studies.

A2.5.2.1.5 The SG Chairman, in consultation with the Vice-Chairmen, shall, to the extent possible, assign the Question to a single WP or TG or, dependent upon the urgency of a new Question, shall propose the establishment of a new TG, (see § A1.3.2.4 of Annex 1), or shall decide to refer the Question to the next SG meeting. In order to avoid duplication of effort, in cases where a Question is relevant to more than one WP, a specific WP responsible for consolidating and coordinating the texts shall be identified.

A2.5.2.1.6 Updating or deletion of ITU-R Questions

A2.5.2.1.6.1   In view of translation and production costs, any updating of ITU-R Questions for which substantial revision has not been made within the last 10-15 years should, as far as possible, be avoided.

A2.5.2.1.6.2   SGs should continue to review their Questions, particularly older texts, and, if they are found to be no longer necessary or obsolete, should propose their revision or deletion. In this process, the following factors should be taken into account:

a)   if the contents of the Questions still have validity, are they really so useful as to be continuously applicable to ITU-R?

b)   is there another Question developed later which handles the same (or quite similar) topic(s) and could cover the points included in the old text?

c)   in the case that only a part of the Question is regarded as still useful, the possibility to transfer the relevant part to another Question developed later.

A2.5.2.1.6.3   To facilitate the review work, the Director shall endeavour, before each RA, in consultation with the Chairmen of the SGs, to prepare lists of ITU-R Questions that may be identified in § A2.5.2.1.6.1. After the review by the relevant SGs, the results should be reported to the next RA through the Chairmen of the SGs.

A2.5.2.2   Adoption

A2.5.2.2.1 Main elements regarding the adoption of a new or revised Question

A2.5.2.2.1.1   A draft Question (new or revised) shall be considered to be adopted by the SG if not opposed by any delegation representing a Member State attending the meeting. If a delegation of a Member State opposes the adoption, the Chairman of the SG shall consult with the delegation concerned in order for the objection to be resolved. In the case where the Chairman of the SG cannot resolve the objection, the Member State shall provide in written form the reason(s) for its objection.

A2.5.2.2.2 Procedure for adoption at a Study Group meeting

A2.5.2.2.2.1   An SG may adopt draft new or revised Questions, when their texts are available in electronic form at the start of the SG meeting.

A2.5.2.3   Approval

A2.5.2.3.1 When a draft new or revised Question has been adopted by an SG, by the procedures given in § A2.5.2.2, then the text shall be submitted for approval by Member States.

A2.5.2.3.2 Approval of new or revised Questions may be sought:

–   by consultation of the Member States as soon as the text has been adopted by the relevant SG;

–   if justified, at an RA.

A2.5.2.3.3 At the SG meeting where a draft new or revised Question is adopted, the SG shall decide to submit the draft new or revised Question for approval either at the next RA or by consultation of the Member States.

A2.5.2.3.4 When it is decided to submit a draft new or revised Question for approval, with detailed justification, to the RA, the SG Chairman shall inform the Director and request that he takes the necessary action to ensure that it is included in the agenda for the Assembly.

A2.5.2.3.5 When it is decided to submit a draft new or revised Question for approval by consultation, the following conditions and procedures apply:

A2.5.2.3.5.1   For the application of the approval procedure by consultation, within one month of an SG's adoption of a draft new or revised Question, according to § A2.5.2.2, the Director shall request Member States to indicate within two months whether they approve or do not approve the proposal. This request shall be accompanied by the complete final text of the draft new or revised Question.

A2.5.2.3.5.2   The Director shall also inform Sector Members participating in the work of the relevant SG under the provisions of Article 19 of the Convention that Member States are being asked to respond to a consultation on a proposed new or revised Question. This information should be accompanied by the complete final texts for information only.

A2.5.2.3.5.3   If 70 per cent or more of the replies from Member States indicate approval, the proposal shall be accepted. If the proposal is not accepted, it shall be referred back to the SG.

Any comments received along with responses to the consultation shall be collected by the Director and submitted to the SG for consideration.

A2.5.2.3.5.4   Those Member States who indicate that they do not approve the draft new or revised Question shall provide their reasons and should be invited to participate in the future consideration by the SG and its WPs and TGs.

A2.5.2.3.6 Should minor, purely editorial amendments or correction of evident oversights or inconsistencies in the text as presented for approval be necessary, the Director may correct these with the agreement of the Chairman of the relevant SG(s).

A2.5.2.4   Editorial amendments

A2.5.2.4.1 Radiocommunication SGs are encouraged, where appropriate, to editorially update Questions in order to reflect recent changes, such as:

a)   ITU structural changes;

b)   renumbering of Radio Regulation provisions[6], provided the Radio Regulation provision text is not changed;

c)   updating of cross-references between ITU-R texts.

A2.5.2.4.2 Editorial amendments should not be regarded as draft revisions of Questions as specified in §§ A2.5.2.2 to A2.5.2.3, but each editorially updated Questions should be accompanied, until the next revision, by a footnote stating "Radiocommunication Study Group (*nomenclature of Study Group to be inserted as appropriate*) made editorial amendments to this Question in the year (*insert year in which amendments have been made*) in accordance with Resolution ITU-R 1".

A2.5.2.4.3 Each SG may editorially update Questions, by consensus of all Member States attending the meeting of the SG. Should one or more Member State(s) consider that the amendment is more than an editorial update and object to it, the procedures for adoption and approval of draft revisions specified in §§ A2.5.2.2 to A2.5.2.3 should apply.

A2.5.3   Suppression

A2.5.3.1   Each SG shall identify, to the Director, Questions that may be suppressed because studies have been completed, may no longer be necessary or have been superseded. Decisions to delete Questions should take into account the status of telecommunication technology, which may differ from country to country and between Regions.

A2.5.3.2   The deletion of existing Questions shall follow a two-stage process:

a)   agreement to the deletion by an SG if no delegation representing a Member State attending the meeting opposes the deletion;

b)   following this agreement to delete, approval by Member States, by consultation, or forward of the relevant proposals to the next RA, with justification for the action.

Approval of the deletion of Questions by consultation shall be undertaken by using the procedures described in § A2.5.2.3. The Questions proposed for deletion may be listed in the same Administrative Circular treating draft Questions under these procedures.

A2.6   ITU-R Recommendations

A2.6.1   Definition

An answer to a Question, part(s) of a Question or topics referred to in § A1.3.1.2 of Annex 1, which, within the scope of existing knowledge, research and available information, normally provides recommended specifications, requirements, data or guidance for recommended ways of undertaking a specified task; or recommended procedures for a specified application, and which is considered to be sufficient to serve as a basis for international cooperation in a given context in the field of radiocommunications.

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[6]   The BR should be consulted in this respect.

As a result of further studies, taking into account developments and new knowledge in the field of radiocommunications, Recommendations are expected to be revised and updated (see § A2.6.2). However, in the interests of stability, Recommendations should not normally be revised more frequently than every two years, unless the proposed revision, which complements rather than changes the agreement reached in the previous version, urgently needs to be included, or unless significant errors or omissions are identified.

Each Recommendation should include a brief "scope" clarifying the objective of the Recommendation. The scope should remain in the text of the Recommendation after its approval.

NOTE 1 – When Recommendations provide information on various systems relating to one particular radio application, they should be based on criteria relevant to the application, and should include, where possible, an evaluation of the recommended systems, using those criteria. In such cases, the relevant criteria and other pertinent information are to be determined, as appropriate, within the SG.

NOTE 2 – Recommendations should be drafted taking account of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC on intellectual property rights, available at http://www.itu.int/ITU-T/dbase/patent/patent-policy.html.

NOTE 3 – Study Groups may develop wholly within the Study Group itself, without the need for concurrence by other SGs, Recommendations that include "protection criteria" for radiocommunication services within their mandate. However, SGs developing Recommendations that include sharing criteria for radiocommunication services must obtain agreement, prior to their adoption, of the SGs responsible for those services.

NOTE 4 – A Recommendation may contain certain definitions of specific terms that do not necessarily apply elsewhere; however the applicability of the definitions should be clearly explained in the Recommendation.

NOTE 5 – References to ITU-R Reports in a Recommendation are of an informative nature.

A2.6.2   Adoption and approval

A2.6.2.1   General considerations

A2.6.2.1.1 When a study has reached a mature state, based on a consideration of existing ITU-R documentation and of contributions from Member States, Sector Members, Associates or Academia, and has resulted in a draft new or revised Recommendation as agreed by the appropriate WP, TG or JTG, as the case may be, the approval process to be followed is in two stages:

a)   adoption by the SG concerned (see also Note 3 above); dependent on circumstances, the adoption may take place at a Study Group meeting or by correspondence following the SG meeting (see § A2.6.2.2);

b)   following adoption, approval by the Member States, either by consultation between RAs or at an RA (see § A2.6.2.3).

If there is no objection by any Member State attending the meeting, when adoption of a draft new or revised Recommendation is sought by correspondence, its approval is undertaken simultaneously (PSAA procedure). This procedure shall not be applied to ITU-R Recommendations incorporated by reference in the Radio Regulations.

A2.6.2.1.2 Approval may only be sought for a draft new or revised Recommendation within the SG's mandate as defined by the Questions allocated to it in accordance with Nos. 129 and 149 of the Convention or by topics within the scope of Study Group (see § A1.3.1.2 of Annex 1). Approval may however also be sought for revision of an existing Recommendation within the SG's mandate for which no current Question exists.

A2.6.2.1.3 Where a draft Recommendation (or revision) falls, exceptionally, within the scope of more than one SG, the Chairman of the SG proposing the approval should consult and take into account the views of all the other SG Chairmen concerned before proceeding with the procedures

below. Where a draft Recommendation (or revision) has been developed by a JWP or a JTG (see § A1.3.2.5 of Annex 1), all the relevant SGs shall agree the draft Recommendation or adopt it according to the procedures for adoption specified in § A2.6.2.2. In cases where adoption has been reached by all the relevant SGs, the procedures for approval specified in § A2.6.2.3 shall be applied only once. Otherwise, the procedures for simultaneous adoption and approval by correspondence specified in § A2.6.2.4 shall be applied only once.

A2.6.2.1.4 The Director shall promptly notify, by circular letter, the results of the above procedure, indicating the date of entry into force, as appropriate.

A2.6.2.1.5 Should minor, purely editorial amendments or the correction of evident oversights or inconsistencies in the text be necessary, the Director may correct these with the agreement of the Chairman of the relevant SG(s).

A2.6.2.1.6 Any Member State or Sector Member considering itself to be adversely affected by a Recommendation approved in the course of a study period may refer its case to the Director, who shall submit it to the relevant SG for prompt attention.

A2.6.2.1.7 The Director shall inform the next RA of all cases notified in conformity with § A2.6.2.1.6.

A2.6.2.1.9 Updating or deletion of ITU-R Recommendations

A2.6.2.1.9.1   In view of translation and production costs, any updating of ITU-R Recommendations for which substantial revision has not been made within the last 10-15 years should, as far as possible, be avoided.

A2.6.2.1.9.2   SGs (including CCV) should continue to review maintained Recommendations, particularly older texts, and, if they are found to be no longer necessary or obsolete, should propose their revision or deletion. In this process, the following factors should be taken into account:

a)   if the contents of the Recommendations still have validity, are they really so useful as to be continuously applicable to ITU-R?

b)   is there another Recommendation developed later which handles the same (or quite similar) topic(s) and could cover the points included in the old text?

c)   in the case that only a part of the Recommendation is regarded as still useful, the possibility to transfer the relevant part to another Recommendation developed later.

A2.6.2.1.9.3   To facilitate the review work, the Director shall endeavour, before each Radiocommunication Assembly, in consultation with the Chairmen of the SGs, to prepare lists of ITU-R Recommendations that may be identified in § A2.6.2.1.9.1. After the review by the relevant SGs, the results should be reported to the next RA through the Chairmen of the SGs.

A2.6.2.2   Adoption

A2.6.2.2.1 Main elements regarding the adoption of a new or revised Recommendation

A2.6.2.2.1.1   A draft Recommendation (new or revised) shall be considered to be adopted by the SG if not opposed by any delegation representing a Member State attending the meeting or responding to the correspondence. If a delegation of a Member State opposes the adoption, the Chairman of the SG shall consult with the delegation concerned in order for the objection to be resolved. In the case where the Chairman of the SG cannot resolve the objection, the Member State shall provide in written form the reason(s) for its objection.

A2.6.2.2.1.2   If there is an objection to the text that cannot be resolved, one of the following procedures, whichever is applicable, shall be followed:

a)   if there is another meeting of the SG before the Radiocommunication Assembly, the Chairman of the SG shall refer the text back to the WP or TG, as appropriate, giving the reasons for such objection so that the matter may be considered and resolved in the relevant meeting;

b)   if there is no other SG meeting scheduled before the RA, the Chairman of the SG, after having ensured that the relevant provisions of this Resolution have been applied, shall forward the text to the RA, except if the SG agrees otherwise. The Chairman shall accompany the draft Recommendation with a report describing the situation, including the concerns that were raised and their associated reasons, and inviting the RA to make its utmost efforts to resolve the matter by consensus.

In all cases, the BR shall send, as soon as possible, to the RA, WP or TG, as appropriate, the reasons given by the SG Chairman, in consultation with the Director, for the decision and the detailed objection from the administration that objected to the draft new or revised Recommendation.

A2.6.2.2.2 Procedure for adoption at a Study Group meeting

A2.6.2.2.2.1   Upon request of the SG Chairman, the Director shall explicitly indicate the intention to seek adoption of new or revised Recommendations at an SG meeting when announcing the convening of the relevant SG meeting. The announcement shall include summaries of the proposals (i.e. summaries of the new or revised Recommendations). Reference shall be provided to the document where the text of the draft of the new or revised Recommendation may be found.

If this information has not been included in that announcement, it shall be distributed to all Member States and Sector Members and should be sent by the Director so that it shall be received, so far as practicable, at least four weeks before the meeting.

A2.6.2.2.2.2   An SG may adopt draft new or revised Recommendations, when their texts have been prepared sufficiently far in advance of the SG meeting so that they will have been available in electronic form at least four weeks prior to the start of the SG meeting.

A2.6.2.2.2.3   The SG should agree on summaries of draft new Recommendations and summaries of draft revisions to Recommendations, these summaries being included in subsequent Administrative Circulars relating to the approval process.

A2.6.2.2.3 Procedure for adoption by a Study Group by correspondence

A2.6.2.2.3.1   When a draft new or revised Recommendation has not been anticipated for specific inclusion in the agenda of an SG meeting, the participants at the SG meeting may decide, after due consideration, to seek adoption of the draft new or revised Recommendation by the SG by correspondence (see also § A1.3.1.6 of Annex 1).

A2.6.2.2.3.2   The SG should agree on summaries of draft new Recommendations and summaries of draft revisions to Recommendations.

A2.6.2.2.3.3   Immediately following the SG meeting, the Director should circulate these draft new or revised Recommendations to all Member States and Sector Members participating in the work of the SG for full SG consideration by correspondence.

A2.6.2.2.3.4   The period for SG consideration shall be two months following the circulation of the draft new or revised Recommendations.

A2.6.2.2.3.5   If, within this period for SG consideration, no objections are received from Member States, the draft new or revised Recommendation shall be considered to be adopted by the SG.

A2.6.2.2.3.6   If, within this period for consideration, an objection is received from a Member State and cannot be resolved, the draft new or revised Recommendation shall be considered as not adopted, and the procedure described in § A2.6.2.2.1.2 shall apply. A Member State objecting to the adoption shall inform the Director and the Chairman of the SG of the reasons for the objection, and, when the objection cannot be resolved, the Director shall make the reasons available to the next meeting of the SG and its relevant WP.

A2.6.2.3   Approval

A2.6.2.3.1 When a draft new or revised Recommendation has been adopted by a SG, by the procedures given in § A2.6.2.2, then the text shall be submitted for approval by Member States.

A2.6.2.3.2 Approval of new or revised Recommendations may be sought:

a)   by consultation of the Member States as soon as the text has been adopted by the relevant Study Group at its meeting or by correspondence;

b)   if justified, at an RA.

A2.6.2.3.3 At the SG meeting where a draft new or revised Recommendation is adopted or where it is decided to seek adoption by SG by correspondence, the SG shall decide to submit the draft new or revised Recommendation for approval either at the next RA or by consultation of the Member States, unless the SG has decided to use the procedure for simultaneous adoption and approval (PSAA) procedure as described in § A2.6.2.4.

A2.6.2.3.4 When it is decided to submit a draft new or revised Recommendation for approval, with detailed justification, to the RA, the SG Chairman shall inform the Director and request that he takes the necessary action to ensure that it is included in the agenda for the Assembly.

A2.6.2.3.5 When it is decided to submit a draft new or revised Recommendation for approval by consultation, the following conditions and procedures apply:

A2.6.2.3.5.1   For the application of the approval procedure by consultation, within one month of an SG's adoption of a draft new or revised Recommendation, according to one of the methods in § A2.6.2.2, the Director shall request Member States to indicate within two months whether they approve or do not approve the proposal. This request shall be accompanied by the complete final text of the draft new Recommendation, or the complete final text, or modified parts of, the revised Recommendation.

A2.6.2.3.5.2   The Director shall also inform Sector Members participating in the work of the relevant SG under the provisions of Article 19 of the Convention that Member States are being asked to respond to a consultation on a proposed new or revised Recommendation. This information should be accompanied by the complete final texts, or revised parts of the texts, for information only.

A2.6.2.3.5.3   If 70 per cent or more of the replies from Member States indicate approval, the proposal shall be accepted. If the proposal is not accepted, it shall be referred back to the SG.

Any comments received along with responses to the consultation shall be collected by the Director and submitted to the SG for consideration.

A2.6.2.3.5.4   Those Member States who indicate that they do not approve the draft new or revised Recommendation shall provide their reasons and should be invited to participate in the future consideration by the SG and its WPs and TGs.

A2.6.2.3.6 Should minor, purely editorial amendments or correction of evident oversights or inconsistencies in the text as presented for approval be necessary, the Director may correct these with the agreement of the Chairman of the relevant SG(s).

A2.6.2.4 Simultaneous adoption and approval by correspondence

A2.6.2.4.1 When an SG is not in a position to adopt the draft new or revised Recommendation according to the provisions of §§ A2.6.2.2.2.1 and A2.6.2.2.2.2, the SG shall use the procedure for simultaneous adoption and approval (PSAA) by correspondence, if there is no objection by any Member State attending the meeting.

A2.6.2.4.2 Immediately following the SG, the Director should circulate these draft new or revised Recommendations to all Member States and to Sector Members.

A2.6.2.4.3 The period for consideration shall be two months following the circulation of the draft new or revised Recommendations.

A2.6.2.4.4 If, within this period for consideration, no objection is received from a Member State, the draft new or revised Recommendation shall be considered to be adopted by the SG. Since the PSAA procedure has been followed, such adoption is considered to constitute approval and the procedure for approval in § A2.6.2.3 is unnecessary.

A2.6.2.4.5 If, within this period for consideration, an objection is received from a Member State and cannot be resolved, the draft new or revised Recommendation shall be considered as not adopted, and the procedure described in § A2.6.2.2.1.2 shall apply. A Member State objecting to the adoption shall inform the Director and the Chairman of the SG of the reasons for the objection, and, when the objection cannot be resolved, the Director shall make the reasons available to the next meeting of the SG and its relevant WP.

A2.6.2.5 Editorial amendments

A2.6.2.5.1 SG (including CCV) are encouraged, where appropriate, to editorially update maintained Recommendations in order to reflect recent changes, such as:

a) ITU structural changes;

b) renumbering of Radio Regulation provisions[7], provided the Radio Regulation provision text is not changed;

c) updating of cross-references between ITU-R Recommendations;

d) deleting references to Questions that are no longer in force.

A2.6.2.5.2 Editorial amendments should not be regarded as draft revisions of Recommendations as specified in §§ A2.6.2.2 to A2.6.2.4, but each editorially updated Recommendation should be accompanied, until the next revision, by a footnote stating "Radiocommunication Study Group (*nomenclature of Study Group to be inserted as appropriate*) made editorial amendments to this Recommendation in the year (*insert year in which amendments have been made*) in accordance with Resolution ITU-R 1".

A2.6.2.5.3 Each SG may editorially update Recommendations, by consensus of all Member States attending the meeting of the SG. Should one or more Member State(s) consider that the amendment is more than an editorial update and object to it, the procedures for adoption and approval of draft revisions specified in §§ A2.6.2.2 to A2.6.2.4 should apply.

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[7] The BR should be consulted in this respect.

A2.6.2.5.4 Furthermore, editorial updating shall not be applied to the updating of ITU-R Recommendations incorporated by reference in the Radio Regulations. Such updating of ITU-R Recommendations shall be made through the two steps of adoption and approval procedures specified in §§ A2.6.2.2 and A2.6.2.3 of this Resolution.

A2.6.3 Suppression

A2.6.3.1 Each SG is encouraged to review the maintained Recommendations and, if they are found no longer necessary, should propose their deletion. Decisions to delete Recommendations should take into account the status of telecommunication technology, which may differ from country to country and between Regions. Therefore, even if some administrations are in favour of suppressing an old Recommendation, technical/operational requirements addressed in that Recommendation may still be important for some other administrations.

A2.6.3.2 The deletion of existing Recommendations shall follow a two-stage process:

a) agreement to the deletion by an SG if no delegation representing a Member State attending the meeting opposes the deletion;

b) following this agreement to delete, approval by Member States, by consultation.

Approval of the deletion of Recommendations by consultation may be undertaken when using either of the procedures described in § A2.6.2.3 or § A2.6.2.4. The Recommendations proposed for deletion may be listed in the same Administrative Circular treating draft Recommendations under either of these two procedures.

A2.7 ITU-R Reports

A2.7.1 Definition

A technical, operational or procedural statement, prepared by an SG on a given subject related to a current Question or the results of studies without Questions referred to in § A1.3.1.2 of Annex 1.

A2.7.2 Approval

A2.7.2.1 Each SG may approve revised or new Reports, normally by consensus of all Member States attending the meeting of the SG.

After all efforts to reach consensus have been exhausted, the Study Group may approve the draft Report and the Chairman of the SG will invite the objecting Member State to include an attributed statement in the Report and/or in the Summary Record of the SG meeting, at the discretion of that Member State.

Any statement from a Member State contained in the draft Report shall be maintained, unless the Member State having made the statement formally agrees to its deletion.

A2.7.2.2 New or revised Reports developed jointly by more than one SG shall be approved by all the relevant SGs.

A2.7.3 Suppression

Each SG may delete Reports by consensus of all Member States attending the meeting of the SG.

A2.8 ITU-R Handbooks

A2.8.1 Definition

A text which provides a statement of the current knowledge, the present position of studies, or of good operating or technical practice, in certain aspects of radiocommunications, which should be addressed to a radio engineer, system planner or operating official who plans, designs or uses radio services or systems, paying particular attention to the requirements of developing countries. It should be self-contained, require no familiarity with other ITU Radiocommunication texts or procedures, but should not duplicate the scope and content of publications readily available outside ITU.

A2.8.2 Approval

Each SG may approve revised or new Handbooks by consensus of all Member States attending the meeting of the SG. The SG may authorize its concerned subordinate group to approve Handbooks.

A2.8.3 Suppression

Each SG may delete Handbooks by consensus of all Member States attending the meeting of the SG.

A2.9 ITU-R Opinions

A2.9.1 Definition

A text containing a proposal or a request destined for another organization (such as other Sectors of ITU, international organizations, etc.) and not necessarily relating to a technical subject.

A2.9.2 Approval

Each SG may approve revised or new Opinions by consensus of all Member States attending the meeting of the SG.

A2.9.3 Suppression

Each SG may delete Opinions by consensus of all Member States attending the meeting of the SG.

RESOLUTION ITU-R 2-8

Conference Preparatory Meeting

(1993-1995-1997-2000-2003-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)　　　that the duties and functions of the Radiocommunication Assembly (RA), in preparing for World Radiocommunication Conferences (WRCs), are stated in Articles 13 of the ITU Constitution and 8 of the ITU Convention, and in the relevant parts of the General Rules of conferences, assemblies and meetings of the Union;

b)　　　that WRCs invite ITU-R to carry out studies on topics included on the WRC agendas in accordance with the relevant WRC Resolutions;

c)　　　that it is necessary to organize the ITU-R studies and provide the results of these studies to WRCs;

d)　　　that special arrangements are necessary for such preparations,

resolves

1　　　that a Conference Preparatory Meeting (the CPM) shall prepare a Report (the CPM Report) on the ITU-R preparatory studies to the immediately forthcoming World Radiocommunication Conference (WRC)[1];

2　　　that the CPM shall be convened and organized on the basis of the following principles:

a)　　　that the CPM shall be permanent;

b)　　　that the CPM shall address topics on the agenda of the next WRC and make provisional preparations for the subsequent WRC[1];

c)　　　that invitations to participate shall be sent to all Member States of ITU and to all Radiocommunication Sector Members;

d)　　　that documents shall be made available to all Member States of ITU and to all Radiocommunication Sector Members;

e)　　　that the duties of the CPM include the presentation, discussion, rationalization, and updating of material from Radiocommunication Study Groups (SGs), addressing WRC agenda items (see also No. 156 of the Convention) taking into account relevant contributions;

f)　　　that the CPM Report shall include, to the extent practicable, reconciled differences in approaches as contained in the source material. In cases where all efforts to reconcile differences have been exhausted, alternative approaches with their justification could be included;

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[1]　The immediately forthcoming conference, hereafter called in short the "next WRC", is the WRC to be held immediately after the second session of the CPM. The subsequent WRC is the WRC to be held three or four years after the "next WRC".

g)   that the CPM may also receive and consider new material submitted to its second session, including:

    i)   contributions relating to regulatory, technical, operational and procedural matters concerning items on the agenda of the next WRC;

    ii)   contributions on the review of existing WRC Resolutions and Recommendations in accordance with Resolution 95 (Rev.WRC-07) submitted by Member States and the Director of the Radiocommunication Bureau (BR);

    iii)   contributions concerning future agenda items other than those already contained as preliminary agenda items for the subsequent WRC submitted by Member States individually, jointly and/or collectively through their respective regional telecommunication organizations to CPM should be considered for information only. To this effect, executive summaries developed by those contributing Member States, limited to no more than half a page, may be included in an Annex of the CPM Report for information only;

3   that the CPM shall hold two sessions during the interval between WRCs;

4   that the working methods shall be as presented in Annex 1;

5   that guidelines for preparation of the CPM Report are presented in Annex 2.

ANNEX 1

Working methods for the Conference Preparatory Meeting

A1.1   Studies of regulatory, technical, operational and procedural matters shall be undertaken by the ITU-R Study Groups, Working Parties (WPs), Task Groups (TGs) and Joint Task Groups (JTGs), as appropriate.

A1.2   The work of the two sessions of the CPM shall be organized in accordance with §§ A1.2.1 to A1.2.9 below.

A1.2.1   The first session will be for the purpose of coordinating the work programmes of the relevant ITU-R Study Groups, and preparing a draft structure for the CPM Report, based on the agenda for the next and subsequent WRCs, and for taking into account any directives that may have come from the previous WRC. This first session shall be of short duration (in general, no more than two days) and should normally be held immediately after the end of the preceding WRC. The Study Group Chairmen and Vice-Chairmen should participate.

A1.2.2   The first session shall identify the topics for study in preparation for the next WRC and, to the extent necessary, for the subsequent WRC. These topics shall be derived exclusively from the next WRC agenda and the subsequent WRC preliminary agenda and should, as far as possible, be self-contained and independent. For each topic a single ITU-R Study Group (SG) or Working Party (WP) or Task Group (TG) or Joint Task Group (JTG) should be identified to take responsibility (as the responsible group) for the preparatory work, inviting input and/or participation from other concerned ITU-R groups as necessary. As far as possible, existing groups should be used for this purpose, with new groups being established only where this is considered to be necessary.

A1.2.3   The second session shall prepare the CPM Report for the next WRC. The second session shall be of adequate duration to accomplish the necessary work (at least one week but not exceeding two weeks). It shall be scheduled to allow publication of the CPM Report in the six official languages of the Union at least five months before the next WRC.

The deadline for submission of contributions *where translation is required* is one month prior to the second session of the CPM. The deadline for submission of contributions *not requiring translation* is 1600 hours UTC, 14 calendar days prior to the start of the second session of the CPM.

A1.2.4   The draft Report of the Director of the BR for the next WRC on any difficulties or inconsistencies encountered in the application of the Radio Regulations that need to be considered by WRC should be submitted to the second session for information.

A1.2.5   Meetings of the responsible ITU-R groups should be scheduled to facilitate maximum participation by all interested members, avoiding as far as possible any overlap of meetings that might have an adverse impact on the effective participation of Member States. The final documentation of the responsible groups shall be submitted directly to the CPM process, in time for consideration by the CPM Management Team meeting, or exceptionally via the relevant SG.

A1.2.6   Responsible groups are encouraged to identify new topics for study to be considered under the standing agenda item in accordance with Resolution **86 (Rev.WRC-07)** (currently agenda item 7) not later than their penultimate meeting prior to the second session of the CPM in order to provide the ITU Members sufficient time to prepare contributions for the second session.

A1.2.7   In order to facilitate the understanding by all participants of the contents of the draft CPM Report, executive summaries (see § A1.2.3 above) shall be developed by the responsible groups.

A1.2.8   Studies and output developed by the responsible or concerned groups shall strictly observe the requirements mentioned in the text of the agenda item and in the corresponding WRC Resolution concerning that WRC agenda item, and the Radio Regulations.

A1.2.9   Responsible groups shall prepare draft CPM texts for inclusion into the draft CPM Report in accordance with the schedule established by the CPM Steering Committee (see § A1.5).

A1.3   The work of the CPM is directed by a Chairman in consultation and coordination with the Vice-Chairmen. The Chairman and Vice-Chairmen of the CPM are appointed by the RA and are eligible to serve for only one term in their respective offices. Procedures for appointment of a Chairman and Vice-Chairmen of CPM are to follow those for Chairmen and Vice-Chairmen as found in Resolution ITU-R 15 (see also Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference).

A1.4   The first session of the CPM appoints Chapter Rapporteurs to assist in guiding the development of the text that will form the basis of the CPM Report, and to help with the consolidation of texts from the responsible groups into a cohesive draft CPM Report. If a Chapter Rapporteur is not in a position to continue his/her duties, a new one should be appointed by the CPM Steering Committee (see A1.5 below), in consultation with the BR Director.

A1.5   The CPM Chairman, the Vice-Chairmen and the Chapter Rapporteurs constitute the CPM Steering Committee.

A1.6   The Chairman shall convene a meeting of the CPM Steering Committee together with the Chairmen of the responsible groups and the SG Chairmen. This meeting (called the CPM Management Team meeting) shall consolidate the output from the responsible groups into the draft CPM Report, which will be an input document to the second session of CPM.

A1.7   The consolidated draft CPM Report shall be translated into the six official languages of the Union and shall be available in electronic format a minimum of two months prior to the date scheduled for the second session of CPM.

A1.8   Every effort shall be made to ensure that the volume of the CPM Report is kept to a minimum. To this end, responsible groups are urged to maximize the use of references to approved ITU-R Recommendations and Reports, as appropriate, in preparing draft CPM texts.

A1.9 The work of the CPM shall be carried out in accordance with Article 29 of the ITU Constitution in the official languages of the Union.

A1.10 The other working arrangements shall be in accordance with the relevant provisions of Resolution ITU-R 1.

ANNEX 2

Guidelines for preparation of the CPM Report

The CPM Report contains the consolidated outputs of the ITU-R regarding the conference agenda items. The format and the structure of this report is decided by the first session of CPM. The following guidelines should be taken into consideration while developing the text of each agenda item.

A2.1 Executive summary

A2.1.1 In accordance with § A1.2.7 of Annex 1 to this Resolution, an executive summary for each WRC agenda item has to be included in the final CPM text. The appointed Chapter Rapporteur may assist in the preparation of the executive summary.

A2.1.2 In particular, for each WRC agenda item, the executive summary should describe briefly the purpose of the agenda item, summarize the results of the studies carried out and, most importantly, provide a brief description of the method(s) identified that may satisfy the agenda item. The executive summary should be limited to no more than half a page of text.

A2.2 Background sections

A2.2.1 The purpose of the background section in each agenda item is to provide general information in a concise manner, in order to describe the rationale of the agenda item and should be limited to no more than half a page of text.

A2.3 Page limit and format for draft CPM texts

A2.3.1 The responsible groups should prepare draft CPM texts in the agreed format and structure as decided by the first session of the CPM.

A2.3.2 All necessary texts should not exceed a page limit of 10 pages per agenda item or issue.

A2.3.3 In order to achieve this objective, the following should be implemented:

a) the draft CPM texts should be clear and drafted in a consistent and unambiguous manner;

b) the number of proposed methods to satisfy each agenda item is to be kept to an absolute minimum necessary;

c) if acronyms are used, the meaning of the acronym is to be written out in full the first time it appears, and a list of all acronyms is to be provided at the beginning of the Chapters;

d) quoting texts that are already contained in other official ITU-R documents should be avoided by using relevant references (see also § A2.5).

A2.4 Methods to satisfy the WRC agenda items

A2.4.1 The number of proposed methods to satisfy each agenda item should be kept to the absolute minimum necessary, and the description of each method should be as precise and concise as possible.

A2.4.2   In order to reduce the number of methods, a given method may contain alternative approaches for implementation, which should be kept to a minimum.

A2.4.3   The methods and alternative approaches shall be in conformity with, and limited to, the scope of the agenda item and its associated WRC Resolution.

A2.4.4   While a method of "no-change" is always a possible method and normally should not be included amongst the methods, a single explicit "no-change" method could be included on a case-by-case basis, provided it is proposed by a Member State together with (an) accompanying reason(s).

A2.4.5   Examples of regulatory texts could also be developed for the methods and could be presented in the relevant sections of the draft CPM texts relating to regulatory and procedural considerations in accordance with the relevant WRC Resolution. All efforts should be made to keep the methods and regulatory text concise and clear. Terminology that could lead to misunderstanding, such as "option", which could be construed as "optional", should be avoided and "alternative" used instead.

A2.5   References to ITU-R Recommendations, Reports, etc.

A2.5.1   Quoting texts that are already contained in ITU-R Recommendations should be avoided by using relevant references. A similar approach should be followed for ITU-R Reports on a case-by-case basis, as appropriate.

A2.5.2   If ITU-R documents are still undergoing the ITU-R adoption/approval process or are still at the stage of draft documents when the draft CPM texts have to be finalized, they could still be referenced in the draft CPM texts, with the understanding that the references will be further reviewed at the second session of CPM. Working documents or preliminary draft documents should not be referenced in the draft CPM texts unless there is sufficient opportunity to complete them for consideration by the RA prior to WRC.

A2.5.3   Normally, most recent versions of ITU-R Recommendations and/or Reports are referenced in the CPM Report.

A2.5.4   In some cases, specific version number of the existing ITU-R Recommendations and/or Reports may be referenced in the CPM Report.

A2.6   References to the Radio Regulations, W(A)RC Resolutions or Recommendations in the CPM Report

A2.6.1   Apart from the relevant sections dealing with regulatory and procedural considerations, it might be necessary to refer to some Radio Regulations, Conference Resolutions and/or Recommendations. However, in order to reduce the number of pages, the text of those Radio Regulations or other regulatory references should not be repeated or quoted.

RESOLUTION ITU-R 4-8

Structure of Radiocommunication Study Groups

(1993-1995-1997-2000-2003-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a) No. 133 and Article 11 of the ITU Convention;

b) that the work of the Radiocommunication Study Groups is involved with developing the technical, operational and procedural bases for efficient use of the radio spectrum and the geostationary-satellite orbit;

c) that cooperation between the Radiocommunication Sector and international and regional organizations with regard to the development of standards for radiocommunication systems and operations would provide considerable benefits,

resolves

1 that six Radiocommunication Study Groups shall be set up as shown in Annex 1;

2 that, in liaison with the Telecommunication Standardization Sector, the Telecommunication Development Sector, the ITU General Secretariat and with other interested organizations, the Radiocommunication Bureau organizes the work of a Coordination Committee for Vocabulary, the scope of which is given in Annex 2.

ANNEX 1

The Radiocommunication Study Groups

STUDY GROUP 1

SPECTRUM MANAGEMENT

(Spectrum planning, utilization, engineering, sharing and monitoring)

Scope:

Spectrum management principles and techniques, general principles of sharing, spectrum monitoring, long-term strategies for spectrum utilization, economic approaches to national spectrum management, automated techniques and assistance to developing countries in cooperation with the Telecommunication Development Sector.

	Name	**Country/Org.**
Chairman	Mr W. Sayed	Egypt
Vice-Chairmen	Mr G. Abdullayev	Azerbaijan
	Mr A.W. Ahmed	Iraq
	Mr J. Al Mahruqi	Oman
	Mr M. Ayoub	Lebanon
	Mr G. Chand	India
	Mr S. Coulibaly	Mali
	Mr R. Garcia de Souza	Brazil
	Mr M. Haji	Kenya
	Mr T.H. Le	Viet Nam
	Dr I.-K. Lee	Korea (Rep. of)
	Mr A. Nalbandian	Armenia
	Dr G. Owen	Netherlands
	Mr A. Scotti	Italy
	Ms T. Sukhodolskaia	Russian Federation
	Ms B.J. Sykes	United States
	Ms S. Zairi	Morocco
	Mr Zheng Zhao	China

STUDY GROUP 3

RADIOWAVE PROPAGATION

Scope:

Propagation of radio waves in ionized and non-ionized media and the characteristics of radio noise, for the purpose of improving radiocommunication systems.

	Name	**Country/Org.**
Chairman	Ms C. Wilson	Australia
Vice-Chairmen	Ms C. Allen	United Kingdom
	Mr T. Al-Saif	Kuwait
	Mr G.A.-A. Aws Majeed	Iraq
	Mr S.-H. Bae	Korea (Rep. of)
	Mr A. Belkhadir	Morocco
	Mr L. Castanet	France
	Mr Y.R.M. Dhossa	Togo
	Ms O. Iastrebtsova	Russian Federation
	Mr M. Pattanaik	India
	Mr Zhenwei Zhao	China

STUDY GROUP 4

SATELLITE SERVICES[1]

Scope:

Systems and networks for the fixed-satellite service, mobile-satellite service, broadcasting-satellite service and radiodetermination-satellite service.

	Name	**Country/Org.**
Chairman	Mr V. Strelets	Russian Federation
Vice-Chairmen	Mr A. Alnajdi	Saudi Arabia
	Mr T.A. Ashong	Ghana
	Mr D. Badirkhanov	Azerbaijan
	Mr H. Belaid	Algeria
	Ms F. Cheng	China
	Mr A. Damiba	Burkina Faso
	Dr P.K. Jain	India
	Mr T.G. Kim	Kazakhstan
	Mr G. Koffi Yao	Ivory Coast
	Mr T. Kono	Japan
	Ms F. Magnier	France
	Mr I. Mokarrami	Iran (Islamic Republic of)
	Mr M.O. Ndi	Canada
	Mr S.-K. Park	Korea (Rep. of)
	Mr N.P. Phung	Viet Nam
	Ms L. Rabelo Novato Ferreira	Brazil
	Mr O.F. Ramírez Soberanis	Mexico
	Mr V. Yanikgönül	Turkey
	Ms F. Zergani	Morocco

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[1] Study Groups 4 and 6 are invited to work together in joint activities, including possible joint meetings to resolve assignment of Questions related to the broadcasting-satellite service, following the guidelines below:

1) All Questions, or part of Questions, addressing sharing shall be assigned to Study Group 4.

2) All Questions, or part of Questions, addressing frequency usage shall be assigned to Study Group 4.

3) All Questions, or part of Questions, addressing performance objectives and quality of service shall be assigned to Study Group 6.

4) All Questions, or part of Questions, addressing RF performance requirements of satellite links to meet the service requirements specified by Study Group 6, shall be assigned to Study Group 4.

STUDY GROUP 5

TERRESTRIAL SERVICES

Scope:

Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services.

	Name	**Country/Org.**
Chairmen	Mr M. Fenton	United Kingdom
Vice-Chairmen	Mr M. Abdelghany	Egypt
	Mr R. Alakbarli	Azerbaijan
	Mr S. Al-Balooshi	United Arab Emirates
	Mr Y. Alshoudokhi	Saudi Arabia
	Mr J. André	France
	Dr H. Atarashi	Japan
	Mr A.S. Calinciuc	Romania
	Mr A. Darvishi	Iran (Islamic Republic of)
	Ms O. Jammeli	Tunisia
	Mr A. Latrache	Morocco
	Dr H. Mazar	ATDI
	Mr M. Omer	Sudan
	Mr A. Pandey	India
	Dr B. Patten	United States
	Mr J.P. Rocha López	Mexico
	Prof. Dr S. Shavgulidze	Georgia
	Mr A. Shurakhov	Russian Federation
	Ms J. Song	Korea (Rep. of)
	Mr Z.B. Tah	Ivory Coast
	Mr Y. Wan	China

STUDY GROUP 6

BROADCASTING SERVICE[1]

Scope:

Radiocommunication broadcasting, including vision, sound, multimedia and data services principally intended for delivery to the general public.

Broadcasting makes use of point-to-everywhere information delivery to widely available consumer receivers. When return channel capacity is required (e.g. for access control, interactivity, etc.), broadcasting typically uses an asymmetrical distribution infrastructure that allows high capacity information delivery to the public with lower capacity return link to the service provider. This includes production and distribution of programmes (vision, sound, multimedia, data, etc.) as well as contribution circuits among studios, information gathering circuits (ENG, SNG, etc.), primary distribution to delivery nodes, and secondary distribution to consumers.

The Study Group, recognizing that radiocommunication broadcasting extends from the production of programmes to their delivery to the general public, as detailed above, studies those aspects related to production and radiocommunication, including the international exchange of programmes as well as the overall quality of service.

	Name	**Country/Org.**
Chairman	Dr Y. Nishida	Japan
Vice-Chairmen	Mr T. Aguiar Soares	Brazil
	Mr A.S. Al Araimi	Oman
	Mr A.M. Ambani	Kenya
	Mr I. Angri	Morocco
	Mr M.S. Ansari	India
	Mr Ch. Dosch	Germany
	Mr A.J. Kisaka	Tanzania
	Mr A. Lashkevich	Russian Federation
	Mr P. Lazzarini	Vatican City State
	Mr W. Sami	EBU
	Mr F. Ukwela	Nigeria
	Mr J. Xie	China

STUDY GROUP 7

SCIENCE SERVICES

Scope:

1   Systems for space operation, space research, Earth exploration and meteorology, including the related use of links in the inter-satellite service.

2   Systems for remote sensing, including passive and active sensing systems, operating on both ground-based and space-based platforms.

3   Radio astronomy and radar astronomy.

4   Dissemination, reception and coordination of standard-frequency and time-signal services, including the application of satellite techniques, on a worldwide basis.

	Name	**Country/Org.**
Chairman	Mr J. Zuzek	United States
Vice-Chairmen	Mr M.M. Abdelhaseeb	Egypt
	Mr A. Amin	United Arab Emirates
	Mr B. Dudhia	United Kingdom
	Mr R. Han	China
	Mr P.V. Kumaramohan	India
	Mr A. Maiwada	Nigeria
	Dr Eng. R. Mezui Mintsa	Gabon
	Mr R. Nurshabekov	Kazakhstan
	Mr J. Pla	France
	Dr H. Rhee	Korea (Rep. of)
	Mr A. Taleb	Morocco
	Mr I.V. Zheltonogov	Russian Federation

ANNEX 2

CCV

COORDINATION COMMITTEE FOR VOCABULARY

Scope:

Coordination and approval in close collaboration with the Radiocommunication Study Groups, the General Secretariat (Conferences and Publications Department) and other interested organizations (mainly the International Electrotechnical Commission (IEC)), concerning:

–   vocabulary, including abbreviations and initials;

–   related subjects (quantities and units, graphical and letter symbols).

	Name	**Country/Org.**
Chairman	Mr Ch. Rissone	France
Vice-Chairmen	Mr M. Al Hassani	United Arab Emirates
	Ms O. Khimach	Russian Federation
	Mr B. Libondzi	Gabon
	Mr C. Menéndez Argüelles	Spain
	Dr C. Xie	China
	Mr G. Yayi	Benin

RESOLUTION ITU-R 5-8

Work programme and Questions of Radiocommunication Study Groups

(1993-1995-1997-2000-2003-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   those parts of Resolution ITU-R 1 concerning the Questions to be studied by the Radiocommunication Study Groups;

b)   that, for efficient use of available resources, it is necessary for the Radiocommunication Study Groups to focus on core issues and not undertake studies on issues not within the mandate of ITU-R;

c)   that the amount of work performed by the Bureau depends on the number of contributions made in response to the Questions assigned to the Study Groups;

d)   that it is incumbent upon the Study Groups to conduct continual reviews of their work programme and assigned Questions;

e)   that the duties of the Study Groups in fulfilling the purpose of the Union are described in various provisions of the ITU Constitution and Convention,

resolves

1   that the work programme of any Radiocommunication Study Group shall be:

1.1   studies, within the scope of the Study Group, on topics relevant to agenda items, Resolutions and Recommendations of Radiocommunication Conferences, or to ITU-R Resolutions;

1.2   the Questions listed in Annexes 1 to 6, referred to the Study Groups;

1.3   studies, within the scope of the Study Group, that will be carried out in accordance with § A1.3.1.2 of Annex 1 of Resolution ITU-R 1 without Questions;

The texts of the Questions listed in Annexes 1 to 6 are to be found in Document 1 of the series of documents for the next study period of the appropriate Study Group taking into account *considering d)*;

2   that the categories used to identify the priority and urgency of Questions to be studied should be:

C: Conference-oriented Questions associated with work related to specific preparations for, and decisions of, world and regional radiocommunication conferences:

C1:   very urgent and priority studies, required for the next World Radiocommunication Conference;

C2:   urgent studies, expected to be required for other radiocommunication conferences;

S: Questions which are intended to respond to:

–   matters referred to the Radiocommunication Assembly by the Plenipotentiary Conference, any other conference, the Council or the Radio Regulations Board;

–   advances in radiocommunication technology or spectrum management;

–   changes in radio usage or operation:

        S1:   urgent studies which are intended to be completed within two years;

        S2:   important studies, necessary for the development of radiocommunications;

        S3:   required studies, expected to facilitate the development of radiocommunications;

If necessary, following a world or regional radiocommunication conference, the Director of the Radiocommunication Bureau, in consultation with the Chairmen of the Study Groups concerned, may assign appropriate categories to Questions which are related to the decisions of the conference or to the agendas of future world or regional radiocommunication conferences;

3   that each Question shall:

–   be modified to take account of partial answers;

–   identify relevant Study Groups working in closely related areas, to which the text of the Question should be sent for consideration;

4   that Study Groups shall consider all their Questions and make proposals to each Assembly:

–   for the identification and categorization of Questions;

–   for the deletion of Questions, where the study has been completed, where no contributions are expected within the next study period, or, in accordance with § A1.2.1.1 of Annex 1 of Resolution ITU-R 1, where no contributions have been made; such Questions shall be identified as category D;

5   that each Study Group shall report to each Radiocommunication Assembly the progress that has been made in respect of each Question allocated to it with categories C1, C2 or S1;

6   that a Study Group should inform the ITU-R membership about studies without Questions, as stated in *resolves* 1.3, through the ITU website.

ANNEX 1

Questions assigned to Radiocommunication Study Group 1

Spectrum management

Question ITU-R	Title	Status	Category
205-2/1	Long-term strategies for spectrum utilization	NOC	S2
208-1/1	Alternative methods of national spectrum management	NOC	S2
210-3/1	Wireless power transmission	NOC	S3
216-1/1	Spectrum redeployment as a method of national spectrum management	NOC	S2
221-2/1	Compatibility between radiocommunication systems and high data rate telecommunication systems using wired electrical power supply	NOC	S2
222/1	Definition of the spectral properties of transmitter emissions	NOC	S2
232/1	Methods and techniques used in space radio monitoring	NOC	S2
235/1	Spectrum monitoring evolution	NOC	S3
236/1	Impact on radiocommunication systems from wireless and wired data transmission technologies used for the support of power grid management systems	NOC	S3
237/1	Technical and operational characteristics of the active services operating in the range 275-1 000 GHz	NOC	S3
238/1	Characteristics for use of visible light for broadband communications	NOC	S2
239/1	Electronic field measurements to assess human exposure	NOC	S3
240/1	Assessment of spectrum efficiency and economic value	NOC	S2
241/1	Methodologies for assessing or predicting spectrum availability	NOC	S3

ANNEX 2

Questions assigned to Radiocommunication Study Group 3

Radiowave propagation

Question ITU-R	Title	Status	Category
201-7/3	Radiometeorological data required for the planning of terrestrial and space communication systems and space research application	NOC	S2
202-4/3	Methods for predicting propagation over the surface of the Earth	NOC	S2
203-8/3	Propagation prediction methods for terrestrial broadcasting, fixed (broadband access) and mobile services using frequencies above 30 MHz	NOC	S1
204-6/3	Propagation data and prediction methods required for terrestrial line-of-sight systems	NOC	S2
205-2/3	Propagation data and prediction methods required for trans-horizon systems	NOC	S2
206-4/3	Propagation data and prediction methods for fixed and broadcasting-satellite services	NOC	S2
207-5/3	Propagation data and prediction methods for satellite mobile and radiodetermination services above about 0.1 GHz	NOC	S2
208-6/3	Propagation factors in frequency sharing issues affecting space radiocommunication services and terrestrial services	NOC	S2
209-2/3	Variability and risk parameters in system performance analysis	NOC	S3
211-7/3	Propagation data and propagation models in the frequency range 300 MHz to 450 GHz for the design of short-range wireless radiocommunication systems and wireless local area networks (WLAN)	NOC	S3
212-3/3	Ionospheric properties	NOC	S3
213-4/3	The short-term forecasting of operational parameters for trans-ionospheric radiocommunication and aeronautical radionavigation services	NOC	S3
214-6/3	Radio noise	NOC	S2
218-6/3	Ionospheric influences on satellite systems	NOC	S3
222-5/3	Measurements and data banks of ionospheric characteristics and radio noise	NOC	S3
225-7/3	The prediction of propagation factors affecting systems at LF and MF including the use of digital modulation techniques	NOC	S3
226-5/3	Ionospheric and tropospheric characteristics along satellite-to-satellite paths	NOC	S3

Question ITU-R	Title	Status	Category
228-3/3	Propagation data required for the planning of radiocommunication systems operating above 275 GHz	NOC	C1
229-3/3	Prediction of sky-wave propagation conditions, signal intensity, circuit performance and reliability at frequencies between about 1.6 and 30 MHz, in particular for systems using digital modulation techniques	NOC	S3
230-3/3	Prediction methods and models applicable to power line telecommunications systems	NOC	S2
231-1/3	The effect of electromagnetic emissions from man-made sources on the radiocommunication systems and networks	NOC	S2
233-1/3	Methods for the prediction of propagation path losses between an airborne platform and a satellite, ground terminal or another airborne platform	NOC	S2
234/3	Computation of ionospheric scintillation indices	NOC	S3
235/3	Impact of engineered electromagnetic surfaces on radiowave propagation	NOC	S3

ANNEX 3

Questions assigned to Radiocommunication Study Group 4*

Satellite services

Question ITU-R	Title	Status	Category
42-1/4	Characteristics of antennas at earth stations in the fixed-satellite service	NOC	S1
46-3/4	Preferred multiple-access characteristics in the fixed-satellite service	NOC	S2
70-1/4	Protection of the geostationary-satellite orbit against unacceptable interference from transmitting earth stations in the fixed-satellite service at frequencies above 15 GHz	NOC	S3
73-2/4	Availability and interruptions to traffic on digital paths in the fixed-satellite service	NOC	S2
83-6/4	Efficient use of the radio spectrum and frequency sharing within the mobile-satellite service	NOC	S1
84-4/4	Use of non-geostationary-satellite orbits in mobile-satellite services	NOC	S2
87-4/4	Transmission characteristics for a mobile-satellite communication system	NOC	S2
88-1/4	Propagation and mobile earth station antenna characteristics for mobile-satellite services	NOC	S3
91-1/4	Technical and operating characteristics of the radiodetermination-satellite service	NOC	S2
109-1/4	Global Maritime Distress and Safety System requirements for mobile-satellite systems operating in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz	NOC	S1
110-1/4	Interference to the aeronautical mobile-satellite (R) service	NOC	S2
201-1/4	Frequency sharing between mobile-satellite services and other services	NOC	S2
203-1/4	The impact of using small antennas on the efficient use of the geostationary-satellite orbit	NOC	S2
205-1/4	Frequency sharing between non-geostationary satellite feeder links in the fixed-satellite service used by the mobile-satellite service	NOC	S2
208/4	Use of statistical and stochastic methods in evaluation of interference between satellite networks in the fixed-satellite service	NOC	S3
209/4	The use of frequency bands allocated to the fixed-satellite service for both the up and down links of geostationary-satellite systems	NOC	S2

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* Refer to footnote for this Study Group in Resolution ITU-R 4.

Question ITU-R	Title	Status	Category
210-1/4	Technical characteristics for mobile earth stations operating with global non-geostationary-satellite systems in the mobile-satellite service in the band 1-3 GHz	NOC	S1
211-2/4	Interference criteria and calculation methods for the mobile-satellite service	NOC	S2
214/4	Technical implications of steerable and reconfigurable satellite beams	NOC	S1
217-2/4	Interference to the radionavigation-satellite service in the ICAO global navigation satellite system	NOC	S1
218-1/4	Compatibility between on-board processing satellites in the fixed-satellite service and terrestrial networks	NOC	S2
227/4	Technical and operational characteristics of emergency communications in the mobile-satellite service	NOC	S1
231/4	Sharing between networks of the fixed-satellite service using non-geostationary satellites and other networks of the fixed-satellite service	NOC	S2
233/4	Dedicated user digital satellite communications systems and their associated architectures	NOC	S2
236/4	Interference criteria and calculation methods for the fixed-satellite service	NOC	S2
244/4	Sharing between feeder links of the mobile-satellite (non-geostationary) service in the band 5 091-5 250 MHz and the aeronautical radionavigation service in the band 5 000-5 250 MHz	NOC	S2
245-1/4	Out-of-band and spurious emission limits	NOC	S1
248/4	Frequency sharing between systems in the fixed-satellite service and wireless digital networks around 5 GHz	NOC	S3
263-1/4	Performance objectives of digital links in the fixed-satellite service for transmission of Internet or higher layer Protocol packets	NOC	S1
264/4	Technical and operational characteristics of networks of the fixed-satellite service operating above 275 GHz	NOC	S2
266/4	Technical characteristics of high-density fixed-satellite service earth stations operating with geostationary satellite orbit fixed-satellite service networks in the 20/30 GHz bands	NOC	S2
267/4	Technical and operational considerations relating to the advance publication, coordination and notification of fixed-satellite networks	NOC	S2
268/4	Development of methodologies for the assessment of satellite unwanted emission levels before launch	NOC	S3
270-1/4	Fixed-satellite service systems using very wideband spreading signals	NOC	S2

Question ITU-R	Title	Status	Category
271/4	Interference between satellite news gathering (SNG) carriers by unintentional access	NOC	S1
272/4	Frequency sharing between the FSS and the space research service in the 37.5-38 GHz and 40-40.5 GHz bands	NOC	S2
273/4	Support of the modernization of civil aviation telecommunication systems and the extension of telecommunication systems to remote and developing regions with current and planned satellite networks	NOC	S1
274/4	Technical methods for improving the spectrum/orbit utilization	NOC	S1
275/4	Performance objectives of digital links in the fixed-satellite and mobile-satellite services forming elements of the Next Generation Network	NOC	S2
276/4	Availability of digital paths in mobile-satellite services	NOC	S2
277-1/4	Performance objectives for digital fixed-satellite and mobile-satellite services with variable bit-rate paths	NOC	S2
278/4	Use of operational facilities to meet power flux-density limitation under Article 21 of the Radio Regulations	NOC	S1
279/4	Satellite broadcasting of high-definition television	NOC	S1
280/4	Receiving earth station antennas for the broadcasting-satellite service	NOC	S1
281/4	Digital techniques in the broadcasting-satellite service (sound and television)	NOC	S1
282/4	Frequency sharing issues related to the introduction of the broadcasting-satellite service (sound) in the frequency range 1-3 GHz	NOC	S1
283/4	Sharing studies between high-definition television in the broadcasting-satellite service and other services	NOC	S1
284/4	Spectrum management issues related to the introduction of the broadcasting-satellite service (sound) in the frequency range 1-3 GHz	NOC	S1
285/4	Digital broadcasting of multiple services and programmes in the broadcasting-satellite service	NOC	S1
286/4	Contributions of the mobile and amateur services and associated satellite services to the improvement of disaster communications	NOC	S2
287/4	Technical and operational characteristics for packet network transmission in mobile-satellite services	NOC	S1
288/4	Characteristics and operational requirements of radionavigation-satellite service (space-to-Earth, space-to-space, Earth-to-space) systems	NOC	S2

Question ITU-R	Title	Status	Category
289/4	Interactive satellite broadcasting systems (television, sound and data)	NOC	S1
290/4	Broadcasting-satellite means for public warning, disaster mitigation and relief	NOC	S1
291/4	System architecture and performance aspects on integrated MSS systems	NOC	S2
292/4	UHDTV satellite broadcasting systems	NOC	S1
293/4	Antenna radiation diagrams/patterns for small (D/λ around 30) earth station antennas used in fixed-satellite and broadcasting-satellite systems	NOC	S2

ANNEX 4

Questions assigned to Radiocommunication Study Group 5

Terrestrial services

Question ITU-R	Title	Status	Category
1-6/5	Interference protection ratios and minimum field strengths required in the land mobile services	NOC	S2
7-7/5	Characteristics of equipment for the land mobile service between 30 and 6 000 MHz	NOC	S2
37-6/5	Digital land mobile systems for specific applications	NOC	S2
48-7/5	Techniques and frequency usage in the amateur service and amateur-satellite service	NOC	S2
62-2/5	Interference to the aeronautical mobile and aeronautical radionavigation services	NOC	S2
77-7/5	Consideration of the needs of developing countries in the development and implementation of IMT	UNA	S2
101-4/5	Quality of service requirements in the land mobile service	UNA	S2
110-3/5	Reference radiation patterns of point-to-point fixed wireless system antennas for use in sharing studies	NOC	S2
205-5/5	Intelligent transport systems	UNA	S2
209-5/5	Use of the mobile, amateur and amateur-satellite services in support of disaster radiocommunications	UNA	S2
212-4/5	Nomadic wireless access systems including radio local area networks	NOC	S2
215-4/5	Frequency bands, technical characteristics, and operational requirements for fixed wireless access systems in the fixed and/or land mobile services	NOC	S2
229-4/5	Future development of the terrestrial component of IMT	UNA	S2
235/5	Protection criteria for aeronautical and maritime systems	NOC	S2
238-2/5	Mobile broadband wireless access systems	UNA	S2
241-3/5	Cognitive radio systems in the mobile service	UNA	S2
242-2/5	Reference radiation patterns of omnidirectional and sectoral antennas for the fixed and mobile services for use in sharing studies	NOC	S2
246/5	Technical characteristics and channelling requirements for adaptive HF systems	UNA	S2
247-1/5	Radio-frequency arrangements for fixed wireless systems	NOC	S2

Question ITU-R	Title	Status	Category
248/5	Technical and operational characteristics for systems in the fixed service used for disaster mitigation and relief	NOC	S2
250-1/5	Mobile wireless access systems providing telecommunications for a large number of ubiquitous sensors and/or actuators scattered over wide areas as well as machine to machine communications in the land mobile service	NOC	S2
252/5	Frequency sharing and compatibility between systems in the fixed service and systems in other services	NOC	S2
253/5	Fixed service use and future trends	NOC	S2
254/5	Operation of short-range radiocommunication public access system supporting hearing aid systems	NOC	S2
255/5	Performance and availability objectives and requirements for fixed wireless systems, including packet-based systems	UNA	S2
256/5	Technical and operational characteristics of the land mobile service in the frequency range 275-1 000 GHz	UNA	S2
257/5	Technical and operational characteristics of stations in the fixed service in the frequency range 275-1 000 GHz	UNA	S2
258/5	Technical and operational principles for HF sky-wave communication stations to improve the man-made noise HF environment	NOC	S2
259/5	Operational and radio regulatory aspects for planes operating in the upper level of the atmosphere	NOC	S2
260/5	Coexistence analysis between foreign object debris detection systems operating in the frequency range 92 to 100 GHz and earth exploration satellite service sensors in-band and in adjacent bands	NOC	S2
	Draft new Question ITU-R [CAV]/5 – Radiocommunication requirements for connected automated vehicles (CAV)	UNA	S2
	Draft new Question ITU-R [IMT.SPECIFIC APPLICATIONS]/5 – Usage of terrestrial component of IMT systems for specific applications	UNA	S2

ANNEX 5

Questions assigned to Radiocommunication Study Group 6[*]

Broadcasting service

Question ITU-R	Title	Status	Category
12-3/6	Generic bit-rate reduction coding of digital video signals for production, for contribution, for primary and secondary distribution, for emission and for related applications	NOC	S2
19-1/6	Bit-rate reduction coding of audio signals for broadcasting applications	NOC	S2
30/6	Transmitting and receiving antennas at VHF and UHF	NOC	S2
32-1/6	Protection requirements of broadcasting systems against interference from radiation caused by wired telecommunication systems, from emissions of industrial, scientific and medical equipment, and from emissions of short-range devices	NOC	S2
34-3/6	File formats and transport for the exchange of audio, video, data and metadata materials in the professional broadcast environments	NOC	S2
44-4/6	Objective picture quality parameters and associated measurement and monitoring methods for digital television images	NOC	S3
45-6/6	Broadcasting of multimedia and data applications	NOC	S2
49-1/6	Conditional-access broadcasting systems	NOC	S2
56-4/6	Characteristics of terrestrial digital sound/multimedia broadcasting systems for reception by vehicular, portable and fixed receivers	NOC	S2
65/6	Spectrum requirements for sound broadcasting	NOC	S1
69-1/6	Conditions for a satisfactory television service in the presence of reflected signals	NOC	S2
102-4/6	Methodologies for subjective assessment of audio and video quality	NOC	S2
105/6	Spectrum requirements for television broadcasting	NOC	S1
109/6	In-service monitoring of perceived audiovisual quality for broadcasting and distribution networks	NOC	S2
111-1/6	Technical methods for the protection of the privacy of end-users in interactive broadcasting systems (television, sound and data)	NOC	S2
114/6	Characteristics of television receivers and receiving antennas essential for frequency planning	NOC	S2
118-1/6	Broadcasting means for public warning, disaster mitigation and relief	NOC	S2

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[*] Refer to footnote for this Study Group in Resolution ITU-R 4.

Question ITU-R	Title	Status	Category
120/6	Digital sound broadcasting in Region 2	NOC	S2
124/6	Measurement methods for the verification and validation of digital television and sound broadcasting planning procedures	NOC	S2
126-1/6	Recommended operating practices to tailor television programme material to broadcasting applications at various image quality levels display sizes and aspect ratios	NOC	S2
129/6	Impact of audio signal processing and compression techniques on terrestrial FM sound broadcasting emissions at VHF	NOC	S2
130-3/6	Digital interfaces for production, post-production and international exchange of sound and television programmes for broadcasting	NOC	S2
131-1/6	Common core data format for multimedia broadcasting	NOC	S2
132-5/6	Digital terrestrial television broadcasting planning	NOC	S3
133-2/6	Enhancements of digital terrestrial television broadcasting	NOC	S3
135-2/6	System parameters for and management of digital sound systems with and without accompanying picture	NOC	S2
136-2/6	Worldwide broadcasting roaming	NOC	S2
137-1/6	Internet Protocol (IP) interfaces for programme production and exchange	NOC	S3
138/6	Methods for signalling loudness compliance	NOC	S2
139-2/6	Methods for rendering of advanced audio formats	NOC	S2
140-1/6	Global platform for the broadcasting service	NOC	S2
142-3/6	High dynamic range television for broadcasting	NOC	S2
143-1/6	Advanced Immersive Audio-Visual Systems for Programme Production and Exchange for Broadcasting	NOC	S2
144/6	Use of Artificial Intelligence (AI) for broadcasting	NOC	S2
145/6	Systems for enabling access to broadcast and cooperative media for persons with disabilities	NOC	S2
146/6	Spectrum requirements for terrestrial broadcasting	NOC	S1

ANNEX 6

Questions assigned to Radiocommunication Study Group 7

Science services

Question ITU-R	Title	Status	Category
110-2/7	Time codes	NOC	S2
111-1/7	Signal delays in antennas and other circuits and their calibration for high-accuracy time transfer	NOC	S2
118-2/7	Factors which affect frequency sharing between data relay satellite systems and systems of other services	NOC	S2
129-3/7	Unwanted emissions radiated from and received by stations of the science services	NOC	S2
139-4/7	Data transmission for Earth exploration-satellite systems	NOC	S2
141-4/7	Data transmission for meteorological satellite systems	NOC	S2
145-3/7	Technical factors relating to the protection of radioastronomical observations	NOC	S2
146-2/7	Criteria for evaluation of interference to radio astronomy	NOC	S2
152-2/7	Standard frequencies and time signals from satellites	NOC	S2
207-3/7	Time and frequency transfer using digital communication links	NOC	S2
211/7	Frequency sharing between the space research service and other services in the 37-38 GHz and 40-40.5 GHz bands	NOC	S2
221/7	Preferred frequency bands and protection criteria for space research service observations (passive)	NOC	S2
222-2/7	Radio links between earth stations and lunar and planetary missions by means of lunar and/or planetary data relay satellites	NOC	S2
226-2/7	Frequency sharing between the radio astronomy service and other services in bands between 67 and 275 GHz	NOC	S2
230-1/7	Preferred frequency bands and protection criteria for radio astronomy measurements in space	NOC	S2
231/7	Earth exploration-satellite service (active) and space research service (active) operating above 100 GHz	NOC	S2
234/7	Frequency sharing between active sensor systems in the Earth exploration-satellite service and systems operating in other services in the 1 215-1 300 MHz band	NOC	S2
236-2/7	The future of the UTC time scale	NOC	C2
237/7	Technical and operational factors relating to interference mitigation practices at radio astronomy stations	NOC	S2

Question ITU-R	Title	Status	Category
238/7	Trusted time source for time stamp authority	NOC	S2
239/7	Instrumentation time codes	NOC	S2
242/7	Radio quiet zones	NOC	S2
244/7	Interference between standard frequency and time signal services operating between 20 and 90 kHz	NOC	S2
245/7	Interference to the standard frequency and time signal service in the low-frequency band caused by noise from electrical sources	NOC	S2
246/7	Future bandwidth requirements for the space research service (deep space)	NOC	S2
247/7	Emergency radiocommunications for human space flight	NOC	S2
248/7	Timing Information from Global Navigation Satellite Systems (GNSS) and their augmentations	NOC	S2
249/7	Time and frequency information from "enhanced" LOng Range Aid to Navigation (eLORAN)	NOC	S2
250/7	Application and improvement of two-way satellite time and frequency transfer (TWSTFT)	NOC	S2
251/7	Ground-based passive sensors	NOC	S2
253/7	Relativistic effects in the transfer of time and frequency in the vicinity of the Earth and in the solar system	NOC	S2
255/7	Detection and resolution of radio frequency interference to Earth exploration-satellite service (passive) sensors	NOC	S1
256/7	Space weather observations	NOC	S3
257/7	Technical and operational characteristics of radio astronomy applications operating above 275 GHz	NOC	S2

RESOLUTION ITU-R 6-3*

Liaison and collaboration with the ITU Telecommunication Standardization Sector

(1993-2000-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that the Radiocommunication (ITU-R) Study Groups are charged to focus on the following in the study of Questions assigned to them:

"a)   use of the radio-frequency spectrum in terrestrial and space radiocommunications and of the geostationary-satellite and other satellite orbits;

b)   characteristics and performance of radio systems;

c)   operation of radio stations;

d)   radiocommunication aspects of distress and safety matters;" (Article 11 of the ITU Convention, Nos. 151 to 154);

b)   that the Telecommunication Standardization (ITU-T) Study Groups are charged to:

"... study technical, operating and tariff questions and prepare recommendations on them with a view to standardizing telecommunications on a worldwide basis, including recommendations on interconnection of radio systems in public telecommunication networks and on the performance required for these interconnections;" (Article 14 of the Convention, No. 193);

c)   that the two Sectors were given the responsibility of jointly agreeing on the assignment of studies and to keep the division of studies constantly under review (Nos. 158 and 195 of the Convention);

d)   that the initial allocation of work between ITU-T and ITU-R has been completed,

considering further

a)   Resolution 16 (Rev. Minneapolis, 1998) of the Plenipotentiary Conference;

b)   that, under *resolves* 2 of Resolution 176 (Rev. Dubai, 2018) of the Plenipotentiary Conference, the three ITU Sectors work closely with all organizations concerning human exposure to electromagnetic fields (EMF);

c)   that studies in accordance with Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on facilitating the Internet of Things to prepare for a globally connected world require close cooperation between the ITU-R and ITU-T in this area;

d)   Resolution ITU-R 66 of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of the Internet of Things,

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*   This Resolution should be brought to the attention of the ITU Telecommunication Standardization Sector.

noting

that Resolution 18 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly provides mechanisms for ongoing review of the allocation of work and cooperation between the ITU-R and ITU-T Sectors,

resolves

1   to refer to the Radiocommunication Advisory Group in collaboration with the Telecommunication Standardization Advisory Group, the continuing review of new and existing work and its distribution between the two Sectors, for approval by Members in accordance with the procedures laid down for the approval of new or revised Questions taking into account the activities and results of the ongoing restructuring efforts within ITU;

2   that the principles for the allocation of work to the Radiocommunication Sector and Telecommunication Standardization Sector (see Annex 1) should be used to give guidance in the allocation of work to the Sectors;

3   that, if considerable responsibilities in both Sectors in a particular subject are identified, either:

a)   the procedure as given in Annex 2 should be applied, or

b)   a joint meeting may be arranged by the Directors, or

c)   the matter should be studied by relevant Study Groups of both Sectors with appropriate coordination (see Annex 3 and Annex 4),

invites

the Directors of the Radiocommunication and Telecommunication Standardization Bureaux to strictly observe the provisions of *resolves* 3 and to identify ways and means of strengthening this cooperation.

ANNEX 1

Principles for the allocation of work to the Radiocommunication and Telecommunication Standardization Sectors

1   General

Principle 1

The approach to work in a Sector needs to be task-oriented, with an appropriate Study Group (or designated group) responsible for coordination. Further assignment of detailed tasks within a given work item or subject area would then occur, with special arrangements for handling work which crosses Sector boundaries.

Work planning may start with a service or system concept, and would include development of overall network or service architectures and identification of interfaces through to more detailed specification and linking of tasks.

Activity related to ongoing review of existing Recommendations needs to be accommodated as a general area of work.

2 Roles of the Sectors

Within a task-oriented approach, experts of both Sectors should be able to work as part of a well-managed team.

Principle 2

Telecommunication Standardization Sector work includes interworking arrangements required for either radio-based equipment within a public telecommunication network or radio systems requiring interconnection for the carriage of public correspondence.

NOTE 1 – Public correspondence: any telecommunication which offices and stations must, by reason of their being at the disposal of the public, accept for transmission.

In addition, the Recommendations developed by the Telecommunication Standardization Sector need to provide for the capabilities required to support the particular characteristics of radio systems. Similarly, the work of the Telecommunication Radiocommunication Sector should complement the work of the Standardization Sector, especially where it relates to the use of radio-based technology in telecommunication networks. The two Sectors will therefore both need to consider interface questions.

The term "public correspondence" should not be interpreted too restrictively in Principle 2 (and elsewhere). The word "includes" is intended to imply that the carriage of related classes of traffic (e.g. government, service) or user applications are not excluded.

Principle 3

Radiocommunication Sector work related to network standards includes studies addressing the characteristics, performance, operation and spectrum aspects of radio-based equipment or radio systems as necessary to support the interconnection and interworking arrangements identified by the Telecommunication Standardization Sector.

The characteristics of radio-based equipment refer to those characteristics dealing with the equipment and the physical environment in which the equipment must work. Examples include performance, modulation, coding, error correction, maintenance and other aspects that may affect the interface signals and protocols that are able to be supported.

Principle 4

Before specific tasks are allocated, services, network architectures, and interfaces should be identified as clearly as possible.

For example, the Telecommunication Standardization Sector and the Radiocommunication Sector would jointly identify interfaces to be supported by the system under study. The Radiocommunication Sector will also need to identify the scope and capabilities of radio systems needed to meet the interface requirements and achieve optimum spectrum/orbit utilization.

Principle 5

Work unique to the Radiocommunication Sector covers matters related to spectrum and orbit utilization and efficiency and, *inter alia*, all aspects of services not used for public correspondence, for example radiodetermination, independent mobile radio services, broadcasting, safety and distress operation, remote sensing, amateur radio, and radio astronomy.

Principle 6

The studies in one Sector must complement those of the other Sector where a task crosses Sector boundaries noting that in some cases, joint studies may be required as the most practical option. To guide actual work allocations, the coordinating Sector (as user) could produce statements on "desirable/required characteristics". The potential provider Sector (or Study Group) could on its own initiative, or in response, develop statements of technology capability in the form of "achievable/typical characteristics".

Mutual dependency will require continued cooperation where both Sectors have an interest in the work. In establishing tasks toward standards for a service based on technology of both Sectors, the coordinating Sector must make best use of established sources of skill and knowledge. Joint ad hoc Groups could be established as needed to ensure the best possible progress and information exchange, where necessary.

3 Coordination on new study Questions

Coordination on study Questions is needed. A key element of such arrangements is the maintenance of a satisfactory pace, quality of output and avoidance of delays in progressing current work.

Principle 7

Standardization work should continue in both Sectors while suitable arrangements are developed and put in place to maintain the pace and quality of output.

Coordination on study Questions should be monitored and reviewed by the Advisory Groups for the purpose of ensuring timely and progressive output.

Some new study Questions may include components which fall into both Sectors. In line with the project approach and efficient management practice, such Questions should be revised so that the tasks for each Sector can be clearly identified, or establish joint arrangements, if necessary.

Principle 8

Study Groups should continue as efficient and effective sources of special skills in the task-oriented environment.

Task orientation should not lead to numerous, independent project groups which potentially duplicate or diverge from established work. Where it is appropriate to establish a special group (e.g. to address interface or interworking issues), it should draw skills from the relevant Study Groups, appropriately limiting the scope of the project group, while following the guidelines in *resolves* 3. In this way, compatibility and consistency across multiple applications is maintained. Recommendations from such special groups, in any case, have to be approved by the appropriate Study Group prior to submission to the ITU Members for approval.

ANNEX 2

Procedural method of cooperation

With respect to *resolves* 3 *a)*, the following procedure should be applied:

a) the Radiocommunication and Telecommunication Standardization Advisory Groups may jointly nominate the Sector which will be leading in the work and will finally approve the deliverable;

b) the leading Sector will request the other Sector to indicate those requirements which it considers essential for integration in the deliverable;

c) the leading Sector will base its work on these essential requirements and integrate them in its draft deliverable;

d) during the process of development of the required deliverable the leading Sector shall consult with the other Sector in case it meets difficulties with these essential requirements. In case of agreement on revised essential requirements the revised requirements shall be the basis for further work,

e) when the deliverable concerned comes to maturity, the leading Sector shall seek once more the views of the other Sector.

In the determination of the work responsibility it may be appropriate to progress the work by drawing jointly on the skills of both Sectors.

ANNEX 3

Coordination of the radiocommunication and telecommunication standardization activities through Intersector Coordination Groups

With respect to *resolves* 3 *c)* the following procedure shall be applied when two or more Study Groups of the two ITU Sectors are concerned in the same aspects of a specific technical subject:

a) the joint meeting of the advisory groups as indicated in *resolves* 1, may, in exceptional cases, establish an Intersector Coordination Group (ICG) to coordinate the work of both Sectors and to assist the advisory groups in coordinating the related activity of their respective Study Groups;

b) the joint meeting shall, at the same time, nominate the Sector which will be leading in the work;

c) the mandate of each ICG shall be clearly defined by the joint meeting, based on the particular circumstances and issues at the time the group is established; the joint meeting shall also establish a target date for termination of the ICG;

d) the ICG shall designate a Chair and a Vice-Chair, one representing each Sector;

e) the ICG shall be open to Members of both Sectors in accordance with Nos. 86 to 88 and 110 to 112 of the Constitution;

f) the ICG shall not develop Recommendations;

g) the ICG shall prepare reports on its coordinating activities to be presented to each Sector's Advisory Group; these reports shall be submitted by the Directors to the two Sectors;

h)   an ICG may also be established by the Radiocommunication Assembly or by the World Telecommunication Standardization Assembly following a recommendation by the advisory group of the other Sector;

i)   the cost of an ICG shall be supported by the two Sectors on an equal basis and each Director shall include in the budget of his Sector, budgetary provisions for such meetings.

ANNEX 4

Coordination of the radiocommunication and telecommunication standardization activities through Intersector Rapporteur Groups

With respect to *resolves* 3 *c)* the following procedure shall be applied when work on a particular subject could be best performed by bringing together technology experts from the concerned Study Groups or Working Parties of the two ITU Sectors to cooperate on a peer-to-peer basis in a technical group:

a)   the concerned Study Groups or Working Parties in the two Sectors may, in special cases, agree by mutual consultation to establish an Intersector Rapporteur Group (IRG) to coordinate the work of their Study Groups or Working Parties on some specific technical issue, informing TSAG and RAG of this action through a liaison statement;

b)   the concerned Study Groups or Working Parties in the two Sectors shall, at the same time, agree on clearly defined terms of reference for the IRG, and establish a target date for completion of the work and termination of the IRG;

c)   the concerned Study Groups or Working Parties in the two Sectors shall also designate the Chairman (or co-Chairmen) of the IRG, taking into account the requested specific expertise and ensuring equitable representation of all the concerned Study Groups or Working Parties in each Sector;

d)   being a Rapporteur Group, the IRG shall be regulated by the provisions applicable to Rapporteur Groups in Resolution ITU-R 1 and in Recommendation ITU-T A.1; participation is limited to members of ITU-T and ITU-R;

e)   in fulfilling its mandate, an IRG may develop draft new Recommendations or draft revisions to Recommendations, as well as draft new Reports or draft revisions to Reports, to be submitted to its parent Study Groups or Working Parties for further processing as appropriate;

f)   the results of the IRG's work should represent the agreed consensus of the Group or reflect the diversity of views of the participants in the Group;

g)   an IRG shall also prepare reports on its activities, to be submitted to each meeting of its parent Study Groups or Working Parties;

h)   an IRG shall normally work by correspondence or through teleconference, however it may occasionally take the opportunity of meetings of its parent Study Groups or Working Parties, to hold short face-to-face concurrent meetings, if this is feasible without support by the Sectors.

RESOLUTION ITU-R 7-4

Telecommunication development including liaison and collaboration with the ITU Telecommunication Development Sector

(1993-2000-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that one of the purposes of the Union is to "foster international cooperation and solidarity in the delivery of technical assistance to the developing countries and the creation, development and improvement of telecommunication equipment and networks in developing countries by every means at its disposal, ..." (No. 14 of the ITU Constitution);

b)   that a further purpose of the Union is also to "undertake studies, make regulations, adopt resolutions, formulate Recommendations and Opinions and collect and publish information concerning telecommunication matters" (No. 18 of the Constitution);

c)   that the Constitution and the ITU Convention consolidate the activities of the ITU relating to radiocommunications in the Radiocommunication Sector and the activities relating to the technical cooperation with, and assistance to, developing countries in the Telecommunication Development Sector;

d)   that, in accordance with No. 78 of the Constitution, the functions of the Radiocommunication Sector shall be, bearing in mind the particular concerns of developing countries, to fulfil the purposes of the Union, as stated in Article 1 of the Constitution, relating to radiocommunication;

e)   that Nos. 159 and 160 of the Convention require that the Radiocommunication Study Groups "... pay due attention to the study of Questions and to the formulation of Recommendations directly connected with the establishment, development and improvement of telecommunications in developing countries at both the regional and international levels" and that, for the purpose of facilitating the review of activities in the Radiocommunication Sector, "... measures should be taken to foster cooperation and coordination with ... the Telecommunication Development Sector";

f)   that Resolution 5 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference further instructs the Director of the Telecommunication Development Bureau in close collaboration with the Directors of the Radiocommunication and Telecommunication Standardization Bureaux, to consider and implement the best ways and means to assist developing countries, and in particular least developed countries, in preparing for and participating actively in the work of the three Sectors, and notably in the Sector advisory groups, assemblies and conferences and in the Study Groups of particular relevance to developing countries;

g)   that Resolution 66 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Director of the Telecommunication Development Bureau to implement, as a priority, in close coordination with the Director of the Radiocommunication Bureau and the Director of the Telecommunication Standardization Bureau, strategies and mechanisms to encourage and facilitate the efficient use of web-based documents and publications by the developing countries, and in particular least developed countries, small island developing states, landlocked developing countries and countries with economies in transition;

h) that Resolution 9 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on the participation of countries, particularly developing countries, in spectrum management, invites the Director of the Radiocommunication Bureau to ensure that ITU-R continues the collaboration with ITU-D in the implementation of that Resolution;

i) that Resolution 47 (Rev. Dubai, 2014) of the World Telecommunication Development Conference instructs the Director of the Telecommunication Development Bureau to collaborate closely with the Director of the Radiocommunication Bureau in order to introduce best practices in the application of ITU-R Recommendations;

j) that, under *resolves* 1 of Resolution 167 (Rev. Dubai, 2018) of the Plenipotentiary Conference, ITU should further develop its facilities and capabilities for remote participation by electronic means in appropriate meetings of the Union, and under *resolves* 2 thereof, ITU should continue to develop its electronic working methods concerning the development, distribution and approval of documents, and the promotion of paperless meetings;

k) that, under *resolves* 2 of Resolution 176 (Rev. Dubai, 2018) of the Plenipotentiary Conference, the three ITU Sectors work closely with all organizations concerning human exposure to electromagnetic fields (EMF);

l) that, under *resolves* of Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, ITU should ensure the preparation of an updated list containing the areas of mutual interest to the three Sectors,

noting

a) the very limited material and financial resources available to the developing countries, preventing them from participating regularly in the work of the Radiocommunication Study Groups;

b) the adverse effects which the absence of the developing countries from Study Group activities has on the universal nature of Study Group decisions and, possibly, on their effective application;

c) that the procedure for adopting Recommendations by correspondence necessitates adequate exchange of information to obtain the broadest possible support;

d) that, the Radiocommunication Study Group work involves Radiocommunication Conference preparation including procedures and other matters related to the Radio Regulations, all countries, irrespective of their level of development, need to be fully informed of developments in the studies;

e) that the information meetings and informal meetings for World Radiocommunication Conference preparation provide participants with an opportunity to exchange information and views on the studies regarding WRC agenda items;

f) that electronic meetings may lead to increased efficiency of the activities of ITU, for example by reducing the need for travel,

further considering

a) the important function of the Telecommunication Development Bureau in the provision of efficient consultancy to developing countries and the need to benefit in this respect from the expertise existing in the Secretariat and Study Groups of the Radiocommunication Bureau;

b) that the complementary activities in the two Sectors, when appropriately coordinated, would benefit greatly the developing countries,

recognizing

1   that the developing countries themselves should, to the extent possible:

1.1   participate in an active manner in the work of the Radiocommunication Study Groups, and provide any relevant technical information they possess concerning the conditions in their respective countries;

1.2   exchange technical information on Study Group matters among themselves in areas of common interest;

1.3   take advantage of the participation of countries of the same region in the meetings of the Study Groups;

1.4   when they face difficulties which may be of interest to other administrations during the course of operating radio services, be encouraged to submit contributions to the Radiocommunication Bureau describing these difficulties. The Director of the Radiocommunication Bureau will communicate these contributions to the appropriate Study Group(s);

2   that the electronic working methods such as, but not limited to, audio and video webcasts, use of videoconferencing, real-time captioning and web-based collaboration tools, that are currently introduced at ITU will facilitate the remote participation of developing countries in the work of ITU;

3   that providing free online access to ITU-R Recommendations, Reports and Handbooks facilitates awareness and participation of developing countries in the work of ITU-R;

4   that electronic remote participation will reduce travel costs and will facilitate wider participation of developing countries in the work of ITU-R meetings that require their attendance;

5   that the following are substantial areas of ITU-D and ITU-R mutual interest: participation of countries, particularly developing countries, in spectrum management (WTDC Resolution 9); deployment of broadband access technologies in developing countries (ITU-D Question 1/1); telecommunications/ICTs for rural and remote areas (Q 5/1); migration and adoption of digital broadcasting and implementation of new services (Q 2/1); utilization of telecommunications/ICTs for disaster risk reduction and management (Q 5/2); ICTs and the environment (Q 6/2); human exposure to electromagnetic fields (Q 7/2); telecom infrastructure sharing and Cognitive Radio Systems (CRS) assisting Licensed Shared Access (LSA) or Dynamic Spectrum Access (DSA),

further recognizing

that in accordance with No. 134 of the Convention, the Radiocommunication Assembly shall "group Questions of interest to developing countries, as far as possible, in order to facilitate their participation in the study of those Questions",

convinced

of the need to enhance the participation and attendance of developing countries in the work of ITU,

resolves

1   that the Radiocommunication Advisory Group (RAG) and the Director of the Radiocommunication Bureau shall continue to cooperate actively with the Telecommunication Development Advisory Group (TDAG) and the Director of the Telecommunication Development Bureau in identifying and implementing means facilitating developing countries to participate in the Study Group's activities;

2   to continue facilitating the participation of developing countries through extensive use of remote participation by electronic means, as appropriate, at meetings of ITU-R Study Groups,

Working Parties and Task Groups and the Telecommunication Development Bureau should be urged to consider possibilities for providing developing countries with such means;

3   that, pursuant to No. 224 of the Convention, the Director of the Radiocommunication Bureau shall assist the Director of the Telecommunication Development Bureau in organizing worldwide and/or regional information meetings, seminars and workshops that will provide developing countries with the required information on ITU-R activities;

4   that, pursuant to No. 166 of the Convention, the Director of the Radiocommunication Bureau shall provide assistance to the developing countries in their preparations for radiocommunication conferences;

5   that, pursuant to No. 175B of the Convention, the Director of the Radiocommunication Bureau shall take practical measures to facilitate the participation of developing countries in the radiocommunication study groups and other groups;

6   that the Director of the Radiocommunication Bureau, assisted by the Radiocommunication Study Groups, shall provide the Telecommunication Development Bureau with the necessary assistance in the development and updating of Handbooks and ITU-D Reports;

7   that the Director of the Radiocommunication Bureau, assisted by the Radiocommunication Study Groups, shall contribute to and participate in the work of the Telecommunication Development Study Groups, when considering relevant studies to which they may give valuable inputs;

8   that the Director of the Radiocommunication Bureau shall cooperate with the Directors of the other two Bureaux relating to the activities in the development of, and updating of, Handbooks and Reports with the view to avoiding duplication of effort;

9   that, in the process of cooperating actively with the Telecommunication Development Bureau, all radiocommunication activities of the Union in the field of telecommunication development should be closely coordinated in the interest of achieving efficiency, effectiveness and avoiding duplication of effort;

10   that the Director of the Radiocommunication Bureau, in accordance with Objective R.3, and related outputs, of ITU-R pursuant to Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference shall foster the acquisition and sharing of knowledge and know-how on radiocommunications and provide assistance to members, in particular developing countries and LDCs; including assistance in the development of the ITU-D Spectrum Management Training Programme (SMTP),

> *instructs the Chairmen of the Study Groups and the Director of the Radiocommunication Bureau*

to take all appropriate actions for the implementation of this Resolution, among others, by motivating participants in the Radiocommunication Sector to provide assistance to the Telecommunication Development Sector,

> *urges administrations and members of the Radiocommunication Sector*

to actively participate in the implementation of this Resolution, among others, by providing experts to assist developing countries, by contributing to the information meetings and seminars and workshops, by providing the necessary expertise in matters under consideration by the Telecommunication Development Study Groups and by hosting trainees from developing countries.

RESOLUTION ITU-R 8-3

Radio-wave propagation studies and measurement campaigns in developing countries

(1993-2000-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   the importance of radio-wave propagation measurement campaigns for acquiring data for the planning and coordination of various radiocommunication services, particularly at regional and sub-regional levels in developing countries;

b)   that various recommendations of world radiocommunication conferences have requested the Radiocommunication Study Groups to encourage and assist in initiating the study of radio-wave propagation and radio noise in those areas where few or no measurements have been made;

c)   that Resolution **5** (Rev.WRC-15) resolves to instruct the Secretary-General to offer the assistance of the Union to developing countries in the tropical areas which endeavour to carry out national propagation studies in order to improve and develop their radiocommunications; and to assist these countries, if necessary with the collaboration of international and regional organizations which may be concerned, in carrying out national propagation measurement programmes, including collecting appropriate meteorological data; and to arrange funds and resources for this purpose from the United Nations Development Programme (UNDP) and other sources in order to enable the Union to provide the countries concerned with adequate and effective technical assistance for the purpose of this Resolution,

recognizing

that there continue to be many regions of the world, particularly in the tropics, for which propagation data are not available,

noting with satisfaction

the contributions made by some Member States and Sector Members to the radio-wave propagation measurements in some areas of Africa, South America and Asia,

resolves

1   that Radiocommunication Study Group 3 should identify within its work programme and in consultation with the concerned countries, radio-wave propagation studies relating to tropical and subtropical regions of the world for which there is a lack of data. The programme of work of Radiocommunication Study Group 3 should clearly define study programmes in which engineers and scientists from the developing countries also contribute to collecting data and to developing analytical methods;

2   that scientists and engineers from developing countries should be encouraged to participate actively in these study programmes and carry out studies on topics identified by Radiocommunication Study Group 3:

–   by means of research in their home countries;

–   by participation, whenever possible, in meetings held in connection with Radiocommunication Study Group or Working Party meetings, in the regions concerned;

–   by means of working visits to radio-wave propagation laboratories of Member States and Sector Members participating in the work of the Radiocommunication Study Groups;

3   that the Radiocommunication Bureau, with appropriate support from Radiocommunication Study Group 3, should collaborate closely with the Telecommunication Development Bureau in identifying suitable propagation measurement campaigns in the regions of interest and should offer all necessary technical guidance to the Telecommunication Development Bureau in the establishment of any such measurements;

4   that the Director of the Radiocommunication Bureau, in close cooperation with the Director of the Telecommunication Development Bureau and the administrations concerned, be requested to determine the objectives, scope, technical means and staff required for carrying out identified propagation measurement campaigns and to seek through the Secretary-General funding and other arrangements from appropriate sources to implement the above decisions with respect to propagation measurement activities;

5   that Member States and Sector Members be urged to make contributions (in cash and/or in kind) to support the radio propagation measurement campaigns in the developing countries;

6   that the administrations interested in the measurement campaigns be requested to designate suitably qualified personnel to participate actively in these campaigns.

RESOLUTION ITU-R 9-6[*]

**Liaison and collaboration with other relevant organizations,
in particular ISO, IEC and CISPR**

(1993-2000-2003-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

bearing in mind

Article 50 of the ITU Constitution,

considering

a) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023;

b) that a number of organizations, including ISO and IEC, including relevant committees and subcommittees therein, dealing with radiocommunications standardization, exist;

c) that, in respect of radio interference, the International Special Committee on Radio Interference (CISPR) was re-established in 1950 as a Special Committee under the sponsorship of IEC, in order to secure greater uniformity in the method of measurement and stipulation of limits to avoid difficulties in the exchange of goods and services, while recognizing that the status of CISPR differs from other IEC Technical Committees in that CISPR Member Bodies not only comprised National Committees of IEC, but also a number of international organizations, including ICAO and broadcasting unions, interested in the reduction of radio interference;

d) that such organizations have the potential for identifying, defining and proposing solutions of particular problems of interest to the Radiocommunication Study Groups and for assuming responsibility for maintaining standards for such systems;

e) that the Radio Regulations and various ITU-R Recommendations and Reports already take account of Standards and Recommended Practices of ICAO and Performance Standards of IMO relevant to the purposes of the Union which have come into force as a result of cooperation by ICAO and IMO with ISO and IEC, including relevant committees and subcommittees therein;

f) that cooperation with ISO and IEC is already well established in ITU-T through Resolution ITU-T 7;

g) that one objective of the Radiocommunication Study Groups is to harmonize the work in radiocommunications with that of regional/national bodies and other international bodies;

h) that making reference in ITU-R Recommendations and Reports to organizations dealing with matters affecting radiocommunications can minimize publication and translation costs to ITU, noting that it may increase the customer's total cost of acquiring such ITU-R Recommendations and Reports when the costs of non-ITU referenced documents are also included;

i) that such organizations may offer a means of improving the dissemination and effectiveness of ITU-R Recommendations and Reports;

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[*] This Resolution should be brought to the attention of the Telecommunication Standardization Sector and the Telecommunication Development Sector.

j)   that the establishment of appropriate arrangements with other organizations in relation to copyright issues is desirable;

k)   that the role of the World Standards Cooperation (WSC) is to strengthen and advance the voluntary consensus-based international standards systems of ITU-R, ITU-T, ISO and IEC, including relevant committees and subcommittees therein,

    noting

a)   that references to standards published outside of the ITU-R are not appropriate in ITU-R Recommendations that may be incorporated-by-reference into the Radio Regulations;

b)   that groups have been formed (e.g. the annual meeting of Standardization Organizations (SDOs)), at the international level, to exchange information on standardization, to facilitate harmonization of standards and to complement the formal processes of standardization bodies, in particular ITU, in the work of developing international standards;

c)   that procedures developed by Study Groups in conjunction with the Director of the Radiocommunication Bureau to address collaboration with other organizations for specific Recommendations and Reports, including the use of references, have been in place since 1999 and have worked very well;

d)   that, furthermore, pursuant to the decisions of the Radiocommunication Assembly (Istanbul, 2000), the Director of the Radiocommunication Bureau established in 2001 formal arrangements between the ITU and other organizations[1] successfully addressing collaboration, the exchange of documentation, and copyright issues;

e)   that joint activities between ITU-T and ISO/IEC, including relevant committees and subcommittees therein, on drafting common texts, including Recommendations and Reports, have been common practice for many years,

    recognizing

a)   that the ITU Constitution (No. 145A) and the ITU Convention (No. 129A) were amended by the Plenipotentiary Conference (Marrakesh, 2002) to make explicit the Radiocommunication Assembly's responsibility to adopt the working methods and procedures for the management of the Sector's activities;

b)   that pursuant to No. 248A of the ITU Convention, following a procedure developed by the Sector, the Director of the Bureau may, in consultation with the Chairman of the Study Group concerned, invite an organization which does not participate in the Sector to send representatives to take part in the study of a specific matter in the Study Group concerned or subordinate groups;

c)   that Opinion ITU-R 100 addresses the need to ensure compatibility in the use of radio frequencies for purposes not considered within the Radio Regulations or other relevant ITU publications,

    resolves

1   that administrations should encourage organizations dealing with matters affecting radiocommunications to take into account the global activities of the Radiocommunication Study Groups and the continuing need to cooperate on measures to avoid radio interference;

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[1] Arrangements have been established between ITU and the European Telecommunications Standards Institute (ETSI) and between ITU and the Society of Motion Picture and Television Engineers (SMPTE).

2   that ITU-R Recommendations and Reports, as determined by the Study Group, may reference approved standards which are maintained by other organizations;

3   that Radiocommunication Study Groups or groups established by the Study Groups, may liaise, collaborate, and exchange information in accordance with established principles (see Annex 1) with other organizations such as standard development organizations, universities, and industry organizations, and with partnership projects, forums, consortia, research collaborations;

4   that Annex 1 "Principles for interaction of ITU-R with other organizations" should be used as guidance for liaison and collaboration activities with other organizations,

instructs the Director, within the context of Annex 1

1   to develop guidelines for procedures for the contribution of material of other organizations to the work of the Study Groups or groups established by the Study Groups, including the use of references to documents of other organizations in ITU-R Recommendations and Reports;

2   to develop, in accordance with No. 248A of the ITU Convention, a procedure to invite organizations which do not participate in the Sector to take part in the study of specific matters,

further instructs the Director, in accordance with instructs the Director 1 and 2

3   to develop, as necessary, arrangements, including appropriate copyright agreements, with the other organizations not party to the common arrangements agreed with ISO and IEC:

a)   to allow the use of references to documents of other organizations in ITU-R Recommendations and Reports; and

b)   to facilitate collaboration and coordination with other organizations in meetings of the Study Groups or groups established by the Study Groups and the contribution of material to these meetings,

instructs the Radiocommunication Advisory Group

to review these guidelines.

ANNEX 1

Principles for interaction of ITU-R with other organizations

1   Interaction of Radiocommunication Study Groups or groups established by the Study Groups (collectively referred to here as SGs) with other organizations principally falls into two key areas:

a)   references to documents of other organizations in ITU-R Recommendations and Reports;

b)   cooperation and coordination with other organizations in meetings of the SGs and the contribution of material to them, and possible development of common texts, including Recommendations and Reports.

2   For the purpose of interaction with the ITU-R, other organizations are those that are directly relevant to the work of the SGs and having acknowledged competency in the area of the work. Other organizations may include, but are not limited to, entities such as standard development organizations, partnership projects, forums, consortia, research collaborations, universities, and industry organizations.

3   Interaction of the SGs with other organizations should be directly related to the work of the SGs.

4		The use of collaborative arrangements between other organizations and the ITU-R should not be considered as a substitute for membership in the ITU-R. Membership status should always be encouraged where it is appropriate. However, it is recognized that this is not always possible and thus collaborative arrangements may be desirable. Involvement of other organizations with the ITU-R via collaborative arrangements should not adversely affect the rights and privileges of members.

5		Collaborative arrangements should be developed, as may be appropriate, taking into account the nature of the interaction. Such collaborative arrangements should only be as complex as necessary. For example, a general "blanket" guideline and procedure may be suitable for the more "casual" short-term interaction rather than individualized arrangements.

6		Information flows between the SGs and the other organizations should be officially conducted at the Radiocommunication Bureau level. This provides a uniform point of contact with the ITU-R and allows for management, maintenance, review, oversight and auditing of such information flows by the ITU-R.

7		It is prudent that collaborative arrangements with other organizations have a defined period of validity and that these arrangements be periodically reviewed by the Director and appropriate reports made to the Study Group and the Radiocommunication Advisory Group concerning the interaction of the ITU-R with other organizations.

8		With regard to the use of references, the guidelines and procedures should also address aspects such as when references are appropriate to be used in ITU-R Recommendations and Reports, how normative/informative references should be used, how to document and maintain references.

9		The referencing of documents of other organizations may involve business matters and legal details, including conformity with ITU copyright and patent policies. These matters should be addressed, as appropriate, by the Director on an individual basis.

10		Details of guidelines for procedures related to the interaction of ITU-R with other organizations should come under the purview of the Director.

RESOLUTION ITU-R 11-5

Further development of the Spectrum Management System
for Developing Countries

(1993-1995-1997-2003-2007-2015)

The ITU Radiocommunication Assembly,

considering

a) that an upgraded spectrum management system would contain software modifications to the current Spectrum Management System for Developing Countries (SMS4DC) to support and facilitate upgraded national spectrum management and monitoring, coordination among administrations and notification to the Radiocommunication Bureau (BR);

b) that the SMS4DC has been developed in Unicode by the Telecommunication Development Bureau (BDT) in close cooperation with BR based on the technical specifications developed by the ITU-R and ITU-D group of experts;

c) that data elements used in the SMS4DC were based on relevant ITU-R Recommendations on spectrum management, including those for notification and coordination purposes;

d) that many administrations have been successful in implementing automated management systems in the development and maintenance of their national spectrum management data,

noting

a) that ITU-R Recommendations on radio-wave propagation Maps and Digital Terrain are being taken into account in the development of the System,

resolves

1 that Study Group 1 and BR experts should continue to assist in the further development of the SMS4DC in accordance with WRC decisions and relevant ITU-R Recommendations, Handbooks and Reports;

2 that BR should continue to assist BDT in implementing the Spectrum Management System in different countries through the participation of Study Group 1 and BR experts in relevant training projects, such as ITU Academy.

RESOLUTION ITU-R 12-1

Handbooks and special publications for development of radiocommunication services

(1993-2000)

The ITU Radiocommunication Assembly,

considering

a)   that close cooperation shall be carried out among the Radiocommunication, Telecommunication Standardization and Telecommunication Development Sectors (No. 79 of the ITU Constitution);

b)   that Radiocommunication handbooks and special publications constitute an authoritative source of technical material relating to radiocommunications that may be of direct benefit to developing countries,

bearing in mind

a)   that there is a need to disseminate information contained within handbooks and special publications as widely as possible throughout the ITU membership in a form which is readily understandable and that can be applied practically, especially in the training of technicians and engineers for use in developing countries,

resolves

1   that in establishing priorities for the preparation and publishing of handbooks and special publications, special consideration should be given to the needs of developing countries,

invites

1   the Telecommunication Development Sector to indicate what special subjects would be most useful to developing countries so that planning for handbooks and special publications may be undertaken.

RESOLUTION ITU-R 15-6

Appointment and maximum term of office for Chairmen and Vice-Chairmen of Radiocommunication Study Groups, the Coordination Committee for Vocabulary and of the Radiocommunication Advisory Group

(1993-1995-1997-2000-2007-2012-2015)

The ITU Radiocommunication Assembly,

considering

a)   that Article 12 of the ITU Constitution sets out the functions and structure of the Radiocommunication Sector, including references in Nos. 84 and 84A to work through Study Groups and the Radiocommunication Advisory Group;

b)   that No. 133 and No. 148 of the Convention provide for the establishment of Radiocommunication Study Groups;

c)   that No. 149 of the Convention and other related provisions indicate the nature of the work of the Study Groups;

d)   that No. 242 of the Convention requires the Radiocommunication Assembly to appoint Chairmen and Vice-Chairmen of Study Groups, taking account of competence and equitable geographical distribution and the need to promote more efficient participation by the developing countries;

e)   that a specific time-limit on the term of office would permit the introduction of new ideas on a periodic basis, while at the same time give an opportunity for Study Group Chairmen and Vice-Chairmen to be appointed from different Member States;

f)   that No. 244 of the Convention provides a procedure for a Study Group to elect a Chairman in the interval between two assemblies or conferences when a Chairman is unable to carry out his duties;

g)   that provisions for the Radiocommunication Advisory Group (RAG) have been incorporated into Article 11A of the Convention;

h)   that No. 160G of the Convention states that RAG shall adopt its own working procedures compatible with those adopted by the Radiocommunication Assembly,

pursuant to

Resolution 166 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the number of Vice-Chairmen of Sector Advisory Groups, Study Groups and other groups,

noting

a)   Article 19 of the Convention "Participation of Entities and Organizations in the Union's Activities";

b)   Resolution 58 (Rev. Busan, 2014) of the Plenipotentiary Conference, on strengthening of relations between ITU and regional telecommunication organizations and regional preparations for the Plenipotentiary Conference;

c)   in particular, *resolves* 2 of Resolution 58 (Rev. Busan, 2014) of the Plenipotentiary Conference;

d)　　　　Resolution ITU-R 48, on strengthening the regional presence in radiocommunication study group work,

　　　　taking into account

a)　　　　that a maximum time in office of two terms for Chairmen and Vice-Chairmen for the Study Groups, the Coordination Committee for Vocabulary (CCV) and RAG (hereinafter referred to as Chairmen and Vice-Chairmen) provides for a reasonable amount of stability while providing the opportunity for different individuals to serve in these capacities;

b)　　　　item 7) under *resolves* in Resolution 166 (Rev. Busan, 2014) of the Plenipotentiary Conference, concerning the application of the guidelines mentioned in that resolution, to the extent practicable, to the Conference Preparatory Meeting (CPM) in ITU-R,

　　　　resolves

1　　　　that candidates for the posts of Chairmen and Vice-Chairmen should be identified, by Member States of ITU and by Radiocommunication Sector Members; the procedures to be followed should be as given in Annex 1, in particular § 3; the qualifications required for such posts are given in Annex 2, and the guidelines for appointment of the optimum numbers of Vice-Chairmen of the Radiocommunication Study Groups, Coordination Committee for Vocabulary and Radiocommunication Advisory Group are given in Annex 3;

2　　　　that candidates for the posts of Chairmen and Vice-Chairmen should be identified, taking into account that for each post the Assembly will appoint the Chairman and those Vice-Chairmen deemed necessary;

3　　　　that nominations for the posts of Chairmen and Vice-Chairmen should be accompanied by a biographical profile highlighting the qualifications of the individuals proposed, including the information requested in Annex 2; the Director will circulate the profiles to the Heads of Delegation present at the Assembly;

4　　　　that the term of office for Chairmen or Vice-Chairmen should not exceed two intervals between consecutive assemblies;

5　　　　that the interval between assemblies during which a Chairman or Vice-Chairman is elected under No. 244 of the Convention does not count towards the term of office;

6　　　　that the period in office in one appointment (e.g. as a Vice-Chairman) does not count towards the period in office for another appointment (e.g. as a Chairman) and that steps should be taken to provide some continuity between Chairmen and Vice-Chairmen.

ANNEX 1

Procedure for the appointment of Chairmen and Vice-Chairmen of the Radiocommunication Study Groups, the Coordination Committee for Vocabulary and the Radiocommunication Advisory Group

1　　　　The Director of the Radiocommunication Bureau will request Member States and Sector Members to submit proposals for candidates for the posts of the Chairmen and Vice-Chairmen of the Study Groups, and the Coordination Committee for Vocabulary (CCV) and the Radiocommunication Advisory Group (RAG).

2   In order to help the Radiocommunication Assembly appoint Chairmen/Vice-Chairmen, Member States and Sector Members are to indicate suitable candidates to the Director of the Radiocommunication Bureau preferably three months, but no later than two weeks, before the opening of the Radiocommunication Assembly.

3   In nominating suitable candidates, ITU-R Sector Members should carry out prior consultations with the administration/Member State concerned, in order to avoid any possible disagreement in regard to such nomination.

4   On the basis of proposals received, the Director will circulate to members the list of candidates. The list of candidates should be accompanied by an indication of the qualifications of each candidate as given in Annex 2.

5   On the basis of this document and any relevant comments received, the Heads of Delegation, at a suitable time during the Assembly, should be invited to prepare, in consultation with the Director, a consolidated list of designated Study Group Chairmen and Vice-Chairmen to be submitted in a document to the Radiocommunication Assembly for final approval.

ANNEX 2

Qualifications of the Chairmen and Vice-Chairmen

As regards competence, the following qualifications *inter alia* appear to be of paramount importance when appointing Chairmen and Vice-Chairmen:

–   knowledge and experience;

–   continuity in participation in the relevant Study Group or, for Chairmen and Vice-Chairmen of the Coordination Committee for Vocabulary and of the Radiocommunication Advisory Group, in the ITU Radiocommunication Sector;

–   managerial skills;

_   availability.

Particular reference to the above qualifications should be included in the biographical profile to be circulated by the Director.

ANNEX 3

Guidelines for appointment of the optimum numbers of Vice-Chairmen for the Radiocommunication Advisory Group, the Coordination Committee for Vocabulary and Study Groups

1   Pursuant to Resolution 166 (Rev. Busan, 2014) of the Plenipotentiary Conference and No. 242 of the Convention, equitable geographical distribution among ITU regions and the need to promote more effective participation by the developing countries, gender balance and expertise should be taken into account[1].

2   The workload should be a factor in determining the appropriate number of Vice-Chairmen to ensure that every aspect within the purview of RAG, CCV and the Study Group is fully managed.

3   The total number of Vice-Chairmen proposed by any administration should be fairly reasonable, so as to observe the principle of equitable distribution of posts among the Member States concerned.

4   Member States in each ITU region[2] are encouraged, when proposing individual experienced professionals for the positions, to fully observe the principle of equitable geographical distribution among ITU regions, and the need to promote more efficient participation by the developing countries.

5   Regional representation in the Advisory Groups, Study Groups and other groups of all three Sectors should be taken into account, such that no single individual may hold more than one vice-chairmanship position in these groups in any one Sector, and only in exceptional cases hold such a position in more than one Sector[3].

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[1] For those regions consisting of numerous administrations and with diverse economic and technological developments within the region, to the extent possible the number of representatives of those regions may be increased, as appropriate.

[2] Taking into account Resolution 58 (Rev. Busan, 2014) of the Plenipotentiary Conference regarding the six principal regional telecommunication organizations, namely the Asia-Pacific Telecommunity (APT), the European Conference of Postal and Telecommunications Administrations (CEPT), the Inter-American Telecommunications Commission (CITEL), the African Telecommunications Union (ATU), the Council of Arab Ministers of Telecommunication and Information represented by the Secretariat-General of the League of Arab States (LAS) and the Regional Commonwealth in the field of Communications (RCC).

[3] The criterion mentioned in this paragraph should not prevent a Vice-Chairman of a given Advisory Group or a Vice-Chairman of a given Study Group from holding positions of Chairman or Vice-Chairman of a given working party or as Rapporteur or Associate Rapporteur for any group under the mandate of that Sector group.

RESOLUTION ITU-R 19-5

Dissemination of ITU-R texts

(1978-1986-1990-1993-2000-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a) the decisive importance for radiocommunications of the information contained in the ITU-R texts;

b) that a wider dissemination of the information contained in these texts would promote technical progress;

c) that ITU has developed the Telecom Information Exchange Services (TIES) and publishes texts on the ITU website;

d) that the wider use of electronic means of communication and document distribution promotes more rapid dissemination of information and realizes cost savings for the Union and the ITU membership;

e) Decision 12 (Rev. Busan, 2014) of the Plenipotentiary Conference, on free online access to ITU publications;

f) Resolution 154 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on use of the six official languages of the Union on an equal footing, the decisions of Council taken pursuant to this Resolution, and the follow-up by the Radiocommunication Advisory Group,

noting

that the Director of the Radiocommunication Bureau periodically issues updated guidelines on working methods which complement and are additional to those specified in Resolution ITU-R 1 and which may address the practical aspects of the dissemination of ITU-R texts, such as by electronic means,

resolves

1 that the administrations should ensure the dissemination of ITU-R texts within their countries, by the means which they consider to be the most suitable and in the most appropriate fields;

2 that the Director of the Radiocommunication Bureau should take all the necessary steps, in close collaboration with the Secretary-General of the Union, to promote the wider dissemination and better knowledge of ITU-R texts;

3 that Radiocommunication Sector texts should be disseminated, to the maximum extent possible, through electronic means,

instructs

the Director of the Radiocommunication Bureau, working in collaboration with the Secretary-General, implementing the related decisions of the Council, and following advice by the Radiocommunication Advisory Group, to take the necessary steps to facilitate the use of electronic means for the distribution or exchange of information and for the dissemination of ITU-R texts, including such measures as the use of stable hyperlinks in electronic mail correspondence.

RESOLUTION ITU-R 22-5

Improvement of national radio spectrum management practices and techniques

(1990-1997-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a) that the administrations of many developing countries need to strengthen their national radio-frequency management organization in order to effectively carry out their responsibilities at both the international and the national level;

b) that administrations of developing countries take into account the guidelines indicated in relevant ITU documents, including the ITU-R Handbooks on National Spectrum Management, Spectrum Monitoring and Computer-aided Techniques for Spectrum Management (CAT);

c) that Radiocommunication Study Group 1 continues the efforts to provide ITU-R Recommendations, Handbooks and Reports on national frequency management including the use of computer-aided spectrum management,

resolves

1 that Radiocommunication Study Group 1 should continue to take into account the special requirements of national spectrum management organizations from developing countries, as identified in Resolution 9 (Rev. Buenos Aires, 2017) and Resolution 10 (Rev. Hyderabad, 2010) of the World Telecommunication Development Conference, and devote particular attention to these matters during the regular meetings of the Study Group and its Working Parties;

2 that such meetings shall be aimed at developing practices and techniques to improve spectrum management and include discussions concerning the establishment of computer-aided spectrum management systems;

3 that personnel involved in spectrum management from developing and developed countries and representatives from BR are particularly invited to participate in the spectrum management studies of Study Group 1.

RESOLUTION ITU-R 23-3

Extension of the International Monitoring System to a worldwide scale

(1963-1970-1993-2000-2012-2015)

The ITU Radiocommunication Assembly,

considering

a)		that Article 16, International monitoring, of the international Radio Regulations (RR) provides that administrations agree to continue the development of monitoring facilities to assist, to the extent practicable, in the implementation of the RR to help ensure efficient and economical use of the radio-frequency spectrum, and to help in the prompt elimination of harmful interference, taking into account the relevant ITU-R Recommendations;

b)		that Article 16 also provides that administrations shall, as far as they consider practicable, conduct such monitoring as may be requested of them by other administrations or by the Bureau;

c)		that Recommendation 36 (WRC-97) invites ITU-R to study and make recommendations concerning the (monitoring) facilities required to provide adequate coverage of the world with a view to ensuring efficient use of resources in international monitoring in reducing apparent congestion in the use of orbit and spectrum resources;

d)		that there are still wide areas of the world where the facilities available to the international monitoring system are inadequate or non-existent, particularly since facilities for the monitoring of emissions originating from space stations are expensive;

e)		that the General Secretariat maintains and publishes the List of International Monitoring Stations (List VIII) indicating their capabilities, telephone numbers, facsimile numbers, postal addresses and e-mail addresses;

f)		that it is of utmost importance to satisfy the needs of the Radiocommunication Bureau, laid down by the RR, that all countries having domestic monitoring facilities make them available for international monitoring to the maximum possible extent,

resolves

1		that all administrations now participating in the international monitoring system, including for monitoring of space station emission levels, should be urged to continue to do so to the maximum extent possible;

2		that administrations, which do not at present participate in the international monitoring system, should be urged to make monitoring facilities available to that system, in accordance with Article 16 of the RR using the relevant information contained in the ITU-R Handbook on Spectrum Monitoring, latest revision;

3		that cooperation between monitoring stations of different administrations should be encouraged and improved with a view to exchanging monitoring information, including for information related to space station emissions, and to settling harmful interference caused by transmitting stations that are difficult to identify or cannot be identified;

4		that administrations, located in those areas of the world where monitoring facilities are inadequate, should be urged to promote the establishment of monitoring stations for their own use and make them available for international monitoring, in accordance with Article 16 of the RR;

5   that data supplied by the monitoring stations participating in the international monitoring system may be used by the Bureau to prepare and publish summaries of useful monitoring data in application of Article 16 of the RR;

6   that administrations with more advanced terrestrial and space monitoring systems be urged to accept officials from other administrations to train them in the techniques of monitoring, direction finding, and geolocation. Initial contact for training may be made to the appropriate centralizing office as incorporated in the List of International Monitoring Stations (List VIII) published by the ITU General Secretariat.

NOTE 1 – The Administrations of Germany (Federal Republic of), Australia, Canada, China (People's Republic of), Korea (Republic of), the United States of America, France, Hungary, Israel (State of), Italy, Japan, Netherlands (Kingdom of the), Portugal and the United Kingdom of Great Britain and Northern Ireland have offered to receive officials from other administrations.

RESOLUTION ITU-R 25-3

Computer programs and associated reference numerical data
for radiowave propagation studies

(1978-1982-1986-1990-1993-1995-2000-2012)

The ITU Radiocommunication Assembly,

considering

a)　　　　that methods of prediction of the state of the propagation environment and of radiowave propagation characteristics are given or referred to in ITU-R Recommendations;

b)　　　　that for effective use and development of such methods, digital products such as computer programs, digitized maps, associated reference numerical data and measurement databanks are needed;

c)　　　　that it may be uneconomical for individual organizations to develop their own computer programs for these predictions;

d)　　　　that in some cases digital products supplementing P-Series Recommendations (Radiowave propagation) are available from the part of the ITU-R website concerning Radiocommunication Study Group 3;

e)　　　　that in some cases ITU-R P-Series Recommendations may require the use of digital products;

f)　　　　that alignment between the text of ITU-R P-Series Recommendations and the digital products is essential to their correct use and application,

recognizing

that any modification of a digital product that is required in any ITU-R P-Series Recommendation would constitute a modification to the Recommendation itself,

resolves

1　　　　that the Director of the Radiocommunication Bureau should be requested to invite administrations, Sector Members, Associates and academia that have digital products relating to the ITU-R P-Series Recommendations to formally submit these as an input contribution to Radiocommunication Study Group 3;

2　　　　that when executable software is submitted without publicly available source code, the source code should be made available to Radiocommunication Study Group 3 to examine the implementation;

3　　　　that digital products that supplement ITU-R P-Series Recommendations should continue to be made available from the part of the ITU-R website concerning Radiocommunication Study Group 3;

4　　　　that digital products which are required to apply a particular ITU-R P-Series Recommendation should be considered as an integral part of the Recommendation itself and be approved using the same procedure as the remainder of the Recommendation,

instructs the Director of the Radiocommunication Bureau

to take the necessary steps to facilitate the provision of digital products, either supplementing or essential to P-Series Recommendations, on the ITU-R website.

RESOLUTION ITU-R 28-2

Standard-frequency and time-signal emissions

(1963-1966-1970-1974-1986-2000-2012)

The ITU Radiocommunication Assembly,

considering

a) the provisions of Article 26 of the Radio Regulations (RR),

resolves

1 that, whenever an assignment to a station operating standard-frequency emission is put into service, the administration concerned shall notify this assignment to the Radiocommunication Bureau, in accordance with the provisions of Chapter III of the RR; however, no notice should be submitted to the Radiocommunication Bureau until experimental investigations and operational coordination have been completed, in accordance with Chapter III, of the RR;

2 that, in addition, each administration should send all pertinent information on standard-frequency stations (such as frequency stability, changes in the phase of time pulses, changes in transmission schedule) to the Chairman, Radiocommunication Study Group 7, to the Director, Radiocommunication Bureau and, for official publication, to the Director, Bureau international des poids et mesures (BIPM) (International Bureau of Weights and Measures);

3 that Radiocommunication Study Group 7 should cooperate with the International Astronomical Union (IAU), the International Union of Radio Science (URSI), the International Union of Geodesy and Geophysics (IUGG), the International Union of Pure and Applied Physics (IUPAP) and the BIPM.

RESOLUTION ITU-R 36-5

Coordination of vocabulary in the six official languages of the Union on an equal footing in the ITU Radiocommunication Sector

(1990-1993-2000-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

recognizing

a)		Resolution 154 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on use of the six official languages of the Union on an equal footing, which instructed the Council and the General Secretariat on how to achieve the equal treatment of the six languages;

b)		Resolution 1372 of the Council, as revised at its 2016 session, which notes the work accomplished by the ITU Radiocommunication Sector (ITU-R) Coordination Committee for Vocabulary (CCV) and the ITU Telecommunication Standardization Sector (ITU-T) Standardization Committee for Vocabulary (SCV) on the adoption and agreement of terms and definitions in the field of telecommunications/information and communication technologies (ICT) in all six official languages of the Union;

c)		the decisions by the ITU Council centralizing the editing functions for languages in the General Secretariat (Conferences and Publications Department), calling upon the Sectors to provide the final texts in English only (this applies also to terms and definitions);

d)		Resolution 1386, adopted by the Council at its 2017 session, on the ITU Coordination Committee for Terminology (ITU CCT) that consists of ITU-R CCV and ITU-T SCV, functioning in accordance with relevant resolutions of the RA and WTSA, and representatives of ITU-D, in close collaboration with the secretariat,

considering

a)		that under Resolution 154 (Rev. Dubai, 2018) of the Plenipotentiary Conference the Council is instructed to maintain Council Working Group on languages (CWG-LANG), in order to monitor progress and report to the Council on the implementation of that resolution;

b)		the importance of providing information in all six official languages of the Union on an equal footing on ITU webpages;

c)		that Resolution 1386, adopted by the Council at its 2017 session, considers the importance of collaborations with other interested organizations, especially with the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO) about terms and definitions, symbols and other means of expression, units of measurement, etc., with the objective of standardizing such elements, etc.;

d)		the difficulty of achieving agreement on definitions when more than one ITU Study Group is involved;

e)		that there is a continuing need for the publication of terms and definitions appropriate to the work of ITU-R;

f)		that unnecessary or duplicated work can be avoided by effective coordination and adoption of all work on vocabulary and related subjects carried out by the Radiocommunication Study Groups;

g) that the long-term objective of the terminology work must be the preparation of a comprehensive vocabulary of telecommunications in the six official languages of ITU;

h) that the individual Radiocommunication Study Groups have a responsibility for the proposal of terms and definitions in the English language;

i) that there are definitions contained in the Annexes to the ITU Constitution and Convention and in the Administrative Regulations,

resolves

1 that the coordination of work on vocabulary within ITU-R will be based on the submission by the Study Groups in English, with the consideration, resolution and adoption of the translation into the other five official languages as proposed by the ITU General Secretariat (Conferences and Publications Department), and will be ensured by a Coordination Committee for Vocabulary (CCV), comprising of experts in the various official languages and members designated by interested administrations and other participants in the work of ITU-R, as well as the Rapporteurs for Vocabulary of the Radiocommunication Study Groups in close collaboration with the ITU General Secretariat (Conferences and Publications Department) and the Radiocommunication Bureau (BR) editor, taking into account *recognizing d)*;

2 that the terms of reference of ITU-R CCV is given in Annex 1;

3 that ITU-R CCV is responsible for the maintenance of the Recommendations of the V series in accordance with Resolution ITU-R 1;

4 that administrations and other participants in the work of ITU-R may submit, to ITU CCT and to the Radiocommunication Study Groups, contributions concerning vocabulary and related subjects;

5 that the Chairman and six Vice-Chairmen of ITU-R CCV, each representing one of the six official languages, should be nominated by the Radiocommunication Assembly,

resolves further

1 that the Radiocommunication Study Groups, within their terms of reference, should continue their work on technical and operational terms and their definitions in English only which may be required also for regulatory purposes and also on specialized terms in English which may be required by them in the course of their work;

2 that each Radiocommunication Study Group should assume responsibility for proposing terminology in its particular field of interest with the assistance of the ITU CCT, if needed;

3 that each Radiocommunication Study Group should appoint a permanent Rapporteur for Vocabulary to coordinate efforts regarding terms and definitions and related subjects and to act as a contact person for the Study Group in this domain;

4 that the responsibilities of the Rapporteur for Vocabulary are given in Annex 2;

5 that guidelines for the preparation of terms and definitions are contained in the most recent version of Recommendation ITU-R V.2130;

6 that each Radiocommunication Study Group should consider terms included within its texts and should propose definitions if necessary, or at least explain new concepts or clarify the text used to express existing concepts;

7 that where more than one ITU Study Group is defining the same terms and/or concept, efforts should be made to select a single term and a single definition which is acceptable to all of the Study Groups concerned;

8   that, when selecting terms and preparing definitions, the Radiocommunication Study Group, shall take into account the established use of terms and existing definitions in ITU as well as those found in the International Electrotechnical Vocabulary (IEV);

9   that the Radiocommunication Bureau (BR) should collect all new terms and definitions proposed by the Radiocommunication Study Group, and provide them to the ITU CCT, which shall act as an interface with IEC;

10   in consultation with the ITU General Secretariat (Conferences and Publications Department), the ITU CCT shall communicate with individual Rapporteurs for Vocabulary and, if necessary, promote meetings of experts where inconsistencies are found between terms and definitions in ITU-R, other ITU Sectors, IEC and ISO; these harmonization efforts should seek agreement to the extent that such harmonization is feasible, with remaining inconsistencies duly noted;

11   that Rapporteurs for Vocabulary should take into account any available ITU Sector lists of emerging terms and definitions and draft IEV chapters, to seek consistency of ITU terms and definitions wherever practicable,

instructs the Director of the Radiocommunication Bureau

1   to continue to translate all Recommendations in all six official languages of the Union;

2   to monitor the quality of translation, including translated material posted on the ITU-R websites, and associated expenses;

3   to bring this resolution to the attention of the Director of the Telecommunication Standardization Bureau and the Director of the Telecommunication Development Bureau,

instructs the Radiocommunication Advisory Group

to continue consideration on use of all six official languages of the Union on an equal footing in ITU-R publications and sites.

ANNEX 1

Terms of reference for the ITU-R Coordination Committee for Vocabulary

1   To represent the interests of ITU-R in the ITU CCT.

2   To adopt terms and definitions for vocabulary work, through ITU CCT, in close collaboration with the General Secretariat (Conferences and Publications Department), including graphical symbols for documentation, letter symbols and other means of expression, units of measurements etc., within ITU-R and to seek harmonization among all concerned Radiocommunication Study Groups regarding terms and definitions.

3   To liaise, through ITU CCT, with the Conferences and Publications Department, and with other organizations dealing with vocabulary work in the telecommunications field, for example with the IEC and the International Organization for Standardization (ISO) as well as the IEC-ISO Joint Technical Committee for Information Technology (JTC 1), in order to eliminate duplication of terms and definitions.

4   To provide Study Groups with relevant unified graphical symbols to be used in documentation, letter symbols, and other means of expression, units of measurements, etc., in order to be used in all Study Group documents.

ANNEX 2

Responsibilities of Rapporteurs for Vocabulary

1   The Rapporteurs should study vocabulary and related subjects referred to them by:

–   Working Parties or Task Groups of the same Radiocommunication Study Group;

–   the Radiocommunication Study Group as a whole;

–   the Rapporteur for Vocabulary of another Radiocommunication Study Group;

–   the ITU CCT.

2   The Radiocommunication Rapporteurs should be responsible for coordination of vocabulary and related subjects within their own Radiocommunication Study Groups and with other Radiocommunication Groups; the objective being to achieve the agreement of the Study Groups concerned on the proposed terms and definitions.

3   The Rapporteurs shall be responsible for liaison between their Radiocommunication Study Groups and ITU CCT and encouraged to participate in any meeting of ITU CCT that may be held.

RESOLUTION ITU-R 37

Radio-wave propagation studies for system design and service planning

(1995)

The ITU Radiocommunication Assembly,

considering

a) that Radiocommunication Study Group 3 has the task of taking account of the characteristics and variability of radio-wave propagation and of advising on prediction procedures suitable for use in service planning and performance evaluation;

b) that since propagation characteristics depend on geographical location, climate, local environment and atmospheric variability, the development of propagation prediction procedures by Radiocommunication Study Group 3 relies, *inter alia*, on the availability of measurement data and the maintenance of calibrated databanks;

c) that the acquisition of measurement data, and their subsequent use by Radiocommunication Study Group 3 in the development and improvement of prediction procedures, is a medium- to long-term process,

recognizing

a) that the service Radiocommunication Study Groups often have short-term needs for information for new systems and networks;

b) that, when designing such systems, relevant propagation data are sometimes submitted directly to the Radiocommunication Study Group concerned;

c) that these data, whilst fulfilling a particular short-term need, may be of limited value in other circumstances and may require further analysis prior to their use in studies on propagation prediction method development for other applications,

resolves

1 that, whenever possible, Radiocommunication Study Group 3 should be consulted on the most appropriate propagation information for each purpose that arises, where a current Recommendation may not seem to be wholly applicable;

2 that all input contributions to other Study Groups which contain propagation information should be referred to Radiocommunication Study Group 3, so that, in addition to the value of the contribution to the work of the other Study Group, the information may also be used in the future work of Radiocommunication Study Group 3;

3 that the series of Questions assigned to Radiocommunication Study Group 3 should be examined by all Study Groups to identify where additional study topics are required.

RESOLUTION ITU-R 40-4[*]

Worldwide database of terrain height and surface features

(1997-2003-2007-2012-2015)

The ITU Radiocommunication Assembly,

considering

a)   that there is a requirement for planning purposes for improved worldwide methods of predicting field strength which take account of terrain height and surface features (including ground cover such as buildings, vegetation, etc.);

b)   that digital maps of terrain height are now widely available with various data formats and resolutions, and that maps with 1 arc second resolution in latitude and longitude are available on a global or regional basis;

c)   that propagation predictions are improved by the inclusion of more detailed information on terrain heights and surface features and suitable digital maps are becoming available nationally;

d)   that the availability of digital maps of terrain height and surface features would be of considerable benefit to developing countries in the planning of their existing and newly introduced services;

e)   that the use of terrain height data may optimize technical studies and assist national spectrum management;

f)   that Radiocommunication Study Group 3 has an active work programme concerning the development of improved prediction methods,

resolves

1   that a terrain database with a 1 arc second horizontal resolution in latitude and longitude is suitable for worldwide methods of propagation prediction in the frequency range above 30 MHz;

2   that administrations should review the terrain data available in this format, and should provide additional data with more information on surface features and with regular updates as necessary to account for development, so as to complete the worldwide extent of the database;

3   that administrations should be encouraged to make these terrain databases freely available for ITU purposes;

4   that administrations should encourage organizations involved in the production of terrain maps to produce databases of terrain height and surface features with a resolution equal to or better than currently available;

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[*]   This Resolution should be brought to the attention of Radiocommunication Study Group 1 for consideration of the use of a terrain database for national spectrum management purposes.

This Resolution should also be brought to the attention of the Telecommunication Development Sector.

5   that administrations are encouraged to use terrain height for radio propagation prediction and national spectrum management;

6   that terrain heights should be used according to ITU-R Recommendations.

RESOLUTION ITU-R 47-2*

**Future submission of satellite radio transmission
technologies for IMT-2000**

(2000-2007-2012)

The ITU Radiocommunication Assembly,

considering

a) that Resolution ITU-R 56 provides that the term "IMT" is the root name that encompasses both IMT-2000 and IMT-Advanced collectively, and that the term "IMT-2000" encompasses also its enhancements and future developments;

b) that universal coverage and seamless global roaming are key IMT objectives, and the satellite component of IMT-2000 will form an essential part in realizing the complete IMT-2000 vision;

c) that IMT systems are defined by a set of interdependent ITU Recommendations to allow for the introduction into service of IMT subject to user demand;

d) that Recommendation ITU-R M.1034 describes each of the various IMT-2000 satellite radio operating environments;

e) that the design of satellite Radio Transmission Technologies (RTTs) is based on an extensive range of technical and economical factors, some of which are in common with terrestrial technologies, some are unique to satellite technologies and some require different consideration when applied to satellite technologies;

f) that following evaluation by the ITU-R, seven satellite RTTs have been adopted as satisfying the evaluation requirements for IMT-2000;

g) that IMT radio interfaces have been designed to be flexible and are expected to accommodate service requirements for an extended period,

further considering

a) that since satellite systems are particularly resource limited (for example, power and spectrum), satellite RTTs are optimized to the specific scenarios under which the satellite system will be operating and the market and environments to be served;

b) that, while a prime objective for IMT-2000 has been to minimize the number of radio interfaces, because of the constraints on satellite system design and deployment, a number of satellite RTTs may be required for IMT-2000 (see Recommendation ITU-R M.1167);

c) that the set of services provided by IMT-2000 service providers and/or operators using a particular satellite system in a given environment is impacted by the particular design constraints for the radio interface for that system;

d) that Recommendation ITU-R M.816 recognizes that there may be later phases of IMT-2000 implementation with respect to high data rate of portable computing users and support of

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* This Resolution should be brought to the attention of Telecommunication Standardization Study Group 13 and the Telecommunication Standardization Advisory Group (TSAG).

enhanced multimedia communications requirements, and further, that other service objectives may be identified in the work of ITU-R and ITU-T;

e)   that for the satellite operating environments shown in Recommendation ITU-R M.1034, the choice of satellite constellation impacts on how operational requirements are met, but for several satellite systems under development choices of the specific satellite constellations have not yet been finalized;

f)   that in Recommendation ITU-R M.1034, the operational scenario includes operation across various IMT-2000 radio operating environments, operation across multiple IMT-2000 operators and multiple types of IMT-2000 operators, and that there may be more than one type of satellite system within IMT-2000 each having a different internal configuration and different ownership;

g)   that as satellite system optimization and development proceeds, in order to adapt to changes in market demands, business objectives, technology developments, and operational needs, and as commonalities with the terrestrial component of IMT are maximized as appropriate, it may be necessary to modify/update relevant ITU-R Recommendations,

resolves

1   that a proponent with a proposal for a new satellite RTT for IMT-2000 should submit the proposal to the ITU in accordance with Recommendation ITU-R M.1225;

2   that three (3) months later, the proponent that submitted an RTT, should submit a self-evaluation report to the ITU, taking into account Recommendation ITU-R M.1225;

3   that, based on evaluation reports received from the proponent and other evaluation groups established by Administrations of Member States of the ITU and ITU Sector Members, the ITU-R should evaluate the proposed RTT in relation to Recommendation ITU-R M.1225 and the criteria in Annex 1 below as to whether it qualifies as an IMT-2000 satellite radio interface;

4   that as soon as possible, the proponent that submitted a satellite RTT that qualifies as an IMT-2000 satellite radio interface should submit to the ITU the information needed to up-date Recommendation ITU-R M.1850;

5   that once this evaluation process is completed by the ITU-R the new satellite radio interface should be entered into Recommendation ITU-R M.1850,

further resolves

1   that modifications of existing satellite radio interfaces should be submitted to the ITU through an Administration of Member States of the ITU or an ITU Sector Member and after a review by the ITU-R, the modifications should be entered into Recommendation ITU-R M.1850,

instructs the Director of the Radiocommunication Bureau

1   to inform the Administrations of Member States of the ITU and ITU Sector Members via a Circular Letter of any submission made according to *resolves* 1, and invite evaluation reports based on Recommendation ITU-R M.1225 to be submitted to the ITU within three (3) months of the date of the Circular Letter;

2   to implement suitable procedures to meet the requirements of *resolves* 3 above;

3   to review the procedures established in respect of this Resolution prior to the next Radiocommunication Assembly.

ANNEX 1

IMT-2000 satellite RTT evaluation criteria

The minimum performance capability for data services (excluding paging) is a user bit rate of 9.6 kbit/s. However, proponents are encouraged to provide higher user bit rates for applications involving vehicular or nomadic terminals.

Handover is required within a satellite system due to the relative movement between the terminal and the satellite spot beam.

RESOLUTION ITU-R 48-3

Strengthening the regional presence in the
Radiocommunication Study Group work

(2000-2007-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)　　　that the rights and obligations of Member States and Sector Members are stated in Article 3 of the ITU Constitution and that this includes rights of equal access to participation in the work of ITU-R;

b)　　　Resolution 25 (Rev. Dubai, 2018) of the Plenipotentiary Conference, directing a greater regional presence in the work of ITU;

c)　　　the difficulty that many developing countries, and countries remote from Geneva, have in participating in the work of Radiocommunication Study Groups,

considering further

that the ITU regional presence should be viewed as an asset to the Union rather than as a liability,

recognizing

a)　　　the difficulty faced by many countries, particularly developing countries with stringent budgetary constraints, in participating in the activities of ITU-R, including the Radiocommunication Study Group meetings;

b)　　　the decision by the World Radiocommunication Conference, in its Resolution 72 (Rev.WRC-07), and by the Plenipotentiary Conference, in its Resolution 80 (Rev. Marrakesh, 2002), to instruct the Director of Radiocommunication Bureau to carry out consultations on the means by which assistance can be given to their preparations for future world radiocommunication conferences, and that a significant component of such preparations is done in Radiocommunication Study Groups;

c)　　　that the resources of the ITU-R and the membership are limited, and that efficiency and effectiveness are therefore key considerations for activities to be undertaken by ITU,

noting

a)　　　that Resolution 25 (Rev. Dubai, 2018) of the Plenipotentiary Conference, which defined the general functions of the regional presence and called for a detailed evaluation of regional presence, with a view to improving its structure and management;

b)　　　the confirmation by recent Council sessions, stressing the need to adapt the organization and activities of the regional presence to the requirements and priorities of each region, as well as the need to strengthen the regional presence by enhancing its usefulness and effectiveness in all the regions of the world, particularly by broadening the range of its activities, where appropriate, to encompass all the activities undertaken by ITU,

resolves

1   to request the Director of Radiocommunication Bureau to collaborate in the implementation of Resolution 25 (Rev. Dubai, 2018) of the Plenipotentiary Conference, in particular in the evaluation, in order to meet the objectives of strengthening the regional presence;

2   to cooperate with the Director of Telecommunication Development Bureau in enhancing the ability of the ITU regional and area offices to provide support for Study Group activities, as well as the necessary expertise, to strengthen cooperation and coordination with the relevant regional organizations and to facilitate the participation of all Member States and Sector Members in the activities of ITU-R.

RESOLUTION ITU-R 50-4

Role of the Radiocommunication Sector in the ongoing development of IMT

(2000-2007-2012-2015-2019)

The Radiocommunication Assembly,

considering

a) that the scope of ITU as a whole, and of the standardization activities within ITU in particular, is very important to the expanding wireless industry;

b) that IMT systems have contributed to global economic and social development;

c) that ongoing enhancements to the IMT specifications have been and will continue to be accommodated;

d) that the implementation of IMT systems is expanding and that these systems are being continuously developed in line with trends and needs from user, technology and service perspectives;

e) that the needs of extension and convergence to various industry areas utilizing IMT is increasing rapidly;

f) that the ITU Handbooks on Deployment of IMT-2000 systems and on Global Trends in IMT were developed through a collaborative effort among the three ITU Sectors,

noting

a) Resolution ITU-R 6, on liaison and collaboration with the ITU Telecommunication Standardization Sector;

b) Resolution ITU-R 9, on liaison and collaboration with other recognized external organizations;

c) WTSA Resolution 38 (Rev. Dubai, 2012), on coordination among the three ITU Sectors for activities relating to International Mobile Telecommunications,

resolves

1 that a roadmap for ITU-R activities on IMT should be developed by the relevant Radiocommunication Study Group to ensure that this work is progressed effectively and efficiently with organizations external to ITU;

2 that the effective coordination currently established between ITU-T and ITU-R for IMT should be continued;

3 that work carried out by the Radiocommunication Sector on IMT should be communicated to the Director of BDT,

invites

the Telecommunication Standardization Sector to develop a complementary roadmap for all ITU-T IMT activities, and to coordinate it with ITU-R to ensure full alignment and harmonization of the work programmes of both ITU-T and ITU-R,

instructs the Director of the Radiocommunication Bureau

1   to bring this Resolution to the attention of the Telecommunication Standardization Advisory Group and World Telecommunication Standardization Assembly for their consideration and possible action;

2   to report to the next Radiocommunication Assembly on the results of implementing this Resolution.

RESOLUTION ITU-R 52-1

**Authorization for the Radiocommunication Advisory Group (RAG)
to act between Radiocommunication Assemblies (RAs)**

(2003-2015)

The ITU Radiocommunication Assembly,

considering

a) that the Radiocommunication Advisory Group can help to improve coordination of the study process and provide improved working and decision-making processes for the important areas of ITU-R activities;

b) that, under Article 8 No. 137A of the ITU Convention, adopted by the Plenipotentiary Conference (Rev. Marrakesh, 2002)* a "Radiocommunication Assembly may assign specific matters within its competence, except those relating to the procedures contained in the Radio Regulations to the Radiocommunication Advisory Group, indicating the action required on those matters";

c) that the Radiocommunication Sector has adopted detailed procedures for the approval of Recommendations by correspondence that take into account the fact that the vast majority of ITU-R Recommendations may have policy or regulatory implications and, in conformity with Article 20 of the ITU Convention, are of interest to all Member States,

further considering

that the RAG is tasked under Article 11A (Rev. Marrakesh, 2002) of the ITU Convention with reviewing the implementation of the operational plan and advising the Director on necessary corrective measures,

noting

that pursuant to Article 11A (Minneapolis, 1998) of the ITU Convention, the RAG shall also review any specific matter directed by a conference of the Union, including a World Radiocommunication Conference, a Radiocommunication Assembly or the Council,

conscious

of the fact that the four-year interval until the next Radiocommunication Assembly could effectively preclude the possibility of addressing unforeseen issues requiring urgent action in that period,

resolves

1 to assign, in addition to the provisions of Article 11A, the following specific matters within its competence to the RAG between this Assembly and the next Assembly, and that the RAG should also take into account any specific matters as directed by a WRC to the RAG:

–   maintain up-to-date, efficient and flexible working procedures in accordance with Resolutions and decisions approved by the Radiocommunication Assembly;

–   consider and recommend modifications to the programme of work, in relation to the strategic and operational plans;

_____

*   In force starting 1 January 2004.

–   keep under review the activities of the Radiocommunication Study Groups;

–   decide on the need to maintain, terminate or establish groups other than Study Groups, CCV or Conference Preparatory Meeting (CPM), and appoint their Chairmen and Vice-Chairmen, in accordance with CV136A and CV136B (Marrakesh, 2002);

–   consider other specific matters within the competence of the Radiocommunication Assembly, subject to prior consultation with, and to the unopposed agreement of, the Member States;

2   when dealing with these matters, the decisions taken in the RAG meetings shall be unopposed by any Member State,

invites the RAG

1   in accordance with CV160G, to develop its own working procedures compatible with those adopted by the Radiocommunication Assembly;

2   to report to the next Radiocommunication Assembly on the results of implementing this Resolution.

RESOLUTION ITU-R 54-3

Studies to achieve harmonization for short-range devices

(2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that there is increasing demand for, and use of, short-range devices (SRDs) for a wide variety of applications throughout the world;

b)   that such devices generally operate with low power;

c)   that, according to operational requirements, the radio parameters for such devices vary;

d)   that technical requirements for certain frequency bands need to be adopted so as to achieve a higher level of harmonization either regionally or globally;

e)   that the implementation of regulations for SRDs is a matter for national administrations;

f)   that national regimes for implementation are in general as simple as possible, in order to minimize the burden on administrations and users of SRDs;

g)   that such devices shall neither cause harmful interference to, nor claim protection from, any radiocommunication service operating in accordance with the Table of Frequency Allocations;

h)   that appropriate spectrum access techniques can allow the use of the frequency spectrum by SRDs to ensure protection of radiocommunication services operating in accordance with the Radio Regulations;

i)   that some SRDs, such as radio-frequency identification devices (RFIDs) and certain types of medical devices, etc., have great growth potential and may benefit from a higher level of harmonization, e.g. tuning ranges;

j)   that, by their nature, SRDs are being used on a worldwide basis, either as an independent device or as an integral part of other systems, and are often carried and used across national borders;

k)   that some administrations have common regulations concerning certification, access to market and rights to use, whilst other administrations have country-specific rules;

l)   that SRDs, their applications, their underlying technologies and their frequencies of operation are continuously evolving;

m)   that administrations have introduced SRDs in various frequency bands, including bands designated for the deployment of industrial, scientific and medical (ISM) applications;

n)   that administrations have developed regional and national rules and approaches for managing the regulation and certification of SRDs;

o)   that there are a number of ITU-R Recommendations defining the protection of radiocommunication services from devices and applications without a corresponding service allocation in the Radio Regulations, and that compatibility studies are usually band- and service-specific;

p)   that SRDs will continue to use frequency bands already allocated to radiocommunication services;

q)   that many SRDs may create the potential for harmful interference to radiocommunication services, and they can be carried by travellers across national boundaries;

r)   that some SRDs increasingly are playing a role in the mobile Internet economy, mobile broadband applications and Internet of Things,

recognizing

a)   that the benefits of harmonization for administrations, manufacturers and end users that could be realized include:

–   increased potential for interoperability;

–   a broader manufacturing base and increased volume of devices (globalization of markets), resulting in economies of scale and expanded equipment availability;

–   improved spectrum management; and

–   enhanced circulation of equipment, while reducing the influx of non-conforming SRDs into the marketplace of countries;

b)   that the trend is to increase the use of advanced spectrum access and interference mitigation technologies;

c)   that encouraging SRD operation in suitable harmonized frequency bands could reduce the potential for harmful interference from SRDs to radiocommunication services;

d)   that ITU-R provides administrations, standardization organizations and scientific and industrial organizations an opportunity to share technical information on current SRD deployments and future spectrum requirements of SRDs;

e)   that Recommendation ITU-R SM.1896 provides several frequency ranges for global or regional harmonization of SRDs,

noting

a)   that the decision on frequency bands for use by SRDs is a national matter, while recognizing significant advantages of harmonization of regional and international band usage;

b)   that the work required to advance harmonization can be done through ITU-R Recommendations and/or Reports, revised on a regular basis;

c)   that frequency bands to be used as recommended ranges for SRD applications requiring operation on a global or regional harmonized basis are contained in Recommendation ITU-R SM.1896;

d)   that Recommendation ITU-R SM.2103 provides a list of SRD categories;

e)   that Report ITU-R SM.2153 provides technical and operating parameters and spectrum use for SRDs,

resolves

1   to continue studies, in collaboration with standardization organizations and scientific and industrial organizations, on the regional and/or global harmonization of technical and operating parameters, including frequency ranges and interference mitigation techniques for SRDs;

2   to continue to develop the necessary monitoring and measurement procedures in order to enable administrations to verify technical and operating parameters of SRDs and to examine the effect of emissions from SRDs on radiocommunication services;

3   to promote and maintain an ongoing exchange of information on SRDs between ITU-R members and other organizations, as per Resolution ITU-R 9;

4   to study spectrum utilization and technical requirements of SRDs to promote the efficient use of spectrum;

5   to conduct technical studies to evaluate the feasibility of deploying SRDs in specific frequency bands that could be harmonized globally or regionally;

6   to continue studies to enable implementation of advanced technologies for SRDs, thereby in particular focusing on a strategy for the future;

7   that in particular the following studies should be conducted:

a)   to collect information on SRDs which use advanced spectrum access and frequency tuning range techniques in order to understand their capabilities, meanwhile ensuring protection to radiocommunication services;

b)   to advise on a mechanism, based on 7 *a)* above, that may ease the use of relevant frequency bands and/or frequency tuning ranges, preferably on a global or regional basis, suitable for SRDs;

c)   to update information on frequency bands commonly used by SRDs;

8   to document these studies in ITU-R Recommendations and Reports, revised on a regular basis,

invites

1   the membership and other standardization, scientific and industrial organizations to participate actively in these studies;

2   administrations to consider the results of the studies with a view to take necessary action in relation with their national regulations for SRD, as appropriate.

RESOLUTION ITU-R 55-3

ITU-R studies of disaster prediction, detection, mitigation and relief

(2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a) the importance of radiocommunication systems in assisting disaster management through techniques for early warning, prevention, mitigation and relief;

b) that ITU-R Study Groups play an important role in disaster management, particularly in the prediction, detection, mitigation and relief activities necessary to survive the event and to minimize the loss of life and property;

c) that each ITU-R Study Group brings expertise to the complex mechanisms required to provide relief for the affected area;

d) that it is vital for the various necessary radio systems to have access to the radio spectrum, in order to effectively predict, detect, mitigate and relieve disaster event situations,

noting

a) Resolution 34 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on the role of telecommunications/information and communication technologies in disaster preparedness, early warning, rescue, mitigation, relief and response;

b) § 91 c) of the Tunis Agenda of the World Summit on the Information Society (WSIS), which states: "Working expeditiously towards the establishment of standards-based monitoring and worldwide early-warning systems linked to national and regional networks and facilitating emergency disaster response all over the world, particularly in high-risk regions";

c) Recommendation ITU-R M.2083 with regard to disaster prediction, detection, mitigation and relief;

d) Recommendation ITU-R BS.2107, on use of International Radio for Disaster Relief (IRDR) frequencies for emergency broadcasts in the High Frequency (HF) bands, defines the IRDR frequencies that may be used for HF emergency broadcasts;

e) Report ITU-R BT.2299, on broadcasting for public warning, disaster mitigation and relief, provides a compilation of supporting evidence that broadcasting plays a critically important role in disseminating information to the public in times of emergencies,

taking into account

– relevant resolutions of world radiocommunication conferences relating to this matter;

– Resolution ITU-R 60,

emphasizing

that ITU-R Study Groups have an important role in disaster management through their technical and operational studies and Recommendations that support disaster prediction, detection, mitigation and response activities which are critical for minimizing loss of life and property and for providing relief to disaster-affected areas,

recognizing

a) Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies for monitoring and management in emergency and disaster situations for early warning, prevention, mitigation and relief resolved to instruct the Directors of the Bureaux:

1) to continue their technical studies and to develop recommendations, through the ITU Study Groups, concerning technical and operational implementation, as necessary, of advanced solutions to meet the needs of public protection and disaster relief telecommunications/ICTs, taking into account the capabilities, evolution and any resulting transition requirements of existing systems, particularly those of many developing countries, for national and international operations;

2) to support the development of robust, comprehensive, all-hazards emergency and disaster early-warning, mitigation and relief systems, at national, regional and international levels, including monitoring and management systems involving the use of telecommunications/ICTs (e.g. remote sensing), in collaboration with other international agencies, in order to support coordination at the global and regional level;

3) to promote implementation by appropriately alerting authorities of the international content standard for all-media public warning, in concert with ongoing development of guidelines by all ITU Sectors for application to all disaster and emergency situations;

4) to continue to collaborate with organizations that are working in the area of standards for emergency telecommunications/ICTs and for communication of alert and warning information, in order to study the appropriate inclusion of such standards in ITU's work and their dissemination, in particular in developing countries;

b) that disaster management in the field of radiocommunications comprises the following, equally important, aspects:

1) early warning and prevention, through:

– disaster prediction, including the acquisition and processing of data concerning the probability of future disaster occurrence, location and duration;

– disaster detection, including the detailed analysis of the topical likelihood and severity of a disaster event;

2) disaster mitigation including the rapid promulgation of imminent disaster information and corresponding alerts to disaster relief agencies;

3) post-disaster relief radiocommunications, including the provision of *in situ* terrestrial and satellite communication systems to aid in securing and stabilizing life and property in the affected area,

recognizing further

that, generally, the mitigation of a disaster event on the territory of a developed country may have less of an impact on the local economy than that of a similar disaster event on the territory of a developing country,

resolves

that, given the importance of the effective use of the radio-frequency spectrum for radiocommunications in disaster situations:

– the concerned ITU-R Study Groups undertake studies and develop guidelines related to the management of radiocommunications in disaster prediction, detection, mitigation and

relief collaboratively and cooperatively within ITU and with organizations external to the Union;

–   the relevant ITU-R Study Groups continue studies on new emerging technologies which could support disaster prediction, detection, mitigation and relief,

invites the Study Groups

to take into consideration the scope of ongoing studies/activities outlined in the ITU-R webpage on Emergency Radiocommunications[1] and information provided by the Bureau on related activities of the other two Sectors and the General Secretariat, in the development of their work programmes in order to avoid duplication of effort.

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[1]   https://www.itu.int/en/ITU-R/information/Pages/emergency.aspx.

RESOLUTION ITU-R 56-2*

Naming for International Mobile Telecommunications

(2007-2012-2015)

Introduction

This Resolution clarifies the relationship between the terms "IMT-2000" and "IMT-Advanced" and assigns a name to those systems, system components and related aspects that include new radio interface(s) that support the new capabilities "IMT for 2020 and beyond".

Related Recommendations

Recommendation ITU-R M.687:	International Mobile Telecommunications-2000 (IMT-2000).
Recommendation ITU-R M.1457:	Detailed specification of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT-2000).
Recommendation ITU-R M.1645:	Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000.
Recommendation ITU-R M.1850:	Detailed specifications of the radio interfaces for the satellite component of International Mobile Telecommunications-2000 (IMT-2000).
Recommendation ITU-R M.2012:	Detailed specification of the terrestrial radio interfaces of International Mobile Telecommunications-Advanced (IMT-Advanced).
Recommendation ITU-R M.2047:	Detailed specifications of the satellite radio interfaces of International Mobile Telecommunications-Advanced (IMT-Advanced).
Recommendation ITU-R M.2083-0:	IMT Vision – "Framework and overall objectives of the future development of IMT for 2020 and beyond".

The ITU Radiocommunication Assembly,

considering

a)   that ITU's Vision statement is "Committed to connecting the world"[1];

b)   that International Mobile Telecommunications-2000 (IMT-2000) systems started service around the year 2000, and since then IMT-2000 has been continually enhanced;

c)   that IMT-Advanced systems were developed to provide new capabilities, described in Recommendation ITU-R M.1645, that go beyond those of IMT-2000;

d)   that IMT-Advanced systems started service around the year 2013, and since then IMT-Advanced has been continually enhanced;

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*   This Resolution should be brought to the attention of ITU-T Study Group 13.

[1]   See http://www.itu.int/en/about/Pages/default.aspx.

e)   that in order to address evolving user needs, ITU-R is currently working on the future development of "IMT for 2020 and beyond",

recognizing

a)   that ITU is the internationally recognized entity that has sole responsibility to define and to recommend the standards and frequency arrangements for IMT systems, with the collaboration of other organizations such as standard development organizations, universities, industry organizations and with partnership projects, forums, consortia and research collaborations;

b)   that ITU works globally in accordance with Resolution ITU-R 9 to create a unified wireless mobile communications future;

c)   that ITU may specify its processes and principles for the development of systems;

d)   that Recommendations ITU-R M.1457 and ITU-R M.2012 are two separate, independent and self-contained Recommendations, each one with a specific scope, and that both Recommendations will evolve independently and there could be some overlap reflected by commonality in content between the two documents;

e)   that the same perspective as indicated in *recognizing d)* may also apply in the future with regard to the Recommendations and Reports related to development of the radio interfaces of "IMT for 2020 and beyond";

f)   that there is a need for a root name to encompass all IMT systems and their further development, collectively;

g)   that, for IMT-2000:

–   the existing term IMT-2000 continues to be relevant and should continue to be utilized;

–   Recommendation ITU-R M.687 defines the objectives for IMT-2000 and subsequently Recommendation ITU-R M.1645 defines the framework and overall objectives of the future development of IMT-2000;

–   the detailed specifications of the terrestrial radio interfaces of IMT-2000 are defined in Recommendation ITU-R M.1457, and revisions of this Recommendation should also define the future development of the terrestrial radio interfaces of IMT-2000;

–   the detailed specifications of the radio interfaces for the satellite component of IMT-2000 are defined in Recommendation ITU-R M.1850, and revisions of this Recommendation should also define the future development of the satellite component of IMT-2000;

–   the procedures and processes based on Resolution ITU-R 57 have been successfully applied to the ongoing development of terrestrial IMT-2000 from 2013, and continue to be utilized for the future development of IMT-2000 when revising Recommendation ITU-R M.1457;

h)   that, for IMT-Advanced:

–   the existing term IMT-Advanced continues to be relevant and should continue to be utilized;

–   Recommendation ITU-R M.1645 defines the framework and overall objectives of the development of systems beyond IMT-2000 (i.e. IMT-Advanced);

–   the detailed specifications of the terrestrial radio interfaces of IMT-Advanced are defined in Recommendation ITU-R M.2012, and revisions of this Recommendation or new Recommendations should also define the future development of the terrestrial radio interfaces of IMT-Advanced;

–   the detailed specifications of the satellite radio interfaces of IMT-Advanced are defined in Recommendation ITU-R M.2047, and revisions of this Recommendation should also define the future development of the satellite radio interfaces of IMT-Advanced;

–   the procedures and processes developed for IMT-Advanced based on Resolution ITU-R 57 are in place and continue to be utilized for the future development of IMT-Advanced;

–   the enhancements and further developments of IMT-2000 that fulfil the criteria defined by ITU-R for IMT-Advanced could also be part of IMT-Advanced;

i)   that, for "IMT for 2020 and beyond":

–   the framework and overall objectives for the future development of "IMT for 2020 and beyond" are described in Recommendation ITU-R M.2083;

–   the procedures and processes based on Resolution ITU-R 65 apply;

–   the Recommendations and Reports related to the development of radio interfaces for "IMT for 2020 and beyond" should take into consideration the framework established by Recommendations   ITU-R M.1645   and   ITU-R M.2083   and   by   additional Recommendations and Reports addressing the further development of IMT;

–   the enhancements and further developments of IMT-2000 or IMT-Advanced that fulfil the criteria defined by ITU-R for development of "IMT for 2020 and beyond" could also be part of "IMT for 2020 and beyond",

resolves

1   that the term "IMT-2000" encompasses also its enhancements and future developments, and that the concepts of *recognizing g)* apply to IMT-2000;

2   that the term "IMT-Advanced" encompasses also its enhancements and future developments, and that the concepts of *recognizing h)* apply to IMT-Advanced;

3   that the term "IMT-2020" be applied to those systems, system components and related aspects that include new radio interface(s) which support the new capabilities of systems beyond IMT-2000 and IMT-Advanced, and that the concepts of *recognizing i)* apply to IMT-2020;

4   that the term "IMT" be the root name that encompasses all of IMT-2000, IMT-Advanced and IMT-2020 collectively.

RESOLUTION ITU-R 57-2

Principles for the process of development of IMT-Advanced

(2007-2012-2015)

The ITU Radiocommunication Assembly,

considering

a)		that Question ITU-R 229/5 addresses the future development of the terrestrial component of IMT;

b)		that Recommendation ITU-R M.1645 defines the framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000 for the radio access network based on the global user and technology trends, and the needs of developing countries;

c)		that Resolution ITU-R 56 specifies the nomenclature for the future development of IMT-2000 and systems beyond IMT-2000 through names uniquely associated with the advancement and continuation of International Mobile Telecommunications (IMT);

d)		that the future development of IMT-2000 and IMT-Advanced is foreseen to address the need for higher data rates than those of currently deployed IMT-2000 systems;

e)		that, for global operation and economy of scale, which are key requirements for the success of mobile telecommunication systems, it is desirable to agree on a harmonized time-frame for developing common technical, operational and spectrum-related parameters of systems, taking account of relevant IMT-2000 and other experience;

f)		that maximizing the commonality between IMT-Advanced air interfaces may lead to reduced complexity and a lower incremental cost of multi-mode terminals;

g)		that consensus-building is used to facilitate agreements within ITU-R,

noting

a)		that pursuant to Article 44 of the ITU Constitution, Member States shall endeavour to apply the latest technical advances as soon as possible;

b)		that globally harmonized spectrum for IMT-Advanced is desirable;

c)		that the ITU process for IMT standardization has been essentially beneficial to the development of mobile telecommunications,

recognizing

a)		that ITU-R has policies regarding Intellectual Property Rights (IPR) as expressed in Resolution ITU-R 1 as well as in Administrative Circular CA/148 (dated 15 April 2005), in which "attention is drawn to the importance of early disclosure and declaration of patents in order to avoid potential problems in the approval and eventual application of ITU-R Recommendations";

b)		that a consensus-building process should ensure the potential for wide industry support of the radio interfaces that are developed for IMT-Advanced and that there is an expectation that the development of candidate radio interface technologies will take into account the objectives recommended in Recommendation ITU-R M.1645;

c)		the importance of facilitating global circulation;

d)   that the IMT-Advanced standardization process should be streamlined to incorporate the latest technology innovations to address user needs;

e)   that the term "IMT-Advanced" be applied to those systems, system components, and related aspects that include new radio interface(s) that support the new capabilities of systems beyond IMT-2000[1];

f)   that ITU is the internationally recognized organization that has sole responsibility to define and to recommend the standards and frequency arrangements for IMT systems, with the collaboration of other relevant organizations such as standard development organizations, universities, industry organizations and with partnership projects, forums, consortia and research collaborations;

g)   that wireless access technologies that may address some of the capabilities of systems beyond IMT-2000 have been or are being developed for deployment within or prior to the time-frames expressed in Recommendation ITU-R M.1645;

h)   that adequate spectrum identification on a global basis is a prerequisite for the success of the future development of IMT-2000 and systems beyond IMT-2000, although new technologies might assist in this task;

i)   that the details related to IMT-2000, future development of IMT-2000 and systems beyond IMT-2000 will be specified in Recommendations and Reports to be developed taking into account the framework established in Recommendation ITU-R M.1645, "Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000";

j)   that particular needs of developing countries must be considered with the aim of bridging the existing digital divide, with the objective of facilitating interoperability of different radio interfaces,

resolves

1   to develop the Recommendations and Reports for IMT-Advanced, including Recommendation(s) for radio interface specifications;

2   that the development of Recommendations and Reports for IMT-Advanced shall be an ongoing and timely process with defined outputs that take into account developments external to ITU-R;

3   that radio interface technologies that are proposed to be considered for IMT-Advanced shall be developed based on submissions from Member States, Sector Members and Associates of relevant ITU-R study groups, and may additionally be based on submissions invited from external organizations, in accordance with the principles set out in Resolution ITU-R 9;

4   that the process for developing Recommendations and Reports for IMT-Advanced shall give equal opportunity to all proposed technologies to be evaluated against the requirements for IMT-Advanced;

5   that new radio interfaces that are developed over time should be considered for inclusion in IMT-Advanced in a timely fashion, and, if appropriate, that the relevant Recommendations be revised;

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[1] As described in Recommendation ITU-R M.1645, systems beyond IMT-2000 will encompass the capabilities of previous systems, and the enhancement and future developments of IMT-2000 that fulfil the criteria in *resolves* 2 of Resolution ITU-R 56 may also be part of IMT-Advanced.

6   that, in light of the above *resolves*, this process shall include:

a)   the definition of minimum technical requirements and evaluation criteria, based on the framework and overall objectives of IMT-Advanced, that support the new capabilities expressed in Recommendation ITU-R M.1645, taking into account end-user requirements and without unnecessary legacy requirements;

b)   an invitation for Members of ITU-R, through a circular letter, to propose candidate radio interface technologies for IMT-Advanced;

c)   additionally, an invitation to other organizations to propose candidate radio interface technologies for IMT-Advanced, under the scope of liaison and collaboration with such other organizations through Resolution ITU-R 9. In such invitations the attention of these organizations shall be drawn to the current ITU-R Intellectual Property Rights (IPR) policies;

d)   an evaluation by ITU-R of the radio interface technologies proposed for IMT-Advanced to ensure that they meet the requirements and criteria defined in 6 *a)* above. Such an evaluation may utilize the principles for interaction of ITU-R with other organizations as detailed in Resolution ITU-R 9;

e)   consensus-building with the objective of achieving harmonization in response to the *considering* and *recognizing* paragraphs of this Resolution and which would have the potential for wide industry support of the radio interfaces that are developed for IMT-Advanced;

f)   a standardization phase where ITU-R develops the IMT-Advanced radio interface specification Recommendation(s) based on the results of an evaluation report (defined in *resolves* 6 *d)*) and of consensus-building (defined in *resolves* 6 *e)*) ensuring that the specifications meet the technical requirements and evaluation criteria as defined in 6 *a)* or 6 *g)*. In such a standardization phase, work may proceed in cooperation with relevant organizations external to ITU in order to complement the work within ITU-R, using the principles set out in Resolution ITU-R 9;

g)   reviews of the minimum technical requirements and evaluation criteria defined in 6 *a)*, taking into account technology advances and end-user requirements changing with time. As the minimum technical requirements and evaluation criteria are changed, these will be designated as separately identifiable versions for IMT-Advanced. The process will include review of existing versions to determine whether they should remain in force;

h)   an ongoing and timely process where new radio interface technology proposals may be submitted and existing radio interface specifications can be updated. The process should have flexibility to allow proponents to seek evaluation against any version of the approved criteria currently in force,

instructs the Director of the Radiocommunication Bureau

1   to ensure that proponents of IMT-Advanced radio interface technologies and standards are aware of ITU-R IPR policy pursuant to Resolution ITU-R 1;

2   to provide the necessary support and to implement suitable procedures to meet the requirements of the *resolves* above, including the sending of a circular letter calling for radio interface technologies proposals.

RESOLUTION ITU-R 58-2

Studies on the implementation and use of cognitive radio systems

(2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a) that there is a need for ITU-R studies to give guidance for the evolution of cognitive radio systems (CRS);

b) that the definition of cognitive radio system is contained in Report ITU-R SM.2152;

c) that CRSs are expected to provide flexibility and improved efficiency to the overall spectrum use;

d) that the introduction of CRS technology in any radiocommunication service has the potential to improve spectrum efficiency within that radiocommunication service;

e) that a range of capabilities of CRSs may facilitate coexistence with existing systems and may allow sharing in bands where it was not previously considered feasible;

f) that CRS capabilities developed for sharing purposes will be specific to the systems of a radiocommunication service;

g) that the introduction of CRSs in any radiocommunication service needs to ensure that coexistence within radiocommunication services and the protection of other radiocommunication services sharing the band and in the adjacent bands are maintained or improved;

h) that special and careful consideration of CRS use in radiocommunication services in bands shared with other radiocommunication services, due to their specific technical or operational characteristics, such as space services (space-to-Earth), passive services (radio astronomy, Earth exploration-satellite service and space research service) and radiodetermination services, is needed;

i) that for radiocommunication services employing CRSs, the particular set of capabilities and characteristics and sharing conditions with other radiocommunication services will depend on the frequency band and other technical and operational characteristics;

j) that further studies are needed on the implementation of CRS technologies within a radiocommunication service and on sharing among different radiocommunication services with regard to the capabilities of CRS, in particular dynamic access to frequency bands,

recognizing

a) that CRSs are a collection of technologies, not a radiocommunication service;

b) that studies on regulatory measures related to the implementation of CRS are outside the scope of this ITU-R Resolution;

c) that any radio system implementing CRS technology needs to operate in accordance with provisions of the Radio Regulations;

d) that some administrations deploy CRS in some radiocommunication services,

noting

that Report ITU-R SM.2405 provides spectrum management principles, challenges and issues related to dynamic access to frequency bands by means of radio systems employing cognitive capabilities,

resolves

1 to continue studies for the implementation and use of CRS in radiocommunication services;

2 to study operational and technical requirements, characteristics, performance and possible benefits associated with the implementation and use of CRS in relevant radiocommunication services and related frequency bands;

3 to give particular attention to enhancing coexistence and sharing among radiocommunication services;

4 to develop relevant ITU-R Recommendations and/or Reports based on the aforementioned studies, as appropriate,

invites

the membership to participate actively in the implementation of this Resolution by, among others, providing contributions to ITU-R and submitting relevant information from outside ITU-R.

RESOLUTION ITU-R 59-2

Studies on availability of frequency bands for worldwide and/or regional harmonization and conditions for their use by terrestrial electronic news gathering systems

(2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that the use of terrestrial portable and transportable radio equipment by services ancillary to broadcasting and programme making (SAB/SAP) including electronic field production, TV outside broadcast, wireless microphones and outside production and broadcast, commonly described as electronic news gathering (ENG), currently operating in bands allocated to the fixed, mobile and broadcasting services[1], has become an important element in the comprehensive coverage of a wide range of internationally noteworthy events, including natural disasters as well as in content production;

b)   that Report ITU-R BT.2069 provides a conclusion that the existing spectrum used for ENG is insufficient to meet anticipated demands;

c)   that a large portion of ENG production tools, such as radio microphones, have traditionally operated in geographically vacant TV channels;

d)   that parts of these bands are being repurposed by many administrations from terrestrial TV to mobile broadband, resulting in loss of availability of many channels for ENG and other associated operations;

e)   that administrations, based on national circumstances, may consider the transition of a large portion of ENG operations to alternate suitable spectrum;

f)   that some level of worldwide and/or regional harmonization is an important issue which needs to be addressed;

g)   that harmonization would facilitate ENG link operation, particularly at events requiring cross-border coverage, such as natural disasters;

h)   that the use of digital technology has provided an opportunity for more efficient spectrum usage that could assist ENG in meeting a growth in demand for spectrum for these systems;

i)   that modular design and miniaturization of terrestrial ENG systems have increased the portability of such equipment and have thus increased the trend towards cross-border operation of ENG equipment;

j)   that relevant ITU-R Recommendations and Reports have assisted administrations in addressing ENG operations in their spectrum planning;

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[1]   Within some administrations, ENG applications are assigned within bands other than those allocated to the fixed and mobile services, for example in bands allocated to the broadcasting services.

k) that Report ITU-R BT.2338 provides a description of services ancillary to broadcasting/services ancillary to programme-making spectrum use in Region 1 and the implication of a co-primary allocation for the mobile service in the frequency band 694-790 MHz;

l) that Report ITU-R BT.2344 provides information on technical parameters, operational characteristics and deployment scenarios of SAB/SAP as utilized in broadcasting;

m) that Recommendation ITU-R BT.1868 describes user requirements for the specifications, design, and testing of systems for the transmission of television signals through contribution, primary distribution and SNG networks;

n) that Recommendation ITU-R BT.1871 deals with user requirements for wireless microphones with typical system parameters and operational requirements for analogue and digital wireless microphones, which may be used by administrations and broadcasters when planning tuning ranges within the frequency bands allocated to broadcasting, fixed and mobile service;

o) that Recommendation ITU-R BT.1872 deals with user requirements for broadcast auxiliary services (BAS). It contains typical operational requirements for digital TVOB, ENG/SNG and EFP, which may be used by administrations when planning usage of their fixed and mobile TVOB, ENG and EFP applications,

noting

a) that worldwide/regional harmonization of frequency bands or tuning ranges[2] for use by terrestrial ENG systems would be beneficial in meeting their operational requirements internationally;

b) that when an international newsworthy event occurs, broadcasters and/or ENG operators often have little or no lead time in which to prepare for deployment;

c) that prior identification of potential frequency availability in individual administrations within which equipment might be able to operate may ease the frequency assignment process, especially during international newsworthy events that draw broadcast audiences regionally and/or globally,

noting further

that it is in the interest of administrations and their broadcasting community to have access to updated information for ENG use,

recognizing

a) that access to a globally harmonized spectrum is highly desirable to facilitate the rapid deployment and operation of ENG systems from one country to another;

b) that the dynamic nature of the use of ENG is driven by scheduled and unscheduled events such as breaking news, emergencies and disasters;

c) that news gathering and electronic production typically take place in an environment where several television broadcasters/organizations/networks attempt to cover the same event, creating a demand for multiple ENG links which results in an increased demand for access to spectrum in suitable frequency bands;

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[2] The term "tuning range" for ENG means a range of frequencies over which radio equipment is envisaged to be capable of operating; within this tuning range, the use in any one country of radio equipment from another country will be limited to the range of frequencies identified nationally in that one country for ENG, and will be operated in accordance with the related national conditions and requirements.

d) that, in some countries, ENG is utilized as part of an administration's telecommunication/information and communication technology (ICT) systems in the service of management in emergency and disaster situations for early warning, prevention, mitigation and relief;

e) that Recommendation ITU-R M.1824 provides system characteristics for television outside broadcast, ENG and electronic field production (EFP) in the mobile service for use in sharing studies;

f) that Recommendation ITU-R F.1777 provides system characteristics of television outside broadcast, electronic news gathering and electronic field production in the fixed service for use in sharing studies;

g) that Report ITU-R BT.2069 provides spectrum usage and operational characteristics of terrestrial ENG, television outside broadcast (TVOB) and EFP systems;

h) that Recommendation ITU-R M.1637 addresses issues to be considered in order to facilitate the global circulation of radiocommunication equipment to be used in emergency and disaster relief situations,

resolves

1 to carry out studies regarding possible solutions for global/regional harmonization of frequency bands and tuning ranges for ENG use, focused on bands already allocated, on a primary or secondary basis, to the fixed, mobile or broadcasting services, taking into account:

– that some frequency bands have more favourable properties suitable for ENG use;

– available technologies to maximize efficient and flexible use of spectrum;

– system characteristics and operational practices which facilitate the implementation of these solutions;

2 to develop ITU-R Recommendations and/or ITU-R Reports based on the aforementioned studies, as appropriate,

further resolves

1 to encourage administrations to develop relevant information concerning their national ENG use (e.g. a list of frequency bands available for ENG, spectrum management practices, technical and operational requirements, and spectrum authorization points of contact, as appropriate…) for use by foreign entities during worldwide newsworthy events;

2 to encourage administrations to consider, for harmonization purposes, frequency bands/tuning ranges used for ENG by other administrations,

invites

the membership to actively participate in the studies by providing contributions to ITU-R,

instructs the Director of the Radiocommunication Bureau

1 to develop a publicly accessible webpage to consolidate links to administration lists of ENG information (such as related lists or charts of permitted frequency bands developed by the applicable Study Groups) as requested in *further resolves* 1;

2 to invite the administrations of Member States to ensure that the information provided is kept up to date by submitting any modifications to the information referred to above on an ongoing basis.

RESOLUTION ITU-R 60-2

Reduction of energy consumption for environmental protection and mitigating climate change by use of ICT/radiocommunication technologies and systems

(2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that the issue of climate change is rapidly emerging as a global concern and requires global collaboration;

b)   that climate change is one of the major factors causing emergency situations and natural disasters afflicting humankind;

c)   that the United Nations Intergovernmental Panel on Climate Change (IPCC) estimated that global greenhouse gas (GHG) emissions have risen significantly, having an effect on global warming, changing weather patterns, rising sea levels, desertification, shrinking ice cover and other long-term effects;

d)   that information and communication technologies (ICTs), which include radiocommunication technology, contribute approximately 2-2.5 per cent of GHG emissions, which may grow as ICTs become more widely available;

e)   that ICT/radiocommunication systems can make a substantial contribution to mitigating and adapting to the effects of climate change;

f)   that wireless technologies and systems are effective tools for monitoring the environment and predicting natural disasters and climate change;

g)   that ITU, at the United Nations Conference on Climate Change in Bali, Indonesia, on 3-14 December 2007, highlighted the role of ICTs as both a contributor to climate change, and an important element in tackling the challenge;

h)   that ITU-R Reports and Recommendations that address potential energy-saving mechanisms applicable to different radiocommunication services can contribute to the development of systems and applications that operate in these services;

i)   that network infrastructure sharing may reduce energy consumption,

further considering

a)   that the ITU Plenipotentiary Conference approved Resolution 182 (Rev. Busan, 2014), on the role of telecommunications/information and communication technologies in regard to climate change and the protection of the environment, which instructs ITU to continue applying ICTs to address the causes and effects of climate change and strengthen collaboration with other organizations working in the field, and encourages the Union to raise public and policy-maker awareness of the critical role of ICTs in addressing climate change;

b)   that the ITU-T work programme developed on the basis of Resolution 73 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly (WTSA), does not contain specific studies focusing on energy consumption related to radio-transmission technology or planning characteristics of radio networks;

c)   ITU-D Question Q5/2, on utilization of ICT for disaster management, resources, and active and passive space-based sensing systems as they apply to disaster and emergency relief situations;

d)   that ITU-D Question Q6/2 examines the links between ICTs, climate change and development, as these fields become increasingly interlocked due to the magnifying effect of climate change on existing development challenges and vulnerabilities;

e)   that ITU-D Question Q6/2 also addresses the role of Earth observation in climate change, as this radio technique is essential for monitoring the state of the Earth in terms of climate and its evolution,

taking into account

a)   Resolutions 673 (Rev.WRC-12), on radiocommunication use for Earth-observation applications, and 646 (Rev.WRC-15), on radiocommunication resources for early warning, disaster mitigation and relief operations, adopted by the World Radiocommunication Conference (WRC-07);

b)   Resolution ITU-R 55, on ITU studies of disaster prediction, detection, mitigation and relief, adopted by the Radiocommunication Assembly (RA-19);

c)   Resolution 66 (Rev. Buenos Aires, 2017), on information and communication technology and climate change, adopted by the World Telecommunication Development Conference (WTDC-17);

d)   Resolution 73 (Rev. Hammamet, 2016), on information and communication technologies and climate change, adopted by the World Telecommunication Standardization Assembly (WTSA-16),

noting

a)   the leadership of ITU-R, in collaboration with the ITU membership, in identifying the necessary radio-frequency spectrum for climate monitoring and disaster prediction, detection and relief, including the establishment of cooperative arrangements with the World Meteorological Organization (WMO) in the field of remote-sensing applications;

b)   Recommendation ITU-R RS.1859 "Use of remote sensing systems for data collection to be used in the event of natural disasters and similar emergencies", and Recommendation ITU-R RS.1883 "Use of remote sensing systems in the study of climate change and the effects thereof";

c)   Report ITU-R RS.2178 "The essential role and global importance of radio spectrum use for Earth observations and for related applications";

d)   Volume 4 – Intelligent Transport Systems – of the ITU-R Handbook on Land Mobile (including Wireless Access), which describes the use of radio technologies for minimizing transportation distances and cost, with a positive effect on the environment, and the use of cars as an environment-monitoring tool to measure air temperature, humidity and precipitation, with data sent through wireless links for weather forecasting and climate control;

e)   that ITU-R provides an opportunity to share technical information about evolution of new methods and technologies to reduce energy consumption within a radio system or by the use of a radio system,

resolves

1   that ITU-R Study Groups should develop Recommendations, Reports or Handbooks on:

•   best practices in place to reduce energy consumption within ICT systems, equipment or applications operating in a radiocommunication service;

•   possible development and use of radio systems or applications which can support reduction of energy consumption in non-radiocommunication sectors;

•   effective systems for monitoring the environment and monitoring and predicting climate change, and ensuring reliable operation of such systems;

2   that ITU-R Study Groups, when developing new ITU-R Recommendations, Handbooks, or Reports or reviewing existing Recommendations or Reports, take into account, as appropriate, energy consumption as well as best practices to conserve energy;

3   to maintain close cooperation and to regularly liaise with ITU-T, ITU-D and the General Secretariat, and to take into account the results of the work carried out in these Sectors and avoid duplication,

instructs the Director of the Radiocommunication Bureau

1   to take the necessary measures, in conformity with Resolution ITU-R 9, to further strengthen collaboration among ITU-R, ISO, IEC and other bodies as appropriate, with a view to cooperating in identifying and fostering implementation of all appropriate measures to reduce power consumption in radiocommunication devices and to utilize radiocommunications/ICTs in monitoring and mitigation of the effects of climate change, *inter alia*, in order to contribute to a global reduction of energy consumption;

2   to report annually to the Radiocommunication Advisory Group and to the next Radiocommunication Assembly on the results of studies in the application of this Resolution,

invites Member States, Sector Members and Associates

1   to contribute actively to ITU-R's work in the field of radiocommunications and climate change, taking due account of relevant ITU initiatives;

2   to continue to support ITU-R's work in the field of remote sensing (active and passive) for monitoring of the environment,

invites standardization, scientific and industrial organizations

to contribute actively to the work of the Study Groups related to their activities specified in *resolves* 1 and 2.

RESOLUTION ITU-R 61-2

ITU-R's contribution in implementing the outcomes of the World Summit on the Information Society and the 2030 Agenda for Sustainable Development

(2012-2015-2019)

The ITU Radiocommunication Assembly,

considering

a) the relevant outcomes of both phases of the World Summit on the Information Society (WSIS);

b) Resolution 70/125 of the United Nations General Assembly (UNGA), on the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of WSIS outcomes;

c) UNGA Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development;

d) the WSIS+10 statement on the implementation of WSIS outcomes and the WSIS+10 vision for WSIS beyond 2015, which were adopted at the ITU-coordinated WSIS+10 High-Level Event (Geneva, 2014) and endorsed by the Plenipotentiary Conference (Busan, 2014);

e) Resolution 140 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in implementing the outcomes of WSIS and in the overall review by UNGA of their implementation;

f) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023;

g) Resolution 200 (Dubai, 2018) of the Plenipotentiary Conference, on the Connect 2030 Agenda for global telecommunication/ICT development, including broadband, for sustainable development;

h) the relevant resolutions of the ITU Council, the World Telecommunication Standardization Assembly (WTSA) and the World Telecommunication Development Conference (WTDC);

i) the role of the ITU Radiocommunication Sector (ITU-R) in ITU's implementation of relevant WSIS outcomes and achieving the Sustainable Development Goals (SDGs), adaptation of ITU's role and development of telecommunication standards in building the information society, including in the implementation of Action Lines C2 (Information and communication infrastructure), C5 (Building confidence and security in the use of ICTs) and C6 (Enabling environment) of the Tunis Agenda, which includes the development of broadband communications and the use of radiocommunication/ICT facilities for disaster prevention and mitigation in emergency situations and climate change,

recognizing

a) the programmes, activities and regional initiatives being carried out in accordance with the decisions of WTDC-17 for bridging the digital divide;

b) the relevant work already accomplished or still to be carried out by ITU under the guidance of the Council Working Group on WSIS & SDGs (CWG-WSIS&SDG) for implementation of the WSIS outcomes and achieving the SDGs,

resolves

1 to continue ITU-R's work on WSIS implementation and follow-up activities within its mandate;

2 that ITU-R should carry out those activities that come within its mandate and participate with other stakeholders, as appropriate, in the implementation of all relevant action lines and other WSIS outcomes, as well as in achieving the SDGs,

instructs the Director of the Radiocommunication Bureau

1 to provide CWG-WSIS&SDG with a comprehensive summary of ITU-R activities on implementation of the WSIS outcomes and the 2030 Agenda for Sustainable Development, as well as the resolutions of the Plenipotentiary Conference and the Council;

2 to incorporate work on the implementation of WSIS outcomes and achieving the SDGs in the Sector's operational plan, in accordance with Resolution 140 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

3 to take appropriate action for the implementation of this resolution,

invites Member States and Sector Members

1 to submit contributions to relevant ITU-R study groups and the Radiocommunication Advisory Group on the implementation of WSIS outcomes and achieving the SDGs within ITU's mandate;

2 to support and collaborate with the Director of the Radiocommunication Bureau in implementing relevant WSIS outcomes and achieving the SDGs in ITU-R.

RESOLUTION ITU-R 62-2

Studies related to testing for conformance with ITU-R Recommendations and interoperability of radiocommunication equipment and systems

(2012-2015-2019)

The ITU Radiocommunication Assembly,

recognizing

a)   Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference;

b)   Resolution 76 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly;

c)   Resolution 47 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference;

d)   the progress reports presented by the Director of the Telecommunication Standardization Bureau to the Council at its 2009, 2010 and 2011 sessions and to the 2010 Plenipotentiary Conference,

recognizing further

a)   that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructed the Secretary-General and the Directors of the three Bureaux to work closely with each other in pursuing initiatives that assist in bridging the standardization gap between developing and developed countries;

b)   that Resolution ITU-R 9 sets out principles for liaison and collaboration with other relevant organizations, in particular ISO and IEC,

considering

a)   that there is an increasing number of complaints that equipment is often not fully interoperable with other equipment;

b)   that some countries, especially the developing countries, have not yet acquired the capacity to test equipment and provide assurance to consumers in their countries;

c)   that increased confidence in the conformance of radiocommunication equipment may increase the chances of end-to-end interoperability of equipment from different manufacturers, and would assist developing countries in the choice of solutions,

noting

a)   that the Director of the Telecommunication Standardization Bureau submitted a business plan for the long-term implementation of Resolution 177 (Guadalajara, 2010) of the Plenipotentiary Conference to the Council session in 2012;

b)   that Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Director of the Telecommunication Development Bureau to collaborate with the Director of the Telecommunication Standardization Bureau and the Director of the Radiocommunication Bureau to advance the implementation of Resolution 47 (Rev. Buenos Aires, 2017) and to report to the Council,

taking into account

the experience acquired by ITU-T and ITU-D in the course of implementing Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference, Resolution 76 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly and Resolution 47 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference,

resolves

that ITU-R collaborate with, and provide information when requested by, ITU-T and ITU-D on conformance and interoperability testing within its existing mandate consistent with Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference (see noting *b)*),

instructs the Director of the Radiocommunication Bureau

1   to prepare a report on the progress made to better understand the unique problems of developing countries with respect to radiocommunication equipment conformance and interoperability and the testing thereof, based on, *inter alia*, contributions from Member States and Sector Members;

2   to submit this report to the ITU Council at its 2013 session for consideration and possible actions,

invites the Radiocommunication Advisory Group

to provide advice to the Director for activities in this area based on inputs received from Member States and Sector Members,

invites Members States and Sector Members

to contribute to the implementation of this Resolution.

RESOLUTION ITU-R 64

Guidelines for the management of unauthorized operation
of earth station terminals

(2015)

The ITU Radiocommunication Assembly,

considering

a)		that No. **18.1** of the Radio Regulations provides that no transmitting station may be established or operated by a private person or by any enterprise without a licence issued in an appropriate form and in conformity with the provisions of the Radio Regulations by or on behalf of the government of the country to which the station in question is subject;

b)		that demand has been increasing steadily for global broadband communication services throughout the world, such as those provided by high-density applications in the fixed-satellite service (HDFSS);

c)		that HDFSS systems are characterized by flexible, rapid and ubiquitous deployment of large numbers of cost-optimized earth stations employing small antennas and having common technical characteristics;

d)		that HDFSS is an advanced broadband communication application concept that provides access to a wide range of broadband telecommunication applications supported by fixed telecommunication networks (including the Internet), and thus will complement other telecommunication systems;

e)		that, as with other FSS systems, HDFSS offers great potential to establish telecommunication infrastructure rapidly;

f)		that HDFSS applications can be provided by satellites of any orbital type;

g)		that administrations are obligated to ensure that the satellite operators are complying with the applicable provisions of the Radio Regulations,

recognizing

a)		that the ITU Constitution recognizes the sovereign right of each State to regulate its telecommunications;

b)		that the International Telecommunication Regulations "recognize the right of any Member, subject to national law and should it decide to do so, to require that administrations and private operating agencies, which operate in its territory and provide an international telecommunication service to the public, be authorized by that Member", and specify that "within the framework of the present Regulations, the provision and operation of international telecommunication services in each relation is pursuant to mutual agreement between administrations";

c)		that Article **18** specifies the authorities for licensing the operation of stations within any given territory;

d)		the right of each Member State to decide on its participation in these systems, and the obligations for entities and organizations providing international or national telecommunication

services by means of these systems to comply with the legal, financial and regulatory requirements of the administrations in whose territory these services are authorized;

e) that No. **5.516B** identifies bands for HDFSS;

f) that, in some of these bands, the FSS allocations are co-primary with fixed and mobile service allocations as well as other services;

g) that this identification does not preclude the use of these bands by other services or by other FSS applications, and does not establish priority in the Radio Regulations among users of the bands;

h) that many FSS systems with other types of earth stations and characteristics have already been brought into use or are planned to be brought into use in some of the frequency bands identified for HDFSS in No. **5.516B**;

i) that HDFSS stations in these bands are expected to be deployed in large numbers over urban, suburban and rural areas of large geographical extent,

noting

a) that in cases where FSS earth stations use bands that are shared on a co-primary basis with terrestrial services, the Radio Regulations stipulate that individual notices of frequency assignments are necessary for earth stations of the FSS when their coordination contours extend into the territory of another administration;

b) that, as a consequence of their general characteristics, it is expected that the coordination of HDFSS earth stations with fixed service stations on an individual site-by-site basis between administrations can be a difficult and long process;

c) that, to minimize the burden for administrations, simplified coordination procedures and provisions can be agreed by administrations for large numbers of similar HDFSS earth stations associated with a given satellite system;

d) that harmonized worldwide bands for HDFSS would facilitate the implementation of HDFSS, thereby helping to maximize global access and economies of scale,

recognizing further

that HDFSS applications implemented on FSS networks and systems are subject to all provisions of the Radio Regulations applicable to the FSS, such as coordination and notification pursuant to Articles **9** and **11**, including any requirements to coordinate with terrestrial services of other countries, and the provisions of Articles **21** and **22**,

resolves to invite ITU-R study groups concerned

1 to conduct studies to examine whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those terminals authorized in accordance with No. **18.1**;

2 to study the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within their territory, as a tool to guide their national spectrum-management programme.

RESOLUTION ITU-R 65

Principles for the process of future development of IMT for 2020 and beyond

(2015)

The ITU Radiocommunication Assembly,

considering

a)   that Question ITU-R 229/5 addresses "Further development of the terrestrial component of IMT";

b)   that the future development of IMT will continue in order to address more needs than those currently addressed by existing IMT;

c)   that Recommendation ITU-R M.1645 defined the framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000;

d)   that Recommendation ITU-R M.2083-0 now defines the framework and overall objectives of the future development of IMT for 2020 and beyond;

e)   that Resolution ITU-R 57 has been successfully applied in the development of IMT-Advanced;

f)   that procedures and processes developed for IMT-Advanced based on Resolution ITU-R 57 are in place and continue to be utilized for the future development of IMT-Advanced when revising Recommendation ITU-R M.2012;

g)   that the procedures and processes based on Resolution ITU-R 57 have additionally been successfully applied to the ongoing development of IMT-2000 from 2013 and continue to be utilized for the future development of IMT-2000 when revising Recommendation ITU-R M.1457;

h)   that Resolution ITU-R 56 addresses Naming for IMT, and established that the term "IMT" should be utilized as a root name;

i)   that it is desirable to have consistent principles for the future development of IMT, which are not addressed in *considerings f)* and *g)* above, regardless of the specific naming that may be further determined,

resolves

in the future development of IMT which is addressed in *considering i)* above:

1   to develop the Recommendations and Reports for the future development of IMT, including Recommendation(s) for radio interface specifications;

2   that the development of Recommendations and Reports for the future development of IMT shall be an ongoing and timely process with defined outputs that take into account developments external to ITU-R;

3   that radio interface technologies that are proposed to be considered for the future development of IMT shall be developed based on submissions from Member States, Sector Members and Associates of relevant ITU-R study groups, and may additionally be based on submissions invited from external organizations, in accordance with the principles set out in Resolution ITU-R 9;

4   that the process for developing Recommendations and Reports for the future development of IMT shall give equal opportunity to all proposed technologies to be evaluated against the requirements for the future development of IMT;

5   that new radio interfaces that are developed over time should be considered for inclusion in the future development of IMT in a timely fashion, and, if appropriate, that the relevant Recommendations be revised;

6   that, in light of the above *resolves*, this process shall include:

a)   the definition of minimum technical requirements and evaluation criteria, based on the framework and overall objectives of the future development of IMT, that support the new capabilities expressed in relevant Recommendation(s), taking into account end-user requirements and without unnecessary legacy requirements;

b)   an invitation for Members of ITU-R, through a circular letter, to propose candidate radio interface technologies for the future development of IMT;

c)   additionally, an invitation to other organizations to propose candidate radio interface technologies for the future development of IMT, under the scope of liaison and collaboration with such other organizations through Resolution ITU-R 9; in such invitations, the attention of these organizations shall be drawn to the current ITU-R Intellectual Property Rights (IPR) policies;

d)   an evaluation by ITU-R of the radio interface technologies proposed for the future development of IMT to ensure that they meet the requirements and criteria defined in 6 *a)* above; such an evaluation may utilize the principles for interaction of ITU-R with other organizations as detailed in Resolution ITU-R 9;

e)   consensus-building with the objective of achieving harmonization in response to the *considering* paragraphs of this Resolution and which would have the potential for wide industry support of the radio interfaces that are developed for the future development of IMT;

f)   a standardization phase in the future development of IMT, where ITU-R develops the IMT radio interface specification Recommendation(s) based on the results of an evaluation report (defined in *resolves* 6 *d)*) and of consensus-building (defined in *resolves* 6 *e)*) ensuring that the specifications meet the technical requirements and evaluation criteria as defined in 6 *a)* or 6 *g)*; in such a standardization phase, work may proceed in cooperation with relevant organizations external to ITU in order to complement the work within ITU-R, using the principles set out in Resolution ITU-R 9;

g)   reviews of the minimum technical requirements and evaluation criteria defined in 6 *a)*, taking into account technology advances and end-user requirements changing with time; as the minimum technical requirements and evaluation criteria are changed, these will be designated as separately identifiable versions for the corresponding names, as defined in Resolution ITU-R 56, for the further development of IMT; the process will include review of existing versions to determine whether they should remain in force;

h)   an ongoing and timely process where new radio interface technology proposals may be submitted and existing radio interface specifications can be updated; the process should have flexibility to allow proponents to seek evaluation against any version of the approved criteria currently in force,

instructs the Director of the Radiocommunication Bureau

1   to ensure that proponents of radio interface technologies and standards for the future development of IMT are aware of ITU-R IPR policy pursuant to Resolution ITU-R 1;

2   to provide the necessary support and to implement suitable procedures to meet the requirements of the *resolves* above, including the sending of a circular letter calling for radio interface technology proposals.

RESOLUTION ITU-R 66-1

Studies related to wireless systems and applications for the development of the Internet of Things

(2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   that the globally connected "Internet of Things" (IoT) world builds on the connectivity and functionality made possible by telecommunication networks;

b)   that the growing number of IoT applications may require enhanced transmission speed (dependent upon the IoT use case), device connectivity and energy efficiency to accommodate the significant amounts of data among a plethora of devices;

c)   that ITU-T Study Group 20, which is dealing with "IoT and its applications including smart cities and communities (SC&C)", is working on development of international standards for IoT technologies including machine to machine (M2M) networks, smart cities and Ubiquitous Sensor Networks (USN);

d)   that relevant standards development organizations have developed standards specifically related to M2M and other technologies which underpin IoT applications;

e)   that many administrations, equipment developers and standardization bodies are considering wireless technologies for IoT use in various frequency bands;

f)   that because IoT applications originated on, and operate on or interoperate with, existing as well as developing platforms, existing and evolving ITU-R work is inherently supportive of IoT;

g)   Recommendation ITU-R M.2002, on Objectives, characteristics and functional requirements of wide-area sensor and/or actuator network (WASN) systems;

h)   Recommendation ITU-R M.2083, on IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond;

i)   Question ITU-R 250-1/5, on Mobile wireless access systems providing telecommunications for a large number of ubiquitous sensors and/or actuators scattered over wide areas as well as machine to machine communications in the land mobile service;

j)   Report ITU-R M.2370, on IMT traffic estimates for the years 2020 to 2030,

recognizing

a)   Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on Facilitating the Internet of Things and smart sustainable cities and communities;

b)   the use of different radio-frequency bands by radiocommunication services, many of which provide communication channels, infrastructure and capacity that could be used in IoT deployment with the aim of ensuring cost-effective deployment and efficient use of the radiofrequency spectrum;

c)   that IoT is a concept encompassing various platforms, applications, and technologies that are, and will continue to be, implemented under a number of radiocommunication services;

d)   that the implementation of IoT currently does not require specific regulatory provisions in the Radio Regulations,

resolves to invite ITU-R

1   to conduct studies on the technical and operational aspects of radio networks and systems for IoT;

2   to develop ITU-R Recommendations, Reports and/or Handbooks as appropriate, on the basis of the studies referred to above,

further resolves to invite ITU-R

to closely cooperate and collaborate with ITU-T and relevant standards development organizations, in order to take account of the results of work being done in those bodies, avoid duplication of effort with ITU-T and minimize conflict with the standards development organizations,

invites Members of the Union

to participate actively in implementing this resolution by, inter alia, submitting contributions for consideration by ITU-R and providing relevant information from sources outside ITU-R.

RESOLUTION ITU-R 67-1

Telecommunication/ICT accessibility for persons with disabilities and persons with specific needs

(2015-2019)

The ITU Radiocommunication Assembly,

recalling

a) Article 8B of the International Telecommunication Regulations (ITR);

b) Resolution 70 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly, on telecommunication/information and communication technology (ICT) accessibility for persons with disabilities and persons with specific needs, and the current regulatory framework, as well as the studies, initiatives and events on the subject carried out by the Telecommunication Standardization Sector of ITU (ITU-T) and its study groups, in particular Study Groups 2 and 16, in cooperation with the Joint Coordination Activities on Accessibility and Human Factors (JCA-AHF);

c) the outcome document of the High-Level Meeting on Disability and Development (HLMDD) convened by the United Nations General Assembly at the level of Heads of State and Government on 23 September 2013, under the theme "The ICT Opportunity for a Disability-Inclusive Development Framework", which stresses the need for inclusive development in which persons with disabilities are both agents and beneficiaries;

d) Resolution 175 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs, which resolves to take account of persons with disabilities and persons with specific needs in the work of ITU;

e) Resolution 17 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on regional initiatives;

f) Resolution 58 (Rev. Buenos Aires, 2017) of WTDC, on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs,

emphasizing

a) the WSIS+10 Statement on the implementation of WSIS outcomes and the WSIS+10 Vision for WSIS beyond 2015, adopted at the high-level event WSIS+10 coordinated by ITU (Geneva, 2014), which claims that "ICTs have the potential to be a key enabler of development, and to be a critical component of innovative development solutions in the Post-2015 Development Agenda. ICTs should be fully recognized as tools empowering people, and providing economic growth towards achieving development, taking into account the growing importance of relevant content, skills and an enabling environment";

b) Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on a strategy for the coordination of efforts among the three Sectors of the Union;

c) Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the Connect 2030 Agenda for global telecommunication/ICT development, including broadband, for sustainable development;

d)   Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on protecting telecommunication service users/consumers;

e)   Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on facilitating the Internet of Things and smart sustainable cities and communities,

recognizing

a)   the ongoing work in the Radiocommunication Sector (ITU-R) to support the needs of and protect persons with disabilities and persons with specific needs:

i)   Recommendation ITU-R M.1076, on Wireless communication systems for persons with impaired hearing;

ii)   Reports ITU-R BT.2207 and ITU-R BT.2448 on technologies to improve accessibility to broadcasting services for persons with disabilities;

iii)   the relevant parts of ITU-R DTTB Handbook – Digital terrestrial television broadcasting in the VHF/UHF bands, about techniques to broadcast programmes for the hearing impaired;

iv)   Chapter 14 of the ITU-R Handbook on Digital Terrestrial Television Broadcasting Networks and Systems Implementation, which deals with accessibility issues and how DTTB can help address those with disabilities;

v)   the initiatives tending to bridge the disability-related digital divide, including the work of ITU-R Study Group 6 on broadcasting and the creation of a new Inter-Sector Rapporteur Group on Audiovisual Media Accessibility (IRG-AVA) between ITU-R and ITU-T;

vi)   the work of relevant ITU-R study groups regarding improved access to hearing aid prostheses worldwide and recognition of any barriers created by uses of spectrum without considering the requirements persons with disabilities and persons with specific needs;

b)   that for radiocommunication services that could support applications for persons with disabilities, the particular set of characteristics and coexistence conditions of these devices with other applications may depend on the frequency band and other technical and operational characteristics;

c)   that further studies may be needed on the implementation of technologies that support persons with disabilities and persons with specific needs, taking into account the relevant radio aspects,

taking into account

that the use of telecommunications/ICTs by persons with disabilities and persons with specific needs represents an essential tool for their personal, social and economic development, giving them the chance in their lives to empower their autonomy,

resolves to invite ITU-R

to continue conducting studies, research, guidelines and recommendations, related to telecommunication/ICT accessibility for persons with disabilities and persons with specific needs, taking into account *recognizing b)* and *c)*, and in close cooperation with ITU-T and ITU-D,

instructs the Director of the Radiocommunication Bureau

1   to cooperate with the Directors of the Telecommunication Development Bureau and the Telecommunication Standardization Bureau in the sustainable development of devices and applications promoting compatibility of the new technologies with the current ones to benefit telecommunication/ICTs for persons with disabilities and persons with specific needs;

2   to encourage and promote representation by persons with disabilities and persons with specific needs so as to ensure that their experiences, views and opinions are taken into account when developing and progressing ITU-R work.

RESOLUTION ITU-R 68

Improving the dissemination of knowledge concerning the applicable regulatory procedures for small satellites, including nanosatellites and picosatellites

(2015)

The ITU Radiocommunication Assembly,

considering

a)　　　　that some developers and manufacturers of small satellites (usually having a mass of less than 100 kg), including those also known as nanosatellites (typically 1 to 10 kg in mass) and picosatellites (typically 0.1 to 1 kg in mass), may not be aware of the applicable ITU regulatory procedures;

b)　　　　that some administrations may benefit from additional information regarding application of the ITU regulatory procedures for spectrum and orbit use;

c)　　　　that lack of knowledge of the ITU procedures may lead to notification delays and sometimes launch of these types of satellite without following the applicable regulatory procedures, which may create a risk of interference to other satellite networks,

further considering

a)　　　　that, in accordance with Article **8** of the Radio Regulations: "The international rights and obligations of administrations in respect of their own and other administrations' frequency assignments shall be derived from recording of those assignments in the Master International Frequency Register (MIFR)";

b)　　　　that, for any satellite system, the recording of assignments requires fulfilment of provisions under Articles **9** and **11** of the Radio Regulations, as appropriate;

c)　　　　that it is important to ensure that any satellite radio-frequency operation (including those of nanosatellites and picosatellites) avoids harmful interference to other systems and services;

d)　　　　that the relevant ITU satellite registration (e.g. filings, recording in the MIFR) should be performed in a timely manner;

e)　　　　that it is important that the administrations involved, as well as developers, be aware of the applicable ITU processes with regard to the practices mentioned in *further considering d)*;

f)　　　　that any satellite, including small satellites such as nanosatellites and picosatellites, should use radio frequencies in accordance with the Radio Regulations and ITU-R Recommendations, where applicable;

g)　　　　that many small satellites have no propulsion system and are therefore unable to maintain a constant orbital altitude,

recognizing

a)　　　　that the number of small satellites (in particular, satellites whose mass is typically less than 100 kg) already launched and to be launched is growing;

b)　　　　that these types of satellites can provide an affordable means to access orbital resources (spectrum and orbit) for new entrants in space;

c)   that, even though satellite mass and size are not relevant from a frequency management perspective, the small mass and small dimensions of these satellites have been some of the major contributors to their success amongst new spacefaring nations,

recognizing further

the application of RR No. **22.1** and **25.11** for space stations,

noting

the "Guidance on Space Object Registration and Frequency Management for Small and Very Small Satellites" developed by the UN Office for Outer Space Affairs and ITU,

resolves

to develop material, such as Recommendations, Reports or a Handbook on small satellites (in particular, satellites whose mass is less than 100 kg), containing detailed information that would help to improve knowledge of the applicable procedures for submitting filings of satellite networks to ITU,

invites administrations

1   to inform their national entities involved in the development, manufacturing, operation and launch of small satellites, in particular of those satellites whose mass is less than 100 kg (such as nanosatellites and picosatellites), about the applicable ITU and national regulatory provisions for the coordination, notification and use of orbital resources (i.e. orbits and frequencies);

2   to encourage their national entities aiming to launch and deploy in outer space the satellites mentioned above to initiate the relevant ITU registration procedures as soon as possible before the launch of the satellite,

requests the Secretary-General

to bring this resolution to the attention of the United Nations Committee On Peaceful Use of Outer Space.

RESOLUTION ITU-R 69-1

Development and deployment of international public telecommunications via satellite in developing countries

(2015-2019)

The ITU Radiocommunication Assembly,

considering

a)   the key strategic role that satellite telecommunications plays in contributing to the achievement of economic and developmental goals of the ITU Member States;

b)   the contribution broadband satellite technologies could make toward achievement of the United Nations Sustainable Development Goals as well as reduction in the digital divide, particularly in rural and remote areas;

c)   that the expansion of broadband satellite services is generating growth in developing countries through e-applications such as e-health, e-learning, e-government, teleworking and residential and community Internet access, which can be used as tools for achieving ICT policy objectives;

d)   that the introduction of competition into the international satellite telecommunication sector has led to an increase in the availability of diverse and innovative international telecommunication services in both developed and developing countries;

e)   that governments, the private sector, and international and regional intergovernmental organizations are fostering innovation, affordability and broader availability of international public telecommunication services via satellite through ITU registration and deployment of their own satellite systems;

f)   the need to ensure global coverage and the connection of countries directly, instantly and reliably at an affordable price;

g)   that the Geneva Plan of Action incorporates actions in order "to promote the provision of global high-speed satellite services for underserved areas such as remote and sparsely populated areas";

h)   that the Report of the Secretary-General for ECOSOC issued in May 2009 clearly recognized that "*satellite service continues to play a vital role in television broadcasting and in connecting more isolated and rural areas*"[1];

i)   that Article 44 of the ITU Constitution stipulates that: "*In using frequency bands for radio services, Member States shall bear in mind that radio frequencies and any associated orbits, including the geostationary-satellite orbit, are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations,*

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[1] Economic and Social Council (ECOSOC), Commission on Science and Technology for Development, twelfth session, Geneva, 25-29 May 2009, Report of the Secretary-General. Page 11, http://www.unctad.org/en/docs/ecn162009d2_en.pdf. (Progress made in the implementation of and follow-up to the World Summit on the Information Society outcomes at the regional and international levels - Development-oriented policies for socio-economic inclusive information society, including access, infrastructure and an enabling environment).

so that countries or groups of countries may have equitable access to those orbits and frequencies, taking account the special needs of the developing countries and the geographical situation of particular countries",

taking into account

a) Resolution 1721 (XVI) of the United Nations General Assembly, which sets forth the principle of the availability of satellite communications to the nations of the world on a global basis;

b) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the ITU strategic plan for 2020-2023, which states that the mission of ITU is "*To promote, facilitate and foster affordable and universal access to telecommunication/information and communication technology networks, services and applications and their use for social, economic and environmentally sustainable growth and development*", and that, one of the strategic objectives of ITU-R is to: "*Meet, in a rational, equitable, efficient, economical and timely way, the ITU membership's requirements for radio-frequency spectrum and satellite-orbit resources, while avoiding harmful interference*";

c) Resolution 135 (Rev. Dubai, 2018) of the Plenipotentiary Conference, which instructs BDT to promote activities in coordination with the different Sectors of the Union to build capacities so as to provide and deepen universal access to knowledge on optimal use of telecommunication resources, including orbital resources and associated spectrum resources;

d) Resolution 139 (Rev. Dubai, 2018) of the Plenipotentiary Conference, which instructs the Director of BDT to coordinate with the Directors of the other Bureaux, as appropriate, to continue to assist the Member States and Sector Members with strategies that expand access to telecommunication infrastructure, particularly for rural or remote areas;

e) Resolution 37 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on bridging the digital divide, which highlights the role of satellite communications in bridging the digital divide,

considering further

a) the need to assist developing countries in deploying and using satellite telecommunications to enable sustainable and affordable access to international public telecommunication services;

b) that efficient use of the orbital resource and associated frequency spectrum helps both to ensure global coverage and to connect countries directly, instantly and reliably at an affordable price,

reaffirms

a) ITU's role in international management of the radio-frequency spectrum and satellite-orbit resource;

b) the international rights and obligations of all administrations in respect of their own and other administrations' frequency assignments;

c) that ITU satellite coordination and notification procedures specified in the Radio Regulations are used to obtain international recognition and protection for satellite network operations;

d) the principle that countries should have equitable access to the radio-frequency spectrum and satellite orbits in accordance with the Radio Regulations, taking into account the special needs of developing countries and the geographical situation of particular countries,

noting

a)   that Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on strategy for the coordination of efforts among the three Sectors of the Union, instructs the Directors of the Bureaux to optimize activities of mutual interest including those to address spectrum management and the digital divide;

b)   the activities of the ITU-D study groups in preparing materials to assist developing countries in the areas of spectrum management, broadband access technologies and telecommunications/ICTs for rural and remote areas and disaster management;

c)   that ITU-D, ITU-R and the International Telecommunications Satellite Organization (ITSO) and other satellite organizations have been cooperating on capacity-building activities facilitating the development and deployment of international public telecommunication services via satellite in developing countries, particularly through global coverage and delivery of broadband utilizing next-generation access technologies,

resolves

1   that ITU-R continue to collaborate with, and provide information when requested by, ITU-D on satellite technologies and applications as defined in ITU-R Recommendations and Reports and on satellite regulatory procedures in the Radio Regulations that will help developing countries with development and implementation of satellite networks and services;

2   that ITU-R continue interrelated activities with ITU-D to support the development and deployment of international public telecommunication services via satellite in developing countries;

3   that ITU-R continue to undertake studies to determine whether it might be necessary to apply additional regulatory measures to facilitate the development, deployment and availability of international public telecommunications via satellite in developing countries,

instructs the Director of the Radiocommunication Bureau

to report the results of these studies to the 2023 Radiocommunication Assembly (RA-23),

invites the Director of the Telecommunication Development Bureau

1   to organize workshops, seminars and training courses that specifically address sustainable and affordable access to satellite telecommunications, including broadband, and to continue activities between the relevant study groups of ITU-D and ITU-R that will assist developing countries in building capacities in the development and use of satellite telecommunications;

2   to bring this resolution to the attention of the World Telecommunication Development Conference,

invites administrations and members of the Radiocommunication Sector

to contribute to the implementation of this resolution.

RESOLUTION ITU-R 70

Principles for the future development of broadcasting

(2019)

The ITU Radiocommunication Assembly,

considering

a)   that the scope of Radiocommunication Study Group 6 is pursuant to Resolution ITU-R 4;

b)   that the work programme and Questions of Radiocommunication Study Group 6 are identified in Resolution ITU-R 5;

c)   that for global operation and economy of scale, which are key requirements for the success of radiocommunication systems, it is desirable to agree on a harmonized time-frame for developing common technical, operational and spectrum-related parameters, taking into account the deployment of existing broadcasting systems;

d)   that in many countries broadcasting is providing important emergency warning applications as stipulated in Resolution ITU-R 55;

e)   that the implementation of new digital broadcasting systems, technologies and applications is foreseen to address the need for providing the general public with new audiovisual experiences;

f)   that in some countries where there are low levels of broadband infrastructure, digital broadcasting can be a tangible opportunity to fill the gap and address the digital divide as reported in Report ITU-R SM.2353;

g)   that the integration of Internet Protocol capability into terrestrial broadcasting technologies enables broadband access, content creation and distribution;

h)   that the principle of opportunistic reuse of broadcasting spectrum on a secondary basis is still viable for ancillary applications for broadcasting;

i)   that in all Regions migration to digital broadcasting has been facilitated for developing countries,

recognizing

a)   that Preamble 0.2 of the Radio Regulations encourages Member States to endeavour to apply the latest technical advances as soon as possible;

b)   that globally and regionally harmonized spectrum for broadcasting has been established in Article 5 of the Radio Regulations and in Regional Agreements;

c)   that ITU is the internationally recognized organization that has sole responsibility to define and to recommend the standards and frequency arrangements for broadcasting systems, together with the collaboration of other relevant organizations such as standard development organizations, academia, industry organizations and with partnership projects, forums, consortia and research collaborations;

d)   that the ITU process for standardization of broadcasting technologies has been beneficial to the Membership of ITU;

e)   that ITU-R Study Group 6 has established globally accepted Recommendations and Reports on spectrum usage and management, delivery, transport, video and audio coding systems, image format definitions, signal interfaces, and service quality definitions for broadcasting,

noting

a)   that the choice of coverage and service requirements for the broadcasting service within a given country is solely a national matter;

b)   that many administrations have benefited from the standardization in ITU-R of broadcast-related technologies such as Digital Sound Broadcasting (DSB), the first and second generations of Digital Terrestrial Television Broadcasting (DTTB), Integrated Broadband-Broadcast (IBB), Standard Definition Television (SDTV), High Definition Television (HDTV) and Ultra High Definition Television (UHDTV);

c)   that the transition to future broadcasting systems, technologies and applications potentially presents energy saving opportunities;

d)   that the manufacturing of and increased acquisition by the general public of end-user devices with globally harmonized design specifications, capable of accessing broadcast services, potentially leads to lower cost for the end user;

e)   that it is important to facilitate global circulation and adoption of standards to achieve economies of scale in the manufacture of future systems, technologies and applications for broadcasting;

f)   that the particular needs of developing countries must be considered with the aim of bridging the existing digital divide,

resolves

1   to develop Recommendations and Reports for the introduction of new systems, technologies and applications for broadcasting to achieve global harmonization of specifications, taking into account the requirements and situations in countries/regions;

2   that the development of Recommendations and Reports for future systems, technologies and applications for broadcasting shall be an ongoing and timely process with defined outputs that take into account developments external to ITU-R,

instructs the Director of the Radiocommunication Bureau

1   to continue to inform proponents of future systems, technologies and applications for broadcasting standards and make them aware of ITU IPR policy pursuant to Resolution ITU-R 1;

2   to provide the necessary support to facilitate the implementation of this Resolution.

RESOLUTION ITU-R 71

Role of the Radiocommunication Sector in the ongoing development of television, sound and multimedia broadcasting

(2019)

The Radiocommunication Assembly,

considering

a)	that the scope of ITU as a whole, and of the standardization activities within ITU in particular, is very important to the evolving broadcasting industry;

b)	that enhancements to the broadcasting systems have been and will be pursued;

c)	that the implementation of broadcasting systems is expanding and that these systems are being continuously developed in line with user and technology trends;

d)	that the deployment of broadcasting systems on a global basis continues to be developed through a collaborative effort among the three ITU Sectors,

noting

a)	that ITU recognized in 2012 through its efforts to implement the outcomes of WSIS:

–	development of road maps for the transition from analogue to digital broadcasting,

–	updated guidelines on digital broadcasting, and

–	training programmes for the transition from analogue to digital broadcasting;

b)	Resolution ITU-R 9, on liaison and collaboration with other recognized external organizations,

resolves

1	that a roadmap for ITU-R activities for broadcasting should be developed by the relevant Radiocommunication Study Group to ensure that this work is progressed effectively and efficiently with other ITU-R Study Groups, ITU-T and ITU-D as well as organizations external to ITU;

2	that taking into account the established processes for intersector coordination activities between ITU-R and ITU-D concerning broadcasting, these activities should be continued and enhanced;

3	that taking into account the established processes for intersector coordination activities between ITU-R and ITU-T concerning audio visual quality assessment and accessibility, audio and video coding, integrated broadcast-broadband, multimedia, and other emerging technologies and applications, these activities should be continued and enhanced,

instructs the Director of the Radiocommunication Bureau

to report to future Radiocommunication Assemblies on the results of implementing this Resolution.